DMS 100 Family

TOP15 ADAS

Peripheral Module Software Release Document

TOP15 Standard 08.02 June 2001

ATTENTION

Use this document in conjunction with **NA015 DMS-100 Family Peripheral Software Release Document, 297-8981-599** to update the software in TOPS Automated Directory Assistance Service (ADAS) related Peripheral Modules (PMs).

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DMS 100 Family

TOP15 ADAS
Peripheral Module Software Release Document

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June 2001	Version 08.02 for TOP 15 changes PM upgrade order to be consistant with the PMUPGRADE tool.
February 2001	Version 08.01 Standard release for TOP 15 release.
August 2000	Version 07.01 Standard release for TOP 14 release.
February 2000	Version 06.01 Standard release for TOP13 release.
December 1999	Version 05.02 Standard release for TOP12. Changes document ADAS PM loads being moved to the NA100 PM Load tape.
November 1999	Version 05.01 Standard release for TOP12 release.
May 1999	Version 04.01 Standard release for TOP11 release.
September 1998	Version 03.01 Standard release for TOP10 release.
April 1998	Version 02.01 Standard release for TOP07 release.
September 1997	Version 01.03 Standard release for TOP07 release.
August 1997	Version 01.02 Standard release for TOP07 release.
June 1997	Version 01.01 Initial release of this document as an NTP.

Contents

About this document

When to use this document

Use this document to update the software in ADAS peripheral modules (PM) and hardware types. This document provides load names, update procedures, and other release-specific information. It may be used by maintenance technicians with a range of experience in switching, PM software, and PM software updating. This document is an extension of the general PM update process described in the NA015 DMS-100 Family Peripheral Software Release Document, 297-8981-599 which is referred to throughout this document. ADAS PM updates can be performed together with or prior to the general PM update process. Refer to "Scheduling the ADAS PM update" for details.

How to use this document

After receiving this document and the PM load tape, perform the following tasks.

1   Review "Overview of release" in this document. This chapter provides release notes, load names, and other information critical to updating ADAS PMs and other hardware types.

2   Review "Overview of update process" in this document. This chapter summarizes the update process and describes when to use each procedure in this document.

3   Perform the procedure "Preparing for a ADAS PM update" in this document.

4   Schedule the update of each ADAS PM and hardware type in the office.

5   Update the ADAS PMs and hardware types, following the schedule and using the appropriate procedures in this document. Perform the procedure "Starting an ADAS PM update shift" when you begin an ADAS PM update shift, and perform the procedure "Finishing an ADAS PM update shift" when you complete an ADAS PM update shift.

Compliance with local policies

This document is written for all Nortel Networks ADAS customers updating to a NA015 release. However, many telephone companies have company-

specific and office-specific policies regarding PM updates. Review these policies, and resolve any differences between the policies and this document, before beginning the ADAS PM update process.

Backwards-compatibility

This document is specifically designed to support the NA015 release of the TOPS DRU, however, the loads in this document are backwards-compatible with the following releases.

*   NA012

*   NA013

*   NA014

How to check the version and issue of this document

The version and issue of the document (NTP *document release*) are indicated by numbers, such as 01.01. The first two digits indicate the version, which increases each time the document is updated to support a new software release. The second two digits indicate the issue, which increases each time a document is re-issued within the same software release. In addition, the *document source* (for example: ADASREL.AH04) refers to the internal development version of the document used to source the NTP. Note both the *document release* and *document source* when calling Customer Support. Both the release and source versions can be found on the inside title page and the back page of this document.

References in this document

The following documents are referred to in this document:

*   NA015 DMS-100 Family Peripheral Software Release Document, 297-8981-599

*   *Software Delivery Process Description, 297-8991-020*

*   *Software Delivery One Night Process Software Delivery Procedures, 297-8991-303.*

*   NA015 *PCL Site Notification Package*

*   *SuperNode Patching Procedures, 297-5001-540*

*   *Post-Release Software Manager (PRSM) Operating Procedures,297-8991-540*

*   *ADAS Voice Replacement, SAX-017*

- ADAS HP 9000/712 OAM Position Software Release Document, 297-2211-212

- *TOPS ADAS Network Configuration Reference Guide, 297-2211-800*

- *NA100 Translations Guide, 297-8021-350*

What precautionary messages mean

Precautionary messages indicate possible risks. The types of precautionary messages used in Nortel Networks documentation include danger, caution, and attention messages.

Danger message

A danger message indicates the possibility of personal injury or equipment damage and looks as follows.

DANGER
This is an example of a DANGER message.
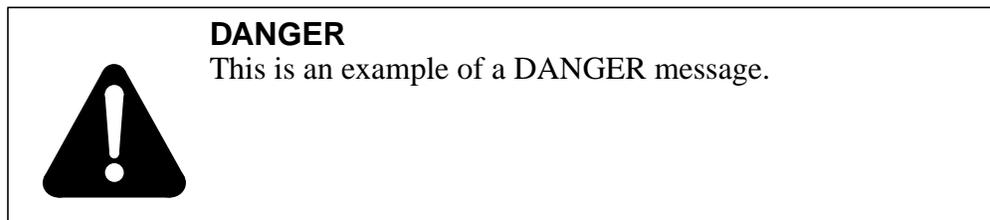
Caution message

A caution message indicates the possibility of service interruption or degradation and looks as follows.

CAUTION
This is an example of a CAUTION message.
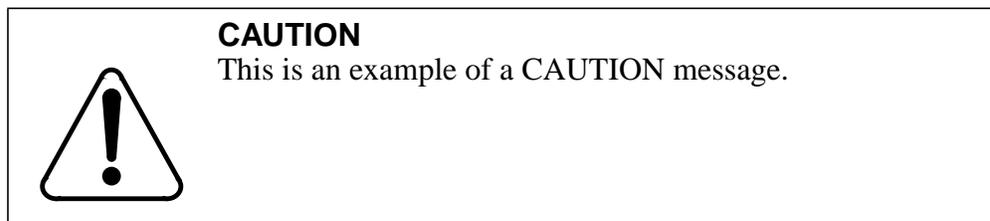
Attention message

An attention message alerts the reader to a special condition and looks as follows.

ATTENTION

This is an example of an ATTENTION message.

How commands, parameters, and responses are represented

Commands, parameters, and responses in this document conform to the following conventions.

Input prompt(>)

An input prompt (>) indicates that the information that follows is a command.

>LOADPM

Commands and fixed parameters

Commands and fixed parameters that are entered at a MAP terminal are shown in uppercase letters.

>LOADPM INACTIVE

Variables

Variables are shown in lowercase letters.

>LOADPM UNIT unit_no

The letters or numbers that the variable represents must be entered. Each variable is explained in a list that follows the command string.

Responses

Responses correspond to the MAP display and are shown in a different type.

```
LOADPM UNIT 1 LOADED
```

The following example illustrates the command syntax used in this document.

1   Load the peripheral by typing

>LOADPM UNIT unit_no

and pressing the Enter key.

where

unit_no   is the number of the unit

Example of a MAP response:

LOADPM UNIT 1 LOADED

How procedures are organized

Each procedure in this document contains a summary flowchart and a list of steps. The flowchart summarizes the procedure, and the list of steps provides detailed instructions for the procedure. Review the summary flowchart, and then follow the list of steps to perform the procedure.

Comments

Your comments on this document are appreciated.

Overview of release

This chapter provides release notes, load names, and other information critical to updating ADAS peripheral modules (PM) and other hardware types. Use this information when performing the procedure "Preparing for an ADAS PM update" in this document and when scheduling the update of each ADAS PM and hardware type.

Release notes

Refer to NA015 DMS-100 Family Peripheral Software Release Document, 297-8981-599 for a description of changes in the PM update process for NA015.

Release warnings

Refer to NA015 DMS-100 Family Peripheral Software Release Document, 297-8981-599 for NA015 release warnings not specific to ADAS.

Loads available with this release

Base loads

Base loads are the traditional PM load files. They are identified by the following naming convention:

<load_type><release><issue>   Example, ETC05BC

The field LOAD_TYPE is three alphanumeric characters. The field RELEASE is two numbers. The field ISSUE is two numeric characters. In addition, some base loads may have a number after the final field, such as NRS05BK1, which indicates a re-release of that issue.

Patches

Patches are included in this shipment on a separate tape. A patch is software created as one of the following:

- a procedure replacement to correct software deficiencies that is delivered to all affected sites

- an enhancement to the original design that is delivered to all affected sites and activated on a per office basis

- a fix for a data corruption deliverable that is delivered only to the affected office

- a delivery mechanism for early feature deployment that contains new features and is activated on a per site basis by a controlled password

For naming conventions and additional patching information, refer to *DMS-100 SuperNode Patching Procedures, 297-5001-540,* or *Post-Release Software Manager (PRSM) Operating Procedures, 297-8991-540.*

New features or enhancements in this release

This release only has corrective content and maintains compatibility with the DMS SOS operating system. There is no new feature content in this release.

Tape-to-load-to-release cross-reference

The following table lists the tapes containing the loads supported by this release that are updated during the ADAS PM update process. Use this table to confirm that the office has received all the loads necessary for the ADAS PM update.

ATTENTION

Beginning in early 2000, the ADAS PM loads will be delivered on the NA100 PM Load Tape rather than a separate ADAS specific tape. ADAS Workstation loads will continue to be delivered on DAT tape.

Tape-to-load-to-release cross-reference

Delivery Tape (format)	Load Name	Load Description	CDNB015 and LECB015	LETB015 and LTT015	TOPS015 US/ Canada Solo	TOPS015 Non US/ Canada Solo
PM Load Tape (SLM or DAT[a])	AAC12AB	ADAS Application		X	X	X
	ULC15BH	APU PM Load		X	X	X
	UTC03BO[b]	ADAS Tools		X	X	X
	VPC15BH	VPU PM Load		X	X	X
AWC12AC (DAT)	adas_def.ab02	ADAS Audio		X	X	X
	awc12ac.tar.Z	ADAS Workstation		X	X	X
	ws_install	Install script		X	X	X
	ws_move	710 to 712 conversion script		X	X	X
	MERGED.updt	HP-UX patches		X	X	X
	adastape.file	Table of Contents		X	X	X
	rac09aa.tar.Z	Remote Access		X	X	X
	remote_install.csh	Install script		X	X	X

a. PM Loads for a XA-Core based CM are distributed on DAT tape.
b. The UTC03BO load is not required for normal ADAS operations. The load should be copied to disk, but no further action is necessary.

Load history cross-reference

The following table lists each load type supported by the NA100 product line and versions of these load types for recent BCS and NA100 software releases. This table is included in this document to assist in planning PM updates. Use the PM-to-load cross-reference table in this chapter to identify the specific PMs and loads to be updated in the office.

Load history table

Load type	Load Description	NA012	NA013	NA014	NA015
AAC	ADAS Application	AAC12AB	AAC12AB	AAC12AB	AAC12AB
Audio	ADAS Audio	adas_def.ab02	adas_def.ab02	adas_def.ab02	adas_def.ab02
AWC	ADAS Workstation	awc12ac	awc12ac	awc12ac	awc12ac
ULC	APU PM Load	ULC12BI	ULC13BH	ULC14BJ	ULC15BH
UTC[a]	ADAS Tools	UTC03BO	UTC03BO	UTC03BO	UTC03BO
VPC	VPU PM Load	VPC12BI	VPC13BH	VPC14BJ	VPC15BH

a. The UTC load is not required for normal ADAS operations. The load should be copied to disk, but no further action is necessary.

PMs supported by this release

The PM to load cross-reference table lists each ADAS PM and hardware type supported by this release, along with its loads for recent releases. Only loads that have changed from the current release to NA015 need to be updated in the office.

The first three columns help identify the type of PM. The column PM lists the kind of PM or other hardware type as posted at the MAP display. The column Description describes the service provided by the PM. The column Hardware lists product engineering codes (PEC) for the cards in the PMs, which may be helpful in identifying the type of PM in the switch or the type of load for that PM.

The column Table(s) identifies the table(s) in which the load is datafilled.

The column Size lists the *approximate* size of the load file in blocks, which may be helpful in allocating volumes to hold the copied loads. Re-issued loads and pre-patched loads may cause slight variations between the actual size of the load and the size listed in the table.

The AWC load and the ADAS audio load are delivered on the ADAS DAT tape and are installed directly on the ADAS OA&M Workstation. These loads are not stored on the DMS nor are they datafilled in any DMS tables. They therefore do not appear in this table.

PM to load cross-reference

PM	Description	Hardware	NA012	NA013	NA014	NA015	Table(s)	Size
APU	Application Processing Unit	NTEX22BB NT9X14DB	ULC12BI	ULC13BH	ULC14BJ	ULC15BH	PMLOADS LIUINV	20249
			AAC12AB	AAC12AB	AAC12AB	AAC12AB	SNIXVOLS SNIXAPPL	16369
			UTC03BO	UTC03BO	UTC03BO	UTC03BO		2810
VPU	Voice Processing Unit	NTEX22BB NTMX97AA NTMX99AA	VPC12BI	VPC13BH	VPC14BJ	VPC15BH	PMLOADS LIUINV	6644

Overview of update process

This chapter describes the ADAS PM update process and provides sample checklists to assist in scheduling and recording the ADAS PM update. It also provides information on aborting an ADAS PM update and troubleshooting update problems.

Software delivery process

The software delivery process describes how to update software in existing in-service offices. Two primary activities are the PM update process and the front-end update process. The PM update includes all software for all PMs and certain hardware types such as the digital test unit (DTU) and the enhanced network (ENET). The ADAS PM update process is an extension of the standard PM update process documented in NA015 DMS-100 Family Peripheral Software Release Document, 297-8981-599. The ADAS PM update process can be performed prior to or in conjunction with the regular PM update process. Review "Scheduling the ADAS PM update" for more details.

