297-1001-535

DMS-100 Family

Maintenance Managers Morning Report

SN06 (DMS) Standard 03.05 September 2003

NORTEL

NORTHERN TELECOM

DMS-100 Family

Maintenance Managers Morning Report

Publication number: 297-1001-535
Product release: SN06 (DMS)
Document release: Standard 03.05
Date: September 2003

Publication history

September 2003

SN06 (DMS) Standard release 03.05. Corrections made to the Call processing tables on page 2-6 CR Q00487293.

December 1998

Corrected description of Patch summary (paragraphs ”Patches applied during the last 24 hours” and ”Total validated”) in Chapter 2.

August 1998

BASE07 Standard 03.01. PRSM replaced Patcher in BASE07 and is available in BASE06.

February 1998

Corrected procedure to request the Maintenance Managers Morning Report (Chapter 3).

August 1997

Replaced references to NTP 297-1001-450 with NTP PLN-8991-104 since 297-1001-540 has been replaced by PLN-8991-104.

Replaced references to NTP 297-1001-820 with NTP 297-1001-822 since 297-1001-820 has been replaced by NTP 297-1001-822.

October 1996

BASE03 Standard 01.02

The document was converted to the current Northern Telecom documentation format and minor changes were made to the document content.

Contents

About this document

When to use this document

The Maintenance Manager's Morning Report is a DMS-100 Family feature package that provides a 24-hour summary of performance, administrative, and maintenance information on the DMS switch. The report can be generated automatically at a scheduled time, or it can be generated on request at a MAP terminal.

How to check the version and issue of this document

The version and issue of the document are indicated by numbers, for example, 01.01.

The first two digits indicate the version. The version number increases each time the document is updated to support a new software release. For example, the first release of a document is 01.01. In the *next* software release cycle, the first release of the same document is 02.01.

The second two digits indicate the issue. The issue number increases each time the document is revised but rereleased in the *same* software release cycle. For example, the second release of a document in the same software release cycle is 01.02.

To determine which version of this document applies to the software in your office and how documentation for your product is organized, check the release information in *Product Documentation Directory*, 297-8991-001.

This document is written for all DMS-100 Family offices. More than one version of this document may exist. To determine whether you have the latest version of this document and how documentation for your product is organized, check the release information in *Product Documentation Directory*, 297-8991-001.

References in this document

The following documents are referred to in this document:

- *Automatic Trunk Testing Description*, 297-1001-121
- *Basic Translations Tools Guide*, 297-1001-360

- *DMS-100 Family Commands Reference Manual*, 297-1001-822
- *DMS SuperNode Technical Specification*, PLN-5001-100
- *Lines Maintenance Guide*, 297-1001-594
- *Log Reports Reference Manual*
- *Network Management System Reference Manual*, 297-1001-453
- *Office Parameters Reference Manual*
- *Operational Measurements Reference Guide*
- *Peripheral Modules Maintenance Guide*, 297-1001-592
- *Product Documentation Directory*, 297-8991-001
- *Provisioning Manual*, PLN-8991-104
- *Switch Performance Monitoring System Application Guide*, 297-1001-330
- *Translations Guide*
- *Trunks Maintenance Guide*, 297-1001-595

What precautionary messages mean

The types of precautionary messages used in NT documents include attention boxes and danger, warning, and caution messages.

An attention box identifies information that is necessary for the proper performance of a procedure or task or the correct interpretation of information or data. Danger, warning, and caution messages indicate possible risks.

Examples of the precautionary messages follow.

ATTENTION Information needed to perform a task

ATTENTION

If the unused DS-3 ports are not deprovisioned before a DS-1/VT Mapper is installed, the DS-1 traffic will not be carried through the DS-1/VT Mapper, even though the DS-1/VT Mapper is properly provisioned.

DANGER Possibility of personal injury

DANGER
Risk of electrocution
Do not open the front panel of the inverter unless fuses F1, F2, and F3 have been removed. The inverter contains high-voltage lines. Until the fuses are removed, the high-voltage lines are active, and you risk being electrocuted.

WARNING Possibility of equipment damage

WARNING
Damage to the backplane connector pins
Align the card before seating it, to avoid bending the backplane connector pins. Use light thumb pressure to align the card with the connectors. Next, use the levers on the card to seat the card into the connectors.

CAUTION Possibility of service interruption or degradation

CAUTION
Possible loss of service
Before continuing, confirm that you are removing the card from the inactive unit of the peripheral module. Subscriber service will be lost if you remove a card from the active unit.

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:

>BSY

Commands and fixed parameters

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

>BSY CTRL

Variables

Variables are shown in lowercase letters:

>BSY CTRL ctrl_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:

```
FP 3 Busy CTRL 0: Command request has been submitted.
FP 3 Busy CTRL 0: Command passed.
```

The following excerpt from a procedure shows the command syntax used in this document:

1 Manually busy the CTRL on the inactive plane by typing

>BSY CTRL ctrl_no
and pressing the Enter key.

where

ctrl_no is the number of the CTRL (0 or 1)

Example of a MAP response:

```
FP 3 Busy CTRL 0: Command request has been submitted.
FP 3 Busy CTRL 0: Command passed.
```

Underscore connecting

means two words are to be treated as one element, for example, pm_type or #_set.

Introduction

What is the Maintenance Managers Morning Report

The Maintenance Managers Morning Report is a DMS-100 Family feature package that provides a 24-hour summary of performance, administrative, and maintenance information on the DMS switch. The report can be generated automatically at a scheduled time, or it can be generated on request at a MAP terminal.

The report uses information that is relevant for corrective and preventive maintenance programs, and provides a summary of key maintenance and operations indicators.

