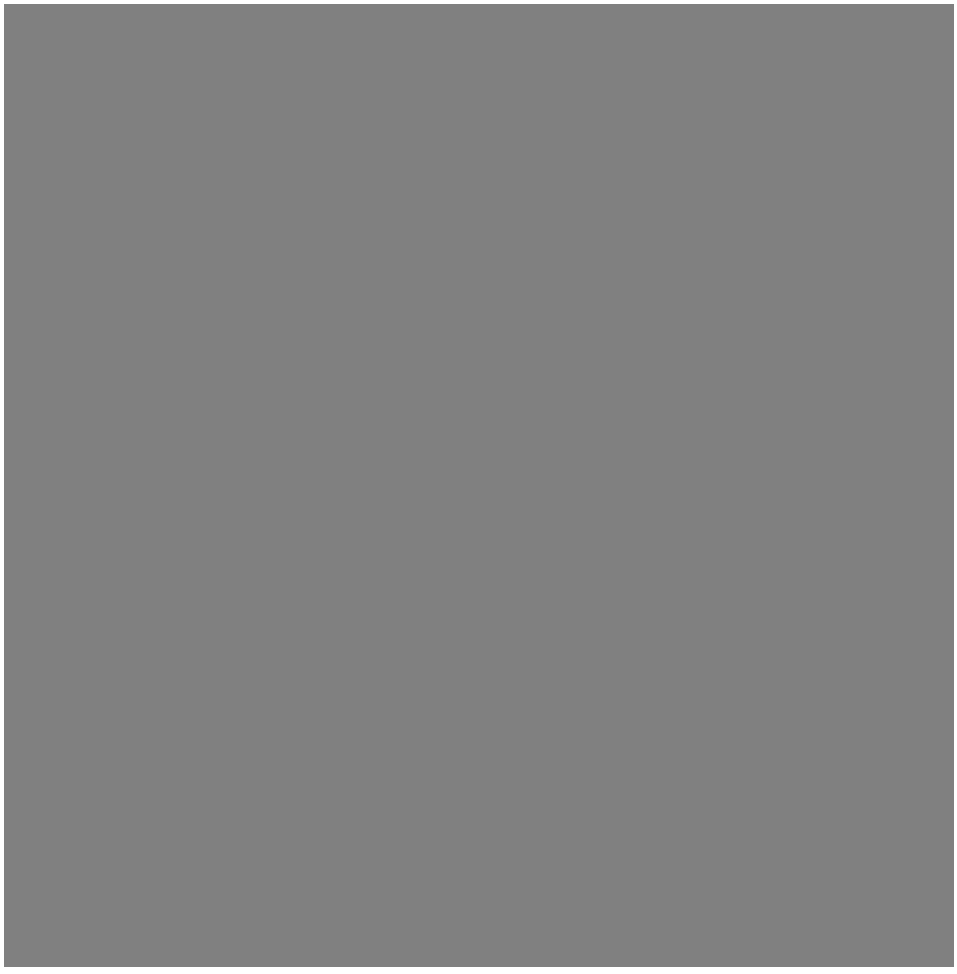
Network operations systems

TOPS
Voice service node

Customer Forms

Release BCS30 03 Status: Standard



northern telecom

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Contents

1. Introduction

Overview

All Traffic Operator Position System (TOPS) Voice Service Node (VSN) software is configured by Northern Telecom (NT) before it is delivered to its operating company customers. There are six TOPS VSN tables that can be modified by the operating company. Four of these tables require data entry by the operating company. They are:

(a) T1 Trunk ID Mapping

(b) Datalink_Config

(c) Screening_Codes

(d) Loc_Screening_Codes

The tables that can take optional datafill are:

(a) User Interaction

(b) VSN Digit Timing

(c) VSN Retry Counts

(d) VSN_System

This practice is used by operating companies in two ways, firstly, to identify the range of change possibilities before installation, and secondly, to specify the changes required. All changes are specified on the forms and then presented to the installer when the TOPS VSN is installed.

Form descriptions

All forms provided here are filled with default entries. Entries that can be changed appear in shaded boxes. Boxes that are blank may be completed, but are not necessary to the operation of the TOPS VSN. Boxes that contain entries but are not shaded represent parameters that can not be changed by the operating company.

Each form is identified by the table name it represents. All forms are made up of a number of fields, each identified by a field name. Each form also has date and page-number fields. The operating company must enter data into these fields and into any field that requires a change to the default.

The description which accompanies each form is divided into two sections: the first is a text description of the table and the second is a description of the data entry fields in table format. The table gives the following information:

- field name
- entry
- field description

The customer uses the information in the table to complete the form. The name and description columns help the operating company identify the location and purpose of the field, while the entry column lists options from which a selection must be made. There are generally four data entry types: the yes/no (on/off) entry, the descriptive (name) entry, the muliple choice entry and the range entry. In all cases, the entry on the form must be chosen from the options given.

Change history

This section summarizes the important changes that affect this publication. They are arranged under the heading of the appropriate Batch Change Supplement (BCS) release.

BCS30

The presentation of this publication has been changed

The change to the TOPS VSN application made by BCS30 that affect this publication incorporate the following five new parameters in table User Interface:

HDO_WELCOME_MSG_ENABLE

HDO_BILLING_FAILED_ACTION

BILLING_ACCEPTANCE_VALIDATION

LOCALITY_CHECK

LOC_DEFAULT_PROMPT

2. Forms

Overview

Some tables on the TOPS VSN and the DMS permit communication and interaction between these two pieces of hardware. Two tables on the TOPS VSN must be completed by the operating company to ensure proper communication. Fill out the following forms to ensure that this is done:

- T1 Trunk ID Mapping form
- Datalink_Config form

Other tables are used to define the manner in which the TOPS VSN user interface operates. There are four tables used for this purpose. To alter the defaults on any of these tables modify the appropriate form from the selection given below:

- Screening Codes form
- VSN Digit Timing form
- VSN Retry Counts form
- User Interaction form

Making changes to a form

Complete the following tasks to ensure that all required forms are completed:

(1) Photocopy the forms listed above.

(The T1 trunk ID mapping, the datalink_config and the screening codes forms must be completed. The remaining forms are optional, and do not need to be copied if default setting are used.)

(2) Number and date all forms.

(3) Mark up the photocopied forms by stroking out old data and penciling in new data adjacent to it.

Note: Related forms that do not appear in this Practice have fixed, standard settings and cannot be adjusted by the operating company.

Figure 2-1
T1-Trunk ID mapping form

Form Code: 1001

T1-Trunk ID Mapping

Date: _____

Page ___ of ___

DMS CLLI: **AABS - DMS** Link Config. In Service

Chan Num.	Trunk Ident.	Channel Config.
01	0001	In Service
02	0002	In Service
03	0003	In Service
04	0004	In Service
05	0005	In Service
06	0006	In Service
07	0007	In Service
08	0008	In Service
09	0009	In Service
10	0010	In Service
11	0011	In Service
12	0012	In Service
13	0013	In Service
14	0014	In Service
15	0015	In Service
16	0016	In Service
17	0017	In Service
18	0018	In Service
19	0019	In Service
20	0020	In Service
21	0021	In Service
22	0022	In Service
23	0023	In Service
24	0024	In Service

T1 trunk ID mapping table

The T1 Trunk ID Mapping table is one of four T1 configuration tables. The first data entry field on this form must contain unique information provided by the operating company.

The information used on this table is used to map trunks and switches to one another.

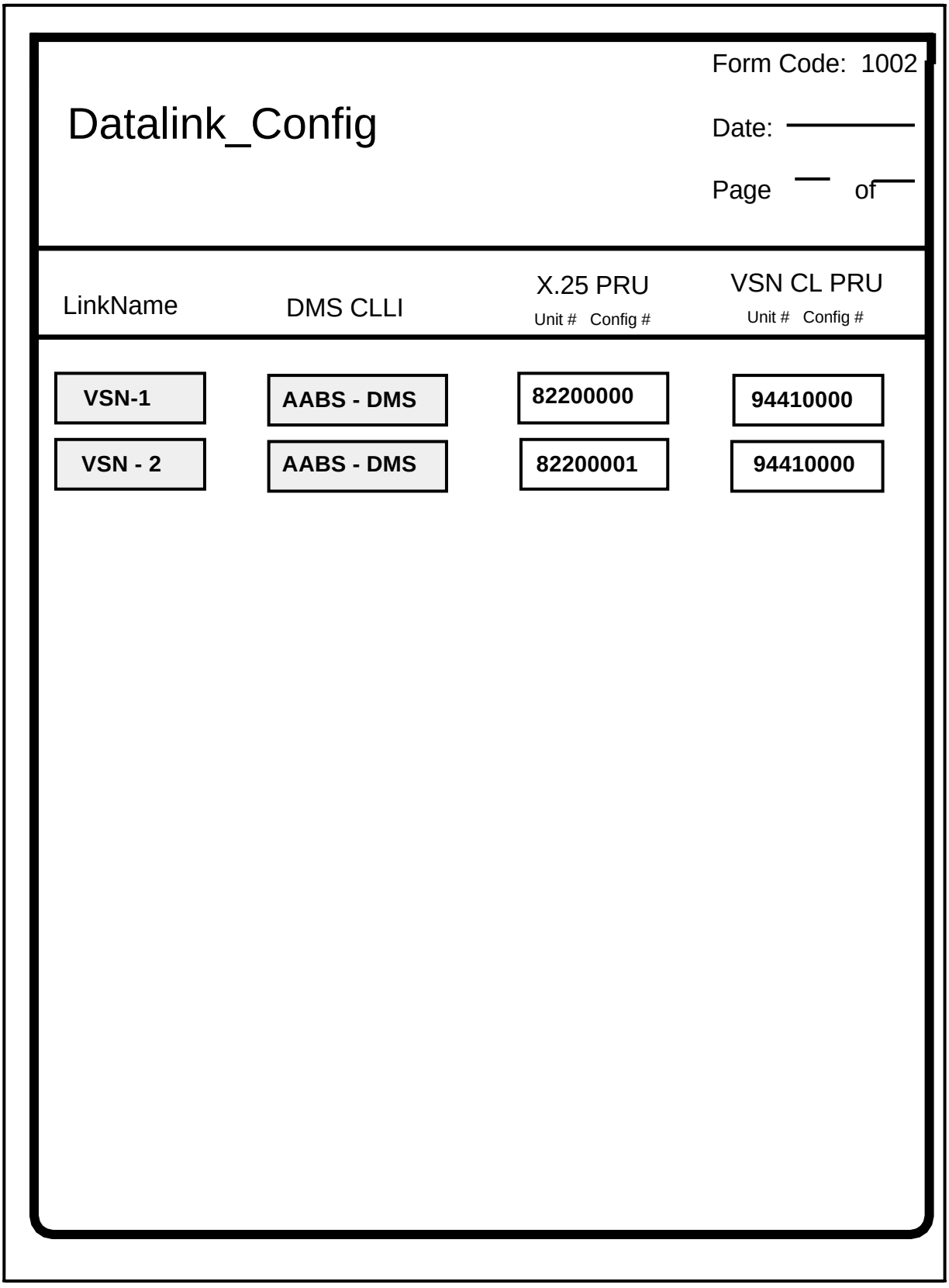
Photocopy the form in figure 2-1 in order to specify the DMS CLLI on the form. The name, description and range of values (where appropriate) for each field is given in table 2-A.

