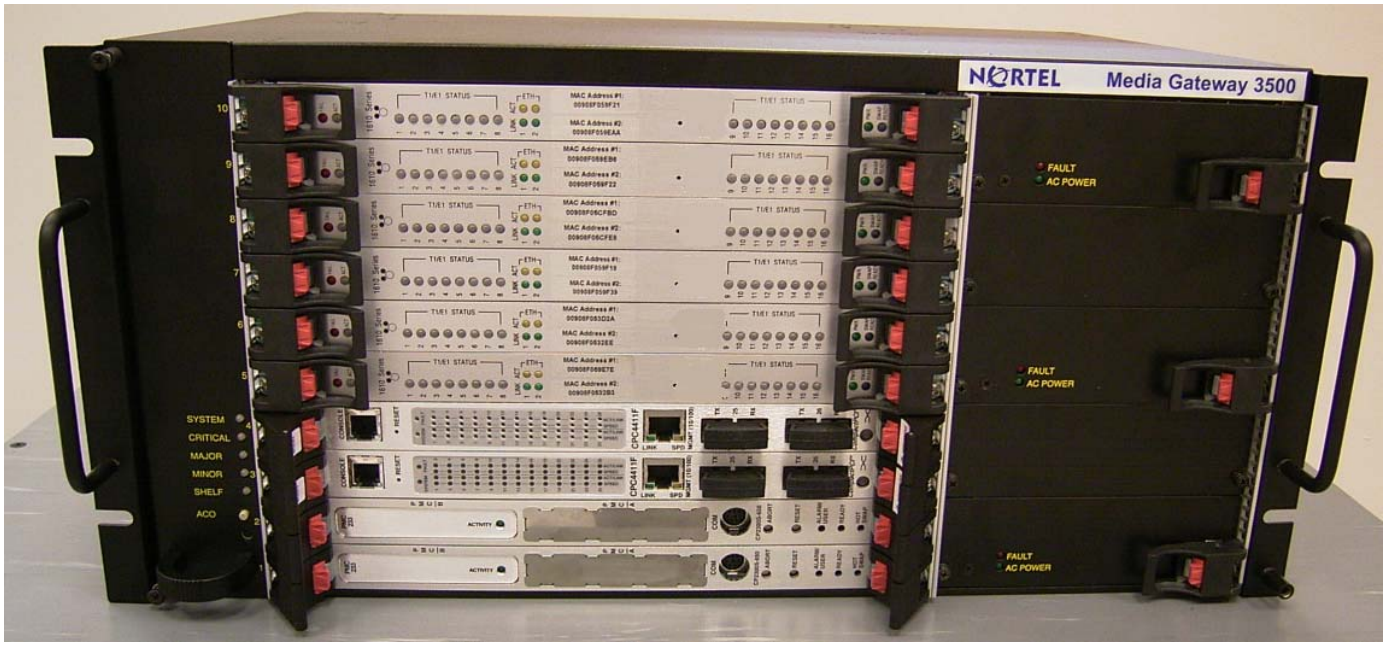
EMS Parameter Guide for Media Gateway 3500

Version 3.0

LTRT-94201 Rev 007



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Note: The Element Management System supports the following products:

1. Media Gateway 3500

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Customer Support

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Abbreviations and Terminology

Each abbreviation, unless widely used, is spelled out in full when first used. Only industry-standard terms are used throughout this manual. Hexadecimal notation is indicated by 0x preceding the number.

When the term 'Trunking Gateway' is used in this manual, it refers to the Media Gateway 3500.

Related Documentation

Manual Name
Media Gateway 3500 Installation, Operation & Maintenance Manual
Media Gateway 3500 Product Description
Element Management System (EMS) User's Manual
Element Management System (EMS) Server Installation & Maintenance Manual
Element Management System (EMS) Product Description
Element Management System (EMS) Online Help
Media Gateway 3500 Programmer's User Manual
EMS Parameter Guide for the Media Gateway 3500

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List of Tables

1 EMS Parameter Guide for the Media Gateway 3500

This guide relates to the Media Gateway 3500.

Use these tables as a reference for the screens, tabs and parameters displayed in the EMS GUI.

Note that with regard to the column 'Type' in the tables in this section, the first line indicates whether the parameter is an integer, string or enumerator. The lines below it indicate the range / possible values that can be configured for the parameter.

Note that all parameters that are of provisioning type Offline (in column 'Provisioning Type') are graphically indicated in the EMS GUI screens by the icon .

Online	To configure an 'Online' mode parameter (indicated in the EMS by the icon adjacent to the parameter), you need to lock *only the entity containing the parameter*. *You do not need to lock the board/media gateway* containing the entity. The mode is called '**Online**' because the parameter can be configured without resetting any board in the media gateway.
Offline	To configure an 'Offline' mode parameter (indicated in the EMS by the icon adjacent to the parameter), you need to lock the board/media gateway containing the entity as well as the entity in order to configure the entity's parameter. The mode is called 'Offline' because all calls active on the board/media gateway containing the entity's parameter are dropped when you lock the board/media gateway and entity in order to configure the parameter.
Instant	An 'Instant' mode parameter can be configured on the fly; the configuration takes effect immediately. No icon is displayed adjacent to the parameter in the EMS GUI. No locking or unlocking of the entity or of the board/media gateway is required to perform the configuration.