The report is output as a DMS log report that includes the following information:

- switch-performance information such as
  - — Switch Performance Monitoring System (SPMS) indicators
  - — call processing performance
  - — CPU occupancy
  - — network performance
  - — software performance
  - — PM activity switch information
  - — OM threshold log counts
- test results for scheduled
  - — CC REx tests
  - — CC image tests
  - — data store retention tests
  - — line maintenance (ALT)
  - — trunk maintenance (ATT)

- switch operations such as
  - — image dump results
  - — patch summaries
  - — outage indicators
  - — table data integrity checks
  - — unscheduled XPM REX testing

Who uses the Maintenance Managers Morning Report

The Maintenance Managers Morning Report is intended for

- maintenance personnel working at the MAP who generate the report
- maintenance managers who interpret the report

About this document

This document provides the following information on the Maintenance Managers Morning Report:

- a description of the report, its content, and its use
- a list of the tracking and monitoring tools that are used to collect the information in the report
- instructions for including the various features in the report, and for generating the report
- instructions for modifying the content of the report
- examples of the report content

Applicability of this document

The information in this document applies to DMS-100 Family offices that have

- batch change supplement 29 (BCS29) and up software. Unless the document is reissued, it also applies to DMS-100 Family offices that have software releases greater than BCS29.
- feature package NTXJ35AA

Determining the PCL and Nortel features in your office

To identify the PCL and feature packages in your office, refer to the *Office Feature Record D-190*.

For a list of all available Nortel feature packages, refer to the provisioning guidelines in the *Provisioning Manual*, PLN-8991-104.

Morning Report Features

Report Content

Available features

The Maintenance Managers Morning Report provides a summary of the output from existing maintenance and performance monitoring features on the DMS switch. These features are part of both basic and optional feature packages.

The data provided by each feature is included in the report. No DMS switch is equipped to support all of the parameters needed for every report item.

This document is divided into the following categories, each containing features that appear as sections in the Maintenance Managers Morning Report:

- DMS switch performance
  - — Switch Performance Monitoring System (SPMS) indicators
  - — call processing performance
  - — CPU occupancy
  - — network integrity failures
  - — PM activity switch information
  - — trap/software error (SWERR) counts
  - — FM and OM log counts
- test results for scheduled
  - — CC REx tests
  - — CC image tests
  - — data store retention tests
  - — ALT tests (line maintenance)
  - — ATT tests (trunk maintenance)

- switch operations:
  - — image dump results
  - — patch summaries
  - — outage indicators
  - — table data integrity checks
  - — unscheduled XPM REX testing

For each of the features listed, the following information is provided in this document:

- a description of the feature and its purpose
- the commands required to include the feature in the report
- the report content

Optional features

Several of the features offered in the morning report depend upon the availability of specific maintenance or monitoring options on the switch. The optional features, and their Nortel feature packages, are:

- Switch Performance Monitoring System (SPMS)—NTX738
- Automatic Line Testing (ALT)—(part of) NTX054, NTX055
- Automatic Trunk Testing (ATT)—NTX051
- Focus Maintenance (FM)—NTX272

Additional capabilities are available on OM-based and network-related features when the switch is equipped with the following feature packages:

- OM Thresholding—NTX385
- Network Integrity Tools—(part of) NTX053

If a feature is not available on the switch, only zeroes, or N/A, is displayed in that section of the report, and one of the following messages is placed at the bottom of the report:

```
*** SPMS is not available ***

*** ALT is not in use ***

*** ATT is not in use ***

*** FM log is unavailable ***
```

DMS products and feature compatibility

The CC tests, which consist of the CC REX test, the CC image test, and the data store (DS) retention test, apply only to DMS switches with the NT40 CPU.

Automatic Line Testing (ALT) does not apply to MTX switches.

Feature status

Before attempting to include a feature in the morning report, verify that the associated feature package, if optional, is available on the switch. Also, check if the feature has already been included in the report. Refer to Chapter 4 for the commands required to list the features currently contained in the report.

Feature additions

The procedure for adding a feature, and having its output included in the report is provided for each of the features described in this document. The procedure includes entering the AMREPCI directory, and using the command

>AMREPED ADD <item_name>

where

item_name is one of:

- SPMS — SPMS indicators
- CPPERF — Call processing performance
- CPU — CPU occupancy
- SWACT — PM swact information
- NETINTEG — Network integrity failure
- SWERTRAP — Software performance
- LOGS — FM and OM log count
- CCTST — CC test results
- ALT — ALT test results
- ATT — ATT test results
- IMAGE — Image dump results
- PATCH — Patch summary
- OUTAGE — Outage indicators
- XPMREX — XPM not scheduled for REX test
- CHECKTAB — Table data integrity check

The system responds with one of the following acknowledgement messages:

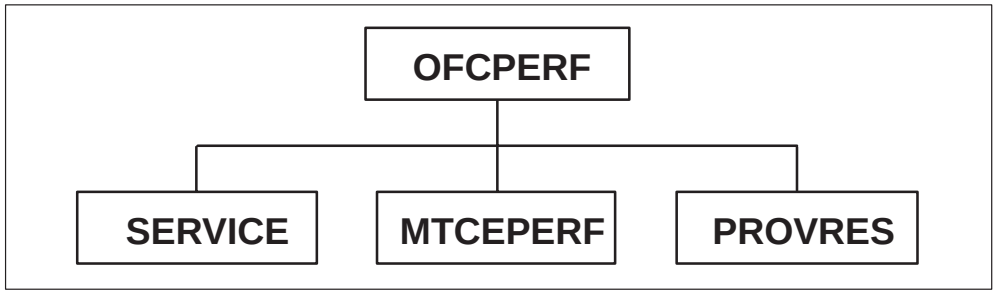
```
<item_name> is added to the report or

No action taken - item is aready included
```

DMS Switch Performance

SPMS Indicators

The Switch Performance Monitoring System (SPMS) provides administrative indexing for members of the DMS-100 and Meridian SL-100 families of switches.

The SPMS indexing hierarchy is shown in the following chart:



These levels are:

- OFCPERF (Office Performance Index): This index is a summary of total office performance and is index is computed from the weighted average of its three direct descendants: SERVICE, MTCEPERF, and PROVRES.
- SERVICE: This index reflects the contributions of maintenance and traffic provisioning to the overall service results.
- MTCEPERF (Maintenance Performance Index): This index is a summary of switch performance as it would be observed by the operating company personnel running the switch.
- PROVRES (Provisionable Resource Index): This index is a summary of the performance of traffic-provisionable resources, both hardware and software, within the switch.

