DMS-100 Family

TOPS Call Detail Recording (TDR)
User's Guide

NORTEL NETWORKS™

DMS-100 Family

TOPS TDR

User's Guide

Publication number: 297-8403-904
Product release: TOPS20 and up
Document release: Standard 05.01
Date: April 2004

Publication history

April 2004

Version 5.01 Standard release for TOPS20, with the following changes:

- Enabled Version 2 capabilities, including the Commercial Credit Card Authorization Code, for six fixed templates:

  — BLV / interrupt template

  — Call completion template

  — Charge adjust template

  — Combined template

  — General assistance template

  — Listing services template

March 2001

Version 4.01 Standard release for TOPS15, with the following changes:

- Updated references to TOPS SOC following SOC consolidation

August 2000

Version 3.01 Standard release for TOPS14, with the following changes:

- Enabled Version 1 capabilities, including the Local Determination Indicator, for three fixed templates:

  — combined

  — call completion

  — charge adjust

- OSNC interactions

Note: As of this release, all designations are labeled as TOPSxx instead of LETxxxx. Previous references remain as LETxxxx designations.

March 2000

Version 02.01 Standard release for LET0013, with minor non-technical changes.

March 1999

Version 01.01 Standard release for LET0011.

Contents

About this document

TOPS Call Detail Recording (TDR) User's Guide accompanies all Traffic Operator Position System (TOPS) software. The book describes the TDR billing format and how to provision the office so that a TOPS call records billing records in this format. It provides the reader with an overview of the product, a detailed description of the billing format, and supplementary information on feature interactions, restrictions, datafill, and maintenance activities.

This book is intended for readers who are familiar with all TOPS processing.

Two billing record formats for TOPS

Readers need to understand that the TOPS switch supports two mutually exclusive billing record formats: Bellcore AMA Format (BAF) and TDR Format. The TOPS portion of the switch can only record in one billing record format for all TOPS calls. This document only describes the TDR format. The *DMS-100 Family Bellcore Format Automatic Message Accounting Reference Guide*, 297-1001-830, describes the BAF format for TOPS.

Chapters in this book

Following is a summary of each chapter.

Part 1: Introduction

Chapter 1: TDR overview

This chapter provides an introduction to the TDR format billing records for TOPS.

Part 2: Functional description

Chapter 2: TDR fields

This chapter provides a detailed description of the data fields that comprise TDR format billing records.

Chapter 3: TDR non-call templates

This chapter provides a description of the TDR billing files as well as the non-call data field templates.

Chapter 4: TDR fixed call templates

This chapter provides a detailed description of the fixed (or pre-defined) data field templates for TDR format billing records

Part 3: Interactions

Chapter 5: TDR feature impact

This chapter discusses feature interactions as well as limitations and restrictions associated with TDR.

Part 4: Planning and engineering

Chapter 6: TDR engineering

This chapter provides information on how to engineer resources used by TDR.

Part 5: Provisioning

Chapter 7: TDR data schema

This chapter provides details on the datafill needed for TDR, such as dependencies, valid values for fields, and examples of datafill needed to cause TDR format billing records to be produced for TOPS calls.

Chapter 8: TDR SOC

This chapter discusses software optionality control (SOC) dependencies.

Part 6: Billing

Part 7: OA&M

Chapter 9: TDR user interface

This chapter describes tools that allow users to search for TDR format billing records.

Chapter 10: TDR logs

This chapter provides information on new logs created by TDR, and existing logs that are changed by TDR.

Chapter 11: TDR operational measurements

This chapter provides information on new OMs created by TDR, and existing OMs that are changed by TDR.

List of terms

This chapter lists TDR terms and definitions.

Feature activity

The features listed in the following table provide the TDR format billing records for TOPS.

TDR features

Feature name	Activity ID
TOPS CDR Billing	AF7817

References in this book

Following are the DMS-100 documents referred to in this book. The middle section of the document number is represented by *nnnn* because the NTP version is determined by the PCL to which it belongs.

• Customer Data Schema Reference Manual, 297-*nnnn*-351

• Operational Measurements Reference Manual, 298-*nnnn*-814

• Log Report Reference Manual, 297-*nnnn*-840

Following are the other documents referred to in this book:

• *Bellcore Format Automatic Message Accounting Reference Guide*, 297-1001-830

• *Software Optionality Control User's Manual,* 297-8991-901

• *OSSAIN User's Guide,* 297-8403-901

• *IN Operator Backup Feature document,* AF7805

Part 1: Introduction

Part 1: Introduction includes the following chapter:

Chapter 1: "TDR overview," beginning on page 21.

Chapter 1: TDR overview

TDR billing format is created to provide a less complex structure for recording billing data for TOPS calls than the structure defined by Bellcore. TDR has been derived from various Call Detail Recording (CDR) formats within Nortel such as DMS250 Universal Carrier Switch (UCS) and DMS300 Gateway. TDR maintains a fixed definition for each record which makes downstream processing less complex. Bellcore AMA supports fixed definitions per element (structure codes and module codes), but allows variable modules to be appended to a record as needed. Downstream processing for Bellcore AMA must take into account this variable nature of module codes.

This chapter gives an overview of the TDR capability, focusing on the following topics:

- selection of the billing format for TOPS calls
- customer refinement of the TDR format
- customer monitoring of TOPS calls that generate TDR billing records

The last section in this chapter provides a *road map* to detailed TDR information in this book.

Selection of the billing format for TOPS calls

A billing stream can be viewed as a collection of billing records in the same general format. Billing streams are datafilled in table CRSFMT. The associated format that supports TDR billing records is TDRFMT. In the following example, TOPSOCC is a billing stream.

Table 1 Example table CRSFMT

Key	Format	Datadump	CDRSrch	Alarms	TimerDmp	TimerVal
topsocc	tdrfmt	n	nil_fm	n	n	0

All TOPS calls can then be mapped into any billing stream by using table CRSMAP. If an entry is not explicitly made in table CRSMAP, the default behavior is to map to the AMA stream.

TOPS calls can be mapped to any valid billing stream in a given office. As a caution, there is no checking to ensure that billing records being written to the same stream are compatible, so care should be taken when selecting a billing stream for TOPS calls.

NOTE: It is recommended that TDR records be sent to a billing stream that contains no other types of billing records. This recommendation is based upon the less than reliable behavior of certain billing record search tools. Refer to "Interactions with other search tools" on page 507 for more information.

Table 2 Example table CRSMAP

Key	Stream
tops	topsocc

The combination of the billing stream chosen for TOPS calls and the billing stream's format (as datafilled in table CRSFMT) is used to determine whether TDR format billing records are generated. The associated billing stream format dictates whether TDR or BAF is used.

BAF format

If TOPS calls are mapped to a billing stream with a format of BCFMT, then BAF records are generated. The following figure illustrates example datafill for BAF format.

Figure 1   Example for billing stream, BCFMT format

```
Table CRSMAP
   KEY   STREAM
   ------------
   TOPS  AMA

Table CRSFMT
   KEY     FORMAT    DATADUMP    CDRSRCH    ALARMS    TIMERDMP    TIMERVAL
   -----------------------------------------------------------------------
   AMA     BCFMT     N           NIL_FM     N         N           0
```

TDR format

If TOPS calls are mapped to a billing stream with a format of TDRFMT, then TDR records are generated. It is not recommended to map the AMA stream to the TDRFMT. This will cause different record types to be put in the same stream. The following figure illustrates example datafill for TDR format.

Figure 2   Example for billing stream, TDRFMT format

```
Table CRSMAP
   KEY   STREAM
   -------------
   TOPS   TOPSOCC


Table CRSFMT
   KEY      FORMAT      DATADUMP   CDRSRCH   ALARMS   TIMERDMP   TIMERVAL
   --------------------------------------------------------------------
   TOPSOCC TDRFMT       N          NIL_FM    N        N          0
```

Customer refinement of the TDR format

Once TDR format has been selected for TOPS calls, it can be refined using customer datafill. These datafill parameters are found in table TOPTDROP.

TDR format can be refined in the following ways:

- length of the call billing records
- length of the non-call billing records
- format of the call billing records
- word layout of the call billing records
- control of unanswered call recording

Length of the call billing records

The length of the TDR call records is controlled independently. Even though the format for the record has an associated length, it can be overridden. This capability could be used when all records in a billing stream should be the same length even if the individual record formats vary in length. The TDR call record length can be set to cause TDR records to be padded to obtain a uniform record length within a billing stream.

The length of the TDR call record can be set in the following modes:

- FIXED_SIZE <n>

  Fixed size means that all TDR call records will have the specified length. If the actual format used is less than the specified length, then the record will be padded with 0's until the specified length is obtained. If the actual format used is greater that the specified length, then the record will be truncated.

- VAR_SIZE <n>

  Variable size means that TDR call records will use the length of the actual format. The specified length under variable mode is treated as a upper bound. If the actual format used is less than the upper bound length, then the record will have the length of the actual format. If the actual format used is greater that the upper bound, then the record will be truncated.

The length of the TDR call record is controlled by parameter TDR_RECORD_SIZE in table TOPTDROP. Refer to page 473 for more information.

Length of the non-call billing records

The length of the TDR non-call records is controlled independently. Even though the format for the records has an associated length, it can be overridden. This capability could be used when all records in a billing stream should be the same length even if the individual record formats vary in length. The TDR non-call record lengths can be set to cause TDR non-call records to be padded to obtain a uniform record length within a billing stream.

Each TDR non-call record type can independently set the length. The following table identifies the types of non-call records:

Table 3 TDR non-call records

Non-call record type	TOPTDROP parameter	Page number
block header record	BHR_RECORD_SIZE	page 469
clock change record	CCR_RECORD_SIZE	page 469
emergency start record	ESR_RECORD_SIZE	page 470
graceful end record	GER_RECORD_SIZE	page 471
graceful start record	GSR_RECORD_SIZE	page 472
system restart record	SRR_RECORD_SIZE	page 472

The length of the TDR non-call records can be set in the following modes:

- NONE

  None means that the given non-call record will not be generated. The block header record is not optional and cannot have its length set to none. All other non-call record types are optional.

- FIXED_SIZE <n>

  Fixed size means that the given TDR non-call record will have the specified length. If the actual format used is less than the specified length, then the record will be padded with 0's until the specified length is obtained.

- VAR_SIZE <n>

  Variable size means that the given TDR non-call record will use the length of the actual format. The specified length under variable mode is treated as a upper bound. If the actual format used is less than the upper bound length, then the record will have the length of the actual format. If the actual format used is greater that the upper bound, then the record will be truncated.

Format of the call billing record

The customer can control which set of templates is used to format TDR call billing records. Each set of templates is also versioned to allow for changes in the template definitions in future releases. TDR will support the current version associated with a given TOPS software release plus the three previous versions. This backwards compatibility allows TDR on a new TOPS software release to use a previous version until the downstream processor is ready to accept the new version.

The TDR template sets that can be selected are the following:

- SINGLE_FIXED

    Single-fixed uses a single template to record all TOPS calls. In order to cover all possible billable events, there will be many un-used data fields in the template. Using a single template for all calls makes the downstream processing less complex.

    NOTE: Note that this template set does not support OSSAIN custom AMA recording due to OSSAIN custom AMA's optional and replicative nature.

- MULTI_FIXED

    Multi-fixed uses a set of fixed templates to record TOPS calls. The templates are generally associated with TOPS services. Using this template set reduces the number of un-used data fields per template, but it raises the complexity needed in the downstream processor.

The format of the TDR call record is controlled by parameter TEMPLATE_TYPE in table TOPTDROP. Refer to page 474 for more information.

The version of the TDR templates is controlled by parameter TEMPLATE_VERSION in table TOPTDROP. Refer to page 474 for more information.

Word layout of the call billing record

The customer can control the order of bits within a word for TDR call billing records. It controls the position of the Least Significant Bit (LSB) and the Most Significant Bit (MSB) within a word of data.

The word layout can be set in the following ways:

- READRL

    Right-to-Left is the normal layout used by DMS. It places the LSB in bit 0 and the MSB in bit 15 of a given word.

- READLR

    Left-to-Right places the MSB in bit 0 and the LSB in bit 15 of a given word.

NOTE: All data fields within the TDR call record follow the selected word layout with the exception of the template header fields which will always use the Right-to-Left layout. All TDR non-call records will always use the Right-to-Left layout.

The word layout of the TDR record is controlled by parameter WORD_LAYOUT in table TOPTDROP. Refer to page 475 for more information.

Control of unanswered call recording

In order to limit the number of TDR records generated, the customer has the option to not create TDR call billing records for unanswered TOPS calls.

Unanswered call recording can be set to the following:

*   YES

    Unanswered TOPS calls will generate TDR records

*   NO

    Unanswered TOPS call will not generate TDR records

NOTE: Some TOPS calls provide billable services without making a forward connection in the network. These calls are considered 'unanswered'. Caution should be employed when turning unanswered call recording to 'N' because it may cause some billable service calls to not generate TDR records.

Unanswered call recording of TDR records is controlled by parameter UNANSWERED_CALL_RECORDING in table TOPTDROP. Refer to page 475 for more information.

Customer monitoring of the TDR format

Once TDR has been refined, the actual records generated can be monitored by the customer using several methods:

*   Billing record search tools
*   Logs
*   Operational Measurements (OMs)

Billing record search tools

There are various billing record search tools that are available. Most tools are associated with a particular billing stream.

TDR makes use of the AMADUMP search tool. A new facility called TDR is created for AMADUMP. The 'TDR' facility is supported for any billing stream. It allows the customer to search for TDR records within a billing file.

TDR also makes use of the CALLDUMP search tool. CALLDUMP displays the TDR records found in the billing buffer. CALLDUMP uses the billing stream's format to determine how to parse the records within the billing buffer.

Logs

Various logs can be generated to track TDR billing record generation:

- Per-call TDR logs

    The TDR200 log (page 513) is informational and optionally produced based upon customer datafill in Table TOPTDROP, parameter GEN_RECORD_LOG (page 471). As each TDR record is generated, it can optionally generate a log containing all the data.

- TDR truncation logs

    The TDR100 log (page 510) is not optional. It is generated when a TDR record has been truncated. Billing information is being lost. Action should be taken by the customer to stop the truncation of billing records.

- TDR padding logs

    The TDR101 log (page 511) is an informational log that is also optionally produced based upon customer datafill in Table TOPTDROP, parameter GEN_PADDED_RECORD_LOG (page 470). If the fixed TDR call record length is greater than the template selected, then the TDR call record is padded. This log will be generated to inform the customer that padding is occurring so that the TDR call record length can be adjusted.

- TDR service node lost data logs

    The TDR102 log (page 512) is not optional. It is generated when OSSAIN custom billing data is collected by call processing but is unable to be formatted into a TDR record.

OMs

There are two OM groups that can also be used to monitor TDR record generation:

- TDRFTMPL OM group (page 517)

    TDRFTMPL contains registers that count the number of times a TDR template is used to create a billing record. It supports both SINGLE_FIXED and MULTI_FIXED templates.

- TDR OM group (page 516)

    TDR contains registers that count the number of TDR records that have been truncated as well as the number of records that have been padded. It also contains a registers that counts the number of OSSAIN custom billing data that is lost.

TDR information road map

The TDR format has several components, which are documented in this book. Extensive user information on TDR data fields, templates and customer usage appears in the chapters that follow.

The following road map is a guide to the location of specific information in the *TDR User's Guide*.

- Part 2: Functional description
  — Chapter 2: "TDR fields" describes the individual data fields that make up TDR templates.
  — Chapter 3: "TDR non-call templates" describes the contents of the billing files as well as the non-call template definitions and field layouts.
  — Chapter 4: "TDR fixed call templates" describes the template definitions and field layouts for TDR call records.
- Part 3: Interactions
  — Chapter 5: "TDR feature impact" describes feature interactions as well as limitations and restrictions associated with TDR.
- Part 4: Planning and engineering
  — Chapter 6: "TDR engineering" describes information on how to engineer resources used by TDR.
- Part 5: Provisioning
  — Chapter 7: "TDR data schema" describes the customer datafill associated with TDR.
  — Chapter 8: "TDR SOC" discusses software optionality control (SOC) dependencies.
- Part 7: OA&M
  — Chapter 9: "TDR user interface" describes the TDR search tools
  — Chapter 10: "TDR logs" describes the new and changed logs associated with TDR.
  — Chapter 11: "TDR operational measurements" describes the new and changed OM groups associated with TDR.
- The list of terms defines TDR concepts and abbreviations.

Part 2: Functional description

Part 2: Functional description includes the following chapters:

Chapter 2: "TDR fields," beginning on page 31.

Chapter 3: "TDR non-call templates," beginning on page 351.

Chapter 4: "TDR fixed call templates," beginning on page 369.

Chapter 2: TDR fields

This chapter describes the data fields that make up the TDR records.

Data field information

The following information is provided for each data field:

- Associated templates
- Reference information
- Description

Associated templates

For each data field, there is a list of the fixed templates that contain the given data field.

Reference information

For each data field, the following reference information is provided:

- Field size
- Split size
- Field type
- Range of values

Field size

The field size indicates the number of bits/digits/characters that the field requires. For reference, 1 digit equals 4 bits and 1 character equals 8 bits.

Split size

The split size indicates a subcomponent of a data field. It allows a data field to cross a word boundary but only if the word boundary occurs at the same point as a subcomponent boundary.

For example, field F1 has a size of 10 digits (which equals 40 bits). F1 also has a split size of 4 bits which means that every 4 bits, the field can cross a word boundary. The following tables illustrate example field placements within a template showing a correct field split and an incorrect field split. In the example, LSB refers to the least significant bit and MSB refers to the most significant bit.

Table 4 Example usage of incorrect split size for a data field

word/bit	15 (msb)	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00 (lsb)
1	F1 (digit 3)		F1 (digit 2)				F1 (digit 1)				F1 (digit 0)					
2	F1 (digit 7)		F1 (digit 6)				F1 (digit 5)				F1 (digit 4)				F1 (digit 3)	
3							F1 (digit 9)				F1 (digit 8)				F1 (digit 7)	
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 5 Example usage of correct split size for a data field

word/bit	15 (msb)	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00 (lsb)
1	F1 (digit 3)				F1 (digit 2)				F1 (digit 1)				F1 (digit 0)			
2	F1 (digit 7)				F1 (digit 6)				F1 (digit 5)				F1 (digit 4)			
3									F1 (digit 9)				F1 (digit 8)			
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Field type

Binary, decimal, digits, hex digits

The following table provides a conversion mapping for binary, decimal digits and hex digit data field types.

Table 6 Binary / decimal / digits / hex digits conversion

Binary	Decimal	Digits	Hex Digits
0000	0	0	0
0001	1	1	1
0010	2	2	2
0011	3	3	3
0100	4	4	4
0101	5	5	5
0110	6	6	6
0111	7	7	7

Table 6 Binary / decimal / digits / hex digits conversion

Binary	Decimal	Digits	Hex Digits
1000	8	8	8
1001	9	9	9
1010	10	n/a	a
1011	11	n/a	b
1100	12	n/a	c
1101	13	n/a	d
1110	14	n/a	e
1111	15	n/a	f

TDR EBCDIC

TOPS does not support the complete EBCDIC character set. TOPS
internally stores characters in ASCII format and then must convert to
EBCDIC for TDR. Since some ASCII characters have no EBCDIC
equivalents, these characters are stored as EBCDIC asterisks ("*"). The
following table provides the characters recorded by TDR.

Table 7 EBCDIC character set

ASCII Character	EBCDIC Character	Value	ASCII Character	EBCDIC Character	Value
null	*	5C	soh	*	5C
stx	*	5C	etx	*	5C
eot	*	5C	enq	*	5C
ack	*	5C	bel	*	5C
bs	*	5C	ht	*	5C
lf	*	5C	vt	*	5C
ff	*	5C	cr	*	5C
so	*	5C	si	*	5C
dle	*	5C	dc1	*	5C
dc2	*	5C	dc3	*	5C
dc4	*	5C	nak	*	5C
syn	*	5C	etb	*	5C
can	*	5C	em	*	5C
sub	*	5C	esc	*	5C
fs	*	5C	gs	*	5C
rs	*	5C	us	*	5C
space	space	40	!	!	5A
"	"	7F	#	#	7B
$	$	5B	%	%	6C
&	&	50	'	'	7D

Table 7 EBCDIC character set

ASCII Character	EBCDIC Character	Value	ASCII Character	EBCDIC Character	Value
(	(	4D	)	)	5D
*	*	5C	+	+	4E
,	,	6B	-	-	60
.	.	4B	/	/	61
0	0	F0	1	1	F1
2	2	F2	3	3	F3
4	4	F4	5	5	F5
6	6	F6	7	7	F7
8	8	F8	9	9	F9
:	:	7A	;	;	5E
<	<	4C	=	=	7E
>	>	6E	?	?	6F
@	@	7C	A	A	C1
B	B	C2	C	C	C3
D	D	C4	E	E	C5
F	F	C6	G	G	C7
H	H	C8	I	I	C9
J	J	D1	K	K	D2
L	L	D3	M	M	D4
N	N	D5	O	O	D6
P	P	D7	Q	Q	D8
R	R	D9	S	S	E1
T	T	E3	U	U	E4
V	V	E5	W	W	E6
X	X	E7	Y	Y	E8
Z	Z	E9	[	[	AD
\	\	E0	]	]	BD
^	^	5F	_	_	6D
'	'	79	a	a	81
b	b	82	c	c	83
d	d	84	e	e	85
f	f	86	g	g	87
h	h	88	i	i	89
j	j	91	k	k	92
l	l	93	m	m	94
n	n	95	o	o	96
p	p	97	q	q	98

Table 7 EBCDIC character set

ASCII Character	EBCDIC Character	Value	ASCII Character	EBCDIC Character	Value
r	r	99	s	s	A2
t	t	A3	u	u	A4
v	v	A5	w	w	A6
x	x	A7	y	y	A8
z	z	A9	{	{	8B
|	|	6A	}	}	9B
~	~	A1	del	*	5C

Range of values

This section provides a range of values for the data field.

Description

This section provides a detailed description of each data field including how the data field is populated by TOPS call processing.

TDR data fields

Account Code / Authorization Code Number

Associated templates

The following table lists all fixed templates that contain this data field.

Table 8 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 14 digits

- split size = 4 bits

- field type = digits

The following table provides all possible range of values for the data field.

Table 9 Range of values

Digit	Value	Meaning
0 - 13	0 - 9	digit string containing 14 digits

Description

This data field contains either the account code or the authorization code that is optionally collected for a TOPS call. The account code and authorization code are mutually exclusive which makes it viable for a single data field to record both.

The digits representing the account code or the authorization code are right-justified and padded with 0's within the data field. If neither an account code or an authorization code is collected for a given call, then this data field will contain all 0's.

An authorization code is a special number that must be input prior to completing the call. The call is generally dialed as 1+. The calling party usually has some type of restriction against it that requires the subscriber to input an authorization code in order to complete the call. The call must arrive in one of the following ways:

- dedicated trunk group with a station class set to "dnlookup"
- dedicated trunk group with a station class set to "restbil"
- signaled ANI identification digit(s) of (0)7 indicating billing restrictions apply

The requirement for an authorization code is tied to the calling party's directory number. This relationship is established by using datafill in table DNSCRN. In table DNSCRN an authorization group is selected which must be datafilled in table AUTHGRP. The authorization group has the option of being validated or not. If validation is selected, then the authorization code must be datafilled in table AUTHSGRP, otherwise the authorization code is considered invalid.

The authorization code functionality is controlled by the ABS00101 SOC, "ABS TOPS Authcode Billing".

An account code is a 1 to 4 digit number that is optionally recorded to provide more detailed billing information. An example of its use in by a lawyer's office that wants to pass telephone charges back to a specific client. The account code can be used to identify the client.

In TDR template version 2, an extended account code can also be recorded in this field and can be up to 14 digits in length.

A 4-digit account code can be entered using any TOPS automated billing platform such as the following:

- MCCS

- AABS

- EBAS

An extended account code can be collected by an OSSAIN Service Node.

The call must be originated from a POTS-type line (for example, a non-coin, non-hotel, non-restricted line). The automated billing platform prompts the subscriber to enter an account code.

The account code functionality is controlled by the ACCOUNT_CODE_BILLING_ENABLE tuple found in table TOPSPARM. No additional SOCs are required.

Account Code / Authorization Code Validation

Associated templates

The following table lists all fixed templates that contain this data field.

Table 10 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 2 bits

- split size = 2 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 11 Range of values

Bits	Value	Meaning
0 - 1	0	unknown
	1	account/auth code not validated
	2	account/auth code validated
	3[a]	ext account code / not validated

a. Requires TDR template version 2.

Description

This data field records whether or not the account code or the authorization code that is optionally collected for a TOPS call has been validated. The account code and authorization code are mutually exclusive which makes it viable for a single data field to record both.

Value "0" ("unknown") is recorded when there is no account code or authorization code collected for a given call.

Value "1" ("account/auth code not validated") is recorded if no validation is required. If an authorization code is collected, then the datafill in table AUTHGRP indicates whether or not validation has occurred. If a 4-digit account code is collected, then this value is always recorded because account codes are never validated by TOPS.

Value "2" ("account/auth code validated") is recorded if validation is successfully performed. If an authorization code is collected, then the datafill in table AUTHGRP indicates whether or not validation has occurred.

Value "3" ("ext account code / not validated") is recorded for extended account codes (up to 14 digits). No validation is performed by TOPS for extended account codes.

Accumulated Operator Work Time, Minutes

Associated templates

The following table lists all fixed templates that contain this data field.

Table 12 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Call transfer to carrier template	page 398
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
IN interworking template	page 444
Intercept template	page 437
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 6 bits

- split size = 6 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 13 Range of values

Bits	Value	Meaning
0 - 5	0 - 59	minutes of elapsed time

Description

This data field records the number of minutes that the call spent at an operator position. It does not include time spent at an automated operator such as AABS or OSSAIN.

Operator work time is accumulated time over the entire call. Over the duration of a single call, the call may reside at an operator position multiple times. As each additional operator position is accessed, the operator work time is incremented. Since only the last operator identification is recorded in the record, the amount of operator work time cannot always be attributed to that operator because multiple operators may have been involved.

When evaluated along with the following data fields, the total operator work time can be determined:

- Accumulated Operator Work Time, Seconds (page 41)

- Accumulated Operator Work Time, Tenths of Seconds (page 42)

Accumulated Operator Work Time, Seconds

Associated templates

The following table lists all fixed templates that contain this data field.

Table 14 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Call transfer to carrier template	page 398
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
IN interworking template	page 444
Intercept template	page 437
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 6 bits

- split size = 6 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 15 Range of values

Bits	Value	Meaning
0 - 5	0 - 59	seconds

Description

This data field records the number of seconds that the call spent at an operator position. It does not include time spent at an automated operator such as AABS or OSSAIN.

When evaluated along with the following data fields, the total operator work time can be determined:

- Accumulated Operator Work Time, Minutes (page 40)

- Accumulated Operator Work Time, Tenths of Seconds (page 42)

Accumulated Operator Work Time, Tenths of Seconds

Associated templates

The following table lists all fixed templates that contain this data field.

Table 16 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Call transfer to carrier template	page 398
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
IN interworking template	page 444
Intercept template	page 437
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 4 bits

- split size = 4 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 17 Range of values

Bits	Value	Meaning
0 - 3	0 - 9	tenths of seconds

Description

This data field records the number of tenths of seconds that the call spent at an operator position. It does not include time spent at an automated operator such as AABS or OSSAIN.

The timing granularity for operator work time does not support tenths of seconds. This data field always contains 0s.

When evaluated along with the following data fields, the total operator work time can be determined:

- Accumulated Operator Work Time, Minutes (page 40)

- Accumulated Operator Work Time, Seconds (page 41)

Active Template Identifier

Associated templates

The following table lists all fixed templates that contain this data field.

Table 18 Associated templates

Fixed template	Page number
Template header	page 370

Reference information

The following list provides reference information about the data field.

- field size = 3 bits

- split size = 3 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 19 Range of values

Bits	Value	Meaning
0 - 2	0	version 0
	1	version 1
	2	version 2
	3	version 3
	4	version 4
	5	version 5
	6	version 6
	7	version 7

Description

This data field is part of the template header. In this release, fixed templates do not require active template versioning. The value "0" (version 0) is always recorded.

Alternate Billing Number

Associated templates

The following table lists all fixed templates that contain this data field.

Table 20 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 23 digits

- split size = 4 bits

- field type = digits

The following table provides all possible range of values for the data field.

Table 21 Range of values

Digit	Value	Meaning
0 - 22	0 - 9	digit string containing 23 digits

Description

This data field records the billing number when alternate billing is requested by the subscriber. Alternate billing methods include the following and are recorded in the Billing Type Identification data field (page 54):

- collect

- third number

- calling card

- special number

The digits representing the alternate billing number are right-justified and padded with 0's within the data field. If an alternate billing number is not collected for a given call, then this data field will contain all 0's.

When collect billing is requested, the called party is billed rather than the calling party. In this case, this data field will contain the called party's directory number. Collect billing includes both collect (where operator practice may require the called party's billing acceptance) and auto-collect (where billing acceptance by the called party is automatically given, no verification is needed).

When third number billing is requested, a third party is billed rather than either the calling or called parties. The data contained in this field is the third party's directory number. Operator practice for verification of billing acceptance may require a forward connection be made to the third party so that verbal acceptance may be obtained. Once billing acceptance has been obtained, the third party is released and the call continues.

When calling card billing is requested, the call is billed to a calling card. This data field supports the following calling card types which is recorded in the Calling Card Format Identifier data field (page 66).:

• North American 14 digit calling cards

• non-North American 14 digit calling cards

• CCITT format calling cards

• custom calling cards

North american 14 digit calling cards contain a 10 digit directory number followed by a 4 digit PIN. The PIN is not recorded in the data field, only the 10 digit directory number. Checks are made to ensure that the directory number complies with the North American numbering plan (for example, NPA-NXX-XXXX).

Non-North American 14 digit calling cards contain a 10 digit directory number followed by a 4 digit PIN. The PIN is not recorded in the data field, only the 10 digit directory number. Checks are made to ensure that the directory number is 10 digits, but no other format checks are made.

CCITT format calling cards can be variable length ranging from 6 to 19 digits. Table INTCCFMT defines the format of the calling card. The PIN is not recorded in the data field. Tale INTCCFMT defines the location and length of the PIN.

Custom calling cards have a variable format as well that can range from 1 to 19 digits. The format of these calling cards is controlled off the switch. The operator position or service node sends the switch the location and length of the PIN. The PIN is not recorded in the data field.

When special billing is requested, the call is billed to a special billing number. These special numbers are specific to the North American market. They contain RAO format billing numbers which means that the RAO is imbedded within the billing number. This billing number can be collected as a 10 digit number or as a 14 digit number. The 14 digit number contains a 10 digit number and a 4 digit PIN. The PIN is not recorded in this data field.

Alternate Route Number

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 10 bits

- split size = 10 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 22 Range of values

Bits	Value	Meaning
0 - 9	0 - 999	numeric range 0 to 999

Description

This data field records a number that can be used to identify that an alternate route has been used. This alternate routing capability only applies to call completion calls to numbers designated as overseas. The purpose of this capability is to allow the operator to select alternate routes if the initial route is busy or of poor quality.

If alternate routing is not provided for the given call, then the data field will contains 0s.

The customer configures the alternate routes by providing datafill in tables ICNTRY and IALTRTE. Table ICNTRY provides alternate routing lists per country code. It can also supply special directory numbers for accessing directory assistance and operator assistance within that country.

Table IALTRTE supplies the actual routing information referenced by table ICNTRY. The routing information is in the form of a digit string that is then re-translated. The table also supplies an "AMAENTRY". This field provides the data that is recorded in this data field.

Amount Deposited

Associated templates

The following table lists all fixed templates that contain this data field.

Table 23 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 16 bits

- split size = 16 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 24 Range of values

Bits	Value	Meaning
0 - 15	0 - 65535	numeric range 0 to 65535

Description

This data field contains the amount of money actually collected for the given call. Collection of money usually applies only to calls originated from public coin phones in North America.

If there is no money collected for a given call, then this data field will contain all 0s.

The value recorded is currency independent. The currency is accounted for in the real-time rating data which can either be on-switch or in an external database.

The Multiplier Factor data field (page 190) should be applied to the value recorded in this data field in order to determine the exact amount of money collected.

If the call is a coin sent paid call and the value recorded in this data field does not equal the value recorded in the Amount of Charge data field (page 49), then one of the following situations may have occurred:

- part charge

- walkaway

A part charge is a situation where only part of the money was collected. The outstanding charges are alternately billed (for example, collect, third number or calling card). The Charge Indicator data field (page 109) records a part charge and the Billing Type Identification (page 54) and Alternate Billing Number (page 44) data fields record the alternate billing information.

A walkaway is also a situation where only part of the money was collected. In this case, the outstanding charges cannot be collected and are generally forfeited by the telephone company. The Charge Indicator data field (page 109) records a walkaway.

Amount of Charge

Associated templates

The following table lists all fixed templates that contain this data field.

Table 25 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 16 bits

- split size = 16 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 26 Range of values

Bits	Value	Meaning
0 - 15	0 - 65535	numeric range 0 to 65535

Description

This data field records the amount of charge that has been quoted to the subscriber for the given call. The following TOPS services both calculate and quote the charges to the subscriber during the course of a given call:

- coin sent paid calls

- time and charges

- hotel sent paid calls

- estimate of charges

- commercial credit card sales report

- attendant pay station calls

If there are no charges calculated and quoted to the subscriber for a given call, then this data field will contain all 0s.

The value recorded is currency independent. The currency is accounted for in the real-time rating data which can either be on-switch or in an external database.

The Multiplier Factor data field (page 190) should be applied to the value recorded in this data field in order to determine the exact amount of charge.

Coin sent paid calls are calls that originate from a public coin phone and are billed to that coin phone. Based upon the service requested, TOPS calculates the charges and asks the subscriber to deposit the proper amount. The Amount Deposited data field (page 47) contains the actual amount collected. The Charge Indicator data field (page 109) records a value of "coin".

Time and charges is a service that can be applied to any TOPS call. It is usually requested at the beginning of the call by the subscriber who wants to be told the total charge for the call. When disconnect occurs, TOPS calculates the charges and quotes them to the subscriber responsible for paying for the call. The money is not actually collected which is why the Amount Deposited data field (page 47) does not contain any data. The Charge Indicator data field (page 109) records a value of "time and charges".

Hotel sent paid calls are calls that originate from a hotel line and are billed to that hotel. Based upon the service requested, TOPS calculates the charges at the end of the call and quotes them to the hotel. The quoting of charges is done through the HOBIC system which is usually a device at the hotel that receives a HOBIC record. The HOBIC record contains relevant call data including the amount of charge. The money is not actually collected which is why the Amount Deposited data field (page 47) does not contain any data. The Charge Indicator data field (page 109) records a value of "hotel".

Estimate of charges is a service that can be applied to any TOPS call. It is usually requested at the beginning of the call in order to get an estimate for the charges. The actual charges may be different. This service is controlled by the ENSV0101 SOC (ENSV TOPS Estimate of Charges). The Charge Indicator data field (page 109) will indicate that an estimate of charges has been requested which will allow the down stream processor to distinguish between an estimate of charges and a true time and charges service. The money is not actually collected which is why the Amount Deposited data field (page 47) does not contain any data.

Commercial credit card sales report is a service that can be applied to any call that is billed to a commercial credit card. At the end of the call, the actual charges are calculated and quoted to the commercial credit card vendor so that the account may be properly debited. This service is controlled by both the ABS00101 SOC (ABS TOPS Comm Cred Card) and tuple CCARD_SALES_REPORT_ACTIVE in table TOPSPARM. The money is not actually collected which is why the Amount Deposited data field (page 47) does not contain any data. The Charge Indicator data field (page 109) records a value of "time and charges".

Attendant pay station calls are calls that originate from a public phone and are billed to that phone. There is usually an attendant present who collects the money from the subscriber. The telephone company then collects the money from the attendant. The changes are calculated and then quoted to the attendant at the end of the call. The money is not actually collected which is why the Amount Deposited data field (page 47) does not contain any data.

Amount of Credit

Associated templates

The following table lists all fixed templates that contain this data field.

Table 27 Associated templates

Fixed template	Page number
Charge adjust template	page 428
Combined template	page 374

Reference information

The following list provides reference information about the data field.

- field size = 16 bits

- split size = 16 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 28 Range of values

Bits	Value	Meaning
0 - 15	0 - 65535	numeric range 0 to 65535

Description

This data field records the monetary amount to credit the subscriber when a charge adjust is performed. Not all charge adjusts give monetary credit. The Charge Adjust Indicator data field (page 106) will indicate if a monetary charge adjust has been requested.

If no charge adjust is performed for a given call or a non-monetary charge adjust is performed, then a value of "0" is recorded in this data field.

Associated TDR

Associated templates

The following table lists all fixed templates that contain this data field.

Table 29 Associated templates

Fixed template	Page number
Template header	page 370

Reference information

The following list provides reference information about the data field.

- field size = 1 bit

- split size = 1 bit

- field type = decimal

The following table provides all possible range of values for the data field.

Table 30 Range of values

Bits	Value	Meaning
0	0	no associated TDR
	1	associated TDR

Description

This data field is included in the template header and indicates that an additional TDR template(s) is associated with the given TDR record. The TDR records that are linked together will have the same value recorded in the Sequence Number data field (page 295). These two data fields together allow the downstream billing processor to match TDR records for a given call.

Value "0" ("no associated TDR") is recorded when there are no additional TDR records for the given call.

Value "1" ("associated TDR") is recorded when there is one or more additional TDR records for the given call. Each additional TDR record will contain the same value in the Sequence Number data field as the given record.

Billing Type Identification

Associated templates

The following table lists all fixed templates that contain this data field.

Table 31 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 3 bits
- split size = 3 bits
- field type = decimal

The following table provides all possible range of values for the data field.

Table 32 Range of values

Bits	Value	Meaning
0 - 2	0	unknown
	1	calling card
	2	special billing number
	3	third number
	4	collect
	5	station paid
	6	auto collect
	7	reserved for future use

Description

This data field records the billing method for the call.

Value "0" ("unknown") is recorded when no billing type has been identified.

Value "1" ("calling card") is recorded when the call is billed to a calling card. This value supports the following calling card types:

- North American 14 digit calling cards
- non-North American 14 digit calling cards
- CCITT format calling cards

- custom calling cards

The calling card number is recorded in the Alternate Billing Number data field (page 44). The calling card type is recorded in the Calling Card Format Identifier data field (page 66).

Value "2" ("special billing number") is recorded when the call is billed to a special billing number. These special numbers are specific to the North American market. They contain RAO format billing numbers which means that the RAO is imbedded within the billing number. The special billing number is recorded in the Alternate Billing Number data field (page 44).

Value "3" ("third number") is recorded when a third party is billed rather than either the calling or called parties. Operator practice for obtaining the billing acceptance may require a forward connection to the third party so that verbal acceptance may be obtained. Once billing acceptance has been obtained, the third party is released and the call continues. The third number is recorded in the Alternate Billing Number data field (page 44).

Value "4" ("collect") is recorded when the called party is billed rather than the calling party. Collect billing usually requires the operator to obtain a verbal billing acceptance from the called party (however this may vary with each individual company's practices). The called number is recorded in the Alternate Billing Number data field (page 44).

Value "5" ("station paid") is recorded when the calling party is billed for the call. No alternate billing is requested.

Value "6" ("auto collect") is recorded when the called party is billed rather than the calling party. Auto collect billing does not require the operator to obtain a verbal billing acceptance, no verification is needed. The called number is recorded in the Alternate Billing Number data field (page 44).

Block Count

Associated templates

The following table lists all fixed templates that contain this data field.

Table 33 Associated templates

Fixed template	Page number
Graceful end template	page 364

Reference information

The following list provides reference information about the data field.

• field size = 16 bits

• split size = 16 bits

• field type = decimal

The following table provides all possible range of values for the data field.

Table 34 Range of values

Bits	Value	Meaning
0 - 15	0 - 65535	number of blocks within the billing file

Description

This data field records the number of billing blocks found within a normal billing file. The types of billing blocks include the following:

• 1 graceful start block

• 1 or more normal TDR blocks

• 1 graceful end block

If this data field is included in an emergency billing file, it will contain a value of "0".

Block Identifier

Associated templates

The following table lists all fixed templates that contain this data field.

Table 35 Associated templates

Fixed template	Page number
Block header template	page 359

Reference information

The following list provides reference information about the data field.

- field size = 16 bits

- split size = 16 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 36 Range of values

Bits	Value	Meaning
0 - 15	0 - 65535	block identification number

Description

This data field records a numeric identifier for a given billing block. The block identifier is sequential as blocks proceed through a given billing file. When value "65535" is encountered, the next block identifier will be value "0".

BLV / Interrupt Request

Associated templates

The following table lists all fixed templates that contain this data field.

Table 37 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Combined template	page 374

Reference information

The following list provides reference information about the data field.

- field size = 2 bits

- split size = 2 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 38 Range of values

Bits	Value	Meaning
0 - 1	0	unknown
	1	BLV requested
	2	Interrupt requested
	3	reserved for future use

Description

This data field indicates that a busy line verification has been performed for the given call. The Terminating Number data field (page 331) contains the number on which the busy line verification has been performed.

Value "0" ("unknown") is recorded when no busy line verification has been performed for the given call.

Value "1" ("BLV requested") is recorded when just a busy line verification is performed. A busy line verification is when the operator bridges into the conversation (with a scrambler circuit optionally attached) to verify that the number is indeed busy and not out of order. The operator is just able to hear the conversation but is not able to be heard.

Value "2" ("interrupt requested") is recorded when the operator performs an interrupt. An interrupt is when the operator not only bridges into the conversation, but actually interrupts the conversation and asks the parties to disconnect. The operator can both hear the conversation and be heard by the parties.

Call Type

Associated templates

The following table lists all fixed templates that contain this data field.

Table 39 Associated templates

Fixed template	Page number
Combined template	page 374

Reference information

The following list provides reference information about the data field.

- field size = 4 bits

- split size = 4 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 40 Range of values

Bits	Value	Meaning
0 - 3	0	call completion
	1	listing services
	2	blv / interrupt
	3	general assistance
	4	charge adjust
	5	intercept
	6	call transfer to carrier
	7	in-interworking billing
	8 - 15	reserved for future use

Description

This data field records the call type for a given call. The call type reflects the general service that has been performed.

Value "0" ("call completion") is recorded when a basic voice connection is requested by the subscriber. This call generally comes to TOPS for the purposes of alternate billing or coin / hotel sent paid billing. The following data fields are applicable to this call type.

Table 41 Data fields associated with call completion call type

Data field	Page number
Carrier call event status	page 78
Carrier connect date, day	page 84
Carrier connect date, month	page 86
Carrier connect date, year	page 88

Table 41 Data fields associated with call completion call type

Data field	Page number
Carrier connect time, hours	page 90
Carrier connect rime, minutes	page 92
Carrier connect time, seconds	page 94
Carrier connect time, tenths of seconds	page 96
Carrier elapsed time, minutes	page 98
Carrier elapsed time, seconds	page 99
Carrier elapsed time, tenths of seconds	page 100
Completion indicator	page 114
LRN, called party	page 171
OSS CCSC, assistance type indicator	page 257
OSS CCSC, enterprise calling indicator	page 258
OSS CCSC, NPA point indicator	page 260
OSS CCSC, RLT indicator	page 261
OSS CCSC, subsequent treatment indicator	page 263
Outgoing trunk group number	page 265
Outgoing trunk member number	page 266
Overseas NPA dialing indicator	page 268
Person indicator	page 275
SPID, called party, account owner	page 318
Terminating number	page 331
Terminating number indicator	page 332

Value "1" ("listing services") is recorded when directory assistance is requested by the subscriber. The following data fields are applicable to this call type.

Table 42 Data fields associated with listing services call type

Data field	Page number
Listing response	page 151
Listing services forward number	page 153
Listing services request counter	page 155
Listing services requested number	page 156
Listing status, existence indicator	page 157
Listing status, listing found indicator	page 158
Listing status, local directory indicator	page 159
Listing status, LSDB billing indicator	page 160
Listing status, operator billing indicator	page 161
Listing status, posting indicator	page 162
Listing status, publishing indicator	page 163

Table 42 Data fields associated with listing services call type

Data field	Page number
Service identifier	page 300
SPID, requested party, account owner	page 322

Value "2" ("blv / interrupt") is recorded when a busy line verification is requested by the subscriber. The subscriber is asking the operator to confirm that the designated number is busy rather than out of order in some way. The operator also has the ability to interrupt the call associated with that designated number and ask the parties to disconnect. The following data fields are applicable to this call type.

Table 43 Data fields associated with blv / interrupt call type

Data field	Page number
BLV / interrupt request	page 58
LRN, called party	page 171
Outgoing trunk group number	page 265
Outgoing trunk member number	page 266
SPID, called party, account owner	page 318
Terminating number	page 331
Terminating number indicator	page 332

Value "3" ("general assistance") is recorded when a general information service is requested by the subscriber. The operator usually queries the subscriber for the request and then verbally provides the requested information.The following data fields are applicable to this call type.

Table 44 Data fields associated with general assistance call type

Data field	Page number
General assistance request counter	page 140
Service identifier	page 300

Value "4" ("charge adjust") is recorded when the subscriber requests that a credit be made for a previous call that encountered some type of trouble. The operator collects all the necessary information about the previous call and then enters the appropriate amount of charge or amount of time for the credit.The following data fields are applicable to this call type.

Table 45 Data fields associated with charge adjust call type

Data field	Page number
Amount of credit	page 52
Charge adjust indicator	page 106
Charge adjust number of occurrences	page 108
LRN, called party	page 171
Minutes of credit	page 189

Table 45 Data fields associated with charge adjust call type

Data field	Page number
Overseas NPA dialing indicator	page 268
Person indicator	page 275
Service difficulty	page 296
SPID, called party, account owner	page 318
Terminating number	page 331
Terminating number indicator	page 332

Value "5" ("intercept") is recorded when intercept service is performed. When a subscriber tries to connect to a number that is on intercept, the terminating end office usually sets a treatment that then routes the call to a TOPS office. The TOPS office received the intercepted number and performs a database search for the new number. The new number is quoted to the subscriber. The following data fields are applicable to this call type.

Table 46 Data fields associated with intercept call type

Data field	Page number
Intercept referral number	page 146
Intercepted number	page 147
Listing response	page 151
Service identifier	page 300

Value "6" ("call transfer to carrier") is recorded when carrier identification is performed by the operator. In North America, there are regulatory requirements that a local exchange company must hand off all interlata toll traffic to a carrier network. There are some calls (such as 0-) that may begin as local exchange company calls and then become carrier calls as more data is collected by the operator. Even though that TOPS switch may service both local exchange company traffic and carrier traffic, the call must be handed off from one environment to the other. This "hand-off" is recorded as a separate billable event using this call type. The following data fields are applicable to this call type.

Table 47 Data fields associated with call transfer to carrier call type

Data field	Page number
Carrier call event status	page 78
Carrier connect date, day	page 84
Carrier connect date, month	page 86
Carrier connect date, year	page 88
Carrier connect time, hours	page 90
Carrier connect rime, minutes	page 92
Carrier connect time, seconds	page 94
Carrier connect time, tenths of seconds	page 96

Table 47 Data fields associated with call transfer to carrier call type

Data field	Page number
Carrier elapsed time, minutes	page 98
Carrier elapsed time, seconds	page 99
Carrier elapsed time, tenths of seconds	page 100
Outgoing trunk group number	page 265
Outgoing trunk member number	page 266

Value "7" ("in-interworking billing") is recorded when IN interworking service is performed. IN interworking allows the TOPS operator to interface with an SCP to provide operator back-up for traditional SCP services. Once the operator is no longer needed on the call, the call is released back to the SCP. The following data fields are applicable to this call type.

Table 48 Data fields associated with in interworking billing call type

Data field	Page number
SCP billing identifier	page 292
Service identifier	page 300

Called Number / Service Access Number Input

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 3 bits

- split size = 3 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 49 Range of values

Bits	Value	Meaning
0 - 2	0	unknown
	1	dialed by customer
	2	dialed by operator (0-)
	3	dialed by operator (non 0-)
	4	subsequent request (sequence calls)
	5 - 7	reserved for future use

Description

This data field records how the called number or service access number was obtained.

Value "0" ("unknown") is recorded when there is no called number or service access number required or obtained for the given call.

Value "1" ("dialed by customer") is recorded when the call originates as a non 0- dialed call. The operator does not override the called number or service access number.

Value "2" ("dialed by operator (0-)") is recorded when the call originates as a 0- dialed call. The operator determines the service requested and usually enters a called number or service access number as needed.

Value "3" ("dialed by operator (non 0-)") is recorded when the call originates as a non 0- dialed call. The operator overrides the called number or services access number.

Value "4" ("subsequent request (sequence call)") is recorded when the given call is a subsequent request or sequence call. Sequence calls can be driven by the operator manually performing a "GEN AMA" function, or by the TOPS switch automatically performing a sequence call. An example might be a calling card sequence call or a directory assistance call completion call.

Called Party Name

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 32 characters

- split size = 8 bits

- field type = ebcdic

The following table provides all possible range of values for the data field.

Table 50 Range of values

Characters	Value	Meaning
0 - 31	ebcdic chars	32 character string

Description

This data field contains the called party name as entered by the operator for a given call. The called party name is optionally entered by the operator.

When no called party name is entered, then the field contains 32 spaces (for example, "   ").

When a called party name is entered, the characters are right justified and padded with spaces (for example, "   SMITH").

Calling Card Format Identifier

Associated templates

The following table lists all fixed templates that contain this data field.

Table 51 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 2 bits

- split size = 2 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 52 Range of values

Bits	Value	Meaning
0 - 1	0	unknown
	1	CCITT format
	2	10 digit line number format
	3	reserved for future use

Description

This data field records the type of calling card used when calling card billing is requested for the call.

Value "0" ("unknown") is recorded when the billing type is not calling card. The billing type is recorded in the Billing Type Identification data field (page 54).

Value "1" ("CCITT format") is recorded when the calling card type is one of the following:

- CCITT format calling cards

- custom calling cards

CCITT format calling cards can be variable length ranging from 6 to 19 digits. Table INTCCFMT defines the format of the calling card.

Custom calling cards have a variable format as well that can range from 1 to 19 digits. The format of these calling cards is controlled off the switch. The operator position or service node sends the switch the location and length of the PIN.

Value "2" ("10 digit line number format") is recorded when the calling card type is one of the following:

• North American 14 digit calling cards

• non-North American 14 digit calling cards

North American 14 digit calling cards contain a 10 digit directory number followed by a 4 digit PIN. Checks are made to ensure that the directory number complies with the North American numbering plan (for example, NPA-NXX-XXXX).

Non-North American 14 digit calling cards contain a 10 digit directory number followed by a 4 digit PIN. Checks are made to ensure that the directory number is 10 digits, but no other format checks are made.

Calling Card Sequence Call Counter

Associated templates

The following table lists all fixed templates that contain this data field.

Table 53 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 10 bits

- split size = 10 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 54 Range of values

Bits	Value	Meaning
0 - 9	0 - 999	numeric range 0 to 999

Description

This data field records the sequence number for calls billed to a calling card. When the subscriber originates a call and it arrives at an operator or service node, the operator or service node may provide several billable services. Each time a service is completed, an individual billing record is generated. This data field records the sequence number for an individual call billed using a calling card for a given call origination.

Value "0" is recorded when the call is not billed to a calling card.

Value "1" is recorded for the first call billed to a calling card.

Value "2" is recorded for the second call billed to a calling card. If the second call is not billed to a calling card, then this data field is not updated.

Values continue numerically as needed.

Calling Card Subaccount Number

Associated templates

The following table lists all fixed templates that contain this data field.

Table 55 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 2 digits

- split size = 4 bits

- field type = digits

The following table provides all possible range of values for the data field.

Table 56 Range of values

Digit	Value	Meaning
0 - 1	0 - 9	digit string containing 2 digits

Description

This data field records the calling card subaccount number. The calling card subaccount number is a number that is returned from the LIDB query. A given calling card may support multiple PINs. The different PINs are associated with a calling card subaccount. Since the PIN itself is not recorded in the billing record, the subaccount number is returned from the LIDB so that the downstream can know that a given PIN's subaccount was used.

Value "00" is recorded when either no calling card was used for a given call, or a calling card was used, but there was no subaccount number returned from the LIDB.

Calling Number Source

Associated templates

The following table lists all fixed templates that contain this data field.

Table 57 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Call transfer to carrier template	page 398
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 2 bits

- split size = 2 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 58 Range of values

Bits	Value	Meaning
0 - 1	0	unknown
	1	ANI success
	2	ONI
	3	ANI failure

Description

This data field contains how the calling number was obtained for a given call.

Value "0" ("unknown") is recorded when there is no calling number present for the given call. The absence of a calling number can occur on services such as Intercept that do not require a calling number.

Value "1" ("ANI success") is recorded when the calling number is successfully obtained from the incoming trunk signaling.

Value "2" ("ONI") is recorded when the originating end office cannot forward the calling number. The TOPS office is informed through the trunk signaling that the calling number is not available (usually with an ANI identifier digit(s) meaning operator number identification (ONI) required). The calling number must be collected by the operator.

Value "3" ("ANI failure") is recorded when the originating end office normally should be able to forward the calling number but could not in this instance due to some type of failure. The TOPS office is informed through the trunk signaling that the calling number is not available (usually with an ANI identifier digit(s) meaning ANI failure). The calling number must be collected by the operator.

Calling Party Name

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 32 characters

- split size = 8 bits

- field type = ebcdic

The following table provides all possible range of values for the data field.

Table 59 Range of values

Characters	Value	Meaning
0 - 31	ebcdic chars	32 character string

Description

This data field contains the calling party name as entered by the operator for a given call. The calling party name is optionally entered by the operator.

When no calling party name is entered, then the field contains 32 spaces (for example, "   ").

When a calling party name is entered, the characters are right justified and padded with spaces (for example, "   SMITH").

Carrier Accumulated Service Work Time, Minutes

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 6 bits

- split size = 6 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 60 Range of values

Bits	Value	Meaning
0 - 5	0 - 59	minutes of elapsed time

Description

This data field records the number of minutes that the call spent at an operator position or automated node. The field is meant to record the time spent doing work on behalf of a carrier.

Carrier service work time is accumulated time over the entire call. Over the duration of a single call, the call may reside at an operator position or automated node multiple times. As each additional operator position or automated node is accessed, the carrier operator work time is incremented.

When evaluated along with the following data fields, the total carrier service work time can be determined:

- Carrier accumulated service work time, seconds (page 74)

- Carrier accumulated service work time, tenths of seconds (page 75)

Carrier Accumulated Service Time, Seconds

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 6 bits

- split size = 6 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 61 Range of values

Bits	Value	Meaning
0 - 5	0 - 59	seconds

Description

This data field records the number of seconds that the call spent at an operator position or automated node. The field is meant to record the time spent doing work on behalf of a carrier.

Carrier service work time is accumulated time over the entire call. Over the duration of a single call, the call may reside at an operator position or automated node multiple times. As each additional operator position or automated node is accessed, the carrier operator work time is incremented.

When evaluated along with the following data fields, the total carrier service work time can be determined:

- Carrier accumulated service work time, minutes (page 73)

- Carrier accumulated service work time, tenths of seconds (page 75)

Carrier Accumulated Service Time, Tenths of Seconds

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 4 bits

- split size = 4 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 62 Range of values

Bits	Value	Meaning
0 - 3	0 - 9	tenths of seconds

Description

This data field records the number of tenths of seconds that the call spent at an operator position or automated node. The field is meant to record the time spent doing work on behalf of a carrier.

Carrier service work time is accumulated time over the entire call. Over the duration of a single call, the call may reside at an operator position or automated node multiple times. As each additional operator position or automated node is accessed, the carrier operator work time is incremented.

When evaluated along with the following data fields, the total carrier service work time can be determined:

- Carrier accumulated service work time, minutes (page 73)

- Carrier accumulated service work time, seconds (page 74)

Carrier Agreement Table

Associated templates

The following table lists all fixed templates that contain this data field.

Table 63 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Call transfer to carrier template	page 398
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
IN interworking template	page 444
Intercept template	page 437
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 2 bits

- split size = 2 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 64 Range of values

Bits	Value	Meaning
0 - 1	0	unknown
	1	provide service
	2	transfer
	3	reserved for future use

Description

This data field records the type of service agreement that exists between the carrier and the telephone company that controls the TOPS switch.

Value "0" ("unknown") is recorded when the given call is not a carrier call.

Value "1" ("provide service") is recorded when the carrier used on a given call has an agreement with the telephone company that controls the TOPS switch to provide full operator services. For North America, this is controlled in datafill by the OPSERV field in table TOPEACAR. For non-North America, this is controlled in datafill by the SERV field is table TOPCACAR.

Value "2" ("transfer") is recorded when the carrier used on a given call has an agreement with the telephone company that controls the TOPS switch to provide only transfer service. Transfer service means that once the call is identified as a carrier call, the call must be transferred to that carrier's network for additional service. For North America, this is controlled in datafill by the OPSERV field in table TOPEACAR. For non-North America, this is controlled in datafill by the SERV field is table TOPCACAR.

Carrier Call Event Status

Associated templates
The following table lists all fixed templates that contain this data field.

Table 65 Associated templates

Fixed template	Page number
Call completion template	page 389
Call transfer to carrier template	page 398
Combined template	page 374

Reference information
The following list provides reference information about the data field.

- field size = 4 bits

- split size = 4 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 66 Range of values

Bits	Value	Meaning
0 - 3	0	unknown
	1	1st wink received from carrier
	2	2nd start dial wink received from carrier
	3	timed out while waiting for ack wink
	4	off-hook from carrier after receipt of called number
	5	ack wink received from carrier
	6	answer
	7	timed out waiting for 2nd start dial wink on INC call
	8	timed out waiting for off-hook from carrier
	9	received off-hook rather than the 2nd start dial wink on INC call
	10 - 15	reserved for future use

Description
This data field records how far the connection set-up progressed between the carrier and the TOPS switch. The real benefit of this field is that if the connection to the carrier fails to be set-up properly, then this data field could be used to identify at what stage the error occurred.

The field provides most of its benefit when MF trunking is used to the carrier. However, it does record a few values when SS7 trunking is used to the carrier. There are five different scenarios that will show how the set-up progression occurs:

- MF FGC (without ANI)
- MF FGC (with ANI)
- MF FGD (domestic)
- MF FGD (international)
- SS7

MF FGC (without ANI)

The following diagram illustrates the signaling to a carrier using FGC without spilling ANI. The associated call event status is shown at the point where it is set.

Figure 3   MF FGC (without ANI) and carrier call event status
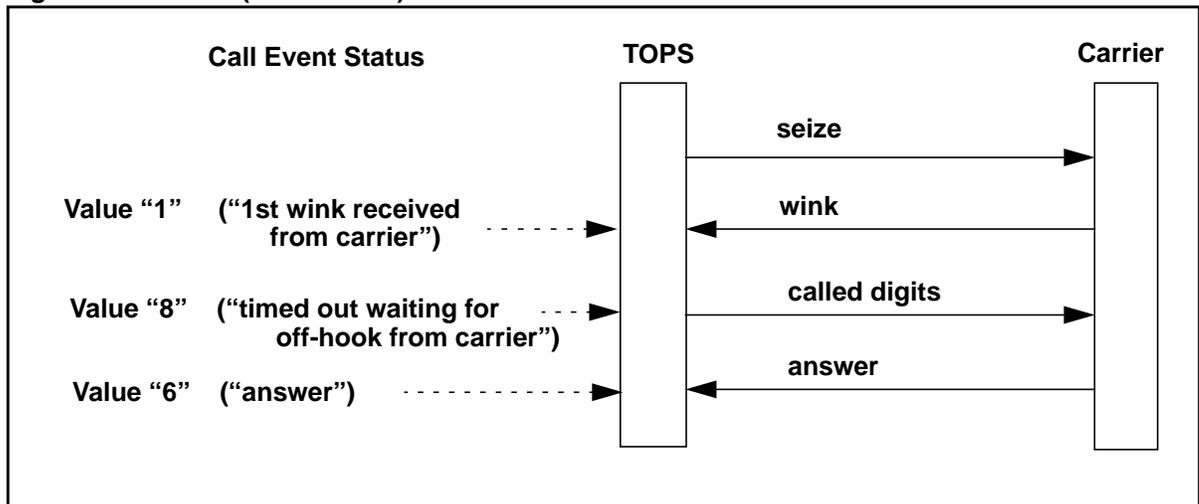
MF FGC (with ANI)

The following diagram illustrates the signaling to a carrier using FGC with spilling ANI. The associated call event status is shown at the point where it is set.

Figure 4   MF FGC (with ANI) and carrier call event status
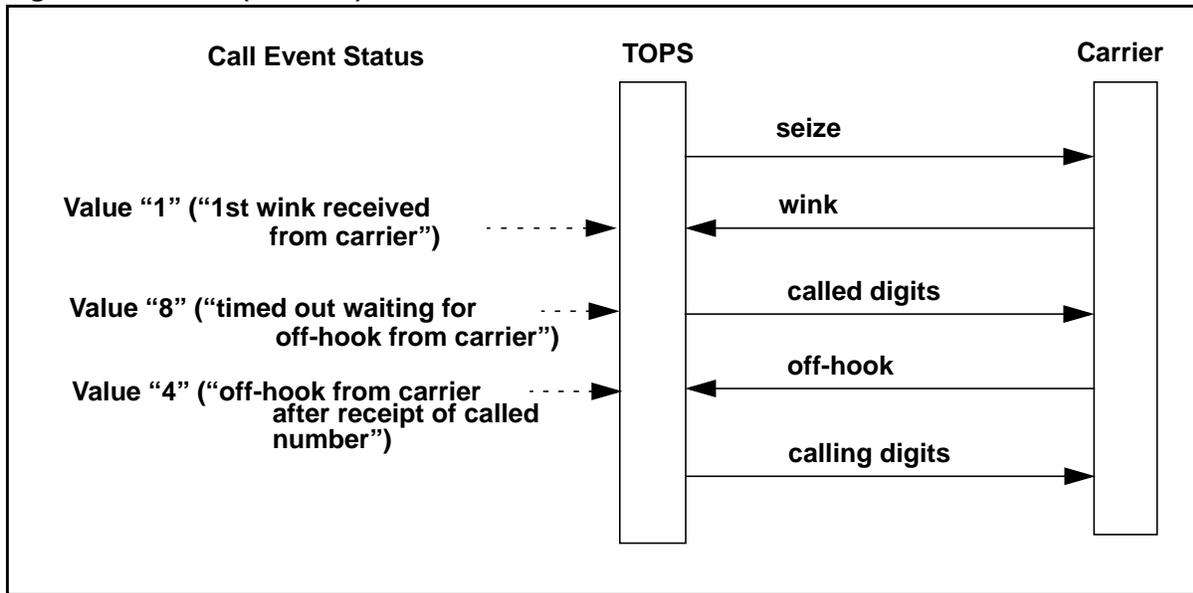
MF FGD (domestic)

The following diagram illustrates the signaling to a carrier using FGD for domestic calls. The associated call event status is shown at the point where it is set.

Figure 5   MF FGD (domestic) and carrier call event status
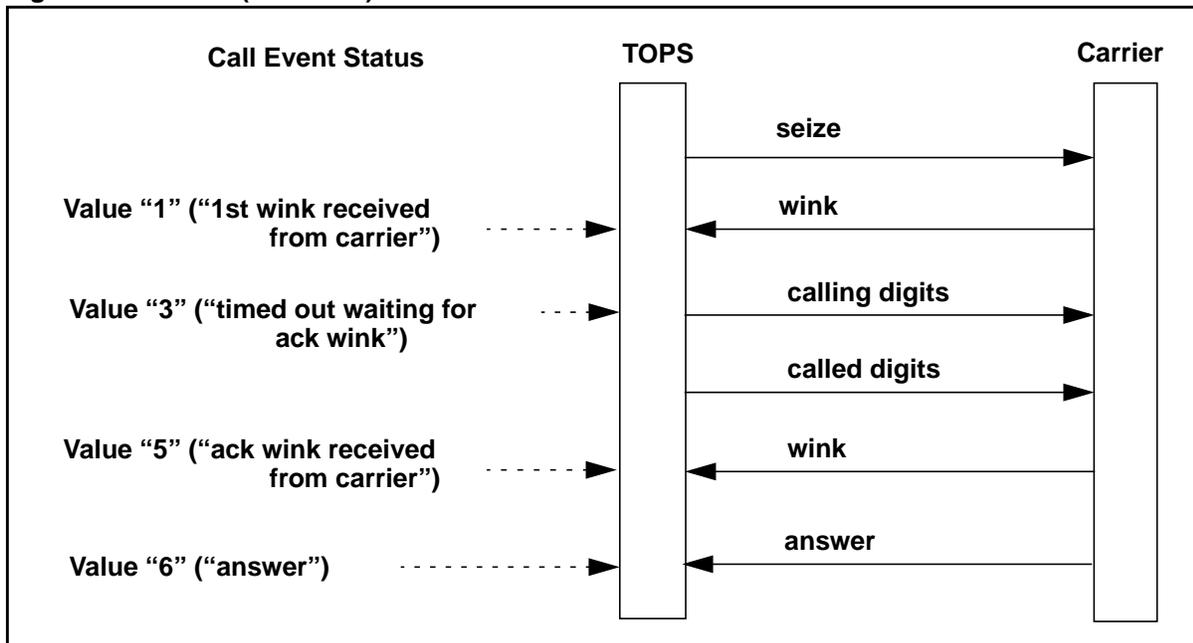
MF FGD (international)

The following diagram illustrates the signaling to a carrier using FGD for international calls. The associated call event status is shown at the point where it is set.

Figure 6   MF FGD (international) and carrier call event status

** If an off-hook is sent rather than a wink at this point, then Value "9" ("received off-hook rather than the 2nd start dial wink in INC call") is recorded.
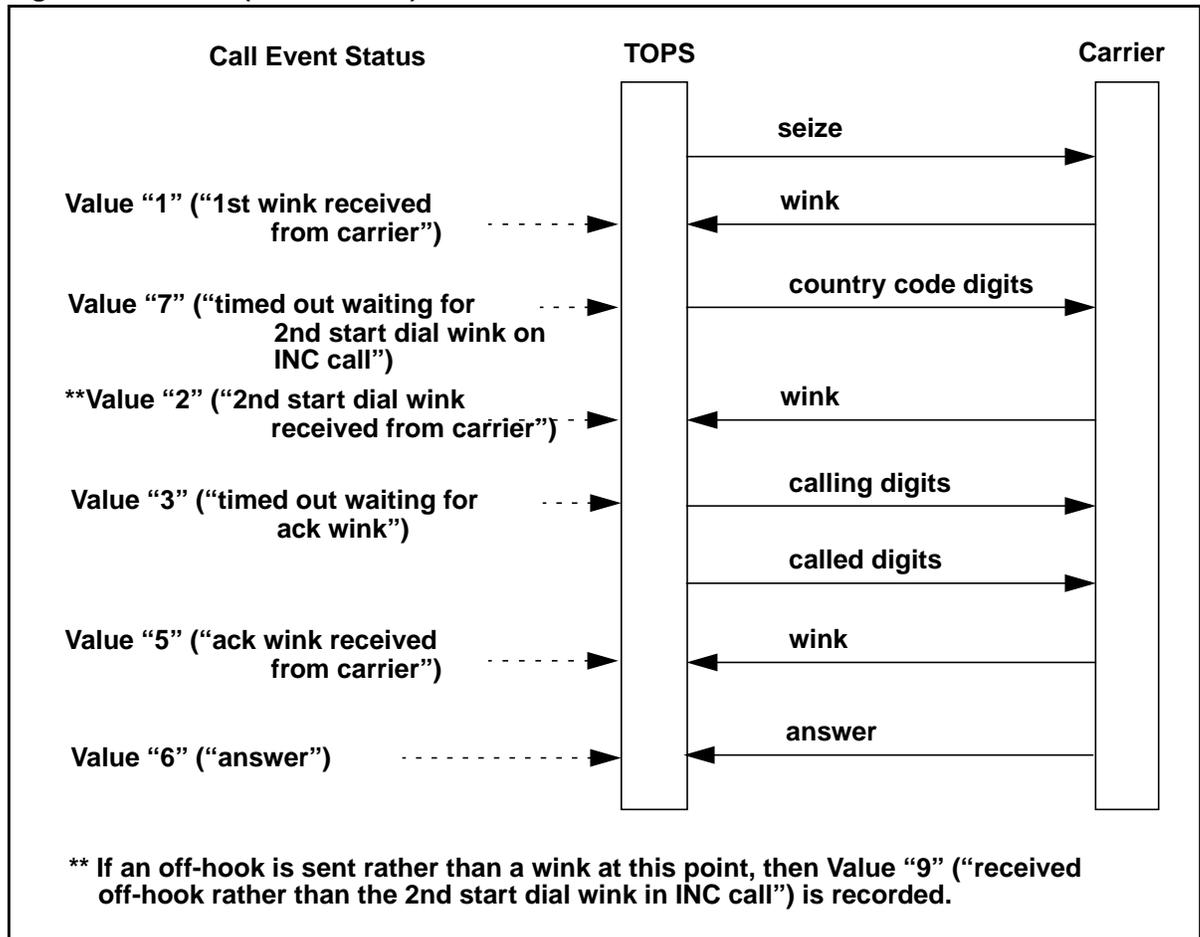
SS7

The following diagram illustrates the signaling to a carrier using SS7. The associated call event status is shown at the point where it is set.