An entry in the DMS CLLI field is mandatory.

Table 2-A
T1 trunk ID mapping

Field Name	Entry	Description
DMS CLLI	9 alphanumeric characters	Identifies the DMS host by its common language location identifier. This name must be the same as the DMS named in the Datalink_Config table.
Link Config.	In Service/ Manbusy/ Offline	Specifies the state of the T1 link when the SRU is put in service or is returned to service. (This field can not be changed on this table. Refer to T1 Maintenance for more information.)
Channel	01 - 24	Identifies each channel of the connected T1 link. (This field can not be changed on this table. Refer to T1 Maintenance for more information.)
Trunk Identifier	0001 - 0072	Identifies the trunk used for each channel. The convention is to use a four digit number. The first digit identifies the TOPS VSN. The final three digits identify each trunk (channel) connected to each TOPS VSN starting with 1. There is no need to change the default entries in these fields unless more than one TOPS VSN is being installed on the specified DMS.
Channel Config.	In Service/ Manbusy/ Offline	Specifies the state of the T1 channels when the SRU is put in service or is returned to service. (This field can not be changed on this table. Refer to T1 Maintenance for more information.)

Figure 2-2
Datalink_config.form



Form Code: 1002

Datalink_Config

Date: _____

Page ___ of ___

LinkName	DMS CLLI	X.25 PRU Unit #	X.25 PRU Config #	VSN CL PRU Unit #	VSN CL PRU Config #
VSN-1	**AABS - DMS**	**82200000**		**94410000**	
VSN - 2	**AABS - DMS**	**82200001**		**94410000**	

Datalink_config table

The Datalink_Config table contains information that is unique for each operating company, and therefore can only be completed by an authorized representative of that operating company.

The information in this table is used by the control link PRU to determine the physical links it is required to manage. Operational measurement (OM) are keyed to the DMS CLLI specified in this table. The DMS switch name also provides the application call processing engine (ACPE) and its resource manager (ACPE-RM) with the name of the switch originating the call to the TOPS VSN.

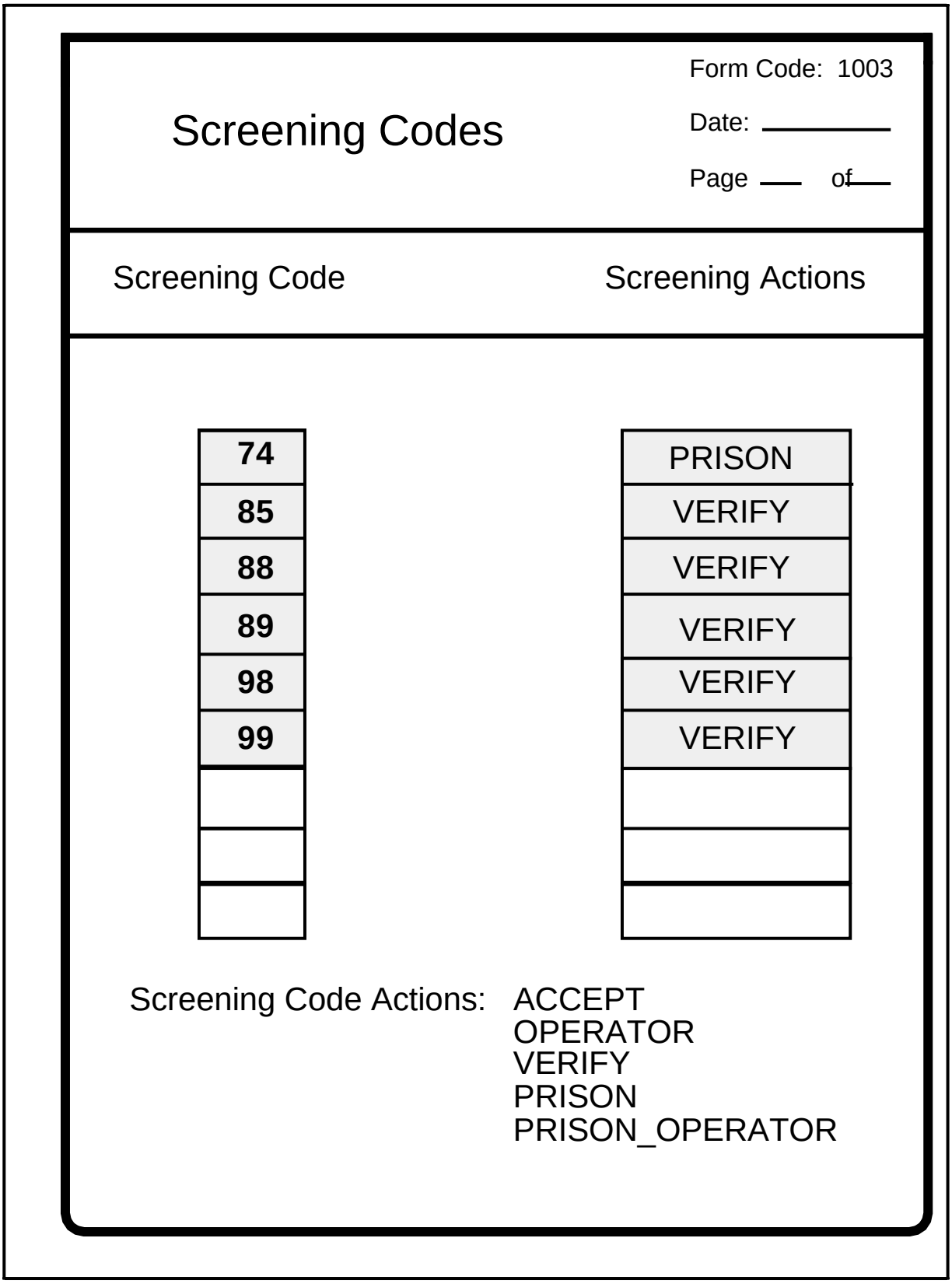
Photocopy the form in figure 2-2 in order to specify the DMS CLLI. The name, description and range of values (where appropriate) for each field is given in table 2-B.

An entry in the DMS CLLI field is mandatory. Entries on this table can not be deleted or added. Values however, may be changed.

Table 2-B
Datalink_config

Field Name	Entry	Description
Link Name	16 alphanumeric characters	Identifies each link by an arbitrary but unique name. This name appears in log and OM reports.
DMS CLLI	9 alphanumeric characters	Identifies the DMS connected to each link by its common language location identifier (CLLI). This name is also passed to the ACPE RM and the ACPE with each message received from the automated alternative billing service (AABS). The data entry for this parameter must be the same as its counter- part in the T1 Trunk ID Mapping configuration table.
X.25 PRU	8 hexadecimal digits, for example, 82200001	Identifies the location of the X.25 service connected to the link. This field is comprised of two related subfields, the unit type and the configuration type of the X.25 PRU managing the link. The first four digits identify the X.25 unit type; the final four, the X.25 configuration type.
VSN CL PRU	8 hexadecimal digits, for example, 94410001	Identifies the control link service responsible for managing the link. This field is comprised of two related subfields, the unit type and the configuration type of the control link PRU managing the link. The first four digits identify the control link unit type. The final four digits identify the control link configuration type.

Figure 2-3
Screening_Codes table form



Form Code: 1003

Screening Codes

Date: _____

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Screening Code	Screening Actions
74	PRISON
85	VERIFY
88	VERIFY
89	VERIFY
98	VERIFY
99	VERIFY

Screening Code Actions:
ACCEPT
OPERATOR
VERIFY
PRISON
PRISON_OPERATOR

Screening_Codes table

The Screening_Codes table contains a list of screening codes used by the operating company to specify the type of action to apply to some third-number billing calls when the database query result is either automatic accept or verbal verification. These codes may vary between operating companies. Codes that are not specified in this table use the action defined for them in the LIDB or BVA database.

Photocopy the form in figure 2-3 if changes are going to be made to any screening code parameter. The name, description and range of values (where appropriate) for each field are given in table 2-C.

Screening codes that require special TOPS VSN treatment must be listed and must have an appropriate action assigned to them. Completion of the form is mandatory, however the contents of this table may altered, deleted or added at any time.

When an update is made to the contents of this table, all application call processing engine (ACPE) PRUs must be taken out of service (Courtesy Down) and returned to service (RTO) before the changes take effect.