Each index is standardized so that the following rating described in the following table applies:

Index Result	Performance Rating
100	perfect
96 to 99	above average
95	average
91 to 94	below average
90 or less	considerably below average

An index of 90 or less indicates a clearly abnormal situation requiring correction.

The SPMS indexes presented described here are computed on a daily basis. If one of the indexes has a poor rating, use SPMS subcommands to investigate further. For more information, refer to the *Switch Performance Monitoring System Application Guide*, 297-1001-330.

Adding SPMS indicators

Use the following procedure to add the SPMS Indicators to the morning report:

1 Access the AMREP command interface by typing

>AMREPCI
and pressing the Enter key.

Note: The AMREP command interface can be accessed at any level of the MAP.

2 Add SPMS indicators to the morning report by typing

>AMREPED ADD SPMS
and pressing the Enter key.

3 Check the acknowledgement message.

4 Quit from the AMREP command interface by typing

>QUIT
and pressing the Enter key.

The following is an example of the SPMS indicators portion of the morning report.

```
------------------------------------------------------------
SPMS INDICATORS
===============
OFCPERF       (office perf)        = 95  (average)
SERVICE       (service perf)       = 97  (above average)
MTCEPERF      (maint. perf)        = 90  (below average)
PROVRES       (prov. resource)     = 89  (much below average)
------------------------------------------------------------
```

If the SPMS indexes are not available, for example, if SPMS is not running, then the numerical entries are replaced with N/A.

Call Processing Performance

Feature CPPERF provides information on

- Total number of calls. The total number of calls is computed by adding OM registers that are accumulated for 24 hours. The OM groups and registers involved are shown in the following table

OM Groups	OM Registers
OFZ	NIN, NIN2, NORIG
AVOFZ	ALORIG, ALORIG2
TOPSTRAF	TOPSNIN, TOPSNIN2
OTS	NINC, NINC2, NORG, NORG2

- Total number of lost calls. These are calls lost due to system restarts, manual-busy or system-busy peripherals, and integrity loss. The OM groups and registers involved are shown in the following table.

OM Groups	OM Registers
CP	WINITC, CINITC
PMTYP	PMTMBTCO, PMTSBTCO
SYSPERF	CINTEGFL

- Call completion rate. The call completion rate is computed by multiplying the number of lost calls by 100 and dividing by the total number of call attempts. The calculation of completion rate is done in integer arithmetic. Therefore, the result is presented in integer form only.

The formula for calculating call completion rate is

Call completion rate = (lost calls)x(100)/total calls

Adding call processing performance indicators

Use the following procedure to add call processing performance indicators to the morning report:

1 Access the AMREP command interface by typing

>AMREPCI
and pressing the Enter key.

Note: The AMREP command interface can be accessed at any level of the MAP.

2 Add call processing performance indicators to the morning report by typing

>AMREPED ADD CPPERF
and pressing the Enter key.

3 Check the acknowledgement message.

4 Quit from the AMREP command interface by typing

>QUIT
and pressing the Enter key.

The following is an example of the call processing indicators portion of the morning report.

```
------------------------------------------------------
CALL PROCESSING PERFORMANCE
==========================
# CALL ATTEMPTS     # LOST CALLS     COMPLETION PERCENTAGE
   100,000              1,000               99 %
------------------------------------------------------
```

CPU Occupancy

Feature CPU records the high water mark for call processing CPU usage and provides the capability to monitor the daily CPU usage of the DMS switch.

Feature CPU also provides a pegged count for the number of times that CPU usage has exceeded the threshold value for the reporting period. A new CPU usage figure is computed by the system every minute. Therefore, the pegged count may be very large if the threshold value is not set properly. in this case, if the threshold value is set too low. Refer to the *Network Management System Reference Manual*, 297-1001-453, for further information.

The threshold value is initially set to be 60%. This default value may be queried or changed using CI commands.

Determining the current CPU threshold value

Use the following procedure to determine the current CPU threshold value:

1 Access the AMREP command interface by typing

>AMREPCI
and pressing the Enter key.

2 Determine the current CPU threshold value by typing

>QUERYCPUTHRESH
and pressing the Enter key.

Note: The AMREP command interface can be accessed at any level of the MAP.

MAP response example

```
The active CPU occupancy threshold value is 60%.
```

3 Quit from the AMREP command interface by typing

>QUIT
and pressing the Enter key.

Changing the current or default CPU threshold value

Use the following procedure to change the current or default CPU threshold value:

1 Access the AMREP command interface by typing

>AMREPCI
and pressing the Enter key.

2 Change the CPU threshold value by typing

>SETCPUTHRESH <percentage>
and pressing the Enter key.

where

percentage — is the CPU occupancy threshold value with a range from 0 to 100.

MAP response example

```
CPU threshold has been changed to ___% from ___%.
```

3 Quit from the AMREP command interface by typing

>QUIT
and pressing the Enter key.

Adding CPU occupancy indicators to the morning report

Use the following procedure to add the CPU Occupancy indicators the morning report:

1 Access the AMREP command interface by typing

>AMREPCI
and pressing the Enter key.

Note: The AMREP command interface can be accessed at any level of the MAP.

2 Add CPU occupancy indicators to the morning report by typing

>AMREPED ADD CPU
and pressing the Enter key.

3 Check the acknowledgement message.

4 Quit from the AMREP command interface by typing

>QUIT
and pressing the Enter key.

The following is an example of the CPU occupancy indicators portion of the morning report.

```
------------------------------------------------------
CPU OCCUPANCY
=============
HIGH WATER MARK     THRESHOLD VALUE     THRESHOLD EXCEEDED
79 %                 60 %                 10
------------------------------------------------------
```

PM Activity Switch Information

Feature SWACT provides a list of PM types that have performed an activity switch (SWACT) during the reporting period. The OM registers used are identified in the following table.

