



MS 2000 Series Fault Management

This NTP contains the fault management procedures that are performed to maintain and monitor the Nortel Media Server 2000 Series (MS 2000 Series) and the Audio Provisioning Server (APS). These procedures are listed in tables shown in the section, [MS 2000 Series and APS fault management procedures on page 3](#)

MS 2000 Series fault management

MS 2000 Series fault reporting is based on Simple Network Management Protocol (SNMP). MS 2000 Series alarms are sent to the CS 2000 Management Tool in the form of SNMP traps. The source for these traps is a proprietary enterprise SNMP MIB for the MS 2000 Series, called "ACBoard". The traps include:

- board started - the IPM-1610 board was restarted
- resetting board - the IPM-1610 board was reset
- fatal error - the IPM-1610 board has an un-recoverable error
- configuration error - there is an error in the current configuration for the MS 2000 Series node
- temperature alarm - the MS 2000 Series node has a higher than normal temperature condition
- feature key error - the use of a service (such as conferencing, voice prompts) was attempted but a feature key allowing use of the service was not found
- admin state change - the administration state of the MS 2000 Series node changed either to "locked" or "unlocked". An MS 2000 Series node can be locked gracefully, allowing existing calls to complete, before administration (configuration and maintenance) is performed on the node.

The CS 2000 Management Tool must be configured to receive traps from an MS 2000 Series node. The procedure used to perform this task, "Configuring the CS 2000 Management Tool that receives traps" can be

found in NTP NN10340-511, *MS 2000 Series Operational Configuration*.

Customer logs

The traps from the ACBoard MIB are the source for MS 2000 Series customer logs. The logs are viewable from the CS 2000 Management Tool at location, /var/log/customerlog. The customer logs include:

- AMS500 fatal error - the IPM-1610 board has an un-recoverable error
- AMS501 configuration error - there is an error in the current configuration for the MS 2000 Series node
- AMS502 temperature alarm - the MS 2000 Series node has a higher than normal temperature condition
- AMS503 board started - the IPM-1610 board was restarted
- AMS504 resetting board - the IPM-1610 board was reset
- AMS505 feature key error - a service (such as conferencing, voice prompts) cannot be used because the feature key for the service was not found
- AMS506 admin state change - the MS 2000 Series node was either locked or unlocked

Syslog operation

The MS 2000 Series also performs as a Syslog client. Messages, or error reports events, that are generated by the MS 2000 Series are sent to a Syslog server application for filtering. A "Syslog Server IP address" parameter is supplied in the initialization (INI) file to establish the address of the Syslog server. Activation of the Syslog client is controlled through the "Enable Syslog" parameter in the INI file. Setting this parameter to "1" enables the Syslog protocol log.

BootP operation

A BootP server is configured on the SDM for the MS 2000 Series. The BootP server is needed, initially, for assigning an IP address for an MS 2000 Series node when it is installed. After installation is complete, the BootP server is used as a backup configuration repository for MS 2000 Series software loads (CMP file) and the basic configuration file (INI file).

A request to reload the CMP and INI files to an MS 2000 Series node from the BootP server is generated in response to the following:

- the MS 2000 Series node is power-cycled
- the IPM-1610 board is reset
- a watchdog process running on the MS 2000 Series node determines that a fatal error has occurred in the IPM-1610 board

APS fault management

Since the APS resides on the CS 2000 Management Tool, the server that also hosts the CS 2000 Management Tools, APS fault management is primarily concerned with the audio provisioning function. A complete suite of procedures performed at a command line interface, in a telnet connection to the CS 2000 Management Tool enable you to correct these APS error conditions.

MS 2000 Series and APS fault management procedures

The following table lists APS alarm retrieval procedures.

APS alarm retrieval procedures

Procedure and page	Interface or Tool used
APS alarms on page 6	not applicable
Viewing APS system alarms and logs on page 9	Command line

The following table lists APS log retrieval procedures.

APS log retrieval procedures

Procedure and page	Interface or Tool used
APS logs on page 10	not applicable
Viewing APS system alarms and logs on page 9	Command line

The following table lists MS 2000 Series fault management procedures.

MS 2000 Series fault management procedures

Procedure and page	Interface or Tool used
IPM-1610 fault management on page 26	not applicable

The following table lists APS fault management procedures.

APS fault management procedures

Procedure and page	Interface or Tool used
APS troubleshooting guide on page 27	not applicable
Trouble-shooting the APS provisioner on page 29	Command line
Removing provisioner lock files on page 31	Command line
Checking for active audio provisioner processes on page 32	Command line
Troubleshooting APS login problems on page 33	Command line
Starting the APS Oracle database on page 39	Command line
Restoring audio files to a MS 2000 Series node on page 40	APS GUI
Rebooting an APS on page 41	Command line

MS 2000 Series logs

This section contains a listing of the MS 2000 Series customer logs. The logs are viewable from the CS 2000 Management Tool at location, /var/log/customerlog.