Figure 7   SS7 and carrier call event status
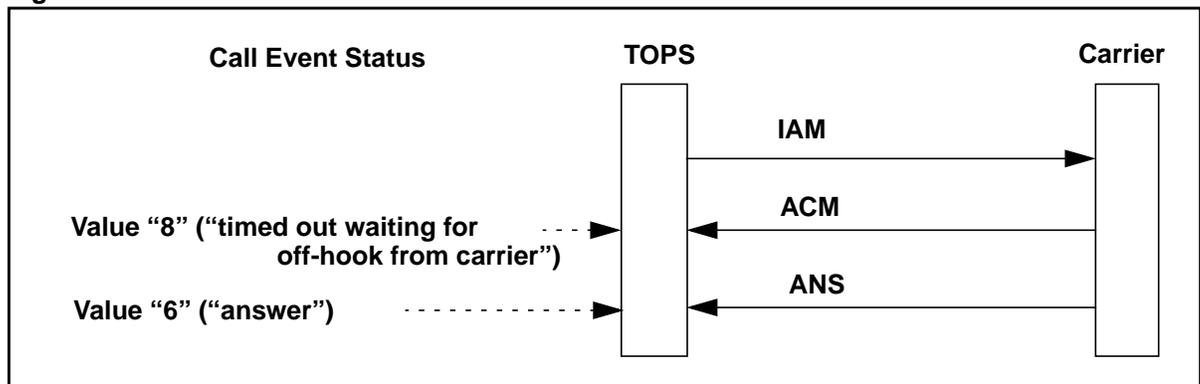
Carrier Code Source

Associated templates

The following table lists all fixed templates that contain this data field.

Table 67 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Call transfer to carrier template	page 398
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
IN interworking template	page 444
Intercept template	page 437
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 4 bits

- split size = 4 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 68 Range of values

Bits	Value	Meaning
0 - 3	0	unknown
	1	signaling, dialed by customer
	2	signaling, presubscribed
	3	LIDB, preferred carrier
	4	LIDB, alternate carrier
	5	calling party, volunteered without prompt
	6	calling party, response to prompt
	7	calling party, requested from list
	8	billed party, verbally
	9 - 15	reserved for future use

Description

This data field contains a view of how the carrier code was made known to the TOPS switch.

Value "0" ("unknown") is recorded when the given call is not a carrier call.

Value "1" ("signaling, dialed by customer") is recorded when the carrier digits are received through the signaling meaning that the subscriber has overridden their presubscribed carrier by dialing 1010XXXX.

Value "2" ("signaling, presubscribed") is recorded when the carrier digits are not received explicitly through the signaling. The carrier code is usually obtained from the trunk group default found in table TOPEATRK (for North America) or table TOPCATRK (for non-North America).

Value "3" ("LIDB, preferred carrier") is recorded when the carrier digits are obtained using a DN-based query. The query may be made to an external database (for example, OLNS), or to an on-switch database (for example, table DNPIC).

Value "4" ("LIDB, alternate carrier") is recorded when the primary carrier cannot complete the call and an alternate carrier is chosen. The alternate carrier is datafilled against the primary carrier in table TOPEACAR (for North America) or table TOPCACAR (for non-North America).

Value "5" ("calling party, volunteered without prompt") is currently not recorded.

Value "6" ("calling party, response to prompt") is recorded when the operator or service node collects the carrier code.

Value "7" ("calling party, requested from list") is currently not recorded.

Value "8" ("billed party, verbally") is currently not recorded.

Carrier Connect Date, Day

Associated templates

The following table lists all fixed templates that contain this data field.

Table 69 Associated templates

Fixed template	Page number
Call completion template	page 389
Call transfer to carrier template	page 398
Combined template	page 374

Reference information

The following list provides reference information about the data field.

- field size = 5 bits

- split size = 5 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 70 Range of values

Bits	Value	Meaning
0 - 4	1 - 31	day of the month

Description

This data field records the day of the month when the connection was made to the carrier. The carrier connect date is recorded at different points in the call depending on the call type

If the call originates using EAFGD, COMFGD or SS7 with call source set to "CARRIER" in table ISUPTRK, then carrier connect is defined as when the call first arrives at the TOPS switch.

If the call does not originate as described above, the carrier connect time is defined based upon the signaling used to connect to the carrier network. If MF FGC is used, then carrier connect is defined when the outgoing trunk is seized. If MF FGD is used, then carrier connect is defined when the carrier acknowledgment wink is received. If SS7 is used, then carrier connect is defined when the IAM is built and sent to the outgoing trunk.

When evaluated along with the following data fields, the exact moment that a carrier connect occurs can be determined:

- Carrier connect date, month (page 86)

- Carrier connect date, year (page 88)

- Carrier connect time, hours (page 90)

- Carrier connect time, minutes (page 92)

- Carrier connect time, seconds (page 94)
- Carrier connect time, tenths of seconds (page 96)

Carrier Connect Date, Month

Associated templates

The following table lists all fixed templates that contain this data field.

Table 71 Associated templates

Fixed template	Page number
Call completion template	page 389
Call transfer to carrier template	page 398
Combined template	page 374

Reference information

The following list provides reference information about the data field.

- field size = 4 bits

- split size = 4 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 72 Range of values

Bits	Value	Meaning
0 - 3	1	january
	2	february
	3	march
	4	april
	5	may
	6	june
	7	july
	8	august
	9	september
	10	october
	11	november
	12	december

Description

This data field records the month when the connection was made to the carrier. The carrier connect date is recorded at different points in the call depending on the call type

If the call originates using EAFGD, COMFGD or SS7 with call source set to "CARRIER" in table ISUPTRK, then carrier connect is defined as when the call first arrives at the TOPS switch.

If the call does not originate as described above, the carrier connect time is defined based upon the signaling used to connect to the carrier network. If MF FGC is used, then carrier connect is defined when the outgoing trunk is seized. If MF FGD is used, then carrier connect is defined when the carrier acknowledgment wink is received. If SS7 is used, then carrier connect is defined when the IAM is built and sent to the outgoing trunk.

When evaluated along with the following data fields, the exact moment that a carrier connect occurs can be determined:

- Carrier connect date, day (page 84)
- Carrier connect date, year (page 88)
- Carrier connect time, hours (page 90)
- Carrier connect time, minutes (page 92)
- Carrier connect time, seconds (page 94)
- Carrier connect time, tenths of seconds (page 96)

Carrier Connect Date, Year

Associated templates
The following table lists all fixed templates that contain this data field.

Table 73 Associated templates

Fixed template	Page number
Call completion template	page 389
Call transfer to carrier template	page 398
Combined template	page 374

Reference information
The following list provides reference information about the data field.

- field size = 4 bits

- split size = 4 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 74 Range of values

Bits	Value	Meaning
0 - 3	0 - 9	last digit of the year

Description
This data field records the last digit of the year when the connection was made to the carrier. The carrier connect date is recorded at different points in the call depending on the call type

If the call originates using EAFGD, COMFGD or SS7 with call source set to "CARRIER" in table ISUPTRK, then carrier connect is defined as when the call first arrives at the TOPS switch.

If the call does not originate as described above, the carrier connect time is defined based upon the signaling used to connect to the carrier network. If MF FGC is used, then carrier connect is defined when the outgoing trunk is seized. If MF FGD is used, then carrier connect is defined when the carrier acknowledgment wink is received. If SS7 is used, then carrier connect is defined when the IAM is built and sent to the outgoing trunk.

When evaluated along with the following data fields, the exact moment that a carrier connect occurs can be determined:

- Carrier connect date, day (page 84)

- Carrier connect date, month (page 86)

- Carrier connect time, hours (page 90)

- Carrier connect time, minutes (page 92)

- Carrier connect time, seconds (page 94)
- Carrier connect time, tenths of seconds (page 96)

Carrier Connect Time, Hours

Associated templates

The following table lists all fixed templates that contain this data field.

Table 75 Associated templates

Fixed template	Page number
Call completion template	page 389
Call transfer to carrier template	page 398
Combined template	page 374

Reference information

The following list provides reference information about the data field.

- field size = 5 bits

- split size = 5 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 76 Range of values

Bits	Value	Meaning
0 - 4	0 - 23	hours

Description

This data field records the hour when the connection was made to the carrier. The carrier connect date is recorded at different points in the call depending on the call type

If the call originates using EAFGD, COMFGD or SS7 with call source set to "CARRIER" in table ISUPTRK, then carrier connect is defined as when the call first arrives at the TOPS switch.

If the call does not originate as described above, the carrier connect time is defined based upon the signaling used to connect to the carrier network. If MF FGC is used, then carrier connect is defined when the outgoing trunk is seized. If MF FGD is used, then carrier connect is defined when the carrier acknowledgment wink is received. If SS7 is used, then carrier connect is defined when the IAM is built and sent to the outgoing trunk.

The carrier disconnect time is defined as when the on-hook is detected by the originator or when a REL is received or sent from the switch. With OSNC, operator hold may now be in effect from TOPS to the carrier. Refer to "Operator services network capability" on page 453 for these interactions.

When evaluated along with the following data fields, the exact moment that a carrier connect occurs can be determined:

- Carrier connect date, day (page 84)

- Carrier connect date, month (page 86)
- Carrier connect date, year (page 88)
- Carrier connect time, minutes (page 92)
- Carrier connect time, seconds (page 94)
- Carrier connect time, tenths of seconds (page 96)

Carrier Connect Time, Minutes

Associated templates
The following table lists all fixed templates that contain this data field.

Table 77 Associated templates

Fixed template	Page number
Call completion template	page 389
Call transfer to carrier template	page 398
Combined template	page 374

Reference information
The following list provides reference information about the data field.

- field size = 6 bits

- split size = 6 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 78 Range of values

Bits	Value	Meaning
0 - 5	0 - 59	minutes

Description
This data field records the minute when the connection was made to the carrier. The carrier connect date is recorded at different points in the call depending on the call type

If the call originates using EAFGD, COMFGD or SS7 with call source set to "CARRIER" in table ISUPTRK, then carrier connect is defined as when the call first arrives at the TOPS switch.

If the call does not originate as described above, the carrier connect time is defined based upon the signaling used to connect to the carrier network. If MF FGC is used, then carrier connect is defined when the outgoing trunk is seized. If MF FGD is used, then carrier connect is defined when the carrier acknowledgment wink is received. If SS7 is used, then carrier connect is defined when the IAM is built and sent to the outgoing trunk.

When evaluated along with the following data fields, the exact moment that a carrier connect occurs can be determined:

- Carrier connect date, day (page 84)

- Carrier connect date, month (page 86)

- Carrier connect date, year (page 88)

- Carrier connect time, hours (page 90)

- Carrier connect time, seconds (page 94)
- Carrier connect time, tenths of seconds (page 96)

Carrier Connect Time, Seconds

Associated templates

The following table lists all fixed templates that contain this data field.

Table 79 Associated templates

Fixed template	Page number
Call completion template	page 389
Call transfer to carrier template	page 398
Combined template	page 374

Reference information

The following list provides reference information about the data field.

- field size = 6 bits

- split size = 6 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 80 Range of values

Bits	Value	Meaning
0 - 5	0 - 59	seconds

Description

This data field records the second when the connection was made to the carrier. The carrier connect date is recorded at different points in the call depending on the call type

If the call originates using EAFGD, COMFGD or SS7 with call source set to "CARRIER" in table ISUPTRK, then carrier connect is defined as when the call first arrives at the TOPS switch.

If the call does not originate as described above, the carrier connect time is defined based upon the signaling used to connect to the carrier network. If MF FGC is used, then carrier connect is defined when the outgoing trunk is seized. If MF FGD is used, then carrier connect is defined when the carrier acknowledgment wink is received. If SS7 is used, then carrier connect is defined when the IAM is built and sent to the outgoing trunk.

When evaluated along with the following data fields, the exact moment that a carrier connect occurs can be determined:

- Carrier connect date, day (page 84)

- Carrier connect date, month (page 86)

- Carrier connect date, year (page 88)

- Carrier connect time, hours (page 90)

- Carrier connect time, minutes (page 92)
- Carrier connect time, tenths of seconds (page 96)

Carrier Connect Time, Tenths of Seconds

Associated templates

The following table lists all fixed templates that contain this data field.

Table 81 Associated templates

Fixed template	Page number
Call completion template	page 389
Call transfer to carrier template	page 398
Combined template	page 374

Reference information

The following list provides reference information about the data field.

- field size = 4 bits

- split size = 4 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 82 Range of values

Bits	Value	Meaning
0 - 3	0 - 9	tenths of seconds

Description

This data field records the tenth of second when the connection was made to the carrier. The carrier connect date is recorded at different points in the call depending on the call type

If the call originates using EAFGD, COMFGD or SS7 with call source set to "CARRIER" in table ISUPTRK, then carrier connect is defined as when the call first arrives at the TOPS switch.

If the call does not originate as described above, the carrier connect time is defined based upon the signaling used to connect to the carrier network. If MF FGC is used, then carrier connect is defined when the outgoing trunk is seized. If MF FGD is used, then carrier connect is defined when the carrier acknowledgment wink is received. If SS7 is used, then carrier connect is defined when the IAM is built and sent to the outgoing trunk.

When evaluated along with the following data fields, the exact moment that a carrier connect occurs can be determined:

- Carrier connect date, day (page 84)

- Carrier connect date, month (page 86)

- Carrier connect date, year (page 88)

- Carrier connect time, hours (page 90)

- Carrier connect time, minutes (page 92)
- Carrier connect time, seconds (page 94)

Carrier Elapsed Time, Minutes

Associated templates

The following table lists all fixed templates that contain this data field.

Table 83 Associated templates

Fixed template	Page number
Call completion template	page 389
Call transfer to carrier template	page 398
Combined template	page 374

Reference information

The following list provides reference information about the data field.

- field size = 16 bits

- split size = 16 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 84 Range of values

Bits	Value	Meaning
0 - 15	0 - 65535	minutes of elapsed time

Description

This data field records the number of minutes that a given call is connected to the carrier's network. Carrier elapsed time is measured from the time of carrier connect to when the call disconnects. When evaluated along with the following data fields, the total carrier elapsed time can be determined:

- Carrier elapsed time, seconds (page 99)

- Carrier elapsed time, tenths of seconds (page 100)

Carrier Elapsed Time, Seconds

Associated templates

The following table lists all fixed templates that contain this data field.

Table 85 Associated templates

Fixed template	Page number
Call completion template	page 389
Call transfer to carrier template	page 398
Combined template	page 374

Reference information

The following list provides reference information about the data field.

- field size = 6 bits

- split size = 6 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 86 Range of values

Bits	Value	Meaning
0 - 5	0 - 59	seconds

Description

This data field records the number of seconds that a given call is connected to the carrier's network. Carrier elapsed time is measured from the time of carrier connect to when the call disconnects. When evaluated along with the following data fields, the total carrier elapsed time can be determined:

- Carrier elapsed time, minutes (page 98)

- Carrier elapsed time, tenths of seconds (page 100)

Carrier Elapsed Time, Tenths of Seconds

Associated templates

The following table lists all fixed templates that contain this data field.

Table 87 Associated templates

Fixed template	Page number
Call completion template	page 389
Call transfer to carrier template	page 398
Combined template	page 374

Reference information

The following list provides reference information about the data field.

- field size = 4 bits

- split size = 4 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 88 Range of values

Bits	Value	Meaning
0 - 3	0 - 9	tenths of seconds

Description

This data field records the number of tenths of seconds that a given call is connected to the carrier's network. Carrier elapsed time is measured from the time of carrier connect to when the call disconnects. When evaluated along with the following data fields, the total carrier elapsed time can be determined:

- Carrier elapsed time, minutes (page 98)

- Carrier elapsed time, seconds (page 99)

Carrier / NBEC Code

Associated templates

The following table lists all fixed templates that contain this data field.

Table 89 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Call transfer to carrier template	page 398
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
IN interworking template	page 444
Intercept template	page 437
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 4 digits

- split size = 4 bits

- field type = digits

The following table provides all possible range of values for the data field.

Table 90 Range of values

Digit	Value	Meaning
0 - 3	0 - 9	digit string containing 4 digits

Description

This data field records a 4 digit number that represents a carrier or some other company.

For a carrier call, the carrier code can be obtained through signaling, from an external database such as OLNS or from on-switch datafill. The Carrier Code Source data field (page 82) will indicate the source of the carrier code.

If there is no carrier associated with the call the field will be filled with 0's.

Carrier Trunk Group Nature of Connection

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 1 bit

- split size = 1 bit

- field type = decimal

The following table provides all possible range of values for the data field.

Table 91 Range of values

Bits	Value	Meaning
0	0	non-ss7 trunk
	1	ss7 trunk

Description

This data field records whether or not the trunk group used to connect to the carrier's network is ISUP. Table TRKSGRP contains the information about whether trunk group is ISUP.

Value "0" ("non-ss7 trunk") is recorded when the trunk group is a non-ISUP trunk.

Value "1" ("ss7 trunk") is recorded when the trunk group is an ISUP trunk.

Cellular Company Identifier

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 4 digits

- split size = 4 bits

- field type = digits

The following table provides all possible range of values for the data field.

Table 92 Range of values

Digit	Value	Meaning
0 - 3	0 - 9	digit string containing 4 digits

Description

This data field records a 4 digit code that identifies the connecting cellular company. This data is provisioned on the originating trunk group in either table TRKGRP (for non-ISUP trunks) or table ISUPTRK (for ISUP trunks).

The connecting cellular company can be either a carrier or an NBEC. If the connecting cellular company is a carrier, then this data field is populated with the carrier code that is datafilled in table TOPEACAR for the originating trunk. If the connecting cellular company is an NBEC, then this data field is populated with the NBEC code that is datafilled in either table TRKGRP (for non-ISUP trunks) or table ISUPTRK (for ISUP trunks).

The Cellular Connect Type data field (page 104) is used to identify that the originating trunk is a connection to a cellular company.

Cellular Connection Type

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 3 bits

- split size = 3 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 93 Range of values

Bits	Value	Meaning
0 - 2	0	unknown
	1	type A
	2	type B
	3	type D
	4	cellular mobile
	5	local transport
	6 - 7	reserved for future use

Description

This data field records the type of cellular connection made from the cellular company to the TOPS switch. This information is provisioned against the originating trunk group in either table TRKGRP (for non-ISUP trunks) or table ISUPTRK (for ISUP trunks).

Value "0" ("unknown") is recorded when a given call does not originate from a cellular company. The CONNTYPE field in table TRKGRP (for non-ISUP trunks) or table ISUPTRK (for ISUP trunks) is set to "NONE".

Value "1" ("type A") is recorded when a given call does originate from a cellular company. The CONNTYPE field in table TRKGRP (for non-ISUP trunks) or table ISUPTRK (for ISUP trunks) is set to "TYPE_A".

Value "2" ("type B") is recorded when a given call does originate from a cellular company. The CONNTYPE field in table TRKGRP (for non-ISUP trunks) or table ISUPTRK (for ISUP trunks) is set to "TYPE_B".

Value "3" ("type D") is recorded when a given call does originate from a cellular company. The CONNTYPE field in table TRKGRP (for non-ISUP trunks) or table ISUPTRK (for ISUP trunks) is set to "TYPE_D".

Value "4" ("cellular mobile") is recorded when a given call does originate from a cellular company. The CONNTYPE field in table TRKGRP (for non-ISUP trunks) or table ISUPTRK (for ISUP trunks) is set to "CELL_MOBILE".

Value "5" ("local transport") is recorded when a given call does originate from a cellular company. The CONNTYPE field in table TRKGRP (for non-ISUP trunks) or table ISUPTRK (for ISUP trunks) is set to "LOCAL_TRANS".

The Cellular Company Id data field (page 103) identifies the associated cellular company.

Charge Adjust Indicator

Associated templates

The following table lists all fixed templates that contain this data field.

Table 94 Associated templates

Fixed template	Page number
Charge adjust template	page 428
Combined template	page 374

Reference information

The following list provides reference information about the data field.

- field size = 2 bits

- split size = 2 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 95 Range of values

Bits	Value	Meaning
0 - 1	0	unknown
	1	minutes adjusted
	2	charge adjusted
	3	reserved for future use

Description

This data field records whether a charge adjust has been performed for the given call. If a charge adjust has been performed, it will also indicate whether minutes are adjusted or the charge has been adjusted. The operator performs a charge adjust when a subscriber requests a credit for poor or inadequate service.

The type of service difficulty encountered is recorded in the Service Difficulty data field (page 296).

When the operator enters the charge adjust, the operator specifies a charge adjust type which includes the following:

- "C" meaning charge adjusted

- "T" meaning total adjusted

- "M" meaning minutes adjusted

The following table illustrates the associated data that is received with each charge adjust type and how the Amount of Credit, Minutes of Credit and Charge Adjust Number of Occurrences data fields are impacted.

Table 96

Charge adjust type	Associated data	Amount of credit data field (page 52)	Minutes of credit data field (page 189)	Charge adjust number of occurrences data field (page 108)
"C"	monetary credit amount	monetary credit amount	0	1
"M"	minutes to credit	0	minutes to credit	1
"T"	number of instances to credit	0	1	number of instances to credit

Value "0" ("unknown") is recorded when no charge adjust has been performed.

Value "1" ("minutes adjusted") is recorded when a charge adjust is performed and the charge adjust type is either "M" or "T".

Value "2" ("charge adjusted") is recorded when a charge adjust is performed and the charge adjust type is "C".

Charge Adjust Number of Occurrences

Associated templates

The following table lists all fixed templates that contain this data field.

Table 97 Associated templates

Fixed template	Page number
Charge adjust template	page 428
Combined template	page 374

Reference information

The following list provides reference information about the data field.

- field size = 10 bits

- split size = 10 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 98 Range of values

Bits	Value	Meaning
0 - 9	0 - 999	numeric range 0 to 999

Description

This data field records the number of instances of service difficulty that have been experienced by the subscriber who is requesting a charge adjust.

If no charge adjust is performed, then value "0" is recorded. The Charge Adjust Indicator data field (page 106) indicated if a charge adjust has been performed for the given call.

Charge Indicator

Associated templates

The following table lists all fixed templates that contain this data field.

Table 99 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 3 bits

- split size = 3 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 100 Range of values

Bits	Value	Meaning
0 - 2	0	unknown
	1	hotel
	2	coin difference (walkaway)
	3	coin
	4	time and charges
	5	part charges
	6	estimate of charges
	7	attendant pay station

Description

This data field indicates if charges have been calculated and quoted to the subscriber. The charges that are quoted to the subscriber are recorded in the Amount of Charge data field (page 49). The actual money collected is recorded in the Amount Deposited data field (page 47).

Value "0" ("unknown") is recorded when charges are not calculated for the given call.

Value "1" ("hotel") is recorded when calls originate from a hotel line and are billed to that hotel. Based upon the service requested, TOPS calculates the charges at the end of the call and quotes them to the hotel. The quoting of charges is done through the HOBIC system which is usually a device at the hotel that receives a HOBIC record. The HOBIC record contains relevant call data including the amount of charge. There is no money actually collected.

Value "2" ("coin difference (walkaway)") is recorded when a partial charge occurs. A walkaway is a situation where only part of the money was collected. In this case, the outstanding charges cannot be collected and are generally forfeited by the telephone company.

Value "3" ("coin") is recorded when calls originate from a public coin phone and are billed to that coin phone. Based upon the service requested, TOPS calculates the charges and asks the subscriber to deposit the proper amount.

Value "4" ("time and charges") is recorded when time and charges is applied to any TOPS call. It is usually requested at the beginning of the call by the subscriber who wants to be told the total charge for the call. When disconnect occurs, TOPS calculates the charges and quotes them to the subscriber responsible for paying for the call. There is no money actually collected. Value "4" ("time and charges") is also recorded when commercial credit card sales report is applied to any call that is billed to a commercial credit card. At the end of the call, the actual charges are calculated and quoted to the commercial credit card vendor so that the account may be properly debited. This service is controlled by both the ABS00101 SOC (ABS TOPS Comm Cred Card) and tuple CCARD_SALES_REPORT_ACTIVE in table TOPSPARM. There is no money actually collected.

Value "5" ("part charges") is recorded when a partial charge occurs. A part charge is a situation where only part of the money was collected. The outstanding charges are alternately billed (for example, collect, third number or calling card).

Value "6" ("estimate of charges") is recorded when estimate of charges is applied to any TOPS call. It is usually requested at the beginning of the call in order to get an estimate for the charges. The actual charges may be different. This service is controlled by the ENSV0101 SOC (ENSV TOPS Estimate of Charges). There is no money actually collected.

Value "7" ("attendant pay station") is recorded when calls originate from a public phone and are billed to that phone. There is usually an attendant present who collects the money from the subscriber. The telephone company then collects the money from the attendant. The changes are calculated and then quoted to the attendant at the end of the call. There is no money collected.

Coin Credit Indicator

Associated templates

The following table lists all fixed templates that contain this data field.

Table 101 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 2 bits

- split size = 2 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 102 Range of values

Bits	Value	Meaning
0 - 1	0	unknown
	1	no coin credit
	2	coin credit
	3	reserved for future use

Description

This data field indicates that a charge adjust was done for the reason of supplying a coin credit.

Table CHGADJKY is used to datafill the service difficulty. The Service Difficulty data field (page 296) records the service difficulty. Each service difficulty can be one of the following types:

- part charge

- walkaway

- coin credit

- standard

Value "0" ("unknown") is recorded when the calling party is not a coin phone.

Value "1" ("no coin credit") is recorded when the calling party is a coin phone, but no charge adjust has been made or a charge adjust is performed with a service difficulty datafilled as something other than "CNCREDIT" in table CHGADJKY.

Value "2" ("coin credit") is recorded when the calling party is a coin phone and a charge adjust with a service difficulty datafilled as "CNCREDIT" in table CHGADJKY is performed.

Commercial Credit Card Authcode

Associated templates

The following table lists all fixed templates that contain this data field.

Table 103 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 15 characters
- split size = 8 bits
- field type = ebcdic

The following table provides all possible range of values for the data field.

Table 104 Range of values

Characters	Value	Meaning
0 - 14	ebcdic character	15 character string

Description

This data field contains the commercial credit card authorization code that is optionally collected for an OSSAIN call.   The authorization code is an alphanumeric code sent optionally by the OSSAIN service node to TOPS as part of the class charge operation.

If an authorization code is not collected for a given call, then the data field contains 15 spaces.

When an authorization code is collected, the characters are left justified and padded with spaces (for example, "12Az9   ").

1. Commercial Credit Card Authcode is used only with template version 2 and higher. It is not available in version 0 or 1.

Completion Indicator

Associated templates

The following table lists all fixed templates that contain this data field.

Table 105 Associated templates

Fixed template	Page number
Call completion template	page 389
Combined template	page 374

Reference information

The following list provides reference information about the data field.

- field size = 3 bits

- split size = 3 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 106 Range of values

Bits	Value	Meaning
0 - 2	0	unknown
	1	completed (answered)
	2	not completed, billing failure
	3	not completed, person not available on person-to-person request
	4	not completed, unanswered
	5 - 7	reserved for future use

Description

This data field is associated with call completion service and records the completion status of the call.

Value "0" ("unknown") is recorded when a service other than call completion service is provided for a given call.

Value "1" ("completed (answered)") is recorded when the call was answered by the called party.

Value "2" ("not completed, billing failure") is recorded when the call is answered. The operator or service node makes a request other than person-to-person but the information is not available or billing is denied. An example of this would be a collect call where the called party refuses to accept the charges. The call is disconnected and this value is recorded.

Value "3" ("not completed, person not available on person-to-person request") is recorded when the call is answered. The operator or service node requests a particular person who is not available. The call is then disconnected and this value is recorded.

Value "4" ("not completed, unanswered") is recorded when the call was never answered.

Country Code

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 3 digits

- split size = 4 bits

- field type = digits

The following table provides all possible range of values for the data field.

Table 107 Range of values

Digit	Value	Meaning
0 - 2	0 - 9	digit string containing 3 digits

Description

This data field records the country code of the called party when the given call is an international call. In this case, the country code digits are split from the called number. The country code is recorded in this data field. The remainder of the called number is recorded in the Terminating Number data field (page 331).

Country Direct Carrier of Origin

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 4 digits

- split size = 4 bits

- field type = digits

The following table provides all possible range of values for the data field.

Table 108 Range of values

Digit	Value	Meaning
0 - 3	0 - 9	digit string containing 4 digits

Description

This data field records the carrier of origin for a country direct call. On a country direct call, the call originates to TOPS with a series of digits that include the following:

- Access code

- Country code

- Carrier code

This data field records the carrier code portion of the originating called digit stream. Tables CDACCESS and CDCARR are used to verify the carrier code and provide other information.

If the call is not a country direct call, then this data field will contain a value of "0000".

Country Direct Country of Origin

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 3 digits

- split size = 4 bits

- field type = digits

The following table provides all possible range of values for the data field.

Table 109 Range of values

Digit	Value	Meaning
0 - 2	0 - 9	digit string containing 3 digits

Description

This data field records the country of origin for a country direct call. On a country direct call, the call originates to TOPS with a series of digits that include the following:

- Access code

- Country code

- Carrier code

This data field records the country code portion of the originating called digit stream. Tables CDACCESS and CDCTRY are used to verify the country code and provide other information.

If the call is not a country direct call, then this data field will contain a value of "000".

Current Date, Day

Associated templates

The following table lists all fixed templates that contain this data field.

Table 110 Associated templates

Fixed template	Page number
Block header template	page 359
Emergency start template	page 363
Graceful end template	page 364
Graceful start template	page 366

Reference information

The following list provides reference information about the data field.

- field size = 5 bits

- split size = 5 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 111 Range of values

Bits	Value	Meaning
0 - 4	1 - 31	day of the month

Description

This data field contains the day of the month in which the given record is generated. When evaluated along with the following data fields, the exact moment that a given record was generated can be determined:

- Current date, month (page 120)

- Current date, year (page 122)

- Current time, hours (page 123)

- Current time, minutes (page 124)

- Current time, seconds (page 125)

- Current time, tenths of seconds (page 126)

Current Date, Month

Associated templates

The following table lists all fixed templates that contain this data field.

Table 112 Associated templates

Fixed template	Page number
Block header template	page 359
Emergency start template	page 363
Graceful end template	page 364
Graceful start template	page 366

Reference information

The following list provides reference information about the data field.

- field size = 4 bits
- split size = 4 bits
- field type = decimal

The following table provides all possible range of values for the data field.

Table 113 Range of values

Bits	Value	Meaning
0 - 3	1	january
	2	february
	3	march
	4	april
	5	may
	6	june
	7	july
	8	august
	9	september
	10	october
	11	november
	12	december

Description

This data field contains the month in which the given record is generated. When evaluated along with the following data fields, the exact moment that a given record was generated can be determined:

- Current date, day (page 119)
- Current date, year (page 122)
- Current time, hours (page 123)

- Current time, minutes (page 124)
- Current time, seconds (page 125)
- Current time, tenths of seconds (page 126)

Current Date, Year

Associated templates

The following table lists all fixed templates that contain this data field.

Table 114 Associated templates

Fixed template	Page number
Block header template	page 359
Emergency start template	page 363
Graceful end template	page 364
Graceful start template	page 366

Reference information

The following list provides reference information about the data field.

- field size = 4 bits
- split size = 4 bits
- field type = decimal

The following table provides all possible range of values for the data field.

Table 115 Range of values

Bits	Value	Meaning
0 - 3	0 - 9	last digit of the year

Description

This data field records the last digit of the year in which the given record is generated. When evaluated along with the following data fields, the exact moment that a given record was generated can be determined:

- Current date, day (page 119)
- Current date, month (page 120)
- Current time, hours (page 123)
- Current time, minutes (page 124)
- Current time, seconds (page 125)
- Current time, tenths of seconds (page 126)

Current Time, Hours

Associated templates
The following table lists all fixed templates that contain this data field.

Table 116 Associated templates

Fixed template	Page number
Block header template	page 359
Emergency start template	page 363
Graceful end template	page 364
Graceful start template	page 366

Reference information
The following list provides reference information about the data field.

- field size = 5 bits

- split size = 5 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 117 Range of values

Bits	Value	Meaning
0 - 4	0 - 23	hours

Description
This data field records the hour using a 24 hour clock in which a given record is generated. When evaluated along with the following data fields, the exact moment that a given record was generated can be determined:

- Current date, day (page 119)

- Current date, month (page 120)

- Current date, year (page 122)

- Current time, minutes (page 124)

- Current time, seconds (page 125)

- Current time, tenths of seconds (page 126)

Current Time, Minutes

Associated templates

The following table lists all fixed templates that contain this data field.

Table 118 Associated templates

Fixed template	Page number
Block header template	page 359
Emergency start template	page 363
Graceful end template	page 364
Graceful start template	page 366

Reference information

The following list provides reference information about the data field.

- field size = 6 bits
- split size = 6 bits
- field type = decimal

The following table provides all possible range of values for the data field.

Table 119 Range of values

Bits	Value	Meaning
0 - 5	0 - 59	minutes

Description

This data field records the minute in which the given call is generated. When evaluated along with the following data fields, the exact moment that a given record was generated can be determined:

- Current date, day (page 119)
- Current date, month (page 120)
- Current date, year (page 122)
- Current time, hours (page 123)
- Current time, seconds (page 125)
- Current time, tenths of seconds (page 126)

Current Time, Seconds

Associated templates

The following table lists all fixed templates that contain this data field.

Table 120 Associated templates

Fixed template	Page number
Block header template	page 359
Emergency start template	page 363
Graceful end template	page 364
Graceful start template	page 366

Reference information

The following list provides reference information about the data field.

- field size = 6 bits

- split size = 6 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 121 Range of values

Bits	Value	Meaning
0 - 5	0 - 59	seconds

Description

This data field records the second in which the given call is generated. When evaluated along with the following data fields, the exact moment that a given record was generated can be determined:

- Current date, day (page 119)

- Current date, month (page 120)

- Current date, year (page 122)

- Current time, hours (page 123)

- Current time, minutes (page 124)

- Current time, tenths of seconds (page 126)

Current Time, Tenths of Seconds

Associated templates

The following table lists all fixed templates that contain this data field.

Table 122 Associated templates

Fixed template	Page number
Block header template	page 359
Emergency start template	page 363
Graceful end template	page 364
Graceful start template	page 366

Reference information

The following list provides reference information about the data field.

- field size = 4 bits
- split size = 4 bits
- field type = decimal

The following table provides all possible range of values for the data field.

Table 123 Range of values

Bits	Value	Meaning
0 - 3	0 - 9	tenths of seconds

Description

This data field always contains a value of "0". When evaluated along with the following data fields, the exact moment that a given record was generated can be determined:

- Current date, day (page 119)
- Current date, month (page 120)
- Current date, year (page 122)
- Current time, hours (page 123)
- Current time, minutes (page 124)
- Current time, seconds (page 125)

Date, Day

Associated templates

The following table lists all fixed templates that contain this data field.

Table 124 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Call transfer to carrier template	page 398
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
IN interworking template	page 444
Intercept template	page 437
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 5 bits

- split size = 5 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 125 Range of values

Bits	Value	Meaning
0 - 4	1 - 31	day of the month

Description

This data field contains the day of the month that the service provided for a given call begins. When evaluated along with the following data fields, the exact moment that the service begins can be determined:

- Date, month (page 129)

- Date, year (page 131)

- Time, hours (page 337)

- Time, minutes (page 339)

- Time, seconds (page 341)

- Time, tenths of seconds (page 343)

TOPS currently supports the following services. Each one calculates the start date and time in a different way.

- Call completion service
- Call transfer to carrier service
- Listing service
- General assistance service
- BLV / interrupt service
- Charge adjust service
- Intercept service
- IN interworking service

For call completion service and call transfer to carrier service, the date and time that is recorded is the date and time that the call is answered by the called party. If the call is never answered, then the date and time recorded is the date and time that the call is presented to an operator or service node. If the call is both unanswered and is never presented to an operator or service node, then the date and time recorded in the date and time that the call originated at the TOPS switch.

For listing services, general assistance service, BLV / interrupt service and IN interworking service, the date and time recorded is the date and time that the call is presented to the operator or service node. If the call is never presented to an operator or service node, then the date and time recorded is the date and time that the call originated at the TOPS switch.

For intercept service, the date and time recorded is the date and time that the call originated at the TOPS switch.

Date, Month

Associated templates

The following table lists all fixed templates that contain this data field.

Table 126 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Call transfer to carrier template	page 398
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
IN interworking template	page 444
Intercept template	page 437
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 4 bits

- split size = 4 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 127 Range of values

Bits	Value	Meaning
0 - 3	1	january
	2	february
	3	march
	4	april
	5	may
	6	june
	7	july
	8	august
	9	september
	10	october
	11	november
	12	december

Description

This data field contains the month that the service provided for a given call begins. When evaluated along with the following data fields, the exact moment that the service begins can be determined:

- Date, day (page 127)

- Date, year (page 131)

- Time, hours (page 337)

- Time, minutes (page 339)

- Time, seconds (page 341)

- Time, tenths of seconds (page 343)

TOPS currently supports the following services. Each one calculates the start date and time in a different way.

- Call completion service

- Call transfer to carrier service

- Listing service

- General assistance service

- BLV / interrupt service

- Charge adjust service

- Intercept service

- IN interworking service

For call completion service and call transfer to carrier service, the date and time that is recorded is the date and time that the call is answered by the called party. If the call is never answered, then the date and time recorded is the date and time that the call is presented to an operator or service node. If the call is both unanswered and is never presented to an operator or service node, then the date and time recorded in the date and time that the call originated at the TOPS switch.

For listing services, general assistance service, BLV / interrupt service and IN interworking service, the date and time recorded is the date and time that the call is presented to the operator or service node. If the call is never presented to an operator or service node, then the date and time recorded is the date and time that the call originated at the TOPS switch.

For intercept service, the date and time recorded is the date and time that the call originated at the TOPS switch.

Date, Year

Associated templates

The following table lists all fixed templates that contain this data field.

Table 128 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Call transfer to carrier template	page 398
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
IN interworking template	page 444
Intercept template	page 437
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 4 bits

- split size = 4 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 129 Range of values

Bits	Value	Meaning
0 - 3	0 - 9	last digit of the year

Description

This data field contains the last digit of the year that the service provided for a given call begins. When evaluated along with the following data fields, the exact moment that the service begins can be determined:

- Date, day (page 127)

- Date, month (page 129)

- Time, hours (page 337)

- Time, minutes (page 339)

- Time, seconds (page 341)

- Time, tenths of seconds (page 343)

TOPS currently supports the following services. Each one calculates the start date and time in a different way.

- Call completion service
- Call transfer to carrier service
- Listing service
- General assistance service
- BLV / interrupt service
- Charge adjust service
- Intercept service
- IN interworking service

For call completion service and call transfer to carrier service, the date and time that is recorded is the date and time that the call is answered by the called party. If the call is never answered, then the date and time recorded is the date and time that the call is presented to an operator or service node. If the call is both unanswered and is never presented to an operator or service node, then the date and time recorded in the date and time that the call originated at the TOPS switch.

For listing services, general assistance service, BLV / interrupt service and IN interworking service, the date and time recorded is the date and time that the call is presented to the operator or service node. If the call is never presented to an operator or service node, then the date and time recorded is the date and time that the call originated at the TOPS switch.

For intercept service, the date and time recorded is the date and time that the call originated at the TOPS switch.

Elapsed Time, Minutes

Associated templates

The following table lists all fixed templates that contain this data field.

Table 130 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Call transfer to carrier template	page 398
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
IN interworking template	page 444
Intercept template	page 437
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 16 bits

- split size = 16 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 131 Range of values

Bits	Value	Meaning
0 - 15	0 - 65535	minutes of elapsed time

Description

This data field contains the minutes of elapsed time for the service provided for a given call. When evaluated along with the following data fields, the exact amount of elapsed time for the service can be determined:

- Elapsed time, seconds (page 341)

- Elapsed time, tenths of seconds (page 343)

TOPS currently supports the following services. Each one calculates the elapsed time in a different way.

- Call completion service

- Call transfer to carrier service

- Listing service

- General assistance service

- BLV / interrupt service

- Charge adjust service

- Intercept service

- IN interworking service

For call completion service and call transfer to carrier service, the elapsed time that is recorded is the billable conversation time if the call is answered. Billable conversation start when the called party answers and the operator has started timing. If the call is never answered, then the data field contains a value of "0".

For listing services and intercept service, the elapsed time that is recorded is the total amount of time spent performing the listing service including both time at the operator position or service node as well as any time spent at an audio response unit.

For general assistance, BLV / interrupt service, charge adjust service and IN interworking service, the elapsed time that is recorded starts when the call is presented to the operator or service node and ends when the call disconnects.

Elapsed Time, Seconds

Associated templates

The following table lists all fixed templates that contain this data field.

Table 132 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Call transfer to carrier template	page 398
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
IN interworking template	page 444
Intercept template	page 437
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 6 bits

- split size = 6 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 133 Range of values

Bits	Value	Meaning
0 - 5	0 - 59	seconds

Description

This data field contains the seconds of elapsed time for the service provided for a given call. When evaluated along with the following data fields, the exact amount of elapsed time for the service can be determined:

- Elapsed time, minutes (page 339)

- Elapsed time, tenths of seconds (page 343)

TOPS currently supports the following services. Each one calculates the elapsed time in a different way.

- Call completion service

- Call transfer to carrier service

- Listing service

- General assistance service

- BLV / interrupt service
- Charge adjust service
- Intercept service
- IN interworking service

For call completion service and call transfer to carrier service, the elapsed time that is recorded is the billable conversation time if the call is answered. Billable conversation start when the called party answers and the operator has started timing. If the call is never answered, then the data field contains a value of "0".

For listing services and intercept service, the elapsed time that is recorded is the total amount of time spent performing the listing service including both time at the operator position or service node as well as any time spent at an audio response unit.

For general assistance, BLV / interrupt service, charge adjust service and IN interworking service, the elapsed time that is recorded starts when the call is presented to the operator or service node and ends when the call disconnects.

Elapsed Time, Tenths of Seconds

Associated templates

The following table lists all fixed templates that contain this data field.

Table 134 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Call transfer to carrier template	page 398
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
IN interworking template	page 444
Intercept template	page 437
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 4 bits

- split size = 4 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 135 Range of values

Bits	Value	Meaning
0 - 3	0 - 9	tenths of seconds

Description

This data field contains the tenths of seconds of elapsed time for the service provided for a given call. When evaluated along with the following data fields, the exact amount of elapsed time for the service can be determined:

- Elapsed time, minutes (page 339)

- Elapsed time, seconds (page 341)

TOPS currently supports the following services. Each one calculates the elapsed time in a different way.

- Call completion service

- Call transfer to carrier service

- Listing service

- General assistance service

- BLV / interrupt service
- Charge adjust service
- Intercept service
- IN interworking service

For call completion service and call transfer to carrier service, the elapsed time that is recorded is the billable conversation time if the call is answered. Billable conversation start when the called party answers and the operator has started timing. If the call is never answered, then the data field contains a value of "0".

For listing services and intercept service, the elapsed time that is recorded is the total amount of time spent performing the listing service including both time at the operator position or service node as well as any time spent at an audio response unit.

For general assistance, BLV / interrupt service, charge adjust service and IN interworking service, the elapsed time that is recorded starts when the call is presented to the operator or service node and ends when the call disconnects.

File Name

Associated templates

The following table lists all fixed templates that contain this data field.

Table 136 Associated templates

Fixed template	Page number
Graceful end template	page 364

Reference information

The following list provides reference information about the data field.

- field size = 32 characters

- split size = 8 bits

- field type = ebcdic

The following table provides all possible range of values for the data field.

Table 137 Range of values

Characters	Value	Meaning
0 - 31	ebcdic chars	32 character string

Description

This data field contains the billing file name. It records the first 32 characters of the billing file name. If the billing file name is less than 32 characters, file name is right justified and padded with spaces (for example, " ").

When using DIRP as the storage mechanism, the file name is constructed using the following information:

- "A" = active billing file or "R" = rotated or ready to download billing file

- "yy" - last two digits of the year

- "mm" - month

- "dd" - day in the month

- "hh" - hour

- "nn" - minutes

- "xx" - a unique number

- "pool" = DIRP system name

As an example, "R981008034501TDR" would be a rotated billing file created on October 8th, 1998 at 3:45 am for the TDR pool.

General Assistance Request Counter

Associated templates

The following table lists all fixed templates that contain this data field.

Table 138 Associated templates

Fixed template	Page number
Combined template	page 374
General assistance template	page 421

Reference information

The following list provides reference information about the data field.

- field size = 10 bits

- split size = 10 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 139 Range of values

Bits	Value	Meaning
0 - 9	0 - 999	numeric range 0 to 999

Description

This data field records the sequence number for general assistance services rendered on a given call origination to the operator or service node. When the subscriber originates a call and arrives at an operator or service node, the operator or service node may provide several billable services. Each time a service is completed, an individual billing record is generated. This data field records the sequence number for an individual general assistance service for a given call origination.

Value "0" is recorded when the service rendered is not general assistance service.

Value "1" is recorded for the first general assistance service rendered for the call origination.

Value "2" is recorded for the second general assistance service rendered for the call origination. If the second service rendered is not general assistance, then this data field is not updated.

Values continue numerically as needed.

General Assistance Means of Information Input

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 2 bits

- split size = 2 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 140 Range of values

Bits	Value	Meaning
0 - 1	0	unknown
	1	verbal to operator
	2	dtmf
	3	verbal to voice recognition

Description

This data field records how the information request was made on a general assistance call. This data field can be used to determine the amount of automation used in handling the general assistance service.

Value "0" ("unknown") is recorded when the call has received a service other than general assistance service.

Value "1" ("verbal to operator") is recorded for all calls that receive general assistance service. Currently, all general assistance service calls have the information requested verbally to the operator.

Value "2" ("dtmf") is currently not recorded.

Value "3" ("verbal to voice recognition") is currently not recorded.

Hotel Guest Name

Associated templates

The following table lists all fixed templates that contain this data field.

Table 141 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 4 characters

- split size = 8 bits

- field type = ebcdic

The following table provides all possible range of values for the data field.

Table 142 Range of values

Characters	Value	Meaning
0 - 3	ebcdic character	4 character string

Description

This data field records up to a 4 character string that represents the hotel guest's name on a call either originated from a hotel or completed to a hotel. Either the Service Feature data field (page 297) or the OLNS Modified Service or Equipment Indicator data field (page 222) indicates that the call originated from a hotel.

The guest name is collected by the operator or service node. It is optional data that is not required for billing purposes. It is only collected when an individual telephone company's operator practice requires the collection.

If the call is not originated from or completed to a hotel, then this data field contains all spaces (" ").

Hotel Room Number

Associated templates

The following table lists all fixed templates that contain this data field.

Table 143 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 6 characters

- split size = 8 bits

- field type = ebcdic

The following table provides all possible range of values for the data field.

Table 144 Range of values

Characters	Value	Meaning
0 - 5	ebcdic character	6 character string

Description

This data field records up to a 6 character string that represents the hotel guest's room number on a call either originated from a hotel or completed to a hotel. Either the Service Feature data field (page 297) or the OLNS Modified Service or Equipment Indicator data field (page 222) indicates that the call originated from a hotel.

The room number is collected by the operator or service node. It is optional data that is not required for billing purposes. It is only collected when an individual telephone company's operator practice requires the collection.

If the call is not originated from or completed to a hotel, then this data field contains all spaces (" ").

Incoming Trunk Group Number

Associated templates

The following table lists all fixed templates that contain this data field.

Table 145 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Call transfer to carrier template	page 398
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
IN interworking template	page 444
Intercept template	page 437
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 14 bits

- split size = 14 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 146 Range of values

Bits	Value	Meaning
0 - 13	0 - 9999	trunk group number

Description

This data field records the identifier that represents the incoming trunk group. The incoming trunk group is the trunk group that a given call originates on. The identifier is datafilled in table CLLI as the ADNUM field. The Incoming Trunk Member Number data field (page 145) records the associated member number within the trunk group.

If a call does not originate using a trunk group (for example, such as an operator or service node originated call), then this data field contains value "0".

Incoming Trunk Member Number

Associated templates

The following table lists all fixed templates that contain this data field.

Table 147 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Call transfer to carrier template	page 398
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
IN interworking template	page 444
Intercept template	page 437
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 14 bits

- split size = 14 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 148 Range of values

Bits	Value	Meaning
0 - 13	0 - 9999	trunk member number

Description

This data field records the identifier that represents the incoming trunk member number. The incoming trunk member number is the trunk group member that a given call originates on. The Incoming Trunk Group Number data field (page 145) records the associated trunk group number.

If a call does not originate using a trunk group (for example, such as an operator or service node originated call), then this data field contains value "0".

Intercept Referral Number

Associated templates

The following table lists all fixed templates that contain this data field.

Table 149 Associated templates

Fixed template	Page number
Combined template	page 374
Intercept template	page 437

Reference information

The following list provides reference information about the data field.

- field size = 20 digits

- split size = 4 bits

- field type = digits

The following table provides all possible range of values for the data field.

Table 150 Range of values

Digit	Value	Meaning
0 - 19	0 - 9	digit string containing 20 digits

Description

This data field records the intercept referral number on calls that receive intercept service. The intercept referral number is the number returned from the listing services database that denotes the new directory number. The Intercepted Number data field (page 147) records the old directory number (for example, the directory number that is originally dialed by the subscriber but is no longer in service).

If intercept service is not provided for the call, then this data field records all 0s.

Intercepted Number

Associated templates

The following table lists all fixed templates that contain this data field.

Table 151 Associated templates

Fixed template	Page number
Combined template	page 374
Intercept template	page 437

Reference information

The following list provides reference information about the data field.

- field size = 20 digits

- split size = 4 bits

- field type = digits

The following table provides all possible range of values for the data field.

Table 152 Range of values

Digit	Value	Meaning
0 - 19	0 - 9	digit string containing 20 digits

Description

This data field records the intercepted number on calls that receive intercept service. The intercepted number is the directory number that is originally dialed by the subscriber but is no longer in service. The Intercept Referral Number data field (page 146) records the new directory number (for example, the number returned from the listing services database that denotes the new directory number).

If intercept service is not provided for the call, then this data field records all 0s.

LIDB Response

Associated templates

The following table lists all fixed templates that contain this data field.

Table 153 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 4 bits

- split size = 4 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 154 Range of values

Bits	Value	Meaning
0 - 3	0	unknown
	1	BNS accept
	2	BNS reject
	3	BNS verify
	4	BNS verify with operator
	5	CCV pin match
	6	CCV pin mismatch
	7	CCV service denial, account number
	8	CCV service denial, pin
	9	CCV restricted pin
	10	query not made
	11	response not received
	12	return error or reject response received
	13 - 15	reserved for future use

Description

This data field records the interaction with the LIDB database for the purpose of validating an alternate billing number. This data field along with the Operator Services System Action data field (page 248) should be used to determine if the alternate billing number has been validated and accepted for use.

Value "0" ("unknown") is recorded when an alternate billing number is not requested for the given call. This call is billed to the calling party.

Value "1" ("BNS accept") is recorded when the LIDB returns a response on a collect or third number billed call indicating that the operator or service node should automatically accept the billing number.

Value "2" ("BNS reject") is recorded when the LIDB returns a response on a collect or third number billed call indicating that the operator or service node should reject the billing number.

Value "3" ("BNS verify") is recorded when the LIDB returns a response on a collect or third number billed call indicating that the operator or service node should obtain charge acceptance from the billing number.

Value "4" ("BNS verify with operator") is recorded when the LIDB returns a response on a collect or third number billed call indicating that the operator or service node should obtain charge acceptance from the billing number using a non-automated or human method.

Value "5" ("CCV pin match") is recorded when the LIDB returns a response on a calling card billed call indicating that a pin match has been found and the calling card should be accepted.

Value "6" ("CCV pin mismatch") is recorded when the LIDB returns an error response on a calling card billed call indicating that a pin mismatch has been found. The calling card is not accepted as the billing number.

Value "7" ("CCV service denial, account number") is recorded when the LIDB returns a response on a calling card billed call indicating that service has been denied for the entire calling card account. The calling card is not accepted as the billing number.

Value "8" ("CCV service denial, pin") is recorded when the LIDB returns a response on a calling card billed call indicating that service has been denied for this individual card. The calling card is not accepted as the billing number.

Value "9" ("CCV restricted pin") is recorded when the LIDB returns a response on a calling card billed call indicating that the card is restricted. It can only be used for calls made to the directory number that is embedded in the calling card (for example, the calling card number and the called number must be the same).

Value "10" ("query not made") is recorded when the call is billed to an alternate billing number, but no LIDB query was made. This scenario can happen in the following situations:

- The call is billed as automatic collect which is identified in the record by the Billing Type Identification data field (page 54).

- A class charge requesting billing to a calling card or third number is entered by the operator or service node, but the associated calling card or third number is not entered.

- An attempt to send a LIDB query is made by the switch but it is blocked due to automatic call gapping controls that have been initiated by the network in order to throttle LIDB database access. At this point, table ACCSERR is consulted to determine what action should be taken.

Value "11" ("response not received") is recorded when a query is sent from the switch, but no response is received from the LIDB. This scenario can happen in the following situations:

- The query is sent, but a response is not received before the timer expires. The timer value is set based upon whether the query is for a calling card (controlled by the TIMEOUT field in table CCVPARMS) or for a third or collect number (controlled by the TIMEOUT field in table BNSPARMS). At this point, table ACCSERR is consulted to determine what action should be taken.

- The query is sent, but a response is not received before the call is taken down. This scenario can occur if the calling party disconnects or the operator or service node cancels the call.

Value "12" ("return error or reject response received") is recorded when a return error or reject response is received from the LIDB. At this point, table ACCSERR is consulted to determine what action should be taken. There is one exception noted here. When a query is done for a calling card and the response is a pin mismatch, that response is actually received in a return error message. In this case, value "12" is not recorded.

Listing Response

Associated templates

The following table lists all fixed templates that contain this data field.

Table 155 Associated templates

Fixed template	Page number
Combined template	page 374
Intercept template	page 437
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 3 bits

- split size = 3 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 156 Range of values

Bits	Value	Meaning
0 - 2	0	unknown
	1	verbal
	2	announcement
	3	verbal and announcement
	4	no response
	5	customized announcement
	6	no response required
	7	reserved for future use

Description

This data field records how the requested listing information was quoted to the subscriber.

Value "0" ("unknown") is recorded when the service provided is not a listing service (for example, directory assistance, or intercept).

Value "1" ("verbal") is recorded when the requested information is quoted verbally by the operator.

Value "2" ("announcement") is recorded when the requested information is quoted using an announcement facility, as in an audio response unit (ARU).

Value "3" ("verbal and announcement") is recorded when multiple listings are requested with some portion of them being verbally quoted by an operator and the remainder being quoted using an announcement facility.

Value "4" ("no response") is recorded when a listing service is requested, but no requested information is quoted to the subscriber. The service is usually canceled by the operator.

Value "5" ("customized announcement") is not currently recorded.

Value "6" ("no response required") is recorded when a listing is requested and the call is automatically connected to the requested number. This scenario is generally used only for intercept service when automatic intercept call completion is provided. It can also be used for directory assistance service when an automatic reswitch is performed. An automatic reswitch is when the directory assistance database detects that it cannot provide the requested information, but can re-route the call to a directory assistance provider who can provide the information.

Listing Services Forward Number

Associated templates

The following table lists all fixed templates that contain this data field.

Table 157 Associated templates

Fixed template	Page number
Combined template	page 374
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 20 digits

- split size = 4 bits

- field type = digits

The following table provides all possible range of values for the data field.

Table 158 Range of values

Digit	Value	Meaning
0 - 19	0 - 9	digit string containing 20 digits

Description

This data field records the terminating number when a listing services call makes a forward connection. This scenario can occur when the information requested by the subscriber is not available. The operator or the listing services database can request that the call be forwarded to another listing services provider who is capable of providing the requested information.

This field is right justified and padded with 0s.

If the service provided is not a listing service, then this data field will contain all 0s.

Listing Services Means of Information Input

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 2 bits

- split size = 2 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 159 Range of values

Bits	Value	Meaning
0 - 1	0	unknown
	1	verbal to operator
	2	dtmf
	3	verbal to voice recognition

Description

This data field records how the information request was made on a listing services call. This data field can be used to determine the amount of automation used in handling the listing service.

Value "0" ("unknown") is recorded when the call has received a service other than a listing service. This value can also be recorded on a fully automated intercept call because the information input (for example, the intercepted number) is obtained through signaling.

Value "1" ("verbal to operator") is recorded on operator handled intercept calls and on directory assistance calls where the operator collects the state, city and requested listing information.

Value "2" ("dtmf") is currently not recorded.

Value "3" ("verbal to voice recognition") is recorded on a directory assistance call that uses ADAS or ADASPLUS to collect the state, city and requested listing.

Listing Services Request Counter

Associated templates

The following table lists all fixed templates that contain this data field.

Table 160 Associated templates

Fixed template	Page number
Combined template	page 374
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 10 bits

- split size = 10 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 161 Range of values

Bits	Value	Meaning
0 - 9	0 - 999	numeric range 0 to 999

Description

This data field acts as a sequence number for listing services requests. A single subscriber origination can support multiple listing services requests. After each request is fulfilled, the operator generates a TDR record. This data field is incremented each time a new TDR record is generated for the same subscriber origination. The downstream processor can use this data field to determine the order in which the listing requests were made.

Value "0" is recorded when the service rendered is not a listing service.

Value "1" is recorded for the first listing service rendered for the call origination.

Value "2" is recorded for the second listing service rendered for the call origination. If the second service rendered is not a listing service, then this data field is not updated.

Values continue numerically as needed.

Listing Services Requested Number

Associated templates

The following table lists all fixed templates that contain this data field.

Table 162 Associated templates

Fixed template	Page number
Combined template	page 374
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

• field size = 20 digits

• split size = 4 bits

• field type = digits

The following table provides all possible range of values for the data field.

Table 163 Range of values

Digit	Value	Meaning
0 - 19	0 - 9	digit string containing 20 digits

Description

This data field records the requested number that is provided by the listing service. The requested number can be either entered by the operator or received from the listing services database directly. If multiple listings are provided without generating billing between each listing, then only the last listing's requested number is recorded.

The requested number is right justified and padded with 0s.

If the service provided is not a listing service, then this data field will contain all 0s.

Listing Status, Existence Indicator

Associated templates

The following table lists all fixed templates that contain this data field.

Table 164 Associated templates

Fixed template	Page number
Combined template	page 374
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 2 bits

- split size = 2 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 165 Range of values

Bits	Value	Meaning
0 - 1	0	unknown
	1	new listing
	2	existing listing
	3	reserved for future use

Description

This data field records information about the requested number provided during a listing service. The information is received directly from the listing services database.

Value "0" ("unknown") is recorded when the service provided is not a listing service. It can also be recorded for a requested number if the listing services database is not properly provisioned.

Value "1" ("new listing") is recorded when the requested number is a new listing within the listing services database.

Value "2" ("existing listing") is recorded when the requested number is not a new listing, but is an existing listing within the listing services database.

Listing Status, Listing Found Indicator

Associated templates

The following table lists all fixed templates that contain this data field.

Table 166 Associated templates

Fixed template	Page number
Combined template	page 374
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 2 bits

- split size = 2 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 167 Range of values

Bits	Value	Meaning
0 - 1	0	unknown
	1	listing found
	2	listing not found
	3	query not made

Description

This data field records information about the requested number provided during a listing service. The information is received directly from the listing services database.

Value "0" ("unknown") is recorded when the service provided is not a listing service. It can also be recorded for a requested number if the listing services database is not properly provisioned.

Value "1" ("listing found") is recorded when the requested number is found within the listing services database.

Value "2" ("listing not found") is recorded when the requested number is not found within the listing services database.

Value "3" ("query not made") is recorded when a query to find the requested number was not made within the listing services database.

Listing Status, Local Directory Indicator

Associated templates

The following table lists all fixed templates that contain this data field.

Table 168 Associated templates

Fixed template	Page number
Combined template	page 374
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 2 bits

- split size = 2 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 169 Range of values

Bits	Value	Meaning
0 - 1	0	unknown
	1	listing found in local directory
	2	listing not found in local directory
	3	reserved for future use

Description

This data field records information about the requested number provided during a listing service. The information is received directly from the listing services database.

Value "0" ("unknown") is recorded when the service provided is not a listing service. It can also be recorded for a requested number if the listing services database is not properly provisioned.

Value "1" ("listing found in local directory") is recorded when the requested number is found within a local listing services database.

Value "2" ("listing not found in a local directory") is recorded when the requested number is found in a non-local listing services database.

Listing Status, LSDB Billing Indicator

Associated templates

The following table lists all fixed templates that contain this data field.

Table 170 Associated templates

Fixed template	Page number
Combined template	page 374
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 2 bits

- split size = 2 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 171 Range of values

Bits	Value	Meaning
0 - 1	0	unknown
	1	listing marked free by LSDB
	2	listing not marked free by LSDB
	3	reserved for future use

Description

This data field records information about the requested number provided during a listing service. The information is received directly from the listing services database.

Value "0" ("unknown") is recorded when the service provided is not a listing service. It can also be recorded for a requested number if the listing services database is not properly provisioned.

Value "1" ("listing marked free by LSDB") is recorded when the requested number is marked as a free listing within the listing services database.

Value "2" ("listing not marked free by LSDB") is recorded when the requested number is not marked as a free listing within the listing services database.

Listing Status, Operator Billing Indicator

Associated templates

The following table lists all fixed templates that contain this data field.

Table 172 Associated templates

Fixed template	Page number
Combined template	page 374
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 2 bits

- split size = 2 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 173 Range of values

Bits	Value	Meaning
0 - 1	0	unknown
	1	listing not marked free by operator
	2	listing marked free by operator
	3	listing marked miscellaneous allowance

Description

This data field records information about the requested number provided during a listing service. The information is received directly from the listing services database.

Value "0" ("unknown") is recorded when the service provided is not a listing service. It can also be recorded for a requested number if the listing services database is not properly provisioned.

Value "1" ("listing not marked free by operator") is recorded when the requested number is marked as a billable listing by the operator.

Value "2" ("listing marked free by operator") is recorded when the requested number is marked as a free listing by the operator.

Value "3" ("listing marked miscellaneous allowance") is recorded when the requested number is marked as an allowance by the operator. For example, a telephone company may provide the first 3 listings as free when the subscriber is calling from a coin phone. This value would be a means to account for the allowances.

Listing Status, Posting Indicator

Associated templates

The following table lists all fixed templates that contain this data field.

Table 174 Associated templates

Fixed template	Page number
Combined template	page 374
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 2 bits
- split size = 2 bits
- field type = decimal

The following table provides all possible range of values for the data field.

Table 175 Range of values

Bits	Value	Meaning
0 - 1	0	unknown
	1	listing posted
	2	listing preposted
	3	reserved for future use

Description

This data field records information about the requested number provided during a listing service. The information is received directly from the listing services database.

Value "0" ("unknown") is recorded when the service provided is not a listing service. It can also be recorded for a requested number if the listing services database is not properly provisioned.

Value "1" ("listing posted") is recorded when the requested number is posted within the listing services database.

Value "2" ("listing preposted") is recorded when the requested number is preposted within the listing services database.

Listing Status, Publishing Indicator

Associated templates

The following table lists all fixed templates that contain this data field.

Table 176 Associated templates

Fixed template	Page number
Combined template	page 374
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 3 bits

- split size = 3 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 177 Range of values

Bits	Value	Meaning
0 - 2	0	unknown
	1	published listing
	2	non-published listing
	3	not listed
	4	special non-published listing
	5	emergency non-published listing
	6 - 7	reserved for future use

Description

This data field records information about the requested number provided during a listing service. The information is received directly from the listing services database.

Value "0" ("unknown") is recorded when the service provided is not a listing service. It can also be recorded for a requested number if the listing services database is not properly provisioned.

Value "1" ("published listing") is recorded when the requested number is a listing that has been published in a white pages telephone directory.

Value "2" ("non-published") is recorded when the requested number is a standard non-published listing.

Value "3" ("not listed") is recorded when the requested number is not listed.

Value "4" ("special non-published listing") is recorded when the requested number is a special non-published listing.

Value "5" ("emergency non-published listing") is recorded when the requested number is a emergency non-published listing.

Local Determination Indicator

Associated templates
The following table lists all fixed templates that contain this data field.[1]

Table 178 Associated templates

Fixed template	Page number
Call completion template	page 389
Charge adjust template	page 428
Combined template	page 374

Reference information
The following list provides reference information about the data field.

- field size = 2 bits
- split size = 2 bits
- field type = decimal

The following table provides all possible range of values for the data field.

Table 179 Range of values

Bits	Value	Meaning
0 - 1	0	unknown
	1	not local
	2	local
	3	reserved for future use

Description
This data field records whether or not the call completion call is a local call. For call completion service, the originating and terminating numbers are used to perform local call area screening. The datafill used to perform the screening depends upon whether North American (NA) or Open Numbering (OPENNUM) translations are used. For NA, data is provisioned in either tables LCASCRCN and PFXTREAT or tables LCAINFO, SCRNPLAN and LCA6SCRN. For OPENNUM, data is provisioned in tables TLCLZONE, TLCLORIG, and TLCLSCRN.

Value "0" ("unknown") is recorded when call completion service is not provided for the given call.

Value "1" ("not local") is recorded when the call completion call is not a local call. The call may be either intralata toll, interlata toll, or international.

Value "2" ("local") is recorded when the call completion call is a local call.

---

1. Local Determination Indicator is used only with template version 1 and higher. It is not available in version 0.

LRN, Billed Party

Associated templates

The following table lists all fixed templates that contain this data field.

Table 180 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 10 digits

- split size = 4 bits

- field type = digits

The following table provides all possible range of values for the data field.

Table 181 Range of values

Digit	Value	Meaning
0 - 9	0 - 9	digit string containing 10 digits

Description

This data field records the LRN of the billed party. The LRN is obtained if the billed party's number is datafilled in table PORTNUMS. If it is datafilled, then an LNP database query is launched and the LRN is returned in the response. The Alternate Billing Number data field (page 44) contains the billed party's number.

If the billed party is a third number, then the number must be in an NPA-NXX-XXXX format. It can be either seven or ten digits. If the billed party is a calling card, the number must be a 14 digit format calling card with an imbedded NPA-NXX-XXXX in the calling card number.

The LRN, Billed Party, Query Status data field (page 168) and the LRN, Billed Party, Source data field (page 170) provide associated information about how the billed party's LRN was obtained.

TOPS will attempt to get the LRN of the billed party if one of the following situations occurs:

- A forward connection to the billed party is needed. This scenario would usually occur on a call billed to a third number where the operator or service node connects to the third number to obtain billing acceptance.

- The operator or service node requests to see the LRN of the billed party. This scenario applies to both third number and 14 digit calling card numbers.

- The office is provisioned to record the LRN of the billed party on all calls. This scenario is provisioned using the LNP_QUERY_FOR_AMA_ONLY parameter in table TOPSPARM.

The data in the field is right justified and padded with 0s.

The field will be filled with 0's if the billed party's number has not been ported.

LRN, Billed Party, Query Status

Associated templates
This data field is not contained in any fixed template.

Reference information
The following list provides reference information about the data field.

- field size = 4 bits
- split size = 4 bits
- field type = decimal

The following table provides all possible range of values for the data field.