OM Group	OM Registers
PMTYP	PMTSWXFR, PMTMWXFR, PMTSCXFR, PMTMCXFR

A SWACT is caused by an unrecoverable fault on the active unit of a peripheral module. SWACTs can be initiated by the CC or via commands at the MAP. During a warm SWACT, only calls that are in the talking state survive the SWACT. Calls that have not reached the talking state are dropped. During a cold SWACT, all calls are dropped. The SWACT information is used to report faulty peripherals.

To prevent the peripherals from being taken completely out-of-service, initiate maintenance procedures immediately. Refer to the *Peripheral Modules Maintenance Guide*, 297-1001-592, for further information.

Adding PM activity switch information to the morning report

Use the following procedure to add PM SWACT information to the morning report:

1 Access the AMREP command interface by typing

>AMREPCI
and pressing the Enter key.

Note: The AMREP command interface can be accessed at any level of the MAP.

2 Add PM SWACT information to the morning report by typing

>AMREPED ADD SWACT
and pressing the Enter key.

3 Check the acknowledgement message.

4 Quit from the AMREP command interface by typing

>QUIT
and pressing the Enter key.

The following is an example of the PM SWACT information portion of the morning report.

```
-----------------------------------------------------
PM SWACT INFORMATION
====================
PM TYPE     MAN COLD   SYS COLD   MAN WARM   SYS WARM
LGC             0          1          1          0
DTC             0          2          0          3
LTC             0          5          0          1
-----------------------------------------------------
```

Network Performance

Feature NETINTEG provides the network integrity failure count (a pegged count) for the reporting period. The OM group and associated register is identified in the following table.

OM Group	OM Register
NMC	NMSPCHER

This feature also provides the total number of calls, allowing the operating company to justify the network integrity failure count produced by the report. Refer to the *Operational Measurements Reference Guide* for further information on operational measurements.

Adding network integrity failure counts to the morning report

Use the following procedure to add network integrity failure counts to the morning report:

1 Access the AMREP command interface by typing

>AMREPCI
and pressing the Enter key.

Note: The AMREP command interface can be accessed at any level of the MAP.

2 Add network integrity failure counts to the morning report by typing

>AMREPED ADD NETINTEG
and pressing the Enter key.

3 Check the acknowledgement message.

4 Quit from the AMREP command interface by typing

>QUIT
and pressing the Enter key.

The following is an example of the network integrity failure counts portion of the morning report.

```
-----------------------------------------------------
NETWORK INTEG FAIL COUNT
========================
TOTAL COUNT             TOTAL CALLS
100                     900,500
-----------------------------------------------------
```

Software Performance

Feature SWERTRAP provides the total number of CC software errors (swerrs) and traps that occurred during the reporting period (a maximum of 24 hours).

This information allows the operating company to evaluate the performance of the current software load in the switch, and to implement an early preventative maintenance program.

Adding trap and swerr counts to the morning report

Use the following procedure to add trap and swerr counts to the morning report:

1 Access the AMREP command interface by typing

>AMREPCI
and pressing the Enter key.

Note: The AMREP command interface can be accessed at any level of the MAP.

2 Add swerrs and traps to the morning report by typing

>AMREPED ADD SWERTRAP
and pressing the Enter key.

3 Check the acknowledgement message.

4 Quit from the AMREP command interface by typing

>QUIT
and pressing the Enter key.

The following is an example of the trap and swerr counts portion of the morning report.

```
------------------------------------------------
TRAP / SWERR COUNT
==================
CC SWERR COUNT     CC TRAP COUNT
120                55
------------------------------------------------
```

Focus maintenance and OM threshold log count

Feature LOGS provides the total count of focus maintenance and OM threshold logs during the reporting period (a maximum of 24 hours). The logs and the reason they are generated are:

- FM100 – This log is generated when certain trunk troubles exceed a defined alarm threshold.

- FM101 – This log is generated when certain line troubles relating to call processing exceed a defined alarm threshold.
- OM2200 – This log is generated when certain OM registers exceed the threshold condition.

This section focuses on areas in which alarms are raised so that maintenance action can be initiated. Refer to the *Lines Maintenance Guide*, 297-1001-594, and to the *Trunks Maintenance Guide,* 297-1001-595, for further information on line and trunk maintenance. Refer to the *Operational Measurements Reference Guide* for information on operational measurements.

Adding FM and OM log counts to the morning report

Use the following procedure to add FM and OM log counts to the morning report:

1 Access the AMREP command interface by typing

>AMREPCI
and pressing the Enter key.

Note: The AMREP command interface can be accessed at any level of the MAP.

2 Add FM and PM log counts to the morning report by typing

>AMREPED ADD LOGS
and pressing the Enter key.

3 Check the acknowledgement message.

4 Quit from the AMREP command interface by typing

>QUIT
and pressing the Enter key.

The following is an example of the FM and OM log counts portion of the morning report.

```
-------------------------------------------------
FM AND OM LOG COUNTS
====================
FM100     FM101     OM2200
24         15        30
-------------------------------------------------
```

Scheduled Test Results

CC REX Test

Feature CCTST provides the result of the manual or scheduled CC REx test. The CC REx test will drop synchronization, execute diagnostic tests on the inactive CPU, and perform a switch of activity.

WARNING

Damage to the backplane connector pins

If the CC REX test fails, notify the appropriate support level. A failure of the CC REX test indicates the potential for a complete shutdown of the CC.

Adding CC REx test results to the morning report

Use the following procedure to add the CC REx test results to the morning report:

1 Access the AMREP command interface by typing

>AMREPCI

and pressing the Enter key.

Note: The AMREP command interface can be accessed at any level of the MAP.

2 Add CC REx test results to the morning report by typing

>AMREPED ADD CCTST

and pressing the Enter key.

3 Check the acknowledgement message.

4 Quit from the AMREP command interface by typing

>QUIT

and pressing the Enter key.