AMS500 Fatal Error

AMS501 Configuration Error

AMS502 Temperature

AMS503 Board Started

AMS504 Board Reset

AMS505 Feature Key Error

AMS506 Admin State Change

APS alarms

An APS alarm consists of a five-character alphanumeric alarm identifier and the alarm text. In certain instances, the alarm ID, or the alarm text, may contain a two-digit alphabetic character code that identifies the component responsible for generating the alarm. These alarm identifiers are shown in the table below.

APS software components and associated alarm IDs

APS Software Component	Alarm ID
APS Administration	CM
APS Audio Management	AM
APS File Upload	FT
APS Servlet Requests	DB
IPS Trouble Conditions	FT

Additional detail about each APS software alarm is presented in associated fields, described in the table below.

APS software alarm fields (Sheet 1 of 2)

Field	Description
alarm text	alarm text that displays
Severity	Provides a level of severity for the alarm: <ul style="list-style-type: none"> - critical, which indicates that the event causing the alarm affects service and requires immediate corrective action - major, which indicates that the event causing the alarm does not reduce the systems' engineered capacity, but still requires immediate corrective action - minor, which indicates that the event causing the alarm does not affect service, but still requires corrective action - informational, which indicates only that a system event occurred

APS software alarm fields (Sheet 2 of 2)

Field	Description
Probable cause	Provides the cause for the alarm being issued, in the form of a representative integer from a range of standardized values from the NORTEL-NMI-TC-MIB. The possible causes and their representative values include: <ul style="list-style-type: none"> - 1 (adapter error) - 7 (configuration error) - 8 (congestion) - 17 (file error) - 46 (software error)
Problem Type	Categorizes the alarm. The possible categories includes: <ul style="list-style-type: none"> - communication - environmental - equipment - quality of service - processing error
Message	Explains the meaning of the alarm

APS Administration Alarms

This section contains APS Administration alarms.

26625 CM_DB_CONNECT_ERR

Severity = "critical"

ProbableCause = "46"

ProblemType="communications"

Message="DB is not available, or the user cannot get a connection to the DB"

APS File Upload Alarms

This section contains APS File Upload alarms.

43009 FT_DB_CONNECT_ERR

Severity = "critical"

ProbableCause = "46"

ProblemType="communications"

Message="DB is not available, or the user cannot get a connection to the DB"

APS Audio Management Alarms

This section contains APS Audio Management alarms.

28673 AM_DB_CONNECT_ERR

Severity = "critical"

ProbableCause = "46"

ProblemType="communications"

Message="DB is not available, or the user cannot get a connection to the DB"

Viewing APS system alarms and logs

Viewing APS system alarms and logs

In a telnet connection to the CS 2000 Management Tool

- 1 Open an xterm window and log in to the server as the root user.
- 2 Enter the following command to view the syslog file:

```
more /var/adm/messages
```

Note 1: The syslog file will contain APS logs, and alarms, only if, during APS installation, or when you perform the procedure “Configuring the SNMP Agent” in the document, NN10340-511, “MS 2000 Series Operational Configuration,” you specify that the SNMP agent is to forward alarms/logs to syslog.

Note 2: For information about the APS logs and alarms that display, see [APS alarms on page 6](#).

- 3 You have completed this procedure.

APS logs

APS logs are similar to alarms in that they inform system administrators about fault conditions. Specifically, the APS logs are used for notifying an operator about error conditions that cannot be cleared, for providing additional information about an existing alarm condition, for developing a system operation history, and for providing information to be used in troubleshooting.

Provisioner logs

The provisioner log contains log messages that provide a starting point for troubleshooting provisioner problems. Each time a provisioner process runs, an entry is appended to the log for the related CS 2000 Management Tool, in the format:

```
PROVISIONER START on <hostname> at <date> [PID: <pid>]
<single provision or full provision information>
```

Since log entries are intermixed, the pid included in the entry identifies the operating system process ID of the particular provisioning process for which the log entry was created.

Each time a provisioner process exits, an entry is also appended to the log for the related CS 2000 Management Tool, in the format:

```
PROVISIONER END on <hostname> at <date> [PID: <pid>]
<single provision or full provision information>
```

If a provisioner process exits abnormally, an entry is appended to the log for the related CS 2000 Management Tool, in the format:

```
PROVISIONER STOP on <hostname> at <date> because <fault
information> [PID: <pid>] <single provision or full provision
information>
```

During normal operation, progress messages are entered in the provisioner logs. For example, when a provisioner creates transaction files for a node, the following entries are made in the related provisioner log:

```
Attempting to provision node <node name> from host <hostname>
at
<date>. [PID: <pid>]
```

```
Attempting to transfer files for node <node name> from <hostname>
```

at <date>. [PID: <pid>]

Last prov date updated for node <node name> on host <hostname>
at
<date>. [PID: <pid>]

Any errors that the provisioner encounters are also logged.

