NORTEL

# Nortel Multiservice Switch 15000, Media Gateway 15000 and Multiservice Data Manager in Carrier Voice over IP Networks

# Fault Management Overview

PT-AAL1/UA-AAL1/UA-IP

NN10092-911

Nortel Multiservice Switch 15000, Media Gateway 15000 and Multiservice Data Manager in Carrier Voice over IP Networks

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PT-AAL1/UA-AAL1/UA-IP

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Contains standard information for the (I)SN08 FVS release.

# Contents

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# About this document

The following topics are discussed in this section:



## Who should read this document and why

This document, NN10092-911 *Nortel Multiservice Switch 15000, Media Gateway 15000 and Multiservice Data Manager in Carrier Voice over IP Networks Fault Management Overview PT-AAL1/UA-AAL1/UA-IP*, is intended for people who need to understand fault management of Nortel Multiservice Data Manager (MDM) workstations, Nortel Multiservice Switch 15000 nodes, and Nortel Media Gateway 15000 nodes in Carrier Voice over IP network solutions. The Media Gateway 15000 switch is used in UA-IP solutions.

System administrators and network operators who are responsible for network management will need the information provided by this document as well as fault application writers.

## What you need to know

Before you read this document, you need to be familiar with the components that make up your network and the solution architecture that links the components together. For an overview, see:

- NN10441-100 *PT-AAL2 Solution-level Basics*
- NN10442-100 *Packet Trunking/Packet Transit - IP Solution-level Basics (PT-IP)*
- NN10443-100 *UA-AAL1 Solution-level Basics*
- NN10446-100 *Universal Access - IP Solution-level Basics (UA-IP)*

For more information on how the Nortel Multiservice Switch 15000 nodes, Media Gateway 15000 nodes and the Nortel Multiservice Data Manager (MDM) servers fit into the solution architecture, see:

- NN10028-111 *Nortel Multiservice Switch 15000, Media Gateway 15000 and Multiservice Data Manager in Carrier Voice over IP Networks Product and Technology Basics PT-AAL1/UA-AAL1/UA-IP*

Some familiarity with fault management of Multiservice Switch 15000 and Media Gateway 15000 equipment using Multiservice Data Manager servers is also beneficial. For more information, see:

- NN10600-500 *Nortel Multiservice Switch 6400/7400/15000/20000 Alarms Reference*
- 241-6001-501 *Nortel Multiservice Data Manager Alarms Reference*
- 241-6001-011 *Nortel Multiservice Data Manager Fault Management Tools*

## How this document is organized

The first section of this document, “Fault management overview” (page 23), begins with a high-level overview of the fault management function and description of the flow of fault management data. The second section, “Interpreting SCC2 logs” (page 29), uses a sample SCC2 log entry to demonstrate how to interpret the information contained in these logs. The next section, “Summary of Multiservice Switch 15000 and Media Gateway 15000 alarm logs” (page 35), lists Multiservice Switch 15000 / Media Gateway 15000 (MSS/MG15000) SET/CLEAR and message alarms

and matches them with the corresponding SCC2 log alarm entries. The next section, “Summary of Multiservice Data Manager alarm logs” (page 77) lists Multiservice Data Manager proxy SET/CLEAR alarms and matches them with the corresponding SCC2 log alarm entries. An appendix, “Telcordia NMA information” (page 89), summarizes the level of compatibility of the Telcordia NMA application with Voice over ATM (VoA) configurations. It also includes specific information related to fault handling on Multiservice Switch 15000 nodes.

***Note:*** Only those MSS/MG15000 SET/CLEAR and message alarms that are applicable to Carrier Voice over IP network solutions are included in this document.

# What’s new in this document

The following features were added to this document:

- “Alarm updates for SN08” (page 17)

## Alarm updates for SN08

The following SET/CLEAR alarm codes have been modified to reflect changes to the alarms that can be generated by Multiservice Switch 15000 and Media Gateway 15000 nodes using SN08:

- 7000 0041 (modified)
  See “MSS/MG15000 index group 7000: Provisioning alarms” (page 41)
- 7002 0003 (modified)
  7002 0004 (added)
  See “MSS/MG15000 index group 7002: Backplane control system alarms” (page 42)
- 7003 0008 (deleted)
  See “MSS/MG15000 index group 7003: Data collection system alarms” (page 43)
- 7006 0100 (added)
  See “MSS/MG15000 index group 7006: Radius security alarms” (page 43)

- 7021 1002 (modified)
  7021 1003 (modified)
  See “MSS/MG15000 index group 7021: Internet protocol alarms” (page 54)
- 7041 0052 (added)
  See “MSS/MG15000 index group 7041: ATM networking alarms” (page 56)
- 7056 1219 (added)
  See “MSS/MG15000 index group 7056: Voice Services Processor (VSP) and Narrowband service trunk over ATM (Nsta) alarms” (page 74)
- 0999 0004 (deleted)
  See “Multiservice Data Manager index group 0999” (page 80)
- 3010 0700 (deleted)
  3010 0701 (deleted)
  3010 0702 (deleted)
  3010 0703 (deleted)
  3010 0801 (added)
  3010 0802 (added)
  3010 0803 (added)
  3010 0820 (added)
  3010 0821 (added)
  See “Multiservice Data Manager index group 3010: Multiservice Data Manager server alarms” (page 81)
- 6000 001 to 6004 0000 (deleted)

The following Message alarm codes have been modified to reflect changes to the alarms that can be generated by Multiservice Switch 15000 and Media Gateway 15000 nodes using SN08:

- 7003 0008 (modified)
  See “MSS/MG15000 index group 7003: Data collection system alarms” (page 66)
- 7006 0101 (added)
  7006 0102 (added)
  7006 0103 (added)
  7006 0104 (added)

7006 0105 (added)
See “MSS/MG15000 index group 7006: Network management interface system alarms and Radius security alarms” (page 67)

- 7061 0001 (added)
  See “MSS/MG15000 index group 7061: Security policy violation alarms” (page 75)
- 70999 0100 (added)
  See “Multiservice Data Manager index group 0999” (page 85)
- 3010 0700 (added)
  3010 0701 (added)
  3010 0702 (added)
  3010 0703 (added)
  See “Multiservice Data Manager index group 3010: Multiservice Data Manager server alarms” (page 86)
- 6000 0001 to 6004 0000 (added)
  See “Multiservice Data Manager index group 600x: MDP application alarms” (page 87)

Other changes made to this document include the following:

- SCC2 logs now contain security audit logs as well as fault information. See “Fault management overview” (page 23).
- The term Succession has been rebranded Carrier Voice over IP (CVoIP).
- The term Preside Multiservice Data Manager (Preside MDM) has been rebranded to Multiservice Data Manager (MDM) in conjunction with the new Nortel brand simplified naming format.
- Passport 8600 (PP8600) has been rebranded to Ethernet Routing Switch 8600 (ERS 8600).

## Text conventions

This document uses the following text conventions:

- `nonproportional spaced plain type`

  Nonproportional spaced plain type represents system generated text or text that appears on your screen.

- **`nonproportional spaced bold type`**

  Nonproportional spaced bold type represents words that you should type or that you should select on the screen.

- *italics*

  Statements that appear in italics in a procedure explain the results of a particular step and appear immediately following the step.

  Words that appear in italics in text are for naming.

- [`optional_parameter`]

  Words in square brackets represent optional parameters. The command can be entered with or without the words in the square brackets.

- <`general_term`>

  Words in angle brackets represent variables which are to be replaced with specific values.

- UPPERCASE, lowercase

  In Nortel Multiservice Data Manager, uppercase and lowercase letters that appear in UNIX commands and parameters must be matched exactly. The system matches upper and lowercase characters differently.

- UPPERCASE, lowercase

  Nortel Multiservice Switch / Media Gateway system commands are not case-sensitive and do not have to match commands and parameters exactly as shown in this document, with the exception of string options values (for example, file and directory names) and string attribute values.

- |

  This symbol separates items from which you may select one; for example, ON|OFF indicates that you may specify ON or OFF. If you do not make a choice, a default ON is assumed.

- ...

  Three dots in a command indicate that the parameter may be repeated more than once in succession.

The term absolute pathname refers to the full specification of a path starting from the root directory. Absolute pathnames always begin with the slash ( / ) symbol. A relative pathname takes the current directory as its starting point, and starts with any alphanumeric character (other than /).

## Related documents

See the following documents for information related to fault management:

- NN10441-100 *PT-AAL2 Solution-level Basics*
- NN10442-100 *Packet Trunking/Packet Transit - IP Solution-level Basics (PT-IP)*
- NN10443-100 *UA-AAL1 Solution-level Basics*
- NN10446-100 *Universal Access - IP Solution-level Basics (UA-IP)*
- NN10028-111 *Nortel Multiservice Switch 15000, Media Gateway 15000 and Multiservice Data Manager in Carrier Voice over IP Networks Product and Technology Basics PT-AAL1/UA-AAL1/UA-IP*
- NN10198-912 *Nortel Multiservice Switch 15000, Media Gateway 15000 and Multiservice Data Manager in Carrier Voice over IP Networks Fault Management Troubleshooting PT-AAL1/UA-AAL1/UA-IP*
- NN10600-500 *Nortel Multiservice Switch 6400/7400/15000/20000 Alarms Reference*
- NN10600-520 *Nortel Multiservice Switch 7400/15000/20000 Fault and Performance Management: Troubleshooting*
- NN10600-715 *Nortel Multiservice Switch 7400/15000/20000 ATM Fault and Performance Management*

- 241-6001-309 *MDM Management Data Provider User Guide*
- 241-6001-501 *Nortel Multiservice Data Manager Alarms Reference*
- 241-6001-011 *Nortel Multiservice Data Manager Fault Management Tools*

## How to get more help

For information on training, problem reporting, and technical support, see the "Nortel support services" section in NN10600-030 *Nortel Multiservice Switch 7400/15000/20000 Overview*.

# Chapter 1
# Fault management overview

This document, NN10092-911 *Nortel Multiservice Switch 15000, Media Gateway 15000 and Multiservice Data Manager in Carrier Voice over IP Networks Fault Management Overview PT-AAL1/UA-AAL1/UA-IP*, describes the fault management of Nortel Multiservice Switch 15000 / Media Gateway 15000 (MSS/MG15000) nodes and Nortel Multiservice Data Manager (MDM) servers within Carrier Voice over IP network solutions.

The Multiservice Data Manager client-set and MDM Admin Server workstations rely on the Multiservice Data Manager server-set/standalone workstation for the Network Model layout and state-based data flows. The following state-based surveillance applications are used to detect, diagnose and view network faults:

- Network Viewer
- Component Information Viewer
- Network Status Bar

The Network Viewer is a network component tool that detects faults on a node. It displays state and topology information for the physical and organizational components that make up the network. The Component Information Viewer is used to diagnose network faults. It provides information on the components and subcomponents of a network element. The Network Status Bar provides a high-level view of the current network status.

See 241-6001-011 *Nortel Multiservice Data Manager Fault Management Tools* for information on the fault management tools. See 241-6001-015 *Nortel Multiservice Data Manager Network Model Administration* for information on the Network Model.

Fault management data, mostly in the form of alarms, provides the information required for network management including network engineering and troubleshooting. Common causes of alarms include the following occurrences:

- discovery of a fault or failure
- crossing of a threshold by a measured activity
- clearing of a fixed fault or failure condition
- generation of a message alarm in cases where conditions are transient or cannot be repaired

***Note:*** Currently, this document is primarily concerned with one type of fault management data, SCC2 alarm logs. In subsequent releases, this document will be expanded to include more information.

***Note:*** In SN08, SCC2 logs no longer apply only to fault information. Security audit logs can now also flow northbound in the SCC2 format. For more information on security audit logs, see NN10180-611 *Nortel Multiservice Switch 15000, Media Gateway 15000 and Multiservice Data Manager in Carrier Voice over IP Networks Security and Administration PT-AAL1/UA-AAL1/UA-IP*.

The system for generating Multiservice Switch / Media Gateway equipment alarms is event-driven. When an event occurs that results in the production of an alarm, Multiservice Switch / Media Gateway alarms are designed to minimize the number of multiple alarms generated in the event of a failure or error condition. Usually, only the component that fails or detects the failure generates an alarm, thus preventing the generation of an entire chain of alarms from components associated with the failed component.

# Fault management data flow overview

The process for collecting SCC2 logs begins when Multiservice Data Manager software collects alarm and log data from network nodes and Multiservice Data Manager servers. This fault management data, which flows over IP connections from the nodes and servers, is in turn, either forwarded to a higher level management system (HLMS) or directly to the Operations Support Systems (OSS) applications. For PT-AAL1 and UA-AAL1 solutions, the higher level management system is the CS2000 Core Manager. For UA-IP solutions, the higher level management system is the Integrated Element Management System (Integrated EMS).