2 Frame: Media Gateway Parameters Provisioning

2.1 Tab: MG General Info

Table 2-1: Frame: Media Gateway Parameters Provisioning, Tab: MG General Info

Parameter Name	Type	Provisioning Type	Description
Media Gateway Type	Enum media gateway 3500	Read-Only	This read-only parameter indicates the Gateway Type to Users. It can be Media Gateway 3500.
Chassis Type	Enum MG3500 MG3500pro	Read-Only	-
Software Version	String Up to 20 chars.	Read-Only	Version of the MIB..
Lock/Unlock Required	Enum LockNotNeeded LockNeeded	Read-Only	Indicates whether a Lock/Unlock is required after recent configuration changes.
Application Type	Enum withoutProxy mgcpProxy megacoProxy	Read-Only	Application Type
Media Gateway FQDN	String Up to 20 chars.	Instant	Textual, User-defined name assigned to the media gateway, enabling the User to identify it intuitively and easily.
MG Location	String Up to 20 chars.	Instant	User-defined free text field to specify the location of the media gateway.
Administator Details	String Up to 20 chars.	Instant	User-defined, free-text field to specify the name and phone number of the system administrator responsible for operating this media gateway.

Parameter Name	Type	Provisioning Type	Description
MG Description	String Up to 20 chars.	Instant	Free-text field to be used to provide an identifying description of the media gateway.
MG Time Zone	String Up to 20 chars.	Instant	Specification of the time zone in which the media gateway is located.
Board Provisioning Mode	Enum MacAddress GeographicalAddress AutoDiscover	Instant	This parameter is used to specify TP/SB board's provisioning mode. The following modes are supported: by MAC Address - operators must specify the board's MAC address; by Geographical Address - the board is provisioned by its position in the chassis (slot number) AutoDiscover - the board is automatically detected as soon as it is inserted into the chassis.
Chassis ID	Integer 0-31	Instant	Chassis ID. Used to enumerate multiple media gateways in the same network. Must be set to a unique, non-zero value in order to enable the Geographical Address Provisioning feature.
Trunk id range	Enum proxy1to16 proxyless0to7 proxyless1to8	Online	Trunk Id base
Fan Speed Auto Control	Enum disable enable	Instant	Disable/ Enable Fans Speed autocontrol according to the chassis temperature
EnableRelays	Enum Disabled Enabled	Online	-

2.2 Tab: Setup Files

Table 2-2: Frame: Media Gateway Parameters Provisioning, Tab: Setup Files

Parameter Name	Type	Provisioning Type	Description
CAS File 0 Name	String Up to 50 chars.	Online	CAS setup file; array of CAS protocol configuration file names (ignore when CAS protocol is not to be used).
CAS File 1 Name	String Up to 50 chars.	Online	CAS setup file; array of CAS protocol configuration file names (ignore when CAS protocol is not to be used).
CAS File 2 Name	String Up to 50 chars.	Online	CAS setup file; array of CAS protocol configuration file names (ignore when CAS protocol is not to be used).
CAS File 3 Name	String Up to 50 chars.	Online	CAS setup file; array of CAS protocol configuration file names (ignore when CAS protocol is not to be used).
CAS File 4 Name	String Up to 50 chars.	Online	CAS setup file; array of CAS protocol configuration file names (ignore when CAS protocol is not to be used).
CAS File 5 Name	String Up to 50 chars.	Online	CAS setup file; array of CAS protocol configuration file names (ignore when CAS protocol is not to be used).
CAS File 6 Name	String Up to 50 chars.	Online	CAS setup file; array of CAS protocol configuration file names (ignore when CAS protocol is not to be used).

Parameter Name	Type	Provisioning Type	Description
CAS File 7 Name	String Up to 50 chars.	Online	CAS setup file; array of CAS protocol configuration file names (ignore when CAS protocol is not to be used).
Default .ram Load File	String Up to 80 chars.	Instant	Default load file (Ram.hex) for TP/SB boards residing in the media gateway. If another load file is specified for a TP/SB board using parameter RamFileName1 at the board level, the default load file from this level is not used to load the TP/SB board. Changes of this parameter are valid for a newly added TP/SB board.