The provisioner logs are located in the "/PROV_data" directory. The provisioner logs must be periodically deleted to prevent them from consuming too much space in the file system and preventing the provisioner from running. A script, "provLog_cleanup.sh," located in the "nightly_cleanup.sh" script, runs automatically every night to ensure that only three days worth of provisioner logs are retained. Logs that would normally be deleted by this automatic process can be stored in a different file if they are to be used later for troubleshooting.

The provisioner logs are shown below.

"The specified node (\$NODE_ID) is not a configured node on \$(hostname)."

"The specified node (\$NODE_ID) either does not have provisioning enabled or else does not have a provision set assigned to it on \$(hostname)."

"Problems on \$(hostname) transferring files for node \$NODE."

"The last prov date for the node \$NODE cannot be updated on \$(hostname) because the database is not accessible."

"A full provisioner process cannot be run when another full provision is already in progress on \$(hostname)"

"A full provisioner process has timed out waiting for a node-specific provisioner process to complete on \$(hostname)."

"A node-specific provisioner process cannot be run on \$(hostname) because a full provision is already in progress."

"A node-specific provisioner process cannot be run on \$(hostname) because another provision process is already running for that node."

"The provisioner cannot run on \$(hostname) because the file system (\$IpsProvPath) is full."

"The \$IpsProvPath file system on \$(hostname) is almost full. The provisioner will not be able to run if corrective action isn't taken."

"The provisioner cannot run on \$(hostname) because the database is inaccessible."

The "adclient" (audio distributor client) runs the MS 2000 Series provisioning process. The dynamic text message that appears in a log when a problem with provisioning occurs is:

"the AMS (MS2000 Series) provisioner (adclient) encountered errors while distributing audio files to one or more of the following AMS nodes:"

The proprietary protocol used for communication between the APS and the MS 2000 Series is "TPNCP". If an error in communication occurs between the APS and MS 2000 Series, the following message may appear:

"There was a TPNCP failure."

The "/PROV_data" directory, which contains the provisioner logs described above, can be viewed on the CS 2000 Management Tool at the following location:

`/PROV_data/<APS hostname>_provisioner.log`

Another provisioner log file, that contains additional detail about the provisioning logs, can be viewed on the CS 2000 Management Tool at the following location:

`/opt/uas/aps/log/admanager <date>.log`

This file should be accessed when the detail in the provisioner logs is not sufficient to determine the cause of the provisioning problem. The log messages in this "admanager.log" file can also help in determining a corrective action to perform in response to the problem.

APS system logs

An APS system log consists of a five-character log identifier, comprised of a three-character log ID that identifies the software component that generated the log followed by a two-digit log number, and the log text. Three types of logs are issued:

- error, which indicates that a software error has occurred
- warning, which indicates that an abnormal situation has occurred that could lead to an error condition
- information

For a procedure used to view APS system logs, see Procedure [Viewing APS system alarms and logs on page 9](#).

Servlet Request logs

This section contains Servlet Request logs.

45058 SESSION_TIMER_EXPIRED

EventType="information"

Message="Session timer expired: %s"

45059 DB_SW_EXCEPTION

EventType="error"

Message="Software exception: %s"

45060 DB_RMI_EXCEPTION

EventType="error"

Message="RMI exception: %s"

45061 DB_DB_ERR

EventType="error"

Message="Error while accessing the DB."

45062 INVLD_OPCODE

EventType="information"

Message="Invalid OpCode: %s"

Audio Management logs

This section contains Audio Management logs.

28673 AM_SW_EXCEPTION

EventType="error"

Message="Software exception: %s"

28674 AM_SQL_EXCEPTION

EventType="error"

Message="SQL exception: %s"

28675 AM_DB_ERROR

EventType="error"

Message="Error while accessing the DB."

28676 USER_BEGIN_SESSION

EventType="information"

Message="User: %s, Group: %s - is beginning a session at: %s"

28677 USER_END_SESSION

EventType="information"

Message="User: %s, Group: %s - is ending a session"

28678 USER_NOT_ACTIVE

EventType="warning"

Message="User: %s, Group: %s - status is not active"

28679 USER_UPLOAD_FILE

EventType="information"

Message="User: %s, is uploading files."