Table 182 Range of values

Bits	Value	Meaning
0 - 3	0	unknown
	1	no query failure
	2	no response message received
	3	ain_continue or authorize_termination message received
	4	protocol error
	5	error detected
	6	query rejected
	7	no query performed
	8	query unsuccessful, reason unknown
	9 - 15	reserved for future use

Description
This data field records the status of the LNP database query performed for the billed party.

Value "0" ("unknown") is recorded when the call is not eligible for LNP processing.

Value "1" ("no query failure") is recorded when a valid response is received from the LNP database.

Value "2" ("no response message received") is recorded when a query is launched to the LNP database, but a response is not received before a timer expires. The value of the timer is controlled by parameter LNP_TIMEOUT in table TOPSPARM.

Value "3" ("ain_continue or authorize_termination message received") is recorded when a query is launched to the LNP database and the database responds with either a continue or authorize termination message. These messages are considered invalid responses.

Value "4" ("protocol error") is recorded when a query is launched to the LNP database and the database responds with a message that cannot be decoded by TOPS.

Value "5" ("error detected") is recorded when a query is launched to the LNP database and the database responds with a send to resource message or an error message. Both responses are considered a miscellaneous error. It is also recorded for other types of errors such as the following:

- insufficient or incorrect response parameters

- non-North American numbering plan format numbers in the response

Value "6" ("query rejected") is recorded when a query is launched to the LNP database, but it is never received. The network responds with a reject message.

Value "7" ("no query performed") is currently not recorded.

Value "8" ("query unsuccessful, reason unknown") is recorded when a query is launched to the LNP database and the database response contains an error not handled by one of the values stated above.

LRN, Billed Party, Source

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 2 bits

- split size = 2 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 183 Range of values

Bits	Value	Meaning
0 - 1	0	unknown
	1	lnp database
	2	switch data
	3	incoming signaling

Description

This data field contains the source of the LRN for the billed party.

Value "0" ("unknown") is recorded when the call is not eligible for LNP processing.

Value "1" ("lnp database") is recorded when an attempt is made to query the LNP database to obtain the LRN. This value is recorded whether the attempt is successful or not.

Value "2" ("switch data") is not currently recorded.

Value "3" ("incoming signaling") is not currently recorded.

LRN, Called Party

Associated templates

The following table lists all fixed templates that contain this data field.

Table 184 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Charge adjust template	page 428
Combined template	page 374

Reference information

The following list provides reference information about the data field.

- field size = 10 digits

- split size = 4 bits

- field type = digits

The following table provides all possible range of values for the data field.

Table 185 Range of values

Digit	Value	Meaning
0 - 9	0 - 9	digit string containing 10 digits

Description

This data field records the LRN of the called party. The LRN is obtained if the called party's number is datafilled in table PORTNUMS. If it is datafilled, then an LNP database query is launched and the LRN is returned in the response. The Terminating Number data field (page 331) contains the called party's number.

The called party's number must be in an NPA-NXX-XXXX format. It can be either seven or ten digits.

The LRN, Called Party, Query Status data field (page 172) and the LRN, Called Party, Source data field (page 174) provide associated information about how the called party's LRN was obtained.

TOPS will attempt to get the LRN of the called party if one of the following situations occurs:

- A forward connection to the called party is needed. This scenario only applies to non-carrier calls.

- The operator or service node requests to see the LRN of the called party.

The data in the field is right justified and padded with 0s.

The field will be all 0's if the called party's number has not been ported.

LRN, Called Party, Query Status

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 4 bits

- split size = 4 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 186 Range of values

Bits	Value	Meaning
0 - 3	0	unknown
	1	no query failure
	2	no response message received
	3	ain_continue or authorize_termination message received
	4	protocol error
	5	error detected
	6	query rejected
	7	no query performed
	8	query unsuccessful, reason unknown
	9 - 15	reserved for future use

Description

This data field records the status of the LNP database query performed for the called party.

Value "0" ("unknown") is recorded when the call is not eligible for LNP processing.

Value "1" ("no query failure") is recorded when a valid response is received from the LNP database.

Value "2" ("no response message received") is recorded when a query is launched to the LNP database, but a response is not received before a timer expires. The value of the timer is controlled by parameter LNP_TIMEOUT in table TOPSPARM.

Value "3" ("ain_continue or authorize_termination message received") is recorded when a query is launched to the LNP database and the database responds with either a continue or authorize termination message. These messages are considered invalid responses.

Value "4" ("protocol error") is recorded when a query is launched to the LNP database and the database responds with a message that cannot be decoded by TOPS.

Value "5" ("error detected") is recorded when a query is launched to the LNP database and the database responds with a send to resource message or an error message. Both responses are considered a miscellaneous error. It is also recorded for other types of errors such as the following:

• insufficient or incorrect response parameters

• non-North American numbering plan format numbers in the response

Value "6" ("query rejected") is recorded when a query is launched to the LNP database, but it is never received. The network responds with a reject message.

Value "7" ("no query performed") is currently not recorded.

Value "8" ("query unsuccessful, reason unknown") is recorded when a query is launched to the LNP database and the database response contains an error not handled by one of the values stated above.

LRN, Called Party, Source

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 2 bits

- split size = 2 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 187 Range of values

Bits	Value	Meaning
0 - 1	0	unknown
	1	lnp database
	2	switch data
	3	incoming signaling

Description

This data field contains the source of the LRN for the called party.

Value "0" ("unknown") is recorded when the call is not eligible for LNP processing.

Value "1" ("lnp database") is recorded when an attempt is made to query the LNP database to obtain the LRN. This value is recorded whether the attempt is successful or not.

Value "2" ("switch data") is not currently recorded.

Value "3" ("incoming signaling") is not currently recorded.

LRN, Calling Party

Associated templates

The following table lists all fixed templates that contain this data field.

Table 188 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Call transfer to carrier template	page 398
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 10 digits

- split size = 4 bits

- field type = digits

The following table provides all possible range of values for the data field.

Table 189 Range of values

Digit	Value	Meaning
0 - 9	0 - 9	digit string containing 10 digits

Description

This data field records the LRN of the calling party. The LRN is obtained if the calling party's number is datafilled in table PORTNUMS. If it is datafilled, then either an LNP database query can be launched and the LRN is returned in the response or the LRN can be obtained from datafill in table TRKGRP. The Originating Number data field (page 252) contains the calling party's number.

The calling party's number must be in an NPA-NXX-XXXX format. It can be either seven or ten digits.

The LRN, Calling Party, Query Status data field (page 177) and the LRN, Calling Party, Source data field (page 179) provide associated information about how the calling party's LRN was obtained.

TOPS will attempt to get the LRN of the calling party if one of the following situations occurs:

- A connection to the calling party is needed. This scenario is generally only needed on operator or service node originated calls.

- The operator or service node requests to see the LRN of the calling party.

- The office is provisioned to record the LRN of the calling party on all calls. This scenario is provisioned using the LNP_QUERY_FOR_AMA_ONLY parameter in table TOPSPARM.

The data in the field is right justified and padded with 0s.

The field will be filled with 0's if the calling party's number has not been ported.

LRN, Calling Party, Query Status

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 4 bits

- split size = 4 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 190 Range of values

Bits	Value	Meaning
0 - 3	0	unknown
	1	no query failure
	2	no response message received
	3	ain_continue or authorize_termination message received
	4	protocol error
	5	error detected
	6	query rejected
	7	no query performed
	8	query unsuccessful, reason unknown
	9 - 15	reserved for future use

Description

This data field records the status of the LNP database query performed for the calling party.

Value "0" ("unknown") is recorded when the call is not eligible for LNP processing.

Value "1" ("no query failure") is recorded when a valid response is received from the LNP database.

Value "2" ("no response message received") is recorded when a query is launched to the LNP database, but a response is not received before a timer expires. The value of the timer is controlled by parameter LNP_TIMEOUT in table TOPSPARM.

Value "3" ("ain_continue or authorize_termination message received") is recorded when a query is launched to the LNP database and the database responds with either a continue or authorize termination message. These messages are considered invalid responses.

Value "4" ("protocol error") is recorded when a query is launched to the LNP database and the database responds with a message that cannot be decoded by TOPS.

Value "5" ("error detected") is recorded when a query is launched to the LNP database and the database responds with a send to resource message or an error message. Both responses are considered a miscellaneous error. It is also recorded for other types of errors such as the following:

- insufficient or incorrect response parameters

- non-North American numbering plan format numbers in the response

Value "6" ("query rejected") is recorded when a query is launched to the LNP database, but it is never received. The network responds with a reject message.

Value "7" ("no query performed") is recorded when the LRN is obtained either from the incoming trunk group datafill in table TRKGRP or from the JIP parameter if received in the SS7 signaling on the originating trunk group. In this case, no LNP database query is performed.

Value "8" ("query unsuccessful, reason unknown") is recorded when a query is launched to the LNP database and the database response contains an error not handled by one of the values stated above.

LRN, Calling Party, Source

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 2 bits

- split size = 2 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 191 Range of values

Bits	Value	Meaning
0 - 1	0	unknown
	1	lnp database
	2	switch data
	3	incoming signaling

Description

This data field contains the source of the LRN for the calling party.

Value "0" ("unknown") is recorded when the call is not eligible for LNP processing.

Value "1" ("lnp database") is recorded when an attempt is made to query the LNP database to obtain the LRN. This value is recorded whether the attempt is successful or not.

Value "2" ("switch data") is recorded when the LRN is obtained from table TRKGRP for the originating trunk group.

Value "3" ("incoming signaling") is recorded when the LRN is obtained from the JIP parameter contained in the originating trunk's IAM message. The originating trunk supports SS7 signaling.

LSDB BOC Identification

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 4 digits

- split size = 4 bits

- field type = digits

The following table provides all possible range of values for the data field.

Table 192 Range of values

Digit	Value	Meaning
0 - 3	0 - 9	digit string containing 4 digits

Description

This data field contains a 4 digit number that can be used to identify a listing services database. Listing services supports up to 32 different links to databases. Calls are mapped to these databases using tables TQMSSERV, SERVICES, and MPCLSET. This data field is populated based upon the datafill found in table SERVICES.

A value of "0000" is recorded if a listing service is not provided for the given call.

Means of Input / Response, Alternate Billing Option Request

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 2 bits

- split size = 2 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 193 Range of values

Bits	Value	Meaning
0 - 1	0	unknown
	1	dtmf
	2	verbal to operator
	3	preset

Description

This data field records how the type of alternate billing is requested or input by the subscriber. For example, it denotes the method used to select collect, calling card or third number billing.

Value "0" ("unknown") is recorded when the call is not billed to an alternate billing number.

Value "1" ("dtmf") is recorded when the billing option is input using DTMF keying by the subscriber. This scenario occurs in the following situations:

- a calling card call handled by MCCS

- a collect, calling card or third number call handled by AABS

- a collect, calling card or third number call handled by a service node

- a collect, calling card or third number sequence call handled by a service node where the billing type is not the same as the previous call

Value "2" ("verbal to operator") is recorded when the billing option is input verbally to the operator.

Value "3" ("preset") is recorded when the given call is a sequence call and the billing type is not changed (for example, it is the same as the previous call). The following list provides more details on when this can occur:

- a calling card sequence call handled by MCCS or AABS

- a collect, calling card or third number sequence call handled by a service node where the billing type is the same as the previous call

Means of Input / Response, Billed Party Response

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 3 bits

- split size = 3 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 194 Range of values

Bits	Value	Meaning
0 - 2	0	unknown
	1	dtmf
	2	verbal to operator
	3	none
	4	verbal to voice recognition
	5 - 7	reserved for future use

Description

This data field records the means used for the billed party to respond to a request for alternate billing. For example, in obtaining billing acceptance from a third number, the third party subscriber may indicate billing acceptance by keying a DTMF digit.

Value "0" ("unknown") is recorded when the call is not billed to an alternate billing number.

Value "1" ("dtmf") is recorded on a collect or third number billed call where billing acceptance is performed by AABS or a service node. AABS or the service node informs the switch that the billing acceptance was made using DTMF keying.

Value "2" ("verbal to operator") is recorded on a collect or third number billed call that is handled by the operator. Billing acceptance is obtained verbally by the operator.

Value "3" ("none") is recorded when no billing acceptance is needed. The following call scenarios fall into this category:

- a call billed as auto collect

- a calling card billed call

- a collect or third number billed call where the LIDB indicates that the billing number should be automatically accepted

Value "4" ("verbal to voice recognition") is recorded on a collect or third number billed call where billing acceptance is performed by AABS or a service node. AABS or the service node informs the switch that the billing acceptance was made using voice recognition.

Means of Input / Response, Billing Number Input

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 3 bits

- split size = 3 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 195 Range of values

Bits	Value	Meaning
0 - 2	0	unknown
	1	dtmf
	2	verbal to operator from calling party
	3	derived
	4	verbal to voice recognition
	5	verbal to operator from called party
	6 - 7	reserved for future use

Description

This data field records the means used to input the alternate billing number. For example, on a calling card call handled by a service node, the calling card is input using DTMF digits.

Value "0" ("unknown") is recorded when the call is not billed to an alternate billing number.

Value "1" ("dtmf") is recorded when the subscriber uses DTMF digits to input the alternate billing number. This scenario occurs in the following situations:

- a calling card call handled by MCCS or AABS

- a third number call handled by AABS

- a collect call where the called number is obtained from the signaling

- a collect, calling card or third number billed call handled by a service node where the billing number is input using DTMF digits

Value "2" ("verbal to operator from calling party") is recorded when the calling party verbally inputs the alternate billing number to the operator.

Value "3" ("derived") is recorded on a collect, calling card or third number billed sequence call where the billing number is the same as from the previous call.

Value "4" ("verbal to voice recognition") is recorded on a collect, calling card or third number billed call handled by a service node where the billing number is input using voice recognition.

Value "5" ("verbal to operator from called party") is recorded on a calling card call where the called party supplies the calling card number verbally to the operator.

Memo

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 64 characters

- split size = 8 bits

- field type = ebcdic

The following table provides all possible range of values for the data field.

Table 196 Range of values

Characters	Value	Meaning
0 - 63	ebcdic character	64 character string

Description

This data field records a 64 character text entry that is made by the operator during a call. This feature is used to enter scratch-pad type information by the operator. It can also be used to enter other information needed to bill the call that cannot be entered in any other way.

The field is right justified and padded with spaces (for example, " ").

Method of signaling to Carrier

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 3 bits

- split size = 3 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 197 Range of values

Bits	Value	Meaning
0 - 2	0	unknown
	1	fgd mf with ani
	2	fgd mf without ani
	3	fgc mf
	4	ss7 with charge number
	5	ss7 without charge number
	6 - 7	reserved for future use

Description

This data field records additional details about what and how information is passed to a carrier. This field can be used to determine if the ANI or charge number is forwarded to the carrier. This field is populated based upon the datafill found for the terminating trunk group in table TRKGRP.

Value "0" ("unknown") is recorded when the call is not completed to a carrier.

Value "1" ("fgd mf with ani") is recorded when the terminating trunk group is datafilled in table TRKGRP with the following fields:

- SIGTYPE = EAPLAN

- ANI = Y

Value "2" ("fgd mf without ani") is recorded when the terminating trunk group is datafilled in table TRKGRP with the following fields:

- SIGTYPE = EAPLAN

- ANI = N

Value "3" ("fgc mf") is recorded when the terminating trunk group is datafilled in table TRKGRP with the following fields:

- SIGTYPE = BELLI, BELLII, FGB

Value "4" ("ss7 with charge number") is not currently recorded.

Value "5" ("ss7 without charge number") is not currently recorded.

Minutes of Credit

Associated templates

The following table lists all fixed templates that contain this data field.

Table 198 Associated templates

Fixed template	Page number
Charge adjust template	page 428
Combined template	page 374

Reference information

The following list provides reference information about the data field.

- field size = 10 bits

- split size = 10 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 199 Range of values

Bits	Value	Meaning
0 - 9	0 - 999	numeric range 0 to 999

Description

This data fields records the number of minutes affected by the service difficulty experienced by the subscriber who is requesting a charge adjust. The down stream processor usually subtracts the minutes of credit from the billable conversation time of the initial call and then calculates the charges for the call. This procedure is a method of giving credit rather than crediting an actual monetary amount.

If no charge adjust is performed, then value "0" is recorded. The Charge Adjust Indicator data field (page 106) indicates is a charge adjust has been performed and whether minutes are being credited or a monetary amount is being credited.

Multiplier Factor

Associated templates

The following table lists all fixed templates that contain this data field.

Table 200 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 16 bits

- split size = 16 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 201 Range of values

Bits	Value	Meaning
0 - 15	0 - 65535	numeric range 0 to 65535

Description

This data field is used to provide a multiplier to the Amount of Charge data field (page 49) and the Amount Deposited data field (page 47). The purpose of the field is to allow currencies with large denominations to be recorded in the limited amount of space available.

The multiplier factor is determined in one of two ways:

- The external database real-time rating determines the value based upon the calculated charges. Upon receipt of the database response, the switch executes an algorithm that determines the least significant non-zero digit and sets the multiplier factor. For example, if the amount of charge = 2300, then the multiplier will be set to 100 and the amount of charge changed to 23.

- The non-North American switch-based real-time rating determines the value based upon the calculated charges. The switch executes an algorithm that determines the least significant non-zero digit and sets the multiplier factor. For example, if the amount of charge = 2300, then the multiplier will be set to 100 and the amount of charge changed to 23.

The following is a list of the currently supported multiplier values:

- 1
- 10
- 100
- 1000
- 10000

New Date, Day

Associated templates

The following table lists all fixed templates that contain this data field.

Table 202 Associated templates

Fixed template	Page number
Clock change template	page 361

Reference information

The following list provides reference information about the data field.

- field size = 5 bits

- split size = 5 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 203 Range of values

Bits	Value	Meaning
0 - 4	1 - 31	day of the month

Description

This data field contains the day of the month for the date following a clock change command being entered. When evaluated along with the following data fields, the date and time following the clock change can be determined:

- New date, month (page 193)

- New date, year (page 194)

- New time, hours (page 195)

- New time, minutes (page 196)

- New time, seconds (page 197)

- New time, tenths of seconds (page 198)

New Date, Month

Associated templates

The following table lists all fixed templates that contain this data field.

Table 204 Associated templates

Fixed template	Page number
Clock change template	page 361

Reference information

The following list provides reference information about the data field.

- field size = 4 bits

- split size = 4 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 205 Range of values

Bits	Value	Meaning
0 - 3	1	january
	2	february
	3	march
	4	april
	5	may
	6	june
	7	july
	8	august
	9	september
	10	october
	11	november
	12	december

Description

This data field contains the month for the date following a clock change command being entered. When evaluated along with the following data fields, the date and time following the clock change can be determined:

- New date, day (page 192)

- New date, year (page 194)

- New time, hours (page 195)

- New time, minutes (page 196)

- New time, seconds (page 197)

- New time, tenths of seconds (page 198)

New Date, Year

Associated templates

The following table lists all fixed templates that contain this data field.

Table 206 Associated templates

Fixed template	Page number
Clock change template	page 361

Reference information

The following list provides reference information about the data field.

• field size = 4 bits

• split size = 4 bits

• field type = decimal

The following table provides all possible range of values for the data field.

Table 207 Range of values

Bits	Value	Meaning
0 - 3	0 - 9	last digit of the year

Description

This data field contains the last digit of the year for the date following a clock change command being entered. When evaluated along with the following data fields, the date and time following the clock change can be determined:

• New date, day (page 192)

• New date, month (page 193)

• New time, hours (page 195)

• New time, minutes (page 196)

• New time, seconds (page 197)

• New time, tenths of seconds (page 198)

New Time, Hours

Associated templates
The following table lists all fixed templates that contain this data field.

Table 208 Associated templates

Fixed template	Page number
Clock change template	page 361

Reference information
The following list provides reference information about the data field.

- field size = 5 bits

- split size = 5 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 209 Range of values

Bits	Value	Meaning
0 - 4	0 - 23	hours

Description
This data field contains the given hour for the time following a clock change command being entered. When evaluated along with the following data fields, the date and time following the clock change can be determined:

- New date, day (page 192)

- New date, month (page 193)

- New date, year (page 194)

- New time, minutes (page 196)

- New time, seconds (page 197)

- New time, tenths of seconds (page 198)

New Time, Minutes

Associated templates

The following table lists all fixed templates that contain this data field.

Table 210 Associated templates

Fixed template	Page number
Clock change template	page 361

Reference information

The following list provides reference information about the data field.

- field size = 6 bits

- split size = 6 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 211 Range of values

Bits	Value	Meaning
0 - 5	0 - 59	minutes

Description

This data field contains the given minute for the time following a clock change command being entered. When evaluated along with the following data fields, the date and time following the clock change can be determined:

- New date, day (page 192)

- New date, month (page 193)

- New date, year (page 194)

- New time, hours (page 195)

- New time, seconds (page 197)

- New time, tenths of seconds (page 198)

New Time, Seconds

Associated templates

The following table lists all fixed templates that contain this data field.

Table 212 Associated templates

Fixed template	Page number
Clock change template	page 361

Reference information

The following list provides reference information about the data field.

- field size = 6 bits

- split size = 6 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 213 Range of values

Bits	Value	Meaning
0 - 5	0 - 59	seconds

Description

This data field contains the given second for the time following a clock change command being entered. When evaluated along with the following data fields, the date and time following the clock change can be determined:

- New date, day (page 192)

- New date, month (page 193)

- New date, year (page 194)

- New time, hours (page 195)

- New time, minutes (page 196)

- New time, tenths of seconds (page 198)

New Time, Tenths of Seconds

Associated templates

The following table lists all fixed templates that contain this data field.

Table 214 Associated templates

Fixed template	Page number
Clock change template	page 361

Reference information

The following list provides reference information about the data field.

- field size = 4 bits

- split size = 4 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 215 Range of values

Bits	Value	Meaning
0 - 3	0 - 9	tenths of seconds

Description

This data field always contains a value of "0". When evaluated along with the following data fields, the date and time following the clock change can be determined:

- New date, day (page 192)

- New date, month (page 193)

- New date, year (page 194)

- New time, hours (page 195)

- New time, minutes (page 196)

- New time, seconds (page 197)

Notify Period Duration

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 7 bits

- split size = 7 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 216 Range of values

Bits	Value	Meaning
0 - 6	0 - 99	numeric range 0 to 99

Description

This data field records the last notify period duration requested on a given call. The call must be a non-North American numbering plan call. If multiple operator entered notifies are performed, then this field only records the last notify period requested. The Notify Recall Count data field (page 200) can be used to determine is multiple notifies have occurred.

Value "0" is recorded if no operator entered notifies occur on the given call.

Notify Recall Count

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 14 bits

- split size = 14 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 217 Range of values

Bits	Value	Meaning
0 - 13	0 - 9999	numeric range 0 to 9999

Description

This data field records the number of operator entered notifies that have expired and recalled to the operator. The call must be a non-North American numbering plan call. The duration of the last notify period requested is recorded in the Notify Period Duration data field (page 199).

Value "0" is recorded when no operator entered notifies expire and recall to the operator position.

Notify Request

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 1 bit

- split size = 1 bit

- field type = decimal

The following table provides all possible range of values for the data field.

Table 218 Range of values

Bits	Value	Meaning
0	0	operator notify not requested
	1	operator notify requested

Description

This data field records whether or not the operator has entered a request for notification.

Value "0" ("operator notify not requested") is recorded when the operator has not entered a request for notification.

Value "1" ("operator notify requested") is recorded when the operator has entered at least one request for notification.

Office identification

Associated templates

The following table lists all fixed templates that contain this data field.

Table 219 Associated templates

Fixed template	Page number
Block header template	page 359

Reference information

The following list provides reference information about the data field.

- field size = 6 digits

- split size = 4 bits

- field type = digits

The following table provides all possible range of values for the data field.

Table 220 Range of values

Digit	Value	Meaning
0 - 5	0 - 9	office identification digits

Description

This data field records a 6 digit identification number that represents the switch on which the billing file has been generated. This identification number is needed because a downstream processor will likely be processing billing files from many switches. Each billing file should be attributable to the switch that produced it.

TDR obtains the value that is recorded in the field from the tuple OFFICE_ID_ON_AMA_TAPE in table OFCENG (page 466).

Old Date, Day

Associated templates
The following table lists all fixed templates that contain this data field.

Table 221 Associated templates

Fixed template	Page number
Clock change template	page 361

Reference information
The following list provides reference information about the data field.

- field size = 5 bits

- split size = 5 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 222 Range of values

Bits	Value	Meaning
0 - 4	1 - 31	day of the month

Description
This data field contains the day of the month for the date prior to a clock change command being entered. When evaluated along with the following data fields, the date and time prior to the clock change can be determined:

- Old date, month (page 204)

- Old date, year (page 205)

- Old time, hours (page 206)

- Old time, minutes (page 207)

- Old time, seconds (page 208)

- Old time, tenths of seconds (page 209)

Old Date, Month

Associated templates

The following table lists all fixed templates that contain this data field.

Table 223 Associated templates

Fixed template	Page number
Clock change template	page 361

Reference information

The following list provides reference information about the data field.

- field size = 4 bits

- split size = 4 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 224 Range of values

Bits	Value	Meaning
0 - 3	1	january
	2	february
	3	march
	4	april
	5	may
	6	june
	7	july
	8	august
	9	september
	10	october
	11	november
	12	december

Description

This data field contains the month for the date prior to a clock change command being entered. When evaluated along with the following data fields, the date and time prior to the clock change can be determined:

- Old date, day (page 203)

- Old date, year (page 205)

- Old time, hours (page 206)

- Old time, minutes (page 207)

- Old time, seconds (page 208)

- Old time, tenths of seconds (page 209)

Old Date, Year

Associated templates

The following table lists all fixed templates that contain this data field.

Table 225 Associated templates

Fixed template	Page number
Clock change template	page 361

Reference information

The following list provides reference information about the data field.

- field size = 4 bits

- split size = 4 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 226 Range of values

Bits	Value	Meaning
0 - 3	0 - 9	last digit of the year

Description

This data field contains the last digit of the year for the date prior to a clock change command being entered. When evaluated along with the following data fields, the date and time prior to the clock change can be determined:

- Old date, day (page 203)

- Old date, month (page 204)

- Old time, hours (page 206)

- Old time, minutes (page 207)

- Old time, seconds (page 208)

- Old time, tenths of seconds (page 209)

Old Time, Hours

Associated templates

The following table lists all fixed templates that contain this data field.

Table 227 Associated templates

Fixed template	Page number
Clock change template	page 361

Reference information

The following list provides reference information about the data field.

- field size = 5 bits

- split size = 5 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 228 Range of values

Bits	Value	Meaning
0 - 4	0 - 23	hours

Description

This data field contains the given hour for the time prior to a clock change command being entered. When evaluated along with the following data fields, the date and time prior to the clock change can be determined:

- Old date, day (page 203)

- Old date, month (page 204)

- Old date, year (page 205)

- Old time, minutes (page 207)

- Old time, seconds (page 208)

- Old time, tenths of seconds (page 209)

Old Time, Minutes

Associated templates

The following table lists all fixed templates that contain this data field.

Table 229 Associated templates

Fixed template	Page number
Clock change template	page 361

Reference information

The following list provides reference information about the data field.

- field size = 6 bits

- split size = 6 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 230 Range of values

Bits	Value	Meaning
0 - 5	0 - 59	minutes

Description

This data field contains the given minute for the time prior to a clock change command being entered. When evaluated along with the following data fields, the date and time prior to the clock change can be determined:

- Old date, day (page 203)

- Old date, month (page 204)

- Old date, year (page 205)

- Old time, hours (page 206)

- Old time, seconds (page 208)

- Old time, tenths of seconds (page 209)

Old Time, Seconds

Associated templates

The following table lists all fixed templates that contain this data field.

Table 231 Associated templates

Fixed template	Page number
Clock change template	page 361

Reference information

The following list provides reference information about the data field.

- field size = 6 bits

- split size = 6 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 232 Range of values

Bits	Value	Meaning
0 - 5	0 - 59	seconds

Description

This data field contains the given second for the time prior to a clock change command being entered. When evaluated along with the following data fields, the date and time prior to the clock change can be determined:

- Old date, day (page 203)

- Old date, month (page 204)

- Old date, year (page 205)

- Old time, hours (page 206)

- Old time, minutes (page 207)

- Old time, tenths of seconds (page 209)

Old Time, Tenths of Seconds

Associated templates

The following table lists all fixed templates that contain this data field.

Table 233 Associated templates

Fixed template	Page number
Clock change template	page 361

Reference information

The following list provides reference information about the data field.

- field size = 4 bits

- split size = 4 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 234 Range of values

Bits	Value	Meaning
0 - 3	0 - 9	tenths of seconds

Description

This data field always contains a value of "0". When evaluated along with the following data fields, the date and time prior to the clock change can be determined:

- Old date, day (page 203)

- Old date, month (page 204)

- Old date, year (page 205)

- Old time, hours (page 206)

- Old time, minutes (page 207)

- Old time, seconds (page 208)

OLNS Additional Service Indicator

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 8 bits

- split size = 8 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 235 Range of values

Bits	Value	Meaning
0 - 7	0	unknown
	1	screened
	2	foreign language
	3	generic name
	4	foreign language, generic name
	5	alphanumeric string
	6	foreign language, alphanumeric string
	7	generic name, alphanumeric string
	8	foreign language, generic name, alphanumeric string
	9	no additional info returned
	10	response not received
	11 - 255	reserved for future use

Description

This data field records information returned from an OLNS database query. Specifically, it records whether or not the following optional parameters are returned:

- foreign language

- generic name

- alphanumeric string

Value "0" ("unknown") is recorded when no OLNS query is attempted.

Value "1" ("screened") is not currently recorded.

Value "2" ("foreign language") is recorded when the foreign language parameter is received, but the generic name and alphanumeric string parameters are not received.

Value "3" ("generic name") is recorded when the generic name parameter is received, but the foreign language and alphanumeric string parameters are not received.

Value "4" ("foreign language, generic name") is recorded when the foreign language and generic name parameters are received, but the alphanumeric string parameter is not received.

Value "5" ("alphanumeric string") is recorded when the alphanumeric string parameter is received, but the foreign language and generic name parameters are not received.

Value "6" ("foreign language, alphanumeric string") is recorded when the foreign language and alphanumeric string parameters are received, but the generic name parameter is not received.

Value "7" ("generic name, alphanumeric string") is recorded when the generic name and alphanumeric string parameters are received, but the foreign language parameter is not received.

Value "8" ("foreign language, generic name, alphanumeric string") is recorded when the foreign language, generic name and alphanumeric string parameters are all received.

Value "9" ("no additional info returned") is recorded when a valid OLNS response is received, but it does not contain one of the three optional parameters.

Value "10" ("response not received") is recorded when an OLNS query is launched, but no response is received.

OLNS Billing Services Spare AMA Indicator

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 3 bits

- split size = 3 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 236 Range of values

Bits	Value	Meaning
0 - 2	0	unknown
	1	screened
	2	allowed
	3	not allowed
	4	not available
	5 - 7	reserved for future use

Description

This data field records the value contained in the Billing Services Spare AMA Indicator parameter in OLNS. This information is recorded for all services except directory assistance and intercept.

Value "0" ("unknown") is recorded when no OLNS query is attempted.

Value "1" ("screened") is recorded when the Billing Services Spare AMA Indicator parameter contains a value of "reserved".

Value "2" ("allowed") is recorded when the Billing Services Spare AMA Indicator parameter contains a value of "allowed".

Value "3" ("not allowed") is recorded when the Billing Services Spare AMA Indicator parameter contains a value of "not allowed".

Value "4" ("not available") is recorded when the Billing Services Spare AMA Indicator parameter is not included in the OLNS response.

OLNS DA Call Completion AMA Indicator

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 3 bits

- split size = 3 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 237 Range of values

Bits	Value	Meaning
0 - 2	0	unknown
	1	screened
	2	allowed
	3	not allowed
	4	allowed with billing restrictions
	5	allowed, local only
	6	allowed with billing restrictions and no sent paid
	7	not available

Description

This data field records the value contained in the DA Call Completion AMA Indicator parameter in OLNS. This information is recorded for all services except directory assistance and intercept.

Value "0" ("unknown") is recorded when no OLNS query is attempted.

Value "1" ("screened") is recorded when the DA Call Completion AMA Indicator parameter contains a value of "reserved".

Value "2" ("allowed") is recorded when the DA Call Completion AMA Indicator parameter contains a value of "allowed".

Value "3" ("not allowed") is recorded when the DA Call Completion AMA Indicator parameter contains a value of "not allowed".

Value "4" ("allowed with billing restrictions") is recorded when the DA Call Completion AMA Indicator parameter contains a value of "allowed with billing restrictions".

Value "5" ("allowed, local only") is recorded when the DA Call Completion AMA Indicator parameter contains a value of "allowed, local only".

Value "6" ("allowed with billing restrictions but no sent paid") is recorded when the DA Call Completion AMA Indicator parameter contains a value of "allowed with billing restrictions but no sent paid".

Value "7" ("not available") is recorded when the DA Call Completion AMA Indicator parameter is not included in the OLNS response.

OLNS DA Calling Card AMA Indicator

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 3 bits

- split size = 3 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 238 Range of values

Bits	Value	Meaning
0 - 2	0	unknown
	1	screened
	2	allowed
	3	not allowed
	4	card issuer restrictions
	5	not available
	6 - 7	reserved for future use

Description

This data field records the value contained in the DA Calling Card AMA Indicator parameter in OLNS. This information is recorded only for directory assistance and intercept services.

Value "0" ("unknown") is recorded when no OLNS query is attempted.

Value "1" ("screened") is recorded when the DA Calling Card AMA Indicator parameter contains a value of "reserved".

Value "2" ("allowed") is recorded when the DA Calling Card AMA Indicator parameter contains a value of "allowed".

Value "3" ("not allowed") is recorded when the DA Calling Card AMA Indicator parameter contains a value of "not allowed".

Value "4" ("card issuer restrictions") is recorded when the DA Calling Card AMA Indicator parameter contains a value of "card issuer restrictions".

Value "5" ("not available") is recorded when the DA Calling Card AMA Indicator parameter is not included in the OLNS response.

OLNS DA Sent Paid AMA Indicator

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 3 bits

- split size = 3 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 239 Range of values

Bits	Value	Meaning
0 - 2	0	unknown
	1	screened
	2	allowed
	3	not allowed
	4	not available
	5 - 7	reserved for future use

Description

This data field records the value contained in the DA Sent Paid AMA Indicator parameter in OLNS. This information is recorded only for directory assistance and intercept services.

Value "0" ("unknown") is recorded when no OLNS query is attempted.

Value "1" ("screened") is recorded when the DA Sent Paid AMA Indicator parameter contains a value of "reserved".

Value "2" ("allowed") is recorded when the DA Sent Paid AMA Indicator parameter contains a value of "allowed".

Value "3" ("not allowed") is recorded when the DA Sent Paid AMA Indicator parameter contains a value of "not allowed".

Value "4" ("not available") is recorded when the DA Sent Paid AMA Indicator parameter is not included in the OLNS response.

OLNS DA Special Number AMA Indicator

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 3 bits

- split size = 3 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 240 Range of values

Bits	Value	Meaning
0 - 2	0	unknown
	1	screened
	2	allowed
	3	not allowed
	4	not available
	5 - 7	reserved for future use

Description

This data field records the value contained in the DA Special Number AMA Indicator parameter in OLNS. This information is recorded only for directory assistance and intercept services.

Value "0" ("unknown") is recorded when no OLNS query is attempted.

Value "1" ("screened") is recorded when the DA Special Number AMA Indicator parameter contains a value of "reserved".

Value "2" ("allowed") is recorded when the DA Special Number AMA Indicator parameter contains a value of "allowed".

Value "3" ("not allowed") is recorded when the DA Special Number AMA Indicator parameter contains a value of "not allowed".

Value "4" ("not available") is recorded when the DA Special Number AMA Indicator parameter is not included in the OLNS response.

OLNS DA Third AMA Indicator

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 3 bits

- split size = 3 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 241 Range of values

Bits	Value	Meaning
0 - 2	0	unknown
	1	screened
	2	allowed
	3	not allowed
	4	allowed with operator vfy
	5	allowed with operator / automated vfy
	6	not available
	7	reserved for future use

Description

This data field records the value contained in the DA Third AMA Indicator parameter in OLNS. This information is recorded only for directory assistance and intercept services.

Value "0" ("unknown") is recorded when no OLNS query is attempted.

Value "1" ("screened") is recorded when the DA Third AMA Indicator parameter contains a value of "reserved".

Value "2" ("allowed") is recorded when the DA Third AMA Indicator parameter contains a value of "allowed".

Value "3" ("not allowed") is recorded when the DA Third AMA Indicator parameter contains a value of "not allowed".

Value "4" ("allowed with operator vfy") is recorded when the DA Third AMA Indicator parameter contains a value of "allowed with operator vfy".

Value "5" ("allowed with operator / automated vfy") is recorded when the DA Third AMA Indicator parameter contains a value of "allowed with operator / automated vfy".

Value "6" ("not available") is recorded when the DA Third AMA Indicator parameter is not included in the OLNS response.

OLNS Free DA AMA Indicator

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 3 bits

- split size = 3 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 242 Range of values

Bits	Value	Meaning
0 - 2	0	unknown
	1	screened
	2	allowed
	3	not allowed
	4	not available
	5 - 7	reserved for future use

Description

This data field records the value contained in the Free DA AMA Indicator parameter in OLNS. This information is recorded for all services except directory assistance and intercept.

Value "0" ("unknown") is recorded when no OLNS query is attempted.

Value "1" ("screened") is recorded when the Free DA AMA Indicator parameter contains a value of "reserved".

Value "2" ("allowed") is recorded when the Free DA AMA Indicator parameter contains a value of "allowed".

Value "3" ("not allowed") is recorded when the Free DA AMA Indicator parameter contains a value of "not allowed".

Value "4" ("not available") is recorded when the Free DA AMA Indicator parameter is not included in the OLNS response.

OLNS Free TA AMA Indicator

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 3 bits

- split size = 3 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 243 Range of values

Bits	Value	Meaning
0 - 2	0	unknown
	1	screened
	2	allowed
	3	not allowed
	4	not available
	5 - 7	reserved for future use

Description

This data field records the value contained in the Free TA AMA Indicator parameter in OLNS. This information is recorded for all services except directory assistance and intercept.

Value "0" ("unknown") is recorded when no OLNS query is attempted.

Value "1" ("screened") is recorded when the Free TA AMA Indicator parameter contains a value of "reserved".

Value "2" ("allowed") is recorded when the Free TA AMA Indicator parameter contains a value of "allowed".

Value "3" ("not allowed") is recorded when the Free TA AMA Indicator parameter contains a value of "not allowed".

Value "4" ("not available") is recorded when the Free TA AMA Indicator parameter is not included in the OLNS response.

OLNS Modified Service or Equipment Indicator

Associated templates
The following table lists all fixed templates that contain this data field.

Table 244 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Call transfer to carrier template	page 398
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
Listing services template	page 403

Reference information
The following list provides reference information about the data field.

- field size = 8 bits
- split size = 8 bits
- field type = decimal

The following table provides all possible range of values for the data field.

Table 245 Range of values

Bits	Value	Meaning
0 - 7	0	unknown
	1	screened
	2	pots, business / residential
	3	lec public postpay coin
	4	pots, residential mr1
	5	pots, residential mr2
	6	lec semi-public
	7	pots, business flat rate
	8	pots, business mr1
	9	coinless non-ipp
	10	coinless ipp
	11	lec prepaid card station
	12	pots, business mr2
	13	lec public prepay coin
	14	lec public alternate i/f
	15	ic public standard i/f

Table 245 Range of values

Bits	Value	Meaning
	16	ic public alternate i/f
	17	pots, residential flat rate
	18	vq hotel without tax
	19	vq hotel with tax
	20	ipp, standard i/f
	21	ipp, alternate i/f
	22	hospital
	23	prison (non-ipp)
	24	aq hotel without tax
	25	aq hotel with tax
	26	dormitory
	27	centrex
	28	pbx
	29	prison (ipp)
	30	wats
	31	cellular
	32	pager
	33	pcs
	34	fga
	35	mobile
	36	lec public spl billing postpay overtime
	37	lec public spl billing prepay overtime
	38	public incompatible network i/f
	39	cellular rate 1
	40	cellular rate 2
	41	pots, business single-line
	42	pots, business multi-line
	43	public postpay overtime
	44 - 254	reserved for future use
	255	response not received

Description

This data field records the type of phone associated with the calling party. It is returned from an OLNS database query. Except for a few special cases listed below, the values are taken straight from the OLNS database response. The following are the exceptions:

- Value "0" ("unknown") is recorded when no OLNS database query is launched.

- Value "255" ("response not received") is recorded when an OLNS database query is launched, but no response is received. This scenario can occur if call gapping is present or in the timer expires prior to receipt of the response. This value will also be recorded when the customer record in the OLNS database is missing.

OLNS Modified Treatment Indicator

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 8 bits

- split size = 8 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 246 Range of values

Bits	Value	Meaning
0 - 7	0	unknown
	1	screened
	2	tone
	3	tone, prompt 1
	4	operator, station limitations
	5	operator, customer request
	6	handicapped
	7	deaf
	8	tone, prompt 2
	9	tone, prompt 3
	10	operator, fraud
	11	tone, no operator
	12	tone, prompt 4, no operator
	13	tone, prompt 5, no operator
	14	tone, prompt 6, no operator
	15	tone, prompt 7, no operator
	16	tone, prompt 8, no operator
	17	tone, prompt 9, no operator
	18	tone, prompt 10, no operator
	19	tone, prompt 11, no operator
	20	tone, prompt 12, no operator
	21	special handling 1
	22	special handling 2
	23	special handling 3
	24	special handling 4
	25	special handling 5

Table 246 Range of values

Bits	Value	Meaning
	26	tone, prompt 13, no operator
	27	tone, prompt 14, no operator
	28 - 254	reserved for future use
	255	response not received

Description

This data field records the type of treatment requested by the calling party. This information is obtained from the OLNS database. Except for a few special cases listed below, the values are taken straight from the OLNS database response. The following are the exceptions:

• Value "0" ("unknown") is recorded when no OLNS database query is launched.

• Value "255" ("response not received") is recorded when an OLNS database query is launched, but no response is received. This scenario can occur if call gapping is present or in the timer expires prior to receipt of the response.

OLNS TA Calling Card AMA Indicator

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 4 bits

- split size = 4 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 247 Range of values

Bits	Value	Meaning
0 - 3	0	unknown
	1	screened
	2	allowed
	3	allowed, domestic only
	4	not allowed
	5	card issuer restrictions for local calls
	6	card issuer restrictions for non-local, intralata calls
	7	card issuer restrictions for all calls
	8	card issuer restrictions for local calls and domestic only
	9	card issuer restrictions for non-local intralata calls and domestic only
	10	card issuer restrictions for all calls and domestic only
	11	not available
	12 - 15	reserved for future use

Description

This data field records the value contained in the TA Calling Card AMA Indicator parameter in OLNS. This information is recorded for all services except directory assistance and intercept.

Value "0" ("unknown") is recorded when no OLNS query is attempted.

Value "1" ("screened") is recorded when the TA Calling Card AMA Indicator parameter contains a value of "reserved".

Value "2" ("allowed") is recorded when the TA Calling Card AMA Indicator parameter contains a value of "allowed".

Value "3" ("allowed, domestic only") is recorded when the TA Calling Card AMA Indicator parameter contains a value of "allowed, domestic only".

Value "4" ("not allowed") is recorded when the TA Calling Card AMA Indicator parameter contains a value of "not allowed".

Value "5" ("card issuer restrictions for local calls") is recorded when the TA Calling Card AMA Indicator parameter contains a value of "card issuer restrictions for local calls".

Value "6" ("card issuer restrictions for non-local, intralata calls") is recorded when the TA Calling Card AMA Indicator parameter contains a value of "card issuer restrictions for non-local, intralata calls".

Value "7" ("card issuer restrictions for all calls") is recorded when the TA Calling Card AMA Indicator parameter contains a value of "card issuer restrictions for all calls".

Value "8" ("card issuer restrictions for local calls and domestic only") is recorded when the TA Calling Card AMA Indicator parameter contains a value of "card issuer restrictions for local calls and domestic only".

Value "9" ("card issuer restrictions for non-local intralata calls and domestic only") is recorded when the TA Calling Card AMA Indicator parameter contains a value of "card issuer restrictions for non-local intralata calls and domestic only".

Value "10" ("card issuer restrictions for all calls and domestic only") is recorded when the TA Calling Card AMA Indicator parameter contains a value of "card issuer restrictions for all calls and domestic only".

Value "11" ("not available") is recorded when the TA Calling Card AMA Indicator parameter is not included in the OLNS response.

OLNS TA Collect AMA Indicator

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 3 bits

- split size = 3 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 248 Range of values

Bits	Value	Meaning
0 - 2	0	unknown
	1	screened
	2	allowed
	3	allowed, domestic only
	4	not allowed
	5	not available
	6 - 7	reserved for future use

Description

This data field records the value contained in the TA Collect AMA Indicator parameter in OLNS. This information is recorded for all services except directory assistance and intercept.

Value "0" ("unknown") is recorded when no OLNS query is attempted.

Value "1" ("screened") is recorded when the TA Collect AMA Indicator parameter contains a value of "reserved".

Value "2" ("allowed") is recorded when the TA Collect AMA Indicator parameter contains a value of "allowed".

Value "3" ("allowed, domestic only") is recorded when the TA Collect AMA Indicator parameter contains a value of "allowed, domestic only".

Value "4" ("not allowed") is recorded when the TA Collect AMA Indicator parameter contains a value of "not allowed".

Value "5" ("not available") is recorded when the TA Collect AMA Indicator parameter is not included in the OLNS response.

OLNS TA Sent Paid AMA Indicator

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 3 bits

- split size = 3 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 249 Range of values

Bits	Value	Meaning
0 - 2	0	unknown
	1	screened
	2	allowed
	3	allowed, domestic only
	4	allowed, intralata only because of non-payment
	5	allowed, intralata only because of customer request
	6	not allowed
	7	not available

Description

This data field records the value contained in the TA Sent Paid AMA Indicator parameter in OLNS. This information is recorded for all services except directory assistance and intercept.

Value "0" ("unknown") is recorded when no OLNS query is attempted.

Value "1" ("screened") is recorded when the TA Sent Paid AMA Indicator parameter contains a value of "reserved".

Value "2" ("allowed") is recorded when the TA Sent Paid AMA Indicator parameter contains a value of "allowed".

Value "3" ("allowed, domestic only") is recorded when the TA Sent Paid AMA Indicator parameter contains a value of "allowed, domestic only".

Value "4" ("allowed, intralata only because of non-payment") is recorded when the TA Sent Paid AMA Indicator parameter contains a value of "allowed, intralata only because of non-payment".

Value "5" ("allowed, intralata only because of customer request") is recorded when the TA Sent Paid AMA Indicator parameter contains a value of "allowed, intralata only because of customer request".

Value "6" ("not allowed") is recorded when the TA Sent Paid AMA Indicator parameter contains a value of "not allowed".

Value "7" ("not available") is recorded when the TA Sent Paid AMA Indicator parameter is not included in the OLNS response.

OLNS TA Special Number AMA Indicator

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 3 bits

- split size = 3 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 250 Range of values

Bits	Value	Meaning
0 - 2	0	unknown
	1	screened
	2	allowed
	3	not allowed
	4	not available
	5 - 7	reserved for future use

Description

This data field records the value contained in the TA Special Number AMA Indicator parameter in OLNS. This information is recorded for all services except directory assistance and intercept.

Value "0" ("unknown") is recorded when no OLNS query is attempted.

Value "1" ("screened") is recorded when the TA Special Number AMA Indicator parameter contains a value of "reserved".

Value "2" ("allowed") is recorded when the TA Special Number AMA Indicator parameter contains a value of "allowed".

Value "3" ("allowed, domestic only") is recorded when the TA Special Number AMA Indicator parameter contains a value of "allowed, domestic only".

Value "4" ("not available") is recorded when the TA Special Number AMA Indicator parameter is not included in the OLNS response.

OLNS TA Third AMA Indicator

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 3 bits

- split size = 3 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 251 Range of values

Bits	Value	Meaning
0 - 2	0	unknown
	1	screened
	2	allowed
	3	allowed, domestic only
	4	not allowed
	5	allowed with operator vfy
	6	allowed with operator / automated vfy
	7	not available

Description

This data field records the value contained in the TA Third AMA Indicator parameter in OLNS. This information is recorded for all services except directory assistance and intercept.

Value "0" ("unknown") is recorded when no OLNS query is attempted.

Value "1" ("screened") is recorded when the TA Third AMA Indicator parameter contains a value of "reserved".

Value "2" ("allowed") is recorded when the TA Third AMA Indicator parameter contains a value of "allowed".

Value "3" ("allowed, domestic only") is recorded when the TA Third AMA Indicator parameter contains a value of "allowed, domestic only".

Value "4" ("not allowed") is recorded when the TA Third AMA Indicator parameter contains a value of "not allowed".

Value "5" ("allowed with operator vfy") is recorded when the TA Third AMA Indicator parameter contains a value of "allowed with operator vfy".

Value "6" ("allowed with operator / automated vfy") is recorded when the TA Third AMA Indicator parameter contains a value of "allowed with operator / automated vfy".

Value "7" ("not available") is recorded when the TA Third AMA Indicator parameter is not included in the OLNS response.

Operator Id, First Operator's Number

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 14 bits

- split size = 14 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 252 Range of values

Bits	Value	Meaning
0 - 13	0 - 9999	operator number

Description

This data field records the identifier for the first human operator involved in the given call only if there are two or more human operators involved in the call.

If there is only one human operator involved in the call, then that operator's number is recorded in the Operator Id, Last Operator's Number data field (page 237). This data field will then contain value "9999" indicating no operator identifier is present.

If there is no human operator involved in the call, then both this data field and the Operator Id, Last Operator's Number data field will contain value "9999" indicating no operator identifier is present.

Operator Id, First Operator's Team Number

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 7 bits

- split size = 7 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 253 Range of values

Bits	Value	Meaning
0 - 6	0 - 30	operator's team number
	31 - 127	reserved for future use

Description

This data field records the team number associated with the first human operator involved in the given call only if there are two or more human operators involved in the call. The team number is obtained based upon the position that the operator is logged into. The team number is datafilled in table TOPSPOS.

If there is only one human operator involved in the call, then that operator's team number is recorded in the Operator Id, Last Operator's Team Number data field (page 238). This data field will then contain value "0" indicating no operator team number is present.

If there is no human operator involved in the call, then both this data field and the Operator Id, Last Operator's Team Number data field will contain value "0" indicating no operator team number is present.

Operator Id, Last Operator's Number

Associated templates

The following table lists all fixed templates that contain this data field.

Table 254 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Call transfer to carrier template	page 398
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
IN interworking template	page 444
Intercept template	page 437
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 14 bits

- split size = 14 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 255 Range of values

Bits	Value	Meaning
0 - 13	0 - 9999	operator number

Description

This data field records the identifier for the last human operator involved in the given call.

If there is only one human operator involved in the call, then that operator's number is recorded in this data field. The Operator Id, First Operator's Number data field (page 235) will then contain value "9999" indicating no operator identifier is present.

If there is no human operator involved in the call, then both this data field and the Operator Id, First Operator's Number data field will contain value "9999" indicating no operator identifier is present.

Operator Id, Last Operator's Team Number

Associated templates
The following table lists all fixed templates that contain this data field.

Table 256 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Call transfer to carrier template	page 398
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
IN interworking template	page 444
Intercept template	page 437
Listing services template	page 403

Reference information
The following list provides reference information about the data field.

- field size = 7 bits
- split size = 7 bits
- field type = decimal

The following table provides all possible range of values for the data field.

Table 257 Range of values

Bits	Value	Meaning
0 - 6	0 - 30	operator's team number
	31 - 127	reserved for future use

Description
This data field records the team number associated with the last human operator involved in the given call. The team number is obtained based upon the position that the operator is logged into. The team number is datafilled in table TOPSPOS.

If there is only one human operator involved in the call, then that operator's team number is recorded in this data field. The Operator Id, First Operator's Team Number data field (page 236) will then contain value "0" indicating no operator team number is present.

If there is no human operator involved in the call, then both this data field and the Operator Id, First Operator's Team Number data field will contain value "0" indicating no operator team number is present.

Operator Keying Action, Back Number

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 1 bit

- split size = 1 bit

- field type = decimal

The following table provides all possible range of values for the data field.

Table 258 Range of values

Bits	Value	Meaning
0	0	not keyed
	1	keyed

Description

This data field records whether or not the operator or service node has entered or changed the calling party's directory number.

Value "0" ("not keyed") is recorded when the operator or service node has not entered or changed the calling party's directory number.

Value "1" ("keyed") is recorded when the operator or service node has entered or changed the calling party's directory number.

Operator Keying Action, Caller Id Blocking

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 1 bit

- split size = 1 bit

- field type = decimal

The following table provides all possible range of values for the data field.

Table 259 Range of values

Bits	Value	Meaning
0	0	not keyed
	1	keyed

Description

This data field records whether or not the operator has entered a request to block caller id from being sent forward in the network.

Value "0" ("not keyed") is recorded when the operator has not entered a request to block caller id from being sent forward in the network.

Value "1" ("keyed") is recorded when the operator has entered a request to block caller id from being sent forward in the network.

Operator Keying Action, Cancel Call

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 1 bit

- split size = 1 bit

- field type = decimal

The following table provides all possible range of values for the data field.

Table 260 Range of values

Bits	Value	Meaning
0	0	not keyed
	1	keyed

Description

This data field records whether or not the operator has explicitly canceled the call.

Value "0" ("not keyed") is recorded when the operator has not explicitly canceled the call.

Value "1" ("keyed") is recorded when the operator has explicitly canceled the call.

Operator Keying Action, Cancel Timing

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 1 bit

- split size = 1 bit

- field type = decimal

The following table provides all possible range of values for the data field.

Table 261 Range of values

Bits	Value	Meaning
0	0	not keyed
	1	keyed

Description

This data field records whether or not the operator has explicitly canceled timing for the call.

Value "0" ("not keyed") is recorded when the operator has not explicitly canceled timing for the call.

Value "1" ("keyed") is recorded when the operator has explicitly canceled timing for the call.

Operator Keying Action, Forward Number

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 1 bit

- split size = 1 bit

- field type = decimal

The following table provides all possible range of values for the data field.

Table 262 Range of values

Bits	Value	Meaning
0	0	not keyed
	1	keyed

Description

This data field records whether or not the operator or service node has entered or changed the called party's directory number.

Value "0" ("not keyed") is recorded when the operator or service node has not entered or changed the called party's directory number.

Value "1" ("keyed") is recorded when the operator or service node has entered or changed the called party's directory number.

Operator Keying Action, No Connect

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 1 bit

- split size = 1 bit

- field type = decimal

The following table provides all possible range of values for the data field.

Table 263 Range of values

Bits	Value	Meaning
0	0	not keyed
	1	keyed

Description

This data field records whether or not the operator or service node has entered the no connect option when providing either the calling or called party's directory number.

Value "0" ("not keyed") is recorded when the operator or service node has not entered the no connect option when providing either the calling or called party's directory number.

Value "1" ("keyed") is recorded when the operator or service node has entered the no connect option when providing either the calling or called party's directory number.

Operator Keying Action, Release Back

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 1 bit

- split size = 1 bit

- field type = decimal

The following table provides all possible range of values for the data field.

Table 264 Range of values

Bits	Value	Meaning
0	0	not keyed
	1	keyed

Description

This data field records whether or not the operator has entered a request to release the calling party's connection.

Value "0" ("not keyed") is recorded when the operator has not entered a request to release the calling party's connection.

Value "1" ("keyed") is recorded when the operator has entered a request to release the calling party's connection.

Operator Keying Action, Transfer

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 1 bit

- split size = 1 bit

- field type = decimal

The following table provides all possible range of values for the data field.

Table 265 Range of values

Bits	Value	Meaning
0	0	not keyed
	1	keyed

Description

This data field records whether or not the operator has entered a request to transfer the call to another operator serving another call queue.

Value "0" ("not keyed") is recorded when the operator has not entered a request to transfer the call to another operator serving another call queue.

Value "1" ("keyed") is recorded when the operator has entered a request to transfer the call to another operator serving another call queue.

Operator Keying Action, Trouble

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 1 bit

- split size = 1 bit

- field type = decimal

The following table provides all possible range of values for the data field.

Table 266 Range of values

Bits	Value	Meaning
0	0	not keyed
	1	keyed

Description

This data field records whether or not the operator has entered a trouble report for the given call.

Value "0" ("not keyed") is recorded when the operator has not entered a trouble report for the given call.

Value "1" ("keyed") is recorded when the operator has entered a trouble report for the given call.

Operator Services System Action

Associated templates

The following table lists all fixed templates that contain this data field.

Table 267 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 4 bits

- split size = 4 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 268 Range of values

Bits	Value	Meaning
0 - 3	0	unknown
	1	automatically accepted
	2	automatically accepted because of operator method
	3	verified, accepted
	4	verified, rejected
	5	provided restricted billing treatment
	6	transferred to carrier
	7	provided intercept service
	8	provided inward operator service
	9	disconnected
	10 - 15	reserved for future use

Description

This data field records the action taken by the operator or service node for the purpose of validating an alternate billing number after receiving the response from the LIDB. This data field along with the LIDB Response data field (page 148) should be used to determine if the alternate billing number has been validated and accepted for use.

Value "0" ("unknown") is recorded when the call is not alternately billed (for example, calling card, third number or collect).

Value "1" ("automatically accepted") is recorded when the operator or service node automatically accepts the alternate billing. This scenario occurs in the following situations:

- The call is billed as auto collect.

- The call is billed to a calling card that has been validated by LIDB or some other database.

- The call is billed to a third number and the LIDB returns a value which indicates automatic acceptance.

- The call is billed collect and the LIDB returns a value which indicates automatic acceptance.

Value "2" ("automatically accepted because of operator method") is not currently recorded.

Value "3" ("verified, accepted") is recorded when the operator or service node verifies the alternate billing number and obtains acceptance. This scenario occurs in the following situations:

- An error response is received from the LIDB on a collect, third number or calling card billed call. The operator or service node continues processing the call and provides the requested service.

- The call is billed to a calling card that is identified as "hot". A "hot" calling card is a card that is datafilled in table HOTLIST. The operator or service node continues processing the call and provides the requested service.

- The call is billed collect, to a third number or calling card that has not been validated by LIDB or some other database. The operator or service node may provide some type of manual validation. The operator or service node continues processing the call and provides the requested service.

- The call is billed to a third number and the LIDB returns a value indicating that additional verification is needed. The operator or service node continues processing the call and provides the requested service.

- The call is billed collect and the LIDB returns a value indicating that additional verification is needed. The operator or service node continues processing the call and provides the requested service.

Value "4" ("verified, rejected") is recorded when the operator or service node verifies the alternate billing number and does not obtain acceptance. This scenario occurs in the following situations:

- A error response is received from the LIDB on a collect, third number or calling card billed call. The operator or service node cancels the call.

- The call is billed collect, to a third number or calling card that has not been validated by LIDB or some other database. The operator or service node may provide some type of manual validation. The operator or service node cancels the call because the manual validation fails.

- The call is billed to a third number and the LIDB returns a value indicating that additional verification is needed. The operator or service node cancels the call.

- The call is billed collect and the LIDB returns a value indicating that additional verification is needed. The operator or service node cancels the call.

Value "5" ("provided restricted billing treatment") is recorded when a call is blocked due to the lack of a billing agreement. Billing agreements are tracked through Tables CCVAGRMT and BNSAGRMT and are controlled through SOC option order code UNBN0101.

Value "6" ("transferred to carrier") is recorded when the call is requested to be alternately billed, but must be transferred to the carrier because full operator services are not provided for the carrier.

Value "7" ("provided intercept service") is recorded when the operator or service node automatically disconnects the call without performing any additional billing number validation. This scenario occurs in the following situations:

- The call is billed to a third number and the LIDB returns a value indicating that the alternate billing number is currently on intercept service.

Value "8" ("provided inward operator service") is recorded when the call is requesting alternate billing and was originated as an inwards call. An inwards call is a call originated from another operator using a 3- to 4-digit access code. The access code must be mapped to one of the following call origination types that are found in table TOPS:

- CO_121
- CO_131
- CO_141
- CO_151
- CO_161
- CO_171
- CO_181
- CO_191
- CO_1151
- CO_1152
- CO_1153
- CO_1154
- CO_1157
- CO_1158
- CO_1159

- CO_1160
- CO_1161
- CO_1162

Value "9" ("disconnected") is recorded when the operator or service node automatically disconnects the call without performing any additional billing number validation. This scenario occurs in the following situations:

- The call is billed to a calling card that is identified as "hot". A "hot" calling card is a card that is datafilled in table HOTLIST. The operator or service node cancels the call.

- The call is billed to a third number and the LIDB returns a value indicating that third number billing is denied and the alternate billing number is not currently on intercept service:

- The call is billed collect and the LIDB returns a value indicating that collect billing is denied.

Originating Number

Associated templates

The following table lists all fixed templates that contain this data field.

Table 269 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Call transfer to carrier template	page 398
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 20 digits

- split size = 4 bits

- field type = digits

The following table provides all possible range of values for the data field.

Table 270 Range of values

Digit	Value	Meaning
0 - 19	0 - 9	digit string containing 20 digits

Description

This data field records the calling party's directory number. The directory number is right justified and padded with 0s. In order to distinguish between the padding and actual 0s in the directory number, the Originating Number Indicator data field (page 253) is used to indicate full or partial directory numbers.

In North America, the calling party's directory number is expanded to a full 10 digit number when it is recorded in TDR. If only 7 digits are received in the signaling or input by the operator, the NPA is determined based upon datafill in either table TOPSBC or table TCLG7DIG.

In North America, if the calling party's directory number is not received (for example, ANI failure or ONI) and not collected by the operator or service node, then this data field is populated with a default NPA-NXX that is obtained either from table TOPSBC or table TRKGRP. The remaining 4 digits of the directory number are filled with 0s.

Originating Number Indicator

Associated templates
The following table lists all fixed templates that contain this data field.

Table 271 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Call transfer to carrier template	page 398
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
Listing services template	page 403

Reference information
The following list provides reference information about the data field.

- field size = 2 bits
- split size = 2 bits
- field type = decimal

The following table provides all possible range of values for the data field.

Table 272 Range of values

Bits	Value	Meaning
0 - 1	0	originating number not present
	1	originating number present
	2	originating number partially present
	3	reserved for future use

Description
This data field records an indicator that aids in distinguishing between the padding and actual 0s in the calling party's directory number found in the Originating Number data field (page 252).

Value "0" ("originating number not present") is recorded when there is no originating number present. the Originating Number data field should contain a value of all 0s.

Value "1" ("originating number present") is recorded when there is a full originating number present. The number of significant digits is determined by the numbering plan supported by the switch.

Value "2" ("originating number partially present") is recorded in North America, if the calling party's directory number is not received (for example, ANI failure or ONI) and not collected by the operator or service node. The Originating Number data field is populated with a default NPA-NXX that is obtained either from table TOPSBC or table TRKGRP. The remaining 4 digits of the directory number are filled with 0s.

Origination Call Type

Associated templates
This data field is not contained in any fixed template.

Reference information
The following list provides reference information about the data field.

- field size = 7 bits

- split size = 7 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 273 Range of values

Bits	Value	Meaning
0 - 6	0	unspecified
	1	0-
	2	0+
	3	1+
	4	cama
	5	roni
	6	delay
	7	121
	8	131
	9	141
	10	151
	11	161
	12	171
	13	181
	14	191
	15	555
	16	1150
	17	1151
	18	1152
	19	1153
	20	1154
	21	1155
	22	1156
	23	1157
	24	1158
	25	1159

Table 273 Range of values

Bits	Value	Meaning
	26	1160
	27	1161
	28	1162
	29	ts
	30	tsub
	31	aps
	32	alm
	33	intc
	34	211
	35	311
	36	411
	37	511
	38	611
	39	711
	40	811
	41	911
	42	mobile
	43	999
	44	hom555
	45	for555
	46	spare1
	47	spare2
	48	spare3
	49	spare4
	50	spare5
	51	ints
	52	coin test
	53	book
	54	database
	55	country direct
	56	in interworking
	57 - 127	reserved for future use

Description

This data field records the call origination type as specified by table TOPS. The call origination type can be set based upon the signaled data or based upon the translations within the switch. The call origination type is then used to select a call queue if an operator or service node is needed for the call.

OSS CCSC, Assistance Type Indicator

Associated templates

The following table lists all fixed templates that contain this data field.

Table 274 Associated templates

Fixed template	Page number
Call completion template	page 389
Combined template	page 374

Reference information

The following list provides reference information about the data field.

- field size = 2 bits

- split size = 2 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 275 Range of values

Bits	Value	Meaning
0 - 1	0	unknown
	1	normal completion assistance
	2	automated completion assistance
	3	reserved for future use

Description

This data field records whether or not the call completion service was provided in a fully automated environment or required assistance from a human operator.

Value "0" ("unknown") is recorded when a service other than call completion service is provided.

Value "1" ("normal completion assistance") is recorded when call completion assistance is provided by a human operator.

Value "2" ("automated completion assistance") is recorded when call completion assistance is provided by an automated system or no operator is involved in the call.

OSS CCSC, Enterprise Calling Indicator

Associated templates

The following table lists all fixed templates that contain this data field.

Table 276 Associated templates

Fixed template	Page number
Call completion template	page 389
Combined template	page 374

Reference information

The following list provides reference information about the data field.

- field size = 3 bits

- split size = 3 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 277 Range of values

Bits	Value	Meaning
0 - 2	0	unknown
	1	not a zenith / enterprise call
	2	valid zenith call
	3	invalid zenith call
	4	called party pays, database derived, local
	5	called party pays, database derived, toll
	6	called party pays, database derived, all
	7	requested party pays only the DA call completion surcharge

Description

This data field records an indicator as to why the called party is paying for the call completion call.

Value "0" ("unknown") is recorded when a service other than call completion service is provided.

Value "1" ("not a zenith / enterprise call") is recorded when call completion service is provided and the call is not a zenith call or a directory assistance call completion call marked as auto collect. Most call completion calls should be recording this value.

Value "2" ("valid zenith call") is recorded when the called party is a valid zenith number. Valid zenith numbers must be datafilled in tables CLGSET and ZENITH.

Value "3" ("invalid zenith call") is recorded when the called party is an invalid zenith number. Invalid zenith numbers are usually blocked by the datafill in tables CLGSET and ZENITH.

The following values are recorded only for directory assistance and intercept call completion calls. The listing services database returns this information with the requested number. When the listing services call becomes a call completion call, the requested number becomes the called number. These billing options follow the requested (now called) number and apply to the call completion call only.

Value "4" ("called party pays, database derived, local") is recorded when the listing services database indicates that the called party will pay for only local calls.

Value "5" ("called party pays, database derived, toll") is recorded when the listing services database indicates that the called party will pay for only toll calls.

Value "6" ("called party pays, database derived, all") is recorded when the listing services database indicates that the called party will pay for both local and toll calls.

Value "7" ("requested party pays only the DA call completion surcharge") is recorded when the listing services database indicates that the called party should only be charged for the directory assistance call completion surcharge. The toll charges will be paid by the calling party or alternately billed.

OSS CCSC, NPA Point Indicator

Associated templates

The following table lists all fixed templates that contain this data field.

Table 278 Associated templates

Fixed template	Page number
Call completion template	page 389
Combined template	page 374

Reference information

The following list provides reference information about the data field.

- field size = 2 bits

- split size = 2 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 279 Range of values

Bits	Value	Meaning
0 - 1	0	unknown
	1	call to an NPA point
	2	call to a non-NPA point
	3	reserved for future use

Description

This data field is used to record the numbering plan type for the call completion call.

Value "0" ("unknown") is recorded when a service other than call completion service is provided.

Value "1" ("call to an NPA point") is recorded when North American number plan is being used. North American numbering plan requires the directory number to be in a 10 digit format (NPA-NXX-XXXX).

Value "2" ("call to a non-NPA point") is recorded when non-North American number plan is being used. Non-North American numbering plan means that there are generally no format rules for the directory numbers.

OSS CCSC, RLT Indicator

Associated templates

The following table lists all fixed templates that contain this data field.

Table 280 Associated templates

Fixed template	Page number
Call completion template	page 389
Combined template	page 374

Reference information

The following list provides reference information about the data field.