The front-end update includes software for the message switch (MS) and the computing module (CM). For information on the front-end update, refer to *DMS-100 Family Software Delivery Process Description or DMS-100 Family Software Delivery ONP/Hybrid Software Delivery Procedures.*

ATTENTION

During the ONP process for the CM, some or all of the ADAS VPUs may briefly go SysB just after the ONP swact. SysB VPUs will automatically recover within several minutes of the swact. No maintenance action is necessary. This rarely occurring behavior happens due to NIU isolation and is more likely to be seen in large, multi-LIM offices.

ADAS PM update process

The process of updating ADAS PMs with new software begins with the receipt of this document and the ADAS tapes. The process should be completed before the image tape is shipped to Nortel Networks in preparation for the front-end update. The process has the following phases:

1   preparing for an ADAS PM update
2   scheduling an ADAS PM update
3   performing an ADAS PM update

Preparing for an ADAS PM update

ATTENTION

Maintenance technicians familiar with the office and experienced with software updating and PM loading should prepare an office for an ADAS PM update.

Preparing for an ADAS PM update involves the following activities.

- Receive the tapes and documentation.
- Identify the loads and PMs to be updated in the office.
- Copy the necessary loads and patches.
- Update table PMLOADS.

To perform all necessary office preparation activities, refer to "Preparing for an ADAS PM update" in the "Update Procedures" section of this document.

Office policy may require modifications to this procedure. For example, some telephone companies and offices have unique policies for copying and backing-up software loads.

This document does not include steps to delete old load names from table PMLOADS or old load files from the disk volume. Check office policy. Available memory may determine if load files are deleted during an ADAS PM update shift, after an ADAS PM update shift, or after the completion of the office's ADAS PM update. Office alarm-clearing policy may determine when old load files are deleted from table PMLOADS.

To confirm completion of each activity, use a checklist similar to the following sample.

Office preparation checklist

Office:	Completed by:	Date:
Receive ADAS tapes (refer to "Loads available for this release" for tape versions)		
Receive APU and VPU patches from tape or C-SCAN		
Review "Overview of release" and "Overview of update process" in this document		
Determine if PATCHER or PRSM is enabled in the office		
Print table PMLOADS		
Print table LIUINV		
Print table SNIXVOLS		
Print table SNIXAPPL		
Copy the new APU and VPU loads to disk (refer to "PMs supported in this release" for load sizes to determine disk capacity requirements)		
Identify the patches required by the APUs and VPUs		
Copy the patches		
Update table PMLOADS		
Update table SNIXVOLS		

Scheduling the ADAS PM update

> **ATTENTION**
>
> Maintenance technicians familiar with the office and experienced with software updating and PM loading should schedule the ADAS PM update.

Scheduling the update involves the following activities.

- Determine whether the ADAS PM update is to be performed prior to or in conjunction with the general PM update.

- Determine the update sequence by identifying the subtending and serving PMs in the office.

- Determine if the PMs can be grouped in sets.

- Determine when and how to patch any loads.

- Schedule the update of each PM.

Update sequence

The sequence of PMs and hardware types to be updated will vary according to the configuration of the nodes in the office. However, subtending nodes must always be updated prior to any serving node. A subtending node is any node that resides on the P-side of the serving node.

The following figure illustrates the subtending/serving relationships of the ADAS PMs in the DMS-100 family PM architecture.

If the ADAS PM update is being performed prior to the general PM update, the ADAS PMs must be updated in the following order:

1   APU

2   VPU

3   ADAS OA&M Position (HP 9000/712) Workstation

If the ADAS PM update is being performed in conjunction with the general PM update, the ADAS PMs are still updated in the above order, however, they must be updated **BEFORE the NIU and LIM** are updated.

DMS-100 Family PM architecture

To MS

6

LIM

5

NIU

1

EIU

4

ADAS OA&M
POSITION
(HP 9000/712)
WORKSTATION

3

VPU

2

APU

**The numbers indicate the PM update
sequence.**
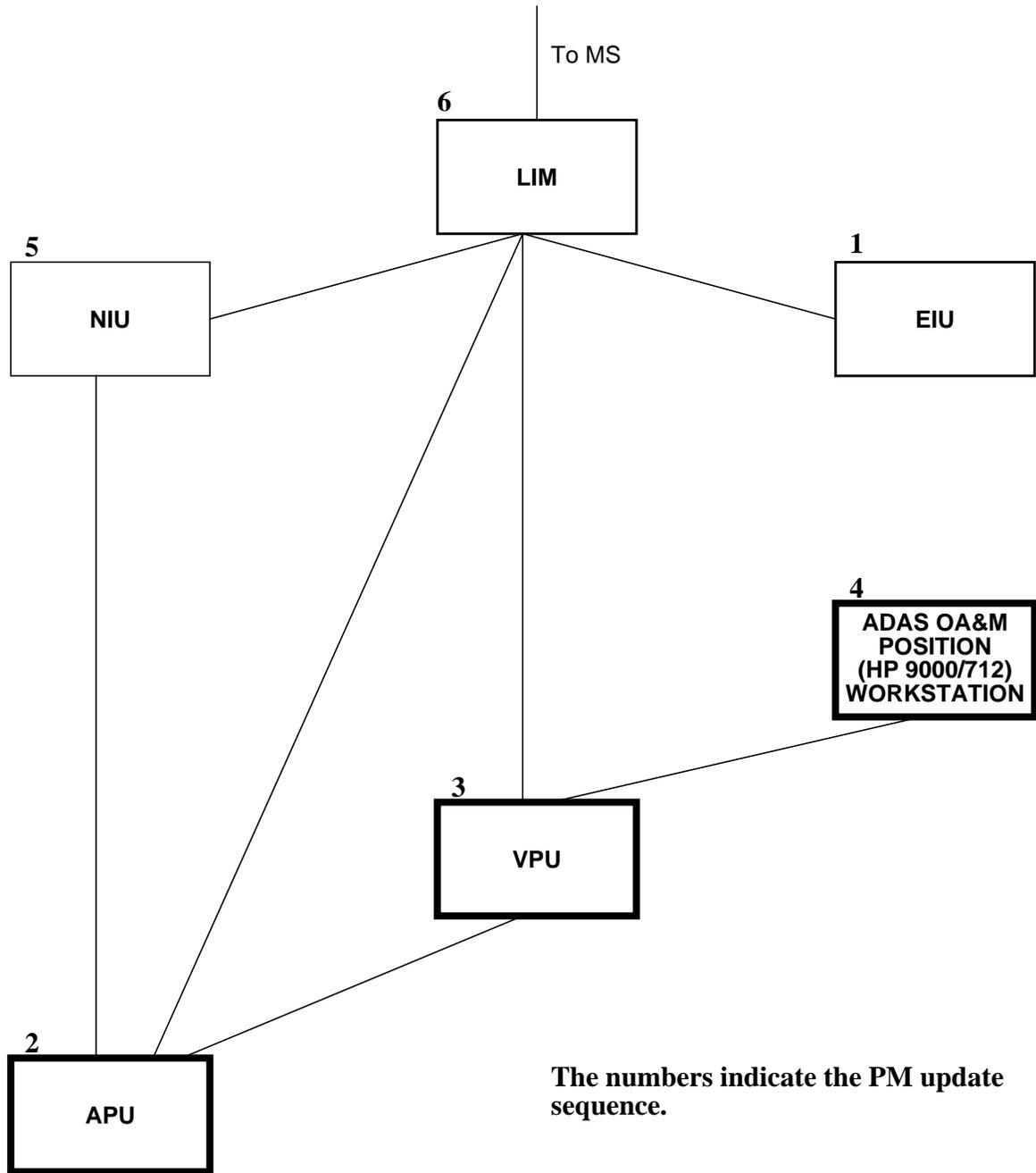
Patching

Some loads have patches that must be applied during the PM update. Patches are applied to the load and not the PM or unit; therefore patches need only be applied the first time the load is loaded.

ATTENTION

Autoimaging for ISN nodes (IAI) is not supported for the APU peripheral. The APU is a dual operating system node and as such, has characteristics that are incompatible with autoimaging.

Performing the ADAS PM update

Beginning the ADAS PM update

At the start of each ADAS PM update shift, the technician must verify the office and the PMs to be updated meet the following conditions.

* An office image was taken in the last 24 hours.

* All PM logs are enabled.

* Current ADAS load is working properly.

Meeting these conditions may be part of the standard maintenance program of the office, or it may require additional activities. Perform the procedure "Starting an ADAS PM update shift" in this document to confirm the office and PMs to be updated meet these conditions.

Updating the ADAS PMs

Updating the ADAS PMs in an office should be done during a maintenance window or period of low traffic to reduce service interruptions.

Updating the APUs and VPUs

The APUs and VPUs are both Application Specific Units (ASU) and follow a similar update process.The following figure illustrates the general steps for updating these ADAS PMs.

Updating a VPU or APU (PM) with a base load that must be patched

```
┌─────────────────────────────┐
│                                             │
│   ┌──────────────┐                          │
│   │ Update DMS tables │                     │
│   │ to reference the new │                  │
│   │ loads          │                        │
│   └──────────────┘                          │
│          │                                  │
│          ▼                                  │
│   ┌──────────────┐        ┌──────────────┐ │
│   │                 │        │ Update the CM │ │
│   │ Busy and Test the PM │   │ patch list if │ │
│   │                 │        │ necessary     │ │
│   └──────────────┘        └──────────────┘ │
│          │                        │          │
│          ▼                        ▼          │
│   ┌──────────────┐        ┌──────────────┐ │
│   │                 │        │                 │ │
│   │ Load the PM     │        │ Take an image of │ │
│   │                 │        │ the PM          │ │
│   └──────────────┘        └──────────────┘ │
│          │                        │          │
│          ▼                        ▼          │
│   ┌──────────────┐        ┌──────────────┐ │
│   │                 │        │                 │ │
│   │ Apply patches   │        │ Return the PM   │ │
│   │                 │        │ to service      │ │
│   └──────────────┘        └──────────────┘ │
│          │                        │          │
│          ▼                        ▼          │
│   ┌──────────────┐        ┌──────────────┐ │
│   │                 │        │                 │ │
│   │ Verify the patches │     │ PM successfully │ │
│   │ were applied    │        │ updated         │ │
│   └──────────────┘        └──────────────┘ │
│                                             │
└─────────────────────────────┘
```
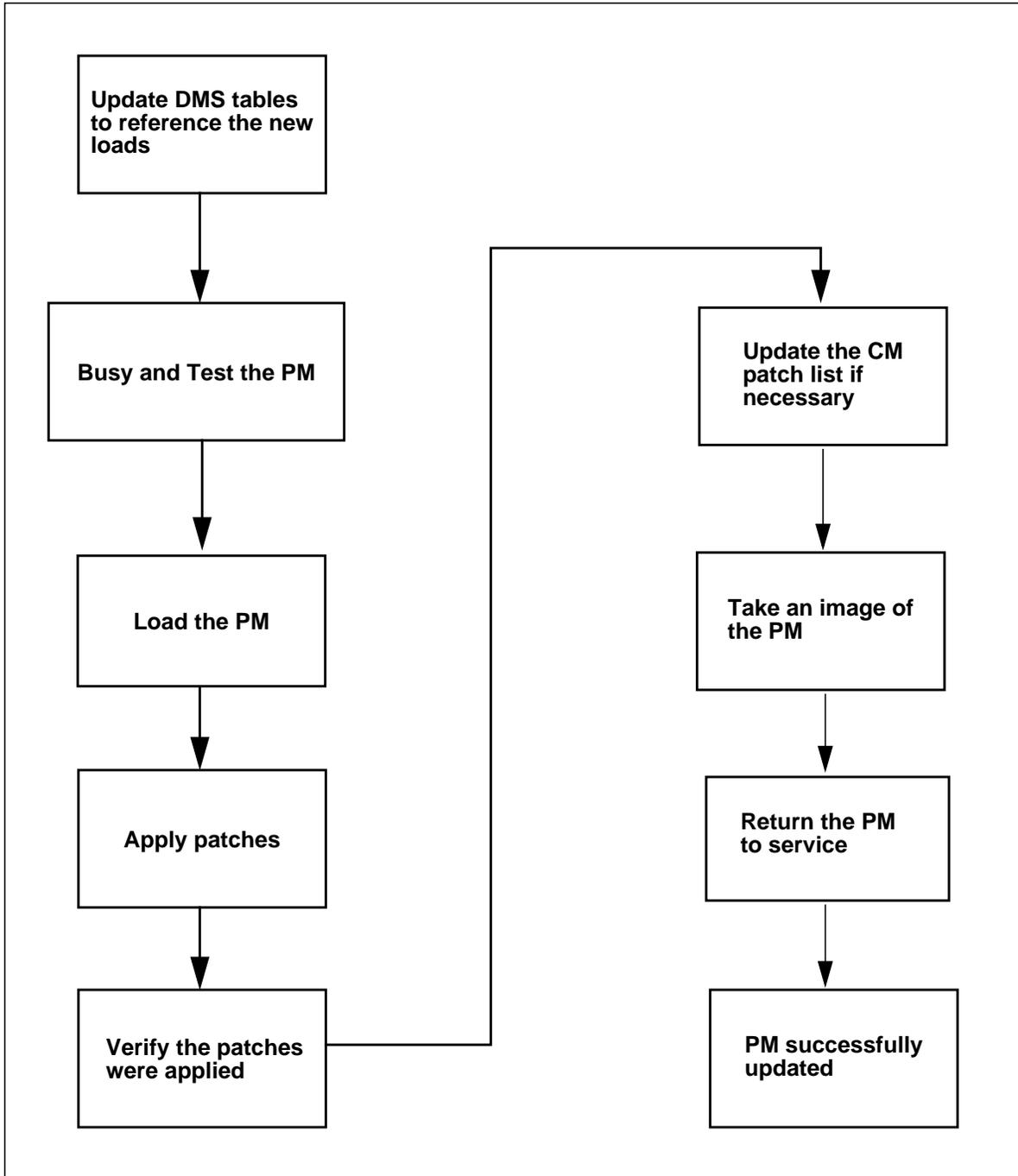
Updating the ADAS OA&M position (HP 9000/712) workstation

Unlike the APUs and VPUs, the ADAS OA&M Position is not updated from the MAP display, but rather is updated via tools and commands executed directly on the workstation. The ADAS OA&M Position supports both full installation and upgrade procedures. Full installations place HPUX and the latest workstation load on the workstation. Any workstation loads existing prior to the full installation are lost. The upgrade procedure adds the latest workstation load while preserving any existing loads. An upgrade is the preferred procedure unless stated otherwise.