28680 READ_ERROR

EventType="error"

Message="Error while reading from: %s"

28681 WRITE_ERROR

EventType="error"

Message="Error while writing to file: %s"

28682 DELETE_ERROR

EventType="error"

Message="Error while deleting: %s"

28683 INVLD_FILE_OR_DIR

EventType="error"

Message="Invalid file or directory: %s"

28684 DIR_CREATED

EventType="information"

Message="Directory created: %s"

28685 SEG_ID_GENERATED

EventType="information"

Message="New generated seg id: %s"

28686 SEG_ID_RELEASED

EventType="information"

Message="Seg id released: %s"

28687 PKG_ID_GENERATED

EventType="information"

Message="New generated package id: %s"

28688 PKG_ID_RELEASED

EventType="information"

Message="Package id released: %s"

28689 MAX_VER_REACHED

EventType="information"

Message="Max number of versions reached for physseg id: %s"

28690 MAX_VER_NUMBER_EXCEEDED

EventType="warning"

Message="Max version number exceeded for physseg id: %s"

28691 PKG_MAX_VER_REACHED

EventType="information"

Message="Max number of versions reached for pkg id: %s"

28692 PKG_MAX_VER_NUMBER_EXCEEDED

EventType="warning"

Message="Max version number reached for pkg id: %s"

28693 MAX_SET_DEPTH_REACHED

EventType="warning"

Message="Max set depth reached for set id: %s"

28694 MAX_SEQ_DEPTH_REACHED

EventType="warning"

Message="Max sequence depth reached for seq id: %s"

28695 NO_SEG_IN_DB

EventType="information"

Message="No segments in DB"

28696 AM_INVLD_SEG_ID

EventType="warning"

Message="Invalid segment id: %s"

28697 INVLD_PHYS_SEG_ID

EventType="warning"

Message="Invalid phys segment id: %s, ver: %s"

28698 AM_INVLD_PKG_ID

EventType="warning"

Message="Invalid package id: %s, ver: %s"

28699 AM_INVLD_PE_TYPE

EventType="warning"

Message="Invalid PE Type: %s"

28700 AM_INVLD_PROG_GRP

EventType="warning"

Message="Invalid program group: %s"

28701 AM_INVLD_SELECTOR_TYPE

EventType="warning"

Message="Invalid selector type: %s"

28702 AM_INVLD_SELECTOR_VAL

EventType="warning"

Message="Invalid selector value: %s"

28703 AM_ZIP_ARCHIVE_EXTRACTED

EventType="information"

Message="Zip archive extracted: %s"

28704 SET_INFINITE_LOOP

EventType="warning"

Message="Infinite loop in set id: %s"

28705 SEQ_INFINITE_LOOP

EventType="warning"

Message="Infinite loop in sequence id: %s"

28706 SEGID_NOT_UNIQUE

EventType="information"

Message="Seg id: %s is not unique"

28707 ALIAS_NOT_UNIQUE

EventType="information"

Message="Alias: %s is not unique"

28708 SELECTOR_VALUE_NOT_UNIQUE

EventType="information"

Message="Selector value: %s is not unique"

28709 SEGID_AND_ALIAS_NOT_UNIQUE

EventType="information"

Message="Seg id %s and alias %s are not unique"

28710 NO_PERM_TO_CACHE

EventType="information"

Message="No permission to set cache for user: %s"

28711 NO_PERM_TO_LOCK

EventType="information"

Message="No permission to change lock status for user: %s"

28712 INVLD_LOCK_STATUS

EventType="information"

Message="Seg id: %s cannot be added to locked package: %s"

28713 INVLD_PKG_FORMAT

EventType="warning"

Message="Invalid package format, segment id: %s cannot be added to package: %s"

Administration Configuration management function logs

This section contains Administration Configuration management logs.

47203 FTL99 SEGMENT NOT PROVISIONED

EventType="error"

Message="A segment was not able to be provisioned. (severity = CRITICAL)%s"

47105 FTL01 LANG_VER_PROV_PROBLEM

EventType="error"

Message="The langver.dat file was not able to be provisioned. (severity = MAJOR)%s"

47106 FTL02 IPS_PROVISIONER_TERMINATION

EventType="error"

Message="The provisioner experienced early termination. (severity = CRITICAL)%s"

47106 FTL02 IPS_PROVISIONER_TERMINATION / APS DATA BASE IS DOWN

EventType="error"

Message="The provisioner experienced early termination. (severity = CRITICAL)%s" ERROR: <date> <time> APS Data Base Instance <instance name> is down!

47107 FLT03 NODE_NOT_PROVISIONED

EventType="error"

Message="A specified node was not provisioned. (severity = MAJOR)%s"

47135 FTL31 FILE_ACCESS_FAILURE

EventType="error"

Message="A file cannot be accessed. Probable causes: incorrect file permissions or full filesystem. (severity = CRITICAL)%s"

File Upload logs

This section contains File Upload logs.

43009 FT_SW_EXCEPTION

EventType="error"

Message="Software exception: %s"

43010 FT_SQL_EXCEPTION

EventType="error"

Message="SQL exception: %s"

43011 FT_IO_FILE_ERR

EventType="error"

Message="IO file error: %s"

43012 FTP_CONNECT

EventType="information"

Message="Connected to host IP: %s"

43013 FTP_CONNECT_ERROR

EventType="error"

Message="Could not connect to host IP: %s"

43014 FTP_CDW_FAILED

EventType="warning"

Message="Could not change directory to: %s"

43015 FTP_FILE_FAILED

EventType="warning"

Message="File %s could be not transferred."