Table 2-C
Screening_Codes

Field Name	Entry	Description
Screening Code	0 - 99	Specifies the screening codes used by the operating company to identify third-number billing calls for which a specific action can be associated. For each code listed, an action must be specified. Default third-number billing screening codes are 85, 88, 89, 98 and 99.
Action	Accept,Verify, Prison, Prison Operator	Identifies the range of call handling actions allowed. These values apply to third number billing calls that return a database query result of automatic acceptance or verbal verification. If the screening code of third-number billing calls is not specified in this table, then the action obtained from the database query is applied to the call. The default action associated with all screening codes given above is Verify.

The following figure illustrates the interaction within the screening code table

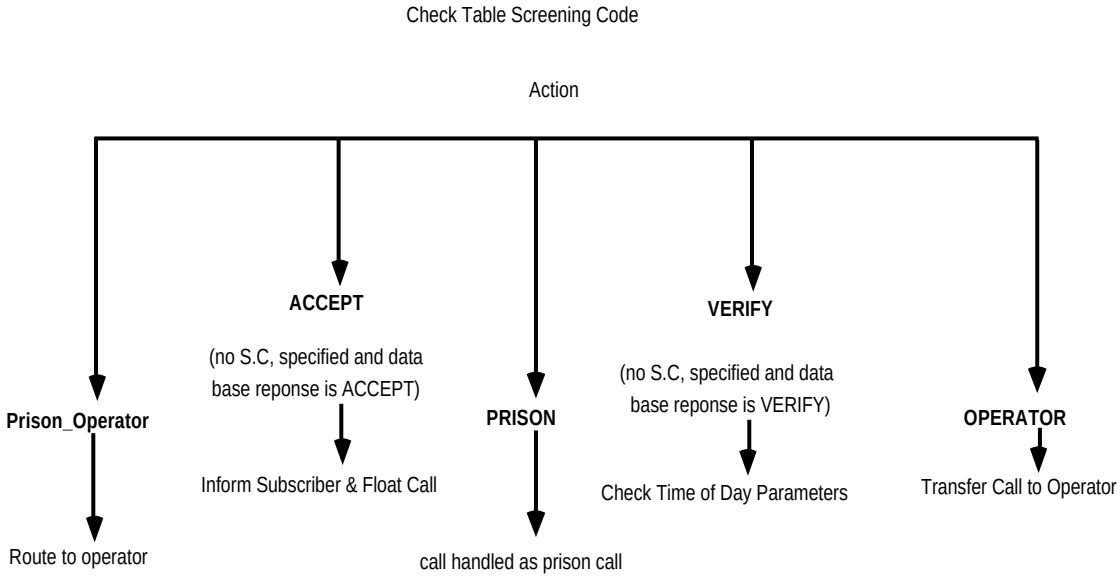
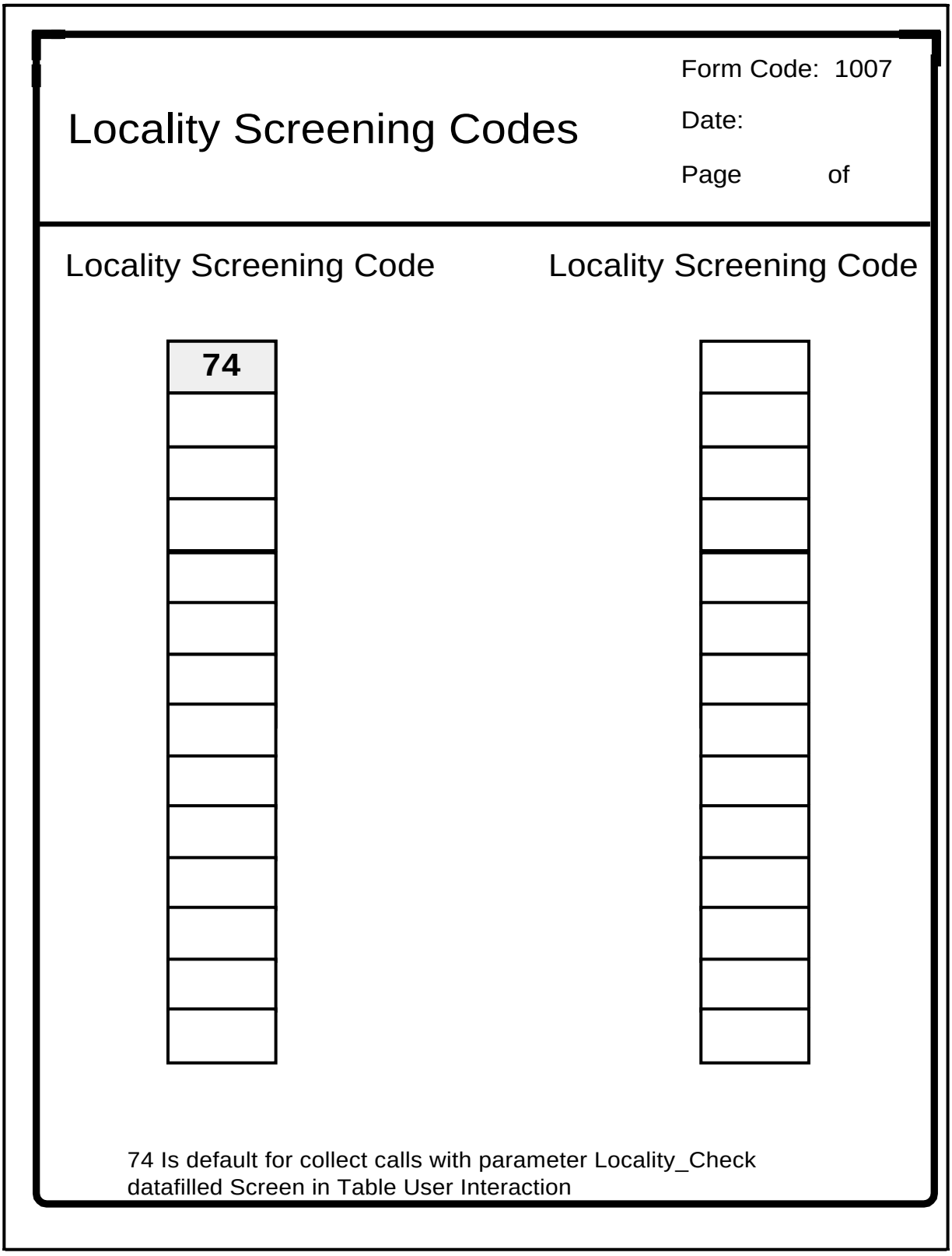

Check Table Screening Code
Action
Prison_Operator
Route to operator
ACCEPT
(no S.C, specified and data base reponse is ACCEPT)
Inform Subscriber & Float Call
PRISON
call handled as prison call
VERIFY
(no S.C, specified and data base reponse is VERIFY)
Check Time of Day Parameters
OPERATOR
Transfer Call to Operator

Figure 2-4
Loc_Screen_Codes table form



Loc_Screen_Codes table

The Loc_Screen_Codes table contains a list of the screening codes of the calls that need to be checked for locality. If the screening code of a call is not included in this table, no locality check is conducted for thst call.

The Loc_Screen_Codes table can be datafilled by the operating company. After the table has been updated, the ACPE must be courtesied doewn and then put back into Working state before the updates become effective. This procedure is required for each ACPE PRUs that is defined.

Photocopy the form in figure 2-4 if changes are required for any Locality Screening Codes. The name, description, and range of values for each field are given in
table 2-D.

Table 2-D
Loc_Screen_Codes form

Field Name	Entry	Description
Locality Screening code	0 - 99	All calls that have a screening code that matches the screening code that is datafilled in this table are checked for locality treatment. The default Locality screening code is 74

The following figure illustrates the interaction between the Screening codes table and the Locality screening codes table

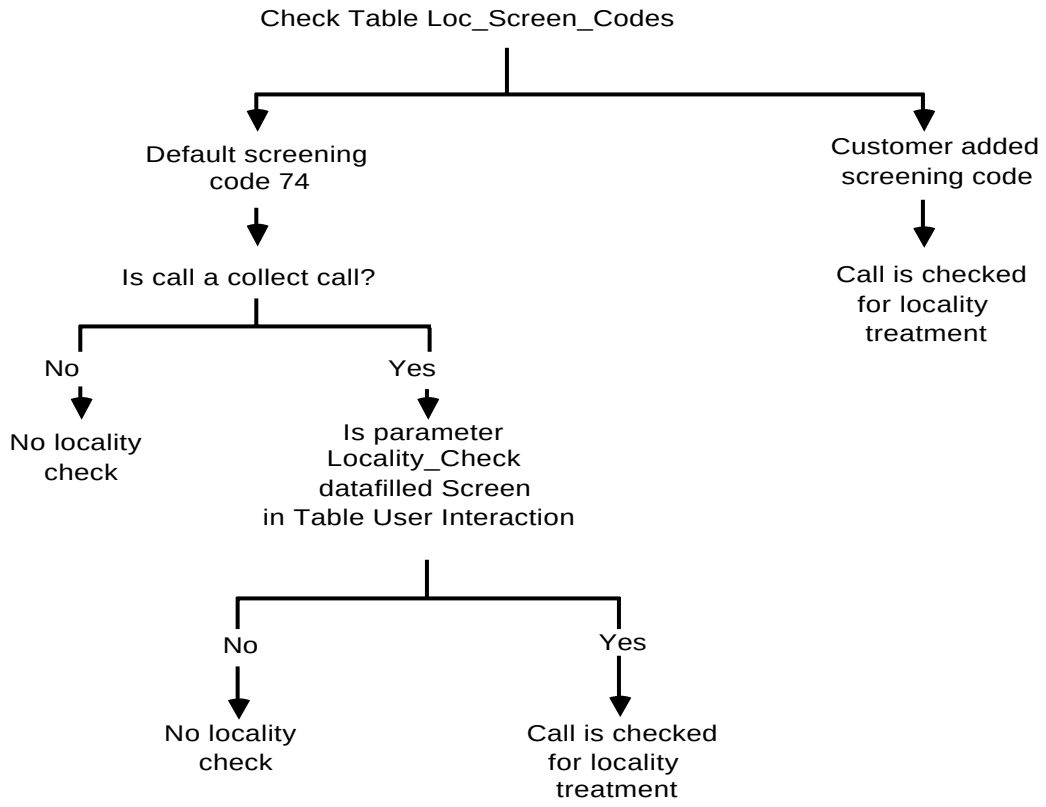

Check Table Loc_Screen_Codes
Default screening code 74
Customer added screening code
Is call a collect call?
Call is checked for locality treatment
No
Yes
No locality check
Is parameter Locality_Check datafilled Screen in Table User Interaction
No
Yes
No locality check
Call is checked for locality treatment