ATTENTION

Prior to TOP07, LAN Internet Protocol (IP) address information was only required for full installations of the ADAS OA&M Position. Beginning with TOP07, this information is also required for upgrades of the ADAS OA&M Position. This is necessary in order to support the optional Remote Access feature. These LAN IP addresses are used to complete the "Appendix A OAM Position Checklist" that is found in the **ADAS HP 9000/712 OAM Position Software Release Document**, **297-2211-212**.

The "Updating the ADAS OA&M Position" procedure at the end of this document requires the technician to dump tables EXNDINV, IPNETWRK, IPROUTER, and IPHOST in order to obtain LAN IP address information required during the workstation install/upgrade procedure. After this information is obtained, the technician should refer to the ADAS HP 9000/712 OAM Position Software Release Document for updating the ADAS OA&M Position. Begin at section 4.0 Pre-Install/Upgrade Procedure.

Finishing the ADAS PM update

At the completion of each update shift, technicians should return the office to its original state and verify the following conditions:

•   All PM logs have been returned to their original states

•   All ADAS PMs that were updated have remained in service.

Perform the procedure "Finishing an ADAS PM update shift" in this document.

Aborting an ADAS PM update

If an ADAS PM update must be aborted, reload the PM with the load from the previous release. Reload the PMs in the reverse order they were updated; reload the serving PM prior to reloading its subtending PMs. The ADAS PMs must be reloaded in the following order:

1   ADAS OA&M position (HP 9000/712) workstation

2   VPU

3   APU

Use the update procedures provided in this document and reverse the old_load_name and new_load_name parameters.

CM Software Update

Sometime after the completion of the ADAS PM update, the CM ONP process will occur in order to update the front-end software. Refer to *DMS-100 Family Software Delivery Process Description* or *DMS-100 Family Software Delivery ONP/Hybrid Software Delivery Procedures.*

ATTENTION

During the ONP process for the CM, some or all of the ADAS VPUs may briefly go SysB just after the ONP swact. SysB VPUs will automatically recover within several minutes of the swact. No maintenance action is necessary. This rarely occurring behavior happens due to NIU isolation and is more likely to be seen in large, multi-LIM offices.

Update procedures

The procedures in this chapter describe how to update ADAS peripheral modules (PM) and other hardware types during the ADAS PM update process.

Preparing for an ADAS PM update

Application

> ### ATTENTION
> Only maintenance technicians experienced with PM loading should perform this procedure.

Use this procedure to prepare an office for an ADAS peripheral module (PM) update. Perform this procedure once after receiving the ADAS PM load and patch tapes.

Note: *Beginning in early 2000, ADAS PM loads and patches are included on the NA100 PM Load tape. A separate ADAS PM load tape will no longer be issued.*

Prerequisites

None

Update Sequence

Subtending PMs

Not Applicable

Serving PMs
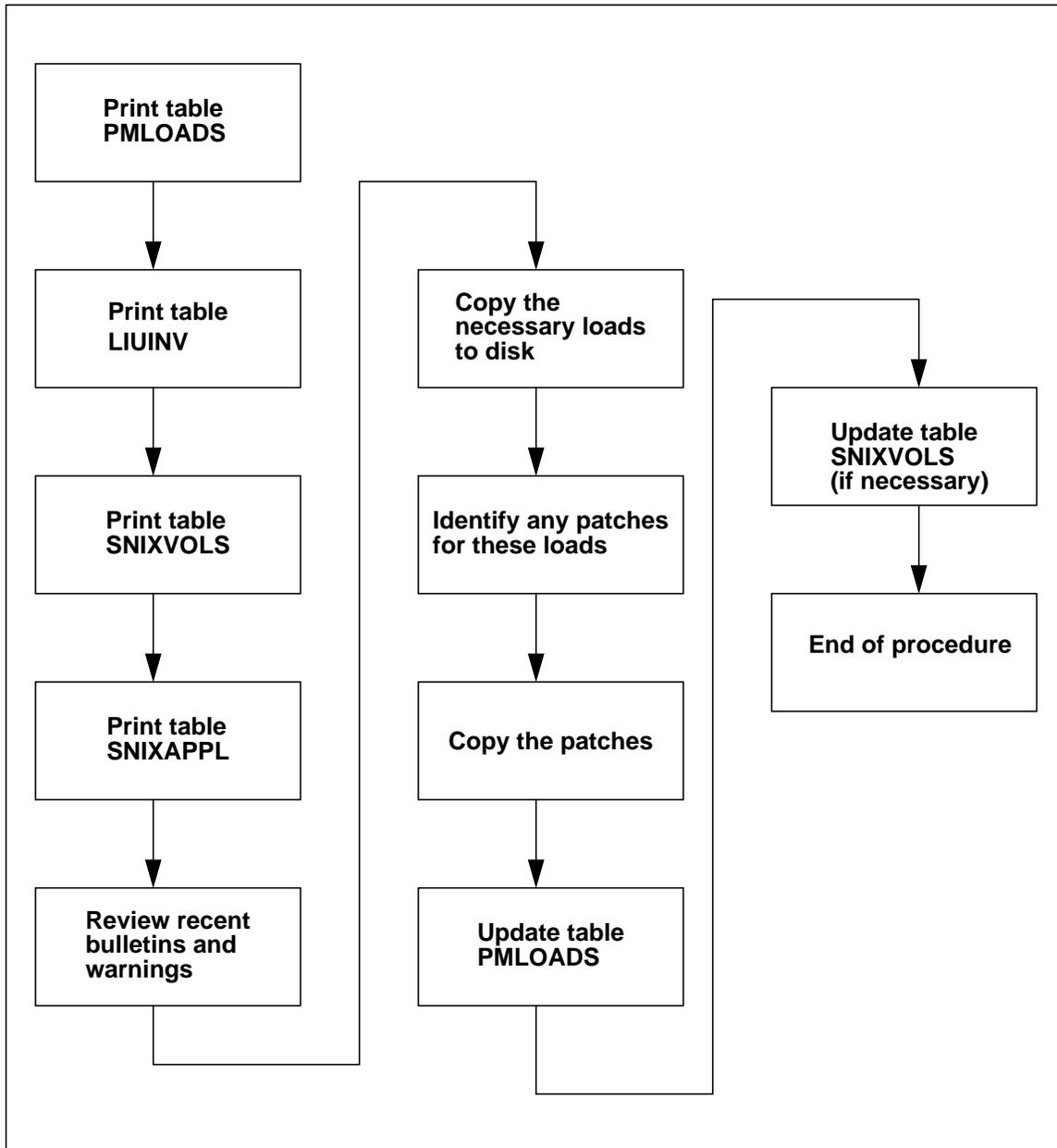
Not Applicable

Notes

This procedure will create a PMLOAD alarm under the PM banner. This is a minor alarm generated when there is a mismatch between the datafilled PM loads in table PMLOADS and the existing software loads on disk. Local policy may require modifications in this procedure and "Starting a PM update shift" to reduce the number and length of PMLOAD alarms.

Preparing for an ADAS PM update

Summary of procedure

```
┌──────────────────────────────────────────────────────────────────────────┐
│                                                                            │
│   ┌─────────────────┐                                                      │
│   │ Print table     │                                                      │
│   │ PMLOADS         │                                                      │
│   └────────┬────────┘                                                      │
│            │                                                               │
│            ▼                                                               │
│   ┌─────────────────┐     ┌─────────────────┐     ┌─────────────────┐      │
│   │ Print table     │     │ Copy the        │     │ Update table    │      │
│   │ LIUINV          │     │ necessary loads │     │ SNIXVOLS        │      │
│   │                 │     │ to disk         │     │ (if necessary)  │      │
│   └────────┬────────┘     └────────┬────────┘     └────────┬────────┘      │
│            │                       │                       │               │
│            ▼                       ▼                       ▼               │
│   ┌─────────────────┐     ┌─────────────────┐     ┌─────────────────┐      │
│   │ Print table     │     │ Identify any    │     │                 │      │
│   │ SNIXVOLS        │     │ patches         │     │ End of procedure│      │
│   │                 │     │ for these loads │     │                 │      │
│   └────────┬────────┘     └────────┬────────┘     └─────────────────┘      │
│            │                       │                                       │
│            ▼                       ▼                                       │
│   ┌─────────────────┐     ┌─────────────────┐                             │
│   │ Print table     │     │                 │                             │
│   │ SNIXAPPL        │     │ Copy the patches│                             │
│   └────────┬────────┘     └────────┬────────┘                             │
│            │                       │                                       │
│            ▼                       ▼                                       │
│   ┌─────────────────┐     ┌─────────────────┐                             │
│   │ Review recent   │     │ Update table    │                             │
│   │ bulletins and   │     │ PMLOADS         │                             │
│   │ warnings        │     │                 │                             │
│   └─────────────────┘     └─────────────────┘                             │
│                                                                            │
└──────────────────────────────────────────────────────────────────────────┘
```

Preparing for an ADAS PM update

Steps of procedure

At the CI level of the MAP

Step	Action
1	Redirect the responses of the terminal to a printer by typing

>RECORD START ONTO printer_name

and pressing the Enter key.

where

printer_name   is the name of the printer

Example

>RECORD START ONTO PRT1

| 2 | Print the contents of table PMLOADS by typing |

>TABLE PMLOADS;LIST ALL;QUIT

and pressing the Enter key.

| 3 | Print the contents of table LIUINV by typing |

>TABLE LIUINV;LIST ALL;QUIT

and pressing the Enter key.

| 4 | Print the contents of table SNIXVOLS by typing |

>TABLE SNIXVOLS;LIST ALL;QUIT

and pressing the Enter key.

| 5 | Print the contents of table SNIXAPPL by typing |

>TABLE SNIXAPPL;LIST ALL;QUIT

and pressing the Enter key.

| 6 | Restore the terminal's responses by typing |

>RECORD STOP ONTO printer_name

and pressing the Enter key.

where

printer_name   is the name of the printer

Example

Preparing for an ADAS PM update

>**RECORD STOP ONTO PRT1**

At your desk

7   Review all bulletins and warnings related to this update and this PM software release document.

8   Identify the loads and PM types to be updated by comparing the contents of tables PMLOADS and SNIXVOLS with the loads listed in the PM-to-load cross-reference table in "Overview of release" in this document. If the version of a load changes from the current release to the new release, the load must be updated.

9   Identify the PMs of each PM type to be updated. Use the contents of the PM inventory tables.

At the SLM tape drive

10   Copy the necessary loads to a SLM disk volume by performing the following steps.

    a.   Select a SLM disk volume as the volume for the new loads.

    b.   Place the PM load tape into the SLM tape drive of the selected SLM disk volume.

At the MAP display

    c.   Access the disk utility by typing

    >**DISKUT**

    and pressing the Enter key.

    d.   Insert the PM load SLM tape into the SLM tape drive by typing

    >**IT drive_name**

    and pressing the Enter key

    where

    drive_name   is the name of the SLM tape drive

    Example

    >**IT S00T**

    e.   List the contents of the tape by typing

    >**LF drive_name SHORT FIRST**

    and pressing the Enter key.

    where

Preparing for an ADAS PM update

drive_name   is the name of the SLM tape drive

Example

>**LF S00T SHORT FIRST**

f.   Verify that each load is on the tape.

g.   Copy one of the required load files to disk by typing

>**MFR STDVOL disk_vol drive_name** PLNA00017 **new_load**

and pressing the Enter key

where

disk_vol   is the name of the SLM disk volume

drive_name   is the name of the SLM tape drive

tape_vol   is the PCL-specific SLM tape cartridge vol name

new_load   is the name of the new ADAS PM load

Example

>**MFR STDVOL S00DADAS S00T** PLNA00017 ULC15BH

h.   Repeat the previous step for each load file to be copied. Note that the AAC12AB load should be copied to a DDU device.

i.   Eject the PM load SLM tape from the SLM tape drive by typing

>**ET drive_name**

and pressing the Enter key

where

drive_name   is the name of the SLM tape drive

Example

>**ET S00T**

11   Identify any patches for the loads to be updated and copy them to disk.

Refer to "Preparing for a PM update" in NA015 DMS-100 Family Peripheral Software Release Document, 297-8981-599 for instructions on identifying and copying patches.

12   Update table PMLOADS with the name of the new ULC and VPC loads.

a.   Access table PMLOADS by typing

>**TABLE PMLOADS**

Preparing for an ADAS PM update

and pressing the Enter key.

b. Add the new VPU load name (VPC15BH) by typing

>**ADD** VPC15BH VPC15BH **actvol** VPC15BH **bkpvol N**

and pressing the Enter key.

where

actvol   is the device on which the active load is stored

bkpvol   is the device on which the backup load is stored

Example

>**ADD** VPC15BH VPC15BH **S00DISN** VPC15BH **S00DISN N**

c. Confirm the addition by typing

>**Y**

and pressing the Enter key.

d. Add the new APU load name (ULC15BH) by typing

>**ADD** ULC15BH ULC15BH **actvol** ULC15BH **bkpvol N**

and pressing the Enter key.

where

actvol   is the device on which the active load is stored

bkpvol   is the device on which the backup load is stored

Example

>**ADD** ULC15BH ULC15BH **S00DISN** ULC15BH **S00DISN N**

e. Confirm the addition by typing

>**Y**

and pressing the Enter key.

f. Exit table PMLOADS by typing

>**QUIT**

and pressing the Enter key.

13   Add a tuple to table SNIXVOLS with the name of the new AAC load. If the AAC12AB tuple already exists in SNIXVOLS, skip this step. There is no need to update the existing tuple.