The following is an example of the CC REx test portion of the morning report.

```
------------------------------------------------
CC TEST RESULTS
===============
TYPE              STATUS      TIME
INFREQUENT        FAILED      09/08/88 23:35:00 FRI
FREQUENT          PASSED      10/08/88 23:35:00 FRI
------------------------------------------------
```

CC Image Test

The CC image test is scheduled to run after the CC REx test and performs a restart on the inactive CPU in order to test the restart ability of the current image. Feature CCTST provides the result of the test together with the type of restart that was performed.

WARNING

Loss of switch possible

If a failure flag results from the image test, notify the appropriate support level for immediate action. In the event of a restart due to a bad software load or cards, a bootmate is required for switch survival.

The following is an example of the CC image test portion of the morning report.

```
------------------------------------------------
CC TEST RESULTS
===============
TYPE              STATUS      TIME
IMAGE             PASSED      10/08/88 23:55:00 FRI
*** LAST IMAGE TEST RESTART TYPE IS : WARM ***
------------------------------------------------
```

If the restart type is not available (lost due to restart), then the actual restart type will be replaced by N/A.

DS Retention Test

The data store (DS) retention test is part of the CC REx test and performs tests on memory cards, memory controllers, and spared memory.

Feature CCTST also provides the results of this test as part of the CC REx test.

Note: The results of any manual DS retention test are not recorded here.

The following is an example of the DS retention test portion of the morning report.

```
------------------------------------------------
CC TEST RESULTS
===============
TYPE              STATUS      TIME
DS 0 RETENTION    PASSED      10/08/88 01:12:35 FRI
DS 1 RETENTION    PASSED      10/08/88 01:15:05 FRI
------------------------------------------------
```

Scheduled Line Maintenance (ALT)

Automatic Line Testing (ALT) is scheduled to run nightly, performing diagnostic tests on lines. Feature ALT in the Morning Report provides the following statistics:

- total number of lines tested
- total number of passed tests
- total number of failed tests
- total number of skipped tests

If the number of failed tests is high, investigate the cause using the log output which contains detailed information about the ALT results. Refer to the *Log Reports Reference Manual* and to the *Lines Maintenance Guide,* 297-1001-594, for more information.

Adding automatic line test results to the morning report

Use the following procedure to add ALT results to the morning report:

1 Access the AMREP command interface by typing

>AMREPCI
and pressing the Enter key.

Note: The AMREP command interface can be accessed at any level of the MAP.

2 Add the ALT test results to the morning report by typing

>AMREPED ADD ALT
and pressing the Enter key.

3 Check the acknowledgement message.

4 Quit from the AMREP command interface by typing

>QUIT
and pressing the Enter key.

The following is an example of the ALT test result portion of the morning report.

```
-----------------------------------------------------
ALT RESULT
==========
ALT TESTED      ALT PASSED     ALT FAILED     ALT SKIPPED
1,000            950            20              30
-----------------------------------------------------
```

Scheduled Trunk Maintenance (ATT)

Automatic Trunk Testing (ATT) is scheduled to run nightly, performing diagnostics tests on trunks. Feature ATT in the Morning Report provides the following statistics:

- total number of trunks tested
- total number of passed tests
- total number of failed tests
- total number of skipped tests

If the number of failed tests is high, investigate the cause using the log output which contains detailed information about the ATT results. Refer to the *Log Reports Reference Manual* and to the *Automatic Trunk Testing Description*, 297-1001-121, for more information.

Adding automatic trunk test results to the morning report

Use the following procedure to add ATT results to the morning report:

1 Access the AMREP command interface by typing

>AMREPCI
and pressing the Enter key.

Note: The AMREP command interface can be accessed at any level of the MAP.

2 Add the ATT results to the morning report by typing

>AMREPED ADD ATT
and pressing the Enter key.

3 Check the acknowledgement message.

4 Quit from the AMREP command interface by typing

>QUIT
and pressing the Enter key.

The following is an example of the ATT test result portion of the morning report.

```
------------------------------------------------------
ATT RESULT
==========
TOTAL TRUNKS     ATT PASSED     ATT FAILED     ATT SKIPPED
2,000           1700           200            100
------------------------------------------------------
```

DMS Switch Operations

Outage Indicators

Feature OUTAGE provides the total outage duration, which is the sum of the time that equipment is man-busy and system-busy, for the following major parts of the DMS switch:

- Central Message Controllers (NT40)
- Message Switches (SuperNode)
- Network Modules
- XMS-based Peripheral Modules (XPM)
- Line Concentrating Modules (LCM)
- Line Modules (LM)
- Trunk Modules (TM)
- Digital Carrier Modules (DCM)
- Carriers (DS1 and PCMCARR)
- Trunks

The outage duration is accumulated in the last 24 hours. The units of time used are hours, minutes, and seconds.

The outage duration is computed from accumulated OM registers which are pegged by the audit cycle running every 100 seconds. The total outage duration is computed by multiplying the OM pegged count by the audit interval (100 seconds).

It is possible for the outage duration displayed in the report to exceed 24 hours because it is an accumulated value. For example, if there are 24 LMs connecting to the switch, and if each has an outage of two hours, this would produce a value of 48 hours for total outage duration.

Feature OUTAGE provides performance indicators for all major components of the DMS switch. If detailed information is required in the investigation of a deteriorating component, use the log and OM output results.

The OM groups and registers used in recording outage information are identified in the following table.

OM Group	OM Register
CMC	CMCSBU, CMCMBU
MS	MSSBU, MSMBU
TRK	SBU, MBU
PMTYP	PMTUSBU, PMTUMBU
DS1CARR	DS1SBU, DS1MBU
PCMCARR	CARRMANB, CARRSYSB

Adding outage indicators to the morning report

Use the following procedure to add outage indicators to the morning report:

1 Access the AMREP command interface by typing

>AMREPCI
and pressing the Enter key.

Note: The AMREP command interface can be accessed at any level of the MAP.