Figure 2-5
User interaction form

Form Code: 1004

User Interaction

Date: _____

Page ___ of ___

VSN User Interaction Parameters		Value
RECORD_NAME_NON_PRISON	YES/NO	**Yes**
RECORD_NAME_PRISON	YES/NO	**Yes**
PRISON_MSG_DTMF_INTER	YES/NO	**No**
REFER_TO_OP_ON_0_AFT_BONG	YES/NO	**No**
WELCOME_MSG_ENABLE	YES/NO	**Yes**
CALLING_LISTEN_IN_ACCEPT	YES/NO	**Yes**
CCV_QUERY_FAIL_ACC_BILL	YES/NO	**Yes**
COLLECT_IF_SAME_NUM	YES/NO	**Yes**
VERIFY_COIN	YES/NO	**Yes**
ACCEPT_THIRD_NON_COIN	YES/NO	**No**
HDO_WELCOME_MSG_ENABLE	YES/NO	**Yes**
NAME_RECORD_DURATION	DECI_SECONDS	**25**
NAME_RECORD_WAIT_TIME	DECI_SECONDS	**40**
TREATMENT_CUT_OFF_TIME	DECI_SECONDS	**500**
NO_FAR_END_ANS_CUT_OFF	DECI_SECONDS	**500**
END_OF_NAME_DURATION	DECI_SECONDS	**5**
GREETING_TIMEOUT	DECI_SECONDS	**10**
BILL_ACC_TIMEOUT	DECI_SECONDS	**40**
GREETING_LENGTH	DECI_SECONDS	**15**
BILL_ACC_CONF_CUT_OFF	DECI_SECONDS	**40**
BACKEND_OPERATOR_REQ_T_O	DECI_SECONDS	**30**
FRONTEND_OPERATOR_REQ_T_O	DECI_SECONDS	**0**
BNS_QUERY_FAILURE	ACTION	**VERIFY**
T_O_D_START_HOUR	HOUR	**0**
T_O_D_START_MINUTE	MINUTE	**0**
T_O_D_END_HOUR	HOUR	**6**
T_O_D_END_MINUTE	MINUTE	**0**
T_O_D_CHK_COIN_HLD	ACTION	**REJECT**
T_O_D_CHK_NON_COIN_HLD	ACTION	**ACCEPT**
BILLING_FAILED_ACTION	ACTION	**ALTBILL**
HDO_BILLING_DENIED_ACTION	ACTION	**OPERATOR**
BILLING_ACCEPTANCE_VALIDATION	ACTION	**SPEECH**
FRONTEND_OUTPUT_GAIN	+/-180dB Tenths	**0**
FRONTEND_INPUT_GAIN	+/-180dB Tenths	**0**
BACKEND_OUTPUT_GAIN	+/-180dB Tenths	**0**
BACKEND_INPUT_GAIN	+/-180dB Tenths	**0**
LOCALITY_CHECK	NONE/ALL/SCREEN	**NONE**
LOC_DEFAULT_PROMPT	NONE/ALL/PRISON/ NONPRISON	**NONE**

User interaction table

The User Interaction table contains a list of parameters that specify the way a call is processed. Some conditions which influence the way a call is processed are call origin and time of day. These TOPS VSN user interaction parameters also govern service selection, name recording and voice recognition.

Photocopy the form in figure 2-5 if changes are going to be made to any user interaction parameter. The name, description and range of values (where appropriate) for each field are given in table 2-E.

Parameter values may be changed but new parameters may not be added nor may parameters be deleted. When an update is made to the contents of this table, all application call processing engine (ACPE) PRUs must be taken out of service (Courtesy Down) and returned to service (RTS) before the changes take effect.

Table 2-E
User interaction

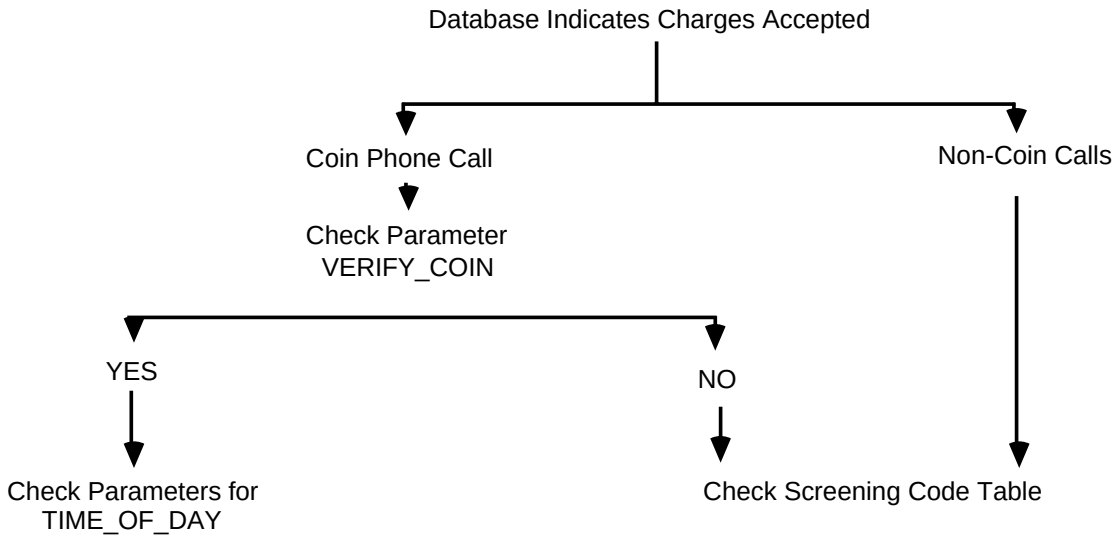
Field Name	Entry	Description
Record_Name_Non_Prison	Yes/No	Specifies whether or not the caller's name is used for billing acceptance verification for all nonprison calls. If this value is no, the caller's name is not recorded. The default is yes.
Record_Name_Prison	Yes/No	Specifies whether or not the caller's name is used for billing acceptance verification for all prison calls. If this value is no, the caller's name is not recorded. The default is yes
Prison_Msg_DTMF_Inter	Yes/No	Specifies whether or not DTMF interruption is allowed during the prison service selection announcement. The default is no.
Refer_To_Op_On_0_Aft_Bong	Yes/No	Specifies whether or not the caller can refer the call to the operator by dialing 0 after the first bong tone. The default is no.
Welcome_Msg_Enable	Yes/No	Specifies whether or not the welcome message, which has company branding, is played after the first bong tone. The default is yes.
Calling_Listen_In_Accept	Yes/No	Specifies whether or not the calling party is allowed to listen during billing acceptance verification. If no, the calling party is put on hold when the billed party answers the phone. The default is yes
CCV_Query_Fail_Acc_Bill	Yes/No	Specifies whether or not TOPS VSN should automatically accept billing when told by the DMS that a calling-card number query to the database could not obtain a valid response. The default is yes.

-continued-

Table 2-E
User interaction form (continued)

Field Name	Entry	Description
Collect_If_Same_Num	Yes/No	Specifies whether or not the third-number billing call is processed as collect if the number called and number billed is the same. The call is charged as a collect call if this parameter is yes. If no, the caller is reprompted for a new billing number. The default is yes.
Verify_Coin	Yes/No	Specifies whether or not third-number billing calls originated from coin phones must be verified. This flag is checked when the database query response indicates that billing has been accepted. The default is yes

The following figure illustrates user nteraction with the Verify_Coin parameter.

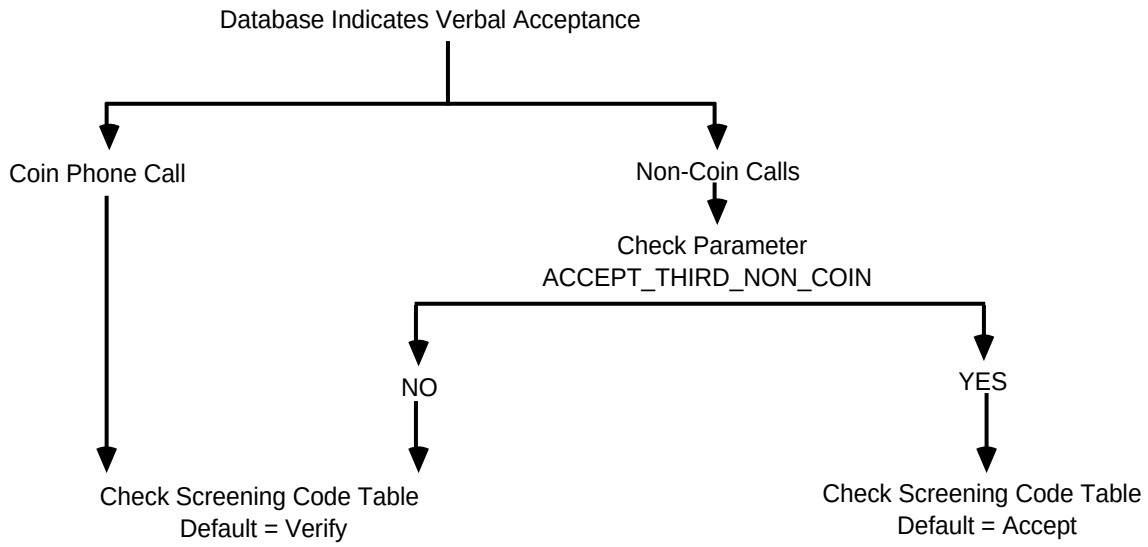


Accept_Third_Non_Coin	Yes/No	Specifies the action to take on third number calls originating from a non-coin phone. If value isYes, table Screening Code is checked to determine the prescribed action. If the default action Verify is operative, then the call is routed to the operator for verification. If the value is No, the screening code table is checked for special action instructions. If the result of that check is verbal acceptance, then the time_of_day parameter is checked. If the final result is verbal acceptance, then the billed party is connected. The default is no.