When a higher level management system is involved, the higher level management application receives node and server alarm logs and converts them into the switch control centre 2 (SCC2) format. The application then transmits the logs to the OSS applications. To the OSS applications, an SCC2 log indicates events that have occurred on the nodes and servers. For more information on interpreting SCC2 log information, see “Interpreting SCC2 logs” (page 29).

When the fault management data flows directly from the network nodes and Multiservice Data Manager servers to the OSS applications, the records are received in the API format without ever being converted into the SCC2 format.

For an illustration of the two different fault management data flow paths, see the following figures:

- “Fault data flow to the OSS application by way of a higher level management system” (page 26)
- “Fault data flow to the OSS applications by way of Multiservice Data Manager” (page 27)

  ***Note:*** The figures “Fault data flow to the OSS application by way of a higher level management system” (page 26) and “Fault data flow to the OSS applications by way of Multiservice Data Manager” (page 27) do not represent the redundant links between the components. For more information about actual connection links and redundancy between links,

see NN10114-511 *Nortel Multiservice Switch 15000, Media Gateway 15000 and Multiservice Data Manager in Carrier Voice over IP Networks Configuration Overview PT-AAL1/UA-AAL1/UA-IP*.

**Figure 1**
**Fault data flow to the OSS application by way of a higher level management system**

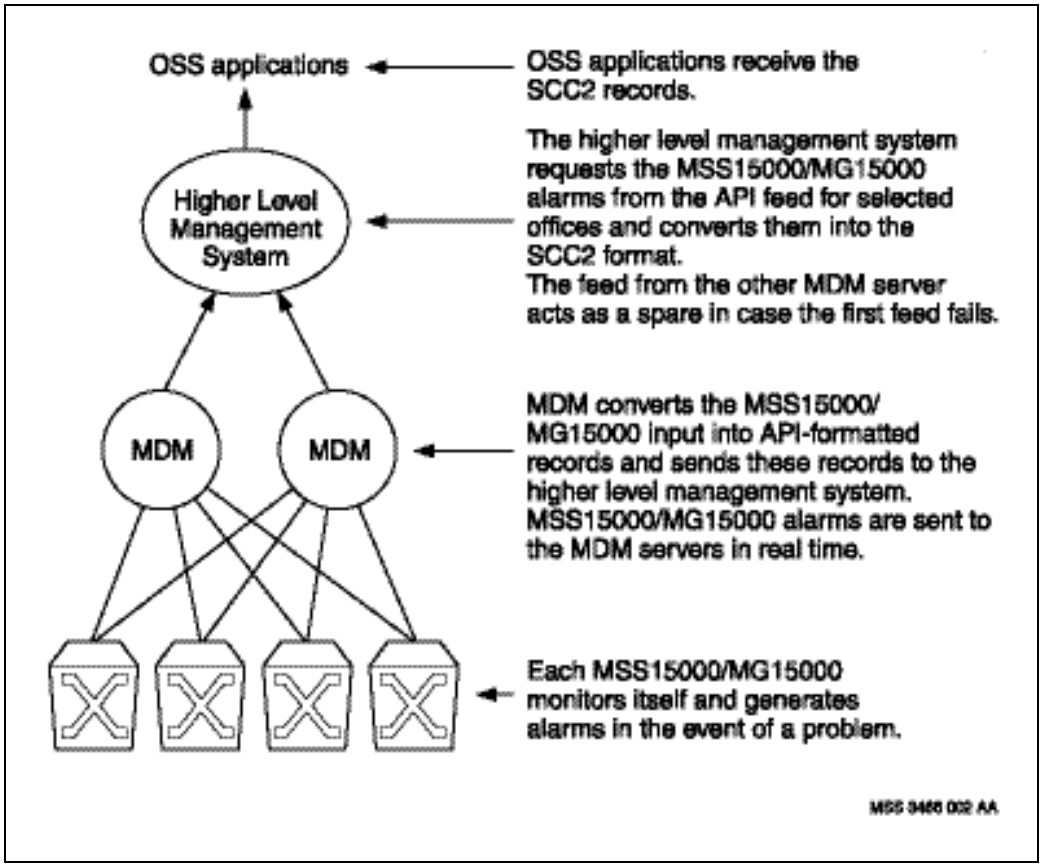
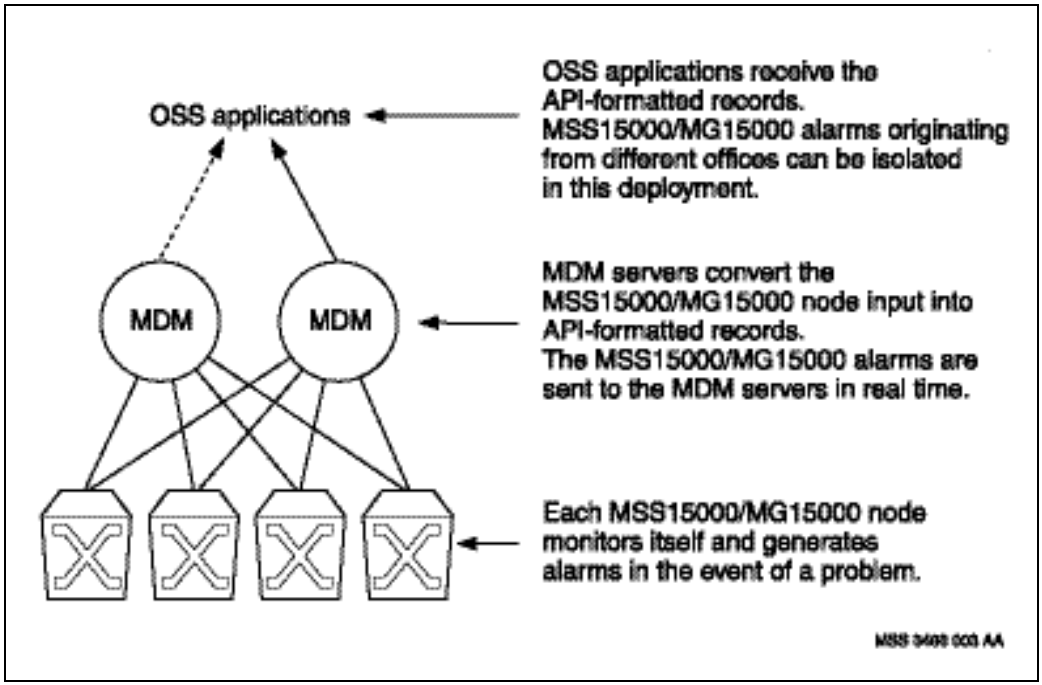


**Figure 2**
**Fault data flow to the OSS applications by way of Multiservice Data Manager**



# Chapter 2
# Interpreting SCC2 logs

The various lines and fields within each SCC2 alarm log entry contain alarm data for Nortel Multiservice Switch 15000 / Media Gateway 15000 (MSS/MG15000) nodes and Nortel Multiservice Data Manager (MDM) servers. Operators and engineers can use these fields to isolate the fault using the Multiservice Data Manager Component Information Viewer.

## Sample SCC2 log

The table, “Sample SCC2 log” (page 29), gives an example of an SCC2 log. This sample displays the SCC2 log format.

**Table 1**
**Sample SCC2 log**

| |
|---|
| 37 PPEM300 8169 TBL |
| time: 2003 01 11 15 37 06 |
| event: clear |
| compId: EM P15KF LP SONET 3 |
| severity: cleared |
| faultCode: 70115201 |
| alarmType: communications |
| commentData: Loss of frame condition has been cleared. |

A SCC2 log entry consists of the header line and seven lines of body text. The header line is divided into several fields each of which contains a specific piece of information. These fields are explained in the "Labelled header fields in the sample SCC2 log entry" (page 31) and "Sample SCC2 log entry element description" (page 32). The name of each line in the body text of the SCC2 log appears at the beginning of that line. The information in the body text of the SCC2 log also appears in the corresponding node's alarm. For more information on the corresponding fields in SCC2 log and Multiservice Switch alarms, see "Corresponding SCC2 log and Alarm NTP information" (page 30).

**Table 2**
**Corresponding SCC2 log and Alarm NTP information**

| Line number | Line name | The corresponding field in NN10600-500 *Nortel Multiservice Switch 6400/7400/15000/20000 Alarms Reference* |
|---|---|---|
| 1 | header (name does not appear in the line) | N/A |
| 2 | time | date & time |
| 3 | event | Status |
| 4 | compId | Component |
| 5 | severity | Severity |
| 6 | faultCode | Alarm NTP Index |
| 7 | alarmType | Type |
| 8 | commentData | Com |

**Figure 3**
**Labelled header fields in the sample SCC2 log entry**

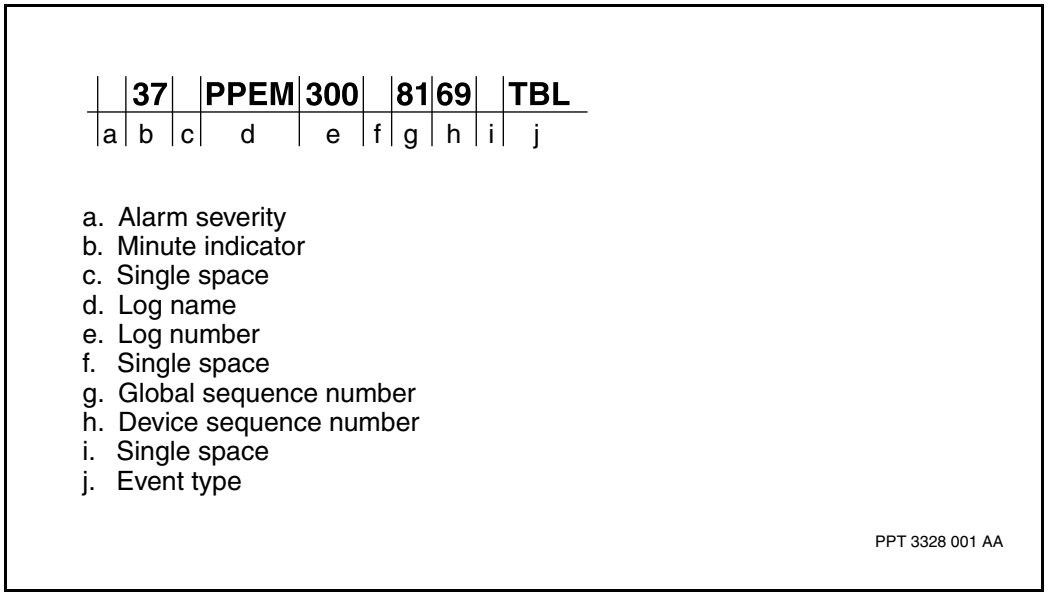


**Table 3**
**Sample SCC2 log entry element description**

| Line number | Field | Description | Applicable log values and formats |
|---|---|---|---|
| 1 | a. | Alarm severity<br><br>MSS/MG15000 node/Multiservice Data Manager alarm log severity | "*C" = critical alarm<br>"**" = major alarm<br>"* " = minor, warning, and indeterminate alarms (one blank)<br>"  " = clear alarm (two blanks)<br><br>Two-character indicator representing one of the values listed above in quotation marks, left justified, padded with blanks |
| 1 | b. | Minute indicator<br><br>Generated by the higher level management system (HLMS) at the time as the HLMS receives the alarm log from Multiservice Data Manager | Ranges from 00 to 59, right justified, padded with zeros<br><br>Two-character numeric indicator representing the minutes after the hour |
| 1 | c. | Single space | " " = space (one blank) |
| 1 | d. | Log name<br><br>Name assigned by the higher level management system and is based on the first four digits (Index group) of the eight digit MSS/MG15000 node or Multiservice Data Manager alarm identifier | "CA  " for index group 0000 (two blanks)<br>"PPEM" for index groups beginning with 70xx and some fault codes in group 0999<br>"MDM " for index groups beginning with 30xx and some fault codes in group 0999 (one blank)<br><br>Four characters, left justified, padded with blanks |

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**Table 3 (Continued)**
**Sample SCC2 log entry element description**

| Line number | Field | Description | Applicable log values and formats |
|---|---|---|---|
| 1 | e. | Log number<br><br>***Note:*** The Alarm Type 'debug' is translated as an information log rather than as a fault. | "300" = communications<br>"301" = quality of service<br>"302" = processing<br>"303" = equipment<br>"304" = environmental<br>"305" = security<br>"306" = operator<br>"307" = unknown<br><br>Three-character numeric indicator representing the Multiservice Switch node or Multiservice Data Manager alarm type |
| 1 | f. | Single space | " " = single space (one blank) |
| 1 | g. | Global sequence number<br><br>Number incremented by the higher level management system upon receipt of every alarm log | Two-character numeric indicator ranging from 00 to 99, right justified, padded with zeroes |
| 1 | h. | Device sequence number<br><br>Generated and incremented by the higher level management system upon receipt of every device-specific alarm log from Multiservice Data Manager (originating from MSS/MG15000 node or Multiservice Data Manager server) | Two-characters numeric indicator ranging from 00 to 99, right justified, padded with zeroes |
| 1 | i. | Single space | " " = single space (one blank) |
| 1 | j. | Event type | "TBL " (one blank)<br><br>Four characters, left justified, padded with blanks |
| 2 | N/A | time | |