2.3 Tab: Subnet Separation

Table 2-3: Frame: Media Gateway Parameters Provisioning, Tab: Subnet Separation

Parameter Name	Type	Provisioning Type	Description
Global IP Address	IP Address	Read-Only	Global IP address for both SCs in the OAM Subnet
Default Gateway Address	IP Address	Read-Only	Default Gateway address for the OAM Subnet
Subnet Mask	IP Address	Read-Only	Subnet mask for the OAM network
3 subnets per OAM Media and Control	Bitmap-0x0001	Online	-
Media Default GW	IP Address	Offline	Media Default GW
Subnet Mask of Media	IP Address	Offline	Subnet Mask of Media
Subnet Mask of Control	IP Address	Offline	Subnet Mask of Control
Control Subnet IP	IP Address	Offline	ControlSubnetIP

2.4 Tab: Static Route Table

Table 2-4: Frame: Media Gateway Parameters Provisioning, Tab: Static Route Table

Parameter Name	Type	Provisioning Type	Description
Static Route number	Integer 1-20	Read-Only	Indicates the Call Agent Group number, defined by its row in the Call Agent Groups List.
Destination IP address	IP Address	Online	The Destination IP address
Destination Subnet Mask	IP Address	Online	Destination Subnet Mask
Gateway IP address	IP Address	Online	The Remote Gatway IP address
Protocol Group Type (OCM)	Enum OAM control media	Online	OAM, Control or Media
Hops Count to destination	Integer 0-256	Online	Hops Count to destination
Comment	String Up to 200 chars.	Instant	Comment

2.5 Tab: Diffserv Priorities

Table 2-5: Frame: Media Gateway Parameters Provisioning, Tab: Diffserv Priorities

Parameter Name	Type	Provisioning Type	Description
Premium Media DiffServ	Integer 0-64	Online	Premium Media Service Class DiffServ
Premium Control DiffServ	Integer 0-64	Online	Premium Control Service Class DiffServ
Network Service Class Diff Serv	Integer 0-64	Online	-
Gold Service Class Diff Serv	Integer 0-64	Online	-
Bronze Service Class Diff Serv	Integer 0-64	Online	-

2.6 Tab: Network Services

Table 2-6: Frame: Media Gateway Parameters Provisioning, Tab: Network Services

Parameter Name	Type	Provisioning Type	Description
Main DNS Server IP Address	IP Address	Instant	The IP address of a Main DNS Server
DNS Server 2 IP Address	IP Address	Instant	The IP address of the first Redundant DNS Server
DNS Server 3 IP Address	IP Address	Instant	The IP address of the second Redundant DNS Server
NTP Server	String Up to 20 chars.	Online	-
NTP Server Status	Enum NTPConnectionLost NoInternalClockSync NTPConnectionRestored	Read-Only	-
Enable Security	Enum disable enable	Read-Only	Enable security mode
EMS IP Address	IP Address	Read-Only	The IP address of the Element Management System (EMS) controlling this media gateway.
EMS Security Profile	Integer 0-10	Read-Only	EMS security profile - or 0 if not secure
NMS IP Address	IP Address	Instant	The IP address of the Network Management System (NMS) controlling the media gateway.
NMS Security Profile	Integer 0-10	Instant	NMS security profile - or 0 if not secure
OSS IP Address	IP Address	Instant	The IP address of the Operational Support System (OSS) - optional.
OSS Security Profile	Integer 0-10	Instant	OSS security profile - or 0 if not secure
APS IP Address	String Up to 20 chars.	Online	APS IP Address
APS Security Profile	Integer 0-10	Instant	APS security profile - or 0 if not secure

Parameter Name	Type	Provisioning Type	Description
Enable Syslog	Enum disable enable	Instant	This parameter is used to enable or disable Syslog generation for all TP/SB boards residing within the media gateway.
Syslog Server IP	IP Address	Instant	The IP address of a Syslog server. It is valid for all TP/SB boards residing in the media gateway. This parameter is handled only if Syslog is enabled.

2.7 Tab: OAM Security Profiles

Table 2-7: Frame: Media Gateway Parameters Provisioning, Tab: OAM Security Profiles

Parameter Name	Type	Provisioning Type	Description
Profile ID	Integer 1-10	Read-Only	The number of the shelf in the media gateway, used for indexing. Shelf-concatenation is presently unsupported. Only one shelf per media gateway is allowed.
Administrative State	Enum Locked ShuttingDown Unlocked	Read-Only	Administrative state of the shelf, managed by the User, who can manually lock, unlock or shut down the shelf.
Profile Name	String Up to 40 chars.	Instant	Textual, User-defined name for the shelf in the media gateway, enabling the User to identify it intuitively and easily.
IKE Pre-Shared Key	String Up to 100 chars.	Online	IKE Pre-Shared Key in ASCII format
IKE Encryption	Enum des des3 any	Online	IKE Encryption algorithm
IKE Lifetime (sec)	Integer 0-2147483647	Online	IKE Lifetime (in seconds)
IPSEC Lifetime (sec)	Integer 0-2147483647	Online	IPSEC Lifetime (in seconds)

2.8 Tab: Boards Table

Table 2-8: Frame: Media Gateway Parameters Provisioning, Tab: Boards Table

Parameter Name	Type	Provisioning Type	Description
Slot #	Integer 0-19	Read-Only	The number of the slot in the shelf, used for indexing requirements.
Board Type	Enum None Sc Switch Alarm Tp1610 Switch4411	Read-Only	The type of board residing in a particular slot of the media gateway.
IP Address 1	IP Address	Online	The IP address of the master TPM (media gateway board module); the IP address to be assigned to the first IP interface of the media gateway board.
MAC Address 1	String Up to 12 chars.	Online	MAC address of the master; the MAC address of the first media gateway board interface.
IP Address 2	IP Address	Online	The IP address of the slave TPM (media gateway board's module); the IP address to be assigned to the second IP interface of the media gateway board.
MAC Address 2	String Up to 12 chars.	Online	MAC address of the slave; the MAC address of the second media gateway board interface.
IP Subnet Mask	IP Address	Online	Subnet mask of both modules; Subnet mask to be assigned to both IP interfaces of the media gateway board.