-continued-

Table 2-E
User interaction form (continued)

Field Name	Entry	Description
The following figure illustrates user interaction with the Accept_Third_Non_Coin parameter.		



HDO_Welcome_Msg_Enable	Yes/No	Turns on/off the option of playing the operating company's branded welcome announcement after a handoff call is initiated.
Name_Record_Duration	5-50	Specifies the maximum length of time in deciseconds given for name recording. The default is 25 .
Name_Record_Wait_Time	5-100	Specifies the maximum length of time in deciseconds to wait for the caller to begin speaking for name recording. If no response is made after this time, TOPS VSN either reprompts or the caller is asked to dial 0 for operator assistance. The default is 40 .
Treatment_Cut_Off_Time	0-1000	Specifies the maximum length of time in deciseconds allowed for local treatment. After this time an announcement is played. The default is 500 .

-continued-

Table 2-E
User interaction form (continued)

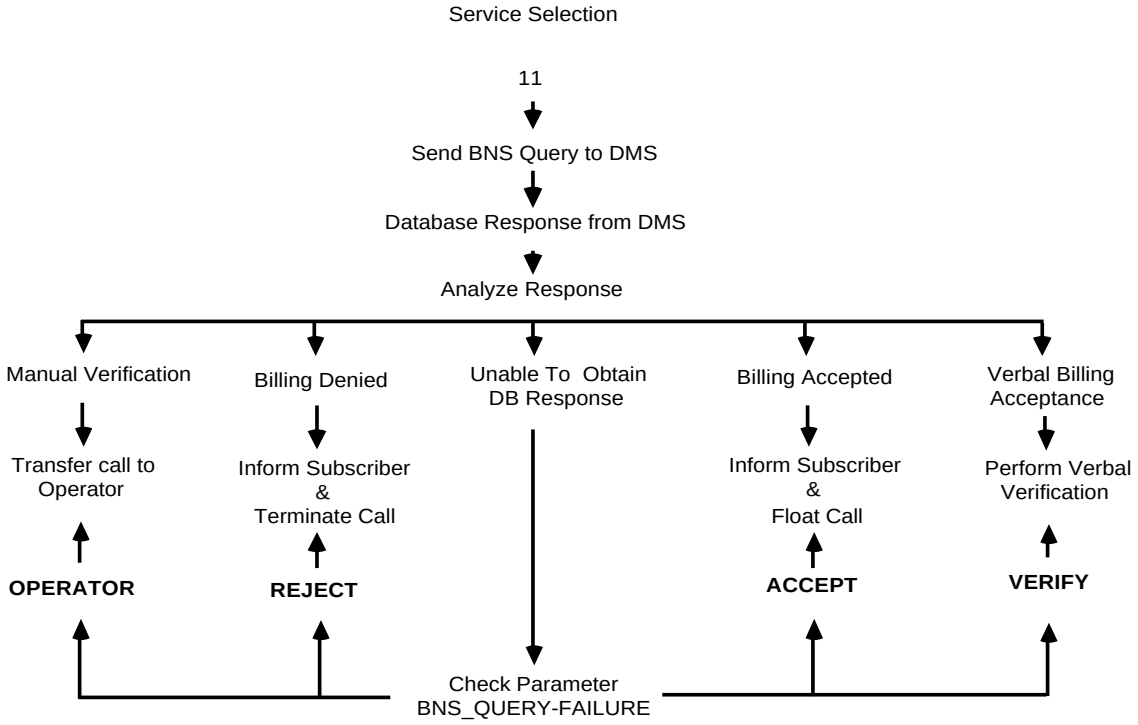
Field Name	Entry	Description
No_Far_End_Ans_Cut_Off	10-1000	Specifies the maximum length of time in deciseconds to wait for the far-end called party to answer the phone. This duration should be long to allow for operator interception. The default is 500.
End_Of_Name_Duration	5-20	Specifies the period of silence required to mark the end of speech during name recording in deciseconds. This value should be less than the value of the Name_Record_Duration parameter. The default is 5 .
Greeting_Timeout	1-100	Specifies the length of time in deciseconds to wait for the far-end greeting speech after the TOPS VSN is informed that the billed party has picked up the telephone. The default is 10.
Bill_Acc_Timeout	5-100	Specifies the length of time in deciseconds to wait for the billing acceptance voice response. When there is no speech after this time, TOPS VSN reprompts. The default is 40 .
Greeting_Length	0-300	Specifies the maximum length of time in deciseconds the far-end party is allowed for a greeting message. If the billing party greeting is longer than this period, TOPS VSN interrupts, and begins prompting the billed party. The default is 15
Bill_Acc_Conf_Cut_Off	5-1000	Specifies the maximum length of time in deciseconds the billed party has to stay online to request operator intervention during billing decision confirmation. The default is 40 .
Backend_Operator_Req_T_O	0-1000	Specifies the time in deciseconds to wait before requesting operator interception during billing verification. When there are repeated voice response failures, the billed party is asked to either hang up or stay on the line for operator assistance. If the billed party stays on the line, this parameter specifies the wait time. The default is 30 .
Frontend_Operator_Req_T_O	0-1000	Specifies the minimum hold time in deciseconds before requesting an operator when retry count value has been reached for the no response to first service selection parameter. The default is 0 .
BNS_Query_Failure	Accept, Reject, Operator, Verify	Specifies the action the TOPS VSN should take when the database billing number query can not obtain a valid response from the DMS switch, for example, timeout. The default action is verify.

-continued-

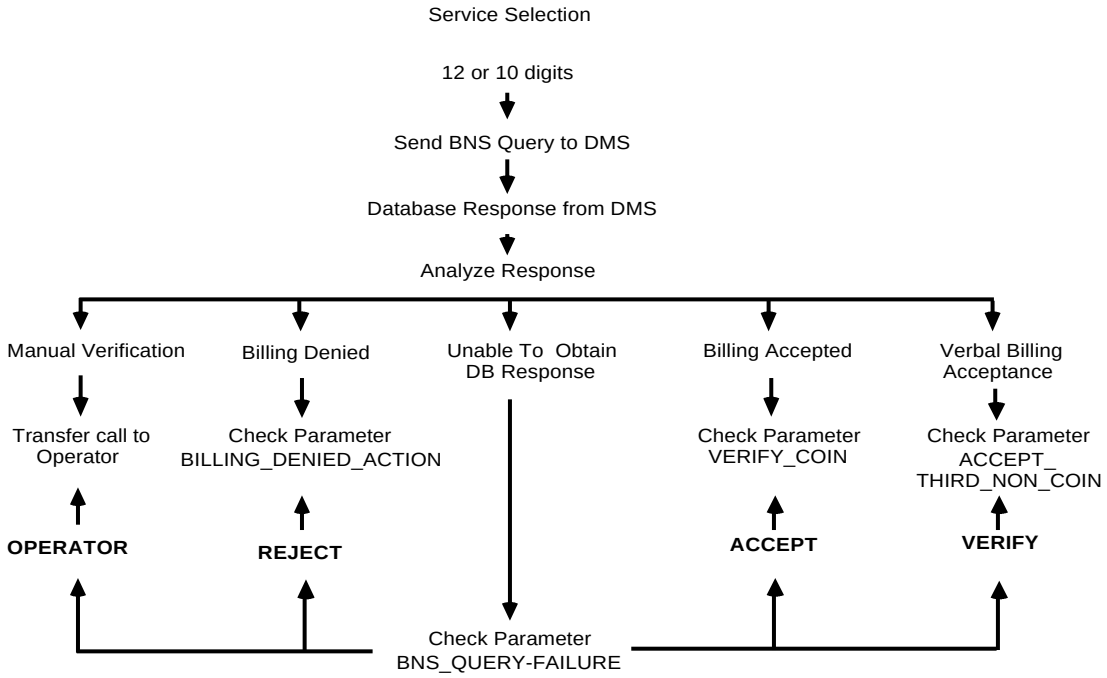
Table 2-E
User interaction form (continued)

Field Name	Entry	Description

This figure illustrates user interaction with the BNS_Query_Failure parameter for collect calls



This figure illustrates user interaction with the BNS_Query_Failure parameter for third number billing calls.