(Sheet 2 of 3)

**Table 3 (Continued)**
**Sample SCC2 log entry element description**

| Line number | Field | Description | Applicable log values and formats |
|---|---|---|---|
| 3 | N/A | event | One of the following:<br>set, clear, message |
| 4 | N/A | compId | The name of the node followed by the component name |
| 5 | N/A | severity | |
| 6 | N/A | faultCode | |
| 7 | N/A | alarmType | |
| 8 | N/A | commentData | Comment data is truncated so that the entire log does not exceed 900 bytes |

(Sheet 3 of 3)

# Chapter 3
# Summary of Multiservice Switch 15000 and Media Gateway 15000 alarm logs

For information about fault management involving Nortel Multiservice Switch 15000 and Nortel Media Gateway 15000 (MSS/MG15000) alarms applicable to Carrier Voice over IP network solutions, see the following sections:

- "Multiservice Switch 15000 / Media Gateway 15000 Alarm logs" (page 35)
- "Identifying Multiservice Switch 15000 / Media Gateway 15000 alarms in SCC2 logs" (page 37)
- "MSS15000 / MG15000 SET/CLEAR alarms" (page 38)
- "MSS15000 / MG15000 Message alarms" (page 62)

## Multiservice Switch 15000 / Media Gateway 15000 Alarm logs

This section lists those MSS/MG15000 SET/CLEAR and message alarms that are applicable to Multiservice Switch 15000 and Media Gateway 15000 nodes in Carrier Voice over IP networks. These SET/CLEAR and message alarms are matched with the corresponding record for the same type of alarm in a SCC2 alarm log. SET/CLEAR alarms are those alarms where the *event* line has a value indicating a *set* or *clear* alarm. For more information of the lines in a SCC2 alarm log, see "Interpreting SCC2 logs" (page 29).

***Note:*** The following sections do not include all corresponding CLEAR and SET alarm logs. The SCC2 header for the CLEAR alarm is distinguished from the corresponding SET alarm by the first two characters in the header. For example, the alarm severity field for a SET alarm reads “aa”, while the alarm severity field for the CLEAR alarm replaces the “aa” with two blank spaces. For more information on the SCC2 alarm log header line, see “Sample SCC2 log entry element description” (page 32).

# Identifying Multiservice Switch 15000 / Media Gateway 15000 alarms in SCC2 logs

This section tells you how to identify SCC2 alarm log headers and the corresponding network node alarm.

For specific information on each of the node's proxy SET/CLEAR and message alarms that are applicable to Carrier Voice over IP networks, see the following sections:

- "MSS15000 / MG15000 SET/CLEAR alarms" (page 38)
- "MSS15000 / MG15000 Message alarms" (page 62)

## Alarm NTP index field

The Multiservice Switch 15000 / Media Gateway 15000 alarm NTP index consists of an eight digit number that uniquely identifies each alarm. The alarm NTP index is composed of two parts

- four initial digits that identify the Index Group to which the alarm belongs
- four subsequent digits that identify the SubIndex number for the alarm

All of the records for Multiservice Switch 15000 / Media Gateway 15000 alarms in this document are grouped on the basis of a common index group number. For example, all the records for backplane control system alarms that are applicable to Carrier Voice over IP networks appear below the heading "Index group: 7002". The SubIndex number field uniquely identifies each alarm within an index group by giving the second four digit identifying number. For example, 7002 0002, the index group and subindex numbers, indicates a specific Multiservice Switch 15000 backplane control system alarm.

## Component field

The Component name field for each Nortel Multiservice Switch 15000 / Media Gateway 15000 alarm is also used to identify the alarm in the SCC2 alarm log. The component name indicates the managed object against which the alarm log is generated. For example, the component name of the 7002 0002 alarm is `Shelf FabricCard/<n>`. The component name is preceded by the node name of the module which typically starts with EM.

### SCC2 header field

The SCC2 header field presents the corresponding header from the SCC2 alarm log that matches the specific alarm already identified in the record. For example, the SCC2 header that matches the 7002 0002 alarm is **bb PPEM303 gghh TBL.

### Comment field

The Comment field includes additional descriptive information about either a specific alarm or a group of alarms.

## MSS15000 / MG15000 SET/CLEAR alarms

Nortel Multiservice Switch SET/CLEAR alarms that are applicable to Carrier Voice over IP networks are divided into the following index groups:

## MSS/MG15000 index group: 0000

The alarms in this index group include OSI administrative state changes, general engineering and memory alarms, and internal software error detected alarms.

**Table 4**
**MSS/MG15000 index group 0000**

| Alarm NTP Index | Component name | SCC2 header |
|---|---|---|
| 0000 0000 | This alarm can apply to many node components | bb CA eee gghh TBL<br>where:<br>eee = 302, 303, 306 |
| 0000 1000 | This alarm can apply to many node components | aabb CA eee gghh TBL<br>where:<br>aa = “*C”, “**”, “* ”<br>eee = 300, 306 |
| 0000 1001 | This alarm can apply to many node components | aabb CA 303 gghh TBL<br>where:<br>aa = “*C”, “**”, “* ” |
| 0000 3000 | This alarm can apply to many node components | aabb CA eee gghh TBL<br>where:<br>aa = “*C”, “**”, “* ”<br>eee = 300, 302 |
| 0000 3001<br>0000 3002 | These alarms can apply to many node components | aabb CA 302 gghh TBL<br>where:<br>aa = “*C”, “**”, “* ” |
| | | |

## MSS/MG15000 index group: 7000

The alarms in this index group apply to failures resulting from provisioning attempts. For example, the failure of a provisioning file to load results in an alarm.

**Table 5**
**MSS/MG15000 index group 7000: Provisioning alarms**

| Alarm NTP Index | Component name | SCC2 header |
|---|---|---|
| 7000 0007 | Prov | aabb PPEM306 gghh TBL<br>where:<br>aa = “*C”, “**”, “* ” |
| 7000 0010 | This alarm can apply to many node components | * bb PPEM302 gghh TBL |
| 7000 0033 | Prov migration | aabb PPEM306 gghh TBL<br>where:<br>aa = “*C”, “* ” |
| 7000 0036 | Prov | aabb PPEM301 gghh TBL<br>where:<br>aa = “**”, “* ” |
| 7000 0037 | Prov | *Cbb PPEM301 gghh TBL |
| 7000 0038 | Prov | * bb PPEM301 gghh TBL |
| 7000 0040 | Prov | **bb PPEM302 gghh TBL |
| 7000 0041 | Provisioning Patch | aabb PPEM306 gghh TBL<br>where:<br>aa = “*C”, “* ” |
| | | |

## MSS/MG15000 index group: 7002

The alarms in this index group apply to failures involving the backplane. For example, a communication failure between an FP and the backplane results in an alarm.

**Instance ranges for SET/CLEAR index group: 7002**

FabricCard instance range (<i>): X or Y

Card instance range (<n>): 0 to15

**Table 6**
**MSS/MG15000 index group 7002: Backplane control system alarms**

| Alarm NTP Index | Component name | SCC2 header |
|---|---|---|
| 7002 0002 | Shelf FabricCard/<i> | **bb PPEM303 gghh TBL |
| 7002 0003<br>7002 0004 | Shelf FabricCard/<i> | *Cbb PPEM304 gghh TBL |
| 7002 0005 | Shelf FabricCard/<i> | **bb PPEM302 gghh TBL |
| 7002 0006 | Shelf FabricCard/<i> | **bb PPEM302 gghh TBL |
| 7002 0007 | Shelf FabricCard/<i> | **bb PPEM302 gghh TBL |
| 7002 0008 | Shelf Card/<n> | * bb PPEM303 gghh TBL |
| 7002 0009 | Shelf FabricCard/<i> | * bb PPEM303 gghh TBL |
| ***Note:*** Refer to “Instance ranges for SET/CLEAR index group: 7002” (page 42) | | |
| | | |

## MSS/MG15000 index group: 7003

The alarms in this index group apply to failures of the data collection system. For example, an alarm or log queue size that has exceeded a threshold results in an alarm.

**Instance ranges for SET/CLEAR index group: 7003**

Agent instance range (<n>): 0 to15

Lp instance range (<n>): 0 to15

**Table 7**
**MSS/MG15000 index group 7003: Data collection system alarms**

| Alarm NTP Index | Component name | SCC2 header |
|---|---|---|
| 7003 0001 | Collector/<t> Agent/<n> | **bb PPEM301 gghh TBL |
| 7003 0002 | Collector/<t> Spooler | **bb PPEM302 gghh TBL |
| 7003 0003 | Collector/<t> Spooler | * bb PPEM301 gghh TBL |
| 7003 0007 | Lp/<n> Eng AAList | **bb PPEM301 gghh TBL |
| ***Note:*** Refer to "Instance ranges for SET/CLEAR index group: 7003" (page 43) | | |
| | | |

## MSS/MG15000 index group: 7006

**Table 8**
**MSS/MG15000 index group 7006: Radius security alarms**

| Alarm NTP Index | Component name | SCC2 header |
|---|---|---|
| 7006 0100 | Ac Radius | *Cbb PPEM305 gghh TBL |
| | | |

## MSS/MG15000 index group: 7008

**Instance ranges for SET/CLEAR index group: 7008**

Disk instance range (<n>): 0 or 1

**Table 9**
**MSS/MG15000 index group 7008: File system alarms**

| Alarm NTP Index | Component name | SCC2 header |
|---|---|---|
| 7008 1001 | FileSystem | **bb PPEM302 gghh TBL |
| 7008 1002 | FileSystem | *Cbb PPEM302 gghh TBL |
| 7008 1004 | FileSystem | *Cbb PPEM303 gghh TBL |
| 7008 1005 | FileSystem | * bb PPEM303 gghh TBL |
| 7008 1006 | FileSystem | **bb PPEM302 gghh TBL |
| 7008 1008<br>7008 1009<br>7008 1010<br>7008 1011 | FileSystem Disk/<n> | **bb PPEM303 gghh TBL |
| 7008 1019 | FileSystem | * bb PPEM303 gghh TBL |
| ***Note:*** Refer to “Instance ranges for SET/CLEAR index group: 7008” (page 44) | | |
| | | |

## MSS/MG15000 index group: 7011

**Instance ranges for SET/CLEAR index group: 7011**

Lp instance range (<n>): 0 to 15
Port types (<type>): SONET, EDS1, DS3, BridgedSonet (Bso), Ethernet, SDH
SONET instance range (<n2>): 0 to 3 (4-port); 0 to 15 (16-port FP)
EDS1 instance range (<n2>): 0 or 1
IMA instance range (<n3>): 0 to 13
LK instance range (<n4>): 0 to 31
DS3 instance range (<n2>): 0 to 3 (4-port FP); 0 to 11 (12-port FP)
DS1 instance range (<n3>): 1 to 28
Ethernet instance range (<n2>): 0 to 3
LAPS instance range (<n>): 0 to 15999
Chan instance range (<n4>): 0 to 23
BridgedSonet instance range (<n2>): 0 to 15
Pbg instance range (<n>): 0 to 15999
SDH instance range (<n2>): 0 to n, where n is one less than the number of ports on the card
Sts instance range (<n2>): 0 to 11
Vt1dot5 instance ranges (<x>,<y>): <x> is 1 to 7; <y> is 1 to 4
Vc12 instance ranges (<k>,<l>,<m>): <k> is 1 to 3; <l> is 1 to 7; <m> is 1 to 3
Lag instance range (<y>): 0 to 7
Lag Link instance range (<z>): 0 to 31

**Table 10**
**MSS/MG15000 index group 7011: Port management system and automatic protection switching alarms**

| Alarm NTP Index | Component name | SCC2 header |
|---|---|---|
| 7011 1100 | Lp/<n> DS3/<n2> IMA/<n3> | *Cbb PPEM300 gghh TBL |
| ***Note:*** Refer to “Instance ranges for SET/CLEAR index group: 7011” (page 45) | | |
| (Sheet 1 of 6) | | |