43016 FT_ZIP_ARCHIVE_EXTRACTED

EventType="information"

Message="ZIP archive extracted: %s"

Administration logs

This section contains Administration logs.

26625 CM_SW_EXCEPTION

EventType="error"

Message="Software exception: %s"

26626 CM_SQL_EXCEPTION

EventType="error"

Message="SQL exception: %s"

26627 CM_DB_ERR

EventType="error"

Message="Error while accessing the DB."

26628 NULL_VALUE

EventType="warning"

Message="Null value for: %s"

26629 CREATE_USER_ERR

EventType="error"

Message="Error creating user: %s"

26630 CREATE_DIR_ERR

EventType="error"

Message="Error creating directory: %s"

26631 CREATE_NODE_ERR

EventType="error"

Message="Error creating node: %s"

26632 REMOVE_NODE_ERR

EventType="error"

Message="Error removing node: %s"

26633 HOSTF_UPDATE_ERR

EventType="error"

Message="Error updating host file: %s"

26634 NODE_NOT_ENABLED

EventType="information"

Message="Node not enabled: %s"

26635 CM_INVLD_PROG_GRP

EventType="warning"

Message="Invalid program group: %s"

26636 CM_INVLD_SEG_ID

EventType="warning"

Message="Invalid segment id: %s"

26637 CM_INVLD_PKG_ID

EventType="warning"

Message="Invalid package id: %s"

26638 CM_INVLD_PE_TYPE

EventType="warning"

Message="Invalid PE Type: %s"

26639 CM_INVLD_SELECTOR_TYPE

EventType="warning"

Message="Invalid selector type: %s"

26640 CM_INVLD_SELECTOR_VAL

EventType="warning"

Message="Invalid selector value: %s"

26641 INVLD_PROV_SET

EventType="warning"

Message="Invalid provisionable set: %s"

26642 INVLD_NODE_ID

EventType="warning"

Message="Invalid node id: %s"

26643 INVLD_USER_ID

EventType="warning"

Message="Invalid user id: %s"

26644 INVLD_SYS_PARM_VALUE

EventType="warning"

Message="Invalid sys parm value: %s"

26645 INVLD_ENTITY

EventType="warning"

Message="Invalid entity: %s of entity type: %s"

26646 INVLD_OLD_PSWD

EventType="information"

Message="Invalid old password for user: s%"

26647 CALLP_SEL_VALUE_NOT_UNIQUE

EventType="information"

Message="Callp Selector value: %s is not unique"

26648 PRG_GRP_NOT_UNIQUE

EventType="information"

Message="Program group: %s is not unique"

26649 PROV_SET_NOT_UNIQUE

EventType="information"

Message="Provision set: %s is not unique"

26650 SELTYPE_DISPVAL_NOT_UNIQUE

EventType="information"

Message="Selector type display value: %s is not unique"

26651 USER_NO_ACCESS

EventType="information"

Message="User: %s has no access to program group: %s"

26652 SELECTOR_TYPE_EXISTS

EventType="information"

Message="Selector type: %s already exists"

26653 SELECTOR_VALUE_EXISTS

EventType="information"

Message="Selector value: %s already exists"

26654 ASSOCIATION_EXISTS

EventType="warning"

Message="Association already exists between %s and %s"

26655 CHG_PERM_EXIT_CODE

EventType="information"

Message="Exit code: % while changing permission on: %s"

26656 REM_NODE_EXIT_CODE

EventType="information"

Message="Exit code: % while removing node: % from %s"

26657 REM_DIR_EXIT_CODE

EventType="information"

Message="Exit code: % while removing userdir for user: %s"

26658 INCONSISTENT_ARRAY_SIZE

EventType="warning"

Message="Inconsistent array sizes between %s and %s"

26659 CALLP_VAL_NOT_UNIQUE

EventType="information"

Message="CallP value: %s is not unique"

26660 SELVAL_NOT_UNIQUE

EventType="information"

Message="Selector value: %s is not unique"

26661 DISPVAL_NOT_UNIQUE

EventType="information"

Message="Selector type display value: %s is not unique"

26662 CM_INVLD_AE_TYPE

EventType="warning"

Message="Invalid AE Type: %s"

IPM-1610 fault management

The IPM-1610 cPCI Board is the main component of the MS 2010. The IPM-1610 is provisioned in a slot within the IPmedia 2000 chassis. On the front panel of the IPM-1610 board, LED indicators indicate the board's operational status. These LED indicators, which are labeled on the IPM-1610 front panel, are described in the tables below.

Board status LED indicators

Label	Color	Indication
FAIL	Red	Fatal board failure
ACT	Green	Initialization OK; lights after download has completed successfully

Ethernet LED indicators

Label	Color	Indication
LINK	Green	The Ethernet link is active.
ACT	Yellow	Packets are active on the Ethernet link (Receive or Transmit)

Auxiliary LED indicators

Label	Color	Indication
PWR	Green	Power is supplied to the board.
SWAP READY	Blue	The board can be removed or inserted. Note: This LED is not applicable to the MS 2010. The MS 2010 is a "field-replaceable" unit. Therefore, the entire MS 2010 unit is replaced, when necessary, rather than the IPM-1610 board.