Preparing for an ADAS PM update

ATTENTION

The *fsname* field of SNIXVOLS tuples must have a unique name. Past convention has been to use names such as ADASLD*x*, where *x* is a unique number. Note that the *fsname* chosen for this tuple will be referenced later on by datafill in the SNIXAPPL table. Failure to reference the correct AAC load can result in the APUs not coming into service.

---

    a. Access table SNIXVOLS by typing

       >TABLE SNIXVOLS

       and pressing the Enter key.

    b. Add the new AAC load name by typing

       >ADD index fsname AAC12AB **actvol** AAC12AB **bkpvol**

       $ RO

       where

       index   is an unused index between 0 and 15

       fsname   is a unique load name

       actvol   is the device on which the active load is stored

       bkpvol   is the device on which the backup load is stored

       Example

       >ADD 2 ADASLD3 AAC12AB **D00ADAS** AAC12AB

       D01ADAS $ RO

Note: The AAC12AB load should reside on DDU devices.

Note: Enter the ADD command on a single line. Do not use the Enter key to break the commands into two lines. The formatting of this document causes the example to wrap to two lines.

    c. Confirm the addition by typing

       >Y

       and pressing the Enter key.

Preparing for an ADAS PM update

14   You have completed this procedure and successfully prepared the office for an ADAS PM update. The ADAS PM update must now be scheduled. Refer to "Overview of release" and "Overview of process" in this document.

Starting an ADAS PM update shift

Application

> **ATTENTION**
>
> Only maintenance technicians experienced with PM loading should perform this procedure.

Use this procedure to prepare an office for an ADAS peripheral module (PM) update. Perform this procedure once after receiving the ADAS PM load tapes and patch tapes.

Note: *Beginning in early 2000, ADAS PM loads and patches are included on the NA100 PM Load tape. A separate ADAS PM load tape will no longer be issued.*

Prerequisites

None

Update sequence

Subtending PMs

Not applicable

Serving PMs
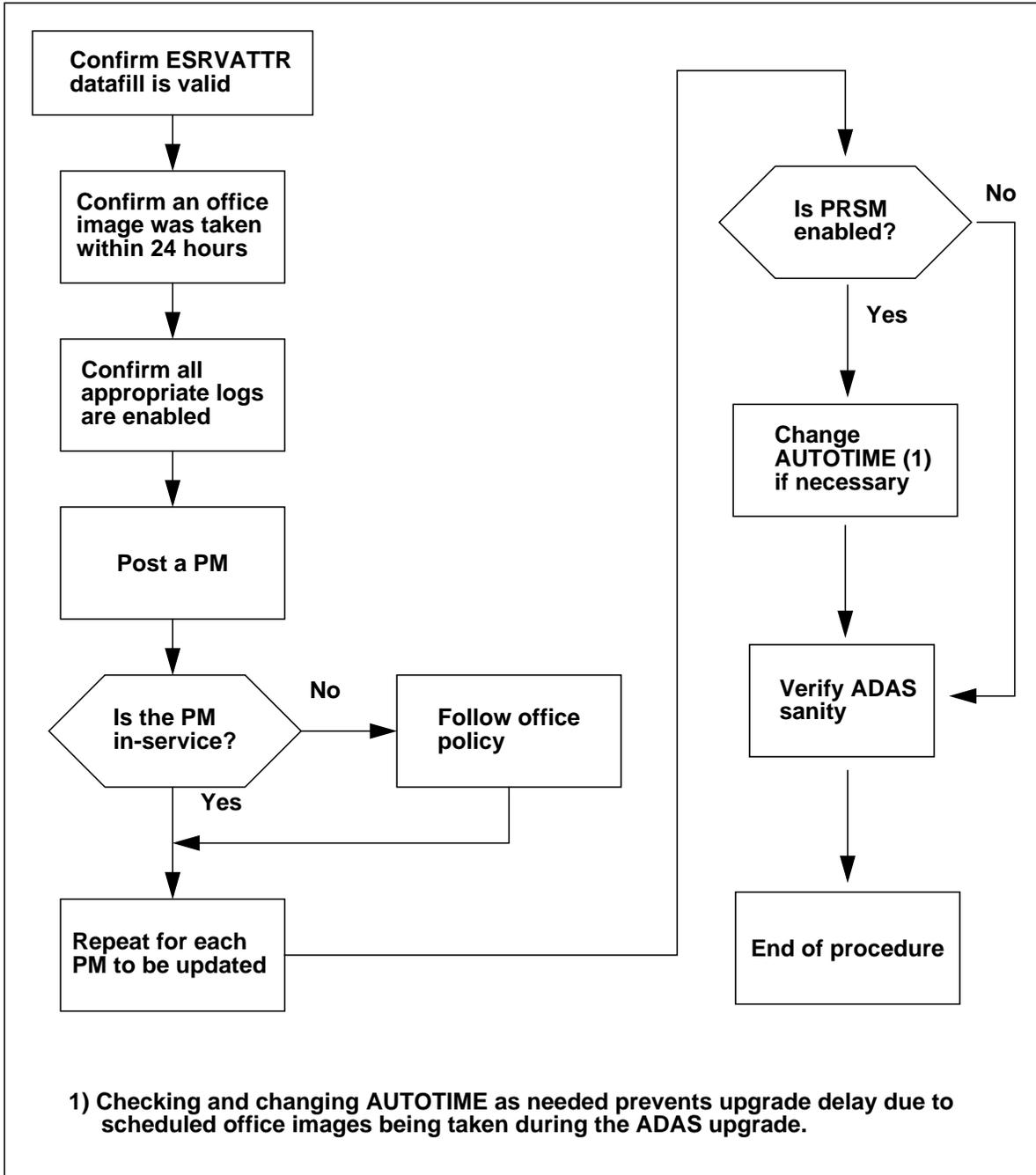
Not applicable

Notes

This procedure will create a PMLOAD alarm under the PM banner. This is a minor alarm generated when there is a mismatch between the datafilled PM loads in table PMLOADS and the existing software loads on disk. Local policy may require modifications in this procedure and "Preparing for an ADAS PM update shift" to reduce the number and length of PMLOAD alarms.

Starting an ADAS PM update shift

Summary of procedure

```
Confirm ESRVATTR
datafill is valid
        |
        v
Confirm an office
image was taken
within 24 hours
        |
        v
Confirm all
appropriate logs
are enabled
        |
        v
Post a PM
        |
        v
Is the PM        ---No-->   Follow office
in-service?                 policy
        |                        |
       Yes                       |
        |<-----------------------+
        v
Repeat for each
PM to be updated --------------------------+
                                           |
                                           v
                          Is PRSM      ---No--+
                          enabled?            |
                              |               |
                             Yes              |
                              v               |
                          Change              |
                          AUTOTIME (1)        |
                          if necessary        |
                              |               |
                              v               |
                          Verify ADAS  <------+
                          sanity
                              |
                              v
                          End of procedure
```

1) Checking and changing AUTOTIME as needed prevents upgrade delay due to scheduled office images being taken during the ADAS upgrade.

Starting an ADAS PM update shift

Steps of procedure

> **ATTENTION**
>
> Follow office policy if a command fails during this procedure. If an RTS command fails, for example, office policy may require you to either contact the next level of support, terminate all update activities for the shift, troubleshoot the problem and return the PM to service, or select another PM to update. Office policy may vary by PM type.

At the CI level of the MAP display

1   Confirm that datafill for table ESRVATTR is still valid for the office's SLM configuration. Offices that have performed SLM upgrades or maintenance may have invalidated this datafill by changing SLM volume names or file names.

    a. Display the ESRVATTR table by typing

> **TABLE ESRVATTR; LIST ALL**

    b. In pre-TOP11 CM loads, the ADAS CPE tuple will have a SRVDATA field of the form: S00DADAS CPEDATA.

       In TOP11 and newer CM loads, the ADAS CPE tuple's SRVDATA field will display as: CPEDATA. In these CM loads, the datafill for the SRVDATA field points to a tuple in table PMLOADS which shows where the CPEDATA file can be found. List the PMLOADS tuple to determine the name of the SLM volume containing CPEDATA.

       Note: S00DADAS is an office specific SLM volume name and CPEDATA is an office specific service data file name. Note that the service data file name is arbitrary and may have another name such as ADSSRVDA.

    c. Verify the datafill is still valid by locating the service data file on the datafilled SLM volume. Do this by typing

> **DISKUT**

       and pressing the Enter key.

    d. List the file contents of the volume datafilled in table ESRVATTR.

> **LF volume**

       where *volume* is the SLM name referenced in the ESRVATTR or PMLOADS tuple for the CPEDATA file. Press the Enter key.

    e. Verify that the datafilled service data file name is present on the SLM volume just listed. If the file is present on the SLM volume, then the

Starting an ADAS PM update shift

ESRVATTR (or PMLOADS) datafill is still valid. Proceed to step 2. If the file is not present on the SLM volume or the SLM volume no longer exists, then continue with this substep.

Locate the SLM volume containing the service data file. Use the "PRINT ROOTDIR" command to get a device list. From within DISKUT, use the "LF volume" command to list the contents of each SLM volume until the service data file is located.

If the service data file is located on another SLM volume, correct the PMLOADS or ESRVATTR datafill, as described in the remainder of this step, to point to the proper volume and file.

If the service data file cannot be located on any SLM volume, then choose an existing SLM volume to datafill in ESRVATTR. By convention, the ADAS service data file and audio data files reside on the same SLM volume.

If the CM load is TOP11 or newer, then correct the SLM volume datafill in the PMLOADS "CPEDATA" tuple to point to the proper volume and file. If the current CM load is pre-TOP11 then correct the ESRVATTR datafill, as described in the remainder of this step, to point to the proper volume and file.

> **QUIT ALL; TABLE ESRVATTR;**

and pressing the Enter key.

Add the ADAS CPE service data tuple by typing

> **POS ADAS CPE**

and pressing the Enter key.

The next command is required to gain write access to the ESRVATTR table. NOTE: the maintenance technician performing this procedure may wish to contact their next internal level of support before continuing, Follow office policy regarding access to write protected tables.

Enable tuple changes by typing

> **ENGWRITE ON**

and pressing the Enter key. Correct the tuple by typing

> **CHA SRVDATA volume file**

where *volume* is the SLM volume name containing the service data file and *file* is the name of the service data file.

Starting an ADAS PM update shift

Press the Enter key and type Y, as prompted, to confirm the changes and save the tuple.

Confirm that the tuple change occurred by typing

> **POS ADAS CPE**

and pressing the Enter key. Verify that the tuple now has the correct datafill. If not, repeat the changes to the ADAS CPE tuple.

When done, type

> **ENGWRITE OFF**

and press the Enter key.

ATTENTION

After correcting the ESRVATTR datafill, the "ENGWRITE OFF" command **must** be executed. Otherwise, write protected engineering tables will be accessible for change. Improper changes to critical tables can cause a DMS service outage.

---

f. If in the previous substep, the datafilled service data file was found on a SLM volume, and the ESRVATTR datafill corrected; then skip this substep and proceed to step 2. If the datafilled service data file was not found on any SLM volume, then continue with this substep. From the ADAS OA&M Position (workstation), perform a CPE data upload as follows:

i. Login to the ADAS OA&M Position if an active session is not already available.

ii. To perform the CPE data upload, position the mouse cursor on the *Advanced Services* icon and access the pull-down menu by pressing and holding the right mouse button. Select *Service Data Administration* from this menu and release the right mouse button.

iii. When the Service Data Manager window opens, position the mouse cursor on the window title bar over the Service Data Manger title. Press and hold the right mouse button to access the pull-down menu. Select *Upload* and release the right mouse button.

iv. If a dialog box appears with the comment *CPE service data will be uploaded*, click on the *Upload* button with the left mouse button to perform the upload. If a dialog box appears with the comment *No service data needs to be uploaded...,* click on the *CPE Upload* box and then click on the *Upload* button to perform the upload. Within

Starting an ADAS PM update shift

several minutes, a dialog box will appear to confirm that the upload successfully completed.

2   Confirm that an office image has been taken within the last 24 hours by performing the following steps.

a. Display a list of recent office images by typing

>**AUTODUMP STATUS**

and pressing the Enter key.

b. Review the list of successful images and determine if an office image has been successfully taken in the last 24 hours.

3   Confirm that all PM logs are enabled by performing the following steps.

a. Access LOGUTIL by typing

>**LOGUTIL**

and pressing the Enter key.

b. List all the log reports that are suspended or have thresholds by typing

>**LISTREPS SPECIAL**

and pressing the Enter key.

c. Record any PM log numbers that are suspended, and record the numbers and threshold values of any PM logs that have thresholds.

d. Resume any PM logs that are suspended by typing

>**RESUME PM log_no**

and pressing the Enter key.

where

log_no   is the number of the log to be resumed

Note: Multiple logs can be resumed by telescoping the log numbers on the single RESUME command. All PM logs can be resumed with the command RESUME PM and no log numbers.

Example

>**RESUME PM 129 181**

e. Change the threshold to 0 for any logs that have thresholds by typing

>**THRESHOLD 0 PM log_no**

and pressing the Enter key.

Starting an ADAS PM update shift

where

log_no   is the number of the log

Note: Multiple logs can be thresholded by telescoping the log numbers on the single THRESHOLD command. All PM logs can be thresholded with the command THRESHOLD PM and no log numbers.

f.   Exit LOGUTIL by typing

>QUIT

and pressing the Enter key.

4   Access the PM level of the MAP display by typing

>MAPCI;MTC;PM

and pressing the Enter key.

5   Post one of the VPUs to be updated by typing

>POST VPU vpu_no

and pressing the Enter key.

where

vpu_no   is the number of the VPU

If the VPU is	Do
not in-service	step 6
in-service	step 7

6   Determine the fault condition of the VPU by typing

>QUERYPM FLT

and pressing the Enter key.

The VPU must be in-service to be updated. Refer to the ATTENTION box preceding the steps of this procedure for assistance. If you are able to return the VPU to service, go to step 7.