**Table 10 (Continued)**
**MSS/MG15000 index group 7011: Port management system and automatic protection switching alarms**

| Alarm NTP Index | Component name | SCC2 header |
|---|---|---|
| 7011 1200<br>7011 1210<br>7011 1211<br>7011 1212<br>7011 1213<br>7011 1214<br>7011 1215<br>7011 1216 | Lp/<n> DS3/<n2> IMA/<n3> LK/<n4> | *Cbb PPEM300 gghh TBL |
| 7011 1500 | Lp/<n> Lag/<y> | *Cbb PPEM300 gghh TBL |
| 7011 1501 | Lp/<n> Lag/<y> Link/<z> | *Cbb PPEM300 gghh TBL |
| 7011 2000 | Lp/<n> <type>/<n2> | *Cbb PPEM303 gghh TBL |
| 7011 5000 | Lp/0 EDS1/<n2><br>Lp/<n> DS3/<n2> DS1/<n3><br>Lp/<n> SDH/0 Vc4/0 Vc12/<k>,<l>,<m> E1<br>Lp/<n> SONET/<n2> Sts/<n2> Vt1dot5/<x>,<y> DS1 | *Cbb PPEM300 gghh TBL |
| 7011 5001 | Lp/0 EDS1>/<n2><br>Lp/<n> DS3/<n2> DS1/<n3><br>Lp/<n> SDH/0 Vc4/0 Vc12/<k>,<l>,<m> E1<br>Lp/<n> SONET/<n2> Sts/<n2> Vt1dot5/<x>,<y> DS1 | * bb PPEM300 gghh TBL |
| 7011 5002 | Lp/0 EDS1/<n2><br>Lp/<n> SDH/0 Vc4/0 Vc12/<k>,<l>,<m> E1<br>Lp/<n> SONET/<n2> Sts/<n2> Vt1dot5/<x>,<y> DS1 | *Cbb PPEM300 gghh TBL |
| 7011 5003 | Lp/<n> DS3/<n2> DS1/<n3><br>Lp/<n> SDH/<n2> Vc4/0 Vc12/<k>,<l>,<m> E1<br>Lp/<n> SONET/<n2> Sts/<n2> Vt1dot5/<x>,<y> DS1 | *Cbb PPEM300 gghh TBL |
| 7011 5004 | Lp/<n> DS3/<n2> DS1/<n3><br>Lp/<n> SDH/<n2> Vc4/0 Vc12/<k>,<l>,<m> E1<br>Lp/<n> SONET/<n2> Sts/<n2> Vt1dot5/<x>,<y> DS1 | *Cbb PPEM300 gghh TBL |
| ***Note:*** Refer to “Instance ranges for SET/CLEAR index group: 7011” (page 45) | | |
| (Sheet 2 of 6) | | |

**Table 10 (Continued)**
**MSS/MG15000 index group 7011: Port management system and automatic protection switching alarms**

| Alarm NTP Index | Component name | SCC2 header |
|---|---|---|
| 7011 5005 | Lp/<n> DS3/<n2> DS1/<n3><br>Lp/<n> SDH/<n2> Vc4/0 Vc12/<k>,<l>,<m> E1<br>Lp/<n> SONET/<n2> Sts/<n2> Vt1dot5/<x>,<y> DS1 | *Cbb PPEM300 gghh TBL |
| 7011 5006 | Lp/<n> DS3/<n2> DS1/<n3><br>Lp/<n> SDH/<n2> Vc4/0 Vc12/<k>,<l>,<m> E1<br>Lp/<n> SONET/<n2> Sts/<n2> Vt1dot5/<x>,<y> DS1 | **bb PPEM300 gghh TBL |
| 7011 5010 | Lp/<n> DS3/<n2> DS1/<n3><br>Lp/<n> SDH/0 Vc4/0 Vc12/<k>,<l>,<m> E1<br>Lp/<n> SONET/<n2> Sts/<n2> Vt1dot5/<x>,<y> DS1 | * bb PPEM300 gghh TBL |
| 7011 5011 | Lp/<n> DS3/<n2> DS1/<n3> | * bb PPEM300 gghh TBL |
| 7011 5050 | Lp/0 EDS1/<n2> | aabb PPEM303 gghh TBL<br>where:<br>aa = “*C”, “* ” |
| 7011 5100<br>7011 5101<br>7011 5102<br>7011 5103<br>7011 5104 | Lp/<n> DS3/<n2> | *Cbb PPEM300 gghh TBL |
| 7011 5105 | Lp/<n> DS3/<n2> | * bb PPEM300 gghh TBL |
| 7011 5110 | Lp/<n> DS3/<n2> | *Cbb PPEM300 gghh TBL |
| 7011 5111<br>7011 5120<br>7011 5121<br>7011 5122 | Lp/<n> DS3/<n2> | * bb PPEM300 gghh TBL |
| 7011 5200<br>7011 5201<br>7001 5202 | Lp/<n> SONET/<n2><br>Lp/<n> SDH/<n2> | *Cbb PPEM300 gghh TBL |
| ***Note:*** Refer to “Instance ranges for SET/CLEAR index group: 7011” (page 45) | | |
| (Sheet 3 of 6) | | |

**Table 10 (Continued)**
**MSS/MG15000 index group 7011: Port management system and automatic protection switching alarms**

| Alarm NTP Index | Component name | SCC2 header |
|---|---|---|
| 7011 5203<br>7011 5204<br>7011 5210<br>7011 5211 | Lp/<n> SONET/<n2><br>Lp/<n> SDH/<n2> | * bb PPEM300 gghh TBL |
| 7011 5250<br>7011 5251 | Lp/<n> SONET/<n2> Sts/<n2><br>Lp/<n> SDH/<n2> Vc4/0<br>Laps/<n> Sts/<n2><br>Laps/<n> Vc4/0<br>Pbg/<n> Sts/0 | *Cbb PPEM300 gghh TBL |
| 7011 5252 | Lp/<n> SONET/<n2> Sts/<n2><br>Lp/<n> SDH/<n2> Vc4/0<br>Laps/<n> Sts/<n2><br>Laps/<n> Vc4/0<br>Pbg/<n> Sts/0 | * bb PPEM300 gghh TBL |
| 7011 5253 | Lp/<n> SONET/<n2> Sts/<n2><br>Lp/<n> SDH/<n2> Vc4/0<br>Laps/<n> Sts/<n2><br>Laps/<n> Vc4/0<br>Pbg/<n> Sts/0 | *Cbb PPEM300 gghh TBL |
| 7011 5254 | Lp/<n> SONET/<n2> Sts/0<br>Lp/<n> SDH/<n2> Vc4/0<br>Laps/<n> Sts/0<br>Laps/<n> Vc4/0<br>Pbg/<n> Sts/0 | *Cbb PPEM300 gghh TBL |
| ***Note:*** Refer to “Instance ranges for SET/CLEAR index group: 7011” (page 45) | | |
| (Sheet 4 of 6) | | |

**Table 10 (Continued)**
**MSS/MG15000 index group 7011: Port management system and automatic protection switching alarms**

| Alarm NTP Index | Component name | SCC2 header |
|---|---|---|
| 7011 5255 | Lp/<n> SONET/<n2> Path/<n2><br>Lp/<n> SONET/<n2> Sts/<n2><br>Lp/<n> SONET/<n2> Vc4/<n2><br>Lp/<n> SDH/<n2> Path/0<br>Lp/<n> SDH/<n2> Sts/0<br>Lp/<n> SDH/<n2> Vc4/0<br>Laps/<n> Path/0<br>Laps/<n> Sts/0<br>Laps/<n> Vc4/0<br>Pbg/<n> Sts/0 | *Cbb PPEM300 gghh TBL |
| 7011 5256 | Lp/<n> SONET/<n2> Sts/<n2><br>Lp/<n> SDH/<n2> Vc4/0<br>Lp/<n> SDH/<n2> Vc4/0 Vc12/<k>,<l>,<m><br>Laps/<n> Sts/<n2><br>Laps/<n> SDH/<n2> Vc4/0<br>Laps/<n> SDH/<n2> Vc4/0 Vc12/<k><l><m><br>Pbg/<n> Sts/<n2> | *Cbb PPEM300 gghh TBL |
| 7011 5260<br>7011 5261 | Lp/<n> SONET/<n2> Sts/<n2><br>Lp/<n> SDH/<n2> Vc4/0<br>Laps/<n> Sts/<n2><br>Laps/<n> Vc4/0<br>Pbg/<n> Sts/0 | * bb PPEM300 gghh TBL |
| 7011 5270 | Laps/<n> | **bb PPEM300 gghh TBL |
| 7011 5271<br>7011 5272<br>7011 5273<br>7011 5274 | Laps/<n> | * bb PPEM300 gghh TBL |
| 7011 5275 | Laps/<n> | *Cbb PPEM300 gghh TBL |
| ***Note:*** Refer to “Instance ranges for SET/CLEAR index group: 7011” (page 45) | | |
| (Sheet 5 of 6) | | |

**Table 10 (Continued)**
**MSS/MG15000 index group 7011: Port management system and automatic protection switching alarms**

| Alarm NTP Index | Component name | SCC2 header |
|---|---|---|
| 7011 5290<br>7011 5291<br>7011 5292<br>7011 5293<br>7011 5294 | Lp/<n> SDH/<n2> Vc4/0 Vc12/<k>,<l>,<m><br>Lp/<n> SONET/<n2> Sts/<n2> Vt1dot5/<x>,<y><br>Laps/<n> Vc4/0 Vc12/<k>,<l>,<m><br>Laps/<n> Sts/<n2> Vt1dot5/<x>,<y> | * bb PPEM303 gghh TBL |
| 7011 5295<br>7011 5296 | Lp/<n> SDH/<n2> Vc4/0 Vc12/<k>,<l>,<m><br>Lp/<n> SONET/<n2> Sts/<n2> Vt1dot5/<x>,<y><br>Laps/<n> Vc4/0 Vc12/<k>,<l>,<m><br>Laps/<n> Sts/<n2> Vt1dot5/<x>,<y> | *Cbb PPEM303 gghh TBL |
| 7011 5297 | Lp/<n> SDH/<n2> Vc4/0 Vc12/<k>,<l>,<m><br>Lp/<n> SONET/<n2> Sts/<n2> Vt1dot5/<x>,<y><br>Laps/<n> Vc4/0 Vc12/<k>,<l>,<m><br>Laps/<n> Sts/<n2> Vt1dot5/<x>,<y> | *Cbb PPEMeee gghh TBL<br>where:<br>eee = 303, 306 |
| 7011 5400<br>7011 5401<br>7011 5402<br>7011 5403 | Lp/<n> Ethernet/<n2> | *Cbb PPEM300 gghh TBL |
| 7011 5480 | Lp/<n> Ethernet/<n2> OpticalModule | **bb PPEM300 gghh TBL |
| 7011 5501 | Lp/<n> SONET/<n2><br>Lp/<n> SONET/<n2> Sts/0<br>Laps/<n> Sts/0<br>Lp/<n> DS3/<n2><br>Lp/<n> DS3/<n2> DS1/<n3><br>Lp/<n> DS3/<n2> DS1/<n3> Chan/<n4><br>Pbg/<n> Sts/0 | **bb PPEM300 gghh TBL |
| 7011 5601<br>7011 5602 | Lp/<n> DS3/<n2> | * bb PPEM300 gghh TBL |
| 7011 5603<br>7011 5604 | Lp/<n> DS3/<n2> | **bb PPEM300 gghh TBL |
| ***Note:*** Refer to “Instance ranges for SET/CLEAR index group: 7011” (page 45) | | |
| (Sheet 6 of 6) | | |

## MSS/MG15000 index group: 7012

**Instance ranges for SET/CLEAR index group: 7012**
Lp instance range (<n>): 0 to 15
Card instance range (<n>): 0 to 15
FabricCard instance range (<i>): X or Y

**Table 11**
**MSS/MG15000 index group 7012: Processor control system alarms**

| Alarm NTP Index | Component name | SCC2 header |
|---|---|---|
| 7012 0050 | Shelf | **bb PPEM303 gghh TBL |
| 7012 0051 | Shelf | aabb PPEM303 gghh TBL<br>where:<br>aa = “*C”, “**” |
| 7012 0052 | Shelf<br>Shelf FabricCard/<i> | **bb PPEM303 gghh TBL |
| 7012 0053 | Shelf | **bb PPEM303 gghh TBL |
| 7012 0055 | Shelf | aabb PPEM303 gghh TBL<br>where:<br>aa = “**”, “* ” |
| 7012 0056 | Shelf | * bb PPEM303 gghh TBL |
| 7012 0057<br>7012 0058 | Shelf | **bb PPEM303 gghh TBL |
| 7012 0059 | Shelf | *Cbb PPEM304 gghh TBL |
| 7012 0100 | Shelf Card/<n> | aabb PPEM303 gghh TBL<br>where:<br>aa = “*C”, “* ” |
| 7012 0103<br>7012 0104 | Shelf Card/<n> | **bb PPEM303 gghh TBL |
| 7012 0105 | Shelf Card/<n> | * bb PPEM306 gghh TBL |
| 7012 0200 | Lp/<n> | *Cbb PPEM302 gghh TBL |
| ***Note:*** Refer to “Instance ranges for SET/CLEAR index group: 7012” (page 51) | | |
| (Sheet 1 of 2) | | |

**Table 11 (Continued)**
**MSS/MG15000 index group 7012: Processor control system alarms**

| Alarm NTP Index | Component name | SCC2 header |
|---|---|---|
| 7012 0202 | Lp/<n> | * bb PPEM306 gghh TBL |
| 7012 0301 | Shelf Card/<n> SparedServices | * bb PPEM302 gghh TBL |
| ***Note:*** Refer to "Instance ranges for SET/CLEAR index group: 7012" (page 51) | | |
| (Sheet 2 of 2) | | |