APS troubleshooting guide

The procedures that you perform to address operational issues pertaining to the APS are determined by system problem indicators that you encounter, such as an alarm or log, by the inability to perform a procedure, or audio being unavailable after it has been provisioned. The following table contains the most common indicators of system problems and the recommended troubleshooting procedure(s) to perform in response, in order to diagnose and solve the problems.

APS troubleshooting guide (Sheet 1 of 2)

Trouble Indicator	Procedure to perform
Cannot get audio to the MS 2000 Series node from the APS	Trouble-shooting the APS provisioner on page 29
Audio on the MS 2000 Series node sounds distorted.	The MS 2000 Series supports audio G.711 a-law or mu-law format, sampled at 8Khz. This is the preferred format for audio for the MS 2000 Series. Therefore, ensure that the correct format has been selected in the audio file import dialog in the APS GUI (Procedure, "Importing Physical Segments", in the document NN10340-511, "MS 2000 Series Operational Configuration"). Also ensure that the audio has the correct sampling rate.
APS system parameter changes have not been activated	To effect APS system parameter changes made through the APS Administration GUI, the following command must be entered at the system console after the changes have been made: <code>/opt/uas/aps/scripts/killDbServer.sh</code>

APS troubleshooting guide (Sheet 2 of 2)

Trouble Indicator	Procedure to perform
Cannot log in to the APS	Troubleshooting APS login problems on page 33
Cannot create a new APS Administration GUI user account	In a Telnet connection to the CS 2000 Management Tool, log in as the "root" user and perform the following commands: 1. cd /user_audio_files 2. ls -l 3. In the listing, look for the directory with the same name as the user ID being created. After you are sure that the directory exists, enter the following command to remove the directory: rmdir <user ID> 4. Log in to the APS Administration GUI and add the user again.

Trouble-shooting the APS provisioner

The following procedures enable you to trouble-shoot the APS provisioner that has stopped for some unknown reason.

Trouble-shooting the APS provisioner

In a telnet connection to the CS 2000 Management Tool

1 Open an xterm window and log in using the “maint” login and password.

2 Become the “root” user by entering:

```
su - root
```

3 Locate the provisioner log file in the /PROV_data directory by performing the following step:

```
ls -l -t | more
```

A list of files in the directory displays.

4 Display the contents of the _provisioner.log file by entering the following command:

```
view <hostname>_provisioner.log
```

The latest provisioning log data displays at the bottom of the file listing. Look in this data for references to the MS 2000 Series node to which audio provisioning was attempted. If you discover one of the log messages shown in the list below, perform the error recovery steps that accompany the log message in this list:

Message: Provisioner stop on <hostname> at <time> because a full provisioner process is already running.

Cause: Two full provisioner processes cannot run simultaneously.

Action:

- Perform the procedure [Removing provisioner lock files on page 31](#). You may then wish to see if your provisioning process is running by performing the procedure [Checking for active audio provisioner processes on page 32](#). Note, however, that if the full provisioning process is running, any associated lock files will be removed only when the full provisioner completes. A full provisioner process starts automatically each hour.

Message: Provisioner stop on <hostname> at <time> because the /PROV_data file system is 100% full.

Action:

Remove un-needed files or user files from the /PROV_data directory. Contact your next level of support or your Nortel Networks service representative for assistance.

Message: Provisioner stop on <hostname> at <time> because the db is not accessible.

Cause: The Oracle database may be down.

Action:

Perform the procedure "Checking the APS Oracle database" in the document, NN10337-611, "MS 2000 Series Administration and Security," in your MS 2000 Series document suite.

Message: Provisioner stop on <hostname> at <time> because node <MS 2000 Series_node> is not provisionable.

Action:

Make the MS 2000 Series node provisionable by associating a provisioning set with it and by then ensuring that provisioning on the node is enabled:

- To create a provisioning set for the MS 2000 Series, perform the procedure "Creating a provision set" in the document, NN10340-511, "MS 2000 Series Operational Configuration," in your MS 2000 Series document suite
- To enable provisioning on the MS 2000 Series, perform the procedure "Enabling provisioning of a MS 2000 Series node" in the document, NN10340-511, "MS 2000 Series Operational Configuration," in your MS 2000 Series document suite

5 You have completed this procedure.

Removing provisioner lock files

This procedure enables you to use the killProvJob.ksh tool to remove non-active provisioner lock files on the file system that prevent new provisioner processes from running.

Removing provisioner lock files

In a telnet connection to the CS 2000 Management Tool

- 1 Open an xterm window and log in using the “maint” login and password.
- 2 Become the “root” user by entering:

```
su - root
```

- 3 Enter the following command to remove any provisioner lock files that are preventing a new provisioner process from running:

```
killProvJob.ksh -cleanup
```

A status display informs you about the progress of the lock file removal.