7   Repeat step 5 (and 6, if needed) for each VPU to be updated this shift.

8   Post one of the APUs to be updated by typing

Starting an ADAS PM update shift

>**POST APU apu_no**

and pressing the Enter key.

where

apu_no   is the number of the APU

If the APU is	Do
not in-service	step 9
in-service	step 10

9   Determine the fault condition of the APU by typing

>**QUERYPM FLT**

and pressing the Enter key.

The APU must be in-service to be updated. Refer to the ATTENTION box preceding the steps of this procedure for assistance. If you are able to return the APU to service, go to step 10.

10   Repeat step 8 (and 9, if needed) for each APU to be updated this shift.

11   Return to the CI level of the MAP by typing

>**QUIT ALL**

and pressing the Enter key.

12   Confirm that the start time of the AUTOAPP process does not conflict with the start time of the ADAS PM update. For instructions on how to do this refer to "Starting a PM update shift in NA015 DMS-100 Family Peripheral Software Release Document, 297-8981-599.

13   Verify that the current ADAS load is working properly. Follow office policy regarding ADAS sanity testing. At a minimum, a Directory Assistance test call should be placed that receives ADAS services. Verify that ADAS performs as expected based on the current datafill.

Should ADAS fail sanity testing, find and correct the service problem before proceeding with the ADAS PM upgrade.

14   You have completed this procedure. Perform the appropriate update procedures in this document, based on the update schedule established for the office. When the shift is completed, perform the procedure "Finishing an ADAS PM update shift."

Note: **Continue the PM upgrade with the *Updating the APUs* section.**

Updating the VPUs

Application

> **CAUTION**
> **Possible service interruption**
> Perform this procedure during a maintenance window or a period of low traffic.

Use this procedure to update a single VPU peripheral module (PM) to the new VPC15BH load.

Prerequisites

Office and PM conditions

This procedure requires that the office and the VPU to be updated meet the following conditions prior to updating

- The new load name is datafilled in table PMLOADS

- An office image has been taken in the last 24 hours.

- All PM logs are enabled.

- The VPU is in-service.

Performing the procedure "Preparing for an ADAS PM update" and "Starting an ADAS PM update shift" in this document will ensure these prerequisites are met.

Required information

This procedure will answer the following questions

- Does the new load have patches?

- Do the patches have to be applied during this procedure, or were they applied as part of a previous update procedure?

- Is PRSM enabled in the office?

Updating the VPUs

Update Sequence

Subtending PMs

None

Serving PMs

Due to the nature of the ADAS application, the APU is a serving PM to the VPU. The APUs should be updated as soon as possible after all of the VPUs are successfully updated.

The network interface unit (NIU) is also a serving PM to the VPU. The NIUs should be updated as soon as possible after all their subtending PMs are successfully updated.

Note: The NIU may have subtending PMs of types other than VPU. Refer to "Updating the NIU" in NA015 DMS-100 Family Peripheral Software Release Document, 297-8981-599 for further information.

The link interface module (LIM) is also a serving PM to the VPU. The LIM should be updated as soon as possible after all its subtending PMs are successfully updated.
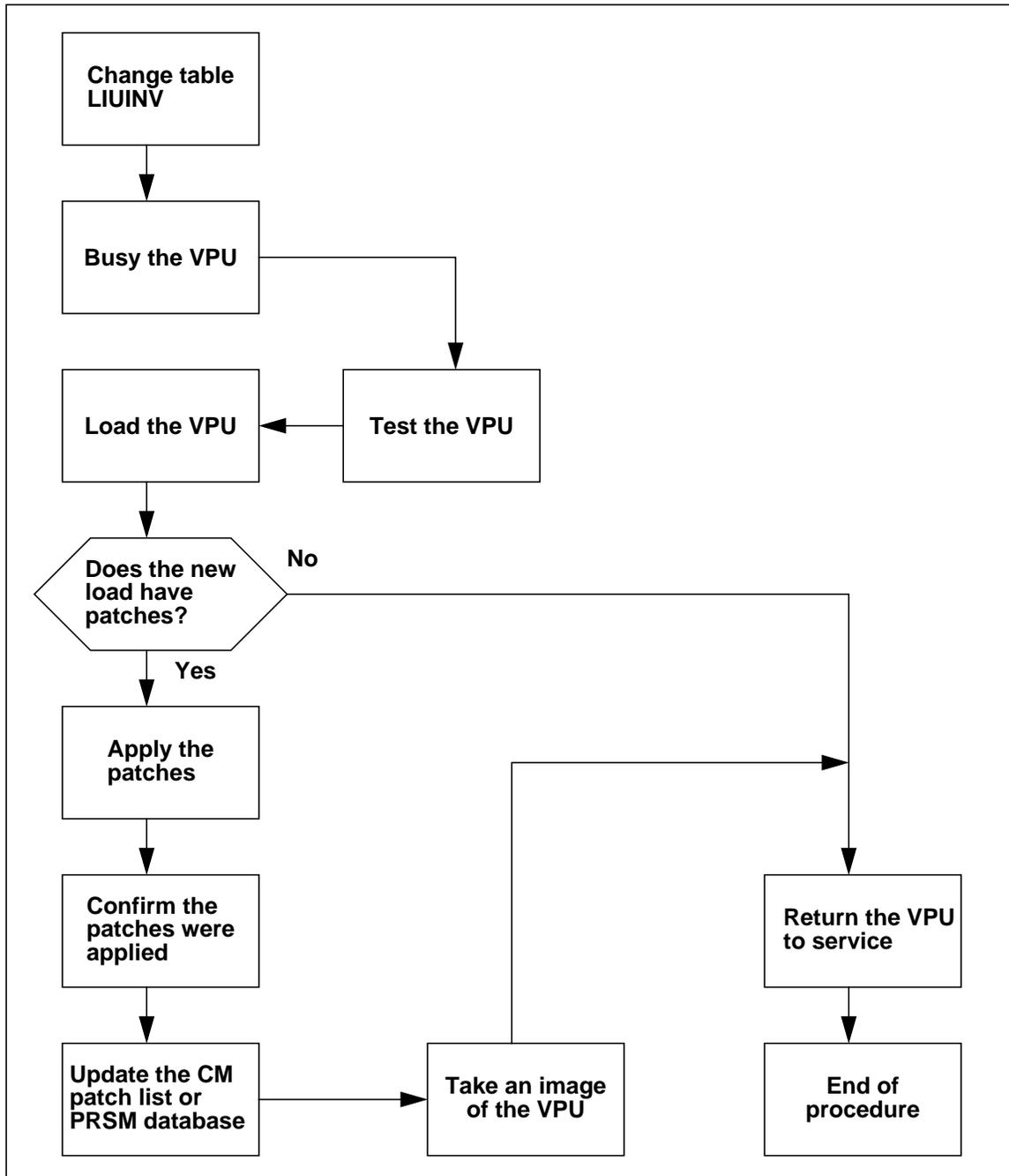
The LIM may have subtending PMs of types other than VPU and APU. Refer to "Updating the LIM" in NA015 DMS-100 Family Peripheral Software Release Document, 297-8981-599 for further information.

Notes

None

Updating the VPUs

Summary of procedure

```
┌─────────────────┐
│ Change table    │
│ LIUINV          │
└────────┬────────┘
         │
         ▼
┌─────────────────┐
│ Busy the VPU    │──────────────┐
│                 │              │
└─────────────────┘              ▼
                         ┌─────────────────┐
┌─────────────┐          │ Test the VPU    │
│ Load the VPU │◄────────│                 │
│             │          └─────────────────┘
└──────┬──────┘
       │
       ▼
    ╱────────╲              No
   ╱ Does the ╲──────────────────────┐
  ╱  new load  ╲                     │
  ╲  have       ╱                    │
   ╲ patches?  ╱                     │
    ╲────┬────╱                      │
         │ Yes                       │
         ▼                           │
┌─────────────┐                      │
│ Apply the   │                      │
│ patches     │          ┌───────────────►┐
└──────┬──────┘          │               │
       │                 │               ▼
       ▼                 │     ┌─────────────────┐
┌─────────────┐          │     │ Return the VPU  │
│ Confirm the │          │     │ to service      │
│ patches were│          │     └────────┬────────┘
│ applied     │          │              │
└──────┬──────┘          │              ▼
       │                 │     ┌─────────────────┐
       ▼                 │     │ End of          │
┌─────────────┐  ┌──────────┐  │ procedure       │
│ Update the CM│  │ Take an  │  └─────────────────┘
│ patch list or│─►│ image    │
│ PRSM database│  │ of the   │
└─────────────┘  │ VPU      │
                 └──────────┘
```

Updating the VPUs

Steps of procedure

> **ATTENTION**
> Follow office policy if a command fails during this procedure. If an RTS command fails, for example, office policy may require you to either contact the next level of support, terminate all update activities for the shift, troubleshoot the problem and return the VPU to service, or select another VPU to update. Office policy may vary by PM type.

At the CI level of the MAP display

1   Select a VPU to update.

2   Review the introduction to this procedure. All prerequisites must be met before beginning this procedure.

3   Update the PM inventory table by performing the following steps.

a.   Access the inventory table by typing

   >**TABLE LIUINV**

   and pressing the Enter key.

b.   Position on the datafill tuple for the VPU to be updated by typing

   >**POS VPU vpu_no**

   and pressing the Enter key.

   where

   vpu_no   is the number of the VPU

c.   Change the load name to the new load name by typing

   >**CHA LOAD** VPC15BH

   and pressing the Enter key.

d.   Confirm the change by typing

   >**Y**

   and pressing the Enter key.

e.   Repeat steps b and c for each VPU in LIUINV. Exit the table by typing

   >**QUIT**

   and pressing the Enter key.

Updating the VPUs

If the VPC15BH load	Do
needs to be patched	step 6
has been patched	step 4
does not have patches	step 6

4 Set the loadset to the VPU by performing the following steps.

    a. Access the PRSM utility by typing

       >PRSM

       and pressing the Enter key.

    b. Identify the load.

       >REPORT DEST VPU vpu_no

       and press the Enter key

       Then type:

       >DBAUDIT VPU vpu_no

       and press the Enter key

       Then type:

       >REPORT DEST VPU vpu_no

       where

       vpu_no   is the number of the VPU

5 Exit the utility by typing

    >QUIT

    and pressing the Enter key.

6 Access the PM level of the MAP display by typing

    >MAPCI; MTC; PM

    and pressing the Enter key.

7 Post the VPU by typing

Updating the VPUs

>**POST VPU vpu_no**

and pressing the Enter key.

where

vpu_no   is the number of the VPU

8   Ensure the VPU will successfully pass an out-of-service test by performing the following steps.

    a. Busy the VPU by typing

      >**BSY**

      and pressing the Enter key.

    b. Test the VPU by typing

      >**TST**

      and pressing the Enter key.

9   Load the VPU by typing

⚠	**CAUTION** **Possible service interruption** Apply patches immediately after updating the load. Failure to do so will increase administrative time and could lead to service interruption.

>**LOADPM**

and pressing the Enter key.

If the VPC15BH load	Do
has patches	step 10
does not have patches	step 16

10   Apply the patches by performing the following steps.

    a. Access the PRSM utility by typing

      >**PRSM**

      and pressing the Enter key.

Updating the VPUs

If the VPC15BH load	Do
needs to be patched	step 10b
has been patched	step 11

    b.   Apply the patches by typing

       >APPLY patch_name IN VPU vpu_no

       and pressing the Enter key.

       where

       patch_name   is the name of the patch (repeat as required)

       vpu_no   is the number of the VPU

       Example

       >APPLY PAT34IY5 IN VPU 0

11   Update the PRSM database according to the VPUs current database by typing

       >DBAUDIT VPU vpu_no

       and pressing the Enter key.

       where

       vpu_no   is the number of the VPU

12   Confirm the VPU has been properly patched by performing the following steps.

    a.   Display the patch list by typing

       >REPORT DEST VPU vpu_no

       and pressing the Enter key.

       where

       vpu_no   is the number of the VPU

    b. Compare the displayed patch list with the list of patches, from the patch tape or C-SCAN, for the new load. If the patch lis is missing patches for the new load, re-apply the missing patch and return to this step.

13   Quit the utility by typing

       >QUIT

Updating the VPUs

and pressing the Enter key.

14   Take an image of the VPU

ATTENTION

Take an image of the VPU load immediately after patching. Use this image to reload VPUs with the patched load. If an image is not taken, patches will have to be manually applied each time a VPU is reloaded.

---

a.   Access the disk utility by typing

>**DISKUT**

and pressing the Enter key.

b.   Take an image of the newly applied VPU by typing

>**DUMP** VPC15BH **dev_name NODE VPU vpu_no**

and pressing the Enter key.

where

vol_name   is the name of the volume that the original image is stored on (from PMLOADS)

vpu_no   is the number of the VPU

Example

>**DUMP** VPC15BH **S00DISN NODE VPU 0**

c.   List the SLM volume by typing

>**LF vol_name**

and pressing the Enter key.

where

vol_name   is the name of the volume from the previous step

Note: _VPU will have been appended to the image filename.

d.   Check to see if a VPC15BH file already exists. If not, proceed to the next substep. If VPC15BH exists, delete the original load file by typing

>**DDF** VPC15BH

and pressing the Enter key.

Updating the VPUs

e. Confirm the delete by typing

   >Y

   and pressing the Enter key.

f. Rename the new image by typing

   >RNF VPC15BH_**VPU** VPC15BH

   and pressing the Enter key.

g. Exit the disk utility by typing

   >QUIT

   and pressing the Enter key.

15 Perform a NIL change to the load name in table PMLOADS by performing the following steps.

a. Access table PMLOADS by typing

   >TABLE PMLOADS

   and pressing the Enter key.

b. Position on the datafill tuple for the load by typing

   >POS VPC15BH

   and pressing the Enter key.

c. Make a NIL change by typing

   >CHA LOAD VPC15BH

   and pressing the Enter key.

d. Confirm the unchanged tuple by typing

   >Y

   and pressing the Enter key.

e. Exit table PMLOADS by typing

   >QUIT

   and pressing the Enter key.