- field size = 2 bits

- split size = 2 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 281 Range of values

Bits	Value	Meaning
0 - 1	0	unknown
	1	normal completion
	2	RLT completion
	3	reserved for future use

Description

This data field records whether or not the "FAR" variant of release link trunking is used to complete the call completion call. Release link trunking supports 3 variants:

- "REL" which uses the ISUP REL message to convey the call information to the preceding office. This variant is only used for directory assistance call completion calls.

- "FAR" version 1, which uses the ISUP FAR message to convey the call information to the preceding office. This variant supports sent paid, collect and third number billing. It does not support calling card billed calls.

- "FAR" version 2, which uses the ISUP FAR message also. It builds on "FAR" version 1 by adding support for calling card billed calls.

Value "0" ("unknown") is recorded when a service other than call completion service is provided.

Value "1" ("normal completion") is recorded when release link trunking is not used to complete the call or the "REL" variant of release link trunk is used to complete the call.

Value "2" ("RLT completion") is recorded when either of the "FAR" variants of release link trunk is used to complete the call.

OSS CCSC, Subsequent Treatment Indicator

Associated templates

The following table lists all fixed templates that contain this data field.

Table 282 Associated templates

Fixed template	Page number
Call completion template	page 389
Combined template	page 374

Reference information

The following list provides reference information about the data field.

- field size = 3 bits

- split size = 3 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 283 Range of values

Bits	Value	Meaning
0 - 2	0	unknown
	1	all other call completion calls
	2	person call back service
	3	DA call completion
	4	intercept call completion
	5 - 7	reserved for future use

Description

This data field records whether or not the given call completion call resulted from a previous service request that offered call completion. In some cases, a billing surcharge is applied to the call completion portion so the call completion billing record needs to indicate that a call completion service offer was made.

Value "0" ("unknown") is recorded when a service other than call completion service is provided.

Value "1" ("all other call completion calls") is recorded when the given call completion call is not made subsequent to a previous service and offered call completion.

Value "2" ("person call back service") is recorded when person call back service is provided. Person call back service is provided when initially party A attempts to make a person-to-person call to party B. Party B is unavailable at the time, so the call is not completed. At a later time, party B initiates a call to party A and instructs the operator to bill the call as if party A had originated the person-to-person call. Party A accepts the billing and the call is completed. The second, or completed, call is recorded as person call back service.

Value "3" ("DA call completion") is recorded when the calling party is offered call completion to the requested number in directory assistance. The directory assistance call ends (and is billed as a listing services call). A call completion call begins with the requested number becoming the called number. New billing information may be collected and then the call is completed. The second, or completed, call is recorded as DA call completion.

Value "4" ("intercept call completion") is recorded when the calling party is offered call completion to the intercept referral number in intercept service. The intercept service call ends (and is billed as an intercept service call). A call completion call begins with the intercepted referral number becoming the called number. The call is completed. The second, or completed, call is recorded as intercept call completion.

Outgoing Trunk Group Number

Associated templates

The following table lists all fixed templates that contain this data field.

Table 284 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Call transfer to carrier template	page 398
Combined template	page 374

Reference information

The following list provides reference information about the data field.

- field size = 14 bits

- split size = 14 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 285 Range of values

Bits	Value	Meaning
0 - 13	0 - 9999	trunk group number

Description

This data field records the identifier that represents the outgoing trunk group. The outgoing trunk group is the trunk group that a given call terminates on when using call completion service. The identifier is datafilled in table CLLI as the ADNUM field. The Outgoing Trunk Member Number data field (page 266) records the associated member number within the trunk group.

If a call does not terminate using a trunk group (for example, such as a call that receives directory assistance service), then this data field contains value "0".

Outgoing Trunk Member Number

Associated templates

The following table lists all fixed templates that contain this data field.

Table 286 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Call transfer to carrier template	page 398
Combined template	page 374

Reference information

The following list provides reference information about the data field.

- field size = 14 bits
- split size = 14 bits
- field type = decimal

The following table provides all possible range of values for the data field.

Table 287 Range of values

Bits	Value	Meaning
0 - 13	0 - 9999	trunk member number

Description

This data field records the identifier that represents the outgoing trunk member number. The outgoing trunk member number is the trunk group member that a given call terminates on when using call completion service. The Outgoing Trunk Group Number data field (page 265) records the associated trunk group number.

If a call does not terminate using a trunk group (for example, such as a call that receives directory assistance service), then this data field contains value "0".

Overseas Calling Card Number

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 20 characters

- split size = 8 bits

- field type = ebcdic

The following table provides all possible range of values for the data field.

Table 288 Range of values

Characters	Value	Meaning
0 - 19	ebcdic character	20 character string

Description

This data field records an overseas calling card number that is used for alternate billing. An overseas calling card number has a specific format:

- The first 1 to 3 digits contain a country code

- The next value is an alpha character

- The remaining digits provide the billing number

Since the overseas calling card number contains an alpha character, the entire calling card number is recorded in character format.

In order for the overseas calling card to be valid, if must pass the following validation checks:

- The called number must also be an overseas number with the same country code as the country code found in the overseas calling card.

- Tables COUNTRY, CTRY, OVSCC and OVSCCYL must be datafilled to ensure the length of the overseas calling card is correct and the alpha character is the correct value.

The data field is right justified and padded with spaces (for example, " ").

Overseas NPA Dialing Indicator

Associated templates

The following table lists all fixed templates that contain this data field.

Table 289 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Call transfer to carrier template	page 398
Charge adjust template	page 428
Combined template	page 374

Reference information

The following list provides reference information about the data field.

- field size = 2 bits

- split size = 2 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 290 Range of values

Bits	Value	Meaning
0 - 1	0	unknown
	1	domestic call
	2	international call
	3	operator special dialed code

Description

This data field records the type of number found in the Terminating Number data field (page 331). It is used to identify the terminating number as being an international number or a special code as opposed to a domestic number.

Value "0" ("unknown") is recorded when there is no number populated in the Terminating Number data field. No terminating number is indicated by 0s in the Terminating Number field and the Terminating Number Indicator data field (page 332) set to no terminating number.

Value "1" ("domestic call") is recorded when the terminating number is a domestic number.

Value "2" ("international call") is recorded when the terminating number is a non-domestic number.

Value "3" ("operator special dialed code") is recorded when the terminating number is a special code dialable only by the operator which is usually referred to as an "inwards code".

Overwritten Number, Called

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 20 digits

- split size = 4 bits

- field type = digits

The following table provides all possible range of values for the data field.

Table 291 Range of values

Digit	Value	Meaning
0 - 19	0 - 9	digit string containing 20 digits

Description

This data field is populated when the operator or service node changes the called number or terminating number. The previous called number is recorded in this data field.

If the operator or service node changes the called number more than one time on a given call, then only the next to last called number is recorded. All previous called numbers are lost.

This data field is right justified and padded with 0s.

Overwritten Number, Calling Card, 10 Digit Format

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 23 digits

- split size = 4 bits

- field type = digits

The following table provides all possible range of values for the data field.

Table 292 Range of values

Digit	Value	Meaning
0 - 22	0 - 9	digit string containing 23 digits

Description

This data field is populated when the operator or service node changes a calling card number that is a 10-digit format calling card. The previous 10-digit calling card number is recorded in this data field.

If the operator or service node changes the calling card number more than one time on a given call, then only the next to last 10-digit calling card number is recorded. All previous 10-digit calling card numbers are lost.

This data field is right justified and padded with 0s.

Overwritten Number, Calling Card, CCITT Format

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 23 digits

- split size = 4 bits

- field type = digits

The following table provides all possible range of values for the data field.

Table 293 Range of values

Digit	Value	Meaning
0 - 22	0 - 9	digit string containing 23 digits

Description

This data field is populated when the operator or service node changes a calling card number that is a CCITT format calling card. The previous CCITT calling card number is recorded in this data field.

If the operator or service node changes the calling card number more than one time on a given call, then only the next to last CCITT calling card number is recorded. All previous CCITT calling card numbers are lost.

This data field is right justified and padded with 0s.

Overwritten Number, Overseas Calling Card

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 20 characters

- split size = 8 bits

- field type = ebcdic

The following table provides all possible range of values for the data field.

Table 294 Range of values

Characters	Value	Meaning
0 - 19	ebcdic character	20 character string

Description

This data field is populated when the operator or service node changes a calling card number that is an overseas calling card. The previous overseas calling card number is recorded in this data field.

If the operator or service node changes the calling card number more than one time on a given call, then only the next to last overseas calling card number is recorded. All previous overseas calling card numbers are lost.

This data field is right justified and padded with spaces (for example, " ").

Overwritten Number, Third

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 23 digits

- split size = 4 bits

- field type = digits

The following table provides all possible range of values for the data field.

Table 295 Range of values

Digit	Value	Meaning
0 - 22	0 - 9	digit string containing 23 digits

Description

This data field is populated when the operator or service node changes a third number. The previous third number is recorded in this data field.

If the operator or service node changes the third number more than one time on a given call, then only the next to last third number is recorded. All previous third numbers are lost.

This data field is right justified and padded with 0s.

Person Indicator

Associated templates

The following table lists all fixed templates that contain this data field.

Table 296 Associated templates

Fixed template	Page number
Call completion template	page 389
Charge adjust template	page 428
Combined template	page 374

Reference information

The following list provides reference information about the data field.

- field size = 1 bit

- split size = 1 bit

- field type = decimal

The following table provides all possible range of values for the data field.

Table 297 Range of values

Bits	Value	Meaning
0	0	no person handling
	1	person handling

Description

This data field records whether or not the call completion call is a person-to-person call. Person-to-person is a service provided by the operator where the calling party requests to complete the call to a specific person. The operator establishes the connection to the called party but remains on the call to verify that the specific person requested is available. If the person is available, then the operator completes the call. If the person is not available, then the call is disconnected. The telephone company usually charges an additional charge for person-to-person service.

Value "0" ("no person handling") is recorded when person-to-person service is not provided by the operator.

Value "1" ("person handling") is recorded when person-to-person service is provided by the operator.

RAO Number

Associated templates

The following table lists all fixed templates that contain this data field.

Table 298 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 3 digits

- split size = 4 bits

- field type = digits

The following table provides all possible range of values for the data field.

Table 299 Range of values

Digit	Value	Meaning
0 - 2	0 - 9	digit string containing 3 digits

Description

This data field records a 3 digit regional account office (RAO) associated with an alternate billing number. The RAO can be obtained from the following sources:

- If the alternate billing number is a 14-digit RAO calling card, then the RAO number is obtained from the alternate billing number itself. A 14-digit RAO calling card has the following format: RRR-(0/1)-NNNNNNNNNN where "RRR" is the RAO number, "0/1" means either digit "0" or digit "1" and "NNNNNNNNNN" can be any combination of digits.

  RAO number validation is controlled by parameter DOM_CCARD_FORMAT_CHECKS in table TOPSPARM. If validation is required, then table RAOCHECK must contain the RAO number found in the calling card.

- If the alternate billing number is a 10-digit RAO billing number, then the RAO number is obtained from the alternate billing number itself. A 10-digit RAO billing number has the following format: (0/1)-NNNNNN-RRR where "RRR" is the RAO number, "0/1" means either digit "0" or digit "1" and "NNNNNN" can be any combination of digits.

  RAO number validation is provided by table RAO. Table RAO must contain the RAO number found in the billing number.

- If the LIDB is used to validate the alternate billing number and the alternate billing number is valid, then the RAO is obtained from the LIDB database response.

- If the LIDB is not used to validate the alternate billing number or the billing number is neither a 10 nor a 14-digit RAO number, then this data field contains value "000".

Rate Indicator

Associated templates

The following table lists all fixed templates that contain this data field.

Table 300 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 3 bits

- split size = 3 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 301 Range of values

Bits	Value	Meaning
0 - 2	0	RAO determined rate
	1	operator invoked, customer dialed rates
	2	operator invoked, non-billable call
	3	non-billable call
	4	ddd oni call
	5	reconnect following charge adjust
	6	operator handled DA call completion
	7	reserved for future use

Description

This data field records any additional data needed to determine the rates for a call completion service call.

Value "0" ("RAO determined rate") is recorded when the rates are left to the RAO to determine.

Value "1" ("operator invoked, customer dialed rates") is recorded when the operator overrides the RAO determined rates by requesting dial rate. Dial rate means that the call should be rated as if it were dialed directly (for example, without operator involvement).

Value "2" ("operator invoked, non-billable call") is recorded when the operator or service node explicitly marks the call as non-billable,

Value "3" ("non-billable call") is recorded when the call is marked as non-billable through datafill. This scenario can happen in the following situations:

- The called number is datafilled in table SERVSCRN as "TOLLFREE".

- The associated QMS custom service is datafilled in table TQMSSERV with a rate name of "TOLLFREE".

- The final call type for queuing is datafilled in table CT4QNAMS as "NOAMA".

- The office route chosen by translations is datafilled in tables HNPACONT::RTEREF, FNPACONT::RTEREF, OFRT, OFR2, OFR3 or OFR4 with an "N" selector with field CANCNORC set to "Y".

- The call is received using R2 signaling and the calling number is datafilled in table DNSCRN with the TOPSDB option assigned. Then the table TOPSDB entry provides an index into table TDBNORM. The NOAMA field within table TDBNORM is set to either "ORIG" or "TERM".

- The called number is accessed using OGT functionality. The selected OGT number is datafilled in table TQOGTKEY with field BILLNUM set to "N".

- A service node call that cannot obtain a service node can specify the next action to take in table OAFNDISP. If the selected action is to outpulse the call to a designated directory number, then the call is automatically marked as toll free.

Value "4" ("ddd oni call") is recorded when the only function performed by the operator or service node is the collection of the calling party's directory number on ONI and ANI failure call completion calls,

Value "5" ("reconnect following charge adjust") is recorded when call completion service is performed following a charge adjust. The charge adjust is recorded in a separate billing record.

Value "6" ("operator handled DA call completion") is recorded when the directory assistance call completion service is provided entirely by the operator rather than using the listing services database and audio response units to quote the requested information and prompt for call completion. By entirely using the operator, additional surcharges may need to be applied.

Record Code

Associated templates

The following table lists all fixed templates that contain this data field.

Table 302 Associated templates

Fixed template	Page number
Block header template	page 359
Clock change template	page 361
Emergency start template	page 363
Graceful end template	page 364
Graceful start template	page 366
System restart template	page 367
Template header	page 370

Reference information

The following list provides reference information about the data field.

- field size = 2 characters
- split size = not applicable
- field type = ebcdic

The following table provides all possible range of values for the data field.

Table 303 Range of values

Characters	Value	Meaning
0 - 1	AA	identifies the block header record
	F0	identifies the TDR call record
	FA	identifies the graceful start record
	FB	identifies the graceful end record
	FC	identifies the emergency start record
	FD	identifies the system restart record
	FE	identifies the clock change record

Description

This data field is always the first field within a TDR record. It is used to identify the type of record. Once the type of record has been identified, the downstream processor will know how to proceed to parse the record.

Record Count

Associated templates

The following table lists all fixed templates that contain this data field.

Table 304 Associated templates

Fixed template	Page number
Graceful end template	page 364

Reference information

The following list provides reference information about the data field.

- field size = 32 bits

- split size = 8 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 305 Range of values

Bits	Value	Meaning
0 - 31	0 - 4294967295	number of records within the billing file

Description

This data field records the number of TDR call records found within a normal billing file. This count does not include the following non-call records that may also appear in the normal billing file:

- Block header record

- Clock change record

- Graceful end record

- Graceful start record

- System restart record

If this data field is included in an emergency billing file, it will contain a value of "0".

Record Length

Associated templates

The following table lists all fixed templates that contain this data field.

Table 306 Associated templates

Fixed template	Page number
Block header template	page 359
Clock change template	page 361
Emergency start template	page 363
Graceful end template	page 364
Graceful start template	page 366
System restart template	page 367
Template header	page 370

Reference information

The following list provides reference information about the data field.

- field size = 8 bits

- split size = 8 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 307 Range of values

Bits	Value	Meaning
0 - 7	0 - 128	length of the TDR record

Description

This data field records the length of the TDR record in words. The value recorded can be viewed as the number of words that follow the word containing this data field.

For TDR call records, the value recorded does not include the template header because this data field is in the last word of the template header.

For TDR non-call records, the value recorded does not include the first word of the record because this data field is always in the second word of the record.

The value recorded will differ from the template size if either padding or truncation occurs.

Restart Date, Day

Associated templates

The following table lists all fixed templates that contain this data field.

Table 308 Associated templates

Fixed template	Page number
System restart template	page 367

Reference information

The following list provides reference information about the data field.

- field size = 5 bits

- split size = 5 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 309 Range of values

Bits	Value	Meaning
0 - 4	1 - 31	day of the month

Description

This data field contains the day of the month when the system restart occurred. When evaluated along with the following data fields, the exact moment that the restart occurred can be determined:

- Restart date, month (page 284)

- Restart date, year (page 285)

- Restart time, hours (page 286)

- Restart time, minutes (page 287)

- Restart time, seconds (page 288)

- Restart time, tenths of seconds (page 289)

Restart Date, Month

Associated templates
The following table lists all fixed templates that contain this data field.

Table 310 Associated templates

Fixed template	Page number
System restart template	page 367

Reference information
The following list provides reference information about the data field.

- field size = 4 bits

- split size = 4 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 311 Range of values

Bits	Value	Meaning
0 - 3	1	january
	2	february
	3	march
	4	april
	5	may
	6	june
	7	july
	8	august
	9	september
	10	october
	11	november
	12	december

Description
This data field contains the month when the system restart occurred. When evaluated along with the following data fields, the exact moment that the restart occurred can be determined:

- Restart date, day (page 283)

- Restart date, year (page 285)

- Restart time, hours (page 286)

- Restart time, minutes (page 287)

- Restart time, seconds (page 288)

- Restart time, tenths of seconds (page 289)

Restart Date, Year

Associated templates

The following table lists all fixed templates that contain this data field.

Table 312 Associated templates

Fixed template	Page number
System restart template	page 367

Reference information

The following list provides reference information about the data field.

- field size = 4 bits

- split size = 4 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 313 Range of values

Bits	Value	Meaning
0 - 3	0 - 9	last digit of the year

Description

This data field contains the last digit of the year when the system restart occurred. When evaluated along with the following data fields, the exact moment that the restart occurred can be determined:

- Restart date, day (page 283)

- Restart date, month (page 284)

- Restart time, hours (page 286)

- Restart time, minutes (page 287)

- Restart time, seconds (page 288)

- Restart time, tenths of seconds (page 289)

Restart Time, Hours

Associated templates

The following table lists all fixed templates that contain this data field.

Table 314 Associated templates

Fixed template	Page number
System restart template	page 367

Reference information

The following list provides reference information about the data field.

- field size = 5 bits

- split size = 5 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 315 Range of values

Bits	Value	Meaning
0 - 4	0 - 23	hours

Description

This data field contains the hour when the system restart occurred. When evaluated along with the following data fields, the exact moment that the restart occurred can be determined:

- Restart date, day (page 283)

- Restart date, month (page 284)

- Restart date, year (page 285)

- Restart time, minutes (page 287)

- Restart time, seconds (page 288)

- Restart time, tenths of seconds (page 289)

Restart Time, Minutes

Associated templates

The following table lists all fixed templates that contain this data field.

Table 316 Associated templates

Fixed template	Page number
System restart template	page 367

Reference information

The following list provides reference information about the data field.

- field size = 6 bits

- split size = 6 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 317 Range of values

Bits	Value	Meaning
0 - 5	0 - 59	minutes

Description

This data field contains the minute when the system restart occurred. When evaluated along with the following data fields, the exact moment that the restart occurred can be determined:

- Restart date, day (page 283)

- Restart date, month (page 284)

- Restart date, year (page 285)

- Restart time, hours (page 286)

- Restart time, seconds (page 288)

- Restart time, tenths of seconds (page 289)

Restart Time, Seconds

Associated templates

The following table lists all fixed templates that contain this data field.

Table 318 Associated templates

Fixed template	Page number
System restart template	page 367

Reference information

The following list provides reference information about the data field.

- field size = 6 bits

- split size = 6 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 319 Range of values

Bits	Value	Meaning
0 - 5	0 - 59	seconds

Description

This data field contains the second when the system restart occurred. When evaluated along with the following data fields, the exact moment that the restart occurred can be determined:

- Restart date, day (page 283)

- Restart date, month (page 284)

- Restart date, year (page 285)

- Restart time, hours (page 286)

- Restart time, minutes (page 287)

- Restart time, tenths of seconds (page 289)

Restart Time, Tenths of Seconds

Associated templates

The following table lists all fixed templates that contain this data field.

Table 320 Associated templates

Fixed template	Page number
System restart template	page 367

Reference information

The following list provides reference information about the data field.

- field size = 4 bits

- split size = 4 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 321 Range of values

Bits	Value	Meaning
0 - 3	0 - 9	tenths of seconds

Description

This data field always contains a value of "0".When evaluated along with the following data fields, the exact moment that the restart occurred can be determined:

- Restart date, day (page 283)

- Restart date, month (page 284)

- Restart date, year (page 285)

- Restart time, hours (page 286)

- Restart time, minutes (page 287)

- Restart time, seconds (page 288)

Restart Type

Associated templates

The following table lists all fixed templates that contain this data field.

Table 322 Associated templates

Fixed template	Page number
System restart template	page 367

Reference information

The following list provides reference information about the data field.

- field size = 2 bits

- split size = 2 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 323 Range of values

Bits	Value	Meaning
0 - 1	0	unknown
	1	warm restart
	2	cold restart

Description

This data field records the type of restart performed on the switch.

Value "0" ("unknown") is currently not recorded.

Value "1" ("warm restart") is recorded when the switch performs a warm restart.

Value "2" ("cold restart") is recorded when the switch performs a cold restart.

RLT Billing Identifier

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 7 digits

- split size = 4 bits

- field type = digits

The following table provides all possible range of values for the data field.

Table 324 Range of values

Digits	Value	Meaning
0 - 6	0 - 9	RLT billing record id used for downstream record matching

Description

This data field records a billing identifier used to match billing records in the downstream processor. When release link trunking is used, two billing records are generated: one in the TOPS switch and one in the preceding switch. In some cases, both records are needed to calculate the final charges for the call. This data field records a number that can be used to match the records.

The billing identifier is sent between the two switches as part of the release link trunking protocol so that both records have the same value. This billing identifier is only supported for release link trunking using the "FAR" variant with version 2. Refer to the OSS CCSC, RLT Indicator data field (page 261) for more information on release link trunking.

A value of all 0s is recorded if release link trunking is not provided for the given call.

SCP Billing Identifier

Associated templates

The following table lists all fixed templates that contain this data field.

Table 325 Associated templates

Fixed template	Page number
Combined template	page 374
IN interworking template	page 444

Reference information

The following list provides reference information about the data field.

- field size = 32 bits

- split size = 8 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 326 Range of values

Bits	Value	Meaning
0 - 31	0 - 4294967295	used to correlate SCP and switch billing records for IN interworking to TOPS

Description

This data field records an identifier used to match billing records when using IN Interworking service. With IN Interworking service, the operator is used to back-up services provided by an SCP. A communication protocol is established between the SCP and the operator. The TOPS switch is not aware of the information flowing back and forth.

The primary billing record is produced by the SCP (or the switch originating the call to the SCP) and contains the same value as recorded in this data field. The billing record produced in TOPS is meant to be an access record that captures such information as operator work time.

If the service provided is not IN Interworking service, then this data field will contain all 0s.

Screening Code

Associated templates

The following table lists all fixed templates that contain this data field.

Table 327 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 7 bits

- split size = 7 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 328 Range of values

Bits	Value	Meaning
0 - 6	0 - 99	numeric range 0 to 99
	100 - 127	reserved for future use

Description

This data field records an index that represents a set of billing restrictions that are usually associated with the calling party. The set of billing restrictions is found in table DARSTBIL for listing services calls. The set of billing restrictions is found in table RESTBIL for all other services. Tables DARSTBIL and RESTBIL contain the billing types that are allowed for the call. The billing restrictions can be derived from the value recorded in this data field.

The index can be selected in a variety of ways. They are listed as follows:

- If the originating trunk group is datafilled with a STATCLASS of "DNLOOKUP", "RESTBIL" or "NCSCREEN", then the calling party's directory number is examined for billing restrictions. This examination takes the form of one of the following methods:

— Use the calling party's directory number to find an entry in table SPLDNID. If an entry is found, it must be datafilled as "RSTRCTD" or "COIN" with field RESCOIN set to "Y". The screening code (for example, the index into tables RESTBIL and DARSTBIL) is datafilled there.

— Use the calling party's directory number to find an entry in table DNSCRN. If an entry is found, look for the "TOPSDB" option datafilled against it. Index table TOPSDB with the number provided and obtain the index to table TDBCLASS from field TDBCLIDX. Table TDBCLASS must be datafilled as "RSTRCTD" or "COIN" with field RESCOIN set to "Y". The screening code (for example, the index into tables RESTBIL and DARSTBIL) is datafilled there.

- If the received ANI ID digits are datafilled in either table BELLCAT (for single ANI ID digits) or table OSSCAT (for double ANI ID digits) with field CLGSERV set to "SPECIAL", then the calling party's directory number is examined for billing restrictions. This examination takes the form of one of the following methods:

— Use the calling party's directory number to find an entry in table SPLDNID. If an entry is found, it must be datafilled as "RSTRCTD" or "COIN" with field RESCOIN set to "Y". The screening code (for example, the index into tables RESTBIL and DARSTBIL) is datafilled there.

— Use the calling party's directory number to find an entry in table DNSCRN. If an entry is found, look for the "TOPSDB" option datafilled against it. Index table TOPSDB with the number provided and obtain the index to table TDBCLASS from field TDBCLIDX. Table TDBCLASS must be datafilled as "RSTRCTD" or "COIN" with field RESCOIN set to "Y". The screening code (for example, the index into tables RESTBIL and DARSTBIL) is datafilled there.

- If an OLNS query is performed on the calling party's directory number, the response can contain two sets of billing restrictions (one for directory assistance service and one for call completion service). These sets are mapped to the screening code value using tables OLNSTARS (for call completion service) and OLNSDARS (for directory assistance service). The screening code (for example, the index into tables RESTBIL and DARSTBIL) is datafilled there.

  If an OLNS query is launched but a response is never received, then the screening code will default to a value of "1".

- If the received ANI ID digits are datafilled in table SLTANIID, then all calls using the specific ANI ID digits can be mapped to a screening code. The screening code (for example, the index into tables RESTBIL and DARSTBIL) is datafilled there.

- If none of the above scenarios apply, then the screening code will default to a value of "0".

Sequence Number

Associated templates

The following table lists all fixed templates that contain this data field.

Table 329 Associated templates

Fixed template	Page number
Template header	page 370

Reference information

The following list provides reference information about the data field.

- field size = 16 bits

- split size = 16 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 330 Range of values

Bits	Value	Meaning
0 - 15	0 - 65535	numeric range 0 to 65535

Description

This data field records a number that is unique to the given call. Each TOPS call has a different sequence number.

Some calls may generate more than one TDR record. When this occurs, the sequence number in each individual record will have the same value. In addition, the Associated TDR data field (page 53) will reflect that there are multiple TDR records for the given call.

Service Difficulty

Associated templates

The following table lists all fixed templates that contain this data field.

Table 331 Associated templates

Fixed template	Page number
Charge adjust template	page 428
Combined template	page 374

Reference information

The following list provides reference information about the data field.

- field size = 7 bits

- split size = 7 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 332 Range of values

Bits	Value	Meaning
0 - 6	0 - 9	numeric range 0 to 9
	10 - 127	reserved for future use

Description

This data field contains the type of service difficulty encountered when a charge adjust is performed. The value entered must be datafilled in table CHGADJKY as one of the following:

- standard

- walkaway

- part charge

- coin credit

When no charge adjust has been performed, value "0" is recorded in this data field. However, value "0" is also a valid value in table CHGADJKY and can be recorded as a service difficulty when a charge adjust is performed. The Charge Adjust Indicator data field (page 106) should be consulted to determine if a charge adjust has been performed.

Service Feature

Associated templates

The following table lists all fixed templates that contain this data field.

Table 333 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Call transfer to carrier template	page 398
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 3 bits

- split size = 3 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 334 Range of values

Bits	Value	Meaning
0 - 2	0	other
	1	prepay coin
	2	postpay coin
	3	hotel with tax
	4	hotel without tax
	5 - 7	reserved for future use

Description

This data field records the class of service for the calling party. This data field is populated using switch-based datafill and cannot provide the granularity that is provided by OLNS. The OLNS Modified Service or Equipment Indicator data field (page 222) records a more detailed view of the calling party's class of service.

The first step in the switch-based approach is to determine if the calling party is a coin phone, a hotel phone or a station phone. This step is done in one of the following ways:

- If the call is receiving IN interworking service, then this data field is always recorded as value "0" ("other").

- If the originating trunk group is datafilled with a STATCLASS of "DNLOOKUP", "RESTBIL" or "NCSCREEN", then the calling party's class of service is determined based upon datafill. This determination takes the form of one of the following methods:
    — Use the calling party's directory number to find an entry in table SPLDNID. If an entry is found, then the selector type is used to determine the class of service. A selector value of "COIN" indicates a coin phone. A selector value of "AQHTL", "VQHTL" or "DUAQHTL" indicates a hotel phone. All remaining selectors and a not found entry indicate a station phone.
    — Use the calling party's directory number to find an entry in table DNSCRN. If an entry is found, look for the "TOPSDB" option datafilled against it. Index table TOPSDB with the number provided and obtain the index to table TDBCLASS from field TDBCLIDX. If an entry is found, then the selector type is used to determine the class of service. A selector value of "COIN" indicates a coin phone. A selector value of "AQHTL", "VQHTL" or "DUAQHTL" indicates a hotel phone. All remaining selectors and a not found entry indicate a station phone.

- The received ANI ID digits can determine the class of service. Table BELLCAT (for single ANI ID digits) or table OSSCAT (for double ANI ID digits) datafill will set the calling party's class of service. A CLGSERV value of "COIN" indicates a coin phone. A CLGSERV value of "HOTEL" indicates a hotel phone. A CLGSERV value of "SPECIAL" indicates that a DN-based look-up is needed. This examination takes the form of one of the following methods:
    — Use the calling party's directory number to find an entry in table SPLDNID. If an entry is found, then the selector type is used to determine the class of service. A selector value of "COIN" indicates a coin phone. A selector value of "AQHTL", "VQHTL" or "DUAQHTL" indicates a hotel phone. All remaining selectors and a not found entry indicate a station phone.
    — Use the calling party's directory number to find an entry in table DNSCRN. If an entry is found, look for the "TOPSDB" option datafilled against it. Index table TOPSDB with the number provided and obtain the index to table TDBCLASS from field TDBCLIDX. If an entry is found, then the selector type is used to determine the class of service. A selector value of "COIN" indicates a coin phone. A selector value of "AQHTL", "VQHTL" or "DUAQHTL" indicates a hotel phone. All remaining selectors and a not found entry indicate a station phone.

    All remaining selectors indicate a station phone.

Now that the basic determination has been made, the coin and hotel classes of service are further broken down.

Coin can be either prepaid or postpaid which is determined based on the coin control datafilled against the originating trunk group. This datafill is found in table TRKSGRP, field CCONT. All non-nil values for the CCONT field indicate prepaid coin service. A nil value in CCONT indicates postpaid coin service.

Hotel can be either with tax or without tax. which is determined based upon the real-time rating calculations. If taxes are not included in the charges, hotel without tax is recorded. If either taxes are included in the charges or the call is not real-time rated, hotel with tax is recorded.

Service Identifier

Associated templates

The following table lists all fixed templates that contain this data field.

Table 335 Associated templates

Fixed template	Page number
Combined template	page 374
General assistance template	page 421
IN interworking template	page 444
Intercept template	page 437
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 3 digits

- split size = 4 bits

- field type = digits

The following table provides all possible range of values for the data field.

Table 336 Range of values

Digits	Value	Meaning
0 - 2	000	unknown
	001	directory assistance
	002	dialing instruction
	003	trouble reporting
	004	roni
	005	intercept
	006	directory assistance with rlt
	007 - 899	reserved for future use
	900 - 998	customer definable service

Description

This data field records a more detailed view of the service provided for the call. There is a hierarchy used in determining the recorded value. First a customer definable value is sought after. If not found, then the call characteristics dictate the service recorded.

Value "000" ("unknown") is recorded when a customer definable service is not found and the call receives a base service other than listing services, intercept, IN interworking or general assistance.

Value "001" ("directory assistance") is recorded when the call is a listing services call where directory assistance service is provided without release link trunking.

Value "002" ("dialing instruction") is recorded when the call is a general assistance call that is originated from another operator services center and arrives using the 121 inwards dialing code.

Value "003" ("trouble reporting") is recorded when the call is a general assistance call that the operator enters a trouble report that indicates some type of problem experienced by the calling party.

Value "004" ("roni") is recorded when the call is a general assistance call that receives a specialized service called RONI. Remote Operator Number Identification (RONI) is a service that involves the operator being connected to collect the calling party's directory number. The number is sent back to the originating switch for verification using a special MF-based trunk protocol. If a failure occurs, the call is re-originated to TOPS and the operator will re-enter the directory number and remain on the call until the verification is completed.

Value "005" ("intercept") is recorded when the call receives intercept service.

Value "006" ("directory assistance with rlt") is recorded when the call is a listing services call where directory assistance service is provided with release link trunking.

Value "900" to "998" ("customer definable service") is recorded when a customer definable service is obtained from either table TQMSSERV (if a custom QMS service is being used) or table AMASRVID (for non-custom QMS services).

Service Node Accumulated Elapsed Time, Minutes

Associated templates

The following table lists all fixed templates that contain this data field.

Table 337 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Call transfer to carrier template	page 398
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
IN interworking template	page 444
Intercept template	page 437
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 6 bits

- split size = 6 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 338 Range of values

Bits	Value	Meaning
0 - 5	0 - 59	minutes of elapsed time

Description

This data field records the number of minutes that a given call is connected to a service node. If more than one service node is connected on a given call, then the elapsed time is accumulated. Service node elapsed time is measured from the time of service node connect to when the service node is released and is accumulated for each service nodes that is connected. When evaluated along with the following data fields, the total service node elapsed time can be determined:

- Service node accumulated elapsed time, seconds (page 303)

- Service node accumulated elapsed time, tenths of seconds (page 304)

Service Node Accumulated Elapsed Time, Seconds

Associated templates

The following table lists all fixed templates that contain this data field.

Table 339 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Call transfer to carrier template	page 398
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
IN interworking template	page 444
Intercept template	page 437
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 6 bits

- split size = 6 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 340 Range of values

Bits	Value	Meaning
0 - 5	0 - 59	seconds

Description

This data field records the number of seconds that a given call is connected to a service node. If more than one service node is connected on a given call, then the elapsed time is accumulated. Service node elapsed time is measured from the time of service node connect to when the service node is released and is accumulated for each service nodes that is connected. When evaluated along with the following data fields, the total service node elapsed time can be determined:

- Service node accumulated elapsed time, minutes (page 302)

- Service node accumulated elapsed time, tenths of seconds (page 304)

Service Node Accumulated Elapsed Time, Tenths of Seconds

Associated templates

The following table lists all fixed templates that contain this data field.

Table 341 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Call transfer to carrier template	page 398
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
IN interworking template	page 444
Intercept template	page 437
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 4 bits

- split size = 4 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 342 Range of values

Bits	Value	Meaning
0 - 3	0 - 9	tenths of seconds

Description

This data field records the number of tenths of seconds that a given call is connected to a service node. If more than one service node is connected on a given call, then the elapsed time is accumulated. Service node elapsed time is measured from the time of service node connect to when the service node is released and is accumulated for each service nodes that is connected. When evaluated along with the following data fields, the total service node elapsed time can be determined:

- Service node accumulated elapsed time, minutes (page 302)

- Service node accumulated elapsed time, seconds (page 303)

Service Node Accumulated Number of Transactions

Associated templates

The following table lists all fixed templates that contain this data field.

Table 343 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Call transfer to carrier template	page 398
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
IN interworking template	page 444
Intercept template	page 437
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 16 bits

- split size = 16 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 344 Range of values

Bits	Value	Meaning
0 - 15	0 - 65535	numeric range 0 to 65535

Description

This data field records the number of messages exchanged between the switch and the service node. This data is collected and accumulated for each service node associated with a given call. The data recorded in this field is the data associated with the service node whose identifier is recorded in the Service Node Identifier, Last data field (page 309) only if one service node is used on the given call. If more than one service node is used on the call, then the number of transactions are accumulated and cannot be attributed to the individual service nodes.

Service Node Data, Large

Associated templates

The following table lists all fixed templates that contain this data field.

Table 345 Associated templates

Fixed template	Page number
OSSAIN custom billing template	page 441

Reference information

The following list provides reference information about the data field.

- field size = 140 hex digits

- split size = 4 bits

- field type = hex digits

The following table provides all possible range of values for the data field.

Table 346 Range of values

Digits	Value	Meaning
0 - 139	0 - F	ossain large custom billing data

Description

This data field records OSSAIN custom billing data that is sent from a service node or operator position. OSSAIN custom billing data is data collected by the service node or operator position and sent to the switch to be included in the billing record. The switch has no knowledge of the contents of the data contained in the data block.

OSSAIN can send two different sizes, a small block which contains 40 digits and a large block which contains 140 digits. This data field will record either size block. If a small block is received, then the data is right justified and padded with 0s. If a large block is received, then the data completely fills the data field.

Service Node Data, Small

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 40 hex digits

- split size = 4 bits

- field type = hex digits

The following table provides all possible range of values for the data field.

Table 347 Range of values

Digits	Value	Meaning
0 - 39	0 - F	ossain small custom billing data

Description

This data field records OSSAIN custom billing data that is sent from a service node or operator position. OSSAIN custom billing data is data collected by the service node or operator position and sent to the switch to be included in the billing record. The switch has no knowledge of the contents of the data contained in the data block.

OSSAIN can send two different sizes, a small block which contains 40 digits and a large block which contains 140 digits. This data field will record either size block. If a small block is received, then the data completely fills the data field. If a large block is received, then the data is truncated, only the first 40 digits are recorded in this data field.

Service Node Identifier, Custom Billing

Associated templates

The following table lists all fixed templates that contain this data field.

Table 348 Associated templates

Fixed template	Page number
OSSAIN custom billing template	page 441

Reference information

The following list provides reference information about the data field.

- field size = 16 bits

- split size = 16 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 349 Range of values

Bits	Value	Meaning
0 - 15	0 - 65535	numeric range 0 to 65535

Description

This data field contains an identifier that represents the service node that produced the data that is recorded in the Service Node Data, Large data field (page 306). The service node identifier is associated with a service node name in table OANODNAM. The service node name is then used in table OANODINV to provide configuration data for the service node.

If an operator position inputs the data that is recorded in the Service Node Data, Large data field for a given call, then value "0" is recorded.

Service Node Identifier, Last

Associated templates

The following table lists all fixed templates that contain this data field.

Table 350 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Call transfer to carrier template	page 398
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
IN interworking template	page 444
Intercept template	page 437
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 16 bits

- split size = 16 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 351 Range of values

Bits	Value	Meaning
0 - 15	0 - 65535	numeric range 0 to 65535

Description

This data field contains an identifier that represents the last service node that is connected to the call. The service node identifier is associated with a service node name in table OANODNAM. The service node name is then used in table OANODINV to provide configuration data for the service node.

If a service node is not used for a given call, then value "0" is recorded.

Service Node Network Service Identifier

Associated templates
The following table lists all fixed templates that contain this data field.

Table 352 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Call transfer to carrier template	page 398
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
IN interworking template	page 444
Intercept template	page 437
Listing services template	page 403

Reference information
The following list provides reference information about the data field.

- field size = 16 bits
- split size = 16 bits
- field type = decimal

The following table provides all possible range of values for the data field.

Table 353 Range of values

Bits	Value	Meaning
0 - 15	0 - 65535	numeric range 0 to 65535

Description
This data field records an identifier that represents the service performed by a service node. There are two different types of services that can be provided on the OSSAIN platform:

- a service that uses the full capabilities of the OSSAIN platform
- a service that uses only a limited set of OSSAIN platform capabilities

The path to these different service types is determined in different ways meaning that the corresponding service identifier recorded in this data field is obtained in two different ways.

For a service using the full capabilities of OSSAIN, the service identifier is obtained from datafill in table OACTLDEF. The service identifier is provisioned against the control list. The control list is then mapped to a set of functions that are then used to select a service node that can provide the service.

For a service using limited capabilities of OSSAIN, the service identifier is obtained from datafill in table OAINPRE. The calls using this limited functionality would be calls that use the service node to provide some partial call processing (such as to play an announcement). The majority of the call processing for the call is handled by the operator position or another automated node.

Service Node Number of Nodes

Associated templates

The following table lists all fixed templates that contain this data field.

Table 354 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Call transfer to carrier template	page 398
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
IN interworking template	page 444
Intercept template	page 437
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 16 bits

- split size = 16 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 355 Range of values

Bits	Value	Meaning
0 - 15	0 - 65535	numeric range 0 to 65535

Description

This data field records the number of service nodes that have been connected for the given call.

Value "0" is recorded when the call is not handled by a service node.

Value "1" is recorded when only one service node handles the call.

Value "2" is recorded when two service nodes handle the call.

Values continue numerically as needed.

Service Observed

Associated templates

The following table lists all fixed templates that contain this data field.

Table 356 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Call transfer to carrier template	page 398
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
IN interworking template	page 444
Intercept template	page 437
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 1 bit

- split size = 1 bit

- field type = decimal

The following table provides all possible range of values for the data field.

Table 357 Range of values

Bits	Value	Meaning
0	0	not service observed
	1	service observed

Description

This data field records whether or not the call was monitored using the Service Analysis tool. Service Analysis allows the craftsperson to be at a MAP position and see current information about the call as well as hear the voice. Some information entered by the operator is echoed at the MAP for the craftsperson to see.

Value "0" ("not service observed") is recorded when Service Analysis is not performed on the given call.

Value "1" ("service observed") is recorded when Service Analysis is performed on the given call.

Short Called Party Off-Hook Indicator

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 1 bit

- split size = 1 bit

- field type = decimal

The following table provides all possible range of values for the data field.

Table 358 Range of values

Bits	Value	Meaning
0	0	short called party off-hook not detected
	1	short called party off-hook detected

Description

This data field records whether or not a short called party off-hook is detected for the given call. A short called party off-hook is when the called party goes off-hook for less than 2 seconds. TOPS usually requires the called party connection to be answered (or off-hook) for more than 2 seconds before the call is considered answered.

Value "0" ("short called party off-hook not detected") is recorded when a short supervisory transition is not encountered.

Value "1" ("short called party off-hook detected") is recorded when a short supervisory translation is encountered.

SLT ANI Identifier Digits

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 2 digits

- split size = 4 bits

- field type = digits

The following table provides all possible range of values for the data field.

Table 359 Range of values

Digit	Value	Meaning
0 - 1	0 - 9	digit string containing 2 digits

Description

This data field records the SLT ANI ID digits. The SLT ANI feature provides a means to associate a billing restrictions set to a ANI ID digits. Table OSSCAT must be datafilled with the CLGSERV field set to "SPECIAL" then table SLTANIID associates the ANI ID digits to a restricted billing set (for example, screening code). Datafill in table SLTANIID, field SLTAMA, also controls whether or not the ANI ID digits themselves should be recorded in the billing record.

SPID, Billed Party, Account Owner

Associated templates

The following table lists all fixed templates that contain this data field.

Table 360 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 4 characters

- split size = 8 bits

- field type = ebcdic

The following table provides all possible range of values for the data field.

Table 361 Range of values

Characters	Value	Meaning
0 - 3	ebcdic character	service provider id

Description

This data field records the account owner service provider for the billed party. The service provider identifier must be datafilled in tables SPID and SPIDDB.

This information is obtained from one of the following places. Note that there is a precedence order, for example, the first in the list take precedence over second in the list:

- operator or service node entered

- LIDB database response

SPID, Billed Party, Billing Service Provider

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 4 characters

- split size = 8 bits

- field type = ebcdic

The following table provides all possible range of values for the data field.

Table 362 Range of values

Characters	Value	Meaning
0 - 3	ebcdic character	service provider id

Description

This data field records the billing service provider for the billed party. The service provider identifier must be datafilled in tables SPID and SPIDDB.

This information is obtained from one of the following places. Note that there is a precedence order, for example, the first in the list take precedence over second in the list:

- operator or service node entered

- LIDB database response

SPID, Called Party, Account Owner

Associated templates

The following table lists all fixed templates that contain this data field.

Table 363 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Charge adjust template	page 428
Combined template	page 374

Reference information

The following list provides reference information about the data field.

- field size = 4 characters
- split size = 8 bits
- field type = ebcdic

The following table provides all possible range of values for the data field.

Table 364 Range of values

Characters	Value	Meaning
0 - 3	ebcdic character	service provider id

Description

This data field records the account owner service provider for the called party. The service provider identifier must be datafilled in tables SPID and SPIDDB.

This information is obtained from the following place:

- operator or service node entered

SPID, Called Party, Billing Service Provider

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 4 characters

- split size = 8 bits

- field type = ebcdic

The following table provides all possible range of values for the data field.

Table 365 Range of values

Characters	Value	Meaning
0 - 3	ebcdic character	service provider id

Description

This data field records the billing service provider for the called party. The service provider identifier must be datafilled in tables SPID and SPIDDB.

This information is obtained from the following place:

- operator or service node entered

SPID, Calling Party, Account Owner

Associated templates

The following table lists all fixed templates that contain this data field.

Table 366 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Call transfer to carrier template	page 398
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 4 characters

- split size = 8 bits

- field type = ebcdic

The following table provides all possible range of values for the data field.

Table 367 Range of values

Characters	Value	Meaning
0 - 3	ebcdic character	service provider id

Description

This data field records the account owner service provider for the calling party. The service provider identifier must be datafilled in tables SPID and SPIDDB.

This information is obtained from one of the following places. Note that there is a precedence order, for example, the first in the list take precedence over second in the list:

- operator or service node entered

- OLNS database response

- Table DNSCRN

- Table TOPSTOPT

- Table TOPSPARM tuple DEFAULT_SPID

SPID, Calling Party, Billing Service Provider

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 4 characters

- split size = 8 bits

- field type = ebcdic

The following table provides all possible range of values for the data field.

Table 368 Range of values

Characters	Value	Meaning
0 - 3	ebcdic character	service provider id

Description

This data field records the billing service provider for the calling party. The service provider identifier must be datafilled in tables SPID and SPIDDB.

This information is obtained from one of the following places. Note that there is a precedence order, for example, the first in the list take precedence over second in the list:

- operator or service node entered

- OLNS database response

SPID, Requested Party, Account Owner

Associated templates

The following table lists all fixed templates that contain this data field.

Table 369 Associated templates

Fixed template	Page number
Combined template	page 374
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 4 characters
- split size = 8 bits
- field type = ebcdic

The following table provides all possible range of values for the data field.

Table 370 Range of values

Characters	Value	Meaning
0 - 3	ebcdic character	service provider id

Description

This data field records the account owner service provider for the directory assistance requested party. The service provider identifier must be datafilled in tables SPID and SPIDDB.

This information is obtained from one of the following places. Note that there is a precedence order, for example, the first in the list take precedence over second in the list:

- operator or service node entered
- listing services database response

SPID, Requested Party, Billing Service Provider

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 4 characters

- split size = 8 bits

- field type = ebcdic

The following table provides all possible range of values for the data field.

Table 371 Range of values

Characters	Value	Meaning
0 - 3	ebcdic character	service provider id

Description

This data field records the billing service provider for the directory assistance requested party. The service provider identifier must be datafilled in tables SPID and SPIDDB.

This information is obtained from one of the following places. Note that there is a precedence order, for example, the first in the list take precedence over second in the list:

- operator or service node entered

- listing services database response

Station signaling Indicator

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 2 bits

- split size = 2 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 372 Range of values

Bits	Value	Meaning
0 - 1	0	unknown
	1	dial pulse
	2	dtmf
	3	reserved for future use

Description

This data field records the type of phone used by the calling party. This information can be obtained in one of the following ways:

- incoming trunk group signaling - some of the incoming trunk group signaling protocols support sending this information. Some examples are EAOSS, MODBELL, and ISUP.

- inferred from the handling of the call - if the call is successfully handled by an automated system such as AABS, then "dtmf" can be assumed because AABS requires DTMF input to be successful.

Value "0" ("unknown") is recorded when the signaling does not specify the type of phone and it is not inferred from the handling of the call.

Value "1" ("dial pulse") is recorded when the signaling specifies that the type of phone is a dial pulse phone.

Value "2" ("dtmf") is recorded when the signaling specifies that the type of phone is a dtmf phone or it not signalled but inferred by the handling of the call.

Subscriber Billing Indicator

Associated templates

The following table lists all fixed templates that contain this data field.

Table 373 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
Intercept template	page 437
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 1 bit

- split size = 1 bit

- field type = decimal

The following table provides all possible range of values for the data field.

Table 374 Range of values

Bits	Value	Meaning
0	0	billable call
	1	non-billable call

Description

This data field records whether or not the call is a billable call. This determination can be made in the following ways:

- explicit operator or service node input

- many different types of switch-based datafill can affect the billing status of the call

- external databases responses can affect the billing status of the call (for example, listing services database.)

Value "0" ("billable call") is recorded when the call is a billable call.

Value "1" ("non-billable call") is recorded when the call is not a billable call. The Rate Indicator data field (page 278) provides more detail as to why the call is not billable.

TDR Record Length

Associated templates

The following table lists all fixed templates that contain this data field.

Table 375 Associated templates

Fixed template	Page number
Block header template	page 359
Emergency start template	page 363
Graceful end template	page 364
Graceful start template	page 366

Reference information

The following list provides reference information about the data field.

- field size = 8 bits

- split size = 8 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 376 Range of values

Bits	Value	Meaning
0 - 7	0 - 128	length of the TDR record

Description

This data field records the length in words of the TDR call record. The value recorded here is interpreted in different ways depending on how the TDR record length type data field (page 327) is set.

If the TDR record length type data field is set to value "0" ("fixed length TDR records"), then the value in this data field is the actual length of the call records.

If the TDR record length type data field is set to value "1" ("variable length TDR records"), then the value in this data field is the upper bound size of the call records. The call records are variable length, so each call record will have to be examined individually in order to determine its length.

The value in this data field corresponds to the numeric component found in the TDR_RECORD_SIZE tuple in table TOPTDROP (page 473).

TDR Record Length Type

Associated templates

The following table lists all fixed templates that contain this data field.

Table 377 Associated templates

Fixed template	Page number
Block header template	page 359
Emergency start template	page 363
Graceful end template	page 364
Graceful start template	page 366

Reference information

The following list provides reference information about the data field.

- field size = 1 bit

- split size = 1 bit

- field type = decimal

The following table provides all possible range of values for the data field.

Table 378 Range of values

Bit	Value	Meaning
0	0	fixed length TDR records
	1	variable length TDR records

Description

This data field records whether or not the TDR call records are fixed length or variable length. The TDR record length data field (page 326) will contain the actual length.

Value "0" ("fixed length TDR records") is recorded when tuple TDR Record Size in table TOPTDROP (page 473) is set to "fixed-size".

Value "1" ("variable length TDR records") is recorded when tuple TDR Record Size in table TOPTDROP is set to "var-size".

Template Identifier

Associated templates
The following table lists all fixed templates that contain this data field.

Table 379 Associated templates

Fixed template	Page number
Template header	page 370

Reference information
The following list provides reference information about the data field.

- field size = 7 bits

- split size = 7 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 380 Range of values

Bits	Value	Meaning
0 - 6	0	combined
	1	call completion
	2	listing services
	3	blv / interrupt
	4	general assistance
	5	charge adjust
	6	intercept
	7	ossain custom billing
	8	call transfer to carrier
	9	in-interworking billing
	10 - 127	reserved for future use

Description
This data field records the template used to format the TDR call billing record. It appears in the template header so that the downstream processor will know which data fields to expect in the body of the billing record.

Value "0" ("combined") is recorded when the combined template is used to format the billing record.

Value "1" ("call completion") is recorded when the call completion template is used to format the billing record.

Value "2" ("listing services") is recorded when the listing services template is used to format the billing record.

Value "3" ("blv / interrupt") is recorded when the blv / interrupt template is used to format the billing record.

Value "4" ("general assistance") is recorded when the general assistance template is used to format the billing record.

Value "5" ("charge adjust") is recorded when the charge adjust template is used to format the billing record.

Value "6" ("intercept") is recorded when the intercept template is used to format the billing record.

Value "7" ("ossain custom billing") is recorded when the OSSAIN custom billing template is used to format the billing record.

Value "8" ("call transfer to carrier") is recorded when the call transfer to carrier template is used to format the billing record.

Value "9" ("in-interworking billing") is recorded when the IN interworking billing template is used to format the billing record.

Template Version

Associated templates

The following table lists all fixed templates that contain this data field.

Table 381 Associated templates

Fixed template	Page number
Template header	page 370

Reference information

The following list provides reference information about the data field.

- field size = 6 bits

- split size = 6 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 382 Range of values

Bits	Value	Meaning
0 - 5	0	version 0, CSP11 and up
	1	version 1, CSP14 and up
	2	version 2, SN07 and up
	3 - 63	reserved for future use

Description

This data field records the version of the template used to format the TDR call billing record.

As of CSP11, only version 0 is supported for all call templates.

As of CSP14, versions 0 and 1 are supported for all call templates. Version 1 is added to include the Local Determination Indicator field in the call completion, combined and charge adjust templates.

As of SN07, versions 0, 1 and 2 are supported for all call templates. Version 2 is added to include the Commercial Credit Card Authcode field in the BLV/interrupt, call completion, combined, charge adjust, general assistance and listing service templates.

Terminating Number

Associated templates

The following table lists all fixed templates that contain this data field.

Table 383 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Charge adjust template	page 428
Combined template	page 374

Reference information

The following list provides reference information about the data field.

- field size = 20 digits

- split size = 4 bits

- field type = digits

The following table provides all possible range of values for the data field.

Table 384 Range of values

Digit	Value	Meaning
0 - 19	0 - 9	digit string containing 20 digits

Description

This data field records the called party's directory number. The directory number is right justified and padded with 0s. In order to distinguish between the padding and actual 0s in the directory number, the Terminating Number Indicator data field (page 332) is used to indicate no directory number present.

Terminating Number Indicator

Associated templates

The following table lists all fixed templates that contain this data field.

Table 385 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Charge adjust template	page 428
Combined template	page 374

Reference information

The following list provides reference information about the data field.

- field size = 1 bit

- split size = 1 bit

- field type = decimal

The following table provides all possible range of values for the data field.

Table 386 Range of values

Bits	Value	Meaning
0	0	terminating number not present
	1	terminating number present

Description

This data field records an indicator that aids in distinguishing between the padding and actual 0s in the called party's directory number found in the Terminating Number data field (page 331).

Value "0" ("terminating number not present") is recorded when there is no terminating number present. The Terminating Number data field should contain a value of all 0s.

Value "1" ("terminating number present") is recorded when there is a full terminating number present. The number of significant digits is determined by the numbering plan supported by the switch.

Test Record

Associated templates

The following table lists all fixed templates that contain this data field.

Table 387 Associated templates

Fixed template	Page number
Template header	page 370

Reference information

The following list provides reference information about the data field.

- field size = 1 bit

- split size = 1 bit

- field type = decimal

The following table provides all possible range of values for the data field.

Table 388 Range of values

Bits	Value	Meaning
0	0	tdr generated by a call
	1	tdr generated for test purposes

Description

This data field records whether or not the TDR record is generated using a test tool.

Value "0" ("tdr generated by a call") is always recorded. At this time, there are no test tools available to generate TDR records.

Value "1" ("tdr generated for test purposes") is currently never recorded.

Ticket Number

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 6 digits

- split size = 4 bits

- field type = digits

The following table provides all possible range of values for the data field.

Table 389 Range of values

Digit	Value	Meaning
0 - 5	0 - 9	digit string containing 6 digits

Description

This data field records a ticket number that is associated with a given call. The ticket number is associated by an operator. The number itself can either be input directly by the operator or generated by the switch. A switch generated number begins each day at 0 and is incremented as each ticket is created. It wraps at value "999999".

The Ticket Number Day of Month data field (page 335) and the Ticket Number Transit Code data field (page 336) provide related data.

Ticket Number Day of Month

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 5 bits

- split size = 5 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 390 Range of values

Bits	Value	Meaning
0 - 4	1 - 31	day of the month

Description

This data field records the day of the month that a ticket number is entered by the operator.

The Ticket Number data field (page 334) and the Ticket Number Transit Code data field (page 336) provide related data.

Ticket Number Transit Code

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 3 characters

- split size = 8 bits

- field type = ebcdic

The following table provides all possible range of values for the data field.

Table 391 Range of values

Characters	Value	Meaning
0 - 2	ebcdic character	3 character string

Description

This data field records the transit code associated with the ticket number. The transit code is entered only by an operator. A switch generated ticket number will record a nil transit code, which is a value of "   " spaces.

The Ticket Number Day of Month data field (page 335) and the Ticket Number data field (page 334) provide related data.

Time, Hours

Associated templates

The following table lists all fixed templates that contain this data field.

Table 392 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Call transfer to carrier template	page 398
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
IN interworking template	page 444
Intercept template	page 437
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 5 bits
- split size = 5 bits
- field type = decimal

The following table provides all possible range of values for the data field.

Table 393 Range of values

Bits	Value	Meaning
0 - 4	0 - 23	hours

Description

This data field contains the hour that the service provided for a given call begins. When evaluated along with the following data fields, the exact moment that the service begins can be determined:

- Date, day (page 127)
- Date, month (page 129)
- Date, year (page 131)
- Time, minutes (page 339)
- Time, seconds (page 341)
- Time, tenths of seconds (page 343)

TOPS currently supports the following services. Each one calculates the start date and time in a different way.

- Call completion service
- Call transfer to carrier service
- Listing service
- General assistance service
- BLV / interrupt service
- Charge adjust service
- Intercept service
- IN interworking service

For call completion service and call transfer to carrier service, the date and time that is recorded is the date and time that the call is answered by the called party. If the call is never answered, then the date and time recorded is the date and time that the call is presented to an operator or service node. If the call is both unanswered and is never presented to an operator or service node, then the date and time recorded is the date and time that the call originated at the TOPS switch.

For listing services, general assistance service, BLV / interrupt service and IN interworking service, the date and time recorded is the date and time that the call is presented to the operator or service node. If the call is never presented to an operator or service node, then the date and time recorded is the date and time that the call originated at the TOPS switch.

For intercept service, the date and time recorded is the date and time that the call originated at the TOPS switch.

Time, Minutes

Associated templates

The following table lists all fixed templates that contain this data field.

Table 394 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Call transfer to carrier template	page 398
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
IN interworking template	page 444
Intercept template	page 437
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 6 bits

- split size = 6 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 395 Range of values

Bits	Value	Meaning
0 - 5	0 - 59	minutes

Description

This data field contains the minute that the service provided for a given call begins. When evaluated along with the following data fields, the exact moment that the service begins can be determined:

- Date, day (page 127)

- Date, month (page 129)

- Date, year (page 131)

- Time, hours (page 337)

- Time, seconds (page 341)

- Time, tenths of seconds (page 343)

TOPS currently supports the following services. Each one calculates the start date and time in a different way.

- Call completion service
- Call transfer to carrier service
- Listing service
- General assistance service
- BLV / interrupt service
- Charge adjust service
- Intercept service
- IN interworking service

For call completion service and call transfer to carrier service, the date and time that is recorded is the date and time that the call is answered by the called party. If the call is never answered, then the date and time recorded is the date and time that the call is presented to an operator or service node. If the call is both unanswered and is never presented to an operator or service node, then the date and time recorded is the date and time that the call originated at the TOPS switch.

For listing services, general assistance service, BLV / interrupt service and IN interworking service, the date and time recorded is the date and time that the call is presented to the operator or service node. If the call is never presented to an operator or service node, then the date and time recorded is the date and time that the call originated at the TOPS switch.

For intercept service, the date and time recorded is the date and time that the call originated at the TOPS switch.

Time, Seconds

Associated templates

The following table lists all fixed templates that contain this data field.

Table 396 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Call transfer to carrier template	page 398
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
IN interworking template	page 444
Intercept template	page 437
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 6 bits

- split size = 6 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 397 Range of values

Bits	Value	Meaning
0 - 5	0 - 59	seconds

Description

This data field contains the second that the service provided for a given call begins. When evaluated along with the following data fields, the exact moment that the service begins can be determined:

- Date, day (page 127)

- Date, month (page 129)

- Date, year (page 131)

- Time, hours (page 337)

- Time, minutes (page 339)

- Time, tenths of seconds (page 343)

TOPS currently supports the following services. Each one calculates the start date and time in a different way.

- Call completion service
- Call transfer to carrier service
- Listing service
- General assistance service
- BLV / interrupt service
- Charge adjust service
- Intercept service
- IN interworking service

For call completion service and call transfer to carrier service, the date and time that is recorded is the date and time that the call is answered by the called party. If the call is never answered, then the date and time recorded is the date and time that the call is presented to an operator or service node. If the call is both unanswered and is never presented to an operator or service node, then the date and time recorded is the date and time that the call originated at the TOPS switch.

For listing services, general assistance service, BLV / interrupt service and IN interworking service, the date and time recorded is the date and time that the call is presented to the operator or service node. If the call is never presented to an operator or service node, then the date and time recorded is the date and time that the call originated at the TOPS switch.

For intercept service, the date and time recorded is the date and time that the call originated at the TOPS switch.

Time, Tenths of Seconds

Associated templates

The following table lists all fixed templates that contain this data field.

Table 398 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Call transfer to carrier template	page 398
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
IN interworking template	page 444
Intercept template	page 437
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 4 bits

- split size = 4 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 399 Range of values

Bits	Value	Meaning
0 - 3	0 - 9	tenths of seconds

Description

This data field contains the tenth of second that the service provided for a given call begins. When evaluated along with the following data fields, the exact moment that the service begins can be determined:

- Date, day (page 127)

- Date, month (page 129)

- Date, year (page 131)

- Time, hours (page 337)

- Time, minutes (page 339)

- Time, seconds (page 341)

TOPS currently supports the following services. Each one calculates the start date and time in a different way.

- Call completion service
- Call transfer to carrier service
- Listing service
- General assistance service
- BLV / interrupt service
- Charge adjust service
- Intercept service
- IN interworking service

For call completion service and call transfer to carrier service, the date and time that is recorded is the date and time that the call is answered by the called party. If the call is never answered, then the date and time recorded is the date and time that the call is presented to an operator or service node. If the call is both unanswered and is never presented to an operator or service node, then the date and time recorded is the date and time that the call originated at the TOPS switch.

For listing services, general assistance service, BLV / interrupt service and IN interworking service, the date and time recorded is the date and time that the call is presented to the operator or service node. If the call is never presented to an operator or service node, then the date and time recorded is the date and time that the call originated at the TOPS switch.

For intercept service, the date and time recorded is the date and time that the call originated at the TOPS switch.

Timing Guard Indicator

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

*   field size = 1 bit

*   split size = 1 bit

*   field type = decimal

The following table provides all possible range of values for the data field.

Table 400 Range of values

Bits	Value	Meaning
0	0	timing guard condition does not exist
	1	timing guard condition exists

Description

This data field records whether or not a timing guard condition exists. A timing guard condition is only detected in a trunk-to-trunk call which is a call that does not receive traditional operator services (human or automated). A trunk-to-trunk call is just a call that originates on a TOPS trunk group type and connects through to the outgoing trunk.

Value "0" ("timing guard condition does not exist") is recorded on most calls.

Value "1" ("timing guard condition exists") is recorded on a trunk-to-trunk call that encounters an error in signaling or processing. The elapsed time recorded in the Elapsed Time data fields is suspect.

Traffic Sampled

Associated templates

The following table lists all fixed templates that contain this data field.

Table 401 Associated templates

Fixed template	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Call transfer to carrier template	page 398
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
IN interworking template	page 444
Intercept template	page 437
Listing services template	page 403

Reference information

The following list provides reference information about the data field.

- field size = 1 bit

- split size = 1 bit

- field type = decimal

The following table provides all possible range of values for the data field.

Table 402 Range of values

Bits	Value	Meaning
0	0	not traffic sampled
	1	traffic sampled

Description

This data field records whether or not the given call is marked for sampling. Table TRAFSAMP allows the telephone company to control the frequency of the sampling. The frequency is datafilled independently for weekdays, saturday and sunday. The value datafilled is the frequency rate. For example, if the value datafilled is "10", then every 10th call is marked as "traffic sampled".

Value "0" ("not traffic sampled") is recorded when the call is not marked as being sampled.

Value "1" ("traffic sampled") is recorded when the call is marked as being sampled.

Treatment Indicator

Associated templates

This data field is not contained in any fixed template.

Reference information

The following list provides reference information about the data field.

- field size = 3 bits

- split size = 3 bits

- field type = decimal

The following table provides all possible range of values for the data field.

Table 403 Range of values

Bits	Value	Meaning
0 - 2	0	unknown
	1	automated treatment
	2	operator treatment, line restrictions
	3	operator treatment, customer request
	4	handicapped 1
	5	handicapped 2
	6	LIDB spare 1
	7	LIDB spare 2

Description

This data field records a value returned in the LIDB response for queries made on collect and third number billed calls.

Value "0" ("unknown") is recorded when either the call is not billed as collect or third number or the call is billed as collect or third number but no LIDB response is received.

Value "1" ("automated treatment") is recorded when the LIDB returns a value indicating that the collect or third number should receive automated treatment.

Value "2" ("operator treatment, line restriction") is recorded when the LIDB returns a value indicating that the collect or third number should receive operator treatment because of a directory number restriction.

Value "3" ("operator treatment, customer request") is recorded when the LIDB returns a value indicating that the collect or third number should receive operator treatment because of a request by the customer.

Value "4" ("handicapped 1") is recorded when the LIDB returns a value indicating that the collect or third number should receive special treatment because of a handicap.

Value "5" ("handicapped 2") is recorded when the LIDB returns a value indicating that the collect or third number should receive special treatment because of a handicap.

Value "6" ("LIDB spare 1") is recorded when the LIDB returns a value of spare 1.

Value "7" ("LIDB spare 2") is recorded when the LIDB returns a value of spare 2.

Word Layout Indicator

Associated templates

The following table lists all fixed templates that contain this data field.

Table 404 Associated templates

Fixed template	Page number
Template header	page 370

Reference information

The following list provides reference information about the data field.

- field size = 1 bit

- split size = 1 bit

- field type = decimal

The following table provides all possible range of values for the data field.

Table 405 Range of values

Bit	Value	Meaning
0	0	right-to-left format
	1	left-to-right format

Description

This data field records the word layout for the data contained in the template body. It does not affect the word layout of the header, which is always right-to-left.

Value "0" ("right-to-left format") is recorded when the bits in the template are recorded with the Most Significant Bit (MSB) in position 15 and the Least Significant Bit (LSB) in position 0.

Value "1" ("left-to-right format") is recorded when the bits in the template area recorded with the MSB in position 0 and the LSB in position 15.

Chapter 3: TDR non-call templates

This chapter provides information on the contents and layout of the billing files and the non-call templates defined by TDR.

Billing files are generated in the same manner for all TDR records. A billing file is a collection of 2K byte blocks of data. These blocks of data apply equally to both fixed and variable length records as well as to single-fixed and multi-fixed template sets. The only variability, based upon the record length and template format, is the number of TDR records that can be stored in each block of data.

There are two types of billing files that are described along with the layouts for the non-call templates in the remainder of this chapter:

- normal billing files
- emergency billing files
- non-call templates

Alphabetical reference for TDR non-call templates

The following table lists each non-call template in alphabetical order and the page where its description begins.

Table 406   Alphabetical reference for TDR non-call template descriptions

Non-call template name	Page number
Block header template	page 359
Clock change template	page 361
Emergency start template	page 363
Graceful end template	page 364
Graceful start template	page 366
System restart template	page 367

Normal billing files

A normal billing file is composed of a series of fixed size data blocks. The fixed size is 2K bytes. The file is composed of the following types of data blocks:

- Graceful start block
- Normal TDR block
- Graceful end block

Graceful start block

The graceful start block is always the first 2K block in the billing file. It contains a block header record as the first record in the block. Following the block header record is a graceful start record. Following the graceful start record, the remainder of the 2K block is filled with hex As. There are no TDR records contained in this block.

The block always ends with 8 bytes of hex As as filler.