-continued-

Table 2-E
User interaction form (continued)

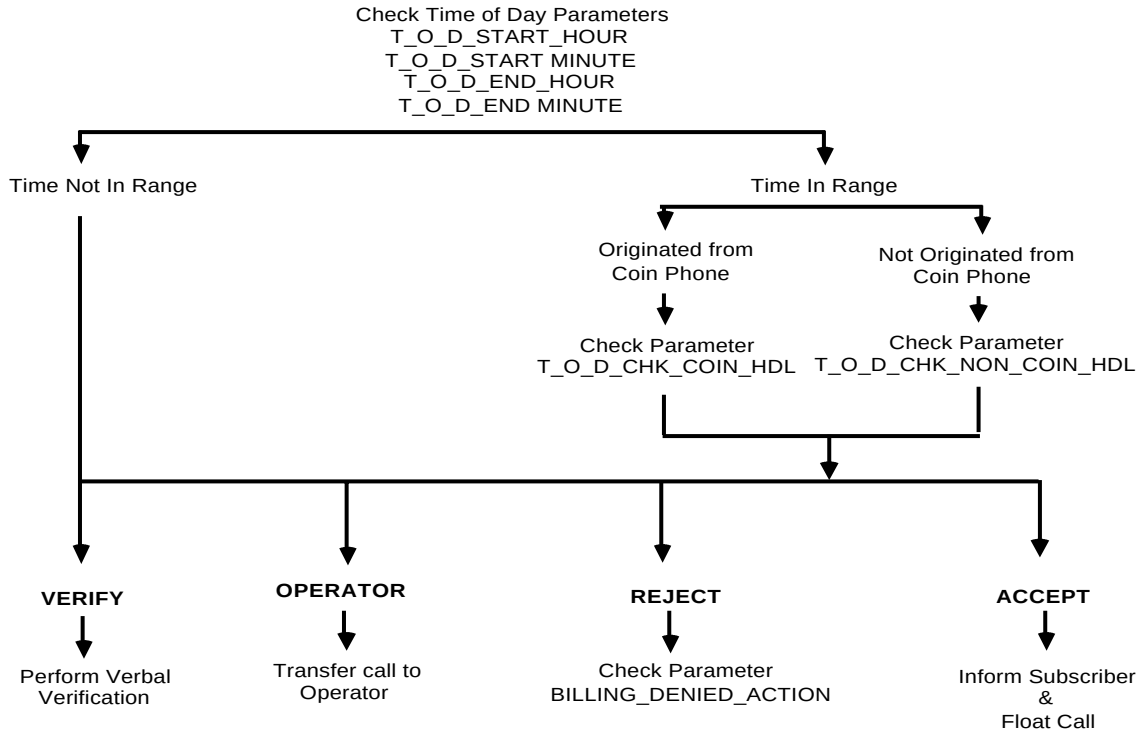
Field Name	Entry	Description
T_O_D_Start_Hour	0-23	Specifies the starting hour for the time-of-day check in third number billing. From this hour (and minute) to the ending time, all third-number billing calls are not verified depending on the value of the following parameters: TOD_CHK_COIN_HLD and TOD_CHK_NON_COIN_HLD. The default is 0.
T_O_D_Start_Minute	0-59	Specifies the starting minute for the time-of-day check in third-number billing. From this minute of the hour to the ending time, all third-number billing calls are not verified depending on the value of the following parameters: TOD_CHK_COIN_HLD and TOD_CHK_NON_COIN_HLD. The default is 0.
T_O_D_End_Hour	0-23	Specifies the ending hour for the time-of-day check in third-number billing. From this hour to the starting time the billed party is connected for calls which require verbal verification. The default is 6.
T_O_D_End_Minute	0-59	Specifies the ending minute for the time-of-day check in third number billing. From the end hour and minute time, to the starting time the billed party is connected for calls which require verbal verification. The default is 0 .

-continued-

Table 2-E
User interaction form (continued)

Field Name	Entry	Description

The following figure illustrates user interaction with the Time_Of_Day parameters.



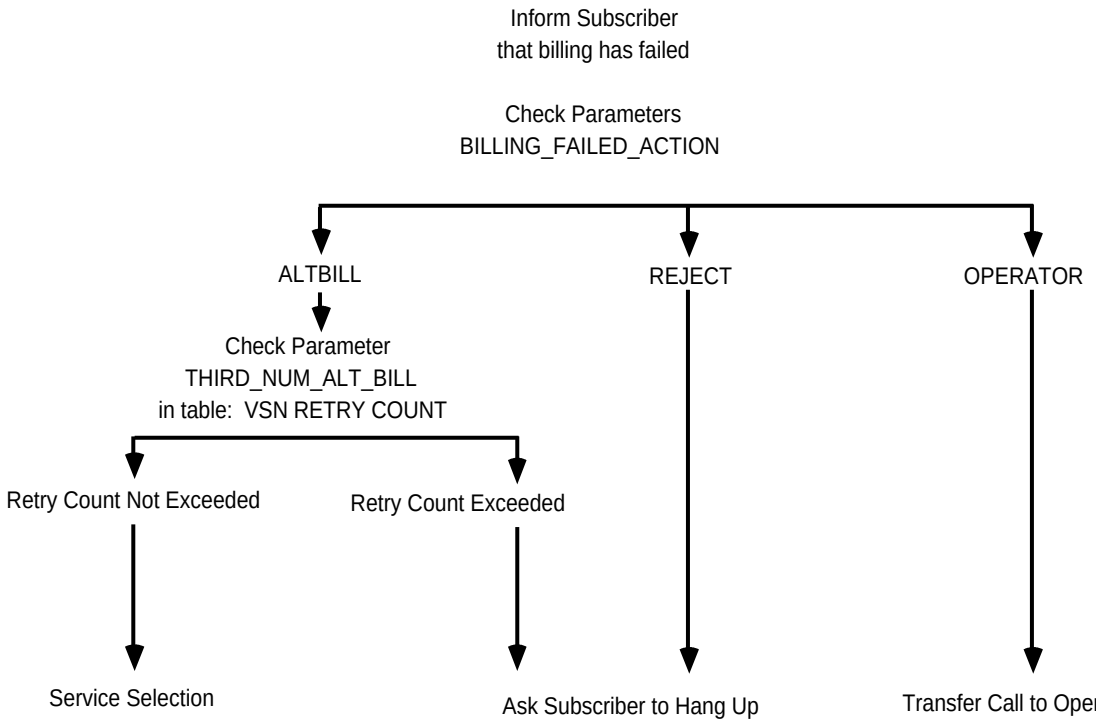
T_O_D_Chk_Coin_Hdl	Accept, Reject, Operator, Verify	Specifies the action the TOPS VSN takes when a call originates from a coin phone and the current time is within the time-of-day parameters found on this table. The default action is reject.
T_O_D_Chk_Non_Coin_Hdl	Accept, Reject, Operator, Verify	Specifies the action the TOPS VSN takes when a call does not originate from a coin phone and the current time is within the time-of-day parameters found on this table. The default action is accept.
Billing_Failed_Action	Reject / Operator / Altbill	Specifies the TOPS VSN action required when billing to a third number has failed. Reject, means disconnect the call; operator, means connect to an operator, and altbill, means play the service selection message. The default action is altbill.

-continued-

Table 2-E
User interaction form (continued)

Field Name	Entry	Description
HDO_Billing_Failed_Action	Reject / Operator	Action to be performed for operator handoff third-number calls whose billing failed . Action Reject means the call should be disconnected. Action Operator means an operator should be attached.

The following figure illustrates user interaction with the Billing_Failed Action parameter



Billing_Acceptance_Method	Speech / DTMF / Both	If this parameter is set to Speech, calls will be handled exactly the same as if the feature was not used. If the parameter is set to DTMF, the billed party will be prompted for a DTMF response. Valid DTMF responses are: enter 1 to indicate acceptance of charges, or enter 0 for operator assistance, hang up to refuse charges. If the parameter is set to Both, the billed party will be prompted as for Speech, but DTMF responses will be accepted as valid responses to the prompts.
Frontend Input_Gain	+180 to -180	Specifies the amount of gain in 1/10 of a decibel to apply to the DTMF input and name recording. The default is 0. Consult NT before changing.

-continued-

Table 2-E
User interaction form (continued)

Field Name	Entry	Description
Frontend_Output_Gain	+180 to -180	Specifies the amount of gain in 1/10 of a decibel to apply to the voice announcements played to the calling party. The default is 0. Consult NT before changing.
Backend Input_Gain	+180 to -180	Specifies the amount of gain in 1/10 of a decibel to apply to speech recognition. The default is 0. Consult NT before changing.
Backend_Output_Gain	+180 to -180	Specifies the amount of gain in 1/10 of a decibel to apply to the voice announcements played to the billed party. The default is 0. Consult NT before changing.

VSN digit timing table

The VSN Digit Timing table contains a list of subscriber related actions originating from the TOPS VSN. For each VSN action, an appropriate subscriber response is expected. The maximum time the TOPS VSN must wait for each subscriber response is determined by the values entered for each parameter on this table.

These time out parameters govern service selection, third- number billing service, calling-card service and a request for operator service during name recording.

Photocopy the form in figure 2-7 if changes are going to be made to any VSN digit timing parameter. The name, description and range of values (where appropriate) for each field are given in table 2-F. Digit timing is illustrated in figure 2-6.

When an update is made to the contents of this table both the voice interface resource manager (VIRM) and the VI boss task PRUs must be taken out of service (Courtesy Down) and returned to service (RTS) before the changes take effect. Note that the VIRM must be in a working state before VI software is put into a working state.