2 Add the outage indicators to the morning report by typing

>AMREPED ADD OUTAGE
and pressing the Enter key.

3 Check the acknowledgement message.

4 Quit from the AMREP command interface by typing

>QUIT
and pressing the Enter key.

The following is an example of the outage indicator portion of the morning report.

```
------------------------------------------------------
OUTAGE INFORMATION
==================
H/W TYPE              HOUR  MIN  SEC
CMC                     0    1   40
XPM                    37   48   20
LCM                    10    0    0
TRK                    73    0    0
CARR                   20    0    0
------------------------------------------------------
```

Image Dump Result

Feature IMAGE provides:

- total number of image dumps during the last 24 hours
- results of the last image dump

For the NT40 switch, the result reflects the CC image dump; for the SuperNode switch, the result reflects the CM image dump.

If more detailed information is required to support the status of the image dump result, analyze the SOS100 or SOS101 log output. Refer to the *Log Reports Reference Manual* for more information.

Adding image dump results to the morning report

Use the following procedure to add image dump results to the morning report:

1 Access the AMREP command interface by typing

>AMREPCI
and pressing the Enter key.

Note: The AMREP command interface can be accessed at any level of the MAP.

2 Add image dump results to the morning report by typing

>AMREPED ADD IMAGE
and pressing the Enter key.

3 Check the acknowledgement message.

4 Quit from the AMREP command interface by typing

>QUIT
and pressing the Enter key.

The following is an example of the image dump portion of the morning report.

```
------------------------------------------------------------
CC IMAGE DUMP RESULT
====================
DUMP COUNT           LAST DUMP RESULT
   1                     PASSED
------------------------------------------------------------
```

Patch summary

Feature PATCH provides statistics on the following.

Patches applied during the last 24 hours

This is the number of patches that were applied to the switch in the last 24 hours, starting from 23:47 of the previous day. This sum is computed over all PRSM destinations.

Total validated

This count is the total number of patches on the switch with a status of validated (VA). This count does not include patches that are obsoleted, that is, patches that have a status of OBS, OBE, or OBR.

Total applied

This count is the total number of patches on the switch with a status of applied (A). This figure is computed for each individual CM, ISN, or XPM target processor.

Total removed

This count is the total number of patches on the switch with a status of (R) removed. This figure is computed for each individual target CM, ISN, or XPM processor.

Adding patch summary information to the morning report

Use the following procedure to add patch summary information to the morning report.

1 Access the AMREP command interface by typing

>AMREPCI
and pressing the Enter key.

Note: The AMREP command interface can be accessed at any level of the MAP.

2 Add patch summary information to the morning report by typing

>AMREPED ADD PATCH
and pressing the Enter key.

3 Check the acknowledgement message.

4 Quit from the AMREP command interface by typing

>QUIT
and pressing the Enter key.

The following is an example of the patch summary portion of the morning report.

```
------------------------------------------------------------
PRSU SUMMARY INFORMATION
========================
                           CM       ISN       XPM
Total Validated             0         0         0
Total Applied               0         0         0
Total Removed               0         0         0

*** Total Applied during 24 hours ending 1998/04/08 23:46: 8
------------------------------------------------------------
```

XPM Not Scheduled for REX Test

Feature XPMREX provides the total number of XPMs in the office, and a count of XPMs that do not have REx tests scheduled. The purpose of this section of the report is to encourage the operating company to have their XPMs scheduled for REx tests.

If an XPM fails its REx test, take immediate maintenance action to prevent the XPM from being taken out-of-service.

The following XPM types are covered:

- LGC, LTC, DTC ...(all XPMs datafilled in table LTCINV)
- MSB6, MSB7
- RCC

Refer to the *Peripheral Modules Maintenance Guide*, 297-1001-592 for additional information.

Adding XPM REx test information to the morning report

Use the following procedure to add XPM REx test information to the morning report:

1 Access the AMREP command interface by typing

>AMREPCI
and pressing the Enter key.

Note: The AMREP command interface can be accessed at any level of the MAP.

2 Add XPM REx test information to the morning report by typing

>AMREPED ADD XPMREX
and pressing the Enter key.

3 Check the acknowledgement message.

4 Quit from the AMREP command interface by typing

>QUIT
and pressing the Enter key.

The following is an example of the XPM REx test information portion of the morning report.

```
------------------------------------------------------------
XPM REX INFORMATION
==================
TOTAL XPM         REX UNSCHEDULED
      9                   0
------------------------------------------------------------
```

Table Data Integrity Check

Feature CHECKTAB provides the results accumulated from checking the integrity of data tables in the DMS switch. It also provides the statistics on tuples that tested, failed and passed.

When the CHECKTAB command is used to test all data tables in the DMS switch, the results are also stored in a file called SUMMARY$FILE in table SFDEV. This file contains detailed information regarding the failure count.

Adding table data integrity check information to the morning report

Use the following procedure to add table data integrity check information to the morning report:

1 Access the AMREP command interface by typing

>AMREPCI
and pressing the Enter key.

Note: The AMREP command interface can be accessed at any level of the MAP.

2 Enter the non-menu command

>AMREPED ADD CHECKTAB
and pressing the Enter key.

3 Check the acknowledgement message.

4 To exit from AMREPCI, enter the command

>QUIT
and pressing the Enter key.

The following is an example of the table data intgerity check portion of the morning report.

```
------------------------------------------------------------
CHECKTAB INFORMATION
====================
TOTAL TESTED           TOTAL PASSED          TOTAL FAILED
       0                      0                     0
------------------------------------------------------------
```

Generating the morning report

Determining the current status of the morning report

Before attempting to generate the report, verify that the morning report feature has been activated. Examine the office parameters in table OFCOPT.

If the Boolean parameter for the tuple AMREP_ACTIVE is set to Y, then the feature has been activated. (Refer to the *Office Parameters Reference Manual* for additional information on office parameters.)

Activating the morning report

If the parameter for tuple AMREP_ACTIVE in table OFCOPT is set to N, change it to Y.