## MSS/MG15000 index group: 7013

**Instance ranges for SET/CLEAR index group: 7013**
Lp instance range (<n>): 0 to 15

**Table 12**
**MSS/MG15000 index group 7013: Message block usage alarms**

| Alarm NTP Index | Component name | SCC2 header |
|---|---|---|
| 7013 0000 | Lp/<n> | * bb PPEM301 gghh TBL |
| 7013 0001 | Lp/<n> | **bb PPEM301 gghh TBL |
| 7013 0002<br>7013 0003<br>7013 0004<br>7013 0005<br>7013 0011 | Lp/<n> | * bb PPEM301 gghh TBL |
| 7013 0021 | Lp/<n> | **bb PPEM301 gghh TBL |
| 7013 0022 | Lp/<n> | * bb PPEM301 gghh TBL |
| ***Note:*** Refer to "Instance ranges for SET/CLEAR index group: 7013" (page 52) | | |
| | | |

## MSS/MG15000 index group: 7014

**Instance ranges for SET/CLEAR index group: 7014**
Lp instance range (<n>): 0 to 15

**Table 13**
**MSS/MG15000 index group 7014: Memory management alarms**

| Alarm NTP Index | Component name | SCC2 header |
|---|---|---|
| 7014 0000 | Lp/<n> | * bb PPEM301 gghh TBL |
| 7014 0001 | Lp/<n> | **bb PPEM301 gghh TBL |
| ***Note:*** Refer to "Instance ranges for SET/CLEAR index group: 7014" (page 53) | | |
| | | |

## MSS/MG15000 index group: 7015

**Instance ranges for SET/CLEAR index group: 7015**
Server instance range (<n>): 1 to 10

**Table 14**
**MSS/MG15000 index group 7015: Network time-of-day (TOD) synchronization**

| Alarm NTP Index | Component name | SCC2 header |
|---|---|---|
| 7015 0000<br>7015 0002 | Time | **bb PPEM304 gghh TBL |
| 7015 0010<br>7015 0011 | Time Server/<n> | * bb PPEM300 gghh TBL |
| 7015 0012 | Time Server/<n> | * bb PPEM300 gghh TBL |
| ***Note:*** Refer to "Instance ranges for SET/CLEAR index group: 7015" (page 53) | | |
| | | |

## MSS/MG15000 index group: 7017

**Table 15**
**MSS/MG15000 index group 7017: Network clock synchronization alarms**

| Alarm NTP Index | Component name | SCC2 header |
|---|---|---|
| 7017 1000 | NS | * bb PPEM300 gghh TBL |
| | | |

## MSS/MG15000 index group: 7021

**Instance ranges for SET/CLEAR index group: 7021**
Cache instance range (<n>): 0 to 15
Vr instance range (<i>): any string; usually the digit 0 for the management Vr
Vrf instance range (<y>): name of the vrf
IP address (<ipaddress>): address of the local IpLogicalInterface
Lp instance range (<x>): 0 to15
Protocol Port Id (<ppId>):
VirtualIfEntry identifier (<virtIfId>):

**Table 16**
**MSS/MG15000 index group 7021: Internet protocol alarms**

| Alarm NTP Index | Component name | SCC2 header |
|---|---|---|
| 7021 0006 | Vr/<i> Ip Cache/<n> | **bb PPEM302 gghh TBL |
| 7021 0013 | Vr/<i> Ip Cpp IsolatedDa/<ipaddress>,<x><br>Rtr/<i> Cpp IsolatedDa/<ipaddress>,<x><br>Rtr/<i> Vrf/<y> Cpp IsolatedDa/<ipaddress>,<x> | * bb PPEM305 gghh TBL |
| 7021 0014 | Vr/<i> Ip Cpp IsolatedDa/<ipaddress>,<x><br>Rtr/<i> Cpp IsolatedDa/<ipaddress>,<x><br>Rtr/<i> Vrf/<y> Cpp IsolatedDa/<ipaddress>,<x> | **bb PPEM305 gghh TBL |
| 7021 1002 | Vr/<i> Pp/<ppId> IpPort LogicalIf/<ipaddress> OspfIf<br>Rtr/<i> Interface/<ipaddress> OspfIf | **bb PPEM305 gghh TBL |
| 7021 1003 | Vr/<i> Ip Ospf VirtIfEntry/<virtIfId> | **bb PPEM305 gghh TBL |
| 7021 1017 | Vr/<i> Ip Ospf | * bb PPEM305 gghh TBL |
| ***Note:*** Refer to “Instance ranges for SET/CLEAR index group: 7021” (page 54) | | |
| | | |

## MSS/MG15000 index group: 7026

**Table 17**
**MSS/MG15000 index group 7026: LAN port management system alarms**

| Alarm NTP Index | Component name | SCC2 header |
|---|---|---|
| 7026 3000 | Lp/0 OamEnet/0 | *Cbb PPEMeee gghh TBL<br>where:<br>eee = 300, 303 |
| 7026 3005 | Lp/0 OamEnet/0 | * bb PPEMeee gghh TBL<br>where:<br>eee = 300, 303 |
| | | |

## MSS/MG15000 index group: 7039

**Instance ranges for SET/CLEAR index group: 7039**
AtmIf instance range (<n>): 1 to 4095
Vcc instance range (<n2.n3>): where n2 is VPI, n3 is VCI
VPI instance range (<n2>): 0 to 4095
VCI instance range (<n3>): 0 to 65535

**Table 18**
**MSS/MG15000 index group 7039: ATM core alarms**

| Alarm NTP Index | Component name | SCC2 header |
|---|---|---|
| 7039 1000 | AtmIf/<n> | * bb PPEM300 gghh TBL |
| 7039 2000<br>7039 2003 | AtmIf/<n> Vcc/<n2.n3> | * bb PPEM302 gghh TBL |
| 7013 3000 | AtmIf/<n> Vpt/<n2> | * bb PPEM300 gghh TBL |
| 7039 4001 | AtmIf/<n> | **bb PPEM300 gghh TBL |
| 7039 5000 | AtmIf/<n> | *Cbb PPEM300 gghh TBL |
| ***Note:*** Refer to “Instance ranges for SET/CLEAR index group: 7039” (page 55) | | |
| | | |

## MSS/MG15000 index group: 7041

**Instance ranges for SET/CLEAR index group: 7041**
AtmIf instance range (<n>): 1 to 4095
CfgNode instance range (<n>): 0 to 104

**Table 19**
**MSS/MG15000 index group 7041: ATM networking alarms**

| Alarm NTP Index | Component name | SCC2 header |
|---|---|---|
| 7041 0050 | AtmIf/<n> Uni Ilmi | **bb PPEMeee gghh TBL<br>where:<br>eee = 300, 303 |
| 7041 0052 | AtmIf/<n> Uni Ilmi | *Cbb PPEM300 gghh TBL |
| 7041 0150 | AtmIf/<n> Uni Sig<br>AtmIf/<n> Pnni Sig | **bb PPEM300 gghh TBL |
| 7041 0200 | AtmIf/<n> Uni Sig<br>AtmIf/<n> Pnni Sig<br>AtmIf/<n> Uni Ilmi<br>AtmIf/<n> Pnni Rcc | **bb PPEM300 gghh TBL |
| 7041 0250 | AtmIf/<n> Pnni Rcc | **bb PPEM300 gghh TBL |
| 7041 0253 | AtmIf/<n> Pnni Rcc | **bb PPEM300 gghh TBL |
| 7041 0301 | Artg Pnni | **bb PPEM300 gghh TBL |
| 7041 0302 | Artg Pnni CfgNode/<n> Rcc | **bb PPEM300 gghh TBL |
| 7041 0400 | AtmIf/<n> Uni<br>AtmIf/<n> Pnni | * bb PPEM300 gghh TBL |
| 7041 0401 | AtmIf/<n> | **bb PPEM300 gghh TBL |
| 7041 0500 | AtmIf/<n> Uni<br>AtmIf/<n> Pnni | * bb PPEM300 gghh TBL |
| 7041 0600<br>7041 0601 | AtmIf/<n> Uni<br>AtmIf/<n> Pnni | * bb PPEM302 gghh TBL |
| 7041 0700 | Artg Pnni CfgNode /<n> | **bb PPEM300 gghh TBL |
| ***Note:*** Refer to “Instance ranges for SET/CLEAR index group: 7041” (page 56) | | |
| (Sheet 1 of 2) | | |

**Table 19 (Continued)**
**MSS/MG15000 index group 7041: ATM networking alarms**

| Alarm NTP Index | Component name | SCC2 header |
|---|---|---|
| 7041 0701 | Atmif/<n> Pnni Rcc | **bb PPEM300 gghh TBL |
| 7041 0703 | Artg Pnni CfgNode /<n> | * bb PPEM300 gghh TBL |
| ***Note:*** Refer to "Instance ranges for SET/CLEAR index group: 7041" (page 56) | | |
| (Sheet 2 of 2) | | |

## MSS/MG15000 index group: 7042

**Instance ranges for SET/CLEAR index group: 7042**
Aal1Ces instance range (<n>): 1 to 16383

**Table 20**
**MSS/MG15000 index group 7042: Circuit Emulation Service (CES) alarms**

| Alarm NTP Index | Component name | SCC2 header |
|---|---|---|
| 7042 0001 | Aal1Ces/<n> | **bb PPEM301 gghh TBL |
| 7042 0002 | Aal1Ces/<n> | **bb PPEM302 gghh TBL |
| 7042 0003 | Aal1Ces/<n> | **bb PPEM300 gghh TBL |
| ***Note:*** Refer to "Instance ranges for SET/CLEAR index group: 7042" (page 57) | | |
| | | |

## MSS/MG15000 index group: 7054

**Instance ranges for SET/CLEAR index group: 7054**

Card instance range (<n>): 1 to 15

**Table 21**
**MSS/MG15000 index group 7054: Sparing panel subsystem alarms**

| Alarm NTP Index | Component name | SCC2 header |
|---|---|---|
| 7054 0100<br>7054 0101<br>7054 0102<br>7054 0103<br>7054 0104<br>7054 0105 | Shelf Card/<n> | **bb PPEM303 gghh TBL |
| ***Note:*** Refer to “Instance ranges for SET/CLEAR index group: 7054” (page 58) | | |
| | | |

## MSS/MG15000 index group: 7056

The alarms in this index group apply to failures of the Voice Services Processor (VSP) and Narrowband Service Trunk over ATM (Nsta). This alarm group is specific to the Media Gateway 15000 application. For example, severe failure of the VSP card results in an alarm.

**Instance ranges for SET/CLEAR index group: 7056**

Lp instance range (<x>): 0 to 15
PModule instance range (<y>): 1 to 24
PBlock instance range (<z>): 1 to 2
Nsta instance range (<i>): 0 to 15999
GigE instance range (<m>): 0 or 1
Control instance range (<n>): mg or sg
Conn instance range (<l>): 0 to 128
Brag instance range (<d>): 0 to 159999
Q921 instance range (<r>): 1 to 31
LapV5 instance value (<w>): 15, 16, 31
Tag instance range (<u>): 0 to 16777215
AtmTConn instance range (<h>): 1 to 2700 (max 4094)
dBrag instance range (<t>): 0 to 127
BragS instance range (<k>): 0 to 15
CasDefn instance range (<z>): 0 to 24
Security policy database name (<spd_name>): string

**Table 22**
**MSS/MG15000 index group 7056: Voice Services Processor (VSP) and Narrowband service trunk over ATM (Nsta) alarms**

| Alarm NTP Index | Component name | SCC2 header |
|---|---|---|
| 7056 0002 | Lp/<x> Vsp PModule/<y> | ** bb PPEM306 gghh TBL |
| 7056 0003 | Lp/<x> Vsp PModule/<y> PBlock/<z> | *C bb PPEM303 gghh TBL |
| 7056 0500<br>7056 0501<br>7056 0502 | Lp/<x> Vsp GigE/<m> | ** bb PPEM300 gghh TBL |
| ***Note:*** Refer to “Instance ranges for SET/CLEAR index group: 7056” (page 59) | | |
| (Sheet 1 of 2) | | |