2.9 Tab: Boards Diagnostics

Table 2-9: Frame: Media Gateway Parameters Provisioning, Tab: Boards Diagnostics

Parameter Name	Type	Provisioning Type	Description
Slot #	Integer 0-19	Read-Only	The number of the slot in the shelf, used for indexing requirements.
Board Type	Enum None Sc Switch Alarm Tp1610 Switch4411	Read-Only	The type of board residing in a particular slot of the media gateway.
Temperature Severity	Enum clear indeterminate warning minor major critical	Read-Only	Options can be Clear, Indeterminate, Warning, Minor, Major or Critical.
Sensor 1 Temperature	Integer -99-9999	Read-Only	Board 1 Temperature indicates the temperature of the master TPM (master module).
Sensor 2 Temperature	Integer -99-9999	Read-Only	Board 2 Temperature indicates the temperature of the slave TPM (slave module).
Temperature Warning Level	Integer 0-100	Read-Only	If the Temperature Warning Level is reached, an alarm is generated. This is a read-only parameter.
Temperature Critical Level	Integer 0-100	Read-Only	If the Critical Temperature Level is reached, the media gateway board shuts down. This is a read-only parameter.

2.10 Tab: Alarm Card Info

Table 2-10: Frame: Media Gateway Parameters Provisioning, Tab: Alarm Card Info

Parameter Name	Type	Provisioning Type	Description
Voltage + 12 V	Integer -100000-100000	Read-Only	This read-only parameter indicates the set value of the chassis' +12V voltage. The reading is in units of millivolts (mV).
Voltage + 5 V	Integer -100000-100000	Read-Only	This read-only parameter indicates the set value of the chassis' +5V voltage. The reading is in units of millivolts (mV).
Voltage + 3.3 V	Integer -100000-100000	Read-Only	This read-only parameter indicates the set value of the chassis' +3.3V voltage. The reading is in units of millivolts (mV).
Voltage - 12 V	Integer -100000-100000	Read-Only	This read-only parameter indicates the set value of the chassis' -12V voltage. The reading is in units of millivolts (mV).
Right Front Fan Speed (RPM); Top Rear Fan Speed (RPM)	Integer -100000-100000	Read-Only	Indicates the RPM of the top-rear fan (Media Gateway 3500) Fan speed depends on chassis version, the size of the fan (which is also version dependent) and the mode.
Right Rear Fan Speed (RPM); Top Front Fan Speed (RPM)	Integer -100000-100000	Read-Only	Indicates the RPM of the top-front fan (Media Gateway 3500). Fan speed depends on chassis version, the size of the fan (which is also version dependent) and the mode.

Parameter Name	Type	Provisioning Type	Description
Left Front Fan Speed (RPM); Bottom Rear Fan Speed (RPM)	Integer -100000-100000	Read-Only	Indicates the RPM of the bottom-middle fan (Media Gateway 3500). Fan speed depends on chassis version, the size of the fan (which is also version dependent) and the mode.
Left Rear Fan Speed (RPM); Bottom Middle Fan Speed (RPM)	Integer -100000-100000	Read-Only	Indicates the RPM of the bottom-middle fan (Media Gateway 3500). Fan speed depends on chassis version, the size of the fan (which is also version dependent) and the mode.

3 Frame: MGC Parameters Provisioning

1.1 Tab: General Info

Table 3-1: Frame: MGC Parameters Provisioning, Tab: General Info

Parameter Name	Type	Provisioning Type	Description
Number of Call Agent Group	Integer 0-14	Read-Only	Indicates the Call Agent Group number, defined by its row in the Call Agent Groups List.
Name of Call Agent Group	String Up to 20 chars.	Online	Textual, Customer-defined name assigned to the Call Agent Group, enabling Users to identify a Group intuitively and easily.
Control Protocol	Enum None mgcp megaco	Online	Use this parameter to determine the Control Protocol Type to be used.
UDP Port	Integer 1-5000	Online	UDP port number to be used for the managing protocol (MGCP or MEGACO) on the media gateway side.
MGCP Version	String Up to 32 chars.	Online	The version of MGCP to be used. Only MGCP 1.0 is supported.
# Agents in Group	Integer 0-5	Read-Only	Number of Call Agents defined in the CA Group. There should be up to 5 Call Agents in a Group (one primary, and up to 4 redundant - secondaries). Read-ony. The information is automatically derived from the IP addresses provisioning of the Call Agents.

Parameter Name	Type	Provisioning Type	Description
Active Call Agent	Integer 0-5	Read-Only	The currently active Call Agent, i.e., the Call Agent managing the media gateway resources associated with this Group. This read-only parameter provides Users with related information.
# Trunks under Group	Integer 0-300	Read-Only	Number of trunks currently managed by this Call Agent Group. Note that this parameter is automatically derived from trunk-level provisioning, where each trunk is assigned with its Call Agents Group identification.