16 Return the VPU to service by typing

   >RTS

and pressing the Enter key.

Updating the VPUs

17 You have successfully updated the VPU and completed this procedure. Repeat this procedure for additional VPUs to update during this shift. Note that the patched image can be used to load the remaining VPUs.

Note: **Continue the PM upgrade with the** *Updating the ADAS OA&M Position* **section.**

Updating the APUs

Application

> ⚠️ **CAUTION**
> **Possible service interruption**
> Perform this procedure during a maintenance window or a period of low traffic.

Use this procedure to update a single APU peripheral module (PM) to the new ULC15BH load.

Prerequisites

Office and PM conditions

This procedure requires that the office and the APU to be updated meet the following conditions prior to updating

- The new load names are datafilled in table PMLOADS
- An office image has been taken in the last 24 hours.
- All PM logs are enabled.
- The APU is in-service.

Performing the procedure "Preparing for an ADAS PM update" and "Starting an ADAS PM update shift" in this document will ensure these prerequisites are met.

Required information

This procedure will answer the following questions

- Does the new load have patches?
- Do the patches have to be applied during this procedure, or were they applied as part of a previous update procedure?
- Is PRSM enabled in the office?

Updating the APUs

Update Sequence

Subtending PMs

Due to the nature of the ADAS application, the VPU is a subtending PM to the APU. All VPUs must be updated prior to updating any APUs. Refer to "Updating the VPUs" in this document for information on updating the VPUs.

Serving PMs

Due to the nature of the ADAS application, the APU is a serving PM to the ADAS OA&M Position. The ADAS OA&M Position should be updated as soon as possible after all of the APUs are successfully updated.

The link interface module (LIM) is also a serving PM to the APU. The LIM should be updated as soon as possible after all its subtending PMs are successfully updated.

The LIM may have subtending PMs of types other than VPU and APU. Refer to "Updating the LIM" in NA015 DMS-100 Family Peripheral Software Release Document, 297-8981-599 for further information.

Notes

None

Updating the APUs

Summary of procedure

```
Change table          Load the APU
LIUINV
    │                      │
    ▼                      ▼
Busy the APU          Does the new ───── No ──────┐
    │                 load have                     │
    ▼                 patches?                       │
Test the APU              │ Yes                      │
    │                     ▼                           │
    ▼                 Apply the                       │
Is AAC load           patches                         │
current? ── Yes ──┐       │                           │
    │             │       ▼                           │
    │ No          │   Confirm the ──────┐             │
    ▼             │   patches were       │            │
Change table      │   applied            │            ▼
SNIXAPPL          │       │               │      Return the APU
    │             │       ▼               │      to service
    │             │   Update the CM       │            │
    └─────────────┘   patch list or       │            ▼
                      PRSM database        │      Sanity test ADAS
                          │                │      and troubleshoot
                          ▼                │      as needed
                      Take an image ───────┘            │
                      of the APU                        ▼
                                                   End of
                                                   Procedure
```
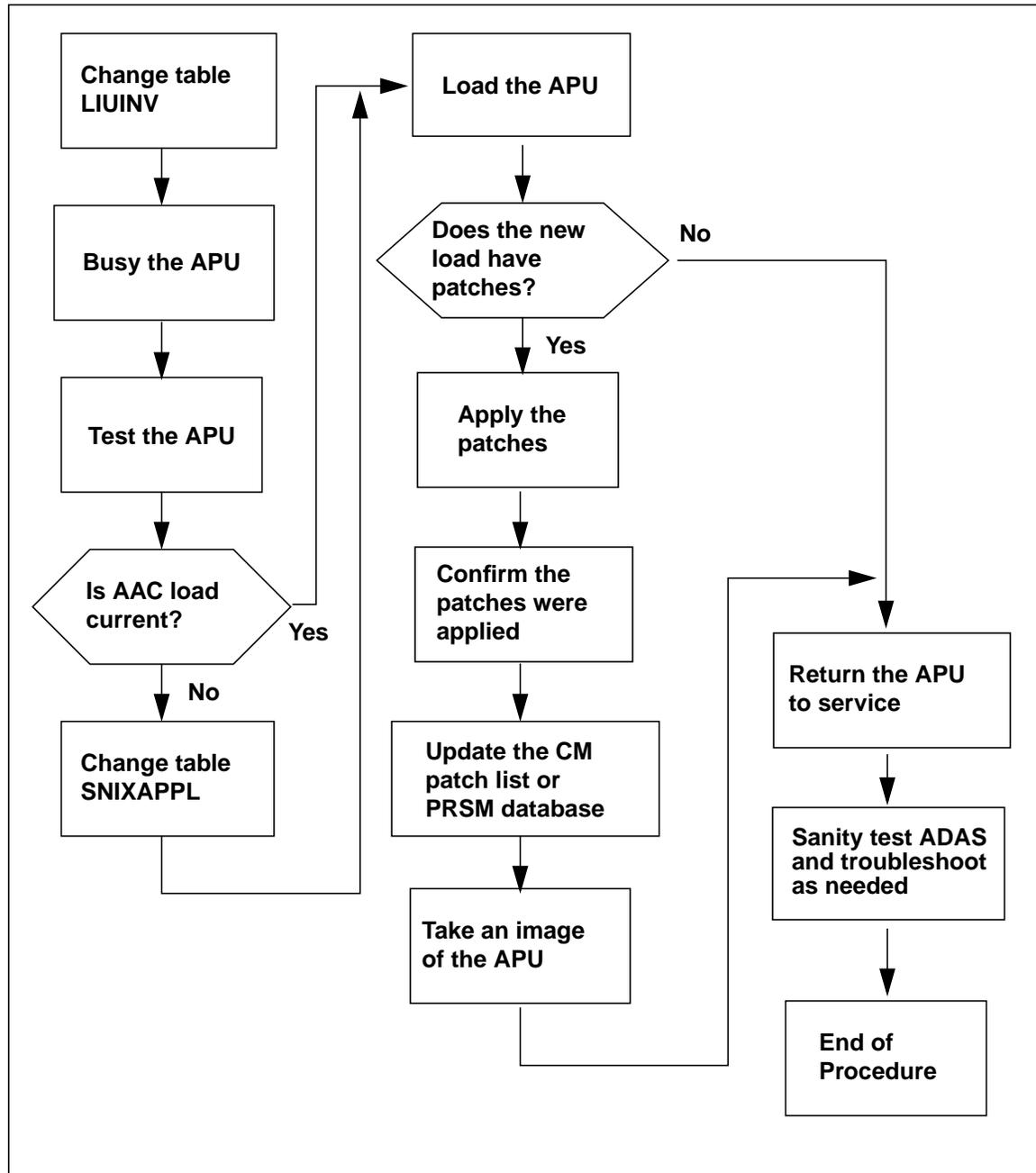
Updating the APUs

Steps of procedure

> **ATTENTION**
> Follow office policy if a command fails during this procedure. If an RTS command fails, for example, office policy may require you to either contact the next level of support, terminate all update activities for the shift, troubleshoot the problem and return the APU to service, or select another APU to update. Office policy may vary by PM type.

At the CI level of the MAP display

1   Select an APU to update.

2   Review the introduction to this procedure. All prerequisites must be met before beginning this procedure.

3   Update table LIUINV by performing the following steps.

    a. Access table LIUINV by typing

       >TABLE LIUINV

       and pressing the Enter key.

    b. Position on the datafill tuple for the APU to be updated by typing

       >POS APU apu_no

       and pressing the Enter key.

       where

       apu_no   is the number of the APU

    c. Change the load name to the new load name by typing

       >CHA LOAD ULC15BH

       and pressing the Enter key.

    d. Confirm the change by typing

       >Y

       and pressing the Enter key.

    e. Repeat steps b and c for each APU in LIUINV. Exit the table by typing

Updating the APUs

>**QUIT**

and pressing the Enter key.

If the ULC15BH load	Do
needs to be patched	step 6
has been patched	step 4
does not have patches	step 6

4 Set the loadset to the APU by performing the following steps.

    a.   Access the PRSM utility by typing

>**PRSM**

and pressing the Enter key.

    b.   Identify the load.

>**REPORT DEST APU apu_no**

and press the Enter key

Then type:

>**DBAUDIT APU apu_no**

and press the Enter key

Then type:

>**REPORT DEST APU apu_no**

and press the Enter key

where

apu_no   is the number of the APU

5 Exit the utility by typing

>**QUIT**

and pressing the Enter key.

Updating the APUs

6   Access the PM level of the MAP display by typing

>MAPCI; MTC; PM

and pressing the Enter key.

7   Post the APU by typing

>POST APU apu_no

and pressing the Enter key.

where

apu_no   is the number of the APU

8   Ensure the APU will successfully pass an out-of-service test by performing the following steps.

a.   Busy the APU by typing

>BSY

and pressing the Enter key.

b.   Test the APU by typing

>TST

and pressing the Enter key.

ATTENTION

Table SNIXAPPL cross-references table SNIXVOLS to locate the AAC load to be used by the APUs. Before proceeding with SNIXAPPL data-fill, locate the SNIXVOLS tuple which references the **AAC12AB** load. Note the *fsname* field value in this SNIXVOLS tuple. Names such as ADASLD1, ADASLD2 or ADASLD3 are commonly used as the *fsname*.

---

9   If all the APUs are not already referencing the correct ADASLDx tuple in table SNIXAPPL, then perform the following steps. Otherwise proceed to step 9.

a.   Access table SNIXAPPL by typing

>TABLE SNIXAPPL

and pressing the Enter key.

b.   Position of the tuple to be changed by typing

Updating the APUs

>**POS index**

where

index   is the index of the tuple corresponding to the APU being updated

Note: The index is the first field in the SNIXAPPL tuple and does not necessarily correspond to the number of the APU being updated.

c. Initiate the tuple change by typing

>**CHA**

and pressing the Enter key.

d. Press the Enter key TWICE to accept the current values for fields NODETYPE and NODENO.

Note: These fields should indicate the APU which is being updated. If not, do not change them, but rather type ABORT and press the Enter key. Return to step 9b and be sure you are using the correct index.

e. Enter the new value for field FSNMLIST by typing

>**fsname**

and pressing the Enter key.

where

fsname   is the name datafilled in the fsname field of the table SNIXVOLS tuple which refers to the AAC12AB load.

f. Terminate the input for field FSNMLIST by typing

>**$**

and pressing the Enter key.

g. Input the new value for field INITFSM by typing

>**fsname**

and pressing the Enter key.

where

fsname   is the name datafilled in the fsname field of the table SNIXVOLS tuple which refers to the AAC12AB load.

h. Continue to press the Enter key to retain the current values for the remaining fields in the tuple.

Updating the APUs

    i.   Confirm the change by typing

   >Y

   and pressing the Enter key.

    j.   Exit the table by typing

   >QUIT

   and pressing the Enter key.

10   Load the APU by typing

> **CAUTION**
> **Possible service interruption**
> Apply patches immediately after updating the load. Failure to do so will increase administrative time and could lead to service interruption.

   >LOADPM

   and pressing the Enter key.

If the ULC15BH load	Do
has patches	step 11
does not have patches	step 17

11   Apply the patches by performing the following steps.

    a.   Access the PRSM utility by typing

   >PRSM

   and pressing the Enter key.

Updating the APUs

If the ULC15BH load	Do
needs to be patched	step 11b
has been patched	step 12

    b.   Apply the patches by typing

>APPLY patch_name IN APU apu_no

and pressing the Enter key.

where

patch_name   is the name of the patch (repeat as required)

apu_no   is the number of the APU

Example

>APPLY PAT34IY5 IN APU 0

12   Update the PRSM database according to the APUs current database by typing

>DBAUDIT APU apu_no

and pressing the Enter key.

where

apu_no   is the number of the APU

13   Confirm the APU has been properly patched by performing the following steps.

    a.   Display the patch list by typing

>REPORT DEST APU apu_no

and pressing the Enter key.

where

apu_no   is the number of the APU

    b.   Compare the displayed patch list with the list of patches, from the patch tape or C-SCAN, for the new load. If the patch lis is missing patches for the new load, re-apply the missing patch and return to this step.

14   Quit the utility by typing

Updating the APUs

>**QUIT**

and pressing the Enter key.

15   Take an image of the APU

ATTENTION
Take an image of the APU load immediately after patching. Use the image to reload APUs with the patched load. If an image is not taken, patches will have to be manually applied each time an APU is reloaded.

---

a. Access the disk utility by typing

>**DISKUT**

and pressing the Enter key.

b. Take an image of the newly applied APU by typing

>**DUMP** ULC15BH **dev_name NODE APU apu_no**

and pressing the Enter key.

where

vol_name   is the name of the volume that the original image is stored on (from PMLOADS)

apu_no   is the number of the APU

Example

>**DUMP** ULC15BH **S00DISN NODE APU 0**

c. List the SLM volume by typing

>**LF vol_name**

and pressing the Enter key.

where

vol_name   is the name of the volume from the previous step

Note: _APU will have been appended to the image filename.

Updating the APUs

    d. Check to see if a $ULC15BH$ file already exists. If not, proceed to the next substep. If $ULC15BH$ exists, delete the load file by typing

    >DDF $ULC15BH$

    and pressing the Enter key.

    e. Confirm the delete by typing

    >Y

    and pressing the Enter key.

    f. Rename the new image by typing

    >RNF $ULC15BH\_$**APU** $ULC15BH$

    and pressing the Enter key.

    g. Exit the disk utility by typing

    >QUIT

    and pressing the Enter key.

16   Perform a NIL change to the load name in table PMLOADS by performing the following steps.

    a. Access table PMLOADS by typing

    >TABLE PMLOADS

    and pressing the Enter key.

    b. Position on the datafill tuple for the load by typing

    >POS $ULC15BH$

    and pressing the Enter key.

    c. Make a NIL change by typing

    >CHA LOAD $ULC15BH$

    and pressing the Enter key.

    d. Confirm the unchanged tuple by typing

    >Y

    and pressing the Enter key.

    e. Exit table PMLOADS by typing

    >QUIT

Updating the APUs

and pressing the Enter key.