**Table 22 (Continued)**
**MSS/MG15000 index group 7056: Voice Services Processor (VSP) and Narrowband service trunk over ATM (Nsta) alarms**

| Alarm NTP Index | Component name | SCC2 header |
|---|---|---|
| 7056 1000 | Nsta/<i> Conn/<l><br>Nsta/<i> Vgs AtmTConn/<h> | **bb PEM300 gghh TBL |
| 7056 1200 | Nsta/<l> Vgs | * bb PPEM300 gghh TBL |
| 7056 1201 | Nsta/<i> Vgs IpMConn | ** bb PPEM300 gghh TBL |
| 7056 1202 | Nsta/<i> Vgs Control/<n> Mediagateway<br>Nsta/<i> Vgs Control/<n> Signalingateway | ** bb PPEM300 gghh TBL |
| 7056 1203 | Nsta/<i> Vgs Control/<n> Mediagateway Aap<br>Nsta/<i> Vgs Control/<n> Signalingateway Aap<br>Nsta/<i> Vgs Control/<n> SpvcAp<br>Nsta/<i> Vgs IpMConn Aap<br>Nsta/<i> Vgs IpMConn SpvcAp<br>Nsta/<l> Vgs AtmTConn/<h> Aap<br>Nsta/<l> Vgs AtmTConn/<h> SpvcAp | ** bb PPEM300 gghh TBL |
| 7056 1204 | Nsta/<i> Vgs | * bb PPEM302 gghh TBL |
| 7056 1208 | Nsta/<i> Vgs CasDefn/<z> | * bb PPEM302 gghh TBL |
| 7056 1209 | Lp/<x> Vsp PModule/<y> | * bb PPEM303 gghh TBL |
| 7056 1210 | Nsta/<x> Vgs Brag/<d> Q921/<r><br>Nsta/<i> Vgs BragS/<k> dBrag/<t> Q921 | ** bb PPEM300 gghh TBL |
| 7056 1211 | Nsta/<x> Vgs lua<br>Nsta/<x> Vgs lua | ** bb PPEM300 gghh TBL |
| 7056 1213 | Nsta/<x> Vgs Brag/<d> V5Link LapV5/<w> | ** bb PPEM300 gghh TBL |
| 7056 1217 | Nsta/<x> Vgs Tag/<u> | *Cbb PPEM302 gghh TBL |
| 7056 1219 | Nsta/<x> Vgs Ctrl/<n> Spd/<spd_name> IkePolicy/1 | ** bb PPEM300 gghh TBL |
| ***Note:*** Refer to “Instance ranges for SET/CLEAR index group: 7056” (page 59) | | |
| (Sheet 2 of 2) | | |

## MSS/MG15000 index group: 7060

**Instance ranges for SET/CLEAR index group: 7060**
Lp instance range (<n>): 1 to 15
Aqm instance range (<n2>): 0 to 3

**Table 23**
**MSS/MG15000 index group 7060: ATM and frame resource control alarms**

| Alarm NTP Index | Component name | SCC2 header |
|---|---|---|
| 7060 1000 | Lp/<n> Eng Fcrc | **bb PPEM300 gghh TBL |
| 7060 1100 | Lp/<n> Eng Arc Aqm/<n2> | * bb PPEM300 gghh TBL |
| ***Note:*** Refer to “Instance ranges for SET/CLEAR index group: 7060” (page 61) | | |
| | | |

# MSS15000 / MG15000 Message alarms

Nortel Multiservice Switch 15000 / Media Gateway 15000 (MSS/MG15000) message alarms that are applicable to Carrier Voice over IP networks are divided into the following index groups:

- "MSS/MG15000 index group: 7061" (page 75)
- "MSS/MG15000 index group: 7071" (page 76)
- "MSS/MG15000 index group: 7080" (page 76)


## MSS/MG15000 index group: 0000

The alarms in this index group include OSI administrative state changes, general engineering and memory alarms, and internal software error detected alarms.

**Table 24**
**MSS/MG15000 index group 0000**

| Alarm NTP Index | Component name | SCC2 header |
|---|---|---|
| 0000 9000<br>0000 9001<br>0000 9002<br>0000 9003 | This alarm can apply to many node components. Frequently, the component is EM/<nodename> | * bb CA eee gghh TBL<br>where:<br>eee = 300, 302 |
| | | |

## MSS/MG15000 index group: 7000

The alarms in this index group apply to failures resulting from provisioning attempts. For example, the failure of a provisioning file to load results in an alarm.

**Table 25**
**MSS/MG15000 index group 7000: Provisioning alarms**

| Alarm NTP Index | Component name | SCC2 Header |
|---|---|---|
| 7000 0001 | Prov | *Cbb PPEM302 gghh TBL |
| 7000 0002 | Prov | * bb PPEM302 gghh TBL |
| 7000 0003 | Prov | *Cbb PPEM302 gghh TBL |
| 7000 0004 | Prov | *Cbb PPEM302 gghh TBL |
| 7000 0005 | Prov | * bb PPEM302 gghh TBL |
| (Sheet 1 of 2) | | |

**Table 25 (Continued)**
**MSS/MG15000 index group 7000: Provisioning alarms**

| Alarm NTP Index | Component name | SCC2 Header |
|---|---|---|
| 7000 0006 | Prov | *Cbb PPEM302 gghh TBL |
| 7000 0008 | Prov | **bb PPEM302 gghh TBL |
| 7000 0009 | Prov | **bb PPEM302 gghh TBL |
| 7000 0012 | Prov | * bb PPEM306 gghh TBL |
| 7000 0013 | Prov | * bb PPEM302 gghh TBL |
| 7000 0015 | Prov | * bb PPEM302 gghh TBL |
| 7000 0016 | Prov | * bb PPEM30x gghh TBL |
| 7000 0029 | Prov | * bb PPEM30x gghh TBL |
| 7000 0030 | Prov | * bb PPEM30x gghh TBL |
| 7000 0031 | Prov | * bb PPEM302 gghh TBL |
| 7000 0032 | Prov | * bb PPEM30x gghh TBL |
| 7000 0035 | This alarm can apply to many node components | * bb PPEM307 gghh TBL |
| 7000 0039 | Prov | * bb PPEM306 gghh TBL |
| (Sheet 2 of 2) | | |

## MSS/MG15000 index group: 7002

The alarms in this index group apply to failures involving the backplane. For example, a communication failure between a card and the backplane results in an alarm.

**Instance ranges for message index group: 7002**
FabricCard instance range (<i>): X or
Card instance range (<n>): 0 to 15

**Table 26**
**MSS/MG15000 index group 7002: Backplane control system alarms**

| Alarm NTP Index | Component name | SCC2 Header |
|---|---|---|
| 7002 0010 | Shelf FabricCard/<i> | * bb PPEM303 gghh TBL |
| 7002 0012 | Shelf FabricCard/<i> | * bb PPEM303 gghh TBL |
| 7002 0013 | Shelf FabricCard/<i> | * bb PPEM303 gghh TBL |
| 7002 0014 | Shelf FabricCard/<i> | * bb PPEM303 gghh TBL |
| 7002 1000 | Shelf Card/<n> | *Cbb PPEM303 gghh TBL |
| ***Note:*** Refer to “Instance ranges for message index group: 7002” (page 65) | | |
| | | |

## MSS/MG15000 index group: 7003

The alarms in this index group apply to failures involving the data collection system. For example, an alarm or log queue size that has exceeded a threshold results in an alarm.

**Instance ranges for message index group: 7003**

Collector instance range (<t>): accounting, alarm, log, debug, scn, trap, stats, rtstats, appl

Agent instance range (<n>): 0 to15

**Table 27**
**MSS/MG15000 index group 7003: Data collection system alarms**

| Alarm NTP Index | Component name | SCC2 Header |
|---|---|---|
| 7003 0004 | Collector/<t> Agent/<n> | * bb PPEM301 gghh TBL |
| 7003 0008 | Collector/log Spooler | * bb PPEM306 gghh TBL |
| ***Note:*** Refer to “Instance ranges for message index group: 7003” (page 66) | | |
| | | |

## MSS/MG15000 index group: 7006

**Instance ranges for message index group: 7006**
Management Interface type (<type>): Fmip, Ftp, Local, Telnet
Session instance range (<n>): 1 to 35 (Fmip); 1 to 16 (Ftp); 1 to 2 (Local); 1 to 16 (Telnet)
Radius Server instance range (<m>): 0 or 1

**Table 28**
**MSS/MG15000 index group 7006: Network management interface system alarms and Radius security alarms**

| Alarm NTP Index | Component name | SCC2 Header |
|---|---|---|
| 7006 0001 | Nmis/<type> | **bb PPEM305 gghh TBL |
| 7006 0002 | Nmis/<type> Session/<n> | * bb PPEM305 gghh TBL |
| 7006 0003 | Nmis/<type> Session/<n>2 | **bb PPEM300 gghh TBL |
| 7006 0005 | Nmis Ftp | **bb PPEM302 gghh TBL |
| 7006 0006 | Nmis Fmip | **bb PPEM305 gghh TBL |
| 7006 0007 | Nmis/<type> Session/<n> | **bb PPEM300 gghh TBL |
| 7006 0008 | Nmis Fmip | **bb PPEM300 gghh TBL |
| 7006 0009 | Ac | * bb PPEMeee gghh TBL<br>where:<br>eee = 300, 305 |
| 7006 0101<br>7006 0102 | Ac Radius Server/<m> | **bb PPEM305 gghh TBL |
| 7006 0103<br>7006 0104 | Ac Radius | **bb PPEM305 gghh TBL |
| 7006 0105 | Ac Radius Server/<m> | **bb PPEM305 gghh TBL |
| ***Note:*** Refer to “Instance ranges for message index group: 7006” (page 67) | | |
| | | |

## MSS/MG15000 index group: 7008

**Instance ranges for message index group: 7008**
Disk instance range (<n>): 0 or 1
Card instance range (<x>): 0 or 1

**Table 29**
**MSS/MG15000 index group 7008: File system alarms**

| Alarm NTP Index | Component name | SCC2 Header |
|---|---|---|
| 7008 1003 | FileSystem | **bb PPEM302 gghh TBL |
| 7008 1012 | FileSystem Disk/<n> | * bb PPEM303 gghh TBL |
| 7008 1013 | FileSystem Disk/<n> | **bb PPEM303 gghh TBL |
| 7008 1014 | FileSystem Disk/<n> | **bb PPEM307 gghh TBL |
| 7008 1015 | FileSystem Disk/<n> | * bb PPEM307 gghh TBL |
| 7008 1016 | FileSystem Disk/<n> | * bb PPEM307 gghh TBL |
| 7008 1018 | FileSystem Disk/<n> | * bb PPEM303 gghh TBL |
| 7008 1020 | FileSystem | * bb PPEM303 gghh TBL |
| 7008 1021 | Shelf Card/<x> | **bb PPEM303 gghh TBL |
| ***Note:*** Refer to “Instance ranges for message index group: 7008” (page 68) | | |
| | | |

## MSS/MG15000 index group: 7011

**Instance ranges for message index group: 7011**
Lp instance range (<n>): 0 to 15
Port types (<type>): SONET, DS3
SONET instance range (<n2>): 0 to 3 (4-port FP); 0 to 15 (16-port FP)
DS3 instance range (<n2>): 0 to 3 (4-port FP); 0 to 11 (12-port FP)

**Table 30**
**MSS/MG15000 index group 7011: Port management system and Automatic Protection Switching alarms**

| Alarm NTP Index | Component name | SCC2 Header |
|---|---|---|
| 7011 2002 | Lp/<n> <type>/<n2> | **bb PPEM303 gghh TBL |
| 7011 5112 | Lp/<n> DS3/<n2> | * bb PPEM300 gghh TBL |
| 7011 8000 | Lp/<n> <type>/<n2> | * bb PPEM300 gghh TBL |
| ***Note:*** Refer to "Instance ranges for message index group: 7011" (page 69) | | |
| | | |

## MSS/MG15000 index group: 7012

**Instance ranges for message index group: 7012**
Lp instance range (<n>): 0 to 15
Card instance range (<n>): 0 to 15

**Table 31**
**MSS/MG15000 index group 7012: Processor control system alarms**

| Alarm NTP Index | Component name | SCC2 Header |
|---|---|---|
| 7012 0054 | Shelf | **bb PPEM303 gghh TBL |
| 7012 0101 | Shelf Card/<n> | * bb PPEM303 gghh TBL |
| 7012 0102 | Shelf Card/<n> | * bb PPEM301 gghh TBL |
| ***Note:*** Refer to "Instance ranges for message index group: 7012" (page 69) | | |
| (Sheet 1 of 2) | | |

**Table 31 (Continued)**
**MSS/MG15000 index group 7012: Processor control system alarms**

| Alarm NTP Index | Component name | SCC2 Header |
|---|---|---|
| 7012 0151<br>7012 0152<br>7012 0153 | Shelf Card/<n> | **bb PPEM302 gghh TBL |
| 7012 0154<br>7012 0155<br>7012 0156 | Shelf Card/<n> | **bb PPEM303 gghh TBL |
| 7012 0201 | Lp/<n> | * bb PPEM306 gghh TBL |
| 7012 0203 | Lp/0 | * bb PPEM303 gghh TBL |
| 7012 0204 | Lp/<n> | * bb PPEM306 gghh TBL |
| 7012 0300 | Shelf Card/<n> SparedServices | aabb PPEMeee gghh TBL<br>where:<br>aa = “*C”, “* ”<br>eee = any |
| ***Note:*** Refer to “Instance ranges for message index group: 7012” (page 69) | | |
| (Sheet 2 of 2) | | |