3.1 Tab: MGC Addressing

Table 3-2: Frame: MGC Parameters Provisioning, Tab: MGC Addressing

Parameter Name	Type	Provisioning Type	Description
Addressing Type	Enum IPAddress FQDN	Online	-
FQDN	String Up to 100 chars.	Online	-
Primary Call Agent IP	IP Address	Online	IP address of the primary Call Agent in the Group. The media gateway first attempts to communicate with this Call Agent to manage the resources (trunks) associated with this Call Agents Group at the trunk-provisioning level.
Primary Agent Security Profile	Integer 0-10	Online	Security profile of Primary IP - or 0 if not secure
1st Redundant Agent IP	IP Address	Online	IP address of the first redundant/secondary Call Agent in the Group.
1st Redundant Agent Security Profile	Integer 0-10	Online	Security profile of 1st Secondary IP - or 0 if not secure
2nd Redundant Agent IP	IP Address	Online	IP address of the second redundant/secondary Call Agent in the Group.
2nd Redundant Agent Security Profile	Integer 0-10	Online	Security profile of 2nd Secondary IP - or 0 if not secure
3rd Redundant Agent IP	IP Address	Online	IP address of the third redundant/secondary Call Agent in the Group.
3rd Redundant Agent Security Profile	Integer 0-10	Online	Security profile of 3rd Secondary IP - or 0 if not secure
4th Redundant Agent IP	IP Address	Online	IP address of the fourth redundant/secondary Call Agent in the Group.

Parameter Name	Type	Provisioning Type	Description
4th Redundant Agent Security Profile	Integer 0-10	Online	Security profile of 4th Secondary IP - or 0 if not secure

3.2 Tab: External Endpoints

Table 3-3: Frame: MGC Parameters Provisioning, Tab: External Endpoints

Parameter Name	Type	Provisioning Type	Description
1st Endpoint	String Up to 20 chars.	Online	1st Endpoint string. For the Physical Convention, it's a shelf prefix, used within the shelf number reference. Customers can define any string for convenience.
2nd Endpoint	String Up to 20 chars.	Online	2nd Endpoint string. For the Physical Convention, it's a board/slot prefix, used within the board/slot number reference in EndPoint representation. Users can define any string for convenience.
3rd Endpoint	String Up to 20 chars.	Online	3rd Endpoint string. For Physical Convention, it's a trunk prefix, used within the trunk number reference in EndPoint representation. Users can define any string for convenience.
4th Endpoint	String Up to 20 chars.	Online	4th Endpoint string. For Physical Convention, it's a B-channel (timeslot) prefix, used within the timeslot number reference in EndPoint representation. Users can define any string for convenience.

3.3 Tab: Security Profiles

Table 3-4: Frame: MGC Parameters Provisioning, Tab: Security Profiles

Parameter Name	Type	Provisioning Type	Description
Profile ID	Integer 1-10	Read-Only	The number of the shelf in the media gateway, used for indexing. Shelf-concatenation is presently unsupported. Only one shelf per media gateway is allowed.
Administrative State	Enum Locked ShuttingDown Unlocked	Read-Only	Administrative state of the shelf, managed by the User, who can manually lock, unlock or shut down the shelf.
Profile Name	String Up to 40 chars.	Instant	Textual, User-defined name for the shelf in the media gateway, enabling the User to identify it intuitively and easily.
IKE Pre-Shared Key	String Up to 100 chars.	Offline	IKE Pre-Shared Key in ASCII format
IKE Encryption	Enum des des3	Offline	IKE Encryption algorithm
IKE Lifetime (sec)	Integer 0-2147483647	Offline	IKE Lifetime (in seconds)
IKE Lifetime (KByte)	Integer 0-2147483647	Offline	IKE Lifetime (in KBytes)
IPSEC Lifetime (sec)	Integer 0-2147483647	Offline	IPSEC Lifetime (in seconds)
IPSEC Lifetime (KByte)	Integer 0-2147483647	Offline	IPSEC Lifetime (in KBytes)
IPSEC Local Port	Enum any specific	Offline	IPSEC Local Port
IPSEC Remote Port	Enum any specific	Offline	IPSEC Remote Port
IPSEC Protocol	Enum any specific	Offline	IPSEC Protocol

4 Frame: Redundancy Parameters Provisioning

1.1 Tab: General Info

Table 4-1: Frame: Redundancy Parameters Provisioning, Tab: General Info

Parameter Name	Type	Provisioning Type	Description
Redundancy Group Name	String Up to 20 chars.	Read-Only	Textual, User-defined name of the Redundancy Group, enabling the User to identify it intuitively and easily.
# Redundant Slots in Group	Integer -1-19	Read-Only	Number of slots in the shelf occupied by redundant TP/SB boards belonging to this Redundancy Group. It should match the 'Redundant Board in Use' parameter at the appropriate slot.
Redundant Board in Use	Enum unused used	Read-Only	Read-only information providing Users with an indication as to whether the redundant board is already in use (TP/SB switchover occurred under TP/SB failure) or not.
Redundant Group Board in Use	Integer -1-19	Read-Only	Read-only indication as to whether the TP/SB board was replaced by a redundant board belonging to this Redundancy Group. It is relevant only if switchover previously occurred.