Normal TDR block

The normal TDR block generally follows the graceful start block. There can be multiple instances of this block within a billing file. It contains a block header record as the first record in the block. Following the block header record are any combination of the following types of records:

- TDR records
- Clock change records
- System restart records

These types of records fill the 2K block until the next record to be written will not fit the remaining space. At this point, the remaining space is filled with hex As.

The block always ends with 8 bytes of hex As as filler.

Graceful end block

The graceful end block is always the last 2k block in the billing file. It contains a block header record as the first record in the block. Following the block header record are any combination of the following types of records:

- TDR records
- Clock change records
- System restart records

The last record in the block is always a graceful end record. Any remaining space in the block is filled with hex As.

The block always ends with 8 bytes of hex As as filler.

Example of a normal billing file

The following figure provides an example of a normal billing file. The file is composed of a graceful start block, 6 normal TDR blocks and a graceful end block.

The TDR records in the figure may be interpreted as being fixed length but should not be restricted to that view. The TDR records can be variable in length which would lead to different numbers of records per block.

Figure 8   Example of a normal billing file
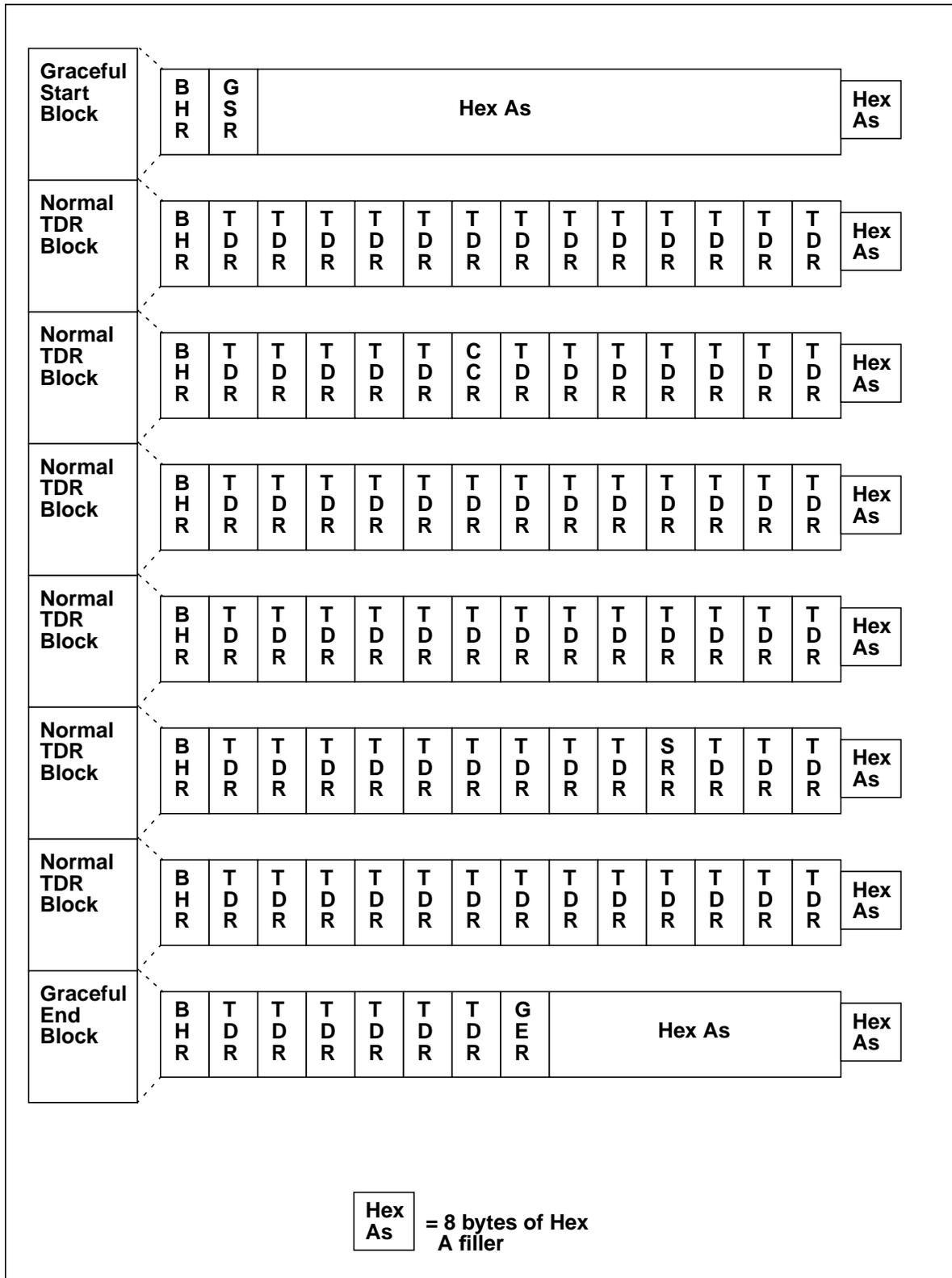
Emergency billing files

An emergency billing file begins as a normal billing file until an emergency rotate occurs. An emergency rotate can occur as a result of a physical disk problem or when billing records are being generated but no storage device is mounted. When the emergency rotate occurs, the current billing file is immediately closed without a graceful end block. The current billing file contains the following block types:

- Graceful start block
- Normal TDR block

The new file begins without a graceful start block. It contains the following block types:

- Normal TDR block
- Emergency start block
- Graceful end block

Emergency start block

The emergency start block is usually the second data block within the emergency billing file. It follows a normal TDR block. It contains a block header record as the first record in the block. Following the block header record is an emergency start record. Following the emergency start record, the remainder of the 2K block is filled with hex As. There are no TDR records contained in this block.

The block always ends with 8 bytes of hex As as filler.

Example of an emergency billing file

The following figure provides an example of an emergency billing file. The example shows both the billing file prior to the emergency rotate and the billing file after the emergency rotate. The first file is composed of a graceful start block and 2 normal TDR blocks. The second file is composed of a normal TDR block, an emergency start block, 2 additional normal TDR blocks and a graceful end block.

The TDR records in the figure may be interpreted as being fixed length, but should not be restricted to that view. The TDR records can be variable in length which would lead to different numbers of records per block.

Figure 9   Example of an emergency billing file

Non-call templates

The following templates are included.

Table 407 Non-call template descriptions

Template name	Description
Block header template	The first record in every block uses the Block Header template. It provides a sequential identifier for every block written to a billing file. The identifier is incremented with every block, even if a warm or cold restart occurs.
	This record is non-optional and is controlled by the BHR_RECORD_SIZE tuple in table TOPTDROP (page 469).
Clock change template	A record using the Clock Change template is generated each time a clock change command occurs. Either the SETDATE or SETTIME commands can cause a clock change.
	This record can appear anywhere within a normal billing block, but always after the block header record.
	This record is optional and is controlled by the CCR_RECORD_SIZE tuple in table TOPTDROP (page 469).
Emergency start template	A record using the Emergency Start template is generated each time an emergency billing file rotate occurs. An emergency rotate can occur as a result of a physical disk problem or when billing records are being generated but no storage device is mounted. The record using this template is always the second record of the second block of the emergency billing file.
	This record identifies that the previous billing file does not have a graceful end block and the current block begins a new billing file. After the record is written to the block, the block is immediately placed into the billing file even though the block is not full. The remainder of the block is padded with hex As.
	This record is optional and is controlled by the ESR_RECORD_SIZE tuple in table TOPTDROP (page 470).
Graceful end template	A record using the Graceful End template is generated every time a normal billing file rotate occurs. The record is the last formatted record of the end block.
	After the record is written to the block, the block is immediately placed into the billing file even though the block is not full. The remainder of the block is padded with hex As.
	This record is optional and is controlled by the GER_RECORD_SIZE tuple in table TOPTDROP (page 471).

Table 407 Non-call template descriptions

Template name	Description
Graceful start template	A record using the Graceful Start template is generated every time a normal billing file rotate occurs. A normal billing file rotate can be a rotate that is scheduled, manual or space rotate. The record using this template is always the second record of the graceful start block in a normal billing file. This record identifies the start block of the billing file. After the record is written to the block, the block is immediately placed into the billing file even though the block is not full. The remainder of the block is padded with hex As. This record is optional and is controlled by the GSR_RECORD_SIZE tuple in table TOPTDROP (page 472).
System restart template	A record using the System Restart template is generated each time a warm or cold restart occurs. This record can appear anywhere within a normal billing block, but always after the block header record. This record is optional and is controlled by the SRR_RECORD_SIZE tuple in table TOPTDROP (page 472).

Block header template

List of data fields

The following data fields, listed in alphabetical order, appear in the block header template. The abbreviation denotes the text used to specify the data field in the layout views. The word location identifies the specific word within the layout where the data field appears. The page number is a reference to the detailed description for the data field itself.

Table 408 Data fields contained in the block header template

Data field	Abbreviation in template	Word location	Page number
Block identifier	Block Id	6	page 57
Current date, day	Current Date, Day	3	page 119
Current date, month	Current Date, Month	3	page 120
Current date, year	Current Date, Year	3	page 122
Current time, hours	Current Time, Hours	4	page 123
Current time, minutes	Current Time, Minutes	4	page 124
Current time, seconds	Current Time, Seconds	5	page 125
Current time, tenths of seconds	C T, 10ths of Seconds	4	page 126
Office identification	Office Id	7 - 8	page 202
Record code	Record Code	1	page 280
Record length	Record Length	2	page 282
TDR record length	TDR Record Length	5	page 326
TDR record length type	Trlt	5	page 327

Template layout

The following table illustrates the order and bit position of the fields contained in the block header template. The table shows the layout in the right-to-left format. The bit positions that are shaded are unused.

Table 409 Block header template layout, right-to-left format

word /bit	msb															lsb
	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00
1	Record Code (1)								Record Code (0)							
2									Record Length							
3				Current Date, Day					Current Date, Month				Current Date, Year			
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 409 Block header template layout, right-to-left format

word /bit	msb															lsb
	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00
4		Current Time. Minutes						C T, 10ths of Seconds				Current Time, Hours				
5		TDR Record Length							Trlt		Current Time, Seconds					
6	Block Id															
7	Office Id (3)				Office Id (2)				Office Id (1)				Office Id (0)			
8									Office Id (5)				Office Id (4)			
bit	**15**	**14**	**13**	**12**	**11**	**10**	**09**	**08**	**07**	**06**	**05**	**04**	**03**	**02**	**01**	**00**

Clock change template

List of data fields

The following data fields, listed in alphabetical order, appear in the clock change template. The abbreviation denotes the text used to specify the data field in the layout views. The word location identifies the specific word within the layout where the data field appears. The page number is a reference to the detailed description for the data field itself.

Table 410 Data fields contained in the clock change template

Data field	Abbreviation in template	Word location	Page number
New date, day	New Date, Day	6	page 192
New date, month	New Date, Month	6	page 193
New date, year	New Date, Year	6	page 194
New time, hours	New Time, Hours	7	page 195
New time, minutes	New Time, Minutes	7	page 196
New time, seconds	New Time, Seconds	5	page 197
New time, tenths of seconds	N T, 10ths of Seconds	7	page 198
Old date, day	Old Date, Day	3	page 203
Old date, month	Old Date, Month	3	page 204
Old date, year	Old Date, Year	3	page 205
Old time, hours	Old Time, Hours	4	page 206
Old time, minutes	Old Time, Minutes	4	page 207
Old time, seconds	Old Time, Seconds	5	page 208
Old time, tenths of seconds	O T, 10ths of Seconds	4	page 209
Record code	Record Code	1	page 280
Record length	Record Length	2	page 282

Template layout

The following table illustrates the order and bit position of the fields contained in the clock change template. The table shows the layout in the right-to-left format. The bit positions that are shaded are unused.

Table 411 Clock change template layout, right-to-left format

word /bit	msb															lsb
	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00
1	Record Code (1)								Record Code (0)							
2									Record Length							
3				Old Date, Day				Old Date, Month			Old Date, Year					
4		Old Time. Minutes					O T, 10ths of Seconds				Old Time, Hours					
5					New Time, Seconds					Old Time, Seconds						
6				New Date, Day				New Date, Month			New Date, Year					
7		New Time. Minutes					N T, 10ths of Seconds				New Time, Hours					
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Emergency start template

List of data fields

The following data fields, listed in alphabetical order, appear in the emergency start template. The abbreviation denotes the text used to specify the data field in the layout views. The word location identifies the specific word within the layout where the data field appears. The page number is a reference to the detailed description for the data field itself.

Table 412 Data fields contained in the emergency start template

Data field	Abbreviation in template	Word location	Page number
Current date, day	Current Date, Day	3	page 119
Current date, month	Current Date, Month	3	page 120
Current date, year	Current Date, Year	3	page 122
Current time, hours	Current Time, Hours	4	page 123
Current time, minutes	Current Time, Minutes	4	page 124
Current time, seconds	Current Time, Seconds	5	page 125
Current time, tenths of seconds	C T, 10ths of Seconds	4	page 126
Record code	Record Code	1	page 280
Record length	Record Length	2	page 282
TDR record length	TDR Record Length	5	page 326
TDR record length type	Trlt	5	page 327

Template layout

The following table illustrates the order and bit position of the fields contained in the emergency start template. The table shows the layout in the right-to-left format. The bit positions that are shaded are unused.

Table 413 Emergency start template layout, right-to-left format

word /bit	msb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	lsb 00
1	Record Code (1)								Record Code (0)							
2									Record Length							
3				Current Date, Day					Current Date, Month				Current Date, Year			
4		Current Time. Minutes							C T, 10ths of Seconds				Current Time, Hours			
5		TDR Record Length								Trlt		Current Time, Seconds			
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Graceful end template

List of data fields

The following data fields, listed in alphabetical order, appear in the graceful end template. The abbreviation denotes the text used to specify the data field in the layout views. The word location identifies the specific word within the layout where the data field appears. The page number is a reference to the detailed description for the data field itself.

Table 414 Data fields contained in the graceful end template

Data field	Abbreviation in template	Word location	Page number
Block count	Block Count	6	page 56
Current date, day	Current Date, Day	3	page 119
Current date, month	Current Date, Month	3	page 120
Current date, year	Current Date, Year	3	page 122
Current time, hours	Current Time, Hours	4	page 123
Current time, minutes	Current Time, Minutes	4	page 124
Current time, seconds	Current Time, Seconds	5	page 125
Current time, tenths of seconds	C T, 10ths of Seconds	4	page 126
File name	File Name	9 - 24	page 139
Record code	Record Code	1	page 280
Record count	Record Count	7 - 8	page 281
Record length	Record Length	2	page 282
TDR record length	TDR Record Length	5	page 326
TDR record length type	Trlt	5	page 327

Template layout

The following table illustrates the order and bit position of the fields contained in the graceful end template. The table shows the layout in the right-to-left format. The bit positions that are shaded are unused.

Table 415 Graceful end template layout, right-to-left format

word /bit	msb															lsb
	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00
1	Record Code (1)								Record Code (0)							
2									Record Length							
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 415 Graceful end template layout, right-to-left format

word /bit	msb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	lsb 00
3				Current Date, Day					Current Date, Month				Current Date, Year			
4		Current Time. Minutes						C T, 10ths of Seconds				Current Time, Hours				
5		TDR Record Length							Trlt		Current Time, Seconds					
6	Block Count															
7	Record Count (0)															
8	Record Count (1)															
9	File Name (1)								File Name (0)							
10	File Name (3)								File Name (2)							
11	File Name (5)								File Name (4)							
12	File Name (7)								File Name (6)							
13	File Name (9)								File Name (8)							
14	File Name (11)								File Name (10)							
15	File Name (13)								File Name (12)							
16	File Name (15)								File Name (14)							
17	File Name (17)								File Name (16)							
18	File Name (19)								File Name (18)							
19	File Name (21)								File Name (20)							
20	File Name (23)								File Name (22)							
21	File Name (25)								File Name (24)							
22	File Name (27)								File Name (26)							
23	File Name (29)								File Name (28)							
24	File Name (31)								File Name (30)							
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Graceful start template

List of data fields

The following data fields, listed in alphabetical order, appear in the graceful start template. The abbreviation denotes the text used to specify the data field in the layout views. The word location identifies the specific word within the layout where the data field appears. The page number is a reference to the detailed description for the data field itself.

Table 416 Data fields contained in the graceful start template

Data field	Abbreviation in template	Word location	Page number
Current date, day	Current Date, Day	3	page 119
Current date, month	Current Date, Month	3	page 120
Current date, year	Current Date, Year	3	page 122
Current time, hours	Current Time, Hours	4	page 123
Current time, minutes	Current Time, Minutes	4	page 124
Current time, seconds	Current Time, Seconds	5	page 125
Current time, tenths of seconds	C T, 10ths of Seconds	4	page 126
Record code	Record Code	1	page 280
Record length	Record Length	2	page 282
TDR record length	TDR Record Length	5	page 326
TDR record length type	Trlt	5	page 327

Template layout

The following table illustrates the order and bit position of the fields contained in the graceful start template. The table shows the layout in the right-to-left format. The bit positions that are shaded are unused.

Table 417 Graceful start template layout, right-to-left format

word/bit	msb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	lsb 00
1	Record Code (1)								Record Code (0)							
2									Record Length							
3				Current Date, Day					Current Date, Month				Current Date, Year			
4		Current Time. Minutes						C T, 10ths of Seconds					Current Time, Hours			
5		TDR Record Length							Trlt			Current Time, Seconds				
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

System restart template

List of data fields

The following data fields, listed in alphabetical order, appear in the system restart template. The abbreviation denotes the text used to specify the data field in the layout views. The word location identifies the specific word within the layout where the data field appears. The page number is a reference to the detailed description for the data field itself.

Table 418 Data fields contained in the system restart template

Data field	Abbreviation in template	Word location	Page number
Record code	Record Code	1	page 280
Record length	Record Length	2	page 282
Restart date, day	Restart Date, Day	3	page 283
Restart date, month	Restart Date, Month	3	page 284
Restart date, year	Restart Date, Year	3	page 285
Restart time, hours	Restart Time, Hours	4	page 286
Restart time, minutes	Restart Time, Minutes	4	page 287
Restart time, seconds	Restart Time, Seconds	5	page 288
Restart time, tenths of seconds	R T, 10ths of Seconds	4	page 289
Restart type	Restart Typ	5	page 290

Template layout

The following table illustrates the order and bit position of the fields contained in the system restart template. The table shows the layout in the right-to-left format. The bit positions that are shaded are unused.

Table 419 System restart template layout, right-to-left format

word /bit	msb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	lsb 00
1	Record Code (1)								Record Code (0)							
2									Record Length							
3				Restart Date, Day					Restart Date, Month				Restart Date, Year			
4		Restart Time. Minutes							R T, 10ths of Seconds				Restart Time, Hours			
5									Restart Typ		Restart Time, Seconds					
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Chapter 4: TDR fixed call templates

This chapter provides information on the contents and layout of the fixed call templates defined by TDR. It addresses the following areas:

- Template headers
- Template versioning
- Template padding and truncation
- Single-fixed template definition
- Multi-fixed template definitions and selection

Alphabetical reference for TDR fixed call templates

The following table lists each fixed template in alphabetical order and the page where its description begins.

Table 420   Alphabetical reference for TDR fixed template descriptions

Fixed template name	Page number
BLV / interrupt template	page 412
Call completion template	page 389
Call transfer to carrier template	page 398
Charge adjust template	page 428
Combined template	page 374
General assistance template	page 421
IN interworking template	page 444
Intercept template	page 437
Listing services template	page 403
OSSAIN custom billing template	page 441

Template header

The purpose of the template header is to provide the following information to the downstream processor:

- Identify the record as a TDR call record which is needed because TDR call records could be interspersed with other non-call record types in a given billing file. The downstream needs to distinguish the TDR call records from the non-call records which is accomplished in the template header by the record code data field.

- Identify the TDR template. Once the downstream processor has identified the record as a TDR record, it must determine which template is used in order to parse the data. With fixed templates, there are two pieces of information needed: the template id and the template version which is accomplished in the template header by the Template Identifier and Template Version data fields.

   The template header also contains the Active Template Identifier data field. This field is reserved for future use.

- Identify the length of the TDR record. Even though the only templates supported are fixed format templates, the length of the TDR record may differ based upon the datafill found in the TDR_RECORD_SIZE tuple in table TOPTDROP (page 473). The downstream needs to know the length of the record which is accomplished in the template header by the Record Length data field.

   The value contained in the Record Length data field contains the number of words that follow the template header.

- Identify the record as a test record. The downstream processor must determine whether this TDR record should be processed for actual billing purposes or this record is just a test record which is accomplished in the template header by the Test Record data field.

- Identify the word layout of the template. The downstream processor needs to know the word layout for the template so that it can correctly parse the data which is accomplished by the value found in the Word Layout Indicator data field.

   Note: The template header is not affected by the word layout specified in tuple WORD_LAYOUT in table TOPTDROP (page 475). The template header is always arranged in a right-to-left layout meaning that the least significant bit is bit 0 and the most significant bit is bit 15 within a given word.

List of data fields

The following data fields, listed in alphabetical order, appear in the template header. The abbreviation denotes the text used to specify the data field in the layout views. The word location identifies the specific word within the layout where the data field appears. The page number is a reference to the detailed description for the data field itself.

Table 421 Data fields contained in the template header

Data field	Abbreviation in template	Word location	Page number
Active template identifier	Act Template Id	2	page 43
Associated TDR	A tdr	3	page 53
Record code	Record Code	1	page 280
Record length	Record Length	3	page 281
Sequence number	Sequence Number	4	page 295
Template identifier	Template Identifier	2	page 328
Template version	Template Version	2	page 330
Test record	T R	3	page 333
Word Layout Indicator	W L I	3	page 349

TDR header layout

The following table illustrates the order and bit position of the fields contained in the template header. The bit positions that are shaded are unused.

Table 422 TDR Header Layout

word /bit	msb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	lsb 00
1	Record Code (1)								Record Code (0)							
2	Act Template Id			Template Identifier						Template Version						
3	TR	A tdr	W L I						Record Length							
4	Sequence Number															
bit	15		13	12	11	10	09	08	07	06	05	04	03	02	01	00

Template versioning

The following table provides all possible range of values for the data field.

Table 423 Range of values

Bits	Value	Meaning
0 - 5	0 - 63	version 0 - version 63

The versioning concept is that the TOPS switch will be able to generate up to four versions of TDR. These versions include the most up-to-date version supported by a given software release as well as the three previous versions. For example, a future release might support version 5 of TDR as the most up-to-date version. Yet, that release will also support versions 4, 3 and 2 of TDR. In total, it will support TDR versions 5, 4, 3 and 2.

The version is set on an office-wide basis using tuple TEMPLATE_VERSION in table TOPTDROP which means that all TOPS billing records will use the same template versions.

Note: If the customer decides to change the template version, it is recommended that a billing file rotate also be done. This rotate will minimize the number of TDR records in the same billing file with different template versions.

As of CSP14, a value of "1" (version 1) is available for fixed templates. If "1" is selected, an additional field, Local Determination Indicator, is displayed for the combined, call completion, and charge adjust templates. Refer to page 165 for additional information on this field.

As of SN07, "2" (version 2) is available for fixed templates. If "2" is selected, an additional field Commercial Credit Card Authcode, is displayed for the BLV/interrupt, call completion, combined, charge adjust, general assistance and listing service templates. Refer to page 113 for additional information on this field.

Template padding and truncation

The discussion of template padding and truncation covers the following areas:

- Overall record length
- OSSAIN custom billing limits

Overall record length

The overall length of the TDR record is controlled on an office-wide basis by tuple TDR_RECORD_SIZE in table TOPTDROP. This length can either be fixed or variable.

Fixed length means that all TDR records are the same length regardless of the template chosen. If the template is smaller than the length, then the record is padded with 0's to achieve the overall length. A TDR101 log is optionally generated (based on the value of tuple GEN_PADDED_RECORD_LOG in table TOPTDROP) as well as pegging the PAD register in the TDR OM group. If the template is larger than the length, then the template is truncated at the specified length and the data is lost. A TDR100 log is generated as well as pegging the TRUNC register in the TDR OM group.

Variable length means that the TDR record length will be the length of the template chosen provided the template length is less than an upper bound. If the template length is greater than the upper bound, the record is truncated. A TDR100 log is generated as well as pegging the TRUNC register in the TDR OM group.

OSSAIN custom billing limits

OSSAIN custom billing templates are only supported when tuple TEMPLATE_TYPE in table TOPTDROP is set to "multi_fixed". When the tuple TEMPLATE_TYPE in table TOPTDROP is set to "single_fixed", there is no means to record OSSAIN custom billing data. When this occurs, a TDR102 log is generated as well as the pegging of the SNLOST register in the TDR OM group.

Single-fixed template definition

The format for TDR call records is controlled on a switch-wide basis using datafill in table TOPTDROP (tuple TEMPLATE_TYPE). By selecting "single-fixed" as the format, this means that all TOPS calls will record billing records using the same template. This template is called the combined template.

Combined template

The combined template contains data fields needed to provide billing data for all TOPS call types. On any given TOPS call, many data fields will be not applicable due to the call type of the TOPS call. Values of UNKNOWN are placed in data fields that are not applicable to the given call type.

Note: The combined template does not support OSSAIN custom billing recording due to OSSAIN custom billing's optional and replicative nature.

List of data fields

The following data fields, listed in alphabetical order, appear in the combined template. The abbreviation denotes the text used to specify the data field in the layout views. The word location identifies the specific word within the layout where the data field appears. The page number is a reference to the detailed description for the data field itself.

Note: This list does not contain the data fields found in the template header, which is common to all TDR call templates.

Table 424 Data fields contained in the combined template

Data field	Abbreviation in template	Word location	Page number
Account code / authorization code number	Acct / Auth Code	20 - 23	page 35
Account code / authorization code validation	A C Val	19	page 38
Accumulated operator work time, minutes	Acc Oper Work Time, Minutes	18	page 40
Accumulated operator work time, seconds	Acc Oper Work Time, Seconds	18	page 41
Accumulated operator work time, tenths of seconds	Acc Oper Work Time, 10th	18	page 42
Alternate billing number	Alternate Billing Num	25 - 30	page 44
Amount deposited	Amount Deposited	39	page 47
Amount of charge	Amount of Charge	38	page 49
Amount of credit	Amount of Credit	94	page 52
Billing type identification	Billing Type Id	24	page 54

Table 424 Data fields contained in the combined template

Data field	Abbreviation in template	Word location	Page number
BLV / interrupt request	BLV Req	65	page 58
Call type	Call Type	17	page 59
Calling card format identifier	CC Format	24	page 66
Calling card sequence call counter	Calling Card Sequence Call Counter	24	page 68
Calling card subaccount number	CC Subaccount Num	31	page 69
Calling number source	Clg Source	11	page 70
Carrier / NBEC code	Carrier / NBEC	46	page 101
Carrier agreement table	Car Agrmnt	45	page 76
Carrier call event status	Carrier Call Event Status	64	page 78
Carrier code source	Carrier Code Source	45	page 82
Carrier connect date, day	Carrier Conn Date, Day	64	page 84
Carrier connect date, month	Carrier Con Date, Month	65	page 86
Carrier connect date, year	Carrier Con Date, Year	65	page 88
Carrier connect time, hours	Carrier Conn Time, Hours	65	page 90
Carrier connect time, minutes	Carrier Conn Time, Minutes	66	page 92
Carrier connect time, seconds	Carrier Conn Time, Seconds	66	page 94
Carrier connect time, tenths of seconds	Carrier Conn Time, 10ths	66	page 96
Carrier elapsed time, minutes	Carrier Elapsed Time, Minutes	67	page 98
Carrier elapsed time, seconds	Carrier Elapsed Time, Seconds	68	page 99
Carrier elapsed time, tenths of seconds	Carrier Elapsd Time, 10th	68	page 100
Charge adjust indicator	Chg Adj Ind	92	page 106
Charge adjust number of occurrences	Charge Adjust Number of Occurrences	95	page 108
Charge indicator	Charge Ind	40	page 109
Coin credit indicator	Cn Cr Ind	40	page 111
Commercial Credit Card Authcode	CCC Authcode	100	page 113

Table 424 Data fields contained in the combined template

Data field	Abbreviation in template	Word location	Page number
Completion indicator	Compl Ind	64	page 114
Date, day	Date, Day	13	page 127
Date, month	Date, Month	13	page 129
Date, year	Date, Year	13	page 131
Elapsed time, minutes	Elapsed Time, Minutes	16	page 133
Elapsed time, seconds	Elapsed Time, Seconds	17	page 135
Elapsed time, tenths of seconds	Elapsed Time, 10ths	17	page 137
General assistance request counter	General Assistance Request Counter	96	page 140
Hotel guest name	Hotel Guest Name	43 - 45	page 142
Hotel room number	Hotel Room Number	40 - 43	page 143
Incoming trunk group number	Incoming Trunk Group Number	11	page 144
Incoming trunk member number	Incoming Trunk Member Number	12	page 145
Intercept referral number	Intc Referral Num	85 - 89	page 146
Intercepted number	Intercepted Num	75 - 79	page 147
LIDB response	LIDB Response	30	page 148
Listing response	Listing Response	68	page 151
Listing services forward number	LS Forward Num	80 - 84	page 153
Listing services request counter	Listing Services Request Counter	92	page 155
Listing services requested number	LS Requested Num	70 - 74	page 156
Listing status, existence indicator	LS, EI	69	page 157
Listing status, listing found indicator	LS, LFI	69	page 158
Listing status, local directory indicator	LS, LDI	69	page 159
Listing status, LSDB billing indicator	LS, LBI	69	page 160
Listing status, operator billing indicator	LS, OBI	69	page 161
Listing status, posting indicator	LS, PI	69	page 162
Listing status, publishing indicator	LS, Pub Ind	68	page 163
Local Determination Indicator[a]	LOCLIND	97	page 165

Table 424 Data fields contained in the combined template

Data field	Abbreviation in template	Word location	Page number
LRN, billed party	LRN, Billed Party	31 - 33	page 166
LRN, called party	LRN, Called Party	57 - 59	page 171
LRN, calling party	LRN, Calling Party	6 - 8	page 175
Minutes of credit	Minutes of Credit	97	page 189
Multiplier factor	Multiplier Factor	37	page 190
OLNS modified service or equipment indicator	OLNS Modified Service or Equipment Indicator	10	page 222
Operator id, last operator's number	Operator Id, Last Operator's Number	19	page 237
Operator id, last operator's team number	Operator Id, Last Operator's Team Number	20	page 238
Operator services system action	Opr Srv Sys Action	36	page 248
Originating number	Originating Number	1 - 5	page 252
Originating number indicator	Orig # Ind	15	page 253
OSS CCSC, assistance type indicator	O C ATI	62	page 257
OSS CCSC, enterprise calling indicator	O C ECI	61	page 258
OSS CCSC, NPA point indicator	O C NPI	63	page 260
OSS CCSC, RLT indicator	O C RI	61	page 261
OSS CCSC, subsequent treatment indicator	O C STI	61	page 263
Outgoing trunk group number	Outgoing Trunk Group Number	62	page 265
Outgoing trunk member number	Outgoing Trunk Member Number	63	page 266
Overseas NPA dialing indicator	Ovs NPA	64	page 268
Person Indicator	P I	64	page 275
RAO number	RAO Number	36	page 276
Rate Indicator	Rate Ind	40	page 278
SCP billing identifier	SCP Billing Identifier	98 - 99	page 292
Screening code	Screening Code	15	page 293
Service difficulty	Service Difficulty	93	page 296

Table 424 Data fields contained in the combined template

Data field	Abbreviation in template	Word location	Page number
Service feature	Service Feature	13	page 297
Service identifier	Service Id	92 - 93	page 300
Service node accumulated elapsed time, minutes	SN Acc Elapsed Time, Minutes	47	page 302
Service node accumulated elapsed time, seconds	SN Acc Elapsed Time, Seconds	47	page 303
Service node accumulated elapsed time, tenths of seconds	SN Acc Elap Time, 10ths	47	page 304
Service node accumulated number of transactions	Service Node Accumulated Number of Transactions	50	page 305
Service node identifier, last	Service Node Identifier, Last	48	page 309
Service node network service identifier	Service Node Network Service Identifier	49	page 310
Service node number of nodes	Service Node Number of Nodes	51	page 312
Service observed	S O	12	page 313
SPID, billed party, account owner	SPID, Billed Party, Account Owner	34 - 35	page 316
SPID, called party, account owner	SPID, Called Party, Account Owner	59 - 61	page 318
SPID, calling party, account owner	SPID, Calling Party, Account Owner	8 - 10	page 320
SPID, requested party, account owner	SPID, Requested Party, Account Owner	90 - 91	page 322
Subscriber billing indicator	S B I	15	page 325
Terminating number	Terminating Num	52 - 56	page 331
Terminating number indicator	TNI	64	page 332
Time, hours	Time, Hours	15	page 337
Time, minutes	Time, Minutes	14	page 339
Time, seconds	Time, Seconds	14	page 341
Time, tenths of seconds	Time, 10ths of Seconds	14	page 343
Traffic sampled	T S	12	page 346

a. Local Determination Indicator is used only with template version 1. It is not available in version 0.

Template layout

The following tables illustrate the order and bit position of the fields contained in the combined template. The first table shows the layout in the right-to-left format and the second table shows the layout in the left-to-right format. The bit positions that are shaded are unused.

Table 425 Combined template layout, right-to-left format

word /bit	msb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	lsb 00
1	Originating Number (3)				Originating Number (2)				Originating Number (1)				Originating Number (0)			
2	Originating Number (7)				Originating Number (6)				Originating Number (5)				Originating Number (4)			
3	Originating Number (11)				Originating Number (10)				Originating Number (9)				Originating Number (8)			
4	Originating Number (15)				Originating Number (14)				Originating Number (13)				Originating Number (12)			
5	Originating Number (19)				Originating Number (18)				Originating Number (17)				Originating Number (16)			
6	LRN Calling Party (3)				LRN Calling Party (2)				LRN Calling Party (1)				LRN, Calling Party (0)			
7	LRN Calling Party (7)				LRN Calling Party (6)				LRN Calling Party (5)				LRN, Calling Party (4)			
8	SPID, Calling Party, Account Owner (0)								LRN Calling Party (9)				LRN, Calling Party (8)			
9	SPID, Calling Party, Account Owner (2)								SPID, Calling Party, Account Owner (1)							
10	OLNS Modified Service or Equipment Indicator								SPID, Calling Party, Account Owner (3)							
11	Clg Source			Incoming Trunk Group Number												
12	T S		S O		Incoming Trunk Member Number											
13	Service Feature				Date, Day				Date, Month				Date, Year			
14	Time, 10ths of Seconds				Time, Seconds						Time, Minutes					
15	Orig # Ind		S B I			Screening Code						Time, Hours				
16	Elapsed Time, Minutes															
17			Call Type				Elapsed Time, 10ths				Elapsed Time, Seconds					
18	Acc Opr Work Time, 10th				Acc Oper Work Time, Seconds						Acc Oper Work Time, Minutes					
19	A C Val			Operator Id, Last Operator's Number												
20	Acct / Auth Code (1)				Acct / Auth Code (0)						Operator Id, Last Operator's Team Number					
21	Acct / Auth Code (5)				Acct / Auth Code (4)				Acct / Auth Code (3)				Acct / Auth Code (2)			
22	Acct / Auth Code (9)				Acct / Auth Code (8)				Acct / Auth Code (7)				Acct / Auth Code (6)			
23	Acct / Auth Code (13)				Acct / Auth Code (12)				Acct / Auth Code (11)				Acct / Auth Code (10)			
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 425 Combined template layout, right-to-left format

word /bit	msb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	lsb 00
24			Calling Card Sequence Call Counter									CC Format		Billing Type Id		
25	Alternate Billing Num (3)				Alternate Billing Num (2)				Alternate Billing Num (1)				Alternate Billing Num (0)			
26	Alternate Billing Num (7)				Alternate Billing Num (6)				Alternate Billing Num (5)				Alternate Billing Num (4)			
27	Alternate Billing Num (11)				Alternate Billing Num (10)				Alternate Billing Num (9)				Alternate Billing Num (8)			
28	Alternate Billing Num (15)				Alternate Billing Num (14)				Alternate Billing Num (13)				Alternate Billing Num (12)			
29	Alternate Billing Num (19)				Alternate Billing Num (18)				Alternate Billing Num (17)				Alternate Billing Num (16)			
30	LIDB Response				Alternate Billing Num (22)				Alternate Billing Num (21)				Alternate Billing Num (20)			
31	LRN, Billed Party (1)				LRN, Billed Party (0)				CC Subaccount Num (1)				CC Subaccount Num (0)			
32	LRN, Billed Party (5)				LRN, Billed Party (4)				LRN, Billed Party (3)				LRN, Billed Party (2)			
33	LRN, Billed Party (9)				LRN, Billed Party (8)				LRN, Billed Party (7)				LRN, Billed Party (6)			
34	SPID, Billed Party, Account Owner (1)								SPID, Billed Party, Account Owner (0)							
35	SPID, Billed Party, Account Owner (3)								SPID, Billed Party, Account Owner (2)							
36	Opr Srv Sys Action				RAO Number (2)				RAO Number (1)				RAO Number (0)			
37	Multiplier Factor															
38	Amount of Charge															
39	Amount Deposited															
40	Hotel Room Number (0)								Rate Ind			Cn Cr Ind		Charge Ind		
41	Hotel Room Number (2)								Hotel Room Number (1)							
42	Hotel Room Number (4)								Hotel Room Number (3)							
43	Hotel Guest Name (0)								Hotel Room Number (5)							
44	Hotel Guest Name (2)								Hotel Guest Name (1)							
45			Car Agrmnt		Carrier Code Source				Hotel Guest Name (3)							
46	Carrier / NBEC (3)				Carrier / NBEC (2)				Carrier / NBEC (1)				Carrier / NBEC (0)			
47	SN Acc Elap Time, 10ths				SN Acc Elapsed Time, Seconds						SN Acc Elapsed Time, Minutes					
48	Service Node Identifier, Last															
49	Service Node Network Service Identifier															
50	Service Node Accumulated Number of Transactions															
51	Service Node Number of Nodes															
52	Terminating Num (3)				Terminating Num (2)				Terminating Num (1)				Terminating Num (0)			
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 425 Combined template layout, right-to-left format

word /bit	msb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	lsb 00
53	Terminating Num (7)				Terminating Num (6)				Terminating Num (5)				Terminating Num (4)			
54	Terminating Num (11)				Terminating Num (10)				Terminating Num (9)				Terminating Num (8)			
55	Terminating Num (15)				Terminating Num (14)				Terminating Num (13)				Terminating Num (12)			
56	Terminating Num (19)				Terminating Num (18)				Terminating Num (17)				Terminating Num (16)			
57	LRN Called Party (3)				LRN Called Party (2)				LRN Called Party (1)				LRN, Called Party (0)			
58	LRN Called Party (7)				LRN Called Party (6)				LRN Called Party (5)				LRN, Called Party (4)			
59	SPID, Called Party, Account Owner (0)								LRN Called Party (9)				LRN, Called Party (8)			
60	SPID, Called Party, Account Owner (2)								SPID, Called Party, Account Owner (1)							
61	O C RI			O C STI			O C ECI			SPID, Called Party, Account Owner (3)						
62	O C ATI			Outgoing Trunk Group Number												
63	O C NPI			Outgoing Trunk Member Number												
64	Carrier Conn Date, Day					Carrier Call Event Status				Compl Ind			Ovs NPA		P I	TNI
65		BLV Req			Carrier Conn Time, Hours				Carrier Con Date, Year				Carrier Con Date, Month			
66	Carrier Con Time, 10ths				Carrier Conn Time, Seconds						Carrier Conn Time, Minutes					
67	Carrier Elapsed Time, Minutes															
68	LS, Pub Ind				Listing Response				Carrier Elapsd Time, 10th			Carrier Elapsed Time, Seconds				
69					LS, PI		LS, OBI		LS, LBI		LS, LDI		LS, LFI		LS, EI	
70	LS Requested Num (3)				LS Requested Num (2)				LS Requested Num (1)				LS Requested Num (0)			
71	LS Requested Num (7)				LS Requested Num (6)				LS Requested Num (5)				LS Requested Num (4)			
72	LS Requested Num (11)				LS Requested Num (10)				LS Requested Num (9)				LS Requested Num (8)			
73	LS Requested Num (15)				LS Requested Num (14)				LS Requested Num (13)				LS Requested Num (12)			
74	LS Requested Num (19)				LS Requested Num (18)				LS Requested Num (17)				LS Requested Num (16)			
75	Intercepted Num (3)				Intercepted Num (2)				Intercepted Num (1)				Intercepted Num (0)			
76	Intercepted Num (7)				Intercepted Num (6)				Intercepted Num (5)				Intercepted Num (4)			
77	Intercepted Num (11)				Intercepted Num (10)				Intercepted Num (9)				Intercepted Num (8)			
78	Intercepted Num (15)				Intercepted Num (14)				Intercepted Num (13)				Intercepted Num (12)			
79	Intercepted Num (19)				Intercepted Num (18)				Intercepted Num (17)				Intercepted Num (16)			
80	LS Forward Num (3)				LS Forward Num (2)				LS Forward Num (1)				LS Forward Num (0)			
81	LS Forward Num (7)				LS Forward Num (6)				LS Forward Num (5)				LS Forward Num (4)			
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 425 Combined template layout, right-to-left format

word/bit	msb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	lsb 00
82	LS Forward Num (11)				LS Forward Num (10)				LS Forward Num (9)				LS Forward Num (8)			
83	LS Forward Num (15)				LS Forward Num (14)				LS Forward Num (13)				LS Forward Num (12)			
84	LS Forward Num (19)				LS Forward Num (18)				LS Forward Num (17)				LS Forward Num (16)			
85	Intc Referral Num (3)				Intc Referral Num (2)				Intc Referral Num (1)				Intc Referral Num (0)			
86	Intc Referral Num (7)				Intc Referral Num (6)				Intc Referral Num (5)				Intc Referral Num (4)			
87	Intc Referral Num (11)				Intc Referral Num (10)				Intc Referral Num (9)				Intc Referral Num (8)			
88	Intc Referral Num (15)				Intc Referral Num (14)				Intc Referral Num (13)				Intc Referral Num (12)			
89	Intc Referral Num (19)				Intc Referral Num (18)				Intc Referral Num (17)				Intc Referral Num (16)			
90	SPID, Requested Party, Account Owner (1)								SPID, Requested Party, Account Owner (0)							
91	SPID, Requested Party, Account Owner (3)								SPID, Requested Party, Account Owner (2)							
92	Service Id (0)				Chg Adj Ind		Listing Services Request Counter									
93	(gray)		Service Difficulty						Service Id (2)				Service Id (1)			
94	Amount of Credit															
95	(gray)						Charge Adjust Number of Occurrences									
96	(gray)						General Assistance Request Counter									
97	(gray)				LOCLIND		Minutes of Credit									
98	SCP Billing Identifier (1)								SCP Billing Identifier (0)							
99	SCP Billing Identifier (3)								SCP Billing Identifier (2)							
100			CCC Authcode (1)								CCC Authcode (0)					
101			CCC Authcode (3)								CCC Authcode (2)					
102			CCC Authcode (5)								CCC Authcode (4)					
103			CCC Authcode (7)								CCC Authcode (6)					
104			CCC Authcode (9)								CCC Authcode (8)					
105			CCC Authcode (11)								CCC Authcode (10)					
106			CCC Authcode (13)								CCC Authcode (12)					
107	(gray)										CCC Authcode (14)					
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 426 Combined template layout, left-to-right format

word /bit	lsb															msb
	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00
1	Originating Number (0)				Originating Number (1)				Originating Number (2)				Originating Number (3)			
2	Originating Number (4)				Originating Number (5)				Originating Number (6)				Originating Number (7)			
3	Originating Number (8)				Originating Number (9)				Originating Number (10)				Originating Number (11)			
4	Originating Number (12)				Originating Number (13)				Originating Number (14)				Originating Number (15)			
5	Originating Number (16)				Originating Number (17)				Originating Number (18)				Originating Number (19)			
6	LRN Calling Party (0)				LRN Calling Party (1)				LRN Calling Party (2)				LRN, Calling Party (3)			
7	LRN Calling Party (4)				LRN Calling Party (5)				LRN Calling Party (6)				LRN, Calling Party (7)			
8	LRN Calling Party (8)				LRN, Calling Party (9)				SPID, Calling Party, Account Owner (0)							
9	SPID, Calling Party, Account Owner (1)								SPID, Calling Party, Account Owner (2)							
10	SPID, Calling Party, Account Owner (3)								OLNS Modified Service or Equipment Indicator							
11	Incoming Trunk Group Number												Clg Source			
12	Incoming Trunk Member Number														S O	T S
13	Date, Year				Date, Month				Date, Day				Service Feature			
14	Time, Minutes						Time, Seconds					Time, 10ths of Seconds				
15	Time, Hours					Screening Code								S B I	Orig # Ind	
16	Elapsed Time, Minutes															
17	Elapsed Time, Seconds					Elapsed Time, 10ths				Call Type						
18	Acc Oper Work Time, Minutes						Acc Oper Work Time, Seconds					Acc Opr Work Time, 10th				
19	Operator Id, Last Operator's Number													A C Val		
20	Operator Id, Last Operator's Team Number							Acct / Auth Code (0)				Acct / Auth Code (1)			
21	Acct / Auth Code (2)				Acct / Auth Code (3)				Acct / Auth Code (4)				Acct / Auth Code (5)			
22	Acct / Auth Code (6)				Acct / Auth Code (7)				Acct / Auth Code (8)				Acct / Auth Code (9)			
23	Acct / Auth Code (10)				Acct / Auth Code (11)				Acct / Auth Code (12)				Acct / Auth Code (13)			
24	Billing Type Id			CC Format		Calling Card Sequence Call Counter										
25	Alternate Billing Num (0)				Alternate Billing Num (1)				Alternate Billing Num (2)				Alternate Billing Num (3)			
26	Alternate Billing Num (4)				Alternate Billing Num (5)				Alternate Billing Num (6)				Alternate Billing Num (7)			
27	Alternate Billing Num (8)				Alternate Billing Num (9)				Alternate Billing Num (10)				Alternate Billing Num (11)			
28	Alternate Billing Num (12)				Alternate Billing Num (13)				Alternate Billing Num (14)				Alternate Billing Num (15)			
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 426 Combined template layout, left-to-right format

word /bit	lsb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	msb 00
29	Alternate Billing Num (16)				Alternate Billing Num (17)				Alternate Billing Num (18)				Alternate Billing Num (19)			
30	Alternate Billing Num (20)				Alternate Billing Num (21)				Alternate Billing Num (22)				LIDB Response			
31	CC Subaccount Num (0)				CC Subaccount Num (1)				LRN, Billed Party (0)				LRN, Billed Party (1)			
32	LRN, Billed Party (2)				LRN, Billed Party (3)				LRN, Billed Party (4)				LRN, Billed Party (5)			
33	LRN, Billed Party (6)				LRN, Billed Party (7)				LRN, Billed Party (8)				LRN, Billed Party (9)			
34	SPID, Billed Party, Account Owner (0)								SPID, Billed Party, Account Owner (1)							
35	SPID, Billed Party, Account Owner (2)								SPID, Billed Party, Account Owner (3)							
36	RAO Number (0)				RAO Number (1)				RAO Number (2)				Opr Srv Sys Action			
37	Multiplier Factor															
38	Amount of Charge															
39	Amount Deposited															
40	Charge Ind				Cn Cr Ind				Rate Ind				Hotel Room Number (0)			
41	Hotel Room Number (1)								Hotel Room Number (2)							
42	Hotel Room Number (3)								Hotel Room Number (4)							
43	Hotel Room Number (5)								Hotel Guest Name (0)							
44	Hotel Guest Name (1)								Hotel Guest Name (2)							
45	Hotel Guest Name (3)								Carrier Code Source				Car Agrmnt			
46	Carrier / NBEC (0)				Carrier / NBEC (1)				Carrier / NBEC (2)				Carrier / NBEC (3)			
47	SN Acc Elapsed Time, Minutes						SN Acc Elapsed Time, Seconds						SN Acc Elap Time, 10ths			
48	Service Node Identifier, Last															
49	Service Node Network Service Identifier															
50	Service Node Accumulated Number of Transactions															
51	Service Node Number of Nodes															
52	Terminating Num (0)				Terminating Num (1)				Terminating Num (2)				Terminating Num (3)			
53	Terminating Num (4)				Terminating Num (5)				Terminating Num (6)				Terminating Num (7)			
54	Terminating Num (8)				Terminating Num (9)				Terminating Num (10)				Terminating Num (11)			
55	Terminating Num (12)				Terminating Num (13)				Terminating Num (14)				Terminating Num (15)			
56	Terminating Num (16)				Terminating Num (17)				Terminating Num (18)				Terminating Num (19)			
57	LRN Called Party (0)				LRN Called Party (1)				LRN Called Party (2)				LRN, Called Party (3)			
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 426 Combined template layout, left-to-right format

word/bit	lsb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	msb 00
58	LRN Called Party (4)				LRN Called Party (5)				LRN Called Party (6)				LRN, Called Party (7)			
59	LRN Called Party (8)				LRN, Called Party (9)				SPID, Called Party, Account Owner (0)							
60	SPID, Called Party, Account Owner (1)								SPID, Called Party, Account Owner (2)							
61	SPID, Called Party, Account Owner (3)								O C ECI			O C STI			O C RI	
62	Outgoing Trunk Group Number														O C ATI	
63	Outgoing Trunk Member Number														O C NPI	
64	TNI	P I	Ovs NPA		Compl Ind			Carrier Call Event Status			Carrier Conn Date, Day					
65	Carrier Con Date, Month			Carrier Con Date, Year			Carrier Conn Time, Hours					BLV Req				
66	Carrier Conn Time, Minutes						Carrier Conn Time, Seconds					Carrier Con Time, 10ths				
67	Carrier Elapsed Time, Minutes															
68	Carrier Elapsed Time, Seconds						Carrier Elapsd Time, 10th				Listing Response			LS, Pub Ind		
69	LS, EI		LS, LFI		LS, LDI		LS, LBI		LS, OBI		LS, PI					
70	LS Requested Num (0)				LS Requested Num (1)				LS Requested Num (2)				LS Requested Num (3)			
71	LS Requested Num (4)				LS Requested Num (5)				LS Requested Num (6)				LS Requested Num (7)			
72	LS Requested Num (8)				LS Requested Num (9)				LS Requested Num (10)				LS Requested Num (11)			
73	LS Requested Num (12)				LS Requested Num (13)				LS Requested Num (14)				LS Requested Num (15)			
74	LS Requested Num (16)				LS Requested Num (17)				LS Requested Num (18)				LS Requested Num (19)			
75	Intercepted Num (0)				Intercepted Num (1)				Intercepted Num (2)				Intercepted Num (3)			
76	Intercepted Num (4)				Intercepted Num (5)				Intercepted Num (6)				Intercepted Num (7)			
77	Intercepted Num (8)				Intercepted Num (9)				Intercepted Num (10)				Intercepted Num (11)			
78	Intercepted Num (12)				Intercepted Num (13)				Intercepted Num (14)				Intercepted Num (15)			
79	Intercepted Num (16)				Intercepted Num (17)				Intercepted Num (18)				Intercepted Num (19)			
80	LS Forward Num (0)				LS Forward Num (1)				LS Forward Num (2)				LS Forward Num (3)			
81	LS Forward Num (4)				LS Forward Num (5)				LS Forward Num (6)				LS Forward Num (7)			
82	LS Forward Num (8)				LS Forward Num (9)				LS Forward Num (10)				LS Forward Num (11)			
83	LS Forward Num (12)				LS Forward Num (13)				LS Forward Num (14)				LS Forward Num (15)			
84	LS Forward Num (16)				LS Forward Num (17)				LS Forward Num (18)				LS Forward Num (19)			
85	Intc Referral Num (0)				Intc Referral Num (1)				Intc Referral Num (2)				Intc Referral Num (3)			
86	Intc Referral Num (4)				Intc Referral Num (5)				Intc Referral Num (6)				Intc Referral Num (7)			
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 426 Combined template layout, left-to-right format

word /bit	lsb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	msb 00
87	Intc Referral Num (8)				Intc Referral Num (9)				Intc Referral Num (10)				Intc Referral Num (11)			
88	Intc Referral Num (12)				Intc Referral Num (13)				Intc Referral Num (14)				Intc Referral Num (15)			
89	Intc Referral Num (16)				Intc Referral Num (17)				Intc Referral Num (18)				Intc Referral Num (19)			
90	SPID, Requested Party, Account Owner (0)								SPID, Requested Party, Account Owner (1)							
91	SPID, Requested Party, Account Owner (2)								SPID, Requested Party, Account Owner (3)							
92	Listing Services Request Counter										Chg Adj Ind		Service Id (0)			
93	Service Id (1)				Service Id (2)				Service Difficulty							
94	Amount of Credit															
95	Charge Adjust Number of Occurrences															
96	General Assistance Request Counter															
97	Minutes of Credit										LOCLIND					
98	SCP Billing Identifier (0)								SCP Billing Identifier (1)							
99	SCP Billing Identifier (2)								SCP Billing Identifier (3)							
100			CCC Authcode (0)								CCC Authcode (1)					
101			CCC Authcode (2)								CCC Authcode (3)					
102			CCC Authcode (4)								CCC Authcode (5)					
103			CCC Autchcode (6)								CCC Auithcode (7)					
104			CCC Authcode (8)								CCC Authccode (9)					
105			CCC Authcode (10)								CCC Authcode (11)					
106			CCC Authcode (12)								CCC Authcode (13)					
107			CCC Authcode (14)														
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Multi-fixed template definitions and selection

The format for TDR records is controlled on a switch-wide basis using datafill in table TOPTDROP (tuple TEMPLATE_TYPE). By selecting "multi-fixed" as the format, this means that all TOPS calls will record billing records using a set of templates based upon the call type. The following templates are included.

Table 427 Multi-fixed template descriptions

Template name	Description
BLV / interrupt template	This template is used for busy line verification and interrupt services
Call completion template	This template is used for call completion calls.
Call transfer to carrier template	This template is used for calls that initially come to TOPS but require carrier operator services that are not provided in that TOPS switch.
Charge adjust template	This template is used to give credit to a subscriber for a previous call where some type of trouble was encountered such as a noisy line.
General assistance template	This template is used for recording general information calls such as dialing instruction.
IN interworking template	This template is used when TOPS is providing operator back-up for IN based services
Intercept template	This template is used for intercept services.
Listing services template	This template is used for listing services such as directory assistance.
OSSAIN custom billing template	This template is used when a call is handled by a service node or IWS application that appends service specific data to the call.

Multi-fixed template selection

TDR selects the specific multi-fixed template based upon the specific billing data that is collected for the call. It uses the following algorithm to make the selection.

Figure 10   Multi-fixed template selection algorithm
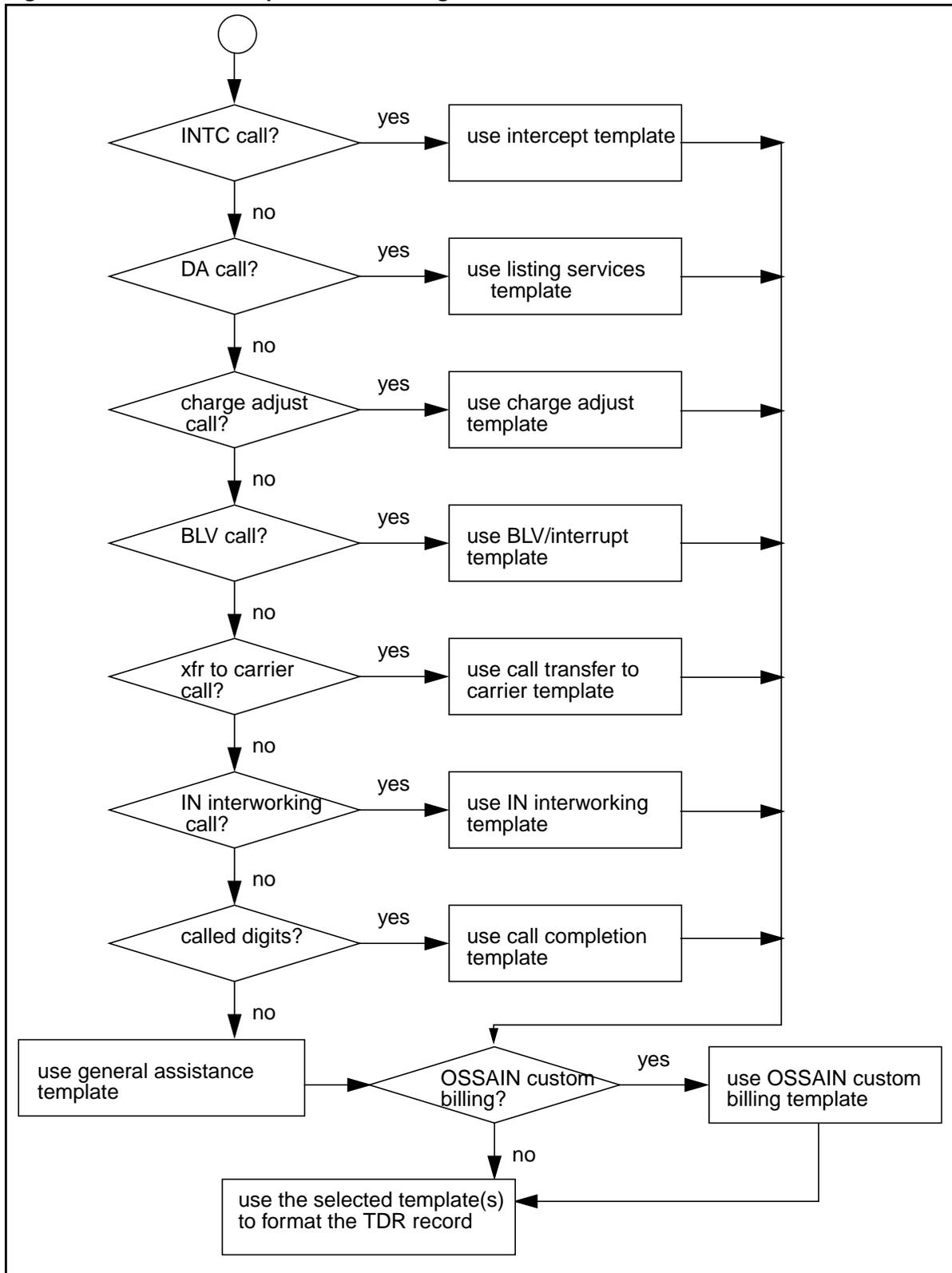
Call completion template

List of data fields

The following data fields, listed in alphabetical order, appear in the call completion template. The abbreviation denotes the text used to specify the data field in the layout views. The word location identifies the specific word within the layout where the data field appears. The page number is a reference to the detailed description for the data field itself.

Note: This list does not contain the data fields found in the template header, which is common to all TDR call templates.

Table 428 Data fields contained in the call completion template

Data field	Abbreviation in template	Word location	Page number
Account code / authorization code number	Acct / Auth Code	20 - 23	page 35
Account code / authorization code validation	A C Val	19	page 38
Accumulated operator work time, minutes	Acc Oper Work Time, Minutes	18	page 40
Accumulated operator work time, seconds	Acc Oper Work Time, Seconds	18	page 41
Accumulated operator work time, tenths of seconds	Acc Oper Work Time, 10th	18	page 42
Alternate billing number	Alternate Billing Num	25 - 30	page 44
Amount deposited	Amount Deposited	39	page 47
Amount of charge	Amount of Charge	38	page 49
Billing type identification	Billing Type Id	24	page 54
Calling card format identifier	CC Format	24	page 66
Calling card sequence call counter	Calling Card Sequence Call Counter	24	page 68
Calling card subaccount number	CC Subaccount Num	31	page 69
Calling number source	Clg Source	11	page 70
Carrier / NBEC code	Carrier / NBEC	46	page 101
Carrier agreement table	Car Agrmnt	45	page 76
Carrier call event status	Carrier Call Event Status	64	page 78
Carrier code source	Carrier Code Source	45	page 82
Carrier connect date, day	Carrier Conn Date, Day	45	page 84
Carrier connect date, month	Carrier Con Date, Month	65	page 86

Table 428 Data fields contained in the call completion template

Data field	Abbreviation in template	Word location	Page number
Carrier connect date, year	Carrier Con Date, Year	65	page 88
Carrier connect time, hours	Carrier Conn Time, Hours	65	page 90
Carrier connect time, minutes	Carrier Conn Time, Minutes	66	page 92
Carrier connect time, seconds	Carrier Conn Time, Seconds	66	page 94
Carrier connect time, tenths of seconds	Carrier Conn Time, 10ths	66	page 96
Carrier elapsed time, minutes	Carrier Elapsed Time, Minutes	67	page 98
Carrier elapsed time, seconds	Carrier Elapsed Time, Seconds	68	page 99
Carrier elapsed time, tenths of seconds	Carrier Elapsd Time, 10th	68	page 100
Charge indicator	Charge Ind	40	page 109
Coin credit indicator	Cn Cr Ind	40	page 111
Commercial Credit Card Authcode	CCC Authcode	69	page 113
Completion indicator	Compl Ind	45	page 114
Date, day	Date, Day	13	page 127
Date, month	Date, Month	13	page 129
Date, year	Date, Year	13	page 131
Elapsed time, minutes	Elapsed Time, Minutes	16	page 133
Elapsed time, seconds	Elapsed Time, Seconds	17	page 135
Elapsed time, tenths of seconds	Elapsed Time, 10ths	17	page 137
Hotel guest name	Hotel Guest Name	43 - 45	page 142
Hotel room number	Hotel Room Number	40 - 43	page 143
Incoming trunk group number	Incoming Trunk Group Number	11	page 144
Incoming trunk member number	Incoming Trunk Member Number	12	page 145
LIDB response	LIDB Response	30	page 148
Local Determination Indicator[a]	LOCLIND	68	page 165
LRN, billed party	LRN, Billed Party	31 - 33	page 166

Table 428 Data fields contained in the call completion template

Data field	Abbreviation in template	Word location	Page number
LRN, called party	LRN, Called Party	57 - 59	page 171
LRN, calling party	LRN, Calling Party	6 - 8	page 175
Multiplier factor	Multiplier Factor	37	page 190
OLNS modified service or equipment indicator	OLNS Modified Service or Equipment Indicator	10	page 222
Operator id, last operator's number	Operator Id, Last Operator's Number	19	page 237
Operator id, last operator's team number	Operator Id, Last Operator's Team Number	20	page 238
Operator services system action	Opr Srv Sys Action	36	page 248
Originating number	Originating Number	1 - 5	page 252
Originating number indicator	Orig # Ind	15	page 253
OSS CCSC, assistance type indicator	O C ATI	62	page 257
OSS CCSC, enterprise calling indicator	O C ECI	61	page 258
OSS CCSC, NPA point indicator	O C NPI	63	page 260
OSS CCSC, RLT indicator	O C RI	61	page 261
OSS CCSC, subsequent treatment indicator	O C STI	61	page 263
Outgoing trunk group number	Outgoing Trunk Group Number	62	page 265
Outgoing trunk member number	Outgoing Trunk Member Number	63	page 266
Overseas NPA dialing indicator	Ovs NPA	64	page 268
Person Indicator	P I	64	page 275
RAO number	RAO Number	36	page 276
Rate Indicator	Rate Ind	40	page 278
Screening code	Screening Code	15	page 293
Service feature	Service Feature	13	page 297
Service node accumulated elapsed time, minutes	SN Acc Elapsed Time, Minutes	47	page 302
Service node accumulated elapsed time, seconds	SN Acc Elapsed Time, Seconds	47	page 303

Table 428 Data fields contained in the call completion template

Data field	Abbreviation in template	Word location	Page number
Service node accumulated elapsed time, tenths of seconds	SN Acc Elap Time, 10ths	47	page 304
Service node accumulated number of transactions	Service Node Accumulated Number of Transactions	50	page 305
Service node identifier, last	Service Node Identifier, Last	48	page 309
Service node network service identifier	Service Node Network Service Identifier	49	page 310
Service node number of nodes	Service Node Number of Nodes	51	page 312
Service observed	S O	12	page 313
SPID, billed party, account owner	SPID, Billed Party, Account Owner	34 - 35	page 316
SPID, called party, account owner	SPID, Called Party, Account Owner	59 - 61	page 318
SPID, calling party, account owner	SPID, Calling Party, Account Owner	8 - 10	page 320
Subscriber billing indicator	S B I	15	page 325
Terminating number	Terminating Num	52 - 56	page 331
Terminating number indicator	TNI	64	page 332
Time, hours	Time, Hours	15	page 337
Time, minutes	Time, Minutes	14	page 339
Time, seconds	Time, Seconds	14	page 341
Time, tenths of seconds	Time, 10ths of Seconds	14	page 343
Traffic sampled	T S	12	page 346

a. Local Determination Indicator is used only with template version 1. It is not available in version 0.

Template layout

The following tables illustrate the order and bit position of the fields contained in the call completion template. The first table shows the layout in the right-to-left format and the second table shows the layout in the left-to-right format. The bit positions that are shaded are unused.