Figure 2-6
Interdigit timing for TOPS VSN

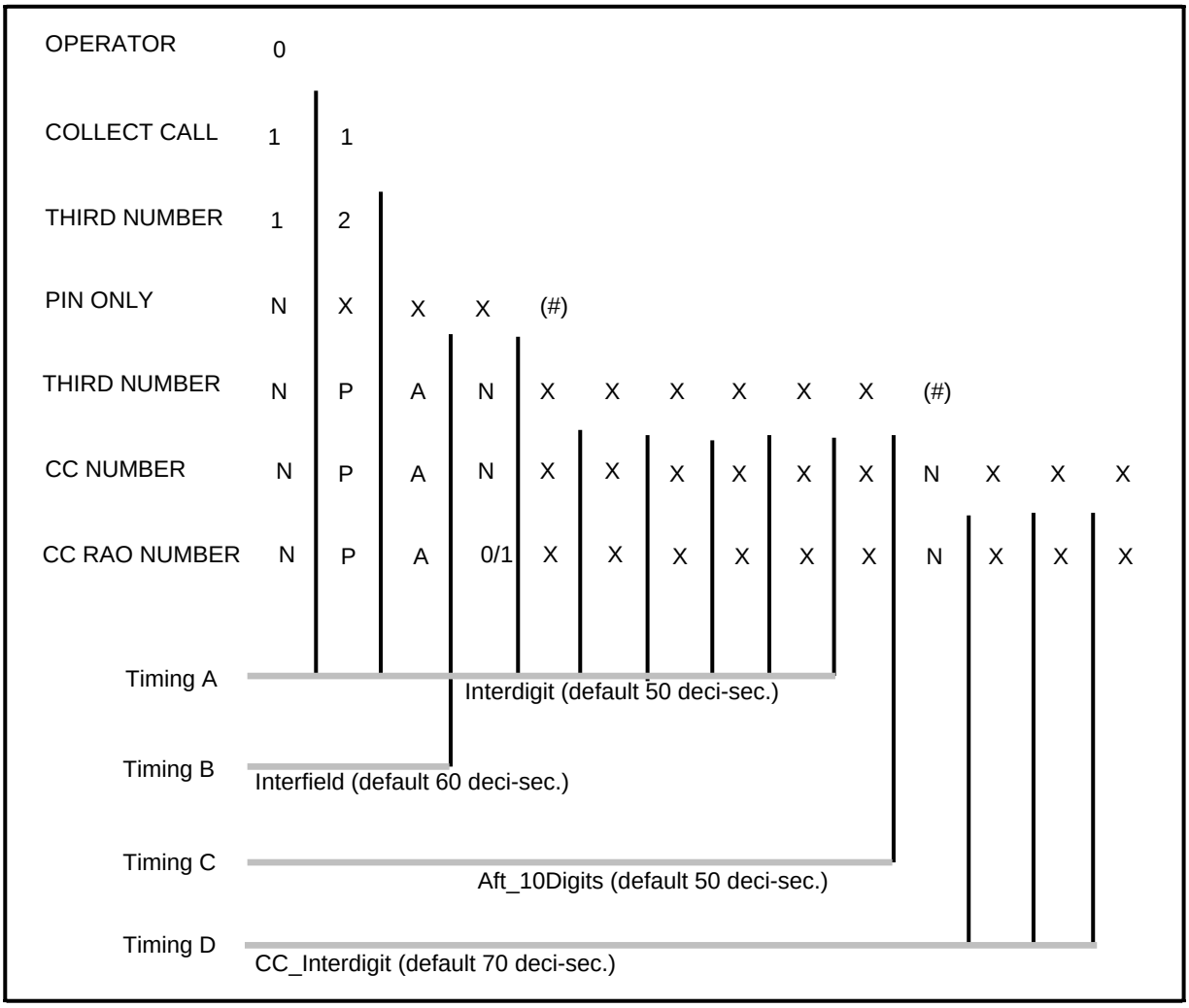
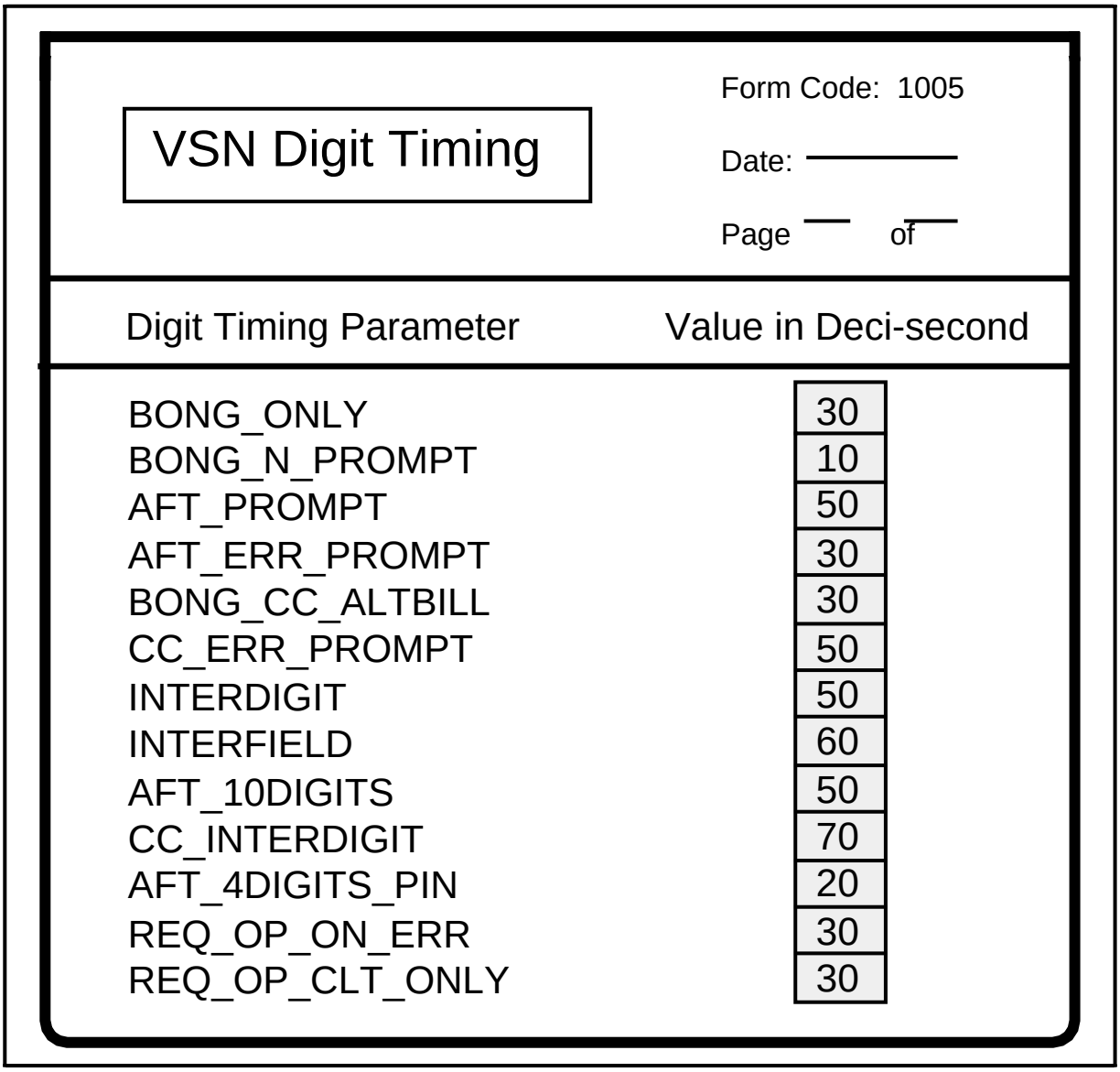


Figure 2-7
VSN digit timing table form



VSN Digit Timing

Form Code: 1005

Date: _____

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Digit Timing Parameter	Value in Deci-second
BONG_ONLY	30
BONG_N_PROMPT	10
AFT_PROMPT	50
AFT_ERR_PROMPT	30
BONG_CC_ALTBILL	30
CC_ERR_PROMPT	50
INTERDIGIT	50
INTERFIELD	60
AFT_10DIGITS	50
CC_INTERDIGIT	70
AFT_4DIGITS_PIN	20
REQ_OP_ON_ERR	30
REQ_OP_CLT_ONLY	30