- 4 Enter the following command to determine whether the hourly provisioner is scheduled to run:

```
killProvJob.ksh -autostatus
```

The system indicates whether the hourly provisioner is scheduled to run.

If	Do
the hourly provisioner is scheduled to run	step 5
the hourly provisioner is not scheduled to run	Contact your next level of support or your Nortel Networks service representative for assistance.

- 5 You have completed this procedure.

Checking for active audio provisioner processes

This procedure enables you to determine whether any audio provisioning processes are currently active.

Checking for active audio provisioner processes

In a telnet connection to the CS 2000 Management Tool

- 1 Open an xterm window and log in using the “maint” login and password.
- 2 Become the “root” user by entering:

```
su - root
```

- 3 Enter the following command to determine whether any provisioning processes are currently active:

```
killProvJob.ksh -status
```

The system indicates whether an audio provisioning process is currently running.

- 4 You have completed this procedure.

Troubleshooting APS login problems

This procedure enables you to identify and solve the following common problems that prevent you from logging in to the APS:

- URL in the browser address window is incorrect
- keyboard “Caps Lock” is on
- Oracle database is down
- web server is not running
- APS application software was removed or is not installed

Troubleshooting APS login problems

At your console

- 1 Verify that the URL in your browser address window is correct. The URL should be: `http://<hostname or IP address of the APS>:8080/aps/`

If	Do
the URL is correct	step 3
the URL is incorrect	Correct the URL entry in the browser. Go to step 2

- 2 Try to log in to the APS.

If	Do
you are able to log in to the APS	step 28
you are unable to log in to the APS	step 3

- 3 Ensure that “Caps Lock” is not enabled on your keyboard.

If	Do
“Caps Lock” is enabled	Press the “Caps Lock” key on your keyboard. Go to step 4
“Caps Lock” is not enabled	step 5

- 4 Try to log in to the APS.

If	Do
you are able to log in to the APS	step 28
you are unable to log in to the APS	step 5

In a telnet connection to the CS 2000 Management Tool

5 Open an xterm window and log in using the “maint” login and password.

6 Become the “root” user by entering:

```
su - root
```

7 Determine whether the APS login page is accessible.

If	Do
the APS login page is accessible	step 8
the APS login page is not accessible	step 19

8 Ensure that the Oracle database is online by entering the following command:

```
/opt/servman/bin/servman query -status -g DATABASE -v
```

The display should indicate that the Oracle processes, listed at the end of the display (that is, entries in the display that begin with “oracle <pid>”), are running.

If	Do
the displayed Oracle processes are not running	step 9
the displayed Oracle processes are running	step 13

9 Restart the Oracle database by entering the following command:

```
/opt/servman/bin/servstart DATABASE
```

10 Kill the CS 2000 Management Tool process and let the server restart automatically, by entering the following command:

```
/opt/uas/aps/scripts/killDbServer.sh
```

A message eventually displays indicating that the server is restarting.

11 Enter the following command to check the status of the database:

```
/opt/servman/bin/servman query -status -g DATABASE -v
```

The display should indicate that the Oracle processes, listed at the end of the display (that is, entries in the display that begin with “oracle <pid>”), are running.

	If	Do
	the displayed Oracle processes are running	step 12
	the displayed Oracle processes are not running	step 27
12	Try to log in to the APS.	
	If	Do
	you are able to log in to the APS	step 28
	you are unable to log in to the APS	step 13
13	Ensure that you can connect to the Oracle database by entering the following command:	
	sql	
	<i>An “sql” prompt should display.</i>	
	If	Do
	the sql prompt does not display	step 14
	the sql prompt does display	step 26
14	Determine whether you already restarted the Oracle database once before during this procedure.	
	If	Do
	you have already restarted the database once before	step 27
	you have not already restarted the database once before	step 15
15	Restart the Oracle database by entering the following command:	
	/opt/servman/bin/servstart DATABASE	
16	Kill the CS 2000 Management Tool process and let the server restart automatically, by entering the following command:	
	/opt/uas/aps/scripts/killDbServer.sh	
	<i>A message eventually displays indicating that the server is restarting. This may take from 2 to 5 minutes.</i>	

- 17** Enter the following command to check the status of the database:

```
/opt/servman/bin/servman query -status -g  
DATABASE -v
```

The display should indicate that the Oracle processes, listed at the end of the display (that is, entries in the display that begin with "oracle <pid>"), are running.

If	Do
the displayed Oracle processes are running	step 18
the displayed Oracle processes are not running	step 27

- 18** Try to log in to the APS.

If	Do
you are able to log in to the APS	step 28
you are unable to log in to the APS	step 27

- 19** If the correct IP address of the CS 2000 Management Tool is entered in the browser address window, but the login page is not accessible, an Application Launch Point page should display.