Table 429 Call completion template layout, right-to-left format

word /bit	msb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	lsb 00
1	Originating Number (3)				Originating Number (2)				Originating Number (1)				Originating Number (0)			
2	Originating Number (7)				Originating Number (6)				Originating Number (5)				Originating Number (4)			
3	Originating Number (11)				Originating Number (10)				Originating Number (9)				Originating Number (8)			
4	Originating Number (15)				Originating Number (14)				Originating Number (13)				Originating Number (12)			
5	Originating Number (19)				Originating Number (18)				Originating Number (17)				Originating Number (16)			
6	LRN Calling Party (3)				LRN Calling Party (2)				LRN Calling Party (1)				LRN, Calling Party (0)			
7	LRN Calling Party (7)				LRN Calling Party (6)				LRN Calling Party (5)				LRN, Calling Party (4)			
8	SPID, Calling Party, Account Owner (0)								LRN Calling Party (9)				LRN, Calling Party (8)			
9	SPID, Calling Party, Account Owner (2)								SPID, Calling Party, Account Owner (1)							
10	OLNS Modified Service or Equipment Indicator								SPID, Calling Party, Account Owner (3)							
11	Clg Source	Incoming Trunk Group Number														
12	T S	S O	Incoming Trunk Member Number													
13	Service Feature				Date, Day				Date, Month				Date, Year			
14	Time, 10ths of Seconds				Time, Seconds						Time, Minutes					
15	Orig # Ind		S B I		Screening Code						Time, Hours					
16	Elapsed Time, Minutes															
17								Elapsed Time, 10ths				Elapsed Time, Seconds			
18	Acc Opr Work Time, 10th				Acc Oper Work Time, Seconds						Acc Oper Work Time, Minutes					
19	A C Val		Operator Id, Last Operator's Number													
20	Acct / Auth Code (1)				Acct / Auth Code (0)						Operator Id, Last Operator's Team Number					
21	Acct / Auth Code (5)				Acct / Auth Code (4)				Acct / Auth Code (3)				Acct / Auth Code (2)			
22	Acct / Auth Code (9)				Acct / Auth Code (8)				Acct / Auth Code (7)				Acct / Auth Code (6)			
23	Acct / Auth Code (13)				Acct / Auth Code (12)				Acct / Auth Code (11)				Acct / Auth Code (10)			
24				Calling Card Sequence Call Counter								CC Format		Billing Type Id		
25	Alternate Billing Num (3)				Alternate Billing Num (2)				Alternate Billing Num (1)				Alternate Billing Num (0)			
26	Alternate Billing Num (7)				Alternate Billing Num (6)				Alternate Billing Num (5)				Alternate Billing Num (4)			
27	Alternate Billing Num (11)				Alternate Billing Num (10)				Alternate Billing Num (9)				Alternate Billing Num (8)			
28	Alternate Billing Num (15)				Alternate Billing Num (14)				Alternate Billing Num (13)				Alternate Billing Num (12)			
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 429 Call completion template layout, right-to-left format

word /bit	msb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	lsb 00
29	Alternate Billing Num (19)				Alternate Billing Num (18)				Alternate Billing Num (17)				Alternate Billing Num (16)			
30	LIDB Response				Alternate Billing Num (22)				Alternate Billing Num (21)				Alternate Billing Num (20)			
31	LRN, Billed Party (1)				LRN, Billed Party (0)				CC Subaccount Num (1)				CC Subaccount Num (0)			
32	LRN, Billed Party (5)				LRN, Billed Party (4)				LRN, Billed Party (3)				LRN, Billed Party (2)			
33	LRN, Billed Party (9)				LRN, Billed Party (8)				LRN, Billed Party (7)				LRN, Billed Party (6)			
34	SPID, Billed Party, Account Owner (1)								SPID, Billed Party, Account Owner (0)							
35	SPID, Billed Party, Account Owner (3)								SPID, Billed Party, Account Owner (2)							
36	Opr Srv Sys Action				RAO Number (2)				RAO Number (1)				RAO Number (0)			
37	Multiplier Factor															
38	Amount of Charge															
39	Amount Deposited															
40	Hotel Room Number (0)								Rate Ind				Cn Cr Ind		Charge Ind	
41	Hotel Room Number (2)								Hotel Room Number (1)							
42	Hotel Room Number (4)								Hotel Room Number (3)							
43	Hotel Guest Name (0)								Hotel Room Number (5)							
44	Hotel Guest Name (2)								Hotel Guest Name (1)							
45			Car Agrmnt		Carrier Code Source				Hotel Guest Name (3)							
46	Carrier / NBEC (3)				Carrier / NBEC (2)				Carrier / NBEC (1)				Carrier / NBEC (0)			
47	SN Acc Elap Time, 10ths				SN Acc Elapsed Time, Seconds						SN Acc Elapsed Time, Minutes					
48	Service Node Identifier, Last															
49	Service Node Network Service Identifier															
50	Service Node Accumulated Number of Transactions															
51	Service Node Number of Nodes															
52	Terminating Num (3)				Terminating Num (2)				Terminating Num (1)				Terminating Num (0)			
53	Terminating Num (7)				Terminating Num (6)				Terminating Num (5)				Terminating Num (4)			
54	Terminating Num (11)				Terminating Num (10)				Terminating Num (9)				Terminating Num (8)			
55	Terminating Num (15)				Terminating Num (14)				Terminating Num (13)				Terminating Num (12)			
56	Terminating Num (19)				Terminating Num (18)				Terminating Num (17)				Terminating Num (16)			
57	LRN Called Party (3)				LRN Called Party (2)				LRN Called Party (1)				LRN, Called Party (0)			
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 429 Call completion template layout, right-to-left format

word /bit	15 (msb)	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00 (lsb)
58	LRN Called Party (7)				LRN Called Party (6)				LRN Called Party (5)				LRN, Called Party (4)			
59	SPID, Called Party, Account Owner (0)								LRN Called Party (9)				LRN, Called Party (8)			
60	SPID, Called Party, Account Owner (2)								SPID, Called Party, Account Owner (1)							
61	O C RI		O C STI			O C ECI			SPID, Called Party, Account Owner (3)							
62	O C ATI		Outgoing Trunk Group Number													
63	O C NPI		Outgoing Trunk Member Number													
64	Carrier Conn Date, Day					Carrier Call Event Status				Compl Ind			Ovs NPA		P I	TNI
65	▨	▨	▨	Carrier Conn Time, Hours					Carrier Con Date, Year				Carrier Con Date, Month			
66	Carrier Con Time, 10ths				Carrier Conn Time, Seconds						Carrier Conn Time, Minutes					
67	Carrier Elapsed Time, Minutes															
68	▨	▨	▨	▨	LOCLIND			Carrier Elapsd Time, 10th			Carrier Elapsed Time, Seconds					
69			CCC		Authcode		(1)				CCC		Authcode		(0)	
70			CCC		Authcode		(3)				CCC		Authcode		(2)	
71			CCC		Authcode		(5)				CCC		Authcode		(4)	
72			CCC		Authcode		(7)				CCC		Authcode		(6)	
73			CCC		Authcode		(9)				CCC		Authcode		(8)	
74			CCC		Authcode		(11)			CCC		Authcode		(10)		
75			CCC		Authcode		(13)			CCC		Authcode		(12)		
76	▨	▨	▨	▨	▨	▨	▨	▨			CCC		Authcode		(14)	
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 430 Call completion template layout, left-to-right format

word /bit	15 (lsb)	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00 (msb)
1	Originating Number (0)				Originating Number (1)				Originating Number (2)				Originating Number (3)			
2	Originating Number (4)				Originating Number (5)				Originating Number (6)				Originating Number (7)			
3	Originating Number (8)				Originating Number (9)				Originating Number (10)				Originating Number (11)			
4	Originating Number (12)				Originating Number (13)				Originating Number (14)				Originating Number (15)			
5	Originating Number (16)				Originating Number (17)				Originating Number (18)				Originating Number (19)			
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 430 Call completion template layout, left-to-right format

word /bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00
	lsb															msb
6	LRN Calling Party (0)				LRN Calling Party (1)				LRN Calling Party (2)				LRN, Calling Party (3)			
7	LRN Calling Party (4)				LRN Calling Party (5)				LRN Calling Party (6)				LRN, Calling Party (7)			
8	LRN Calling Party (8)				LRN, Calling Party (9)				SPID, Calling Party, Account Owner (0)							
9	SPID, Calling Party, Account Owner (1)								SPID, Calling Party, Account Owner (2)							
10	SPID, Calling Party, Account Owner (3)								OLNS Modified Service or Equipment Indicator							
11	Incoming Trunk Group Number														Clg Source	
12	Incoming Trunk Member Number														S O	T S
13	Date, Year				Date, Month				Date, Day				Service Feature			
14	Time, Minutes						Time, Seconds						Time, 10ths of Seconds			
15	Time, Hours						Screening Code							S B I	Orig # Ind	
16	Elapsed Time, Minutes															
17	Elapsed Time, Seconds						Elapsed Time, 10ths									
18	Acc Oper Work Time, Minutes						Acc Oper Work Time, Seconds						Acc Opr Work Time, 10th			
19	Operator Id, Last Operator's Number														A C Val	
20	Operator Id, Last Operator's Team Number								Acct / Auth Code (0)				Acct / Auth Code (1)			
21	Acct / Auth Code (2)				Acct / Auth Code (3)				Acct / Auth Code (4)				Acct / Auth Code (5)			
22	Acct / Auth Code (6)				Acct / Auth Code (7)				Acct / Auth Code (8)				Acct / Auth Code (9)			
23	Acct / Auth Code (10)				Acct / Auth Code (11)				Acct / Auth Code (12)				Acct / Auth Code (13)			
24	Billing Type Id			Cc Format			Calling Card Sequence Call Counter									
25	Alternate Billing Num (0)				Alternate Billing Num (1)				Alternate Billing Num (2)				Alternate Billing Num (3)			
26	Alternate Billing Num (4)				Alternate Billing Num (5)				Alternate Billing Num (6)				Alternate Billing Num (7)			
27	Alternate Billing Num (8)				Alternate Billing Num (9)				Alternate Billing Num (10)				Alternate Billing Num (11)			
28	Alternate Billing Num (12)				Alternate Billing Num (13)				Alternate Billing Num (14)				Alternate Billing Num (15)			
29	Alternate Billing Num (16)				Alternate Billing Num (17)				Alternate Billing Num (18)				Alternate Billing Num (19)			
30	Alternate Billing Num (20)				Alternate Billing Num (21)				Alternate Billing Num (22)				LIDB Response			
31	CC Subaccount Num (0)				CC Subaccount Num (1)				LRN, Billed Party (0)				LRN, Billed Party (1)			
32	LRN, Billed Party (2)				LRN, Billed Party (3)				LRN, Billed Party (4)				LRN, Billed Party (5)			
33	LRN, Billed Party (6)				LRN, Billed Party (7)				LRN, Billed Party (8)				LRN, Billed Party (9)			
34	SPID, Billed Party, Account Owner (0)								SPID, Billed Party, Account Owner (1)							
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 430 Call completion template layout, left-to-right format

word /bit	lsb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	msb 00
35	SPID, Billed Party, Account Owner (2)								SPID, Billed Party, Account Owner (3)							
36	RAO Number (0)				RAO Number (1)				RAO Number (2)				Opr Srv Sys Action			
37	Multiplier Factor															
38	Amount of Charge															
39	Amount Deposited															
40	Charge Ind			Cn Cr Ind			Rate Ind				Hotel Room Number (0)					
41	Hotel Room Number (1)								Hotel Room Number (2)							
42	Hotel Room Number (3)								Hotel Room Number (4)							
43	Hotel Room Number (5)								Hotel Guest Name (0)							
44	Hotel Guest Name (1)								Hotel Guest Name (2)							
45	Hotel Guest Name (3)								Carrier Code Source				Car Agrmnt			
46	Carrier / NBEC (0)				Carrier / NBEC (1)				Carrier / NBEC (2)				Carrier / NBEC (3)			
47	SN Acc Elapsed Time, Minutes						SN Acc Elapsed Time, Seconds						SN Acc Elap Time, 10ths			
48	Service Node Identifier, Last															
49	Service Node Network Service Identifier															
50	Service Node Accumulated Number of Transactions															
51	Service Node Number of Nodes															
52	Terminating Num (0)				Terminating Num (1)				Terminating Num (2)				Terminating Num (3)			
53	Terminating Num (4)				Terminating Num (5)				Terminating Num (6)				Terminating Num (7)			
54	Terminating Num (8)				Terminating Num (9)				Terminating Num (10)				Terminating Num (11)			
55	Terminating Num (12)				Terminating Num (13)				Terminating Num (14)				Terminating Num (15)			
56	Terminating Num (16)				Terminating Num (17)				Terminating Num (18)				Terminating Num (19)			
57	LRN Called Party (0)				LRN Called Party (1)				LRN Called Party (2)				LRN, Called Party (3)			
58	LRN Called Party (4)				LRN Called Party (5)				LRN Called Party (6)				LRN, Called Party (7)			
59	LRN Called Party (8)				LRN, Called Party (9)				SPID, Called Party, Account Owner (0)							
60	SPID, Called Party, Account Owner (1)								SPID, Called Party, Account Owner (2)							
61	SPID, Called Party, Account Owner (3)								O C ECI				O C STI		O C RI	
62	Outgoing Trunk Group Number															O C ATI
63	Outgoing Trunk Member Number															O C NPI
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 430 Call completion template layout, left-to-right format

word/bit	lsb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	msb 00
64	TNI	P I	Ovs NPA		Compl Ind			Carrier Call Event Status				Carrier Conn Date, Day				
65	Carrier Con Date, Month				Carrier Con Date, Year				Carrier Conn Time, Hours							
66	Carrier Conn Time, Minutes						Carrier Conn Time, Seconds						Carrier Con Time, 10ths			
67	Carrier Elapsed Time, Minutes															
68	Carrier Elapsed Time, Seconds						Carrier Elapsd Time, 10th				LOCLIND					
69			CCC Authcode (0)								CCC Authcode (1)					
70			CCC Authcode (2)								CCC Authcode (3)					
71			CCC Authcode (4)								CCC Authcode (5)					
72			CCC Authcode (6)								CCC Authcode (7)					
73			CCC Authcode (8)								CCC Authcode (9)					
74			CCC Authcode (10)								CCC Authcode (11)					
75			CCC Authcode (12)								CCC Authcode (13)					
76			CCC Authcode (14)													
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Call transfer to carrier template

List of data fields

The following data fields, listed in alphabetical order, appear in the call transfer to carrier template. The abbreviation denotes the text used to specify the data field in the layout views. The word location identifies the specific word within the layout where the data field appears. The page number is a reference to the detailed description for the data field itself.

Note: This list does not contain the data fields found in the template header, which is common to all TDR call templates.

Table 431 Data fields contained in the call transfer to carrier template

Data field	Abbreviation in template	Word location	Page number
Accumulated operator work time, minutes	Acc Oper Work Time, Minutes	17	page 40
Accumulated operator work time, seconds	Acc Oper Work Time, Seconds	18	page 41
Accumulated operator work time, tenths of seconds	Acc Oper Work Time, 10th	18	page 42

Table 431 Data fields contained in the call transfer to carrier template

Data field	Abbreviation in template	Word location	Page number
Calling number source	Clg Source	11	page 70
Carrier / NBEC code	Carrier / NBEC	21	page 101
Carrier agreement table	Car Agrmnt	19	page 76
Carrier call event status	Carrier Call Event Status	29	page 78
Carrier code source	Carrier Code Source	20	page 82
Carrier connect date, day	Carrier Conn Date, Day	20	page 84
Carrier connect date, month	Carrier Con Date, Month	29	page 86
Carrier connect date, year	Carrier Con Date, Year	29	page 88
Carrier connect time, hours	Carrier Conn Time, Hours	32	page 90
Carrier connect time, minutes	Carrier Conn Time, Minutes	30	page 92
Carrier connect time, seconds	Carrier Conn Time, Seconds	30	page 94
Carrier connect time, tenths of seconds	Carrier Conn Time, 10ths	30	page 96
Carrier elapsed time, minutes	Carrier Elapsed Time, Minutes	31	page 98
Carrier elapsed time, seconds	Carrier Elapsed Time, Seconds	18	page 99
Carrier elapsed time, tenths of seconds	Carrier Elapsd Time, 10th	29	page 100
Date, day	Date, Day	13	page 127
Date, month	Date, Month	13	page 129
Date, year	Date, Year	13	page 131
Elapsed time, minutes	Elapsed Time, Minutes	16	page 133
Elapsed time, seconds	Elapsed Time, Seconds	17	page 135
Elapsed time, tenths of seconds	Elapsed Time, 10ths	17	page 137
Incoming trunk group number	Incoming Trunk Group Number	11	page 144
Incoming trunk member number	Incoming Trunk Member Number	12	page 145
LRN, calling party	LRN, Calling Party	6 - 8	page 175
OLNS modified service or equipment indicator	OLNS Modified Service or Equipment Indicator	10	page 222

Table 431 Data fields contained in the call transfer to carrier template

Data field	Abbreviation in template	Word location	Page number
Operator id, last operator's number	Operator Id, Last Operator's Number	19	page 237
Operator id, last operator's team number	Operator Id, Last Operator's Team Number	20	page 238
Originating number	Originating Number	1 - 5	page 252
Originating number indicator	Orig # Ind	15	page 253
Outgoing trunk group number	Outgoing Trunk Group Number	27	page 265
Outgoing trunk member number	Outgoing Trunk Member Number	28	page 266
Screening code	Screening Code	15	page 293
Service feature	Service Feature	13	page 297
Service node accumulated elapsed time, minutes	SN Acc Elapsed Time, Minutes	22	page 302
Service node accumulated elapsed time, seconds	SN Acc Elapsed Time, Seconds	22	page 303
Service node accumulated elapsed time, tenths of seconds	SN Acc Elap Time, 10ths	22	page 304
Service node accumulated number of transactions	Service Node Accumulated Number of Transactions	25	page 305
Service node identifier, last	Service Node Identifier, Last	23	page 309
Service node network service identifier	Service Node Network Service Identifier	24	page 310
Service node number of nodes	Service Node Number of Nodes	26	page 312
Service observed	S O	12	page 313
SPID, calling party, account owner	SPID, Calling Party, Account Owner	8 - 10	page 320
Time, hours	Time, Hours	15	page 337
Time, minutes	Time, Minutes	14	page 339
Time, seconds	Time, Seconds	14	page 341
Time, tenths of seconds	Time, 10ths of Seconds	14	page 343

Table 431 Data fields contained in the call transfer to carrier template

Data field	Abbreviation in template	Word location	Page number
Traffic sampled	T S	12	page 346

Template layout

The following table illustrates the order and bit position of the fields contained in the call transfer to carrier template. The first table shows the layout in the right-to-left format and the second table shows the layout in the left-to-right format. The bit positions that are shaded are unused.

Table 432 Call transfer to carrier template layout, right-to-left layout

word /bit	msb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	lsb 00
1	Originating Number (3)				Originating Number (2)				Originating Number (1)				Originating Number (0)			
2	Originating Number (7)				Originating Number (6)				Originating Number (5)				Originating Number (4)			
3	Originating Number (11)				Originating Number (10)				Originating Number (9)				Originating Number (8)			
4	Originating Number (15)				Originating Number (14)				Originating Number (13)				Originating Number (12)			
5	Originating Number (19)				Originating Number (18)				Originating Number (17)				Originating Number (16)			
6	LRN Calling Party (3)				LRN Calling Party (2)				LRN Calling Party (1)				LRN, Calling Party (0)			
7	LRN Calling Party (7)				LRN Calling Party (6)				LRN Calling Party (5)				LRN, Calling Party (4)			
8	SPID, Calling Party, Account Owner (0)								LRN Calling Party (9)				LRN, Calling Party (8)			
9	SPID, Calling Party, Account Owner (2)								SPID, Calling Party, Account Owner (1)							
10	OLNS Modified Service or Equipment Indicator								SPID, Calling Party, Account Owner (3)							
11	Clg Source				Incoming Trunk Group Number											
12	T S		S O		Incoming Trunk Member Number											
13	Service Feature				Date, Day				Date, Month				Date, Year			
14	Time, 10ths of Seconds				Time, Seconds						Time, Minutes					
15	Orig # Ind		▨	▨	Screening Code							Time, Hours				
16	Elapsed Time, Minutes															
17	Acc Oper Work Time, Minutes					Elapsed Time, 10ths				Elapsed Time, Seconds						
18	Acc Opr Work Time, 10th				Acc Oper Work Time, Seconds					Carrier Elapsed Time, Seconds						
19	Car Agrmnt			Operator Id, Last Operator's Number												
20	Carrier Conn Date, Day					Carrier Code Source				Operator Id, Last Operator's Team Number						
bit	**15**	**14**	**13**	**12**	**11**	**10**	**09**	**08**	**07**	**06**	**05**	**04**	**03**	**02**	**01**	**00**

Table 432 Call transfer to carrier template layout, right-to-left layout

word/bit	msb															lsb
	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00
21	Carrier / NBEC (3)				Carrier / NBEC (2)				Carrier / NBEC (1)				Carrier / NBEC (0)			
22	SN Acc Elap Time, 10ths				SN Acc Elapsed Time, Seconds						SN Acc Elapsed Time, Minutes					
23	Service Node Identifier, Last															
24	Service Node Network Service Identifier															
25	Service Node Accumulated Number of Transactions															
26	Service Node Number of Nodes															
27			Outgoing Trunk Group Number													
28			Outgoing Trunk Member Number													
29	Carrier Elapsd Time, 10th				Carrier Con Date, Year				Carrier Con Date, Month				Carrier Call Event Status			
30	Carrier Con Time, 10ths				Carrier Conn Time, Seconds						Carrier Conn Time, Minutes					
31	Carrier Elapsed Time, Minutes															
32												Carrier Conn Time, Hours			
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 433 Call transfer to carrier template layout, left-to-right format

word/bit	lsb															msb
	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00
1	Originating Number (0)				Originating Number (1)				Originating Number (2)				Originating Number (3)			
2	Originating Number (4)				Originating Number (5)				Originating Number (6)				Originating Number (7)			
3	Originating Number (8)				Originating Number (9)				Originating Number (10)				Originating Number (11)			
4	Originating Number (12)				Originating Number (13)				Originating Number (14)				Originating Number (15)			
5	Originating Number (16)				Originating Number (17)				Originating Number (18)				Originating Number (19)			
6	LRN Calling Party (0)				LRN Calling Party (1)				LRN Calling Party (2)				LRN, Calling Party (3)			
7	LRN Calling Party (4)				LRN Calling Party (5)				LRN Calling Party (6)				LRN, Calling Party (7)			
8	LRN Calling Party (8)				LRN, Calling Party (9)				SPID, Calling Party, Account Owner (0)							
9	SPID, Calling Party, Account Owner (1)								SPID, Calling Party, Account Owner (2)							
10	SPID, Calling Party, Account Owner (3)								OLNS Modified Service or Equipment Indicator							
11	Incoming Trunk Group Number														Clg Source	
12	Incoming Trunk Member Number														S O	T S
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 433 Call transfer to carrier template layout, left-to-right format

word /bit	lsb															msb
	15	**14**	**13**	**12**	**11**	**10**	**09**	**08**	**07**	**06**	**05**	**04**	**03**	**02**	**01**	**00**
13	Date, Year					Date, Month				Date, Day				Service Feature		
14	Time, Minutes						Time, Seconds					Time, 10ths of Seconds				
15	Time, Hours					Screening Code										Orig # Ind
16	Elapsed Time, Minutes															
17	Elapsed Time, Seconds						Elapsed Time, 10ths				Acc Oper Work Time, Minutes					
18	Carrier Elapsed Time, Seconds						Acc Oper Work Time, Seconds					Acc Opr Work Time, 10th				
19	Operator Id, Last Operator's Number															Car Agrmnt
20	Operator Id, Last Operator's Team Number							Carrier Code Source				Carrier Conn Date, Day				
21	Carrier / NBEC (0)				Carrier / NBEC (1)				Carrier / NBEC (2)				Carrier / NBEC (3)			
22	SN Acc Elapsed Time, Minutes						SN Acc Elapsed Time, Seconds					SN Acc Elap Time, 10ths				
23	Service Node Identifier, Last															
24	Service Node Network Service Identifier															
25	Service Node Accumulated Number of Transactions															
26	Service Node Number of Nodes															
27	Outgoing Trunk Group Number															
28	Outgoing Trunk Member Number															
29	Carrier Call Event Status				Carrier Con Date, Month				Carrier Con Date, Year				Carrier Elapsd Time, 10th			
30	Carrier Conn Time, Minutes						Carrier Conn Time, Seconds					Carrier Con Time, 10ths				
31	Carrier Elapsed Time, Minutes															
32	Carrier Conn Time, Hours															
bit	**15**	**14**	**13**	**12**	**11**	**10**	**09**	**08**	**07**	**06**	**05**	**04**	**03**	**02**	**01**	**00**

Listing services template

List of data fields

The following data fields, listed in alphabetical order, appear in the listing services template. The abbreviation denotes the text used to specify the data field in the layout views. The word location identifies the specific word within the layout where the data field appears. The page number is a reference to the detailed description for the data field itself.

Note: This list does not contain the data fields found in the template header, which is common to all TDR call templates.

Table 434 Data fields contained in the listing services template

Data field	Abbreviation in template	Word location	Page number
Account code / authorization code number	Acct / Auth Code	20 - 23	page 35
Account code / authorization code validation	A C Val	19	page 38
Accumulated operator work time, minutes	Acc Oper Work Time, Minutes	18	page 40
Accumulated operator work time, seconds	Acc Oper Work Time, Seconds	18	page 41
Accumulated operator work time, tenths of seconds	Acc Oper Work Time, 10th	18	page 42
Alternate billing number	Alternate Billing Num	25 - 30	page 44
Amount deposited	Amount Deposited	39	page 47
Amount of charge	Amount of Charge	38	page 49
Billing type identification	Billing Type Id	24	page 54
Calling card format identifier	CC Format	24	page 66
Calling card sequence call counter	Calling Card Sequence Call Counter	24	page 68
Calling card subaccount number	CC Subaccount Num	31	page 69
Calling number source	Clg Source	11	page 70
Carrier / NBEC code	Carrier / NBEC	46	page 101
Carrier agreement table	Car Agrmnt	45	page 76
Carrier code source	Carrier Code Source	45	page 82
Charge indicator	Charge Ind	40	page 109
Coin credit indicator	Cn Cr Ind	40	page 111
Commercial Credit Card Authcode	CCC Authcode	67	page 113
Date, day	Date, Day	13	page 127
Date, month	Date, Month	13	page 129
Date, year	Date, Year	13	page 131
Elapsed time, minutes	Elapsed Time, Minutes	16	page 133
Elapsed time, seconds	Elapsed Time, Seconds	17	page 135

Table 434 Data fields contained in the listing services template

Data field	Abbreviation in template	Word location	Page number
Elapsed time, tenths of seconds	Elapsed Time, 10ths	17	page 137
Hotel guest name	Hotel Guest Name	43 - 45	page 142
Hotel room number	Hotel Room Number	40 - 43	page 143
Incoming trunk group number	Incoming Trunk Group Number	11	page 144
Incoming trunk member number	Incoming Trunk Member Number	12	page 145
LIDB response	LIDB Response	30	page 148
Listing response	Listing Response	52	page 151
Listing services forward number	LS Forward Num	59 - 63	page 153
Listing services request counter	Listing Services Request Counter	52	page 155
Listing services requested number	LS Requested Num	54 - 58	page 156
Listing status, existence indicator	LS, EI	53	page 157
Listing status, listing found indicator	LS, LFI	53	page 158
Listing status, local directory indicator	LS, LDI	53	page 159
Listing status, LSDB billing indicator	LS, LBI	53	page 160
Listing status, operator billing indicator	LS, OBI	53	page 161
Listing status, posting indicator	LS, PI	53	page 162
Listing status, publishing indicator	LS, Pub Ind	52	page 163
LRN, billed party	LRN, Billed Party	31 - 33	page 166
LRN, calling party	LRN, Calling Party	6 - 8	page 175
Multiplier factor	Multiplier Factor	37	page 190
OLNS modified service or equipment indicator	OLNS Modified Service or Equipment Indicator	10	page 222
Operator id, last operator's number	Operator Id, Last Operator's Number	19	page 237
Operator id, last operator's team number	Operator Id, Last Operator's Team Number	20	page 238
Operator services system action	Opr Srv Sys Action	36	page 248
Originating number	Originating Number	1 - 5	page 252

Table 434 Data fields contained in the listing services template

Data field	Abbreviation in template	Word location	Page number
Originating number indicator	Orig # Ind	15	page 253
RAO number	RAO Number	36	page 276
Rate Indicator	Rate Ind	40	page 278
Screening code	Screening Code	15	page 293
Service feature	Service Feature	13	page 297
Service identifier	Service Id	66	page 300
Service node accumulated elapsed time, minutes	SN Acc Elapsed Time, Minutes	47	page 302
Service node accumulated elapsed time, seconds	SN Acc Elapsed Time, Seconds	47	page 303
Service node accumulated elapsed time, tenths of seconds	SN Acc Elap Time, 10ths	47	page 304
Service node accumulated number of transactions	Service Node Accumulated Number of Transactions	50	page 305
Service node identifier, last	Service Node Identifier, Last	48	page 309
Service node network service identifier	Service Node Network Service Identifier	49	page 310
Service node number of nodes	Service Node Number of Nodes	51	page 312
Service observed	S O	12	page 313
SPID, billed party, account owner	SPID, Billed Party, Account Owner	34 - 35	page 316
SPID, calling party, account owner	SPID, Calling Party, Account Owner	8 - 10	page 320
SPID, requested party, account owner	SPID, Requested Party, Account Owner	64 - 65	page 322
Subscriber billing indicator	S B I	15	page 325
Time, hours	Time, Hours	15	page 337
Time, minutes	Time, Minutes	14	page 339
Time, seconds	Time, Seconds	14	page 341
Time, tenths of seconds	Time, 10ths of Seconds	14	page 343

Table 434 Data fields contained in the listing services template

Data field	Abbreviation in template	Word location	Page number
Traffic sampled	T S	12	page 346

Template layout

The following table illustrates the order and bit position of the fields contained in the listing services template. The first table shows the layout in the right-to-left format and the second table shows the layout in the left-to-right format. The bit positions that are shaded are unused.

Table 435 Listing services template layout, right-to-left layout

word /bit	msb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	lsb 00
1	Originating Number (3)				Originating Number (2)				Originating Number (1)				Originating Number (0)			
2	Originating Number (7)				Originating Number (6)				Originating Number (5)				Originating Number (4)			
3	Originating Number (11)				Originating Number (10)				Originating Number (9)				Originating Number (8)			
4	Originating Number (15)				Originating Number (14)				Originating Number (13)				Originating Number (12)			
5	Originating Number (19)				Originating Number (18)				Originating Number (17)				Originating Number (16)			
6	LRN Calling Party (3)				LRN Calling Party (2)				LRN Calling Party (1)				LRN, Calling Party (0)			
7	LRN Calling Party (7)				LRN Calling Party (6)				LRN Calling Party (5)				LRN, Calling Party (4)			
8	SPID, Calling Party, Account Owner (0)								LRN Calling Party (9)				LRN, Calling Party (8)			
9	SPID, Calling Party, Account Owner (2)								SPID, Calling Party, Account Owner (1)							
10	OLNS Modified Service or Equipment Indicator								SPID, Calling Party, Account Owner (3)							
11	Clg Source			Incoming Trunk Group Number												
12	T S	S O		Incoming Trunk Member Number												
13	Service Feature			Date, Day				Date, Month				Date, Year			
14	Time, 10ths of Seconds				Time, Seconds					Time, Minutes						
15	Orig # Ind	S B I		Screening Code						Time, Hours						
16	Elapsed Time, Minutes															
17							Elapsed Time, 10ths				Elapsed Time, Seconds					
18	Acc Opr Work Time, 10th				Acc Oper Work Time, Seconds					Acc Oper Work Time, Minutes						
19	A C Val			Operator Id, Last Operator's Number												
20	Acct / Auth Code (1)				Acct / Auth Code (0)					Operator Id, Last Operator's Team Number						
bit	**15**	**14**	**13**	**12**	**11**	**10**	**09**	**08**	**07**	**06**	**05**	**04**	**03**	**02**	**01**	**00**

Table 435 Listing services template layout, right-to-left layout

word /bit	msb															lsb
	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00
21	Acct / Auth Code (5)				Acct / Auth Code (4)				Acct / Auth Code (3)				Acct / Auth Code (2)			
22	Acct / Auth Code (9)				Acct / Auth Code (8)				Acct / Auth Code (7)				Acct / Auth Code (6)			
23	Acct / Auth Code (13)				Acct / Auth Code (12)				Acct / Auth Code (11)				Acct / Auth Code (10)			
24	▓		Calling Card Sequence Call Counter									CC Format		Billing Type Id		
25	Alternate Billing Num (3)				Alternate Billing Num (2)				Alternate Billing Num (1)				Alternate Billing Num (0)			
26	Alternate Billing Num (7)				Alternate Billing Num (6)				Alternate Billing Num (5)				Alternate Billing Num (4)			
27	Alternate Billing Num (11)				Alternate Billing Num (10)				Alternate Billing Num (9)				Alternate Billing Num (8)			
28	Alternate Billing Num (15)				Alternate Billing Num (14)				Alternate Billing Num (13)				Alternate Billing Num (12)			
29	Alternate Billing Num (19)				Alternate Billing Num (18)				Alternate Billing Num (17)				Alternate Billing Num (16)			
30	LIDB Response				Alternate Billing Num (22)				Alternate Billing Num (21)				Alternate Billing Num (20)			
31	LRN, Billed Party (1)				LRN, Billed Party (0)				CC Subaccount Num (1)				CC Subaccount Num (0)			
32	LRN, Billed Party (5)				LRN, Billed Party (4)				LRN, Billed Party (3)				LRN, Billed Party (2)			
33	LRN, Billed Party (9)				LRN, Billed Party (8)				LRN, Billed Party (7)				LRN, Billed Party (6)			
34	SPID, Billed Party, Account Owner (1)								SPID, Billed Party, Account Owner (0)							
35	SPID, Billed Party, Account Owner (3)								SPID, Billed Party, Account Owner (2)							
36	Opr Srv Sys Action				RAO Number (2)				RAO Number (1)				RAO Number (0)			
37	Multiplier Factor															
38	Amount of Charge															
39	Amount Deposited															
40	Hotel Room Number (0)								Rate Ind				Cn Cr Ind		Charge Ind	
41	Hotel Room Number (2)								Hotel Room Number (1)							
42	Hotel Room Number (4)								Hotel Room Number (3)							
43	Hotel Guest Name (0)								Hotel Room Number (5)							
44	Hotel Guest Name (2)								Hotel Guest Name (1)							
45	▓		Car Agrmnt		Carrier Code Source				Hotel Guest Name (3)							
46	Carrier / NBEC (3)				Carrier / NBEC (2)				Carrier / NBEC (1)				Carrier / NBEC (0)			
47	SN Acc Elap Time, 10ths				SN Acc Elapsed Time, Seconds						SN Acc Elapsed Time, Minutes					
48	Service Node Identifier, Last															
49	Service Node Network Service Identifier															
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 435 Listing services template layout, right-to-left layout

word /bit	msb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	lsb 00
50	Service Node Accumulated Number of Transactions															
51	Service Node Number of Nodes															
52	LS, Pub Ind				Listing Response				Listing Services Request Counter							
53					LS, PI		LS, OBI		LS, LBI		LS, LDI		LS, LFI		LS, EI	
54	LS Requested Num (3)				LS Requested Num (2)				LS Requested Num (1)				LS Requested Num (0)			
55	LS Requested Num (7)				LS Requested Num (6)				LS Requested Num (5)				LS Requested Num (4)			
56	LS Requested Num (11)				LS Requested Num (10)				LS Requested Num (9)				LS Requested Num (8)			
57	LS Requested Num (15)				LS Requested Num (14)				LS Requested Num (13)				LS Requested Num (12)			
58	LS Requested Num (19)				LS Requested Num (18)				LS Requested Num (17)				LS Requested Num (16)			
59	LS Forward Num (3)				LS Forward Num (2)				LS Forward Num (1)				LS Forward Num (0)			
60	LS Forward Num (7)				LS Forward Num (6)				LS Forward Num (5)				LS Forward Num (4)			
61	LS Forward Num (11)				LS Forward Num (10)				LS Forward Num (9)				LS Forward Num (8)			
62	LS Forward Num (15)				LS Forward Num (14)				LS Forward Num (13)				LS Forward Num (12)			
63	LS Forward Num (19)				LS Forward Num (18)				LS Forward Num (17)				LS Forward Num (16)			
64	SPID, Requested Party, Account Owner (1)								SPID, Requested Party, Account Owner (0)							
65	SPID, Requested Party, Account Owner (3)								SPID, Requested Party, Account Owner (2)							
66					Service Id (2)				Service Id (1)				Service Id (0)			
67			CCC Authcode (1)								CCC Authcode (0)					
68			CCC Authcode (3)								CCC Authcode (2)					
69			CCC Authcode (5)								CCC Authcode (4)					
70			CCC Authcode (7)								CCC Authcode (6)					
71			CCC Authcode (9)								CCC Authcode (8)					
72			CCC Authcode (11)								CCC Authcode (10)					
73			CCC Authcode (13)								CCC Authcode (12)					
74											CCC Authcode (14)					
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 436 Listing services template layout, left-to-right format

word /bit	lsb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	msb 00
1	Originating Number (0)				Originating Number (1)				Originating Number (2)				Originating Number (3)			
2	Originating Number (4)				Originating Number (5)				Originating Number (6)				Originating Number (7)			
3	Originating Number (8)				Originating Number (9)				Originating Number (10)				Originating Number (11)			
4	Originating Number (12)				Originating Number (13)				Originating Number (14)				Originating Number (15)			
5	Originating Number (16)				Originating Number (17)				Originating Number (18)				Originating Number (19)			
6	LRN Calling Party (0)				LRN Calling Party (1)				LRN Calling Party (2)				LRN, Calling Party (3)			
7	LRN Calling Party (4)				LRN Calling Party (5)				LRN Calling Party (6)				LRN, Calling Party (7)			
8	LRN Calling Party (8)				LRN, Calling Party (9)				SPID, Calling Party, Account Owner (0)							
9	SPID, Calling Party, Account Owner (1)								SPID, Calling Party, Account Owner (2)							
10	SPID, Calling Party, Account Owner (3)								OLNS Modified Service or Equipment Indicator							
11	Incoming Trunk Group Number														Clg Source	
12	Incoming Trunk Member Number														S O	T S
13	Date, Year					Date, Month					Date, Day				Service Feature	
14	Time, Minutes						Time, Seconds						Time, 10ths of Seconds			
15	Time, Hours					Screening Code								S B I	Orig # Ind	
16	Elapsed Time, Minutes															
17	Elapsed Time, Seconds					Elapsed Time, 10ths										
18	Acc Oper Work Time, Minutes						Acc Oper Work Time, Seconds						Acc Opr Work Time, 10th			
19	Operator Id, Last Operator's Number														A C Val	
20	Operator Id, Last Operator's Team Number								Acct / Auth Code (0)				Acct / Auth Code (1)			
21	Acct / Auth Code (2)				Acct / Auth Code (3)				Acct / Auth Code (4)				Acct / Auth Code (5)			
22	Acct / Auth Code (6)				Acct / Auth Code (7)				Acct / Auth Code (8)				Acct / Auth Code (9)			
23	Acct / Auth Code (10)				Acct / Auth Code (11)				Acct / Auth Code (12)				Acct / Auth Code (13)			
24	Billing Type Id			CC Format			Calling Card Sequence Call Counter									
25	Alternate Billing Num (0)				Alternate Billing Num (1)				Alternate Billing Num (2)				Alternate Billing Num (3)			
26	Alternate Billing Num (4)				Alternate Billing Num (5)				Alternate Billing Num (6)				Alternate Billing Num (7)			
27	Alternate Billing Num (8)				Alternate Billing Num (9)				Alternate Billing Num (10)				Alternate Billing Num (11)			
28	Alternate Billing Num (12)				Alternate Billing Num (13)				Alternate Billing Num (14)				Alternate Billing Num (15)			
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 436 Listing services template layout, left-to-right format

word /bit	lsb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	msb 00
29	Alternate Billing Num (16)				Alternate Billing Num (17)				Alternate Billing Num (18)				Alternate Billing Num (19)			
30	Alternate Billing Num (20)				Alternate Billing Num (21)				Alternate Billing Num (22)				LIDB Response			
31	CC Subaccount Num (0)				CC Subaccount Num (1)				LRN, Billed Party (0)				LRN, Billed Party (1)			
32	LRN, Billed Party (2)				LRN, Billed Party (3)				LRN, Billed Party (4)				LRN, Billed Party (5)			
33	LRN, Billed Party (6)				LRN, Billed Party (7)				LRN, Billed Party (8)				LRN, Billed Party (9)			
34	SPID, Billed Party, Account Owner (0)								SPID, Billed Party, Account Owner (1)							
35	SPID, Billed Party, Account Owner (2)								SPID, Billed Party, Account Owner (3)							
36	RAO Number (0)				RAO Number (1)				RAO Number (2)				Opr Srv Sys Action			
37	Multiplier Factor															
38	Amount of Charge															
39	Amount Deposited															
40	Charge Ind			Cn Cr Ind		Rate Ind			Hotel Room Number (0)							
41	Hotel Room Number (1)								Hotel Room Number (2)							
42	Hotel Room Number (3)								Hotel Room Number (4)							
43	Hotel Room Number (5)								Hotel Guest Name (0)							
44	Hotel Guest Name (1)								Hotel Guest Name (2)							
45	Hotel Guest Name (3)								Carrier Code Source				Car Agrmnt			
46	Carrier / NBEC (0)				Carrier / NBEC (1)				Carrier / NBEC (2)				Carrier / NBEC (3)			
47	SN Acc Elapsed Time, Minutes						SN Acc Elapsed Time, Seconds						SN Acc Elap Time, 10ths			
48	Service Node Identifier, Last															
49	Service Node Network Service Identifier															
50	Service Node Accumulated Number of Transactions															
51	Service Node Number of Nodes															
52	Listing Services Request Counter									Listing Response			LS, Pub Ind			
53	LS, EI		LS, LFI		LS, LDI		LS, LBI		LS, OBI		LS, PI					
54	LS Requested Num (0)				LS Requested Num (1)				LS Requested Num (2)				LS Requested Num (3)			
55	LS Requested Num (4)				LS Requested Num (5)				LS Requested Num (6)				LS Requested Num (7)			
56	LS Requested Num (8)				LS Requested Num (9)				LS Requested Num (10)				LS Requested Num (11)			
57	LS Requested Num (12)				LS Requested Num (13)				LS Requested Num (14)				LS Requested Num (15)			
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 436 Listing services template layout, left-to-right format

word /bit	lsb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	msb 00
58	LS Requested Num (16)				LS Requested Num (17)				LS Requested Num (18)				LS Requested Num (19)			
59	LS Forward Num (0)				LS Forward Num (1)				LS Forward Num (2)				LS Forward Num (3)			
60	LS Forward Num (4)				LS Forward Num (5)				LS Forward Num (6)				LS Forward Num (7)			
61	LS Forward Num (8)				LS Forward Num (9)				LS Forward Num (10)				LS Forward Num (11)			
62	LS Forward Num (12)				LS Forward Num (13)				LS Forward Num (14)				LS Forward Num (15)			
63	LS Forward Num (16)				LS Forward Num (17)				LS Forward Num (18)				LS Forward Num (19)			
64	SPID, Requested Party, Account Owner (0)								SPID, Requested Party, Account Owner (1)							
65	SPID, Requested Party, Account Owner (2)								SPID, Requested Party, Account Owner (3)							
66	Service Id (0)				Service Id (1)				Service Id (2)							
67			CCC Authcode (0)								CCC Authcode (1)					
68			CCC Authcode (2)								CCC Authcode (3)					
69			CCC Authcode (4)								CCC Authcode (5)					
70			CCC Authcode (6)								CCC Authcode (7)					
71			CCC Authcode (8)								CCC Authcode (9)					
72			CCC Authcode (10)								CCC Authcode (11)					
73			CCC Authcode (12)								CCC Authcode (13)					
74			CCC Authcode (14)													
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

BLV / interrupt template

List of data fields

The following data fields, listed in alphabetical order, appear in the BLV / interrupt template. The abbreviation denotes the text used to specify the data field in the layout views. The word location identifies the specific word within the layout where the data field appears. The page number is a reference to the detailed description for the data field itself.

Note: This list does not contain the data fields found in the template header, which is common to all TDR call templates.

Table 437 Data fields contained in the BLV / interrupt template

Data field	Abbreviation in template	Word location	Page number
Account code / authorization code number	Acct / Auth Code	20 - 23	page 35

Table 437 Data fields contained in the BLV / interrupt template

Data field	Abbreviation in template	Word location	Page number
Account code / authorization code validation	A C Val	19	page 38
Accumulated operator work time, minutes	Acc Oper Work Time, Minutes	18	page 40
Accumulated operator work time, seconds	Acc Oper Work Time, Seconds	18	page 41
Accumulated operator work time, tenths of seconds	Acc Oper Work Time, 10th	18	page 42
Alternate billing number	Alternate Billing Num	25 - 30	page 44
Amount deposited	Amount Deposited	39	page 47
Amount of charge	Amount of Charge	38	page 49
Billing type identification	Billing Type Id	24	page 54
BLV / interrupt request	BLV Req	61	page 58
Calling card format identifier	CC Format	24	page 66
Calling card sequence call counter	Calling Card Sequence Call Counter	24	page 68
Calling card subaccount number	CC Subaccount Num	31	page 69
Calling number source	Clg Source	11	page 70
Carrier / NBEC code	Carrier / NBEC	46	page 101
Carrier agreement table	Car Agrmnt	45	page 76
Carrier code source	Carrier Code Source	45	page 82
Charge indicator	Charge Ind	40	page 109
Coin credit indicator	Cn Cr Ind	40	page 111
Commercial Credit Card Authcode	CCC Authcode	64	page 113
Date, day	Date, Day	13	page 127
Date, month	Date, Month	13	page 129
Date, year	Date, Year	13	page 131
Elapsed time, minutes	Elapsed Time, Minutes	16	page 133
Elapsed time, seconds	Elapsed Time, Seconds	17	page 135
Elapsed time, tenths of seconds	Elapsed Time, 10ths	17	page 137
Hotel guest name	Hotel Guest Name	43 - 45	page 142

Table 437 Data fields contained in the BLV / interrupt template

Data field	Abbreviation in template	Word location	Page number
Hotel room number	Hotel Room Number	40 - 43	page 143
Incoming trunk group number	Incoming Trunk Group Number	11	page 144
Incoming trunk member number	Incoming Trunk Member Number	12	page 145
LIDB response	LIDB Response	30	page 148
LRN, billed party	LRN, Billed Party	31 - 33	page 166
LRN, called party	LRN, Called Party	57 - 59	page 171
LRN, calling party	LRN, Calling Party	6 - 8	page 175
Multiplier factor	Multiplier Factor	37	page 190
OLNS modified service or equipment indicator	OLNS Modified Service or Equipment Indicator	10	page 222
Operator id, last operator's number	Operator Id, Last Operator's Number	19	page 237
Operator id, last operator's team number	Operator Id, Last Operator's Team Number	20	page 238
Operator services system action	Opr Srv Sys Action	36	page 248
Originating number	Originating Number	1 - 5	page 252
Originating number indicator	Orig # Ind	15	page 253
Outgoing trunk group number	Outgoing Trunk Group Number	62	page 265
Outgoing trunk member number	Outgoing Trunk Member Number	63	page 266
RAO number	RAO Number	36	page 276
Rate Indicator	Rate Ind	40	page 278
Screening code	Screening Code	15	page 293
Service feature	Service Feature	13	page 297
Service node accumulated elapsed time, minutes	SN Acc Elapsed Time, Minutes	47	page 302
Service node accumulated elapsed time, seconds	SN Acc Elapsed Time, Seconds	47	page 303
Service node accumulated elapsed time, tenths of seconds	SN Acc Elap Time, 10ths	47	page 304

Table 437 Data fields contained in the BLV / interrupt template

Data field	Abbreviation in template	Word location	Page number
Service node accumulated number of transactions	Service Node Accumulated Number of Transactions	50	page 305
Service node identifier, last	Service Node Identifier, Last	48	page 309
Service node network service identifier	Service Node Network Service Identifier	49	page 310
Service node number of nodes	Service Node Number of Nodes	51	page 312
Service observed	S O	12	page 313
SPID, billed party, account owner	SPID, Billed Party, Account Owner	34 - 35	page 316
SPID, called party, account owner	SPID, Called Party, Account Owner	59 - 61	page 318
SPID, calling party, account owner	SPID, Calling Party, Account Owner	8 - 10	page 320
Subscriber billing indicator	S B I	15	page 325
Terminating number	Terminating Num	52 - 56	page 331
Terminating number indicator	TNI	61	page 332
Time, hours	Time, Hours	15	page 337
Time, minutes	Time, Minutes	14	page 339
Time, seconds	Time, Seconds	14	page 341
Time, tenths of seconds	Time, 10ths of Seconds	14	page 343
Traffic sampled	T S	12	page 346

Template layout

The following table illustrates the order and bit position of the fields contained in the BLV / interrupt template. The first table shows the layout in the right-to-left format and the second table shows the layout in the left-to-right format. The bit positions that are shaded are unused.

Table 438 BLV / interrupt template layout, right-to-left format

word /bit	msb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	lsb 00
1	Originating Number (3)				Originating Number (2)				Originating Number (1)				Originating Number (0)			
2	Originating Number (7)				Originating Number (6)				Originating Number (5)				Originating Number (4)			
3	Originating Number (11)				Originating Number (10)				Originating Number (9)				Originating Number (8)			
4	Originating Number (15)				Originating Number (14)				Originating Number (13)				Originating Number (12)			
5	Originating Number (19)				Originating Number (18)				Originating Number (17)				Originating Number (16)			
6	LRN Calling Party (3)				LRN Calling Party (2)				LRN Calling Party (1)				LRN, Calling Party (0)			
7	LRN Calling Party (7)				LRN Calling Party (6)				LRN Calling Party (5)				LRN, Calling Party (4)			
8	SPID, Calling Party, Account Owner (0)								LRN Calling Party (9)				LRN, Calling Party (8)			
9	SPID, Calling Party, Account Owner (2)								SPID, Calling Party, Account Owner (1)							
10	OLNS Modified Service or Equipment Indicator								SPID, Calling Party, Account Owner (3)							
11	Clg Source		Incoming Trunk Group Number													
12	T S	S O	Incoming Trunk Member Number													
13	Service Feature				Date, Day				Date, Month				Date, Year			
14	Time, 10ths of Seconds				Time, Seconds						Time, Minutes					
15	Orig # Ind		S B I				Screening Code						Time, Hours			
16	Elapsed Time, Minutes															
17							Elapsed Time, 10ths				Elapsed Time, Seconds					
18	Acc Opr Work Time, 10th				Acc Oper Work Time, Seconds						Acc Oper Work Time, Minutes					
19	A C Val			Operator Id, Last Operator's Number												
20	Acct / Auth Code (1)				Acct / Auth Code (0)						Operator Id, Last Operator's Team Number					
21	Acct / Auth Code (5)				Acct / Auth Code (4)				Acct / Auth Code (3)				Acct / Auth Code (2)			
22	Acct / Auth Code (9)				Acct / Auth Code (8)				Acct / Auth Code (7)				Acct / Auth Code (6)			
23	Acct / Auth Code (13)				Acct / Auth Code (12)				Acct / Auth Code (11)				Acct / Auth Code (10)			
24			Calling Card Sequence Call Counter								CC Format			Billing Type Id		
25	Alternate Billing Num (3)				Alternate Billing Num (2)				Alternate Billing Num (1)				Alternate Billing Num (0)			
26	Alternate Billing Num (7)				Alternate Billing Num (6)				Alternate Billing Num (5)				Alternate Billing Num (4)			
27	Alternate Billing Num (11)				Alternate Billing Num (10)				Alternate Billing Num (9)				Alternate Billing Num (8)			
28	Alternate Billing Num (15)				Alternate Billing Num (14)				Alternate Billing Num (13)				Alternate Billing Num (12)			
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 438 BLV / interrupt template layout, right-to-left format

word /bit	msb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	lsb 00
29	Alternate Billing Num (19)				Alternate Billing Num (18)				Alternate Billing Num (17)				Alternate Billing Num (16)			
30	LIDB Response				Alternate Billing Num (22)				Alternate Billing Num (21)				Alternate Billing Num (20)			
31	LRN, Billed Party (1)				LRN, Billed Party (0)				CC Subaccount Num (1)				CC Subaccount Num (0)			
32	LRN, Billed Party (5)				LRN, Billed Party (4)				LRN, Billed Party (3)				LRN, Billed Party (2)			
33	LRN, Billed Party (9)				LRN, Billed Party (8)				LRN, Billed Party (7)				LRN, Billed Party (6)			
34	SPID, Billed Party, Account Owner (1)								SPID, Billed Party, Account Owner (0)							
35	SPID, Billed Party, Account Owner (3)								SPID, Billed Party, Account Owner (2)							
36	Opr Srv Sys Action				RAO Number (2)				RAO Number (1)				RAO Number (0)			
37	Multiplier Factor															
38	Amount of Charge															
39	Amount Deposited															
40	Hotel Room Number (0)								Rate Ind				Cn Cr Ind		Charge Ind	
41	Hotel Room Number (2)								Hotel Room Number (1)							
42	Hotel Room Number (4)								Hotel Room Number (3)							
43	Hotel Guest Name (0)								Hotel Room Number (5)							
44	Hotel Guest Name (2)								Hotel Guest Name (1)							
45			Car Agrmnt		Carrier Code Source				Hotel Guest Name (3)							
46	Carrier / NBEC (3)				Carrier / NBEC (2)				Carrier / NBEC (1)				Carrier / NBEC (0)			
47	SN Acc Elap Time, 10ths				SN Acc Elapsed Time, Seconds					SN Acc Elapsed Time, Minutes						
48	Service Node Identifier, Last															
49	Service Node Network Service Identifier															
50	Service Node Accumulated Number of Transactions															
51	Service Node Number of Nodes															
52	Terminating Num (3)				Terminating Num (2)				Terminating Num (1)				Terminating Num (0)			
53	Terminating Num (7)				Terminating Num (6)				Terminating Num (5)				Terminating Num (4)			
54	Terminating Num (11)				Terminating Num (10)				Terminating Num (9)				Terminating Num (8)			
55	Terminating Num (15)				Terminating Num (14)				Terminating Num (13)				Terminating Num (12)			
56	Terminating Num (19)				Terminating Num (18)				Terminating Num (17)				Terminating Num (16)			
57	LRN Called Party (3)				LRN Called Party (2)				LRN Called Party (1)				LRN, Called Party (0)			
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 438 BLV / interrupt template layout, right-to-left format

word/bit	msb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	lsb 00
58	LRN Called Party (7)				LRN Called Party (6)				LRN Called Party (5)				LRN, Called Party (4)			
59	SPID, Called Party, Account Owner (0)								LRN Called Party (9)				LRN, Called Party (8)			
60	SPID, Called Party, Account Owner (2)								SPID, Called Party, Account Owner (1)							
61						TNI		BLV Req		SPID, Called Party, Account Owner (3)						
62			Outgoing Trunk Group Number													
63			Outgoing Trunk Member Number													
64			CCC Authcode (1)								CCC Authcode (0)					
65			CCC Authcode (3)								CCC Authcode (2)					
66			CCC Authcode (5)								CCC Authcode (4)					
67			CCC Authcode (7)								CCC Authcode (6)					
68			CCC Authcode (9)								CCC Authcode (8)					
69			CCC Authcode (11)								CCC Authcode (10)					
70			CCC Authcode (13)								CCC Authcode (12)					
71											CCC Authcode (14)					
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 439 BLV / Interrupt template layout, left-to-right format

word/bit	lsb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	msb 00
1	Originating Number (0)				Originating Number (1)				Originating Number (2)				Originating Number (3)			
2	Originating Number (4)				Originating Number (5)				Originating Number (6)				Originating Number (7)			
3	Originating Number (8)				Originating Number (9)				Originating Number (10)				Originating Number (11)			
4	Originating Number (12)				Originating Number (13)				Originating Number (14)				Originating Number (15)			
5	Originating Number (16)				Originating Number (17)				Originating Number (18)				Originating Number (19)			
6	LRN Calling Party (0)				LRN Calling Party (1)				LRN Calling Party (2)				LRN, Calling Party (3)			
7	LRN Calling Party (4)				LRN Calling Party (5)				LRN Calling Party (6)				LRN, Calling Party (7)			
8	LRN Calling Party (8)				LRN, Calling Party (9)				SPID, Calling Party, Account Owner (0)							
9	SPID, Calling Party, Account Owner (1)								SPID, Calling Party, Account Owner (2)							
10	SPID, Calling Party, Account Owner (3)								OLNS Modified Service or Equipment Indicator							
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 439 BLV / Interrupt template layout, left-to-right format

word/bit	lsb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	msb 00
11	Incoming Trunk Group Number														Clg Source	
12	Incoming Trunk Member Number														S O	T S
13	Date, Year				Date, Month				Date, Day					Service Feature		
14	Time, Minutes					Time, Seconds						Time, 10ths of Seconds				
15	Time, Hours					Screening Code								S B I	Orig # Ind	
16	Elapsed Time, Minutes															
17	Elapsed Time, Seconds						Elapsed Time, 10ths									
18	Acc Oper Work Time, Minutes					Acc Oper Work Time, Seconds						Acc Opr Work Time, 10th				
19	Operator Id, Last Operator's Number														A C Val	
20	Operator Id, Last Operator's Team Number								Acct / Auth Code (0)				Acct / Auth Code (1)			
21	Acct / Auth Code (2)				Acct / Auth Code (3)				Acct / Auth Code (4)				Acct / Auth Code (5)			
22	Acct / Auth Code (6)				Acct / Auth Code (7)				Acct / Auth Code (8)				Acct / Auth Code (9)			
23	Acct / Auth Code (10)				Acct / Auth Code (11)				Acct / Auth Code (12)				Acct / Auth Code (13)			
24	Billing Type Id			CC Format			Calling Card Sequence Call Counter									
25	Alternate Billing Num (0)				Alternate Billing Num (1)				Alternate Billing Num (2)				Alternate Billing Num (3)			
26	Alternate Billing Num (4)				Alternate Billing Num (5)				Alternate Billing Num (6)				Alternate Billing Num (7)			
27	Alternate Billing Num (8)				Alternate Billing Num (9)				Alternate Billing Num (10)				Alternate Billing Num (11)			
28	Alternate Billing Num (12)				Alternate Billing Num (13)				Alternate Billing Num (14)				Alternate Billing Num (15)			
29	Alternate Billing Num (16)				Alternate Billing Num (17)				Alternate Billing Num (18)				Alternate Billing Num (19)			
30	Alternate Billing Num (20)				Alternate Billing Num (21)				Alternate Billing Num (22)				LIDB Response			
31	CC Subaccount Num (0)				CC Subaccount Num (1)				LRN, Billed Party (0)				LRN, Billed Party (1)			
32	LRN, Billed Party (2)				LRN, Billed Party (3)				LRN, Billed Party (4)				LRN, Billed Party (5)			
33	LRN, Billed Party (6)				LRN, Billed Party (7)				LRN, Billed Party (8)				LRN, Billed Party (9)			
34	SPID, Billed Party, Account Owner (0)								SPID, Billed Party, Account Owner (1)							
35	SPID, Billed Party, Account Owner (2)								SPID, Billed Party, Account Owner (3)							
36	RAO Number (0)				RAO Number (1)				RAO Number (2)				Opr Srv Sys Action			
37	Multiplier Factor															
38	Amount of Charge															
39	Amount Deposited															
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 439 BLV / Interrupt template layout, left-to-right format

word /bit	lsb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	msb 00
40	Charge Ind			Cn Cr Ind		Rate Ind			Hotel Room Number (0)							
41	Hotel Room Number (1)								Hotel Room Number (2)							
42	Hotel Room Number (3)								Hotel Room Number (4)							
43	Hotel Room Number (5)								Hotel Guest Name (0)							
44	Hotel Guest Name (1)								Hotel Guest Name (2)							
45	Hotel Guest Name (3)								Carrier Code Source				Car Agrmnt			
46	Carrier / NBEC (0)				Carrier / NBEC (1)				Carrier / NBEC (2)				Carrier / NBEC (3)			
47	SN Acc Elapsed Time, Minutes						SN Acc Elapsed Time, Seconds					SN Acc Elap Time, 10ths				
48	Service Node Identifier, Last															
49	Service Node Network Service Identifier															
50	Service Node Accumulated Number of Transactions															
51	Service Node Number of Nodes															
52	Terminating Num (0)				Terminating Num (1)				Terminating Num (2)				Terminating Num (3)			
53	Terminating Num (4)				Terminating Num (5)				Terminating Num (6)				Terminating Num (7)			
54	Terminating Num (8)				Terminating Num (9)				Terminating Num (10)				Terminating Num (11)			
55	Terminating Num (12)				Terminating Num (13)				Terminating Num (14)				Terminating Num (15)			
56	Terminating Num (16)				Terminating Num (17)				Terminating Num (18)				Terminating Num (19)			
57	LRN Called Party (0)				LRN Called Party (1)				LRN Called Party (2)				LRN, Called Party (3)			
58	LRN Called Party (4)				LRN Called Party (5)				LRN Called Party (6)				LRN, Called Party (7)			
59	LRN Called Party (8)				LRN, Called Party (9)				SPID, Called Party, Account Owner (0)							
60	SPID, Called Party, Account Owner (1)								SPID, Called Party, Account Owner (2)							
61	SPID, Called Party, Account Owner (3)								BLV Req		TNI					
62	Outgoing Trunk Group Number															
63	Outgoing Trunk Member Number															
64			CCC Authcode (0)								CCC Authcode (1)					
65			CCC Authcode (2)								CCC Authcode (3)					
66			CCC Authcode (4)								CCC Authcode (5)					
67			CCC Authcode (6)								CCC Authcode (7)					
68			CCC Authcode (8)								CCC Authcode (9)					
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 439 BLV / Interrupt template layout, left-to-right format

word /bit	lsb															msb
	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00
69			CCC Authcode (10)								CCC Authcode (11)					
70			CCC Authcode (12)								CCC Authcode 13)					
71			CCC Authcode (14)													
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

General assistance template

List of data fields

The following data fields, listed in alphabetical order, appear in the general assistance template. The abbreviation denotes the text used to specify the data field in the layout views. The word location identifies the specific word within the layout where the data field appears. The page number is a reference to the detailed description for the data field itself.

Note: This list does not contain the data fields found in the template header, which is common to all TDR call templates.

Table 440 Data fields contained in the general assistance template

Data field	Abbreviation in template	Word location	Page number
Account code / authorization code number	Acct / Auth Code	20 - 23	page 35
Account code / authorization code validation	A C Val	19	page 38
Accumulated operator work time, minutes	Acc Oper Work Time, Minutes	18	page 40
Accumulated operator work time, seconds	Acc Oper Work Time, Seconds	18	page 41
Accumulated operator work time, tenths of seconds	Acc Oper Work Time, 10th	18	page 42
Alternate billing number	Alternate Billing Num	25 - 30	page 44
Amount deposited	Amount Deposited	39	page 47
Amount of charge	Amount of Charge	38	page 49
Billing type identification	Billing Type Id	24	page 54
Calling card format identifier	CC Format	24	page 66
Calling card sequence call counter	Calling Card Sequence Call Counter	24	page 68
Calling card subaccount number	CC Subaccount Num	31	page 69

Table 440 Data fields contained in the general assistance template

Data field	Abbreviation in template	Word location	Page number
Calling number source	Clg Source	11	page 70
Carrier / NBEC code	Carrier / NBEC	46	page 101
Carrier agreement table	Car Agrmnt	45	page 76
Carrier code source	Carrier Code Source	45	page 82
Charge indicator	Charge Ind	40	page 109
Coin credit indicator	Cn Cr Ind	40	page 111
Commercial Credit Card Authcode	CCC Authcode	54	page 113
Date, day	Date, Day	13	page 127
Date, month	Date, Month	13	page 129
Date, year	Date, Year	13	page 131
Elapsed time, minutes	Elapsed Time, Minutes	16	page 133
Elapsed time, seconds	Elapsed Time, Seconds	17	page 135
Elapsed time, tenths of seconds	Elapsed Time, 10ths	17	page 137
General assistance request counter	General Assistance Request Counter	53	page 140
Hotel guest name	Hotel Guest Name	43 - 45	page 142
Hotel room number	Hotel Room Number	40 - 43	page 143
Incoming trunk group number	Incoming Trunk Group Number	11	page 144
Incoming trunk member number	Incoming Trunk Member Number	12	page 145
LIDB response	LIDB Response	30	page 148
LRN, billed party	LRN, Billed Party	31 - 33	page 166
LRN, calling party	LRN, Calling Party	6 - 8	page 175
Multiplier factor	Multiplier Factor	37	page 190
OLNS modified service or equipment indicator	OLNS Modified Service or Equipment Indicator	10	page 222
Operator id, last operator's number	Operator Id, Last Operator's Number	19	page 237
Operator id, last operator's team number	Operator Id, Last Operator's Team Number	20	page 238

Table 440 Data fields contained in the general assistance template

Data field	Abbreviation in template	Word location	Page number
Operator services system action	Opr Srv Sys Action	36	page 248
Originating number	Originating Number	1 - 5	page 252
Originating number indicator	Orig # Ind	15	page 253
RAO number	RAO Number	36	page 276
Rate Indicator	Rate Ind	40	page 278
Screening code	Screening Code	15	page 293
Service feature	Service Feature	13	page 297
Service identifier	Service Id	52	page 300
Service node accumulated elapsed time, minutes	SN Acc Elapsed Time, Minutes	47	page 302
Service node accumulated elapsed time, seconds	SN Acc Elapsed Time, Seconds	47	page 303
Service node accumulated elapsed time, tenths of seconds	SN Acc Elap Time, 10ths	47	page 304
Service node accumulated number of transactions	Service Node Accumulated Number of Transactions	50	page 305
Service node identifier, last	Service Node Identifier, Last	48	page 309
Service node network service identifier	Service Node Network Service Identifier	49	page 310
Service node number of nodes	Service Node Number of Nodes	51	page 312
Service observed	S O	12	page 313
SPID, billed party, account owner	SPID, Billed Party, Account Owner	34 - 35	page 316
SPID, calling party, account owner	SPID, Calling Party, Account Owner	8 - 10	page 320
Subscriber billing indicator	S B I	15	page 325
Time, hours	Time, Hours	15	page 337
Time, minutes	Time, Minutes	14	page 339
Time, seconds	Time, Seconds	14	page 341
Time, tenths of seconds	Time, 10ths of Seconds	14	page 343

Table 440 Data fields contained in the general assistance template

Data field	Abbreviation in template	Word location	Page number
Traffic sampled	T S	12	page 346

Template layout

The following table illustrates the order and bit position of the fields contained in the general assistance template. The first table shows the layout in the right-to-left format and the second table shows the layout in the left-to-right format. The bit positions that are shaded are unused.