Parameter Name	Type	Provisioning Type	Description
Enable Failed Board Automatic Switchover	Enum Disabled Enabled	Online	Use this parameter to enable the redundancy mechanism. If enabled, TP/SB switchover occurs when one of the normal boards, a member of this redundancy group, fails. Otherwise, the redundancy mechanism is applied even when the board fails.
Enable Failed Board Automatic Restart	Enum Disabled Enabled	Online	Use this parameter to enable or disable automatic restart of failed boards.
Weak Redundancy (Group)	Enum Disabled Enabled	Online	Enable this parameter to force Weak Redundancy for all group members. ▪ Weak redundancy set to 'Enabled' means the system does not have "hot" redundancy, i.e. active calls are expected to fail over a Media Gateway Board Switch Over. For this case, 'Redundancy' indication is displayed on the Redundancy TP List. ▪ Weak redundancy set to 'Disabled' means the system has "hot" redundancy where active calls survive over a Switch Over. For this case, 'Enhanced' indication is displayed on the Redundancy TP List.

4.1 Tab: Redundancy TP List

Table 4-2: Frame: Redundancy Parameters Provisioning, Tab: Redundancy TP List

Parameter Name	Type	Provisioning Type	Description
Slot #	Integer 0-19	Read-Only	The number of the slot in the shelf, used for indexing requirements.
Board Type	Enum None Sc Switch Alarm Tp1610 Switch4411	Read-Only	The type of board residing in a particular slot of the media gateway.
Protection Required	Enum None Redundancy Enhanced	Read-Only	Read-only parameter at TP board level that reflects the configuration provided at redundancy level (i.e. Redundancy Tab –> General Info) from a board's perspective. This indicates the protection required according to configuration setting.
Redundant Mode	Enum None Redundancy Enhanced	Read-Only	Read-only parameter at TP board level indicating the real state according to current conditions. This indicates which protection mode will be applied at the time of TP Failure, SO (Switch Over), or manual SO.

Parameter Name	Type	Provisioning Type	Description
Weak HA Params	String Up to 255 chars.	Read-Only	Lists all off-line parameters causing Redundancy (and not Enhanced) HA (High Availability) for a specific board. It's a sub-set of off-line parameters, assigned to the board, different from those assigned to the redundant board in a 'Make redundant as' action. The SC software automatically generates the list to indicate to users as to the parameters that cause Redundancy HA for a certain board.

5 Frame: Clock Parameters Provisioning

5.1 Tab: General Info

Table 5-1: Frame: Clock Parameters Provisioning, Tab: General Info

Parameter Name	Type	Provisioning Type	Description
Clock Synchronization Mode	Enum None Sync	Offline	Use this parameter to define the gateway's Clock Synchronization Mode. Setting the clock to Synchronized mode, will synchronize all gateways PSTN interfaces to the same clock, which is derived from one of the clock references. Alternatively, when setting the mode to None, the PSTN interfaces are synchronized at the group level only, where each group represents 8 sequential trunks - 2 groups per board.
Current Clock Reference Board	Integer 0-19	Read-Only	Slot number of the current clock master board, which provides gateway's syncronization clock. Such board must have at least one trunk with clock priority parameter higher than zero. Only relevant for Synchronized Mode.
Current Clock Reference Trunk	Integer 0-63	Read-Only	Trunk number that supplies the current clock reference to Gateway.
Current Clock Reference Priority	Integer 0-15	Read-Only	Clock Priority of the current clock reference trunk that supplies clock reference to the gateway.

Parameter Name	Type	Provisioning Type	Description
1st Clock Ref TP Slot	Integer 0-19	Offline	Use this parameter to set the number of the slot occupied by a media gateway board in a shelf, that used as the primary clock reference board. Choose all the trunks to be used as the clock references, by setting the ClockPriority parameter at the trunk level. Note that at least one of the trunks defined in the slot should have non-zero priority to act as the clock reference.
2nd Clock Ref TP Slot	Integer 0-19	Offline	Use this parameter to set the number of the slot occupied by a media gateway board in a shelf, that used as the Secondary clock reference board. Choose all the trunks to be used as the clock references, by setting the ClockPriority parameter at the trunk level. Note that at least one of the trunks defined in the slot should have non-zero priority to act as the clock reference.

5.2 Frame: Trunks Level Clock Priorities

5.2.1 Tab: Clock Priorities

Table 5-2: Frame: Trunks Level Clock Priorities, Tab: Clock Priorities

Parameter Name	Type	Provisioning Type	Description
Trunk Number	Integer 1-63	Read-Only	Number of the trunk within a TP/SB board. This parameter is also used to index the trunk in the Trunks List.
Trunk Name	String Up to 20 chars.	Instant	Textual, User-defined name assigned to a trunk, enabling the User to identify it intuitively and easily.
Clock Reference Priority	Integer 0-15	Offline	Assigns the priority to the clock reference candidate trunk. This parameter is used by the gateway's clock synchronization process to choose the new clock reference, when the current reference fails. The new clock reference is selected among all the clock reference candidates that were configured in the Gateway. Set 'Clock Priority' from 1 to 15 for all clock reference trunks, where 1 is the lowest priority. Use default '0' value if this trunk shouldn't be used as a clock reference. The clock priority parameter is applicable to the trunks of the clock master TP/SB boards only.