Table 2-F
VSN digit timing

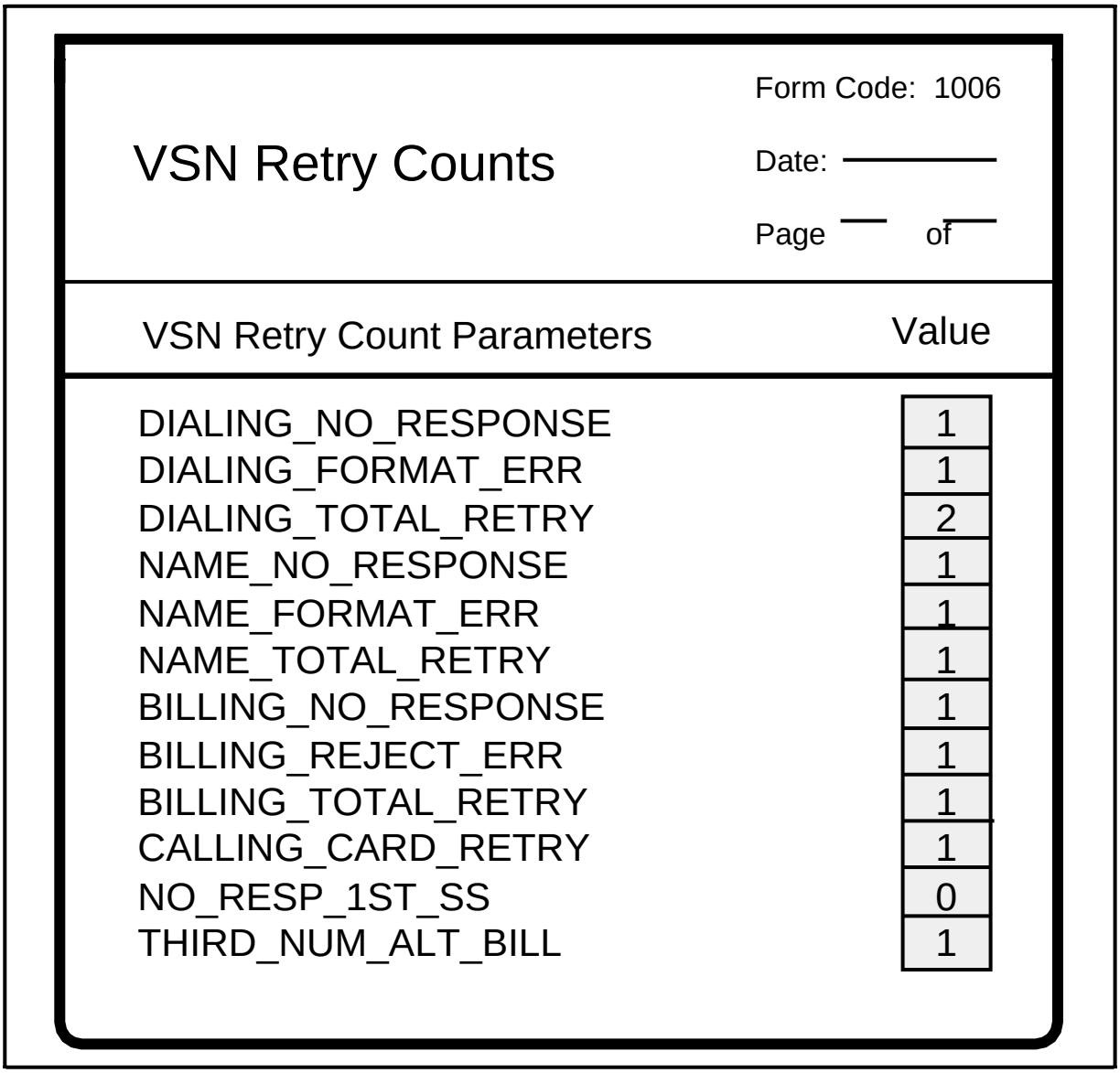
Field Name	Entry deci-seconds	Description
Bong_Only	0 - 100	Specifies the maximum length of time, following a bong tone and before the service selection prompt, that the subscriber has to enter a digit from the telephone. This applies to calls receiving the tone only treatment. The default is 30.
Bong_N_Prompt	0 - 100	Specifies the maximum length of time following a bong tone and before the service selection prompt, the subscriber has to enter a digit from the telephone for calls receiving tone-plus-prompt treatment. The default is 10.
Aft_Prompt	0 - 100	Specifies the maximum length of time, following a prompt announcement, the subscriber has to enter a digit from the telephone set. The default is 50.
Aft_Err_Prompt	0 - 100	Specifies the maximum length of time following an error prompt announcement the subscriber has to enter a digit from the telephone set. The default is 30.
Bong_CC_Altbill	0 - 100	Specifies the maximum length of time the subscriber has to enter a digit after the bong tone following a calling-card error sequence. The default is 30.
CC_Err_Prompt	0 - 100	Specifies the maximum length of time following a prompt during the calling-card error sequence, the subscriber has to enter a digit from the telephone. The default is 50.
Interdigit	0 - 100	Specifies the maximum length of time the subscriber has to enter a digit from the telephone when entering a billing number. The default is 50.
Interfield	0 - 100	Specifies the maximum length of time the subscriber has to enter the next digit following the area code. The default is 60.
Aft_10Digits	0 - 100	Specifies the maximum length of time the subscriber has to enter the 11th digit of a calling card number. This timing distinguishes third number calls from calling-card service calls. The default is 50.
CC_Interdigit	0 - 100	Specifies the maximum length of time the subscriber has to dial the next digit when entering a PIN number. The default is 70.

-continued-

Table 2-F
VSN digit timing (continued)

Field Name	Entry deci-seconds	Description
Aft_4Digits_PIN	0 - 100	Specifies the time delay before a PIN-only CCV query is sent to the DMS. This delay applies to all 4 DTMF digits entered before the timeout interval. The default is 20.
Req_Op_On_Err	0 - 100	Specifies the maximum length of time the subscriber has to dial 0 for the operator when the call has encountered too many dialing or name recording errors. The default is 30.
Req_Op_Clt_Only	0 - 100	Specifies the maximum length of time the subscriber has to dial 0 for the operator when the call originates from a collect-only or prison station. The default is 30.

Figure 2-8
VSN retry counts table form



VSN Retry Counts

Form Code: 1006

Date: _____

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VSN Retry Count Parameters	Value
DIALING_NO_RESPONSE	1
DIALING_FORMAT_ERR	1
DIALING_TOTAL_RETRY	2
NAME_NO_RESPONSE	1
NAME_FORMAT_ERR	1
NAME_TOTAL_RETRY	1
BILLING_NO_RESPONSE	1
BILLING_REJECT_ERR	1
BILLING_TOTAL_RETRY	1
CALLING_CARD_RETRY	1
NO_RESP_1ST_SS	0
THIRD_NUM_ALT_BILL	1

VSN retry counts table

The VSN Retry Counts table contains a list of retry counts detected by the TOPS VSN which influence subscriber responses. For each error condition, the subscriber is allowed to retry the action in order to get an error-free response from the TOPS VSN. The number of times the subscriber is allowed to retry an action that ellicits an error condition is determined by the values entered for each parameter on this table.

These retry count parameters govern dialing, name recording, voice recognition and service retrys.

Photocopy the form in figure 2-8 if changes are going to be made to any VSN retry count parameter. The name, description and range of values (where appropriate) for each field are given in table 2-G.

When an update is made to the contents of this table, all application call processing engine (ACPE) PRUs must be taken out of service (Courtesy Down) and returned to service (RTS) before the changes take effect.

Table 2-G
VSN retry counts

Field Name	Entry	Description
Dialing_No_Response	0 - 5	Specifies the maximum number of times an error of no response is tolerated when the TOPS VSN is expecting dialing. The default is 1.
Dialing_Format_Err	0 - 5	Specifies the maximum number of times format errors are tolerated when the TOPS VSN expects dialing. The default is 1.
Dialing_Total_Retry	0 - 5	Specifies the total number of errors tolerated by the TOPS VSN when it expects dialing. Errors include no reesponse, format and other errors. The default is 2.
Name_No_Response	0 - 5	Specifies the maximum number of times an error of no response is tolerated when the TOPS VSN expects speech for name recording. The default is 1.
Name_Format_Err	0 - 5	Specifies the maximum number of times format errors are tolerated when the TOPS VSN expects speech for name recording. This includes too long and too short errors. The default is 1.
Name_Total_Retry	0 - 5	Specifies the total number of errors tolerated by the TOPS VSN when it expects speech for name recording. This includes no repsonse, format and other errors. The default is 1.
Billing_No_Response	0 - 5	Specifies the maximum number of times an error of no response is tolerated when the TOPS VSN expects a valid response for billing acceptance. The default is 1.

-continued-

Table 2-G
VSN retry counts (continued)

Field Name	Entry	Description
Billing_Reject_Err	0 - 5	Specifies the maximum number of times unrecognized speech is tolerated when the TOPS VSN expects a valid response for billing acceptance. The default is 1.
Billing_Total_Retry	0 - 5	Specifies the total number of times the TOPS VSN retries to get billing acceptance verification. This includes retries for no response, billing reject errors and other errors. The default is 1.
Calling_Card_Retry	0 - 5	Specifies the maximum number of dialing errors tolerated by the TOPS VSN in the calling-card service. The default is 1.
No_Resp_1st_SS	0 - 5	Specifies the maximum number of times an error of no response is tolerated when the TOPS VSN is expecting a response to the first service selection. The default is 0.
Third_Num_Alt_Bill	0 - 5	Specifies the maximum number of times alternate billing can be selected during third number billing. The default is 1.

VSN_System table

The VSN_System table is used to administer the messaging that is conducted between the DMS switch and the VSN system. When there are more than one VSN systems that the operating company has at a site, an identifying parameter is assigned by the operating company in the VSN_System table. The parameter is in the range 0 to 15, and must match the data entered in field VSNNUM of DMS table VSNMEMBR

There are other parameters in the table that are not accessible by the operating company. If an attemptt is made to alter the establisherd parameters by unauthorized personnel, the following message is displayed:

This may not be changed

Because there is very limited data to be entered when required, no data entry form is developed for the table. table 2-H below describes the parameters.

Table 2-H
VSN_System table data

Parameter	Entry	Comment
Call sanity timeout	integer	Inaccessible to operating company personnel
Max. calls allowed	integer	Inaccessible to operating company personnel
VSN_Identifier	integer	This entry is used to identify each of the VSN in sites where there are more than one VSN. The default value is 0, indicating that there is only one VSN at the site.The entry must be the same as the entry in field VSNNUM of DMS VSNMEMBR
Control link testing	integer	Inaccessible to operating company personnel
Control link to ATV	integer	Inaccessible to operating company personnel

3. Abbreviations

AABS	Automated alternate billing service
ACO	Alarm cut-off
ACPE	Application call processing engine
AHT	Average hold time
ALIU	Alarm interface unit
AP	Application processor (a type of SRU)
BCS	Batch change supplement
BVA	Billing validation authority
CI	Command interpreter
CLLI	Common language location identifier
CPH	Calls per hour
DMS	Digital Multiplex Switch
DNC	Dynamic network controller
DTC	Digital trunk controller
DTL	Digital trunk link
DTMF	Dual tone multifrequency
DVS	Data voice system
E-CORE	Enhanced (DMS) core
IOC	Input-output controller
IOP	Input-output processor
LAN	Local area network
LAPB	Link access protocol, balanced
LIDB	Lines information database
LIU	LAN interface unit
MAP	Maintenance and administration position
MCCS	Mechanized calling card service
MLC	MPC number, link number, conversation number

MMI	Man-machine interface
MPC	Multi-protocol converter (1X89)
NOP	Network operations protocol
NOS	Network operations system
NSR	Network Software Release
NTP	Northern telecom practice
OAU	Office alarm unit
OM	Operational measurement
PIN	Personal identification number
PRU	Program resource unit
RM	Resource manager
RRU	Remote resource unit
SAM	Screen activity manager
SAS	System administration services
SCC	Switch control centre
SCSI	Small computer system interface
SDM	Service data manager
SFH	Simple forms handler
SLU	System loading unit
SRU	Shared resource unit
TICS	TOPS interLATA carrier service
TOPS	Traffic operator position system
T1	Line Carrier at Digital Signalling Level One (DS-1)
VI	Voice interface
VSN	Voice service node
1X89	MPC circuit pack code

Network operations systems

TOPS
Voice service node

Customer forms

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