## MSS/MG15000 index group: 7015

**Table 32**
**MSS/MG15000 index group 7015: Network time-of-day (TOD) synchronization alarms**

| Alarm NTP Index | Component name | SCC2 Header |
|---|---|---|
| 7015 0001 | Time | * bb PPEMeee gghh TBL<br>where:<br>eee = 304, 306, 307 |
| | | |

## MSS/MG15000 index group: 7017

**Table 33**
**MSS/MG15000 index group 7017: Network clock synchronization alarms**

| Alarm NTP Index | Component name | SCC2 Header |
|---|---|---|
| 7017 1001 | Ns | * bb PPEM301 gghh TBL |
| | | |

## MSS/MG15000 index group: 7021

**Instance ranges for message index group: 7021**
Vr instance range (<i>): any string; usually the digit 0 for the management Vr

**Table 34**
**MSS/MG15000 index group 7021: Internet protocol alarms**

| Alarm NTP Index | Component name | SCC2 Header |
|---|---|---|
| 7021 0000 | Vr/<i> Ip | * bb PPEM302 gghh TBL |
| 7021 1000<br>7021 1001<br>7021 1011 | Vr/<i> Ip Ospf | * bb PPEM302 gghh TBL |
| 7021 1016 | Vr/<i> Ip Ospf | **bb PPEM302 gghh TBL |
| 7021 1021 | Vr/<i> | **bb PPEM302 gghh TBL |
| 7021 1100 | Vr/<i> Ip Ospf | * bb PPEM300 gghh TBL |
| 7021 1101 | Vr/<i> Ip Ospf | * bb PPEM302 gghh TBL |
| ***Note:*** Refer to “Instance ranges for message index group: 7021” (page 71) | | |
| | | |

## MSS/MG15000 index group: 7026

**Table 35**
**MSS/MG15000 index group 7026: LAN port management system alarms**

| Alarm NTP Index | Component name | SCC2 Header |
|---|---|---|
| 7026 3002 | LP/0 OamEthernet/0 | * bb PPEM30x gghh TBL |
| 7026 3003 | LP/0 OamEthernet/0 | * bb PPEM303 gghh TBL |
| 7026 3006 | LP/0 OamEthernet/0 | * bb PPEM302 gghh TBL |
| | | |

## MSS/MG15000 index group: 7039

**Instance ranges for message index group: 7039**
AtmIf instance range (<n>): 1 to 4095
Vcc instance range (<n2.n3>): where n2 is VPI, n3 is VCI
VPI instance range (<n2>): 0 to 4095
VCI instance range (<n3>): 0 to 65535

**Table 36**
**MSS/MG15000 index group 7039: ATM core alarms**

| Alarm NTP Index | Component name | SCC2 Header |
|---|---|---|
| 7039 2001 | AtmIf/<n> Vcc/<n2.n3> | * bb PPEM302 gghh TBL |
| 7039 4000 | AtmIf/<n> | * bb PPEM300 gghh TBL |
| ***Note:*** Refer to “Instance ranges for message index group: 7039” (page 72) | | |
| | | |

## MSS/MG15000 index group: 7041

**Instance ranges for message index group: 7041**
AtmIf instance range (<n>): 1 to 4095
CfgNode instance range (<n>): 0 to 104
Top instance range (<n>): 0 to 104
Node instance range (<id>): 44 character hexadecimal digit
Vpt instance range (<n2>): 0 to 4095

**Table 37**
**MSS/MG15000 index group 7041: ATM networking alarms**

| Alarm NTP Index | Component name | SCC2 Header |
|---|---|---|
| 7041 0000 | AtmIf/<n> Uni | * bb PPEM306 gghh TBL |
| 7041 0001 | AtmIf/<n> Uni | * bb PPEM303 gghh TBL |
| 7041 0051 | AtmIf/<n> Uni Ilmi | **bb PPEM300 gghh TBL |
| 7041 0151 | Atmif/<n> Uni<br>Atmif/<n> Pnni<br>Atmif/<n> Vpt/<n2> Uni<br>Atmif/<n> Vpt/<n2> Pnni | *Cbb PPEM300 gghh TBL |
| 7041 0251 | AtmIf/<n> Pnni Rcc | **bb PPEM300 gghh TBL |
| 7041 0252 | AtmIf/<n> Pnni Rcc | **bb PPEM300 gghh TBL |
| 7041 0602 | ARtg Pnni Top/<n> Node/<id> | **bb PPEM301 gghh TBL |
| 7041 0603 | ARtg | **bb PPEM303 gghh TBL |
| ***Note:*** Refer to “Instance ranges for message index group: 7041” (page 73) | | |
| | | |

## MSS/MG15000 index group: 7056

The alarms in this index group apply to failures of the Voice Services Processor (VSP) and Narrowband service Trunk over ATM (Nsta). This alarm group is specific to the Media Gateway application. For example, severe failure of the VSP card results in an alarm.

**Instance ranges for message index group: 7056**

Lp instance range (<x>): 0 to 15
PModule instance range (<y>): 1 to 24
PBlock instance range (<z>): 1 to 2
Nsta instance range (<i>): 0 to 15999
Conn instance range (<l>): 0 to 128
Brag instance range (<d>): 0 to 159999
BragS instance range (<p>): 0 to 15

**Table 38**
**MSS/MG15000 index group 7056: Voice Services Processor (VSP) and Narrowband service trunk over ATM (Nsta) alarms**

| Alarm NTP Index | Component name | SCC2 Header |
|---|---|---|
| 7056 0006 | Lp/<x> Vsp PModule/<y> | * bb PPEM303 gghh TBL |
| 7056 1101 | Nsta/<i> Conn/<l> Brag/<d> Ccst | * bb PPEM300 gghh TBL |
| 7056 1212 | Nsta/<i> Vgs lua | * bb PPEM300 gghh TBL |
| 7056 1214 | Lp/<x> Vsp PModule/<y> | ** bb PPEM302 gghh TBL |
| 7056 1215 | Nsta/<i> Vgs BragS/<p> | ** bb PPEM302 gghh TBL |
| ***Note:*** Refer to “Instance ranges for message index group: 7056” (page 74) | | |
| | | |

## MSS/MG15000 index group: 7060

**Instance ranges for message index group: 7060**
Lp instance range (<n>): 0 to 15

**Table 39**
**MSS/MG15000 index group 7060: ATM and frame resource control alarms**

| Alarm NTP Index | Component name | SCC2 Header |
|---|---|---|
| 7060 1200<br>7060 1300<br>7060 1400<br>7060 1500<br>7060 1600 | Lp/<n> Eng Arc Ov<br>Lp/<n> Eng | * bb PPEM301 gghh TBL |
| ***Note:*** Refer to "Instance ranges for message index group: 7060" (page 75) | | |
| | | |

## MSS/MG15000 index group: 7061

**Instance ranges for message index group: 7061**
Vr instance range (<i>): any string, but often specified simply as a digit
Spd instance range (<spd_name>): the name of the security policy database
Pol instance range (<pol_id>): instance number of the Policy component
Security association (<ip_addr,esp,spi>): IP address of the peer with which this Security Association component is established, the security protocol (ESP), the Security Parameter Index (SPI) value

**Table 40**
**MSS/MG15000 index group 7061: Security policy violation alarms**

| Alarm NTP Index | Component name | SCC2 Header |
|---|---|---|
| 7061 0001 | Vr/<i> Ip Spd/<spd_name> Pol/<pol_id><br>Sa/<ip_addr,esp,spi> | **bb PPEM305 gghh TBL |
| ***Note:*** Refer to "Instance ranges for message index group: 7061" (page 75) | | |
| | | |

## MSS/MG15000 index group: 7071

**Instance ranges for message index group: 7071**
LAN application instance range (<n>): 1 to 255

**Table 41**
**MSS/MG15000 index group 7071: LAN Application alarms**

| Alarm NTP Index | Component name | SCC2 Header |
|---|---|---|
| 7071 1000 | La/<n> | *Cbb PPEM302 gghh TBL |
| ***Note:*** Refer to "Instance ranges for message index group: 7071" (page 76) | | |
| | | |

## MSS/MG15000 index group: 7080

**Instance range for message index group: 7080**
Software application (<name>): the name of the software application

**Table 42**
**MSS/MG15000 index group 7080: Software file system alarms**

| Alarm NTP Index | Component name | SCC2 Header |
|---|---|---|
| 7080 0100 | Sw Av/<name> | **bb PPEM302 gghh TBL |
| ***Note:*** Refer to "Instance range for message index group: 7080" (page 76) | | |
| | | |

# Chapter 4
# Summary of Multiservice Data Manager alarm logs

For information about fault management involving Nortel Multiservice Data Manager (MDM) alarms applicable to Carrier Voice over IP network solutions, see the following sections:

- "Multiservice Data Manager alarm logs" (page 77)
- "Identifying Multiservice Data Manager alarms in SCC2 logs" (page 78)
- "Multiservice Data Manager SET/CLEAR alarms" (page 79)

## Multiservice Data Manager alarm logs

This section lists those Nortel Multiservice Data Manager proxy SET/CLEAR alarms that are applicable to Carrier Voice over IP network solutions. These proxy SET/CLEAR alarms include software failure alarms and alarms from the Solaris or Sun Fire platforms, which Multiservice Data Manager software is monitoring. These alarms are initiated by Multiservice Data Manager on behalf of Nortel Multiservice Switch 15000 / Media Gateway 15000 (MSS/MG15000) nodes and injected into the node's alarm log stream. In the following sections, Multiservice Data Manager SET/CLEAR and message alarms are matched with the corresponding record for the same type of alarm in a SCC2 alarm log. Multiservice Data Manager SET/CLEAR alarms are those alarms where the *event* line has a value indicating a *set* or *clear* alarm. For more information on the lines in a SCC2 alarm log, see "Interpreting SCC2 logs" (page 29).

***Note:*** The following sections do not include all corresponding Multiservice Data Manager CLEAR and SET alarm logs. The SCC2 header for the CLEAR alarm is distinguished from the corresponding SET alarm by the first two characters in the header. For example, the alarm severity field for a SET alarm reads "aa", while the alarm severity field for the CLEAR alarm replaces the "aa" with two blank spaces. For more information on the SCC2 alarm log header line, see "Interpreting SCC2 logs" (page 29).

# Identifying Multiservice Data Manager alarms in SCC2 logs

This section tells you how to identify a SCC2 alarm log header and the corresponding Nortel Multiservice Data Manager alarm.

## Multiservice Data Manager alarm NTP index field

Multiservice Data Manager alarm NTP index consists of an eight digit number that uniquely identifies each type of alarm. The alarm identifier is composed of two parts

- four initial digits that identify the Index Group to which the alarm belongs
- four subsequent digits that identify the SubIndex number for the alarm

All of the records for Multiservice Data Manager alarms in this document are grouped on the basis of a common index group number. For example, all the records for a Multiservice Data Manager server monitoring alarms in Index Group 3011 that are applicable to Carrier Voice over IP networks, appear below the heading "Multiservice Data Manager index group: 3011". The SubIndex number field uniquely identifies each alarm within an index group by giving the second four digit identifying number. For example, 3011 0100, the index group and SubIndex numbers, indicates a specific monitoring alarm.

## Component field

The Component name field for each Nortel Multiservice Data Manager (MDM) alarm is also used to identify the alarm in the SCC2 alarm log. The component name indicates the managed object against which the alarm log is generated. For example, the component name of the 3011 0100 alarm is `NMS/<x> DISK/<v>`. The component name is preceded by the node name of the module which typically starts with EM.

### SCC2 header field

The SCC2 header field presents the corresponding header from the SCC2 alarm log that matches the specific Multiservice Data Manager alarm already identified in the record. For example, the SCC2 header that matches the 3011 0100 alarm is aabb MDM 303 gghh TBL.

### Comment field

The Comment field includes additional descriptive information about either a specific alarm or a group of alarms.

## Multiservice Data Manager SET/CLEAR alarms

Nortel Multiservice Data Manager (MDM) SET/CLEAR alarms that are applicable to Carrier Voice over IP networks are divided into the following index groups:

- "Multiservice Data Manager index group 0999" (page 80)
- "Multiservice Data Manager index group 3010: Multiservice Data Manager server alarms" (page 81)
- "Multiservice Data Manager index group 3011: Multiservice Data Manager platform monitoring alarms" (page 82)

***Note:*** All of Multiservice Data Manager SET/CLEAR alarms for Carrier Voice over IP network solutions are applicable to the Packet Trunking - AAL1, Universal Access - AAL1, and Universal Access - IP solutions.

## Multiservice Data Manager index group: 0999

Alarm 0999 0001 indicates the loss of access between a Nortel Multiservice Switch 15000 / Media Gateway 15000 node and Multiservice Data Manager server. The server tries to reconnect and when successful, does a state walk of major components on the shelf before issuing alarms for those components that are out-of-service.