17   Return the APU to service by typing

>RTS

and pressing the Enter key.

18   You have successfully updated the APU. Repeat this procedure for additional APUs to update during this shift. Note that the patched image can be used to reload the remaining APUs.

19   At this point in the PM update process, all the VPUs and APUs should be running the proper loads and contain the available patches. At this time, verify that ADAS service is still functioning. Follow office policy regarding how ADAS sanity testing is to be performed. At a minimum, a Directory Assistance test call should be placed that receives ADAS service. Verify that ADAS performs as expected based on the current datafill and service data. If sanity testing passes, then this procedure is complete. If sanity testing fails, the following substeps contain some recovery actions to try.

a. On the CM, enter LOGUTIL and check for the presence of MTS103 logs. MTS103 logs related to ADAS will have "User=AARMDMP" and "Node=APUxx" text in the body of the log. If these logs are present and continue to be issued, contact Nortel Networks Customer Service for assistance.

b. If no ADAS related MTS103 logs are present, perform a CPE and VPU service data upload from the ADAS OAM Position. Note that uploads involving VPUs will take several minutes to complete.

c. If the preceeding steps do not aid in recovering ADAS service, reload the VPUs from their patched image. If ADAS service is still down, reload the APUs from their patched image. If ADAS service remains down, contact Nortel Networks Customer Service for assistance.

Note: **Continue the PM upgrade with the** *Updating the VPUs* **section.**

Updating the ADAS OA&M Position

Application

	CAUTION **Possible service interruption** Perform this procedure during a maintenance window or a period of low traffic.

Use this procedure to update an existing ADAS OA&M Position to the awc12ac load. *Note: If the ADAS OA&M Position is already running* awc12ac*, then this procedure should not be performed.*

Prerequisites

None

Update sequence

Subtending PMs

Due to the nature of the ADAS application, the APU is a subtending PM to the ADAS OA&M Position. All APUs must be updated prior to updating the ADAS OA&M Position. Refer to "Updating the APUs" in this document for information on updating the APUs.

Serving PMs

None

Notes

The ADAS OA&M Position software and ADAS audio for this release are delivered on a Digital Data Storage (DDS) tape from Nortel Networks labeled AWC12AC.

Before proceeding to update the ADAS OA&M Position, LAN IP addresses must be collected from DMS tables EXNDINV, IPNETWRK, IPROUTER, and IPHOST as shown below.

Updating the ADAS OA&M Position

Steps of procedure

    1 Dump the contents of the DMS tables EXNDINV, IPNETWRK, IPROUTER, and IPHOST.

At the CI level of the MAP

Step	Action
1	Redirect the responses of the terminal to a printer by typing

        >RECORD START ONTO printer_name

        and pressing the Enter key.

        where

        printer_name   is the name of the printer

        Example

        >RECORD START ONTO PRT1

| 2 | Print the contents of table EXNDINV by typing |

        >TABLE EXNDINV;LIST ALL;QUIT

        and pressing the Enter key.

| 3 | Print the contents of table IPNETWRK by typing |

        >TABLE IPNETWRK; LIST ALL; QUIT

        and pressing the Enter key.

| 4 | Print the contents of table IPROUTER by typing |

        >TABLE IPROUTER; LIST ALL; QUIT

        and pressing the Enter key.

| 5 | Print the contents of table IPHOST by typing |

        >TABLE IPHOST; LIST ALL; QUIT

        and pressing the Enter key.

| 6 | Restore the terminal's responses by typing |

        >RECORD STOP ONTO printer_name

        and pressing the Enter key.

Updating the ADAS OA&M Position

where

printer_name   is the name of the printer

Example

>RECORD STOP ONTO PRT1

2   Extract the LAN IP addresses from these tables that are required to fill out the Appendix A OAM Position Checklist from the ADAS HP 9000/712 OAM Position Software Release Document.

> The **Workstation LAN0 Address** is found in table EXNDINV. Find the workstation EXND tuple which has an ENTYPE field value of ADAS_OAMPOS. The IPADDRESS field of this tuple contains the Workstation LAN0 Address. Note that during the workstation installation or upgrade, this address is also referred to as the Internet Protocol address.

> The **Workstation LAN1 Address** for sites planning to use the ADAS Remote Access feature is assigned by the customer network administrator of the Remote Access network. Sites not using Remote Access for the ADAS OA&M Position can assign 127.0.0.1 as a default IP address.

> The **CM Address** is found in table IPNETWRK in field CMIPADDR.

> The **EIU (Supernode side) Address** is found in table IPROUTER in field SNIPADR. This is the 1st LAN IP address in the tuple.

> The **EIU (LAN side) Address** is found in table IPROUTER in field ETHIPADR. This is the 2nd LAN IP address in the tuple.

> The **APU Address** is found in table IPHOST in field UNIXADDR. This is the 1st LAN IP address in the tuple. Sites will have multiple APUs. Collect this LAN IP address for each APU.

ATTENTION

At this point in the ADAS update process, it is necessary to install or upgrade to the new workstation load. The steps of this process are no longer documented in the ADAS PM Release Notes. Refer to the **ADAS HP 9000/712 OAM Position Software Release Document** as noted below for this information.

Updating the ADAS OA&M Position

3 Set aside this document and begin working from section 4.0 Pre-Install/Upgrade Procedure in the ADAS HP 9000/712 OAM Position Software Release Document. Technicians performing this procedure need to know whether a full installation or an upgrade is required for their office. For either an installation or upgrade procedure, the workstation software will query the technician for the LAN IP addresses just collected. Upon completion of the workstation procedure, return to this document and proceed to the "Finishing an ADAS PM Update Shift" procedure.

Finishing an ADAS PM update shift

Application

Use this procedure when completing a shift to update ADAS PMs and hardware types in an office.

Prerequisites

The procedure "Starting an ADAS PM update shift" in this document should have been performed before performing this procedure.

Update sequence

Subtending PMs

Not applicable

Serving PMs

Not applicable

Notes

None

Finishing an ADAS PM update shift

Summary of procedure

```
        ┌─────────────────┐
        │ Remove unused   │
        │ SNIXVOLS        │
        │ tuples          │
        └─────────────────┘
                 │
                 ▼
          ╱───────────╲          No
         ╱  Is PRSM    ╲──────────────┐
         ╲  enabled?   ╱              │
          ╲───────────╱               │
                 │                    │
                 │ Yes                │
                 ▼                    │
        ┌─────────────────┐          │
        │ Change          │          │
        │ AUTOTIME        │          │
        │ if necessary    │          │
        └─────────────────┘          │
                 │                    │
                 ▼◄───────────────────┘
        ┌─────────────────┐
        │ Return PM logs  │
        │ to original     │
        │ values          │
        └─────────────────┘
                 │
                 ▼
        ┌─────────────────┐
        │ Review recent   │
        │ PM logs         │
        └─────────────────┘
                 │
                 ▼
        ┌─────────────────┐
        │ End of          │
        │ procedure       │
        └─────────────────┘
```
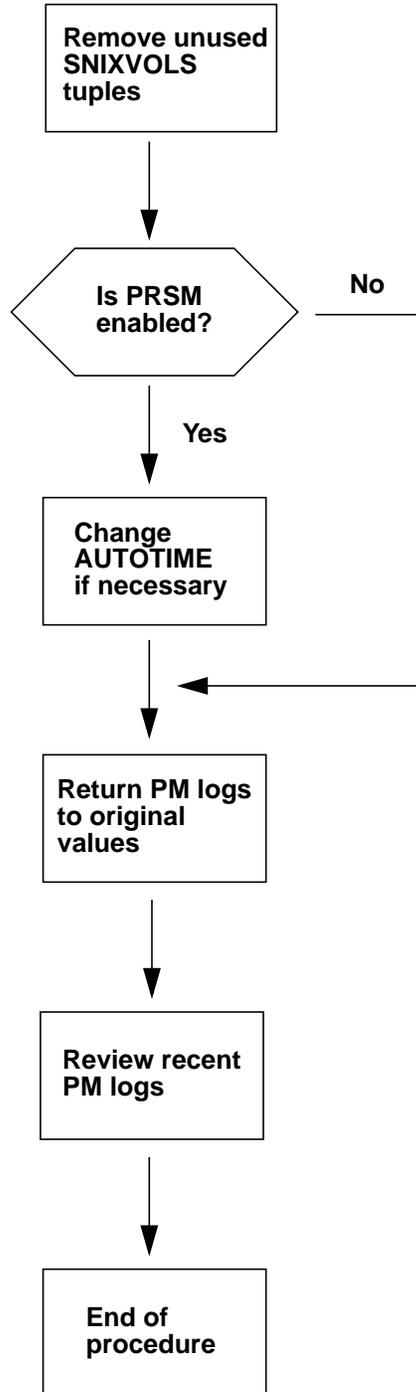
Finishing an ADAS PM update shift

Steps of procedure

1   If any unused tuples exist in table SNIXVOLS, they can be deleted.

    a.   Access table SNIXVOLS by typing

       >TABLE SNIXVOLS

       and pressing the Enter key.

    b.   List the table and identify unneeded tuples by typing

       >LIS ALL

       and pressing the Enter key.

       Identify any load tuples that are no longer needed and note the tuple index.

    c.   Position on the unneeded tuple by typing

       >POS index

       and pressing the Enter key.

       where

       index   is the index for an unneeded load tuple

    d.   Delete the tuple by typing

       >DEL index

       Continue by typing

       >Y

       and pressing the Enter key. Confirm the change by typing

       >Y

       and pressing the Enter key.

    e.   Display the table and confirm the change was made by typing

       >LIS ALL

       and pressing the Enter key. Repeat the preceeding steps for any other unneeded tuples in this table.

    f.   Exit the table by typing

       >QUIT

       and pressing the Enter key.

Finishing an ADAS PM update shift

2   If the office has PRSM enabled, and AUTOTIME was changed as part of the "Starting an ADAS PM update shift" procedure then change the AUTOTIME start time to the original time by performing the following steps.

a.   Access table AUTOOPTS by typing

>**TABLE AUTOOPTS**

and pressing the Enter key.

b.   Change the AUTOTIME time to the original time by typing

>**CHA AUTOTIME old_time**

where

old_time   is the AUTOTIME recorded during the "Starting an ADAS PM update shift" procedure.

Confirm the change by typing

>**Y**

and pressing the Enter key.

c.   Display the table and confirm the change was made by typing

>**LIS**

and pressing the Enter key.

d.   Exit the table by typing

>**QUIT**

and pressing the Enter key.

3   Return PM logs to their original states by performing the following steps.

a.   Access LOGUTIL by typing

>**LOGUTIL**

and pressing the Enter key.

b.   Suspend any PM logs that were resumed during the "Starting an ADAS PM update shift" procedure by typing

>**SUPPRESS PM log_no**

and pressing the Enter key.

where

log_no   is the number of the log to be suppressed

Finishing an ADAS PM update shift

Note: Multiple logs can be suppressed by including their log numbers on the single SUPPRESS command. All PM logs can be suspended with the command SUPPRESS PM and no log numbers.

Example

>**SUPPRESS PM 129 181**

  c. Change the threshold values of any PM logs that had thresholds set to 0 during the "Starting an ADAS PM update shift" procedure by typing

>**THRESHOLD value PM log_no**

and pressing the Enter key.

where

value   is the original threshold value recorded during the "Starting an ADAS PM update shift" procedure

log_no   is the number of the log

Note: Multiple logs can be thresholded by including their log number on the single THRESHOLD command. All PM logs can be thresholded with the command THRESHOLD PM and no log numbers.

  d. Exit LOGUTIL by typing

>**QUIT**

and pressing the Enter key.

4   Review any recent logs and verify the PMs and hardware types that were updated during this shift have remained in-service.

5   You have completed this procedure and successfully finished an ADAS PM update shift.

Appendix

Troubleshooting an ADAS PM update

Occasionally problems may occur during an ADAS PM update. This section provides hints on troubleshooting update problems.

Old patches

If the CM patch list shows patches from a previous release, a MATCH UPDATE was not performed during the PM update procedure. Match the CM patch list to the PM patch list, and eliminate the extra patches, with the MATCH UPDATE command.

Changes in posted set

If a posted set of PMs changes during a update procedure, the set may have been posted by maintenance state, such as ISTb, rather than number. Do not post by maintenance state. A PM posted as ISTb, for example, may change state to CBsy and drop from the set. If a posted set of PMs changes during the update procedure, re-post the set by number.

ADAS VPU and CPE uploads fail

Here are some of the conditions under which a CPE or VPU upload may fail.

1 CPE and VPU uploads may fail after a SWACT of the CM. The problem only occurs under the following conditions.

— A CPE and/or VPU upload has been performed using a TOP15 CM load.

— The CM has been aborted back to the pre-TOP15 load (ABORTSWACT).

In this situation, CPE and/or VPU uploads may fail and a SWER log may be generated on the CM from module DMSFTS having a reason code of 000F and an index of 0017. This SWER log is visible via LOGUTIL on the CM. In addition, one of the following error messages is visible at the ADAS OA&M Position from the ADAS Service Data Manager's "Show upload status" window:

For CPE upload failures:

DTP19> File "/iws/vsd/....adssen/cpe_sd" transfer error -16 (Unknown return code value!)

For VPU upload failures:

DTP19> File "/iws/vsd/....adssen/vpu_sd" transfer error -16 (Unknown return code value!

Troubleshooting an ADAS PM update

The presence of both the error message and the SWER log indicates the presence of this problem. The error message on its own without the SWER log can occur under normal operating conditions and means the VPU is currently in the process of being returned to service either manually or by the system. The error message will go away and the upload will be possible once the VPU finishes its RTS sequence.

Should this problem be encountered, use the following procedure to resolve the situation

a. Determine the filename and location of the service data file which was being uploaded at the time of failure.