Canceling the morning report

If the parameter for tuple AMREP_ACTIVE in table OFCOPT is set to Y, change it to N.

Note 1: Initialization of the software load sets the value of the parameter AMREP_ACTIVE to N.

Note 2: If the value of the AMREP_ACTIVE parameter is not set to Y, and an attempt is made to generate the report, the report heading includes the following message:

```
*** Report is not active,
    change office parm AMREP_ACTIVE to TRUE ***
```

Selecting immediate or scheduled report output

The report is available on demand or it can be scheduled. In either case, a tuple must be datafilled in table OMREPORT. If this tuple is not datafilled, no report will be generated by the system.

Scheduling the morning report

Use the following procedure to schedule the morning report:

1 Access table OMREPORT by typing

>TABLE OMREPORT
and pressing the Enter key.

MAP response

```
TABLE: OMREPORT
```

2 List the tuples in table OMREPORT by typing

>LIST ALL
and pressing the Enter key.

3 Position on the spare tuple by typing

>POS tuple_no
and pressing the Enter key.

where
tuple_no is the schedule number

4 Change the spare tuple by typing

>CHANGE
and pressing the Enter key.

MAP response

```
ACTIVE:
```

5 Confirm the command by typing

>Y
and pressing the Enter key.

MAP response

```
REP:
```

6 Specify the frequency of report generation by typing

>frequency
and pressing the Enter key.

where
frequency is the frequency of report generation, for example, DEVDAY (daily)

Example input

>DEVDAY

MAP response

```
WHEN:
```

7 Specify the time of report generation by typing

>time
and pressing the Enter key.

where
time is the time of report generation, for example, 7 C00 (7:00 a.m.)

Example input

>7 C00

MAP response

```
CLASS:
```

8 Specify the class by typing

>class
and pressing the Enter key.

Example input

>HOLDING

MAP response

```
NAME:
```

9 Specify the report name by typing

>AMREPORT
and pressing the Enter key.

MAP response example

```
4   Y   DEVDAY   7 C00   HOLDING   AMREPORT
```

Note: The above response indicates that tuple 4 is assigned to the AMREPORT (NAME), it is active (Yes), to be output daily (DEVDAY) at 7 a.m. (7 C00).

Requesting the morning report

Use the following procedure to request the morning report:

Note: Before requesting the morning report, add it to the OMREPORT table. Refer to "Scheduling the morning report" in this section.

1 Access OMREPORT CI by typing

>OMREPORT
and pressing the Enter key.

MAP response

```
OMREPORT:
```

2 Request the morning report by typing

>REQUEST tuple_no
and pressing the Enter key.

where
tuple_no is the tuple associated with the morning report

Example input

REQUEST 4

Note 1: Table editor commands are described in *Basic Translations Tools Guide*, 297-1001-360.

Note 2: Table OMREPORT is described in the *Translations Guide.*

3 Quit table OMREPORT by typing

>QUIT ALL
and pressing the Enter key.

Selecting the time for the morning report

Rules and recommendations

The report must not be scheduled for automatic generation between 23:45 and 0:15 because this period is used for the preparation of data. Report generation is not allowed during this time period.

The report should be printed during low traffic hours to ensure the validity of the report data. Printing the report during low traffic periods limits the amount of data lost while the report is printed.

Note: If a clock change or a restart occurs during the 24-hour period preceding the report, the accumulated data in the report may not be accurate.

How information is displayed in the morning report

The morning report is printed out in the form of an OMRS log.

At the top of the report is the date and time at which the report was output.

The following is an example of the OMRS log printout, showing only the headings section of a scheduled morning report:

```
------------------------------------------------------
OMRS009  SEPT25  1:50:00 INFO OM PERIODIC REPORT

REPORT NAME: AMREPORT          REASON: SCHEDULED

======================================================
                REPORT CONTENT
======================================================
```

Customizing the morning report

Available Commands

The capability to customize the morning report is implemented through the use of a CI command. Items for the report may be included or excluded in order to suit the needs of the operating company. Refer to *Commands Reference Manual,* 297-1001-822 for further information on CI commands.

The AMREPED command, with the appropriate parameter, is used

- to list the items in the report

  The LIST parameter provides two lists that contain:

  — items which are already in the report

  — items that could be added to the report

- to delete an item from the report

  The DEL parameter is used to delete an item from the report. An error message is displayed if the item has already been excluded from the report.

- to include an item in the report

  The ADD parameter is used to include an additional item in the report. An error message is displayed if the item is already included in the report.

To customize the morning report, the following procedure is required:

1 Access the AMREPCI directory by typing

>AMREPCI
and pressing the Enter key.

Note: This command can be executed at any MAP level.

2 Following the input of the required functional commands, quit from the AMREPCI directory by typing

>QUIT
and pressing the Enter key.

Listing the Items in the morning report

Use the following procedure to list the items in the morning report:

1 Access the AMREPCI directory by typing

>AMREPCI
and pressing the Enter key.

Note: This command can be executed at any MAP level.

2 List the morning report items by typing

>AMREPED LIST
and pressing the Enter key.

MAP response example

For a report where all items are specified, a typical response is

```
*****************************************************
Items that can be deleted from the report are:
   *** SPMS           – SPMS indicators
   *** CPPERF        – Call Processing Performance
   *** CPU            – CPU Occupancy
   *** SWACT         – PM Swact Count
   *** SWERTRAP   – Trap / Swerr Counts
   *** LOGS           – FM and OM Log Counts
   *** NETINTEG     – Network Integ Fail Count
   *** ALT             – ALT result
   *** ATT             – ATT result
   *** IMAGE         – CC Image Dump Result
   *** OUTAGE       – Outage Information
   *** PATCH          – Patch Summary Information
   *** XPMREX      – XPM Rex Information
   *** CHECKTAB   – CHECKTAB Information
   *** CCTST          – CC Tests
*****************************************************
 Items can be added to the report are :  None.
*****************************************************
```

Deleting an item from the morning report

Use the following procedure to delete an item from the morning report:

1 Access the AMREPCI directory by typing

>AMREPCI
and pressing the Enter key.