Table 441 General assistance template layout, right-to-left layout

word /bit	msb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	lsb 00
1	Originating Number (3)				Originating Number (2)				Originating Number (1)				Originating Number (0)			
2	Originating Number (7)				Originating Number (6)				Originating Number (5)				Originating Number (4)			
3	Originating Number (11)				Originating Number (10)				Originating Number (9)				Originating Number (8)			
4	Originating Number (15)				Originating Number (14)				Originating Number (13)				Originating Number (12)			
5	Originating Number (19)				Originating Number (18)				Originating Number (17)				Originating Number (16)			
6	LRN Calling Party (3)				LRN Calling Party (2)				LRN Calling Party (1)				LRN, Calling Party (0)			
7	LRN Calling Party (7)				LRN Calling Party (6)				LRN Calling Party (5)				LRN, Calling Party (4)			
8	SPID, Calling Party, Account Owner (0)								LRN Calling Party (9)				LRN, Calling Party (8)			
9	SPID, Calling Party, Account Owner (2)								SPID, Calling Party, Account Owner (1)							
10	OLNS Modified Service or Equipment Indicator								SPID, Calling Party, Account Owner (3)							
11	Clg Source		Incoming Trunk Group Number													
12	T S	S O	Incoming Trunk Member Number													
13	Service Feature			Date, Day				Date, Month				Date, Year				
14	Time, 10ths of Seconds				Time, Seconds						Time, Minutes					
15	Orig # Ind		S B I			Screening Code						Time, Hours				
16	Elapsed Time, Minutes															
17							Elapsed Time, 10ths				Elapsed Time, Seconds					
18	Acc Opr Work Time, 10th			Acc Oper Work Time, Seconds					Acc Oper Work Time, Minutes							
19	A C Val		Operator Id, Last Operator's Number													
20	Acct / Auth Code (1)			Acct / Auth Code (0)					Operator Id, Last Operator's Team Number							
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 441 General assistance template layout, right-to-left layout

word /bit	msb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	lsb 00
21	Acct / Auth Code (5)				Acct / Auth Code (4)				Acct / Auth Code (3)				Acct / Auth Code (2)			
22	Acct / Auth Code (9)				Acct / Auth Code (8)				Acct / Auth Code (7)				Acct / Auth Code (6)			
23	Acct / Auth Code (13)				Acct / Auth Code (12)				Acct / Auth Code (11)				Acct / Auth Code (10)			
24			Calling Card Sequence Call Counter									CC Format			Billing Type Id	
25	Alternate Billing Num (3)				Alternate Billing Num (2)				Alternate Billing Num (1)				Alternate Billing Num (0)			
26	Alternate Billing Num (7)				Alternate Billing Num (6)				Alternate Billing Num (5)				Alternate Billing Num (4)			
27	Alternate Billing Num (11)				Alternate Billing Num (10)				Alternate Billing Num (9)				Alternate Billing Num (8)			
28	Alternate Billing Num (15)				Alternate Billing Num (14)				Alternate Billing Num (13)				Alternate Billing Num (12)			
29	Alternate Billing Num (19)				Alternate Billing Num (18)				Alternate Billing Num (17)				Alternate Billing Num (16)			
30	LIDB Response				Alternate Billing Num (22)				Alternate Billing Num (21)				Alternate Billing Num (20)			
31	LRN, Billed Party (1)				LRN, Billed Party (0)				CC Subaccount Num (1)				CC Subaccount Num (0)			
32	LRN, Billed Party (5)				LRN, Billed Party (4)				LRN, Billed Party (3)				LRN, Billed Party (2)			
33	LRN, Billed Party (9)				LRN, Billed Party (8)				LRN, Billed Party (7)				LRN, Billed Party (6)			
34	SPID, Billed Party, Account Owner (1)								SPID, Billed Party, Account Owner (0)							
35	SPID, Billed Party, Account Owner (3)								SPID, Billed Party, Account Owner (2)							
36	Opr Srv Sys Action				RAO Number (2)				RAO Number (1)				RAO Number (0)			
37	Multiplier Factor															
38	Amount of Charge															
39	Amount Deposited															
40	Hotel Room Number (0)								Rate Ind				Cn Cr Ind		Charge Ind	
41	Hotel Room Number (2)								Hotel Room Number (1)							
42	Hotel Room Number (4)								Hotel Room Number (3)							
43	Hotel Guest Name (0)								Hotel Room Number (5)							
44	Hotel Guest Name (2)								Hotel Guest Name (1)							
45			Car Agrmnt		Carrier Code Source				Hotel Guest Name (3)							
46	Carrier / NBEC (3)				Carrier / NBEC (2)				Carrier / NBEC (1)				Carrier / NBEC (0)			
47	SN Acc Elap Time, 10ths				SN Acc Elapsed Time, Seconds						SN Acc Elapsed Time, Minutes					
48	Service Node Identifier, Last															
49	Service Node Network Service Identifier															
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 441 General assistance template layout, right-to-left layout

word /bit	msb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	lsb 00
50	Service Node Accumulated Number of Transactions															
51	Service Node Number of Nodes															
52					Service Id (2)				Service Id (1)				Service Id (0)			
53							General Assistance Request Counter										
54			CCC Authcode (1)								CCC Authcode (0)					
55			CCC Authcode (3)								CCC Authcode (2)					
56			CCC Authcode (5)								CCC Authcode (4)					
57			CCC Authcode (7)								CCC Authcode (6)					
58			CCC Authcode (9)								CCC Authcode (8)					
59			CCC Authcode (11)								CCC Authcode (10)					
60			CCC Authcode (13)								CCC Authcode (12)					
61											CCC Authcode (14)					
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 442 General assistance template layout, left-to-right format

word /bit	lsb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	msb 00
1	Originating Number (0)				Originating Number (1)				Originating Number (2)				Originating Number (3)				
2	Originating Number (4)				Originating Number (5)				Originating Number (6)				Originating Number (7)				
3	Originating Number (8)				Originating Number (9)				Originating Number (10)				Originating Number (11)				
4	Originating Number (12)				Originating Number (13)				Originating Number (14)				Originating Number (15)				
5	Originating Number (16)				Originating Number (17)				Originating Number (18)				Originating Number (19)				
6	LRN Calling Party (0)				LRN Calling Party (1)				LRN Calling Party (2)				LRN, Calling Party (3)				
7	LRN Calling Party (4)				LRN Calling Party (5)				LRN Calling Party (6)				LRN, Calling Party (7)				
8	LRN Calling Party (8)				LRN, Calling Party (9)				SPID, Calling Party, Account Owner (0)								
9	SPID, Calling Party, Account Owner (1)								SPID, Calling Party, Account Owner (2)								
10	SPID, Calling Party, Account Owner (3)								OLNS Modified Service or Equipment Indicator								
11	Incoming Trunk Group Number														Clg Source		
12	Incoming Trunk Member Number														S O	T S
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 442 General assistance template layout, left-to-right format

word/bit	lsb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	msb 00
13	Date, Year						Date, Month					Date, Day			Service Feature	
14	Time, Minutes						Time, Seconds						Time, 10ths of Seconds			
15	Time, Hours					Screening Code								S B I	Orig # Ind	
16	Elapsed Time, Minutes															
17	Elapsed Time, Seconds						Elapsed Time, 10ths									
18	Acc Oper Work Time, Minutes						Acc Oper Work Time, Seconds						Acc Opr Work Time, 10th			
19	Operator Id, Last Operator's Number													A C Val		
20	Operator Id, Last Operator's Team Number							Acct / Auth Code (0)				Acct / Auth Code (1)				
21	Acct / Auth Code (2)				Acct / Auth Code (3)				Acct / Auth Code (4)				Acct / Auth Code (5)			
22	Acct / Auth Code (6)				Acct / Auth Code (7)				Acct / Auth Code (8)				Acct / Auth Code (9)			
23	Acct / Auth Code (10)				Acct / Auth Code (11)				Acct / Auth Code (12)				Acct / Auth Code (13)			
24	Billing Type Id			CC Format			Calling Card Sequence Call Counter									
25	Alternate Billing Num (0)				Alternate Billing Num (1)				Alternate Billing Num (2)				Alternate Billing Num (3)			
26	Alternate Billing Num (4)				Alternate Billing Num (5)				Alternate Billing Num (6)				Alternate Billing Num (7)			
27	Alternate Billing Num (8)				Alternate Billing Num (9)				Alternate Billing Num (10)				Alternate Billing Num (11)			
28	Alternate Billing Num (12)				Alternate Billing Num (13)				Alternate Billing Num (14)				Alternate Billing Num (15)			
29	Alternate Billing Num (16)				Alternate Billing Num (17)				Alternate Billing Num (18)				Alternate Billing Num (19)			
30	Alternate Billing Num (20)				Alternate Billing Num (21)				Alternate Billing Num (22)				LIDB Response			
31	CC Subaccount Num (0)				CC Subaccount Num (1)				LRN, Billed Party (0)				LRN, Billed Party (1)			
32	LRN, Billed Party (2)				LRN, Billed Party (3)				LRN, Billed Party (4)				LRN, Billed Party (5)			
33	LRN, Billed Party (6)				LRN, Billed Party (7)				LRN, Billed Party (8)				LRN, Billed Party (9)			
34	SPID, Billed Party, Account Owner (0)								SPID, Billed Party, Account Owner (1)							
35	SPID, Billed Party, Account Owner (2)								SPID, Billed Party, Account Owner (3)							
36	RAO Number (0)				RAO Number (1)				RAO Number (2)				Opr Srv Sys Action			
37	Multiplier Factor															
38	Amount of Charge															
39	Amount Deposited															
40	Charge Ind			Cn Cr Ind			Rate Ind			Hotel Room Number (0)						
41	Hotel Room Number (1)								Hotel Room Number (2)							
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 442 General assistance template layout, left-to-right format

word /bit	lsb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	msb 00
42	Hotel Room Number (3)								Hotel Room Number (4)							
43	Hotel Room Number (5)								Hotel Guest Name (0)							
44	Hotel Guest Name (1)								Hotel Guest Name (2)							
45	Hotel Guest Name (3)								Carrier Code Source				Car Agrmnt			
46	Carrier / NBEC (0)				Carrier / NBEC (1)				Carrier / NBEC (2)				Carrier / NBEC (3)			
47	SN Acc Elapsed Time, Minutes						SN Acc Elapsed Time, Seconds						SN Acc Elap Time, 10ths			
48	Service Node Identifier, Last															
49	Service Node Network Service Identifier															
50	Service Node Accumulated Number of Transactions															
51	Service Node Number of Nodes															
52	Service Id (0)				Service Id (1)				Service Id (2)							
53	General Assistance Request Counter															
54			CCC Authcode (0)							CCC Authcode (1)						
55			CCC Authcode (2)							CCC Authcode (3)						
56			CCC Authcode (4)							CCC Authcode (5)						
57			CCC Authcode (6)							CCC Authcode (7)						
58			CCC Authcode (8)							CCC Authcode (9)						
59			CCC Authcode (10)							CCC Authcode (11)						
60			CCC Authcode (12)							CCC Authcode (13)						
61			CCC Authcode (14)													
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Charge adjust template

List of data fields

The following data fields, listed in alphabetical order, appear in the charge adjust template. The abbreviation denotes the text used to specify the data field in the layout views. The word location identifies the specific word within the layout where the data field appears. The page number is a reference to the detailed description for the data field itself.

Note: This list does not contain the data fields found in the template header, which is common to all TDR call templates.

Table 443 Data fields contained in the charge adjust template

Data field	Abbreviation in template	Word location	Page number
Account code / authorization code number	Acct / Auth Code	20 - 23	page 35
Account code / authorization code validation	A C Val	19	page 38
Accumulated operator work time, minutes	Acc Oper Work Time, Minutes	18	page 40
Accumulated operator work time, seconds	Acc Oper Work Time, Seconds	18	page 41
Accumulated operator work time, tenths of seconds	Acc Oper Work Time, 10th	18	page 42
Alternate billing number	Alternate Billing Num	25 - 30	page 44
Amount deposited	Amount Deposited	39	page 47
Amount of charge	Amount of Charge	38	page 49
Amount of credit	Amount of Credit	62	page 52
Billing type identification	Billing Type Id	24	page 54
Calling card format identifier	CC Format	24	page 66
Calling card sequence call counter	Calling Card Sequence Call Counter	24	page 68
Calling card subaccount number	CC Subaccount Num	31	page 69
Calling number source	Clg Source	11	page 70
Carrier / NBEC code	Carrier / NBEC	46	page 101
Carrier agreement table	Car Agrmnt	45	page 76
Carrier code source	Carrier Code Source	45	page 82
Charge adjust indicator	Chg Adj Ind	63	page 106
Charge adjust number of occurrences	Charge Adjust Number of Occurrences	63	page 108
Charge indicator	Charge Ind	40	page 109
Coin credit indicator	Cn Cr Ind	40	page 111
Commercial Credit Card Authcode	CCC Authcode	65	page 113
Date, day	Date, Day	13	page 127
Date, month	Date, Month	13	page 129

Table 443 Data fields contained in the charge adjust template

Data field	Abbreviation in template	Word location	Page number
Date, year	Date, Year	13	page 131
Elapsed time, minutes	Elapsed Time, Minutes	16	page 133
Elapsed time, seconds	Elapsed Time, Seconds	17	page 135
Elapsed time, tenths of seconds	Elapsed Time, 10ths	17	page 137
Hotel guest name	Hotel Guest Name	43 - 45	page 142
Hotel room number	Hotel Room Number	40 - 43	page 143
Incoming trunk group number	Incoming Trunk Group Number	11	page 144
Incoming trunk member number	Incoming Trunk Member Number	12	page 145
LIDB response	LIDB Response	30	page 148
Local Determination Indicator[a]	LOCLIND	64	page 165
LRN, billed party	LRN, Billed Party	31 - 33	page 166
LRN, called party	LRN, Called Party	57 - 59	page 171
LRN, calling party	LRN, Calling Party	6 - 8	page 175
Minutes of credit	Minutes of Credit	64	page 189
Multiplier factor	Multiplier Factor	37	page 190
OLNS modified service or equipment indicator	OLNS Modified Service or Equipment Indicator	10	page 222
Operator id, last operator's number	Operator Id, Last Operator's Number	19	page 237
Operator id, last operator's team number	Operator Id, Last Operator's Team Number	20	page 238
Operator services system action	Opr Srv Sys Action	36	page 248
Originating number	Originating Number	1 - 5	page 252
Originating number indicator	Orig # Ind	15	page 253
Overseas NPA dialing indicator	Ovs NPA	63	page 268
Person Indicator	P I	63	page 275
RAO number	RAO Number	36	page 276
Rate Indicator	Rate Ind	40	page 278
Screening code	Screening Code	15	page 293

Table 443 Data fields contained in the charge adjust template

Data field	Abbreviation in template	Word location	Page number
Service difficulty	Service Difficulty	61	page 296
Service feature	Service Feature	13	page 297
Service node accumulated elapsed time, minutes	SN Acc Elapsed Time, Minutes	47	page 302
Service node accumulated elapsed time, seconds	SN Acc Elapsed Time, Seconds	47	page 303
Service node accumulated elapsed time, tenths of seconds	SN Acc Elap Time, 10ths	47	page 304
Service node accumulated number of transactions	Service Node Accumulated Number of Transactions	50	page 305
Service node identifier, last	Service Node Identifier, Last	48	page 309
Service node network service identifier	Service Node Network Service Identifier	49	page 310
Service node number of nodes	Service Node Number of Nodes	51	page 312
Service observed	S O	12	page 313
SPID, billed party, account owner	SPID, Billed Party, Account Owner	34 - 35	page 316
SPID, called party, account owner	SPID, Called Party, Account Owner	59 - 61	page 318
SPID, calling party, account owner	SPID, Calling Party, Account Owner	8 - 10	page 320
Subscriber billing indicator	S B I	15	page 325
Terminating number	Terminating Num	52 - 56	page 331
Terminating number indicator	TNI	63	page 332
Time, hours	Time, Hours	15	page 337
Time, minutes	Time, Minutes	14	page 339
Time, seconds	Time, Seconds	14	page 341
Time, tenths of seconds	Time, 10ths of Seconds	14	page 343
Traffic sampled	T S	12	page 346

a. Local Determination Indicator is used only with template version 1. It is not available in version 0

Template layout

The following table illustrates the order and bit position of the fields contained in the charge adjust template. The first table shows the layout in the right-to-left format and the second table shows the layout in the left-to-right format. The bit positions that are shaded are unused.

Table 444 Charge adjust template layout, right-to-left format

word /bit	msb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	lsb 00
1	Originating Number (3)				Originating Number (2)				Originating Number (1)				Originating Number (0)			
2	Originating Number (7)				Originating Number (6)				Originating Number (5)				Originating Number (4)			
3	Originating Number (11)				Originating Number (10)				Originating Number (9)				Originating Number (8)			
4	Originating Number (15)				Originating Number (14)				Originating Number (13)				Originating Number (12)			
5	Originating Number (19)				Originating Number (18)				Originating Number (17)				Originating Number (16)			
6	LRN Calling Party (3)				LRN Calling Party (2)				LRN Calling Party (1)				LRN, Calling Party (0)			
7	LRN Calling Party (7)				LRN Calling Party (6)				LRN Calling Party (5)				LRN, Calling Party (4)			
8	SPID, Calling Party, Account Owner (0)								LRN Calling Party (9)				LRN, Calling Party (8)			
9	SPID, Calling Party, Account Owner (2)								SPID, Calling Party, Account Owner (1)							
10	OLNS Modified Service or Equipment Indicator								SPID, Calling Party, Account Owner (3)							
11	Clg Source	Incoming Trunk Group Number														
12	T S	S O	Incoming Trunk Member Number													
13	Service Feature				Date, Day				Date, Month				Date, Year			
14	Time, 10ths of Seconds				Time, Seconds						Time, Minutes					
15	Orig # Ind		S B I			Screening Code						Time, Hours				
16	Elapsed Time, Minutes															
17							Elapsed Time, 10ths				Elapsed Time, Seconds					
18	Acc Opr Work Time, 10th				Acc Oper Work Time, Seconds						Acc Oper Work Time, Minutes					
19	A C Val		Operator Id, Last Operator's Number													
20	Acct / Auth Code (1)				Acct / Auth Code (0)					Operator Id, Last Operator's Team Number						
21	Acct / Auth Code (5)				Acct / Auth Code (4)				Acct / Auth Code (3)				Acct / Auth Code (2)			
22	Acct / Auth Code (9)				Acct / Auth Code (8)				Acct / Auth Code (7)				Acct / Auth Code (6)			
23	Acct / Auth Code (13)				Acct / Auth Code (12)				Acct / Auth Code (11)				Acct / Auth Code (10)			
24			Calling Card Sequence Call Counter										CC Format		Billing Type Id	
bit	**15**	**14**	**13**	**12**	**11**	**10**	**09**	**08**	**07**	**06**	**05**	**04**	**03**	**02**	**01**	**00**

Table 444 Charge adjust template layout, right-to-left format

word /bit	msb															lsb
	15	**14**	**13**	**12**	**11**	**10**	**09**	**08**	**07**	**06**	**05**	**04**	**03**	**02**	**01**	**00**
25	Alternate Billing Num (3)				Alternate Billing Num (2)				Alternate Billing Num (1)				Alternate Billing Num (0)			
26	Alternate Billing Num (7)				Alternate Billing Num (6)				Alternate Billing Num (5)				Alternate Billing Num (4)			
27	Alternate Billing Num (11)				Alternate Billing Num (10)				Alternate Billing Num (9)				Alternate Billing Num (8)			
28	Alternate Billing Num (15)				Alternate Billing Num (14)				Alternate Billing Num (13)				Alternate Billing Num (12)			
29	Alternate Billing Num (19)				Alternate Billing Num (18)				Alternate Billing Num (17)				Alternate Billing Num (16)			
30	LIDB Response				Alternate Billing Num (22)				Alternate Billing Num (21)				Alternate Billing Num (20)			
31	LRN, Billed Party (1)				LRN, Billed Party (0)				CC Subaccount Num (1)				CC Subaccount Num (0)			
32	LRN, Billed Party (5)				LRN, Billed Party (4)				LRN, Billed Party (3)				LRN, Billed Party (2)			
33	LRN, Billed Party (9)				LRN, Billed Party (8)				LRN, Billed Party (7)				LRN, Billed Party (6)			
34	SPID, Billed Party, Account Owner (1)								SPID, Billed Party, Account Owner (0)							
35	SPID, Billed Party, Account Owner (3)								SPID, Billed Party, Account Owner (2)							
36	Opr Srv Sys Action				RAO Number (2)				RAO Number (1)				RAO Number (0)			
37	Multiplier Factor															
38	Amount of Charge															
39	Amount Deposited															
40	Hotel Room Number (0)								Rate Ind				Cn Cr Ind		Charge Ind	
41	Hotel Room Number (2)								Hotel Room Number (1)							
42	Hotel Room Number (4)								Hotel Room Number (3)							
43	Hotel Guest Name (0)								Hotel Room Number (5)							
44	Hotel Guest Name (2)								Hotel Guest Name (1)							
45			Car Agrmnt		Carrier Code Source				Hotel Guest Name (3)							
46	Carrier / NBEC (3)				Carrier / NBEC (2)				Carrier / NBEC (1)				Carrier / NBEC (0)			
47	SN Acc Elap Time, 10ths				SN Acc Elapsed Time, Seconds						SN Acc Elapsed Time, Minutes					
48	Service Node Identifier, Last															
49	Service Node Network Service Identifier															
50	Service Node Accumulated Number of Transactions															
51	Service Node Number of Nodes															
52	Terminating Num (3)				Terminating Num (2)				Terminating Num (1)				Terminating Num (0)			
53	Terminating Num (7)				Terminating Num (6)				Terminating Num (5)				Terminating Num (4)			
bit	**15**	**14**	**13**	**12**	**11**	**10**	**09**	**08**	**07**	**06**	**05**	**04**	**03**	**02**	**01**	**00**

Table 444 Charge adjust template layout, right-to-left format

word /bit	msb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	lsb 00
54	Terminating Num (11)				Terminating Num (10)				Terminating Num (9)				Terminating Num (8)			
55	Terminating Num (15)				Terminating Num (14)				Terminating Num (13)				Terminating Num (12)			
56	Terminating Num (19)				Terminating Num (18)				Terminating Num (17)				Terminating Num (16)			
57	LRN Called Party (3)				LRN Called Party (2)				LRN Called Party (1)				LRN, Called Party (0)			
58	LRN Called Party (7)				LRN Called Party (6)				LRN Called Party (5)				LRN, Called Party (4)			
59	SPID, Called Party, Account Owner (0)								LRN Called Party (9)				LRN, Called Party (8)			
60	SPID, Called Party, Account Owner (2)								SPID, Called Party, Account Owner (1)							
61			Service Difficulty						SPID, Called Party, Account Owner (3)							
62	Amount of Credit															
63	Ovs NPA		P I		TNI		Chg Adj Ind		Charge Adjust Number of Occurrences							
64					LOCLIND				Minutes of Credit							
65			CCC Authcode (1)								CCC Authcode (0)					
66			CCC Authcode (3)								CCC Authcode (2)					
67			CCC Authcode (5)								CCC Authcode (4)					
68			CCC Authcode (7)								CCC Authcode (6)					
69			CCC Authcode (9)								CCC Authcode (8)					
70			CCC Authcode (11)								CCC Authcode (10)					
71			CCC Authcode (13)								CCC Authcode (12)					
72											CCC Authcode (14)					
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 445 Charge adjust template layout, left-to-right format

word /bit	lsb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	msb 00
1	Originating Number (0)				Originating Number (1)				Originating Number (2)				Originating Number (3)			
2	Originating Number (4)				Originating Number (5)				Originating Number (6)				Originating Number (7)			
3	Originating Number (8)				Originating Number (9)				Originating Number (10)				Originating Number (11)			
4	Originating Number (12)				Originating Number (13)				Originating Number (14)				Originating Number (15)			
5	Originating Number (16)				Originating Number (17)				Originating Number (18)				Originating Number (19)			
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 445 Charge adjust template layout, left-to-right format

word/bit	15 (lsb)	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00 (msb)
6	LRN Calling Party (0)				LRN Calling Party (1)				LRN Calling Party (2)				LRN, Calling Party (3)			
7	LRN Calling Party (4)				LRN Calling Party (5)				LRN Calling Party (6)				LRN, Calling Party (7)			
8	LRN Calling Party (8)				LRN, Calling Party (9)				SPID, Calling Party, Account Owner (0)							
9	SPID, Calling Party, Account Owner (1)								SPID, Calling Party, Account Owner (2)							
10	SPID, Calling Party, Account Owner (3)								OLNS Modified Service or Equipment Indicator							
11	Incoming Trunk Group Number														Clg Source	
12	Incoming Trunk Member Number														S O	T S
13	Date, Year				Date, Month				Date, Day				Service Feature			
14	Time, Minutes					Time, Seconds						Time, 10ths of Seconds				
15	Time, Hours					Screening Code							(grey)	S B I	Orig # Ind	
16	Elapsed Time, Minutes															
17	Elapsed Time, Seconds						Elapsed Time, 10ths				(grey)	(grey)	(grey)	(grey)	(grey)	(grey)
18	Acc Oper Work Time, Minutes					Acc Oper Work Time, Seconds						Acc Opr Work Time, 10th				
19	Operator Id, Last Operator's Number															A C Val
20	Operator Id, Last Operator's Team Number							(grey)	Acct / Auth Code (0)				Acct / Auth Code (1)			
21	Acct / Auth Code (2)				Acct / Auth Code (3)				Acct / Auth Code (4)				Acct / Auth Code (5)			
22	Acct / Auth Code (6)				Acct / Auth Code (7)				Acct / Auth Code (8)				Acct / Auth Code (9)			
23	Acct / Auth Code (10)				Acct / Auth Code (11)				Acct / Auth Code (12)				Acct / Auth Code (13)			
24	Billing Type Id			CC Format		Calling Card Sequence Call Counter										(grey)
25	Alternate Billing Num (0)				Alternate Billing Num (1)				Alternate Billing Num (2)				Alternate Billing Num (3)			
26	Alternate Billing Num (4)				Alternate Billing Num (5)				Alternate Billing Num (6)				Alternate Billing Num (7)			
27	Alternate Billing Num (8)				Alternate Billing Num (9)				Alternate Billing Num (10)				Alternate Billing Num (11)			
28	Alternate Billing Num (12)				Alternate Billing Num (13)				Alternate Billing Num (14)				Alternate Billing Num (15)			
29	Alternate Billing Num (16)				Alternate Billing Num (17)				Alternate Billing Num (18)				Alternate Billing Num (19)			
30	Alternate Billing Num (20)				Alternate Billing Num (21)				Alternate Billing Num (22)				LIDB Response			
31	CC Subaccount Num (0)				CC Subaccount Num (1)				LRN, Billed Party (0)				LRN, Billed Party (1)			
32	LRN, Billed Party (2)				LRN, Billed Party (3)				LRN, Billed Party (4)				LRN, Billed Party (5)			
33	LRN, Billed Party (6)				LRN, Billed Party (7)				LRN, Billed Party (8)				LRN, Billed Party (9)			
34	SPID, Billed Party, Account Owner (0)								SPID, Billed Party, Account Owner (1)							
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 445 Charge adjust template layout, left-to-right format

word/bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00
	lsb															msb
35	SPID, Billed Party, Account Owner (2)								SPID, Billed Party, Account Owner (3)							
36	RAO Number (0)				RAO Number (1)				RAO Number (2)				Opr Srv Sys Action			
37	Multiplier Factor															
38	Amount of Charge															
39	Amount Deposited															
40	Charge Ind			Cn Cr Ind		Rate Ind			Hotel Room Number (0)							
41	Hotel Room Number (1)								Hotel Room Number (2)							
42	Hotel Room Number (3)								Hotel Room Number (4)							
43	Hotel Room Number (5)								Hotel Guest Name (0)							
44	Hotel Guest Name (1)								Hotel Guest Name (2)							
45	Hotel Guest Name (3)								Carrier Code Source				Car Agrmnt		░	░
46	Carrier / NBEC (0)				Carrier / NBEC (1)				Carrier / NBEC (2)				Carrier / NBEC (3)			
47	SN Acc Elapsed Time, Minutes						SN Acc Elapsed Time, Seconds						SN Acc Elap Time, 10ths			
48	Service Node Identifier, Last															
49	Service Node Network Service Identifier															
50	Service Node Accumulated Number of Transactions															
51	Service Node Number of Nodes															
52	Terminating Num (0)				Terminating Num (1)				Terminating Num (2)				Terminating Num (3)			
53	Terminating Num (4)				Terminating Num (5)				Terminating Num (6)				Terminating Num (7)			
54	Terminating Num (8)				Terminating Num (9)				Terminating Num (10)				Terminating Num (11)			
55	Terminating Num (12)				Terminating Num (13)				Terminating Num (14)				Terminating Num (15)			
56	Terminating Num (16)				Terminating Num (17)				Terminating Num (18)				Terminating Num (19)			
57	LRN Called Party (0)				LRN Called Party (1)				LRN Called Party (2)				LRN, Called Party (3)			
58	LRN Called Party (4)				LRN Called Party (5)				LRN Called Party (6)				LRN, Called Party (7)			
59	LRN Called Party (8)				LRN, Called Party (9)				SPID, Called Party, Account Owner (0)							
60	SPID, Called Party, Account Owner (1)								SPID, Called Party, Account Owner (2)							
61	SPID, Called Party, Account Owner (3)								Service Difficulty						░	░
62	Amount of Credit															
63	Charge Adjust Number of Occurrences										Chg Adj Ind		TNI	P I	Ovs NPA	
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 445 Charge adjust template layout, left-to-right format

word /bit	lsb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	msb 00
64	Minutes of Credit										LOCLIND					
65			CCC Authcode (0)								CCC Authcode (1)					
66			CCC Authcode (2)								CCC Authcode (3)					
67			CCC Authcode (4)								CCC Authcode (5)					
68			CCC Authcode (6)								CCC Authcode (7)					
69			CCC Authcode (8)								CCC Authcode (9)					
70			CCC Authcode (10)								CCC Authcode (11)					
71			CCC Authcode (12)								CCC Authcode (13)					
72			CCC Authcode (14)													
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Intercept template

List of data fields

The following data fields, listed in alphabetical order, appear in the intercept template. The abbreviation denotes the text used to specify the data field in the layout views. The word location identifies the specific word within the layout where the data field appears. The page number is a reference to the detailed description for the data field itself.

Note: This list does not contain the data fields found in the template header, which is common to all TDR call templates.

Table 446 Data fields contained in the intercept template

Data field	Abbreviation in template	Word location	Page number
Accumulated operator work time, minutes	Acc Oper Work Time, Minutes	7	page 40
Accumulated operator work time, seconds	Acc Oper Work Time, Seconds	7	page 41
Accumulated operator work time, tenths of seconds	Acc Oper Work Time, 10th	7	page 42
Carrier / NBEC code	Carrier / NBEC	10	page 101
Carrier agreement table	Car Agrmnt	9	page 76
Carrier code source	Carrier Code Source	9	page 82
Date, day	Date, Day	3	page 127

Table 446 Data fields contained in the intercept template

Data field	Abbreviation in template	Word location	Page number
Date, month	Date, Month	3	page 129
Date, year	Date, Year	3	page 131
Elapsed time, minutes	Elapsed Time, Minutes	6	page 133
Elapsed time, seconds	Elapsed Time, Seconds	5	page 135
Elapsed time, tenths of seconds	Elapsed Time, 10ths	5	page 137
Incoming trunk group number	Incoming Trunk Group Number	1	page 144
Incoming trunk member number	Incoming Trunk Member Number	2	page 145
Intercept referral number	Intc Referral Num	21 - 25	page 146
Intercepted number	Intercepted Num	16 - 20	page 147
Listing response	Listing Response	3	page 151
Operator id, last operator's number	Operator Id, Last Operator's Number	8	page 237
Operator id, last operator's team number	Operator Id, Last Operator's Team Number	9	page 238
Service identifier	Service Id	26	page 300
Service node accumulated elapsed time, minutes	SN Acc Elapsed Time, Minutes	11	page 302
Service node accumulated elapsed time, seconds	SN Acc Elapsed Time, Seconds	11	page 303
Service node accumulated elapsed time, tenths of seconds	SN Acc Elap Time, 10ths	11	page 304
Service node accumulated number of transactions	Service Node Accumulated Number of Transactions	14	page 305
Service node identifier, last	Service Node Identifier, Last	12	page 309
Service node network service identifier	Service Node Network Service Identifier	13	page 310
Service node number of nodes	Service Node Number of Nodes	15	page 312
Service observed	S O	2	page 313
Subscriber billing indicator	S B I	1	page 325

Table 446 Data fields contained in the intercept template

Data field	Abbreviation in template	Word location	Page number
Time, hours	Time, Hours	5	page 337
Time, minutes	Time, Minutes	4	page 339
Time, seconds	Time, Seconds	4	page 341
Time, tenths of seconds	Time, 10ths of Seconds	4	page 343
Traffic sampled	T S	2	page 346

Template layout

The following table illustrates the order and bit position of the fields contained in the intercept template. The first table shows the layout in the right-to-left format and the second table shows the layout in the left-to-right format. The bit positions that are shaded are unused.

Table 447 Intercept template layout, right-to-left format

word /bit	msb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	lsb 00
1	S B I		Incoming Trunk Group Number													
2	T S	S O	Incoming Trunk Member Number													
3	Listing Response			Date, Day				Date, Month				Date, Year			
4	Time, 10ths of Seconds				Time, Seconds					Time, Minutes						
5		Elapsed Time, 10ths				Elapsed Time, Seconds					Time, Hours					
6	Elapsed Time, Minutes															
7	Acc Opr Work Time, 10th				Acc Oper Work Time, Seconds				Acc Oper Work Time, Minutes							
8			Operator Id, Last Operator's Number													
9				Car Agrmnt		Carrier Code Source			Operator Id, Last Operator's Team Number							
10	Carrier / NBEC (3)				Carrier / NBEC (2)				Carrier / NBEC (1)				Carrier / NBEC (0)			
11	SN Acc Elap Time, 10ths				SN Acc Elapsed Time, Seconds				SN Acc Elapsed Time, Minutes							
12	Service Node Identifier, Last															
13	Service Node Network Service Identifier															
14	Service Node Accumulated Number of Transactions															
15	Service Node Number of Nodes															
16	Intercepted Num (3)				Intercepted Num (2)				Intercepted Num (1)				Intercepted Num (0)			
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 447 Intercept template layout, right-to-left format

word /bit	msb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	lsb 00
17	Intercepted Num (7)				Intercepted Num (6)				Intercepted Num (5)				Intercepted Num (4)			
18	Intercepted Num (11)				Intercepted Num (10)				Intercepted Num (9)				Intercepted Num (8)			
19	Intercepted Num (15)				Intercepted Num (14)				Intercepted Num (13)				Intercepted Num (12)			
20	Intercepted Num (19)				Intercepted Num (18)				Intercepted Num (17)				Intercepted Num (16)			
21	Intc Referral Num (3)				Intc Referral Num (2)				Intc Referral Num (1)				Intc Referral Num (0)			
22	Intc Referral Num (7)				Intc Referral Num (6)				Intc Referral Num (5)				Intc Referral Num (4)			
23	Intc Referral Num (11)				Intc Referral Num (10)				Intc Referral Num (9)				Intc Referral Num (8)			
24	Intc Referral Num (15)				Intc Referral Num (14)				Intc Referral Num (13)				Intc Referral Num (12)			
25	Intc Referral Num (19)				Intc Referral Num (18)				Intc Referral Num (17)				Intc Referral Num (16)			
26					Service Id (2)				Service Id (1)				Service Id (0)			
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 448 Intercept template layout, left-to-right format

word /bit	lsb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	msb 00
1	Incoming Trunk Group Number															S B I
2	Incoming Trunk Member Number														S O	T S
3	Date, Year				Date, Month				Date, Day				Listing Response			
4	Time, Minutes						Time, Seconds					Time, 10ths of Seconds				
5	Time, Hours					Elapsed Time, Seconds					Elapsed Time, 10ths					
6	Elapsed Time, Minutes															
7	Acc Oper Work Time, Minutes					Acc Oper Work Time, Seconds					Acc Opr Work Time, 10th					
8	Operator Id, Last Operator's Number															
9	Operator Id, LAst Operator's Team Number					Carrier Code Source				Car Agrmnt						
10	Carrier / NBEC (0)				Carrier / NBEC (1)				Carrier / NBEC (2)				Carrier / NBEC (3)			
11	SN Acc Elapsed Time, Minutes					SN Acc Elapsed Time, Seconds					SN Acc Elap Time, 10ths					
12	Service Node Identifier, Last															
13	Service Node Network Service Identifier															
14	Service Node Accumulated Number of Transactions															
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 448 Intercept template layout, left-to-right format

word /bit	lsb															msb
	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00
15	Service Node Number of Nodes															
16	Intercepted Num (0)				Intercepted Num (1)				Intercepted Num (2)				Intercepted Num (3)			
17	Intercepted Num (4)				Intercepted Num (5)				Intercepted Num (6)				Intercepted Num (7)			
18	Intercepted Num (8)				Intercepted Num (9)				Intercepted Num (10)				Intercepted Num (11)			
19	Intercepted Num (12)				Intercepted Num (13)				Intercepted Num (14)				Intercepted Num (15)			
20	Intercepted Num (16)				Intercepted Num (17)				Intercepted Num (18)				Intercepted Num (19)			
21	Intc Referral Num (0)				Intc Referral Num (1)				Intc Referral Num (2)				Intc Referral Num (3)			
22	Intc Referral Num (4)				Intc Referral Num (5)				Intc Referral Num (6)				Intc Referral Num (7)			
23	Intc Referral Num (8)				Intc Referral Num (9)				Intc Referral Num (10)				Intc Referral Num (11)			
24	Intc Referral Num (12)				Intc Referral Num (13)				Intc Referral Num (14)				Intc Referral Num (15)			
25	Intc Referral Num (16)				Intc Referral Num (17)				Intc Referral Num (18)				Intc Referral Num (19)			
26	Service Id (0)				Service Id (1)				Service Id (2)							
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

OSSAIN custom billing template

List of data fields

The following data fields, listed in alphabetical order, appear in the OSSAIN custom billing template. The abbreviation denotes the text used to specify the data field in the layout views. The word location identifies the specific word within the layout where the data field appears. The page number is a reference to the detailed description for the data field itself.

Note: This list does not contain the data fields found in the template header, which is common to all TDR call templates.

Table 449 Data fields contained in the OSSAIN custom billing template

Data field	Abbreviation in template	Word location	Page number
Service node data, large	SN Data, Large	2 - 36	page 306
Service node identifier, custom billing	Service Node Identifier, Custom Billing	1	page 309

Template layout

The following table illustrates the order and bit position of the fields contained in the OSSAIN custom billing template. The first table shows the layout in the right-to-left format and the second table shows the layout in the left-to-right format. The bit positions that are shaded are unused.

Table 450 OSSAIN custom billing template layout, right-to-left format

word /bit	msb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	lsb 00
1	Service Node Identifier, Custom Billing															
2	SN Data, Large (3)				SN Data, Large (2)				SN Data, Large (1)				SN Data, Large (0)			
3	SN Data, Large (7)				SN Data, Large (6)				SN Data, Large (5)				SN Data, Large (4)			
4	SN Data, Large (11)				SN Data, Large (10)				SN Data, Large (9)				SN Data, Large (8)			
5	SN Data, Large (15)				SN Data, Large (14)				SN Data, Large (13)				SN Data, Large (12)			
6	SN Data, Large (19)				SN Data, Large (18)				SN Data, Large (17)				SN Data, Large (16)			
7	SN Data, Large (23)				SN Data, Large (22)				SN Data, Large (21)				SN Data, Large (20)			
8	SN Data, Large (27)				SN Data, Large (26)				SN Data, Large (25)				SN Data, Large (24)			
9	SN Data, Large (31)				SN Data, Large (30)				SN Data, Large (29)				SN Data, Large (28)			
10	SN Data, Large (35)				SN Data, Large (34)				SN Data, Large (33)				SN Data, Large (32)			
11	SN Data, Large (39)				SN Data, Large (38)				SN Data, Large (37)				SN Data, Large (36)			
12	SN Data, Large (43)				SN Data, Large (42)				SN Data, Large (41)				SN Data, Large (40)			
13	SN Data, Large (47)				SN Data, Large (46)				SN Data, Large (45)				SN Data, Large (44)			
14	SN Data, Large (51)				SN Data, Large (50)				SN Data, Large (49)				SN Data, Large (48)			
15	SN Data, Large (55)				SN Data, Large (54)				SN Data, Large (53)				SN Data, Large (52)			
16	SN Data, Large (59)				SN Data, Large (58)				SN Data, Large (57)				SN Data, Large (56)			
17	SN Data, Large (63)				SN Data, Large (62)				SN Data, Large (61)				SN Data, Large (60)			
18	SN Data, Large (67)				SN Data, Large (66)				SN Data, Large (65)				SN Data, Large (64)			
19	SN Data, Large (71)				SN Data, Large (70)				SN Data, Large (69)				SN Data, Large (68)			
20	SN Data, Large (75)				SN Data, Large (74)				SN Data, Large (73)				SN Data, Large (72)			
21	SN Data, Large (79)				SN Data, Large (78)				SN Data, Large (77)				SN Data, Large (76)			
22	SN Data, Large (83)				SN Data, Large (82)				SN Data, Large (81)				SN Data, Large (80)			
23	SN Data, Large (87)				SN Data, Large (86)				SN Data, Large (85)				SN Data, Large (84)			
24	SN Data, Large (91)				SN Data, Large (90)				SN Data, Large (89)				SN Data, Large (88)			
25	SN Data, Large (95)				SN Data, Large (94)				SN Data, Large (93)				SN Data, Large (92)			
26	SN Data, Large (99)				SN Data, Large (98)				SN Data, Large (97)				SN Data, Large (96)			
27	SN Data, Large (103)				SN Data, Large (102)				SN Data, Large (101)				SN Data, Large (100)			
28	SN Data, Large (107)				SN Data, Large (106)				SN Data, Large (105)				SN Data, Large (104)			
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 450 OSSAIN custom billing template layout, right-to-left format

word /bit	msb															lsb
	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00
29	SN Data, Large (111)				SN Data, Large (110)				SN Data, Large (109)				SN Data, Large (108)			
30	SN Data, Large (115)				SN Data, Large (114)				SN Data, Large (113)				SN Data, Large (112)			
31	SN Data, Large (119)				SN Data, Large (118)				SN Data, Large (117)				SN Data, Large (116)			
32	SN Data, Large (123)				SN Data, Large (122)				SN Data, Large (121)				SN Data, Large (120)			
33	SN Data, Large (127)				SN Data, Large (126)				SN Data, Large (125)				SN Data, Large (124)			
34	SN Data, Large (131)				SN Data, Large (130)				SN Data, Large (129)				SN Data, Large (128)			
35	SN Data, Large (135)				SN Data, Large (134)				SN Data, Large (133)				SN Data, Large (132)			
36	SN Data, Large (139)				SN Data, Large (138)				SN Data, Large (137)				SN Data, Large (136)			
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 451 OSSAIN custom billing template layout, left-to-right format

word /bit	lsb															msb
	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00
1	Service Node Identifier, Custom Billing															
2	SN Data, Large (0)				SN Data, Large (1)				SN Data, Large (2)				SN Data, Large (3)			
3	SN Data, Large (4)				SN Data, Large (5)				SN Data, Large (6)				SN Data, Large (7)			
4	SN Data, Large (8)				SN Data, Large (9)				SN Data, Large (10)				SN Data, Large (11)			
5	SN Data, Large (12)				SN Data, Large (13)				SN Data, Large (14)				SN Data, Large (15)			
6	SN Data, Large (16)				SN Data, Large (17)				SN Data, Large (18)				SN Data, Large (19)			
7	SN Data, Large (20)				SN Data, Large (21)				SN Data, Large (22)				SN Data, Large (23)			
8	SN Data, Large (24)				SN Data, Large (25)				SN Data, Large (26)				SN Data, Large (27)			
9	SN Data, Large (28)				SN Data, Large (29)				SN Data, Large (30)				SN Data, Large (31)			
10	SN Data, Large (32)				SN Data, Large (33)				SN Data, Large (34)				SN Data, Large (35)			
11	SN Data, Large (36)				SN Data, Large (37)				SN Data, Large (38)				SN Data, Large (39)			
12	SN Data, Large (40)				SN Data, Large (41)				SN Data, Large (42)				SN Data, Large (43)			
13	SN Data, Large (44)				SN Data, Large (45)				SN Data, Large (46)				SN Data, Large (47)			
14	SN Data, Large (48)				SN Data, Large (49)				SN Data, Large (50)				SN Data, Large (51)			
15	SN Data, Large (52)				SN Data, Large (53)				SN Data, Large (54)				SN Data, Large (55)			
16	SN Data, Large (56)				SN Data, Large (57)				SN Data, Large (58)				SN Data, Large (59)			
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 451 OSSAIN custom billing template layout, left-to-right format

word /bit	lsb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	msb 00
17	SN Data, Large (60)				SN Data, Large (61)				SN Data, Large (62)				SN Data, Large (63)			
18	SN Data, Large (64)				SN Data, Large (65)				SN Data, Large (66)				SN Data, Large (67)			
19	SN Data, Large (68)				SN Data, Large (69)				SN Data, Large (70)				SN Data, Large (71)			
20	SN Data, Large (72)				SN Data, Large (73)				SN Data, Large (74)				SN Data, Large (75)			
21	SN Data, Large (76)				SN Data, Large (77)				SN Data, Large (78)				SN Data, Large (79)			
22	SN Data, Large (80)				SN Data, Large (81)				SN Data, Large (82)				SN Data, Large (83)			
23	SN Data, Large (84)				SN Data, Large (85)				SN Data, Large (86)				SN Data, Large (87)			
24	SN Data, Large (88)				SN Data, Large (89)				SN Data, Large (90)				SN Data, Large (91)			
25	SN Data, Large (92)				SN Data, Large (93)				SN Data, Large (94)				SN Data, Large (95)			
26	SN Data, Large (96)				SN Data, Large (97)				SN Data, Large (98)				SN Data, Large (99)			
27	SN Data, Large (100)				SN Data, Large (101)				SN Data, Large (102)				SN Data, Large (103)			
28	SN Data, Large (104)				SN Data, Large (105)				SN Data, Large (106)				SN Data, Large (107)			
29	SN Data, Large (108)				SN Data, Large (109)				SN Data, Large (110)				SN Data, Large (111)			
30	SN Data, Large (112)				SN Data, Large (113)				SN Data, Large (114)				SN Data, Large (115)			
31	SN Data, Large (116)				SN Data, Large (117)				SN Data, Large (118)				SN Data, Large (119)			
32	SN Data, Large (120)				SN Data, Large (121)				SN Data, Large (122)				SN Data, Large (123)			
33	SN Data, Large (124)				SN Data, Large (125)				SN Data, Large (126)				SN Data, Large (127)			
34	SN Data, Large (128)				SN Data, Large (129)				SN Data, Large (130)				SN Data, Large (131)			
35	SN Data, Large (132)				SN Data, Large (133)				SN Data, Large (134)				SN Data, Large (135)			
36	SN Data, Large (136)				SN Data, Large (137)				SN Data, Large (138)				SN Data, Large (139)			
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

IN interworking template

List of data fields

The following data fields, listed in alphabetical order, appear in the IN interworking template. The abbreviation denotes the text used to specify the data field in the layout views. The word location identifies the specific word within the layout where the data field appears. The page number is a reference to the detailed description for the data field itself.

Note: This list does not contain the data fields found in the template header, which is common to all TDR call templates.

Table 452 Data fields contained in the IN interworking template

Data field	Abbreviation in template	Word location	Page number
Accumulated operator work time, minutes	Acc Oper Work Time, Minutes	7	page 40
Accumulated operator work time, seconds	Acc Oper Work Time, Seconds	7	page 41
Accumulated operator work time, tenths of seconds	Acc Oper Work Time, 10th	7	page 42
Carrier / NBEC code	Carrier / NBEC	10	page 101
Carrier agreement table	Car Agrmnt	9	page 76
Carrier code source	Carrier Code Source	9	page 82
Date, day	Date, Day	3	page 127
Date, month	Date, Month	3	page 129
Date, year	Date, Year	3	page 131
Elapsed time, minutes	Elapsed Time, Minutes	6	page 133
Elapsed time, seconds	Elapsed Time, Seconds	5	page 135
Elapsed time, tenths of seconds	Elapsed Time, 10ths	5	page 137
Incoming trunk group number	Incoming Trunk Group Number	1	page 144
Incoming trunk member number	Incoming Trunk Member Number	2	page 145
Operator id, last operator's number	Operator Id, Last Operator's Number	8	page 237
Operator id, last operator's team number	Operator Id, Last Operator's Team Number	9	page 238
SCP billing identifier	SCP Billing Identifier	17 - 18	page 292
Service identifier	Service Id	16	page 300
Service node accumulated elapsed time, minutes	SN Acc Elapsed Time, Minutes	11	page 302
Service node accumulated elapsed time, seconds	SN Acc Elapsed Time, Seconds	11	page 303
Service node accumulated elapsed time, tenths of seconds	SN Acc Elap Time, 10ths	11	page 304

Table 452 Data fields contained in the IN interworking template

Data field	Abbreviation in template	Word location	Page number
Service node accumulated number of transactions	Service Node Accumulated Number of Transactions	14	page 305
Service node identifier, last	Service Node Identifier, Last	12	page 309
Service node network service identifier	Service Node Network Service Identifier	13	page 310
Service node number of nodes	Service Node Number of Nodes	15	page 312
Service observed	S O	1	page 313
Time, hours	Time, Hours	5	page 337
Time, minutes	Time, Minutes	4	page 339
Time, seconds	Time, Seconds	4	page 341
Time, tenths of seconds	Time, 10ths of Seconds	4	page 343
Traffic sampled	T S	1	page 346

Template layout

The following table illustrates the order and bit position of the fields contained in the IN interworking template. The first table shows the layout in the right-to-left format and the second table shows the layout in the left-to-right format. The bit positions that are shaded are unused.

Table 453 IN interworking template layout, right-to-left format

word /bit	msb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	lsb 00
1	T S	S O	Incoming Trunk Group Number													
2			Incoming Trunk Member Number													
3				Date, Day					Date, Month				Date, Year			
4	Time, 10ths of Seconds					Time, Seconds						Time, Minutes				
5		Elapsed Time, 10ths				Elapsed Time, Seconds					Time, Hours					
6	Elapsed Time, Minutes															
7	Acc Opr Work Time, 10th			Acc Oper Work Time, Seconds					Acc Oper Work Time, Minutes							
8			Operator Id, Last Operator's Number													
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Table 453 IN interworking template layout, right-to-left format

word /bit	msb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	lsb 00
9	▨	▨	▨	Car Agrmnt		Carrier Code Source			Operator Id, Last Operator's Team Number							
10	Carrier / NBEC (3)				Carrier / NBEC (2)				Carrier / NBEC (1)				Carrier / NBEC (0)			
11	SN Acc Elap Time, 10ths				SN Acc Elapsed Time, Seconds						SN Acc Elapsed Time, Minutes					
12	Service Node Identifier, Last															
13	Service Node Network Service Identifier															
14	Service Node Accumulated Number of Transactions															
15	Service Node Number of Nodes															
16	▨	▨	▨	▨	Service Id (2)				Service Id (1)				Service Id (0)			
17	SCP Billing Identifier (1)								SCP Billing Identifier (0)							
18	SCP Billing Identifier (3)								SCP Billing Identifier (2)							
bit	**15**	**14**	**13**	**12**	**11**	**10**	**09**	**08**	**07**	**06**	**05**	**04**	**03**	**02**	**01**	**00**

Table 454 IN interworking template layout, left-to-right format

word /bit	lsb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	msb 00
1	Incoming Trunk Group Number														S O	T S
2	Incoming Trunk Member Number														▨	▨
3	Date, Year				Date, Month				Date, Day					▨	▨	▨
4	Time, Minutes						Time, Seconds						Time, 10ths of Seconds			
5	Time, Hours						Elapsed Time, Seconds						Elapsed Time, 10ths			▨
6	Elapsed Time, Minutes															
7	Acc Oper Work Time, Minutes						Acc Oper Work Time, Seconds						Acc Opr Work Time, 10th			
8	Operator Id, Last Operator's Number														▨	▨
9	Operator Id, Last Operator's Team Number								Carrier Code Source				Car Agrmnt		▨	▨
10	Carrier / NBEC (0)				Carrier / NBEC (1)				Carrier / NBEC (2)				Carrier / NBEC (3)			
11	SN Acc Elapsed Time, Minutes						SN Acc Elapsed Time, Seconds						SN Acc Elap Time, 10ths			
12	Service Node Identifier, Last															
13	Service Node Network Service Identifier															
14	Service Node Accumulated Number of Transactions															
bit	**15**	**14**	**13**	**12**	**11**	**10**	**09**	**08**	**07**	**06**	**05**	**04**	**03**	**02**	**01**	**00**

Table 454 IN interworking template layout, left-to-right format

word /bit	lsb 15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	msb 00
15	Service Node Number of Nodes															
16	Service Id (0)				Service Id (1)				Service Id (2)							
17	SCP Billing Identifier (0)								SCP Billing Identifier (1)							
18	SCP Billing Identifier (2)								SCP Billing Identifier (3)							
bit	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

Part 3: Interactions

Part 3: Interactions includes the following chapter:

Chapter 5: "TDR feature impact," beginning on page 451.

Chapter 5: TDR feature impact

This chapter discusses feature interactions as well as limitations and restrictions associated with TDR. The following areas are discussed:

- billing stream assignment
- OSSAIN custom billing
- word layout
- unanswered call recording
- TDR200 log generation
- operator services network capability

Billing stream assignment

It is recommended that TDR records be placed into a billing stream that contains no other billing record types. This recommendation exists because of the interactions that TDR records have with other billing record search tools.

Each billing format has a its own search tool or set of search tools that are used to search the billing records produced. The search tools must understand the format of all the records in the billing file or billing buffer in order for the tool to correctly parse the records.

These existing search tools have not been modified to support TDR billing records. If the search tool encounters a TDR billing record, its behavior would be unreliable. Some examples of these existing search tools are the following:

- AMADUMP (all facilities except TDR)
- CALLDUMP (all streams with formats other than TDRFMT)
- CDRSRCH
- FCDRSRCH

Care should also be taken when using the AMA stream. Certain software loads that contain TOPS functionality also contain non-TOPS functionality that may write billing records into the AMA stream. An example of this is the LET load where the DMS100 portion of the switch usually generates billing records into the AMA stream. If the AMA stream is set to TDRFMT, then the non-TOPS calls also writing to the AMA stream will likely generate records that are incorrect and un-recognizable by the search tools. The use of the AMA stream should be scrutinized carefully for the given switch and software load.

OSSAIN custom billing

When using the combined template, there is no means for generating OSSAIN custom billing information. The custom billing information is lost and the TDR102 log is generated along with the pegging of the SNLOST register within the TDR OM group.

If the telephone company is providing services that use OSSAIN custom billing, then the MULTI_FIXED template type should be used in order to avoid losing billing information.

Note: A maximum of two OSSAIN Custom Billing records can be produced for a single call.

Word layout

All data fields within the TDR call record follow the selected word layout with the exception of the template header fields which will always use the Right-to-Left layout. The word layout is selected in table TOPTDROP, tuple WORD_LAYOUT.

All TDR non-call records will always use the Right-to-Left layout for the entire non-call record.

Unanswered call recording

Some TOPS calls provide billable services without making a forward connection in the network. These calls are considered 'unanswered'. Caution should be employed when turning unanswered call recording to N because it may cause some billable service calls to not generate TDR records. The de-activation of unanswered call recording is selected in table TOPTDROP, tuple UNANSWERED_CALL_RECORDING.

The parameter controlling unanswered call recording is an office-wide parameter. There is no means to selectively de-activate unanswered call recording on a template or call type basis.

TDR200 log generation

The TDR200 log is an informational log that can be generated for every TDR call record that is produced. It is controlled in table TOPTDROP with tuple GEN_RECORD_LOG. This control is on an office-wide basis. Activating this log in a live office will likely cause the log system to overflow due to the large numbers of TDR200 logs that would be generated.

Operator services network capability

Operator services network capability (OSNC) impacts TDR is three ways:

- elapsed time from carrier connect

- recording of answer

- recording of call event status

Elapsed time from carrier connect

The carrier disconnect time occurs when the on-hook is detected by the originator or when a REL is received or sent from the switch. With OSNC, operator hold may now be in effect from TOPS to the carrier switch. (Note: The TOPS switch is generating the record and collecting the carrier elapsed time in this case). When operator hold is in effect, the connection is not taken down when the originator goes on-hook, so carrier connect timing does not stop at this point. Instead, carrier connect timing stops only when a REL is received or sent by the TOPS switch.

Recording of answer

When OSNC is used for the outgoing connection, the address complete message (ACM) can contain a parameter with an indication to cut-through the voice path (User-Network interaction indicator set to "user network interaction cut-through in both directions"). This usually means that an operator has been attached at the terminating switch. For these calls, no answer message (ANM) is expected, so the record generated in the TOPS switch is marked as un-answered.

Datafill in tables AMAOPTS and BCCODES can cause AMA records marked as unanswered to not be generated at all. By using OSNC on the outgoing connection for these calls, there is the potential for losing AMA records based upon the table datafill.

Recording of call event status

When OSNC is used for the outgoing connection, and the ACM contains the parameter indicating a cut-through the voice path, no ANM is expected. In this case, the record generated in the TOPS switch is marked as un-answered. If the call is also a carrier call, then the Call Event Status is recorded.

The Call Event Status is meant to show the call's progress through the various stages of signalling until an answer message is received from the carrier. Since no ANM is received and no new values have been added to the range for the field, the existing value "05 (operator services or CAMA signalling - - off-hook from IXC/INC after receipt of called number (originating LATA record))" is recorded. This is analogous to the value recorded when TOPS uses Feature Group C MF signalling to connect to a carrier's operator switch.

Part 4: Planning and engineering

Part 4: Planning and engineering includes the following chapter:

Chapter 6: "TDR engineering," beginning on page 457.

Chapter 6: TDR engineering

This chapter provides information on how to engineer resources used by TDR. It discusses how TDR affects office parameters.

Extension block usage

TDR uses data storage from several extension blocks:

- CRS primary recording unit (PRU) 2
- CRS Sub-recording unit (SubRU) 2
- CRS Sub-recording unit (SubRU) 5

This use requires a possible increase to the various associated office parameters. The following table maps the extension block to the office parameter table and specific tuple that controls the number of extension blocks available to the switch.

Table 455   Alphabetical reference for extension block provisioning

Extension Block	Table Name	Office Parameter
CRS PRU 2	OFCENG	CRS_PRU_POOL2_SIZE
CRS SubRU 2	OFCENG	CRS_SUBRU_POOL2_SIZE
CRS SubRU 5	OFCENG	CRS_SUBRU_POOL5_SIZE

All of the affected parameters are existing parameters that may require additional provisioning based upon the individual characteristics of a given office.

OFCENG

The following table provides a list of the parameters used by TDR with table OFCENG.

Table 456 Datafilling table OFCENG

Parameter name	Range of values/ units	Default value	Explanation
CRS_PRU_POOL 2_SIZE	unchanged	100	Controls the number of CRS PRU 2 extension blocks available in the switch.
			When using TDR, this extension block is obtained at the end of the call and used to hold data until the TDR billing record can be formatted. It is also needed to hold OSSAIN custom billing data until the billing records can be formatted.
			The following formula should be added to the existing formula:
			<existing equation> + maximum number of TOPS busy hour call attempts *.1 + maximum number of OSSAIN custom billing instances*.1
CRS_SUBRU_ POOL2_SIZE	unchanged	100	Controls the number of CRS SubRU 2 extension block available in the switch.
			When using TDR, this extension block is obtained at the end of the call and used to hold data until the TDR billing record can be formatted. It is only obtained for OSSAIN calls that send TOPS an OSSAIN class charge operation with a commercial credit card authorization code present.
			The following formula should be added to the existing formula:
			<existing equation> + maximum number of applicable OSSAIN calls *.1
CRS_SUBRU_ POOL5_SIZE	unchanged	100	Controls the number of CRS SubRU 5 extension block available in the switch.
			When using TDR, this extension block is obtained at the end of the call and used to hold data until the TDR billing record can be formatted.
			The following formula should be added to the existing formula:
			<existing equation> + maximum number of TOPS busy hour call attempts *.1

OFCENG example

The following figure shows example datafill.

Figure 11   MAP display example for table OFCENG

```
PARM                      PARMVAL
-----------------------------------------------------------------------
CRS_PRU_POOL2_SIZE        100
CRS_SUBRU_POOL2_SIZE      100
CRS_SUBRU_POOL5_SIZE      100

```

Part 5: Provisioning

Part 5: Provisioning includes the following chapters:

Chapter 7: "TDR data schema," beginning on page page 463.

Chapter 8: "TDR SOC," beginning on page 477.

Chapter 7: TDR data schema

This chapter provides information on how to datafill tables used by TDR. It discusses each table and shows any interdependencies among the tables. The datafill information given is specific to TDR, with an explanation of new fields, values, and an example.

Note: For complete information on all the fields and values in the following tables, please refer to the *Customer Data Schema Reference Manual*.

TDR datafill requirements

The datafill descriptions and examples in this chapter are organized around the following TDR processing requirements:

- selecting TDR as the billing format for TOPS calls
- provisioning office identification for TDR
- customizing TDR format

Alphabetical reference for TDR table descriptions

The following table lists each table in alphabetical order and the page where its description begins.

Table 457   Alphabetical reference for TDR table descriptions

Table name	Page number
CRSFMT	page 464
CRSMAP	page 465
OFCENG	page 466
TOPTDROP	page 467

Selecting TDR

A billing stream name is a customer definable entity (with the exception of the AMA stream which is predefined). Billing streams have an associated format and call types are mapped to a particular billing stream.

For TOPS calls, the datafill combination of the billing stream selected for TOPS calls and the associated format for that billing stream determines whether TDR or BAF is used. TDR is generated when the format is TDRFMT.

Note: It is recommended that TDR records be sent to a billing stream that contains no other types of billing records. This recommendation is based upon the less than reliable behavior of certain billing record search tools. Refer to "Interactions with other search tools" on page 507 for more information.

Datafill sequence

The tables for the billing format selection of TOPS calls are described in the following table. The tables are listed in the order in which they should be datafilled.

Table 458 Datafill sequence for billing format selection

Table name	Explanation
CRSFMT	The Call Recording Stream Format table contains each valid billing stream for the office with associated data for each stream.
CRSMAP	The Call Recording Stream Map table maps call data types to billing streams.

Table dependencies

The following figure shows table dependencies of the billing format selection datafill. The arrow indicates a need relationship.

Figure 12   Billing Format Selection datafill dependencies
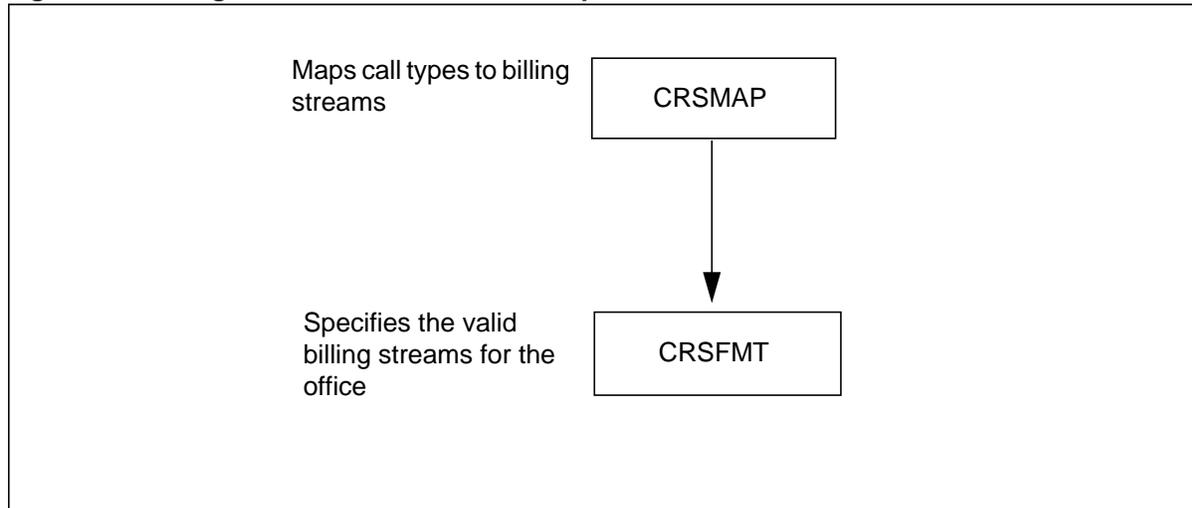
CRSFMT

Table CRSFMT is an existing table. A new billing format is created to support TDR. This table contains all the valid billing streams for a given switch.

Each billing stream supports a billing format. Some billing streams like the AMA stream support multiple billing formats. By mapping TOPS calls to a particular billing stream (with its associated format), the TOPS billing format (either TDR or BAF) is selected.

The following table shows the datafill specific to TDR for table CRSFMT. Only those fields that apply directly to TDR are shown. For a description of the other fields, refer to the *Customer Data Schema Reference Manual*.

Table 459 Datafilling table CRSFMT

Field	Subfield or refinement	Entry	Explanation and action
KEY		16 character stream name	Billing Stream Name
FORMAT		TDRFMT	Billing Stream Format. Select TDRFMT in order for TDR format billing records to be generated

CRSFMT example

The following figure shows example datafill.

Figure 13 MAP display example for table CRSFMT

```
KEY        FORMAT      DATADUMP   CDRSRCH    ALARMS    TIMERDMP    TIMERVAL
--------------------------------------------------------------------------
NIL        NTFMT       N          NIL_FM     N         N           0
TOPSOCC    TDRFMT      N          NIL_FM     N         N           0
```

CRSMAP

Table CRSMAP is an existing table. No changes are made to this table to support TDR. This table maps call types to billing streams.

There is a predefined call type called TOPS that is used to map all TOPS calls in a given switch to a single billing stream. If no entry is made in CRSMAP, then the default behavior is to map calls to the AMA billing stream.

The following table shows the datafill specific to TDR for table CRSMAP. Only those fields that apply directly to TDR are shown. For a description of the other fields, refer to the *Customer Data Schema Reference Manual*.

Table 460 Datafilling table CRSMAP

Field	Subfield or refinement	Entry	Explanation and action
KEY		TOPS	Call Type

Table 460 Datafilling table CRSMAP

Field	Subfield or refinement	Entry	Explanation and action
STREAM		16 character stream name	Billing Stream Name. Enter the billing stream that is datafilled in Table CRSFMT where all billing records generated by the call type are placed.

CRSMAP example

The following figure shows example datafill.

Figure 14   MAP display example for table CRSMAP

```
KEY    STREAM
------------------
TOPS   TOPSOCC
```

Provisioning office identification for TDR

This section discusses the datafill necessary to provision the office identification that is recorded in TDR.

OFCENG

The following table provides a list of the parameters used by TDR with table OFCENG.

Table 461 Datafilling table OFCENG

Parameter name	Range of values/ units	Default value	Explanation
OFFICE_ID_ON_ AMA_TAPE	000000 - 999999	none	Controls the office identifier needed for billing. TDR will use the value provisioned here in the Office Identification data field (page 202) in order to identify the switch used to produce the given TDR billing file.

OFCENG example

The following figure shows example datafill.

Figure 15   MAP display example for table OFCENG

```
PARM                    PARMVAL
----------------------------
OFFICE_ID_ON_AMA_TAPE  123456
```

Customizing TDR format

The customer can make minor modifications to the TDR format itself using table TOPTDROP. The customer can also customize the informational log generation capabilities of TDR using Table TOPTDROP.

Table TOPTDROP is a parameter table similar to other TOPS parameter tables such as TOPSPARM and TOPAMAOP. The table contains various tuples that each have a unique meaning and datafill parameters.

TOPTDROP parameters

Two fields are contained in table TOPTDROP: PARMNAME and PARMVAL. The following parameters used in customizing TDR format are described in this section:

- BHR_RECORD_SIZE
- CCR_RECORD_SIZE
- ESR_RECORD_SIZE
- GEN_PADDED_RECORD_LOG
- GEN_RECORD_LOG
- GER_RECORD_SIZE
- GSR_RECORD_SIZE
- SRR_RECORD_SIZE
- TDR_RECORD_SIZE
- TEMPLATE_TYPE
- TEMPLATE_VERSION
- UNANSWERED_CALL_RECORDING
- WORD_LAYOUT

Parameter dependencies

The following figure shows logical parameter dependencies of the table TOPTDROP. These dependencies are not enforced by the switch. Those parameters that are not shown below do not have any dependencies on any other parameters. The arrow indicates a needs relationship.

Figure 16   TDR customization parameter dependencies
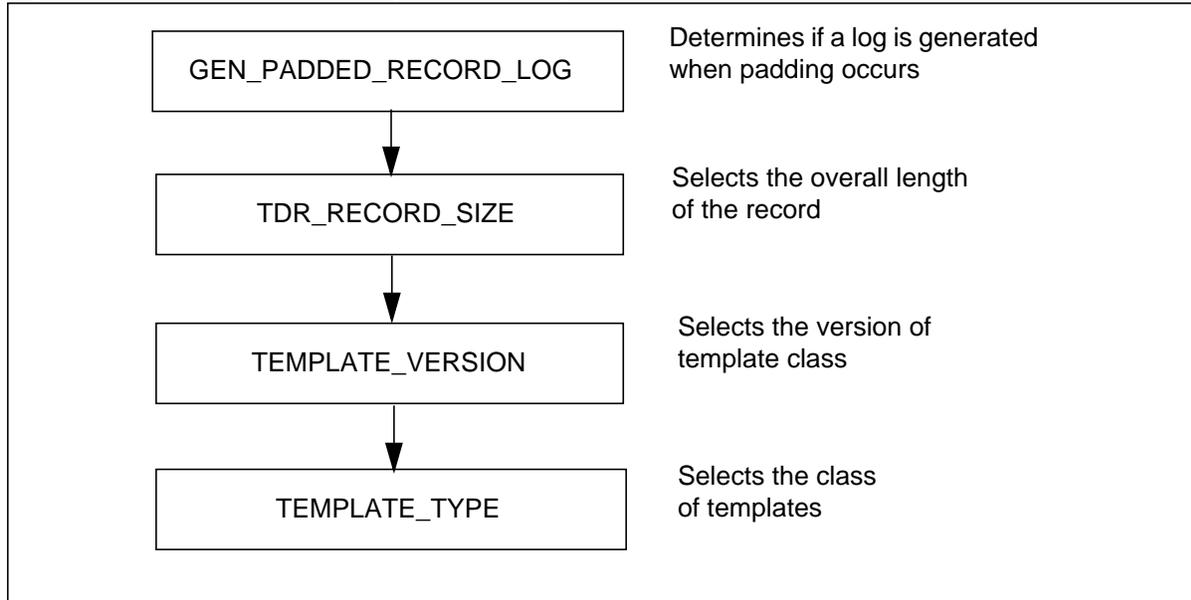
The order in which the above parameters should be datafilled is reflected in the following list. All other parameter in table TOPTDROP do not have a suggested datafill order and can be datafilled at any time.

- TEMPLATE_TYPE
- TEMPLATE_VERSION
- TDR_RECORD_SIZE
- GEN_PADDED_RECORD_LOG

Datafilling TOPTDROP

The following table lists the parameter name, range of values, default value and an explanation. See "TOPTDROP example" on page 475 for example datafill.

Table 462 Datafilling table TOPTDROP

Parameter name	Range of values/ units	Default value	Explanation
BHR_RECORD_SIZE	FIXED_SIZE (8 to 128), VAR_SIZE (8 to 128)	FIXED_SIZE 8	The value of this parameter selects the overall length (in words) of the Block Header record. If set to FIXED_SIZE (8 to 128), all block header records are the same length as specified by a value between 8 and 128. If the block header template is shorter than the specified length, then the record is padded with 0's. If set to VAR_SIZE (8 to 128), the block header record length is determined by the size of the block header template as long as it is not larger than the upperbound specified by a value between 8 and 128. An upper bound size is provided as a safeguard to protect the downstream processor from receiving a record that is too large.
CCR_RECORD_SIZE	NONE FIXED_SIZE (7 to 128), VAR_SIZE (7 to 128)	FIXED_SIZE 7	The value of this parameter controls both the generation and the overall length (in words) of the Clock Change record. If set to NONE, the clock change record is not generated. If set to FIXED_SIZE (7 to 128), all clock change records are the same length as specified by a value between 7 and 128. If the clock change template is shorter than the specified length, then the record is padded with 0's. If set to VAR_SIZE (7 to 128), the clock change record length is determined by the size of the clock change template as long as it is not larger than the upperbound specified by a value between 7 and 128. An upper bound size is provided as a safeguard to protect the downstream processor from receiving a record that is too large.