6 Frame: Shelf Controler Board Parameters Provisioning

1.1 Tab: General Info

Table 6-1: Frame: Shelf Controler Board Parameters Provisioning, Tab: General Info

Parameter Name	Type	Provisioning Type	Description
Board Name	String Up to 20 chars.	Instant	Textual, User-defined name assigned to the media gateway board, enabling Users to identify it intuitively and easily.
IP Address 1	IP Address	Online	The IP address of the CPU board; the IP address to be assigned to the first IP interface of the media gateway board.
Default CPU Role	Enum active standby	Read-Only	This parameter (read-only) indicates the default CPU board role type as either Active or Standby.
Current Role	Enum active standby	Read-Only	This parameter (read-only) indicates the active CPU board role type as either Active or Standby.
Application Comment	String Up to 100 chars.	Read-Only	This read-only Application Comment provides Users with information about an application.
SC Temperature	Integer -100-200	Read-Only	This read-only provides Users with information about Shelf controller's temperature.

7 Frame: Switch Board

1.1 Tab: General Info

Table 7-1: Frame: Switch Board, Tab: General Info

Parameter Name	Type	Provisioning Type	Description
Switch Board Name	String Up to 20 chars.	Instant	The name assigned by Users to a Switch board to make future identification and location easy and intuitive.
Switch Board IP Addr	IP Address	Online	Use this parameter to define the internal IP address of the Switch board (overwrite the default 0.0.0.0).
Switch Board Type	Enum unknown, cpc4401, cpc4411, cpc6600	Read-Only	-

8 Frame: Board1610 Parameters Provisioning

1.1 Tab: General Info

Table 8-1: Frame: Board1610 Parameters Provisioning, Tab: General Info

Parameter Name	Type	Provisioning Type	Description
Slot #	Integer 0-19	Read-Only	The number of the slot in the shelf, used for indexing requirements.
TP Software Version	String Up to 20 chars.	Read-Only	Trunk Pack software version
Flash Version	Integer 0-2147483647	Read-Only	Flash (BootLoader) version
Board Redundancy	Enum Normal Redundant	Read-Only	Determines if the current board is a redundant media gateway board or not.
Board Redundancy Group	String Up to 20 chars.	Read-Only	The name of the redundancy group the board belongs to. An appropriate redundancy group should be provisioned.
Lock/Unlock Needed	Enum LockNotNeeded LockNeeded	Read-Only	Lock/unlock needed after resent configuration changes
Board Name	String Up to 20 chars.	Instant	Textual, User-defined name assigned to the media gateway board, enabling the User to identify it intuitively and easily.
IP Address 1	IP Address	Online	The IP address of the master TPM (media gateway board module); the IP address to be assigned to the first IP interface of the media gateway board.
MAC Address 1	String Up to 12 chars.	Online	MAC address of the master; the MAC address of the first media gateway board interface.

Parameter Name	Type	Provisioning Type	Description
Control IP1 Address	IP Address	Online	-
Media IP1 Address	IP Address	Online	-
IP Address 2	IP Address	Online	The IP address of the slave TPM (media gateway board's module); the IP address to be assigned to the second IP interface of the media gateway board.
MAC Address 2	String Up to 12 chars.	Online	MAC address of the slave; the MAC address of the second media gateway board interface.
Control IP2 Address	IP Address	Online	-
Media IP2 Address	IP Address	Online	-
None Mode Clk Source	Enum Internal pstn atm	Offline	Use this parameter to determine the clock source interface type.
ARP Table Max Entries	Integer 64-2084	Online	Sets the maximum number of entries in the ARP table.
Enable ARP Aging	Enum Disable Enable	Online	Enables aging of ARP table entries.

8.1 Tab: Setup Files

Table 8-2: Frame: Board1610 Parameters Provisioning, Tab: Setup Files

Parameter Name	Type	Provisioning Type	Description
.ram Load File	String Up to 120 chars.	Online	This is the load file to be used for media gateway board modules (optional) if it is not the default (specified in shelf-level provisioning). The load file is for the board modules (optional) if it is different to the default (specified under the shelf parameters).
Base .ini File Name	String Up to 120 chars.	Online	The base {italics}ini{ITALICS} file to be used for both modules of the TPM (optional); the specific {italics}ini{ITALICS} file to be used for both modules of the media gateway board (optional parameter). Generally, the {italics}ini{ITALICS} file for the media gateway boards is generated by the media gateway software.
Call Progress Setup File	String Up to 50 chars.	Online	Call Progress Tones configration file; set to 'None' when Call Progress Tones support is not required.
Voice Prompts File	String Up to 50 chars.	Online	Voice Prompt filename (set to 'None' when Voice Prompts are not required).
Prerecorded Tones File	String Up to 50 chars.	Online	Prerecorded Tones file; set to 'none' when Prerecorded Tones support is not required.