If	Do
the Application Launch Point page displays	step 21
the Application Launch Point page does not display	step 20

- 20** Enter the following command to start the Apache server:

```
/opt/servman/bin/servstart WEBSERVICES
```

Messages that indicate the Apache server has started display.

- 21** Verify that the APS software packages have been installed by entering the following command:

```
pkginfo | grep aps
```

If	Do
a list of the required APS software packages displays	step 22
a list of the required APS software packages does not display	You will need to install the required APS packages. Go to step 27 .

- 22** Enter the following command to check the status of the database:

```
/opt/servman/bin/servman query -status -g  
DATABASE -v
```

The display should indicate that the Oracle processes, listed at the end of the display (that is, entries in the display that begin with "oracle <pid>"), are running.

If	Do
the displayed Oracle processes are running	step 26
the displayed Oracle processes are not running	step 23

- 23** Restart the Oracle database by entering the following command:

```
/opt/servman/bin/servstart DATABASE
```

- 24** Kill the CS 2000 Management Tool process and let the server restart automatically, by entering the following command:

```
/opt/uas/aps/scripts/killDbServer.sh
```

A message eventually displays indicating that the server is restarting. This may take from 2 to 5 minutes.

- 25** Enter the following command to check the status of the database:

```
/opt/servman/bin/servman query -status -g  
DATABASE -v
```

The display should indicate that the Oracle processes, listed at the end of the display (that is, entries in the display that begin with "oracle <pid>"), are running.

If	Do
the displayed Oracle processes are running	step 26
the displayed Oracle processes are not running	step 27

- 26** Try to log in to the APS.

If	Do
you are able to log in to the APS	step 28
you are unable to log in to the APS	It may be necessary to reboot the server. Go to step 27 .

- 27** Contact your next level of support.
- 28** You have completed this procedure.

Starting the APS Oracle database

The Oracle database contains information about the APS audio and about the nodes to which the APS can provision audio. This procedure enables you to restart the Oracle database as part of APS system recovery.

Starting the APS Oracle database

In a telnet connection to the CS 2000 Management Tool

1 Open an xterm window and log in using the “maint” login and password.

2 Become the “root” user by entering:

```
su - root
```

3 Start the Oracle database by entering the following command:

```
/opt/servman/bin/servstart DATABASE
```

4 Kill the CS 2000 Management Tool process and let the server restart automatically, by entering the following command:

```
/opt/uas/aps/scripts/killDbServer.sh
```

A message eventually displays indicating that the server is restarting.

Note: The web server and the Java servlet engine will be restarted as a result of this command. CS 2000 Management Tools users may be temporarily impacted while the web server restarts.

5 Enter the following command to check the status:

```
/opt/servman/bin/servman query -status -g  
DATABASE -v
```

The display should indicate that the Oracle processes, listed at the end of the display (that is, entries in the display that begin with “oracle <pid>”), are running. If the processes are not running, contact your next level of support.

6 You have completed this procedure.

Restoring audio files to an MS 2000 Series node

In the event that a re-installation of an MS 2000 Series node is required due to an error condition, audio files must be restored to the unit when it becomes operational. This procedure allows you to enable audio provisioning to the node and to specify which audio files are to be restored to it.

Note: For more information about re-installation of a MS 2000 Series node, contact your Nortel Networks service representative.

Restoring audio files to a MS 2000 Series node

At your web browser interface

- 1 After the re-installation of the MS 2000 Series node has been completed, determine whether you want to enable provisioning of the node occur during the next audio distribution cycle or immediately.

If

Do

you want to enable provisioning of the node to occur during the next audio distribution cycle

step [2](#)

you want audio provisioning of the node to occur immediately

step [3](#)

- 2 Perform the procedure "Enabling provisioning of an MS 2000 Series node" in the document, NN10340-511, "MS 2000 Series Operational Configuration," in your MS 2000 Series document suite.

Note: Provisioning of the node will begin during the next audio distribution cycle. The distribution cycle occurs once per hour.

- a Go to step [4](#).

- 3 Perform the procedure "Provisioning an MS 2000 Series node" in the document, NN10340-511, "MS 2000 Series Operational Configuration," in your MS 2000 Series document suite.

Note: Provisioning of the node will begin immediately although as much as a five-minute delay may occur before actual provisioning activity begins.

- 4 You have completed this procedure.

Rebooting an APS

This procedure enables you to reboot an APS, as part of APS system recovery. Note that this procedure also causes a reboot of the CS 2000 Management Tool.

Rebooting an APS

In a telnet connection to the CS 2000 Management Tool

- 1 Open an xterm window and log in using the “maint” login and password.
- 2 Become the “root” user by entering:
`su - root`
- 3 Enter the following command to stop the Oracle database:
`db_stop`
- 4 Enter the following command:
`shutdown -i 6 -y`
- 5 You have completed this procedure.