Table 462 Datafilling table TOPTDROP

Parameter name	Range of values/ units	Default value	Explanation
ESR_RECORD_ SIZE	NONE FIXED_SIZE (5 to 128), VAR_SIZE (5 to 128)	FIXED_SIZE 5	The value of this parameter controls both the generation and the overall length (in words) of the Emergency Start record. If set to NONE, the emergency start record is not generated. If set to FIXED_SIZE (5 to 128), all emergency start records are the same length as specified by a value between 5 and 128. If the emergency start template is shorter than the specified length, then the record is padded with 0's. If set to VAR_SIZE (5 to 128), the emergency start record length is determined by the size of the emergency start template as long as it is not larger than the upperbound specified by a value between 5 and 128. An upper bound size is provided as a safeguard to protect the downstream processor from receiving a record that is too large.
GEN_PADDED_ RECORD_LOG	Y, N	N	The value of this parameter controls the generation of the TDR101 log. The TDR101 log provides the customer with information about how many words are being padded on TDR records. The log would be used to help the customer fine-tune the size of the TDR record when using the FIXED_SIZE method (datafilled in the TDR_RECORD_SIZE tuple). Once the optimal record size has been determined, the log can be disabled using this tuple. If set to Y, TDR101 logs are enabled. If set to N, TDR101 logs are disabled.

Table 462 Datafilling table TOPTDROP

Parameter name	Range of values/ units	Default value	Explanation
GEN_RECORD_ LOG	Y, N	N	The value of this parameter controls the generation of the TDR200 log. The TDR200 log is an informational log that represents a single TDR billing record.
			The customer may use the TDR200 log to track TDR record production for test traffic. However, this log will likely not be generated for live traffic because of the sheer volume of TDR records that will be generated. For this reason, the customer is given the option to generating the TDR200 log.
			If set to Y, TDR200 logs are enabled.
			If set to N, TDR200 logs are disabled.
GER_RECORD_ SIZE	NONE FIXED_SIZE (24 to 128), VAR_SIZE (24 to 128)	FIXED_SIZE 24	The value of this parameter controls both the generation and the overall length (in words) of the Graceful End record.
			If set to NONE, the graceful end record is not generated.
			If set to FIXED_SIZE (24 to 128), all graceful end records are the same length as specified by a value between 24 and 128. If the graceful end template is shorter than the specified length, then the record is padded with 0's.
			If set to VAR_SIZE (24 to 128), the graceful end record length is determined by the size of the graceful end template as long as it is not larger than the upperbound specified by a value between 24 and 128. An upper bound size is provided as a safeguard to protect the downstream processor from receiving a record that is too large.

Table 462 Datafilling table TOPTDROP

Parameter name	Range of values/ units	Default value	Explanation
GSR_RECORD_ SIZE	NONE FIXED_SIZE (5 to 128), VAR_SIZE (5 to 128)	FIXED_SIZE 5	The value of this parameter controls both the generation and the overall length (in words) of the Graceful Start record. If set to NONE, the graceful start record is not generated. If set to FIXED_SIZE (5 to 128), all graceful start records are the same length as specified by a value between 5 and 128. If the graceful start template is shorter than the specified length, then the record is padded with 0's. If set to VAR_SIZE (5 to 128), the graceful start record length is determined by the size of the graceful start template as long as it is not larger than the upperbound specified by a value between 5 and 128. An upper bound size is provided as a safeguard to protect the downstream processor from receiving a record that is too large.
SRR_RECORD_ SIZE	NONE FIXED_SIZE (5 to 128), VAR_SIZE (5 to 128)	FIXED_SIZE 5	The value of this parameter controls both the generation and the overall length (in words) of the System Restart record. If set to NONE, the system restart record is not generated. If set to FIXED_SIZE (5 to 128), all system restart records are the same length as specified by a value between 5 and 128. If the system restart template is shorter than the specified length, then the record is padded with 0's. If set to VAR_SIZE (5 to 128), the system restart record length is determined by the size of the system restart template as long as it is not larger than the upperbound specified by a value between 5 and 128. An upper bound size is provided as a safeguard to protect the downstream processor from receiving a record that is too large.

Table 462 Datafilling table TOPTDROP

Parameter name	Range of values/ units	Default value	Explanation
TDR_RECORD_ SIZE	FIXED_SIZE (4 to 128), VAR_SIZE (4 to 128)	FIXED_SIZE 72	The value of this parameter selects the overall length (in words) of the TDR record. If set to FIXED_SIZE (4 to 128), all TDR records are the same length as specified by a value between 4 and 128. If the template selected is shorter than the specified length, then the record is padded with 0's. If the template selected is longer than the specified length, then the record is truncated and a TDR100 log is generated along with the TDR OM Group Register TRUNC being pegged. If set to VAR_SIZE (4 to 128), TDR record length is determined by the size of the selected template as long as it is not larger than the upperbound specified by a value between 4 and 128. An upper bound size is provided as a safeguard to protect the downstream processor from receiving a record that is too large.If the TEMPLATE_TYPE is set to SINGLE_FIXED, all TDR records will be the same length because they will all use the same template. In order to get TDR records with varying lengths in the same billing file, the TEMPLATE_TYPE would have to be set to MULTI_FIXED.

Table 462 Datafilling table TOPTDROP

Parameter name	Range of values/ units	Default value	Explanation
TEMPLATE_TYPE	SINGLE_ FIXED, MULTI_ FIXED	MULTI_ FIXED	The value of this parameter selects the group of TDR templates that will be used to record the billing data If set to SINGLE_FIXED, all TOPS calls will use the following template for TDR: - Combined template If set to MULTI_FIXED, TOPS calls will use one of the following templates for TDR: - Call completion template - Call transfer to carrier template - Listing services template - BLV / interrupt template - General assistance template - Charge adjust template - Intercept template - OSSAIN custom billing template - IN interworking template
TEMPLATE_ VERSION	0 - 2	0	The value of this parameter selects the version of all TDR templates that will be used to record the billing data. The selection of a unique version for each individual template is not supported.

Table 462 Datafilling table TOPTDROP

Parameter name	Range of values/ units	Default value	Explanation
UNANSWERED_ CALL_ RECORDING	Y, N	Y	The value of this parameter controls whether unanswered TOPS calls will generate a TDR record.
			This tuple controls the entire office. Some TOPS calls may provide a billable service without being answered. An example of this is an information service where the subscriber calls the operator for some information that the operator can provide without making a forward connection in the network. This type of call is considered unanswered. If UNANSWERED_CALL_RECORDING is set to N, then no TDR record would be generated for this billable service. The customer should exercise caution when datafilling this tuple.
			If set to Y, unanswered TOPS calls generate TDR billing records.
			If set to N, unanswered TOPS call do not generate TDR billing records.
WORD_LAYOUT	READRL, READLR	READRL	The value of this parameter controls the order of bits within a word for TDR billing records. It controls the position of the Least Significant Bit (LSB) and the Most Significant Bit (MSB) within a word of data.
			Note: All data fields within the TDR record follow the selected byte layout with the exception of the TDR header which will always use the READRL layout.
			If set to READRL, the LSB is bit 0 and the MSB is bit 15 within a given word.
			If set to READLR, the LSB is bit 15 and the MSB is bit 0 within a given word.

TOPTDROP example
The following figure shows example datafill for each TOPTDROP parameter.

Figure 17   MAP display example for table TOPTDROP

```
PARMNAME                    PARMVAL
------------------------------------------------------------------------
BHR_RECORD_SIZE             FIXED_SIZE 8
CCR_RECORD_SIZE             FIXED_SIZE 7
ESR_RECORD_SIZE             FIXED_SIZE 5
GEN_PADDED_RECORD_LOG       N
GEN_RECORD_LOG              N
GER_RECORD_SIZE             FIXED_SIZE 24
GSR_RECORD_SIZE             FIXED_SIZE 5
SRR_RECORD_SIZE             FIXED_SIZE 5
TDR_RECORD_SIZE             FIXED_SIZE 72
TEMPLATE_TYPE               MULTI_FIXED
TEMPLATE_VERSION            0
UNANSWERED_CALL_RECORDING   Y
WORD_LAYOUT                 READRL
```

Chapter 8: TDR SOC

All functionality in a product computing module load (PCL) is categorized as either base or optional. Base functionality is available for use immediately. Optional functionality is grouped into commercial units called software optionality control (SOC) options.

As a tool for managing the options in a PCL, SOC provides an interface at the MAP terminal. Users can enable or disable options, track the state of SOC options, and generate reports about SOC options.

This chapter provides a brief description of how TDR interfaces with SOC. For detailed information on how to use the SOC tool, please refer to *Software Optionality Control User's Manual*, 297-8991-901.

TDR order code

The functional group to which TDR software belongs is OSB (Operator Services Basic). There is no specific order code for TDR. TDR is available for immediate use in any PCL that contains TOPS.

Part 6: Billing

Part 6: Billing does not contain any additional chapters. This entire user's guide is devoted to describing the TDR billing format.

Part 7: OA&M

Part 7: OA&M includes the following chapters:

Chapter 9: TDR user interface

This chapter discusses the user interface for the TDR capability. It covers TDR billing record search capabilities.

Billing record search capabilities

In this release, there are two tools that can be used to perform on-switch searching for TDR records. They are AMADUMP and CALLDUMP.

AMADUMP is an existing tool that is modified to support a new facility called TDR. This facility recognizes TDR records within a billing file and will display them using the existing capabilities of AMADUMP.

CALLDUMP is an existing tool that is modified to support the new format called TDRFMT. CALLDUMP recognizes TDR records within a billing buffer and will display them to the user.

What is the difference between a billing buffer and a billing file? A billing file is an actual file that is stored on a DIRP device. A billing file is a relatively long term storage repository for billing records on the switch. Billing files are transmitted to downstream processors for processing. A billing buffer is repository for billing records from the time they are created until then are written to the billing file. Billing records remain in the billing buffer for a relatively short amount of time. AMADUMP will allow for record searching in the billing file while CALLDUMP will allow for record viewing in the billing buffer.

This section provides details on how to use the AMADUMP and CALLDUMP tools to search for TDR records. It focuses on the following user tasks:

- understanding the AMADUMP and CALLDUMP commands
- view all TDR records in the billing buffer
- view all TDR records in a billing file
- search for individual/groups of TDR records in a billing file
- interactions with other search tools

Understanding the AMADUMP and CALLDUMP commands

To enter the AMADUMP tool, the user types "AMADUMP TDR <filename>" at the CI level of the maintenance and administration position (MAP).

Table 463 lists a brief explanation of AMADUMP commands. Details on how to view the TDR records using these commands are provided in sections "View all TDR records in a billing file" on page 491 and "Search for individual/groups of TDR records in a billing file" on page 499.

Table 463 AMADUMP commands

Command	Explanation
DUMP	Displays the TDR records found within the billing file
FILTER	Specifies individual data field values used to select specific TDR records within the billing file
HELP	Displays help text for each command in the AMADUMP tool
QUIT	Exits the AMADUMP tool.

To enter the CALLDUMP tool, the user types "CALLDUMP <optional parameters>" at the CI level of the maintenance and administration position (MAP).

Table 464 lists a brief explanation of CALLDUMP command. Details on how to view the TDR records using this command is provided in section "View all TDR records in the billing buffer" on page 484.

Table 464 CALLDUMP command

Command	Explanation
CALLDUMP	Displays the TDR records found with the billing buffer

View all TDR records in the billing buffer

The CALLDUMP command is used to view all the TDR records in the billing buffer.

The syntax for the CALLDUMP command follows.

```
CALLDUMP <stream>|previous <format>
```

The following table lists parameter definitions.

Table 465 CALLDUMP parameters

Parameter	Value	Definition
`<stream>`	`<stream name>` or previous	Specifies the billing stream that is to be searched. This is an optional parameter. If it is not explicitly entered, the default is to search the AMA stream. If PREVIOUS is entered rather than the billing stream then the previous calldump billing buffer is displayed rather than the current billing buffer.
`<format>`	hex or full	Specifies the format used to display the records.This is an optional parameter. HEX specifies that the display of the records be done as a hex dump rather than a display of data field names and values. FULL specifies that the display of the records be done as a fully formatted textual display rather than a display of data field names and values. Values are output along with a textual representation of the value.

The following figures show several example system responses.

Figure 18   View TDR records from the current billing buffer

```
>calldump topsocc

*RECCODE:F0   TMPLTVER:02   TMPLTID:001   ACTTMPLID:0   RECLENGTH:086
 WORDLAYOUTIND:0   ASSOCTDR:0   TOOLGEN:1   SEQNUM:00003
 ORIGNUM:00000000006132391111   LRNCLG:0000000000   SPIDCLG:
 OLNSSERVEQP:000   INTRKGRP:0000   CLGSRC:1   INTRKMEM:0000   SERVOBS:0
 TRAFSAMP:0   DATEYR:0   DATEMO:00   DATEDAY:00   SERVFEAT:0   TIMEMIN:00
 TIMESEC:00   TIME10TH:0   TIMEHR:00   SCRNCODE:000   SUBBILLIND:0   ORIGNUMIND:1
 ELAPTIMEMIN:00000   ELAPTIMESEC:00   ELAPTIME10TH:0   OPRWKTIMEMIN:00
 OPRWKTIMESEC:00   OPRWKTIME10TH:0   OPER#LAST:9999   ACVAL:0   OPERTEAMLAST:000
 ACCODE:00000000000000   BILLTYPID:5   CALLCRDFMT:0   CALLCRDSEQCNT:000
 ALTBILLNUM:0000000000000000000000000   LIDBRESP:00   CALLCRDSUBACT:00
 LRNBILL:0000000000   SPIDBILL:        RAO:000   OSSACTION:00   MULTFACT:00001
 AMTCHARGE:00000   AMTDEPOSIT:00000   CHARGEIND:0   COINCRDT:0   RATEIND:0
 HOTELRM:           HOTELNM:         ICSRC:00   ICAGREEMNT:0   IC:0000
 SNELAPTIMEMIN:00   SNELAPTIMESEC:00   SNELAPTIME10TH:0   SNIDLAST:00000
 SNNETID:00000   SN#TRANS:00000   SN#NODES:00000   TERMNUM:00000000002122201111
 LRNCLD:0000000000   SPIDCLD:        OSSCCSCECI:1   OSSCCSCSTI:1   OSSCCSCRI:1
 OUTTRKGRP:0000   OSSCCSCATI:2   OUTTRKMEM:0000   OSSCCSCNPI:1   TERMNUMIND:1
 PERSONIND:0   OVSNPAIND:1   COMPLIND:4   ICCALLEVNTSTAT:00   CCDATEDAY:00
 CCDATEMO:00   CCDATEYR:0   CCTIMEHR:00   CCTIMEMIN:00   CCTIMESEC:00
 CCTIME10TH:0   CCELAPTIMEMIN:00000   CCELAPTIMESEC:00   CCELAPTIME10TH:0
 LOCALIND:1   CCCAUTHCODE:1234AbYz7890
```

Figure 19   View TDR records from the current billing buffer in hex format

```
>calldump topsocc  hex

C1C1000818342A072D2B000439160015C6F000428056000500000000016009323
1111000000004000040400004040000000000000004000000000000000270F0000
00000000000000050000000000000000000000000000000000000404040400000
00010000000004000040404040404040400040000000000000000000000000000
0000120002221111000000004000040404940800040000045000000000000000400
F2F1F4F382C1A9E8F8F7F0F94040004000000000000000000000000000000000000
00000000AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
```

Figure 20   View TDR records from the current billing buffer in hex format (continued)

```
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
```

Figure 21   View TDR records from the current billing buffer in full format

```
>calldump topsocc full

*
 RECCODE:                F0                         TDR CALL RECORD
 TMPLTVER:               02                         TEMPLATE VERSION
 TMPLTID:                001                        CALL COMPLETION
 ACTTMPLID:              0                          ACTIVE TEMPLATE VERSION
 RECLENGTH:              086                        WORDS
 WORDLAYOUTIND:          0                          RIGHT-TO-LEFT FORMAT
 ASSOCTDR:               0                          NO
 TOOLGEN:                1                          YES
 SEQNUM:                 00004                      SEQUENCE NUMBER
 ORIGNUM:                00000000006132391111       DIGITS
 LRNCLG:                 0000000000                 DIGITS
 SPIDCLG:                                           SPID CALLING PTY ACCT OWNER
 OLNSSERVEQP:            000                        UNKNOWN
 INTRKGRP:               0000                       NOT A TRUNK ORIGINATION
 CLGSRC:                 1                          ANI SUCCESS
 INTRKMEM:               0000                       TRUNK MEMBER NUMBER
 SERVOBS:                0                          NOT SERVICE OBSERVED
 TRAFSAMP:               0                          NOT TRAFFIC SAMPLED
 DATEYR:                 0                          NO DATE
 DATEMO:                 00                         NO DATE
 DATEDAY:                00                         NO DATE
 SERVFEAT:               0                          OTHER
 TIMEMIN:                00                         MINUTES
 TIMESEC:                00                         SECONDS
 TIME10TH:               0                          TENTHS OF A SECOND
 TIMEHR:                 00                         HOURS
 SCRNCODE:               000                        BILLING RESTRICTIONS
 SUBBILLIND:             0                          BILLABLE CALL
 ORIGNUMIND:             1                          ORIG NUMBER PRESENT
 ELAPTIMEMIN:            00000                      MINUTES
 ELAPTIMESEC:            00                         SECONDS
 ELAPTIME10TH:           0                          TENTHS OF A SECOND
 OPRWKTIMEMIN:           00                         MINUTES
 OPRWKTIMESEC:           00                         SECONDS
 OPRWKTIME10TH:          0                          TENTHS OF A SECOND
 OPER#LAST:              9999                       NO OPERATOR
 ACVAL:                  0                          UNKNOWN
 OPERTEAMLAST:           000                        NO OPERATOR
 ACCODE:                 00000000000000             DIGITS
 BILLTYPID:              5                          STATION PAID
 CALLCRDFMT:             0                          UNKNOWN
 CALLCRDSEQCNT:          000                        NOT BILLED TO CALLING CARD
 ALTBILLNUM:             000000000000000000000000   DIGITS
 LIDBRESP:               00                         UNKNOWN
 CALLCRDSUBACT:          00                         NO CALLING CARD / NO SUBACC
 LRNBILL:                0000000000                 DIGITS
 SPIDBILL:                                          SPID BILLED PTY ACCT OWNER
```

Figure 22   View TDR records from the current billing buffer in full format (continued)

```
 RAO:                    000                      DIGITS
  OSSACTION:             00                        UNKNOWN
  MULTFACT:              00001                     MULTIPLIER FACTOR
  AMTCHARGE:             00000                     NO CHARGES QUOTED
  AMTDEPOSIT:            00000                     NO MONEY COLLECTED
  CHARGEIND:             0                         UNKNOWN
  COINCRDT:              0                         UNKNOWN
  RATEIND:               0                         RAO DETERMINED RATE
  HOTELRM:                                         NO HOTEL ROOM NUMBER ENTERED
  HOTELNM:                                         NO HOTEL GUEST NAME ENTERED
  ICSRC:                 00                        UNKNOWN
  ICAGREEMNT:            0                         UNKNOWN
  IC:                    0000                      DIGITS
  SNELAPTIMEMIN:         00                        MINUTES
  SNELAPTIMESEC:         00                        SECONDS
  SNELAPTIME10TH:        0                         TENTHS OF A SECOND
  SNIDLAST:              00000                     NO SERVICE NODE
  SNNETID:               00000                     NO NETWORK SERVICE
  SN#TRANS:              00000                     NO SERVICE NODE TRANSACTIONS
  SN#NODES:              00000                     NO SERVICE NODES
  TERMNUM:               00000000002122201111      DIGITS
  LRNCLD:                0000000000                DIGITS
  SPIDCLD:                                         SPID CALLED PTY ACCT OWNER
  OSSCCSCECI:            1                         NOT A ZENITH / ENTERPRISE CALL
  OSSCCSCSTI:            1                         ALL OTHER CALL COMPL CALLS
  OSSCCSCRI:             1                         NORMAL COMPLETION
  OUTTRKGRP:             0000                      NOT A TRUNK TERMINATION
  OSSCCSCATI:            2                         AUTO COMPLETION ASSISTANCE
  OUTTRKMEM:             0000                      TRUNK MEMBER NUMBER
  OSSCCSCNPI:            1                         CALL TO AN NPA POINT
  TERMNUMIND:            1                         TERM NUMBER PRESENT
  PERSONIND:             0                         NO PERSON HANDLING
  OVSNPAIND:             1                         DOMESTIC CALL
  COMPLIND:              4                         NOT COMPLETED (UNANSWERED)
  ICCALLEVNTSTAT:        00                        UNKNOWN
  CCDATEDAY:             00                        NO CARRIER CONNECT DATE
  CCDATEMO:              00                        NO CARRIER CONNECT DATE
  CCDATEYR:              0                         NO CARRIER CONNECT DATE
  CCTIMEHR:              00                        HOURS
  CCTIMEMIN:             00                        MINUTES
  CCTIMESEC:             00                        SECONDS
  CCTIME10TH:            0                         TENTHS OF A SECOND
  CCELAPTIMEMIN:         00000                     MINUTES
  CCELAPTIMESEC:         00                        SECONDS
  CCELAPTIME10TH:        0                         TENTHS OF A SECOND
  LOCALIND:              1                         NON_LOCAL
  CCCAUTHCODE:           1234AbYz7890              COMMERCIAL CREDIT CARD AUTHCOD
```

Note: Additional field LOCALIND was implemented in Version 1, and field CCCAUTHCODE was implemented in Version 2.

View all TDR records in a billing file

The AMADUMP directory is used to view all TDR records contained in a billing file.

The syntax for entering the AMADUMP directory follows.

```
AMADUMP TDR <billing file name>
```

The display of the TDR record can take one of two formats:

* formatted

* hex

Table 466 lists the relevant commands.

Table 466 AMADUMP commands

Command name	Explanation
DUMP CALL	Displays the TDR records found within the billing file in a formatted mode
DUMP HEX	Displays the TDR records found within the billing file in a hex mode
DUMP HDR	Displays the TDR header records for each billing block

DUMP CALL command

The DUMP CALL command is used to display records found in the associated billing file. Any data field filters provisioned for using the FILTER command are applied to the billing records when the DUMP CALL command is issued. In this example, there are no filters applied, so all TDR records will be displayed.

The syntax for the DUMP CALL command follows.

```
DUMP CALL format startblk numblk
```

The following table lists parameter definitions.

Table 467 DUMP CALL parameters

Parameter	Value	Definition
<format>	DETAILS	Displays records using field name labels.
	NODETAILS	Displays records without providing field name labels. This is the default value.
	SUMMARY	Displays a record count for each block, and total record and block counts for the file. Actual records are not displayed.

Table 467 DUMP CALL parameters

Parameter	Value	Definition
`<start blk>`	1 to 32767	Billing File Block Number
		This is an optional parameter that enables the record display to begin at a specific billing block within the billing file.
`<num blks>`	1 to 32767	Number of Billing File Blocks
		This is an optional parameter that specifies the number of billing blocks to display within the billing file.

The following figure shows an example system response.

Figure 23   Formatted display of TDR records from a billing file

```
AMADUMP:
>DUMP CALL DETAILS
>>>TDR AMA FILE R981102144701TDR IS BEING PROCESSED.
>>>BLOCK NO: 1


>>>BLOCK NO: 2
*RECCODE:F0  TMPLTVER:00  TMPLTID:001  ACTTMPLID:0  RECLENGTH:063
 WORDLAYOUTIND:0  ASSOCTDR:0  TOOLGEN:1   SEQNUM:00001
 ORIGNUM:00000000006132391111  LRNCLG:0000000000  SPIDCLG:
 OLNSSERVEQP:000  INTRKGRP:0000  CLGSRC:1  INTRKMEM:0000  SERVOBS:0
 TRAFSAMP:0  DATEYR:8  DATEMO:11  DATEDAY:02  SERVFEAT:0  TIMEMIN:00
 TIMESEC:00  TIME10TH:0  TIMEHR:00  SCRNCODE:000  SUBBILLIND:0  ORIGNUMIND:1
 ELAPTIMEMIN:00000  ELAPTIMESEC:00  ELAPTIME10TH:0  OPRWKTIMEMIN:00
 OPRWKTIMESEC:00  OPRWKTIME10TH:0  OPER#LAST:9999  ACVAL:0  OPERTEAMLAST:000
 ACCODE:00000000000000  BILLTYPID:5  CALLCRDFMT:0  CALLCRDSEQCNT:000
 ALTBILLNUM:0000000000000000000000  LIDBRESP:00  CALLCRDSUBACT:00
 LRNBILL:0000000000  SPIDBILL:      RAO:000  OSSACTION:00  MULTFACT:00001
 AMTCHARGE:00000  AMTDEPOSIT:00000  CHARGEIND:6  COINCRDT:0  RATEIND:0
 HOTELRM:        HOTELNM:        ICSRC:00  ICAGREEMNT:0  IC:0000
 SNELAPTIMEMIN:00  SNELAPTIMESEC:00  SNELAPTIME10TH:0  SNIDLAST:00000
 SNNETID:04608  SN#TRANS:00546  SN#NODES:04369  TERMNUM:00000000000404040494
 LRNCLD:0008000454  SPIDCLD:{
  OSSCCSCECI:4  OSSCCSCSTI:3  OSSCCSCRI:1
 OUTTRKGRP:0000  OSSCCSCATI:0  OUTTRKMEM:0000  OSSCCSCNPI:0


>>>BLOCK NO: 3
*RECCODE:F0  TMPLTVER:00  TMPLTID:006  ACTTMPLID:0  RECLENGTH:021
 WORDLAYOUTIND:0  ASSOCTDR:0  TOOLGEN:1  SEQNUM:00002  INTRKGRP:0000
 SUBBILLIND:0  INTRKMEM:0000  SERVOBS:0  TRAFSAMP:0  DATEYR:8  DATEMO:11
 DATEDAY:02  LSRESP:0  TIMEMIN:00  TIMESEC:00  TIME10TH:0  TIMEHR:00
 ELAPTIMESEC:00  ELAPTIME10TH:0  ELAPTIMEMIN:00000  OPRWKTIMEMIN:00
 OPRWKTIMESEC:00  OPRWKTIME10TH:0  OPER#LAST:9999  OPERTEAMLAST:000
 ICSRC:00  ICAGREEMNT:0  IC:0000  SNELAPTIMEMIN:00  SNELAPTIMESEC:00
 SNELAPTIME10TH:0  SNIDLAST:00000  SNNETID:01792  SN#TRANS:30580
 SN#NODES:04369  INTCNUM:00000000000000000000


>>>BLOCK NO: 4
>>>END OF FILE: R981102144701TDR
```

DUMP HEX command

The DUMP HEX command is used to display records found in the associated billing file. Any data field filters provisioned for using the FILTER command are applied to the billing records when the DUMP HEX command is issued. In this example, there are no filters applied, so all TDR records will be displayed.

The syntax for the DUMP HEX command follows.

```
DUMP HEX startblk numblk
```

The following table lists parameter definitions.

Table 468 DUMP HEX parameters

Parameter	Value	Definition
`<start blk>`	1 to 32767	Billing File Block Number This is an optional parameter that enables the record display to begin at a specific billing block within the billing file.
`<num blks>`	1 to 32767	Number of Billing File Blocks This is an optional parameter that specifies the number of billing block to display within the billing file.

The following figures show an example system response.

Figure 24   Hex display of TDR records from a billing file

```
AMADUMP:
>DUMP HEX 2 1
>>>TDR AMA FILE R981102144701TDR IS BEING PROCESSED.

>>>BLOCK NO: 2
C1C1 0008 02B8 5E0E 2277 0001 4321 0065 C6F0 0040 803F 0001 0000 0000 1600 9323
1111 0000 0000 4000 4040 0040 4000 0000 02B8 0000 4000 0000 0000 0000 270F 0000
0000 0000 0000 0005 0000 0000 0000 0000 0000 0000 0000 0000 4040 4040 0000
0001 0000 0000 4006 4040 4040 4040 4040 0040 0000 0000 0000 1200 0222 1111 0000
0000 4000 4040 4940 8000 4000 1045 0D8B 5C0B 0000 0000 AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
```

Figure 25   Hex display of TDR records from a billing file <continued>

```
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA
AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA AAAA

>>>DUMP COMPLETED FOR FILE: R981102144701TDR
```

DUMP HDR command

The DUMP HDR command is used to display the TDR header records for each billing block specified.

The syntax for the DUMP HDR command follows.

```
DUMP HDR startblk numblk
```

The following table lists parameter definitions.

Table 469   DUMP HDR parameters

Parameter	Value	Definition
`<format>`	DETAILS	Displays header records using field name labels.
	NODETAILS	Displays header records without providing field name labels. This is the default value.
`<start blk>`	1 to 32767	Billing File Block Number This is an optional parameter that enables the record display to begin at a specific billing block within the billing file.

Table 469 DUMP HDR parameters

Parameter	Value	Definition
<num blks>	1 to 32767	Number of Billing File Blocks This is an optional parameter that specifies the number of billing block to display within the billing file.

The following figure shows an example system response.

Figure 26   Display of TDR header records from a billing file

```
AMADUMP:

>DUMP HDR
>>>TDR AMA FILE R981102144701TDR IS BEING PROCESSED.
>>>BLOCK NO: 1
AA 008 8 11 02 14 0 47 55 1 068 00000 123456
FA 005 8 11 02 14 0 47 55 1 068
>>>BLOCK NO: 2
AA 008 8 11 02 14 0 47 55 1 068 00001 123456
>>>BLOCK NO: 3
AA 008 8 11 02 14 0 49 29 1 068 00002 123456
>>>BLOCK NO: 10
AA 008 8 11 02 15 0 01 12 1 068 00004 123456
FB 024 8 11 02 15 0 01 12 1 068 00004 0000000006 A981102144701TDR
>>>END OF FILE: R981102144701TDR


>DUMP HDR DETAILS
>>>TDR AMA FILE R981102144701TDR IS BEING PROCESSED.
>>>BLOCK NO: 1
*RECCODE:AA  RECLENGTH:008  DATEYR:8  DATEMO:11  DATEDAY:02  TIMEHR:14
 TIME10TH:0  TIMEMIN:47  TIMESEC:55  TDRRECLENTYPE:1  TDRRECLEN:068
 BLOCKID:00000  OFFICEID:123456

*RECCODE:FA  RECLENGTH:005  DATEYR:8  DATEMO:11  DATEDAY:02  TIMEHR:14
 TIME10TH:0  TIMEMIN:47  TIMESEC:55  TDRRECLENTYPE:1  TDRRECLEN:068

>>>BLOCK NO: 2
*RECCODE:AA  RECLENGTH:008  DATEYR:8  DATEMO:11  DATEDAY:02  TIMEHR:14
 TIME10TH:0  TIMEMIN:47  TIMESEC:55  TDRRECLENTYPE:1  TDRRECLEN:068
 BLOCKID:00001  OFFICEID:123456

>>>BLOCK NO: 3
*RECCODE:AA  RECLENGTH:008  DATEYR:8  DATEMO:11  DATEDAY:02  TIMEHR:14
 TIME10TH:0  TIMEMIN:49  TIMESEC:29  TDRRECLENTYPE:1  TDRRECLEN:068
 BLOCKID:00002  OFFICEID:123456

>>>BLOCK NO: 4
*RECCODE:AA  RECLENGTH:008  DATEYR:8  DATEMO:11  DATEDAY:02  TIMEHR:15
 TIME10TH:0  TIMEMIN:01  TIMESEC:12  TDRRECLENTYPE:1  TDRRECLEN:068
 BLOCKID:00004  OFFICEID:123456

*RECCODE:FB  RECLENGTH:024  DATEYR:8  DATEMO:11  DATEDAY:02  TIMEHR:15
 TIME10TH:0  TIMEMIN:01  TIMESEC:12  TDRRECLENTYPE:1  TDRRECLEN:068
 BLOCKCOUNT:00004  RECCOUNT:0000000006
 FILENAME:A981102144701TDR

>>>END OF FILE: R981102144701TDR
```

Search for individual/groups of TDR records in a billing file

The AMADUMP directory is also used to search for and display individual/ groups of TDR records within a billing file.

The syntax for entering the AMADUMP directory follows.

```
AMADUMP TDR <billing file name>
```

Table 466 lists the relevant commands.

Table 470 AMADUMP commands

Command name	Explanation
FILTER ADD	Adds a filter to the filter table. Once the filter table has one or more filters, it may be enabled and the filters will be applied to the records.
FILTER DELETE	Removes the filter from the filter table
FILTER DISABLE	Disables filter screening
FILTER DISPLAY	Displays the contents of the filter table. If the value **fields** is appended to the **display** command, all the possible field names are shown.
FILTER ENABLE	Enables record screening

FILTER ADD command

The FILTER ADD command allows the customer to select a data field and its associated value to be used to locate a specific TDR record or set of TDR records within a billing file. Once the first data field has been selected, additional data fields may also be added to the selection list with associated logical operations. This allows for specification of very detailed search criteria which may be needed given the constraints for the search.

The syntax for the FILTER ADD command follows.

```
FILTER ADD field value logical range
```

The following table lists parameter definitions.

Table 471 FILTER ADD parameters

Parameter	Value	Definition
`<field>`	ACCODE	Account Code / Authorization Code Number field
	ACVAL	Account Code / Authorization Code Validation field
	ACTTMPLID	Active Template Identifier field
	ALTBILLNUM	Alternate Billing Number field

Table 471 FILTER ADD parameters

Parameter	Value	Definition
`<field>` `continued`	AMTCHARGE	Amount of Charge field
	AMTCREDIT	Amount of Credit field
	AMTDEPOSIT	Amount Deposited field
	ASSOCTDR	Associated TDR field
	BILLTYPID	Billing Type Identification field
	BLVREQ	BLV / Interrupt Request field
	CALLCRDFMT	Calling Card Format Identifier field
	CALLCRDSEQCNT	Calling Card Sequence Call Counter field
	CALLCRDSUBACT	Calling Card Subaccount Number field
	CALLTYPE	Call Type field
	CCCAUTHCODE	Commercial Credit Card Authcode
	CCDATEDAY	Carrier Connect Date, Day field
	CCDATEMO	Carrier Connect Date, Month field
	CCDATEYR	Carrier Connect Date, Year field
	CCELAPTIME10TH	Carrier Elapsed Time, 10ths of Seconds field
	CCELAPTIMEMIN	Carrier Elapsed Time, Minutes field
	CCELAPTIMESEC	Carrier Elapsed Time, Seconds field
	CCTIME10TH	Carrier Connect Time, 10ths of Seconds field
	CCTIMEHR	Carrier Connect Time, Hours field
	CCTIMEMIN	Carrier Connect Time, Minutes field
	CCTIMESEC	Carrier Connect Time, Seconds field
	CHARGEIND	Charge Indicator field
	CHGADJ#OCC	Charge Adjust Number of Occurrences field
	CHGADJCMPYID	Charge Adjust Company Identification field
	CHGADJIND	Charge Adjust Indicator field
	CLGSRC	Calling Number Source field
	COINCRDT	Coin Credit Indicator field
	COMPLIND	Completion Indicator field

Table 471 FILTER ADD parameters

Parameter	Value	Definition
`<field>` `continued`	DATEDAY	Date, Day field
	DATEMO	Date, Month field
	DATEYR	Date, Year field
	ELAPTIME10TH	Elapsed Time, 10ths of Seconds field
	ELAPTIMEMIN	Elapsed Time, Minutes field
	ELAPTIMESEC	Elapsed Time, Seconds field
	GACMPYID	General Assistance Company Identification field
	GAREQCNTR	General Assistance Request Counter field
	HOTELNM	Hotel Guest Name field
	HOTELRM	Hotel Room Number field
	IC	Carrier / NBEC Code field
	ICAGREEMNT	Carrier Agreement Table field
	ICCALLEVNTSTAT	Carrier Call Event Status field
	ICSRC	Carrier Code Source field
	INTCNUM	Intercepted Number field
	INTCREFNUM	Intercept Referral Number field
	INTRKGRP	Incoming Trunk Group Number field
	INTRKMEM	Incoming Trunk Member Number field
	LENGTH	Record Length field
	LIDBRESP	LIDB Response field
	LRNBILL	LRN, Billed Party field
	LRNCLD	LRN, Called Party field
	LRNCLG	LRN, Calling Party field
	LSEXIND	Listing Status, Existence Indicator field
	LSFWDNUM	Listing Services Forward Number field
	LSINTNUM	Listing Services Intercept Number field
	LSLBIND	Listing Status, LSDB Billing Indicator field

Table 471 FILTER ADD parameters

Parameter	Value	Definition
`<field>` `continued`	LSLDIND	Listing Status, Local Directory Indicator field
	LSLFIND	Listing Status, Listing Found Indicator field
	LSOBIND	Listing Status, Operator Billing Indicator field
	LSPOSTIND	Listing Status, Posting Indicator field
	LSPUBIND	Listing Status, Publishing Indicator field
	LSREQCNTR	Listing Services Request Counter field
	LSREQNUM	Listing Services Requested Number field
	LSRESP	Listing Response field
	MINCREDIT	Minutes of Credit field
	MULTFACT	Multiplier Factor field
	OLNSSERVEQP	OLNS Modified Service or Equipment Indicator field
	OPER#LAST	Operator Id, Last Operator's Number field
	OPERTEAMLAST	Operator Id, Last Operator's Team Number field
	OPRWKTIME10TH	Accumulated Operator Work Time, 10ths of Seconds field
	OPRWKTIMEMIN	Accumulated Operator Work Time, Minutes field
	OPRWKTIMESEC	Accumulated Operator Work Time, Seconds field
	ORIGNUM	Originating Number field
	ORIGNUMIND	Originating Number Indicator field
	OSSACTION	Operator Services System Action field
	OSSCCSCATI	OSS CCSC, Assistance Type Indicator field
	OSSCCSCECI	OSS CCSC, Enterprise Calling Indicator field
	OSSCCSCNPI	OSS CCSC, NPA Point Indicator field

Table 471 FILTER ADD parameters

Parameter	Value	Definition
`<field>` continued	OSSCCSCRI	OSS CCSC, RLT Indicator field
	OSSCCSCSTI	OSS CCSC, Subsequent Treatment Indicator field
	OUTTRKGRP	Outgoing Trunk Group Number field
	OUTTRKMEM	Outgoing Trunk Member Number field
	OVSNPAIND	Overseas NPA Dialing Indicator field
	PERSONIND	Person Indicator field
	RAO	RAO Number field
	RATEIND	Rate Indicator field
	RECCODE	Record Code field
	SCPBILLID	SCP Billing Identifier field
	SCRNCODE	Screening Code field
	SEQNUM	Sequence Number field
	SERVFEAT	Service Feature field
	SERVID	Service Identifier field
	SERVOBS	Service Observed field
	SN#NODES	Service Node Number of Nodes field
	SN#TRANS	Service Node Accumulated Number of Transactions field
	SNDATALRG	Service Node Data, Large field
	SNELAPTIME10TH	Service Node Accumulated Elapsed Time, 10ths of Seconds field
	SNELAPTIMEMIN	Service Node Accumulated Elapsed Time, Minutes field
	SNELAPTIMESEC	Service Node Accumulated Elapsed Time, Seconds field
	SNIDCUST	Service Node Identifier, Custom Billing field
	SNIDLAST	Service Node Identifier, Last field
	SNNETID	Service Node Network Service Identifier field
	SPIDBILL	SPID, Billed Party, Account Owner field

Table 471 FILTER ADD parameters

Parameter	Value	Definition
`<field>` `continued`	SPIDCLD	SPID, Called Party, Account Owner field
	SPIDCLG	SPID, Calling Party, Account Owner field
	SPIDREQ	SPID, Requested Party, Account Owner field
	SRVDIFF	Service Difficulty field
	SUBBILLIND	Subscriber Billing Indicator field
	TERMNUM	Terminating Number field
	TERMNUMIND	Terminating Number Indicator field
	TIME10TH	Time, 10ths of Seconds field
	TIMEHR	Time, Hours field
	TIMEMIN	Time, Minutes field
	TIMESEC	Time, Seconds field
	TMPLTID	Template Identifier field
	TMPLTVER	Template Version field
	TOOLGEN	Tool Generated field
	TRAFSAMP	Traffic Sampled field
	WORDLAYOUTIND	Word Layout Indicator
`<value>`	characters and *	Value of the associated data field. The value is entered for the field. There is no input validation performed. The '*' acts as a wildcard and will cause any data value contained in the field to be found.
`<logical>`	AND	Field Logical Operation. This is the default value. The associated data field will be 'and-ed' with the existing filter data fields
	OR	The associated data field will be 'or-ed' with the existing filter data fields.

Table 471 FILTER ADD parameters

Parameter	Value	Definition
<range>	EQ	Value Operation Specifies that the filter data field value must equal the record field value. This is the default behavior.
	NEQ	Specifies that the filter data field value must not be equal to the record field value.
	LTE	Specifies that the filter data field value is less than or equal to the record field value
	GTE	Specifies that the filter data field value is greater than or equal to the record field value.

The following figure shows an example system response.

Figure 27   FILTER ADD command example

```
AMADUMP:
>FILTER ADD TERMNUM 9199911234 AND EQ
>>> FILTER SUCCESSFULLY ADDED AS FILTER ENTRY 1
>>> NOTE: FILTER FUNCTION IS CURRENTLY DISABLED.
```

FILTER DELETE command

The FILTER DELETE command allows the customer to remove a data field from the list of filtered data fields

The syntax for the FILTER DELETE command follows.

```
FILTER DELETE entry
```

The following table lists parameter definitions.

Table 472 FILTER DELETE parameters

Parameter	Value	Definition
<entry>	0 - 50	Filter data field entry. Specifies the filter data field entry that is to be deleted.

The following figure shows an example system response.

Figure 28   FILTER DELETE command example

```
AMADUMP:
>FILTER DELETE 2
>>> FILTER SUCCESSFULLY DELETED FILTER ENTRY 2
>>> NOTE: FILTER FUNCTION IS CURRENTLY DISABLED.
```

FILTER DISPLAY command

The FILTER DISPLAY command allows the customer to view all the data fields that have been selected for filtering. It also has an optional parameter that allows the customer to view all possible data fields available for filtering.

The syntax for the FILTER DISPLAY command follows.

```
FILTER DISPLAY fields
```

The following table lists parameter definitions.

Table 473   FILTER DISPLAY parameters

Parameter	Value	Definition
`<fields>`	FIELDS	Optional parameter. Causes a list of all possible data field names to be displayed

The following figure shows an example system response.

Figure 29   FILTER DISPLAY command example

```
AMADUMP:
>FILTER DISPLAY
Filter    Field                          Filter          Filter
entry     name                           value           attributes
-----------------------------------------------------------------------
 1        TERMNUM                        9199911234      AND   EQ

Note: Filtering is currently disabled.
```

FILTER ENABLE command

The FILTER ENABLE command activates the filtering functionality to AMADUMP. Following this command, the customer can issue the DUMP command to view the filtered records from the filling file.

The syntax for the FILTER ENABLE command follows.

```
FILTER ENABLE
```

There are no additional parameters to this command.

The following figure shows an example system response.

Figure 30   FILTER ENABLE command example

```
AMADUMP:
>FILTER ENABLE
>>>COMMAND ACCEPTED.  THE FILTER FUNCTION IS NOW:   ON
>>>DUMP COMMANDS WILL SCREEN ON THE BASIS OF DATA
>>>IN THE FILTER TABLE.
```

FILTER DISABLE command

The FILTER DISABLE command deactivates the filtering functionality to AMADUMP.

The syntax for the FILTER DISABLE command follows.

```
FILTER DISABLE
```

There are no additional parameters to this command.

The following figure shows an example system response.

Figure 31   FILTER DISABLE command example

```
AMADUMP:
>FILTER DISABLE
>>>COMMAND ACCEPTED.  THE FILTER FUNCTION IS NOW:   OFF
```

Interactions with other search tools

It is recommended that TDR records be placed into a billing stream that contains no other billing record types. This recommendation exists because of the interactions that TDR records have with other billing record search tools.

Each billing format has a its own search tool or set of search tools that are used to search the billing records produced. The search tools must understand the format of all the records in the billing file or billing buffer in order for the tool to correctly parse the records.

These existing search tools have not been modified to support TDR billing records. If the search tool encounters a TDR billing record, its behavior would be unreliable. Some examples of these existing search tools are the following:

- AMADUMP (all facilities except TDR)
- CALLDUMP (all streams with formats other than TDRFMT)
- CDRSRCH
- FCDRSRCH

Care should also be taken when using the AMA stream. Certain software loads that contains TOPS functionality also contain non-TOPS functionality that may write billing records into the AMA stream. An example of this is the LET load where the DMS100 portion of the switch usually generates billing records into the AMA stream. If the AMA stream is set to TDRFMT, then the non-TOPS calls also writing to the AMA stream will likely generate records that are incorrect and un-recognizable by the search tools. The use of the AMA stream should be scrutinized carefully for the given switch and software load.

Chapter 10: TDR logs

This chapter provides information on new logs created by TDR. For each log, there is a brief description, example, action, and list of any associated OM registers.

Table 474 lists each log associated with TDR and the page in this chapter where its description begins.

Table 474   Location of TDR log descriptions

Log name	Page number
TDR100	page 510
TDR101	page 511
TDR102	page 512
TDR200	page 513

Note: For complete information on all log reports for the DMS switch, refer to *Log Report Reference Manual*.

TDR100

This log is generated when a TDR record has been truncated. Truncation can occur when the length of the chosen TDR template is longer than the value datafilled in tuple TDR_RECORD_SIZE in table TOPTDROP. This truncation can occur for both the FIXED_SIZE and VAR_SIZE modes.

The log contains information about the template used as well as the amount of data that has been lost.

The following figure shows an example log report.

Figure 32   Example log report for TDR100

```
TDR100 OCT24 21:47:56 5447 TBL  TDR Format Truncated
        Stream:        TDR
        Tmplt ID:      Call Completion
        Version:       0
        Seq Num:       0
        Words Lost:    63
        Fields Lost:   ORIGNUM, LRNCLG, SPIDCLG, OLNSSERVEQP, I
                       NTRKGRP, CLGSRC, INTRKMEM, SERVOBS, TRAF
                       SAMP, DATEYR, DATEMO, DATEDAY, SERVFEAT,
                        TIMEMIN, TIMESEC, TIME10TH, TIMEHR, SCR
                       NCODE, FILL1, SUBBILLIND, ORIGNUMIND, EL
                       APTIMEMIN, ELAPTIMESEC, ELAPTIME10TH, FI
                       LL6, OPRWKTIMEMIN, OPRWKTIMESEC, OPRWKTI
                       ME10TH, OPER#LAST, ACVAL, OPERTEAMLAST,
                       FILL1, ACCODE, BILLTYPID, CALLCRDFMT, SE
                       QCALLCNTR, FILL1, ALTBILLNUM, LIDBRESP,
                       CALLCRDSUBACT, LRNBILL, SPIDBILL, RAO, O
                       SSACTION, MULTFACT, AMTCHARGE, AMTDEPOSI
                       T, CHARGEIND
        Data:          0000000016009323111100000000000000002C00
                       8000000018A800008000000000000000270F0000
                       00000000000000050000000000000000000000000
                       00000000000000000000000000001000000004003
                       40404040404040400040000000000000012000222
                       11110000000000000000A40040008000C019158A
                       689300000000
```

Action

The craftsperson should change the tuple TDR_RECORD_SIZE in table TOPTDROP to be large enough to accommodate the TDR template that is being truncated.

Associated OM register

This log is associated with the TRUNC register in OM group TDR:

TDR101

This log is generated when a TDR record has been padded with 0's. Padding occurs when the length of the chosen TDR template is shorter that the value datafilled in tuple TDR_RECORD_SIZE in table TOPTDROP. Padding can only occur when the FIXED_SIZE mode is being used.

This log is optional and is controlled by datafilling tuple GEN_PADDED_RECORD_LOG in table TOPTDROP.

The log contains information about the template used as well as the number of words that have been padded.

The following figure shows an example log report.

Figure 33   Example log report for TDR101

```
TDR101 OCT24 21:29:36 6106 INFO TDR Format Padded
        Stream:       TDR
        Tmplt ID:     Call Completion
        Version:      0
        Seq Num:      0
        Words Padded: 1
```

Action

The craftsperson could change the tuple TDR_RECORD_SIZE in table TOPTDROP to contain a shorter length to minimize the padding as much as possible. However, if the padding is necessary, the log can be eliminated by datafilling tuple GEN_PADDED_RECORD_LOG in table TOPTDROP to N.

Associated OM register

This log is associated with the PAD/PAD2 registers in OM group TDR.

TDR102

This log is generated when OSSAIN custom billing information is lost. OSSAIN custom billing information can be lost when the TEMPLATE_TYPE in table TOPTDROP is set to SINGLE_FIXED. The combined template is the only template used to format TDR records. There is no place in the combined template to record OSSAIN custom billing, so this data is lost. One log is generated for each instance of OSSAIN custom billing that is lost.

The log contains information about the sequence number which can be used to indicate the other TDR records generated for the call.

The following figure shows an example log report.

Figure 34   Example log report for TDR102

```
TDR102 AUG31 04:09:19 2200 INFO TDR SN Lost Data
        Stream: TOPSOCC
        Version: 0
        Seq Num: 1000
```

Action

The associated action would be to change the TEMPLATE_TYPE in table TOPTDROP to MULTI_FIXED. This action should be made using extreme caution, because the action causes the format of the TDR records to change. The downstream processor must be able to handle the new templates before this action can be performed.

Associated OM register

This log is associated with the SNLOST/SNLOST2 registers in OM group TDR.

TDR200

This log is generated to indicate that a specific TDR record has been generated. This log is optional and can be controlled by datafilling tuple GEN_RECORD_LOG in table TOPTDROP.

The log contains a hex dump of the actual TDR record.

WARNING: These logs are generated one per TDR record. Activating this log on a switch with live TOPS traffic will cause the generation of a large number of logs.

The following figure shows an example log report.

Figure 35   Example log report for TDR200

```
TDR200 OCT24 21:29:36 6207 INFO TDR Call Entry
        Rec Code:      F0              Tmplt ID:  Call Completion
        Act ID:        0               Version:   0
        Calling DN:    6132391111
        Orig Agent:    TBELLIC1    3
        Called DN:     2122201111
        Term Agent:    TITOG1    5
        Length:        64
        Data:          C6F00040804000000000000001600932311110000
                       0000000000002C008000000018A8000080000000
                       00000000270F00000000000000000000500000000
                       00000000000000000000000000000000000000000
                       00010000000040034040404040404040004000000
                       0000000012000222111100000000000000000A400
                       40008000C019158A6893000000000000
```

Action

None.

Associated OM register

The template used to format the record determines which register is pegged in OM group TDRFTMPL. The following table maps the template to the associated register.

Table 475 TDR template and associated TDRFTMPL register

Template	Register	Extension
Combined	COMB	COMB2
Call Completion	CALLCMP	CALLCMP2
Transfer to IC	XFRTOIC	XFRTOIC2
Listing Services	LISTSRV	LISTSRV2

Table 475 TDR template and associated TDRFTMPL register

Template	Register	Extension
BLV/Interrupt	BLV	BLV2
General Assistance	GENASST	GENASST
Charge Adjust	CHGADJ	CHGADJ2
Intercept	INTC	INTC2
OSSAIN Custom Billing	SNCUST	SNCUST2
IN Interworking Billing	INWORK	INWORK2

Chapter 11: TDR operational measurements

This chapter provides information on new OMs created by TDR, and existing OMs that are changed by TDR. For each OM group there is a brief description, a list of registers, an OMSHOW example, and a list of any associated OM groups and logs.

Table 476 lists each OM group associated with TDR and the page in this chapter where its description begins.

Table 476   Location of TDR OM descriptions

OM group	Page number
TDR	page 516
TDRFTMPL	page 517

Note: For complete information on all OMs for the DMS switch, refer to *Operational Measurements Reference Manual*.

TDR

OM group TDR (TOPS Call Detail Recording) is a new OM group that provides peg counts for the performance of the TDR formatter. The following table describes each register.

Table 477 OM group TDR

Register	Description
PAD	Padding. This register is pegged each time a TDR record is padded
PAD2	Padding extension register
SNLOST	OSSAIN custom billing lost. This register is pegged each time an OSSAIN custom billing record is lost.
SNLOST2	OSSAIN custom billing lost extension register.
TRUNC	Truncation. This register is pegged each time a TDR record is truncated

The following figure shows an example for OM group TDR.

Figure 36 MAP display example for OM group TDR

```
TDR

CLASS: ACTIVE

START:1998/05/13 10:30:00 WED; STOP: 1998/05/13 10:42:07 WED;

SLOWSAMPLES:          8 ; FASTSAMPLES:          73 ;

            PAD          PAD2         SNLOST       SNLOST2

            TRUNC

      0     0            0            0            0

            0
```

Associated OM groups

TDR is associated with the TDRFTMPL OM group.

Associated logs

TDR is associated with the following logs:

• TDR100

• TDR101

• TDR102

TDRFTMPL

OM group TDRFTMPL (TOPS Call Detail Recording Fixed Templates) is a new OM group that provides peg counts for each time a fixed template is used to format a TDR record. This group contains both SINGLE_FIXED and MULTI_FIXED templates.

The following table describes each register.

Table 478 OM group TDRFTMPL

Register	Description
COMB	Combined template. This register is pegged when a TDR record is formatted using the combined template
COMB2	Combined template extension register
CALLCMP	Call completion template. This register is pegged when a TDR record is formatted using the call completion template
CALLCMP2	Call completion template extension register
XFRTOIC	Call transfer to carrier template. This register is pegged when a TDR record is formatted using the call transfer to carrier template
XFRTOIC2	Call transfer to carrier template extension register
LISTSRV	Listing services template. This register is pegged when a TDR record is formatted using the listing services template
LISTSRV2	Listing services template extension register
BLV	BLV / interrupt template. This register is pegged when a TDR record is formatted using the BLV / interrupt template
BLV2	BLV / interrupt template extension register
GENASST	General assistance template. This register is pegged when a TDR record is formatted using the general assistance template
GENASST2	General assistance template extension register
CHGADJ	Charge adjust template. This register is pegged when a TDR record is formatted using the charge adjust template
CHGADJ2	Charge adjust template extension register
INTC	Intercept template. This register is pegged when a TDR record is formatted using the intercept template
INTC2	Intercept template extension register
SNCUST	OSSAIN custom billing template. This register is pegged when a TDR record is formatted using the OSSAIN custom billing template
SNCUST2	OSSAIN custom billing Template extension register

Table 478 OM group TDRFTMPL

Register	Description
INWORK	IN interworking template. This register is pegged when a TDR record is formatted using the IN interworking template
INWORK2	IN interworking template extension register

The following figure shows an example for OM group TDRFTMPL.

Figure 37   MAP display example for OM group TDRFTMPL

```
TDRFTMPL

CLASS: ACTIVE

START:1998/05/13 10:30:00 WED; STOP: 1998/05/13 10:42:07 WED;

SLOWSAMPLES:         8 ; FASTSAMPLES:          73 ;

          COMB       COMB2       CALLCMP     CALLCMP2

          XFRTOIC    XFRTOIC2    LISTSRV     LISTSRV2

          BLV        BLV2        GENASST     GENASST2

          CHGADJ     CHGADJ2     INTC        INTC2

          SNCUST     SNCUST2     INWORK      INWORK2

    0     0          0           0           0

          0          0           0           0

          0          0           0           0

          0          0           0           0

          0          0           0           0
```

Associated OM groups
TDRFTMPL is associated with the TDR OM group.

Associated logs
TDRFTMPL is associated with the TDR200 log.

List of terms

AABS

Automated Alternate Billing Service

ACG

Automatic Code Gapping

ACM

Address Complete Message

ADAS

Automated Directory Assistance Service

ADASPLUS

Automated Directory Assistance Service Plus

AMA

Automatic Message Accounting

AMADUMP

A billing record file search tool that supports several billing formats such as Bellcore AMA, NT AMA, SMDR and TDR.

ANI

Automatic Number Identification

ANM

Answer Message

Automated Alternate Billing Service (AABS)

A DMS TOPS feature that allows automated call completion of a calling card, collect, and third-number billed calls. AABS is the only existing TOPS automated system that can be datafilled in an OSSAIN control list.

Automated Directory Assistance Service (ADAS)

A feature using the AABS protocol that prompts the subscriber for the locality and name. It records the subscriber's input and plays it to the operator when the operator is attached.

Automated Directory Assistance Service Plus (ADASPLUS)

A feature using the DA Standard protocol that prompts the subscriber for the locality and name. It records the subscriber's input and plays it to the operator when the operator is attached.

Automatic Code Gapping (ACG)

A network management mechanism that allows the service control point (SCP) to reduce the number of queries it receives.

Automatic Message Accounting (AMA)

An automatic recording system that documents all the necessary billing data of subscriber-dialed long distance calls.

Automatic Number Identification (ANI)

A system whereby a calling number is identified automatically and transmitted to the automatic message accounting (AMA) office equipment for billing.

BAF

Bellcore AMA format

Bellcore AMA format (BAF)

The standard format for AMA data used by Bell operating companies. The format consists of a structure code that identifies the format of the data fields in the call record, a call code that identifies the type of call recorded in the call record, other data fields that define the attributes of the call, and if needed, one or more module codes that identify the format of any additional data appended to the call record.

Billed Number Screening (BNS)

A Common Channel Signaling 7 (CCS7) application process that performs a validation check on the number to which a call is billed. This check is initiated by the operator on operator-assisted collect and third-number billed calls.

BLV

Busy Line Verification

BNS

Billed Number Screening

Busy Line Verification (BLV)

A DMS TOPS service that allows the subscriber to obtain operator assistance to determine whether a called line is in use or out of order.

Call Detail Recording (CDR)

The standard format for AMA data used by interLATA carriers. The format consists of a record code that identifies the format of the data fields in the call record. CDR is generally fixed length and fixed format.

CALLDUMP

A billing buffer search tool that supports several billing formats such as Bellcore AMA, NT AMA and SMDR. Note that it does not support TDR.

Calling Line Identification (CLI)

In data transmission, a feature provided by the network that allows a called terminal to be notified by the network of the address from which the call has originated.

Call Type for Queuing (CT4Q)

In TOPS and OSSAIN, a method of characterizing an incoming call based on certain criteria, so that the call can be assigned a queue to receive service.

Calling Card Validation (CCV)

A Common Channel Signaling 7 (CCS7) application process that performs a validation check on the number to which a call is billed. This check is initiated by the operator on operator-assisted calling card billed calls.

CCITT

From the French for International Telegraph and Telephone Consultative Committee (Commite Consultatif International Telegraphique et Telephonique). The CCITT is one of the four permanent groups within the International Telecommunications Union (ITU). The CCITT is responsible for studying technical, operating, and tariff issues. This organization also prepares recommendations relating to telegraphy and telephony.

CCS7

Common Channel Signaling #7

CCV

Calling Card Validation

CDR

Call Detail Recording

CI

Command Interpreter

CLI

Calling Line Identification

Command Interpreter (CI)

A component in the Support Operating System that functions as the main interface between the machine and the user.

Common Channel Signaling #7 (CCS7)

A digital message-based network signaling standard, defined by the CCITT, that separates call signaling information from voice channels so that interoffice signaling is exchanged over a separate signaling link.

CT4Q

Call Type for Queuing

DA

Directory Assistance service

Digital Multiplex System (DMS)

A central office switching system in which all external signals are converted to digital data and stored in assigned time slots. Switching is performed by reassigning the original time slots.

DIRP

Device Independent Recording Package

DMS

Digital Multiplex System

DTMF

Dual-Tone Multi-Frequency

Dual-Tone Multi-Frequency (DTMF) signaling

A signaling method that uses set combinations of two specific voice-band frequencies. One of these voice-band frequencies is selected from a group of four low frequencies, and the other is selected from a group of three or four relatively high frequencies.

EBAS

Enhanced Billing and Access Services

End Office (EO)

A switching office (SO) arranged for terminating subscriber lines and provided with trunks for establishing connections to and from other SOs.

enhanced billing and access services (EBAS)

An OSSAIN based automated system that provides services such as 0-automation and 0+ automated alternate billing service.

EO

End Office

FAR

Facility Action Request message

Facility Action Request (FAR) message

A message type within the ISUP protocol used to request an action to be done on the connected facility.

HOBIC

Hotel Billing Center

Hotel Billing Center (HOBIC)

A device or group of devices that receive near real-time billing information for calls billed to a hotel room. The telephone charges can be applied to the guest's room bill.

IAM

Initial Address Message

IC

InterLATA Carrier

Initial Address Message (IAM)

The first message within the ISUP protocol that is used to set-up a call.

Integrated Services Digital Network (ISDN)

A set of standards proposed by the CCITT to establish compatibility between the telephone network and various data terminals and device. ISDN is a fully digital network, in general evolving from a telephone integrated digital network. It provides end-to-end connectivity to support a wide range of services, including circuit-switched voice, circuit-switched data, and packet-switched data over the same local facility.

interLATA

Telecommunication services, revenues, and functions that originate in one local access and transport area (LATA) and terminate either outside that LATA or inside another LATA.

InterLATA Carrier

Any carrier that provides telecommunication services between a point inside a local access and transport area (LATA) and a point either outside that LATA or inside another LATA.

ISDN

Integrated Service Digital Network

ISDN User Part (ISUP)

A common channel signaling 7 (CCS7) message-based signaling protocol that acts as a transport carrier for ISDN services. ISUP provides the functionality in a CCS7 network for voice and data services.

ISUP

ISDN User Part

JIP

Jurisdiction Information Parameter

Jurisdiction Information Parameter (JIP)

An optional parameter within the ISUP protocol that is used to send the calling party's LRN through the network.

LATA

Local Access and Transport Area

Least Significant Bit (LSB)

Within a word (16 bits of data), the LSB is lowest order bit.

LIDB

Line Information Database

Line Information Database (LIDB)

A database used to query alternate billed intra-LATA calls. The LIDB relays to the DMS switch information regarding billing number verification for a given dialing number.

Listing Services Database (LSDB)

A database used by directory assistance and intercept services to retrieve the requested information.

LNP

Local Number Portability

Local Access and Transport Area (LATA)

A geographic area within which an operating company may offer telecommunications-related services.

Local Number Portability (LNP)

A circuit switched network capability that allows telephone subscribers to keep their directory number (DN) when they change service providers. The subscriber keeps the same DN when the DN is moved, or *ported*, to a different end office. Other subscribers can connect to the ported DN without changing their dialing procedure.

Location Routing Number (LRN)

A ten-digit number used to uniquely identify a switch that has ported numbers.

LRN

Location Routing Number

LSB

Least Significant Bit

LSDB

Listing Services Database

Maintenance and Administration Position (MAP)

A group of components that provides a user interface between operating company personnel and the DMS-100 Family of switches. The interface consists of a video display unit and keyboard, a voice communications module, test facilities, and special furniture.

MAP

Maintenance and Administration Position

MF

Multi-Frequency

Most Significant Bit (MSB)

Within a word (16 bits of data), the MSB is the highest order bit.

MSB

Most Significant Bit

Multi-Frequency (MF)

A signaling method that makes use of pairs of standard toes to transmit signaling codes, digit pulsing, and coin-control signals. The method is used by interregister signaling on analog trunks.

Northern Telecom Publication (NTP)

A document that contains descriptive information about Northern Telecom (Nortel) hardware or software modules and performance-oriented practice for installing, testing, or maintaining the system. The document is often supplied as part of the standard documentation package provided to an operating company.

NPA

Numbering Plan Area

NTP

> Northern Telecom Publication

Numbering Plan Area (NPA)

> Any of the designated geographical divisions of the United States, Canada, Bermuda, Caribbean, Northwestern Mexico within which no two telephones have the same seven-digit number. Each NPA is assigned a unique three-digit area code. The NPA of the directory number 613-621-1234 is 613.

NXX

> The three-digit office code. The NXX of the directory number 613-621-1234 is 621.

OGT

> Outgoing Trunk key

OLNS

> Originating Line Number Screening

OM

> Operational Measurements

ONI

> Operator Number Identification

Operational Measurements (OM)

> The hardware and software resource of the DMS-100 Family switches that control the collection and display of measurements taken on an operating system. The OM subsystem organizes the measurement data and manages its transfer to displays and records. The OM data is used for maintenance, traffic, accounting, and provisioning decisions.

Operator Number Identification (ONI)

> A feature that brings an operator into the circuit to check the calling number when a subscriber has direct-dialed a long distance call that is to be charged on an itemized bill by centralized automatic message accounting (CAMA) equipment.

Operator Services System Advanced Intelligent Network (OSSAIN)

> A generic switch-to-service node (SN) interface that allows SNs to control switch functionality associated with operator services. There are two basic OSSAIN network configurations: stand-alone OSSAIN and centralized OSSAIN.

Originating Line Number Screening (OLNS)

> An external database containing information associated with a directory number such as the preferred carrier and billing restriction set. The database is access using the CCS7 network.

OSNC

> Operator services network capability

OSSAIN

> Operator Services System Advanced Intelligent Network

OSSCCSC

> Operator Services System Call Completion Service Conditions

Outgoing Trunk (OGT)

> A trunk used for calls going out to a distant toll center.

PCL

> Product Computing module Load

Personal Identification Number (PIN)

> A set of digits used to identify the user of a calling card. In north america, the PIN is usually 4 digits and is validated by a LIDB database.

PIN

> Personal Identification Number

Plain Old Telephone Service (POTS)

> A class of service given to a directory number that usually describes a residential phone that subscribes to few additional end-office services such as call forwarding.

portable number

> A directory number (DN) that may be ported.

POTS

>Plain Old Telephone Service

Product Computing module Load (PCL)

>The software load delivered to the operating company. A PCL contains both base and optional functionalities.

QMS

>Queue Management System

Queue Management System (QMS)

>A software package that provides enhanced capabilities for the management of call and agent queues.

RAO

>Regional Accounting Office

Regional Accounting Office (RAO)

>An identifier used to indicate the entity or company that performs billing collection on behalf of the billed party.

REL

>Release message

Release Link Trunking (RLT)

>A method to increase the capacity of ISUP trunks by releasing ISUP connections between a previous switch and a TOPS switch. After RLT is performed, ISUP connections are released, making circuits available for additional traffic.

Release (REL) message

>A message type within the ISUP protocol used to release a connection.

Remote Operator Number Identification (RONI)

>A service that involves the operator being connected to collect the calling party's directory number. The number is sent back to the originating office for verification and call completion.

RLT

>Release Link Trunking

RONI

Remote Operator Number Identification

SCP

Service Control Point

scrambler circuit

A circuit used to scramble the voice path so that the operator cannot understand a subscriber's conversation. The scrambler circuit is a DMS-100 analog trunk circuit pack consisting of an outgoing trunk, an incoming trunk and electronic scrambling equipment. The trunks use per-trunk signaling (PTS).

Service Control Point (SCP)

A node in a common channel signaling 7 (CCS7) network that supports application databases. The function of an SCP is to accept a query for information, retrieve the requested information from one of its application databases, and send a response message to the originator of the request.

Service Node (SN)

An external node that interacts with the switch to provide OSSAIN services.

Service Provider Identifier (SPID)

A code that uniquely identifies the service provider of the party.

SLT

Subscriber Line Treatment

SN

Service Node

SO

Switching Office

SOC

Software Optionality Control

Software Optionality Control (SOC)

A tool for controlling and monitoring the options in a product computing module load (PCL).

SPID

Service Provider Identifier

Switching Office (SO)

A node in the common channel signaling 7 (CCS7) network that originates and terminates signaling messages related to the set up and take down of associated ISDN user part (ISUP) trunks.

TDR

TOPS call detail recording

TOPS

Traffic Operator Position System

TOPS call detail recording (TDR)

An alternative to EBAF for billing record formats for TOPS calls. TDR is meant to be similar to CDR in its formatting rules and assumptions.

Traffic Operator Position System (TOPS)

A call processing system made up of a number of operator positions. Each operator position consists of a visual display unit (VDU), a controller, a keyboard, and a headset.

UCS

Universal Carrier Switch

Universal Carrier Switch (UCS)

A switching software load tailored for the carrier market. It is designed to accommodate the needs to all carriers.

Index

DMS-100 Family
TOPS TDR
User's Guide

**NORTEL
NETWORKS**™