   If the upload failure occurred while uploading CPE service data, determine the name and location of the file at a MAP display by typing

   >TABLE ESRVATTR;HEADING;POS ADAS CPE; QUIT

   and pressing the Enter key.

   The volume and filename appear in the SRVDATA field. *NOTE: When the CM is at TOP11, or a higher revision load, the data schema for ESRVATTR is changed. The SRVDATA field only contains a loadname that points to the tuple in PMLOADS that lists the service data volume and filename. Check the PMLOADS tuple to determine where the service data file resides.*

   If the upload failure occurred while uploading VPU service data, determine the name of the file at the MAP by typing

   >TABLE VPSRVDEF;HEADING;POS ADAS;QUIT

   The name of the file appears in the OPTIONS field next to the keyword AUDIO.

   Determine the location of the file by typing

   >TABLE PMLOADS;HEADING;POS filename; QUIT

   and pressing the Enter key.

   where

   filename   is the name of the file from the previous step.

   The volume is found in the ACTVOL field.

b. Access the disk utility by typing

   >DISKUT

Troubleshooting an ADAS PM update

and pressing the Enter key.

c. List the volume containing the file being uploaded by typing

>LF volume

and pressing the Enter key.

where

volume   is the volume determined in the previous step.

d. Delete the file being uploaded by typing

>DDF filename

and pressing the Enter key.

where

filename   is the name of the file determined in the previous step

e. Confirm the deletion by typing

>Y

and pressing the Enter key.

f. If the upload failed while uploading the VPU service data, repeat this procedure to delete the VPU service data file also.

g. Retry the service data upload.

2   Verify that the number of TCPCONN connections for the CM in table IPHOST is greater than the total number of TCPCONN TCP connections for all EIUs in table IPHOST.

3   Verify that the number of custom audio prompts has not exceeded the maximum of 103.

4   Uploads can also fail if the SLM volume to which files are being uploaded has bad sectors. This problem can be worked around by changing the datafill in PMLOADS for the CPE and VPU service data to reside on another SLM volume. Before changing PMLOADS datafill, make sure that this alternate SLM volume has adequate room for the files. Note: if the CM load is pre-TOPS11, table ESRVATTR determines the SLM volume which contains the CPE service data.

ADAS service monitor not functioning

1   Make sure that the Service Monitor is turned on at the workstation.

2   Verify that the EIU being used by ADAS's entry in table IPTHRON looks as follows:

Troubleshooting an ADAS PM update

EIU eiu_number 10 40 (CM 25) $

3   Verify that table ENTYPES has a ADAS_OAMPOS entry.

4   Verify that the ADAS OA&M Position tuple in table EXNDINV has the ENTYPE field set to ADAS_OAMPOS.

5   Verify that the EIU used by ADAS, and the ADAS_OAMPOS EXND is in-service.

6   Use the Service Monitor's APU History tool to see which APUs (if any) are sending data to the Service Monitor.

Can not open a DMS Access window on the ADAS OA&M Position

There are now 2 "DMS Access" menu items under the "DMS Operations" icon.

"DMS Access TOP04-" is used to connect to a DMS switch running a TOP04 or earlier release.

"DMS Access TOP05+" is used to connect to a DMS switch running a TOP05 or later release.

Troubleshooting with ADASTEST

Tool Overview

A CM resident tool named ADASTEST can be used by technicians to verify ADAS APU and VPU sanity and to diagnose certain types of customer or operator complaints regarding ADAS performance. ADASTEST allows a technician to assign a test trunk group (having 1 member) such that it's calls are handled by specific APUs and/or VPUs. Test calls can then be placed to verify the ability of a given APU or VPU to successfully handle ADAS locality/listing recording and playback to an operator position. Without a tool such as ADASTEST, APUs and VPUs must be removed from service, one at a time, in order to isolate audio problems. This is both time consuming and inexact as operator coordination is required to evaluate whether problems still occur. Misunderstandings by the operators regarding the problem under investigation reduce the effectiveness of this means of troubleshooting.

Examples of problems that can be more effectively isolated by using ADASTEST are:

- Customer complaints that ADAS prompts are "garbled"

- Customer complaints of unusual ADAS prompting

- Operator complaints that ADAS playback is "garbled" or clipped

- Busy-Hour audio problems when APUs and VPUs cannot be removed from service

For example, garbled prompt or playback problems that are due to h/w or sanity problems with 1 VPU in a pool of VPUs can be more quickly isolated by using ADASTEST to evaluate the system's VPUs. For problems that only show up during the "busy-hour", removing VPUs from service, is not always possible as a troubleshooting method. ADASTEST allows VPU test calls to be made while the VPU is handling traffic.

Troubleshooting Setup

To setup for troubleshooting, find, modify or create a single member test trunk group. Setup translations, as needed, so that the DA test calls will originate over this trunk into the TOPS switch hosting ADAS. Datafill this trunk group in table TOPSTOPT as a trunk eligible for ADAS service by setting the *ADASERV* field to ADAS. Set the *ADASANS* field to *IMMEDIATE*. If possible, setup the operator queuing to utilize a test position - or at least the same operator position. If using TOPSACD queuing, the trunk and queue will need to be added to table XFROPSEL.

Troubleshooting with ADASTEST

Using ADASTEST

To use ADASTEST, login to the CM hosting the APUs and VPUs to be tested. At the CI level of the MAP, type ADASTEST to enter the ADASTEST command environment. The available commands are *SET, CLEAR, SHOW, HELP* and *QUIT.*

Use the *SET* command to assign the test trunk to a specific APU or VPU. The command syntax is "SET <trunk CLLI> <APU, VPU> <node no>". After using *SET*, use the *SHOW* command to confirm the assignment. Make a series of test calls to evaluate the target node's performance. When done testing this APU or VPU, use the *SET* command to assign the test trunk to the next node to be tested. Repeat the test calls with the new APU or VPU. Repeat this "SET, SHOW and test" process until all the APUs and VPUs in the system have been examined. When done, use the *CLEAR ALL* command to erase trunk to APU and VPU assignments. Use *QUIT* to exit the tool.

Restrictions and Notes

ADASTEST can only be used with single member trunk groups. ADASTEST verifies that the trunk group and assigned APU or VPU are equipped, but does not verify that they are in-service. Using ADASTEST to test a specific APU or VPU has no effect on the target node's ability to handle other calls. If the target APU or VPU is fully occupied by ADAS calls (or unavailable due to MANB etc.) , a test call will not receive ADAS handling. The call will instead be queued for an operator. This fact can be used to verify that the test call is going to the intended node. With the APU or VPU MANB, test calls will not receive ADAS handling. When the target APU or VPU is RTS'd, test calls will receive ADAS handling if translations are working as intended. Refer to the *NA100 Translations Guide NTP, 297-8021-350*, for documentation on ADASTEST.

Other useful troubleshooting tools

Enhanced SNAC 100 logs

SNAC logs are generated by operators keying trouble codes while handling a "problem" call. Trouble codes are setup in table TOPSTRBL. Trouble code tuples in TOPSTRBL that have a *DISPOSN* field datafilled as *SNAC* produce SNAC 100 logs. These logs contain useful information regarding the resources used for an operator call. Problems with specific trunks, conference ports, or other hardware can be efficiently diagnosed using trouble codes and SNAC logs. The SNAC 100 log has been enhanced to also report the APU and VPU handling an ADAS call. This is useful for determining whether ADAS problems visible to an operator are due to a specific APU or VPU. For example, if operators complain about garbled ADAS playback, establishing a trouble code for this problem and examining SNAC 100 logs would show if a bad VPU were the cause. That is, if VPU 6 had a hardware fault or corrupted software, it would show up in all or most of the SNAC 100 logs associated with this problem's trouble code.

Workstation Service Monitor - APU History

The ADAS workstation's Service Monitor application has an enhancement called APU History that reports when each Local APU last sent call data to the Service Monitor. When the Service Monitor is open and collecting call data from the APUs, APU History can be selected from the *Options* menu. A dialog box is launched that lists each Local APU, that is known to the Service Monitor, and a timestamp for the last call data update that has been received. As long as APU History is left open, the display is dynamically updated. Local APUs report their call data about every 5 minutes. If any APU has stopped reporting data or is not even listed, APU History will reveal the problem APU(s). The data timestamp for any "problem" APU(s) will be outdated. APU History is useful for verifying that all APUs are reporting call data.

List of terms

ADAS

Automated directory assistance service. A TOPS application which automates the process of greeting a customer and eliciting the locality and name of the desired listing. ADAS plays back recorded responses to the operator thereby trimming valuable time from the caller/operator interaction.

APU

Application processing unit. A DMS SuperNode application-specific unit (ASU) that controls the ADAS application and VPUs.

BCS

Batch change supplement. Nortel's traditional method of releasing software, with custom loads, created from features available in a given BCS cycle. BCS has been replaced with product computing-module load (PCL). See also product computing-module load.

channelized access

A method of providing direct access between a switching network and the application-specific units (ASU) in a link peripheral processor (LPP) without the need for channel banks. A network interface unit (NIU), with either a junctored network (JNET) module or an enhanced network (ENET) module, provides channelized access between the switching network and ASUs.

CI level

Command interpreter level. Initial MAP level from where commands are entered.

CM

Computing module. The processor and memory of the dual-plane combined core (DPCC) used by DMS SuperNode. Each CM consists of a pair of central processing units (CPUs) with associated memory that operate in a

synchronous matched mode on two separate planes. Only one plane is active; it maintains overall control of the system while the other plane is on standby.

C-side

Central side. The side of a node that faces away from the peripheral modules (PM) and toward the central control (CC). Also known as control side. See also peripheral side (P-side).

datafill

A term that denotes:

- verb: the entry of data into tables.

- noun: the data entered into table.

DMS

Digital multiplex system. A central office (CO) 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.

DMS-100

A member of a family of digital multiplexed switching systems. The DMS-100 is a local switch.

DMS-100 Family switches

A family of digital multiplexed switching systems, which includes the following members: DMS-100, DMS-100/200, DMS-100 switching cluster, DMS-100 switching network, DMS-200, DMS-250, and DMS-300.

DMS-100 switching network

A member of a family of digital multiplexed switching systems. A DMS-100 switching network consists of multiple DMS-100 Family products that are maintained from a centralized operation, administration, and maintenance (COAM) application.

EIU

Ethernet interface unit. A DMS SuperNode application-specific unit (ASU) that connects the DMS SuperNode to the local area network.

IAI

ISN AutoImaging. Refers to autoimaging for ISN (Series 3) peripherals. IAI interworks with patching tools and imagedump scheduling to automatically dump an image of each ISN node type if that node type has been patched since the last image was dumped.

InSv

In service. Refers to the state of switching equipment when it is performing normal call processing functions (that is, providing subscriber service).

ISTb

In service trouble. This state is imposed on a unit that indicates trouble but that can still process calls.

LIM

Link interface module. A peripheral module (PM) that controls messaging between link interface units (LIU) in a link peripheral processor (LPP). The LIM also controls messages between the LPP and the DMS-bus component. A LIM consists of two LIM units and two frame transport buses (F-bus). The two LIM units operate in a load-sharing mode with each other.

MAP

Maintenance and administration position. A group of components that provides a user interface between operating company personnel and the DMS-100 Family switches. The interface consists of a video display unit (VDU) and keyboard, a voice communications module, test facilities, and special furniture.

ManB

Manual busy. A busy state manually imposed on a peripheral by entering a command at the MAP.

MS

Message switch. A high-capacity communications facility that functions as the messaging hub of the dual-plane combined core (DPCC) of a DMS SuperNode processor. The MS controls messaging between the DMS-bus components by concentrating and distributing messages and by allowing other DMS-STP components to communicate directly with each other.

NA100

North American DMS-100. The development stream for all DMS-100/200 features in North America.

NIU

Network interface unit. A DMS SuperNode application-specific unit (ASU) that provides channelized access for F-bus resident link interface units (LIU) using a channel bus (C-bus). The NIU resides in a link peripheral processor (LPP) frame.

OAM&P

Operation, administration, maintenance, and provisioning.

ONP

One night process. An eight-week process that culminates in the overnight application of software to the switch.

patch

An incremental change to software applied after the load has been compiled.

PCL

Product computing load. A compiled software load that replaces the batch change supplement (BCS). A PCL consists of features selected from the NA development stream intended for a particular DMS SuperNode application in a particular market. Every PCL with the same name is the same in terms of software content.

PM

Peripheral module. Any hardware module in the DMS-100 Family switches that provides an interface between external line, trunk, or service facilities. A PM contains peripheral processors (PP), which perform local routines, thus relieving the load on the CPU.

P-side

P-side. The side of a node facing away from the central control (CC) and toward the peripheral modules (PM).

SLM

System load module. A mass storage system in a DMS SuperNode processor that stores office images. From the SLM, new loads or stored images can be booted into the computing module (CM).

SWACT

Switch activity. A switch in a DMS fault tolerant system that changes the states of two identical devices devoted to the same function. In other words, an SWACT makes an active device inactive and an inactive device active.

switching network

A digital-switching matrix that interconnects the peripheral modules (PM), using time-division multiplexing (TDM). The switching network components are microprocessor controlled, digital-switching network modules. The switching network has duplicate network planes for reliability and can be connected to either the central message controller (CMC) or the DMS-bus and the PMs. The two generations of the switching network are the junctored network (JNET) and the enhanced network (ENET). The NT40 can use only the JNET, while the DMS SuperNode can use either the JNET or the ENET.

SysB

System busy. A term that denotes

a busy state that is automatically imposed by equipment in response to a fault condition.

the equipment state that occurs when the central control has removed equipment from normal service.

TOPS

Traffic Operator Position System

VPU

Voice processing unit. A DMS SuperNode application-specific unit (ASU) used by ADAS that plays prompts, tones, and caller responses as well as detects dual-tone multi-frequency (DTMF) tones.

TOP15 ADAS

Peripheral Module Software Release Document

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