Alarm 0999 0012 is a Multiservice Data Manager proxy alarm. This alarm, originating on the server, is sent on behalf of the node, as a result of a state walk or state change notification.

#### Instance ranges for SET/CLEAR index group: 0999

EM instance range (<nodename>): a string, typically the CLLI identifier for the MSS15000 or MG15000 node

**Table 43**
**Multiservice Data Manager index group 0999**

| Alarm NTP index | Component name | SCC2 Header |
|---|---|---|
| 0999 0001 | EM/<nodename> | *Cbb MDM 303 gghh TBL |
| 0999 0012 | This alarm can apply to many node components. | **bb PPEMeee gghh TBL<br>where:<br>eee = 300, 301, 302, 303, 304, 305, 306, 307 |
| ***Note:*** Refer to "Instance ranges for SET/CLEAR index group: 0999" (page 80) | | |
| | | |

## Multiservice Data Manager index group: 3010

The alarms in this index group appear when there are faults with a Nortel Multiservice Data Manager (MDM) server processes, which are needed by Multiservice Data Manager tools and applications. The Multiservice Data Manager Log Display or corresponding UNIX utility (nmslog) may also be used to find the information for the cause of the problem.

### Instance ranges for SET/CLEAR index group: 3010

NMS instance range (<x>): a string, typically the hostname of the MDM server platform

APP instance range (<a>): a string, denoting the name of a MDM software application

Autopatch nodes (<nodes parameter>): typically, the name of an HGDS group, a node name or a file name containing a list of node names

EM node name (<nodename>): a string, denoting the name of the MSS15000 node or MG15000 shelf

**Table 44**
**Multiservice Data Manager index group 3010: Multiservice Data Manager server alarms**

| Alarm NTP Index | Component name | SCC2 Header |
|---|---|---|
| 3010 0000 | NMS/<x> APP/<a> | **bb MDM 302 gghh TBL |
| 3010 0801 | NMS/<x> APP/PPAUTOPATCH | * bb MDM 306 gghh TBL |
| 3010 0802 | NMS/<x> APP/PPAUTOPATCH NODES/<nodes parameter> | * bb MDM 302 gghh TBL |
| 3010 0803 | NMS/<x> APP/PPAUTOPATCH NODES/<nodes parameter> | **bb MDM 302 gghh TBL |
| 3010 0820 | NMS-APP/PPAUTOPATCH EM/<nodename> | **bb MDM 302 gghh TBL |
| 3010 0821 | NMS-APP/PPAUTOPATCH EM/<nodename> | **bb MDM 302 gghh TBL |
| ***Note:*** Refer to “Instance ranges for SET/CLEAR index group: 3010” (page 81) | | |
| | | |

## Multiservice Data Manager index group: 3011

Nortel Multiservice Data Manager (MDM) servers monitoring of platforms such as Solaris and Sun Fire includes monitoring of the CPU, disk space, memory, local ports, and connectivity to adjacent neighbors. The severity of resource problems are determined with pre-set threshold values. Connectivity problems are determined using the ping command.

The alarms 3011 xxFF, where xx can be 01 through 07, are CLEAR alarms only. A single 3011 xxFF alarm clears all outstanding alarms from 3011 xx00 through 3011 xx99.

#### Instance ranges for SET/CLEAR index group: 3011

NMS instance range (<x>): a string, typically the hostname of the MDM server platform
APP instance range (<a>): a string, denoting the name of a MDM software application
DISK instance range (<v>): a string, denoting disk volume name
CPU instance range (<c>): a string, denoting the CPU id
PORT instance range (<ip>): an iP address or host name
CONNECTION instance range (<ip>): an IP address or host name
SDS instance range (<d>): logical disk name

**Table 45**
**Multiservice Data Manager index group 3011: Multiservice Data Manager platform monitoring alarms**

| Alarm NTP Index | Component name | SCC2 Header |
|---|---|---|
| 3011 0001 | NMS/<x> APP/<a> | *Cbb MDM 303 gghh TBL |
| 3011 0100 | NMS/<x> DISK/<v> | aabb MDM 303 gghh TBL<br>where:<br>aa = “*C”, “**”, “* ” |
| 3011 01FF | NMS/<x> | bb MDM 303 gghh TBL |
| 3011 0200 | NMS/<x> CPU/<c> | aabb MDM 303 gghh TBL<br>where:<br>aa = “*C”, “**”, “* ” |
| ***Note:*** Refer to “Instance ranges for SET/CLEAR index group: 3011” (page 82) | | |
| (Sheet 1 of 2) | | |

**Table 45 (Continued)**
**Multiservice Data Manager index group 3011: Multiservice Data Manager platform monitoring alarms**

| Alarm NTP Index | Component name | SCC2 Header |
|---|---|---|
| 3011 02FF | NMS/<x> | bb MDM 303 gghh TBL |
| 3011 0300 | NMS/<x> MEMORY | aabb MDM 303 gghh TBL<br>where:<br>aa = “*C”, “**”, “* ” |
| 3011 03FF | NMS/<x> | bb MDM 303 gghh TBL |
| 3011 0401 | NMS/<x> PORT/<ip> | **bb MDM 303 gghh TBL |
| 3011 04FF | NMS/<x> | bb MDM 303 gghh TBL |
| 3011 0501 | NMS/<x> CONNECTION/<ip> | *Cbb MDM 303 gghh TBL |
| 3011 05FF | NMS/<x> | bb MDM 303 gghh TBL |
| 3011 0600 | NMS/<x> SDS/<d> | *Cbb MDM 303 gghh TBL |
| 3011 06FF | NMS/<x> | bb MDM 303 gghh TBL |
| 3011 0700 | NMS/<x> | aabb MDM 303 gghh TBL<br>where:<br>aa = “*C”, “**” |
| 3011 07FF | NMS/<x> | bb MDM 303 gghh TBL |
| ***Note:*** Refer to “Instance ranges for SET/CLEAR index group: 3011” (page 82) | | |
| (Sheet 2 of 2) | | |

# Multiservice Data Manager Message alarms

Nortel Multiservice Data Manager (MDM) Message alarms that are applicable to Carrier Voice over IP networks are divided into the following index groups:

- "Multiservice Data Manager index group 0999" (page 85)
- "Multiservice Data Manager index group 3010: Multiservice Data Manager server alarms" (page 86)
- "Multiservice Data Manager index group 600x: MDP application alarms" (page 87)

***Note:*** All of Multiservice Data Manager Message alarms for Carrier Voice over IP network solutions are applicable to the Packet Trunking - AAL1, Universal Access - AAL1, and Universal Access - IP solutions.

## Multiservice Data Manager index group: 0999

Alarm 0999 0001 is a Multiservice Data Manager proxy alarm. This alarm is issued when a loss of redundancy of the alarm feed occurs. The MDM has lost its direct network alarm feed, but is still collecting alarms from the redundant MDM.

The message alarm will not be issued for all conditions that could lead to a loss of redundancy, nor is it "cleared" when the problem is resolved. This information is included as the alarm may be seen, but it is not recommended that the alarm be used to trigger activity.

#### Instance ranges for Message index group: 0999

Device type (<devicetype>): a string representing any IP-enabled device such as "EM" or "PP8600"
Node name (<nodename>): a string representing the name of the device or shelf

**Table 46**
**Multiservice Data Manager index group 0999**

| Alarm NTP index | Component name | SCC2 Header |
|---|---|---|
| 0999 0100 | <devicetype>/<nodename> | * bb MDM 303 gghh TBL |
| ***Note:*** Refer to "Instance ranges for Message index group: 0999" (page 85) | | |
| | | |

## Multiservice Data Manager index group: 3010

The alarms in this index group appear when there are faults with Nortel Multiservice Data Manager (MDM) server processes, which are needed by Multiservice Data Manager tools and applications. The Multiservice Data Manager Log Display or corresponding UNIX utility (nmslog) may also be used to find the information for the cause of the problem.

### Instance ranges for Message index group: 3010

NMS instance range (<x>): a string, typically the hostname of the MDM server platform

GROUP instance range (<g>): a string, denoting the HGDS group name for a set of Multiservice Switch nodes

PP instance range (<nodename>): a string, typically the CLLI identifier for the node

**Table 47**
**Multiservice Data Manager index group 3010: Multiservice Data Manager server alarms**

| Alarm NTP Index | Component name | SCC2 Header |
|---|---|---|
| 3010 0700 | NMS/<x> GROUP/<g> | * bb MDM 305 gghh TBL |
| 3010 0701<br>3010 0702 | NMS/<x> PP/<nodename> | * bb MDM 300 gghh TBL |
| 3010 0703 | NMS/<x> APPL TODCHANGEOVER | * bb MDM 304 gghh TBL |
| ***Note:*** Refer to “Instance ranges for Message index group: 3010” (page 86) | | |
| | | |

## Multiservice Data Manager index group: 600x

**Instance ranges for Message index group: 600x**

NMS instance range (<x>): a string, typically the hostname of the MDM server platform

MDP instance range (<a>): a string, denoting the name of an MDP software application

**Table 48**
**Multiservice Data Manager index group 600x: MDP application alarms**

| Alarm NTP Index | Component name | SCC2 header |
|---|---|---|
| 6000 0001<br>to<br>6004 0000 | NMS/<x> MDP/<a> | aabb MDM 307 gghh TBL<br>where:<br>aa = “*C”, “**”, “* ” |
| ***Note:*** Refer to “Instance ranges for Message index group: 600x” (page 87) | | |
| | | |

# Appendix A
# Telcordia NMA information

This section summarizes the level of compatibility of the Telcordia NMA application with Carrier Voice over IP network Voice over ATM (VoA) configurations. Also included is specific information related to fault handling on Nortel Multiservice Switch 15000 nodes. For a full description of the integration of Carrier Voice over IP VoA configurations into Telcordia NMA, refer to the Telcordia NMA Operations System Impact Analysis (OSIA) reports. These reports are made available to customers by Telcordia Technologies, Incorporated.

As of the Carrier Voice over IP VoA SN04 release, Telcordia NMA System release 12.0.1 incorporates fault handling on Multiservice Switch 15000 nodes for alarms that are common to both the Carrier Voice over IP Packet Trunking - AAL1(PT-AAL1) and Universal Access - AAL1 (UA-AAL1) solutions. This release does not incorporate alarms specific only to a UA-AAL1 configuration.

As of the Carrier Voice over IP VoA SN06 release, Telcordia NMA System release 13.0 is updated to incorporate fault handling on Multiservice Switch 15000 nodes for both the PT-AAL1 and UA-AAL1 solutions with exceptions for equipment and facility faults specific to the following configurations:

- 1:1 DS3 PNNI interfaces between Multiservice Switch 15000 nodes
- bridged SONET ports linking a Multiservice Switch 15000 node to either a CS2000 or SAM21 shelf controller

The following information should also be noted regarding Telcordia NMA handling of equipment and facility faults specific to a configuration of DS1-IMA (DS1 Inverse Multiplexing over ATM) interfaces linking a Multiservice Switch 15000 node to MG9000:

- Even though the DS1-IMA capability is available in the UA-AAL1 solution for SN05, the Telcordia NMA integration is introduced as part of the UA-AAL1 solution for SN06.
- The DS1-IMA capability on Multiservice Switch 15000 nodes is provided by a 1:1 equipment-protected pair of 4-port DS3 Channelized ATM (4-portDS3Ch ATM) FPs. The FP provides electrical DS3 facilities and connects via a sparing panel to a DS3:DS1 multiplexor.
- Telcordia NMA provides equipment-level fault handling for the 4-port DS3Ch ATM FPs.
- Telcordia NMA provides facility-level fault handling only for the DS3 facility layer, not for the DS1 or DS0 layers. In other words, the Telcordia NMA system handles faults as a non-channelized DS3 facility. Multiservice Switch 15000 nodes generate faults at the DS1 layer, but if required, those faults would be processed by the NMA user.
- In order to provide the DS3 facility, Telcordia NMA requires the specification of a 'Unit Identifier'. For this particular FP, the unit identifier is a 5-digit number of the following format: 'XYYZZ' where:

**Table 49**
**Telcordia NMA Unit Identifier structure**

| | |
|---|---|
| X | identifies the shelf within a frame. The range is 1 to 2; 1 means the lower shelf in a frame, 2 means the upper shelf in a frame. |
| YY | identifies the slot within a shelf. The range is 02 through 15. A Multiservice Switch 15000 shelf has 16 slots (0 to 15) but FPs can not reside in slots 0 or 1. |
| ZZ | identifies the DS3 port within the slot. The range is 00 through 03. |

***Note:*** The unit identifier format is the same for optical FPs (for example, the 16-port OC-3 ATM FP). Unit identifiers are defined as part of the Telcordia TIRKS OSIA in SN04.

Nortel Multiservice Switch 15000, Media Gateway 15000 and Multiservice Data Manager in Carrier Voice over IP Networks

# Fault Management Overview

PT-AAL1/UA-AAL1/UA-IP

(I)SN08 and up



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