Note: This command can be executed at any MAP level.

2 Delete the item by typing

>AMREPED DEL <item name>
and pressing the Enter key.

where

item_name is one of the features described in this document. See Chapter 2 for a complete list.

MAP response

```
*** <item_name> is deleted from the report ***
```

Including an Item in the morning report

Use the following procedure to include an item in the morning report:

1 Access the AMREPCI directory by typing

>AMREPCI
and pressing the Enter key.

Note: This command can be executed at any MAP level.

2 Include the item in the morning report by typing

>AMREPED ADD <item name>
and pressing the Enter key.

where

item_name is one of the features described in this document. See Chapter 2 for a complete list.

MAP response

```
*** <item name> is added to the report ***
```

If any of the items have already been deleted or added when the preceding commands are entered, the system response is:

```
*** No action taken – Item is already deleted ***
```

or

```
*** No action taken – Item is already included ***
```

Morning report examples

The following are examples of the maintenance managers morning report. Two examples display the log report format for the headings of both the scheduled and requested versions of the report. The third example displays the content of the morning report and represents a report with every feature specified and operating.

Headings for the scheduled report

For the scheduled version, the headings for the report appear as follows:

```
------------------------------------------------------
OMRS009  NOV25  7:00:00 INFO OM PERIODIC REPORT

REPORT NAME: AMREPORT          REASON: SCHEDULED
======================================================
                REPORT CONTENT
======================================================
```

Headings for the requested report

For the requested version, the report headings appear as follows:

```
------------------------------------------------------
OMRS003 JAN02 00:16:58 9000 INFO OM PERIODIC REPORT

REPORT NAME: AMREPORT          REASON: REQUESTED
======================================================
                REPORT CONTENT
======================================================
```

Report Content

The content for either the scheduled or requested report is displayed in the following figure.

```
************************************************
      * MAINTENANCE MANAGERS MORNING REPORT *
************************************************
OFFICE NAME : COML
BCS RELEASE :   29

SPMS INDICATORS
===============
  Ofcperf       (office perf)    =  95 (average)
  .....Service  (service perf)   =  97 (above average)
  .....Mtceperf (maint. perf)    =  90 (below average)
  .....Provres  (prov. resource) = 100 (perfect)

Call PROCESSING PERFORMANCE
===========================
  Total Calls        Lost Calls       Completion Percentage
      51                 4                     92 %

CPU OCCUPANCY
=============
  High Water Mark    Threshold Value    Threshold Exceeded
        10 %               60 %                0

PM SWACT INFORMATION
====================
  Pm Type     Man Warm     Sys Warm     Man Cold     Sys Cold
  LCM            0            1            0            0
  DTC            0            1            0            0
  LTC            0            2            0            0
  MSB7           0            1            0            0
  LGCI           0            0            1            0

NETWORK INTEG FAIL COUNT
========================
  Fail Count     Total Calls
      8              51

TRAP / SWERR COUNT
==================
  CC Swerr Count     CC Trap Count
       8                  6

FM AND OM LOG COUNTS
====================
  FM100     FM101     OM2200
    4         2         1
```

```
CC TEST RESULTS
===============
  Type               Status      Time
  Infrequent Rex     Passed      1976/01/01 00:00:00.000 FRI
  Frequent Rex       Passed      1976/01/01 00:15:00.000 FRI
  Image              Passed      1976/01/01 00:26:00.000 FRI
  DS 0 Retention     Passed      1976/01/01 00:45:00.000 FRI
  DS 1 Retention     Passed      1976/01/01 00:49:00.000 FRI
          *** Last image test restart type is :  WARM

 ALT RESULT
 ==========
   Total Tested   Total Passed   Total Failed   Total Skipped
       128            89             11             28

ATT RESULT
==========
  Total Tested   Total Passed   Total Failed   Total Skipped
      289            259            24             6

OUTAGE INFORMATION
==================
        H/W Type      Hour  Min   Sec
        CMC             0     1    40
        XPM            37    48    20
        LCM            10     0     0
        LM              0     9    20
        DCM             2     0     0
        TM             10    20     0
        TRK            73     0     0
        CARR           20     0     0

CC IMAGE DUMP RESULT
====================
  Dump Count     Last Dump Result
      1              passed

PRSU SUMMARY INFORMATION
========================
                           CM      ISN      XPM
  Total Validated           5        0        0
  Total Applied             8        3        5
  Total Removed             2        0        0

 *** Total Applied during 24 hours ending 1998/04/04 23:46: 8
```

```
XPM REX INFORMATION
===================
  Total XPM      REX Unscheduled
       9               0

CHECKTAB INFORMATION
====================
  Total Tested    Total Passed    Total Failed
      49              49              0

                  *** END ***
=====================================================
```

Display of Report Content

Abbreviations

ALT
Automatic Line Testing

ATT
Automatic Trunk Testing

CC
Central Control

CM
Computing Module

CPU
Central Processing Unit

ISN
Integrated Services Network

LGC
Line Group Controller

LTC
Line Trunk Controller

MAP
Maintenance and Administration Position

MS
Message Switch

MSB6
Message Switch and Buffer 6

MSB7
Message Switch and Buffer 7

NET
Network Module

OM
Operational Measurements

PM
Operational Measurements

PRSM
Post Release Software Manager

PRSU
Post Release Software Update

RCC

Remote Cluster Controller

REX

Routine Exercise (Tests)

SPMS

Switch Performance Monitoring System

XPM

XMS-based Peripheral Module

DMS-100 Family

Maintenance Managers Morning Report

Product Documentation—Dept 3423
Northern Telecom
P.O. Box 13010
RTP, NC 27709–3010
1–800–684–2273
(1–800–NTI–CARE)

Publication number: 297-1001-535
Product release: SN06 (DMS)
Document release: Standard 03.05
Date: September 2003
Printed in the United States of America

NORTEL
NORTHERN TELECOM