8.2 Tab: Call Control

Table 8-3: Frame: Board1610 Parameters Provisioning, Tab: Call Control

Parameter Name	Type	Provisioning Type	Description
Controlling CA Group	Integer -1-14	Online	This is the Id of the Call Agent Group that controls all board related trunk b-channels/time-slots. The parameter associates board resources with a specific Call Agent Group. The media gateway supports up to 15 Call Agent Groups.
Control Protocol	Enum None mgcp megaco	Read-Only	This parameter defines the control protocol to be used to manage the trunk's b-channels/time-slots resources (MGCP or MEGACO). Only MGCP is presently supported. Note that the Call Agent Group that controls the trunk should be provisioned to use the same call control protocol.
Default Packetization Period	Integer 0-200	Online	Default packetization period (Frame Size).
Init Activate All Channels	Enum disable enable	Offline	-
MGCP Timeout - 1st ReTx	Integer 50-1000	Offline	MGCP timeout for the first retransmission (in msec).
MGCP Comm T/out Layer	Integer 1-3600	Offline	MGCP maximum waiting delay (sec).
Call Control Compatibility Profile	Integer 1-16000	Online	The profiling of various MEGACO features. Bit 2 - controls the type of support for the FAX T.38 negotiation. Bit 3 - enables the extra lines in the outgoing SDP ('t' 's' 'o' lines). Bit 4 - enables different protocol flavors

Parameter Name	Type	Provisioning Type	Description
Broken Connection Event T/O	Integer 3-2684354	Online	Broken Connection Event Time Out (in 100 msec)
RTP Diffserv	Integer 0-63	Online	To assign the IP Diffserv Byte for the RTP Payloads.

8.3 Tab: Voice

Table 8-4: Frame: Board1610 Parameters Provisioning, Tab: Voice

Parameter Name	Type	Provisioning Type	Description
Default Coder	String Up to 30 chars.	Online	This is the default coder but you can set the default coder from a list of valid coders.
DSP Load File Version	Integer 0-4	Online	DSP load file version. The DSP load file defines the set of codecs to be supported by the media gateway board.

Parameter Name	Type	Provisioning Type	Description
DTMF Transport Type	Enum MuteDTMF ProprietaryDTMFRelay TransparentDTMF RelayDTMFOverRTP	Online	Mute DTMF - erase digits from the voice stream, do not relay to remote. Proprietary DTMF Relay - erase digits from the voice stream, relay to remote using proprietary syntax. Relay DTMF Over RTP - erase digits from the voice stream, relay to remote using RFC 2833 syntax. Transparent DTMF - digits remain in the voice stream. Notes: For Nortel H.248 GW applications, the supported value for DTMFTransportType is '2' (Transparent DTMF). - DTMF Transport Type set to 'TransparentDTMF' enables the MG 3500 to negotiate for RFC2833 dynamically (via parsing of the SDP data provided by the Media Gateway Controller embedded within the H248 messaging). If the two sides *do not* agree, the unit will leave the DTMF digits within the bearer path and it will be passed to the distant RTP device within the codec that was established for the bearer path. If the SDP information *is negotiated*, then the DTMF detected digits will be removed from the bearer path and relayed to the remote RTP device by use of RFC2833 DTMF relay. - DTMFTransportType set to 'RelayDTMFOverRTP' enables the MG 3500 to always relay DTMF digits using RFC2833 (no negotiation).
Select PCM Law	Enum None aLaw reserved uLaw	Online	PCM Law select

Parameter Name	Type	Provisioning Type	Description
Voice Volume	Integer -32-31	Instant	Set the Voice Gain Control (volume).
PCM Input Gain	Integer -31-31	Instant	PCM input gain.
Silence Suppression Enable	Enum Disable Enable	Instant	Set Silence Suppression Enable (SCE), or disable it.
Echo Canceler Enable	Enum Disable Enable	Instant	Set the Echo Canceler Enable (ECE), or disable it.
Max Echo Canceler Length	Integer 0-22	Online	Defines the maximum board Echo Canceller length capability. 0 = EC length determined internally to reach maximum channel capacity. 4 = 32 milliseconds 11 = 64 milliseconds 22 = 128 milliseconds Warning: This parameter may reduce the channel capacity of the media gateway board if a value other than the default is used. Echo Tail Length vs port/span capacity of each logical gateway on the TP-1610 is as follows: ▪ 32 msec – 240 ports/ (8 E1/T1) ▪ 64 msec – 240 ports/ (8 E1/T1) ▪ 128 msec – 200 ports/ (8 T1 (192 ports) / 6 E1 (186 ports))* * Full trunks only
Echo Canceller Aggressive NLP	Enum disabled,enabled	Online	Users can enable or disable the Aggressive NLP in the first 0.5 second of the call by setting this parameter.

Parameter Name	Type	Provisioning Type	Description
Jitter Buffer Min Delay	Integer 0-150	Instant	Jitter Buffer Minimum Delay in milliseconds. The lower you set the Jitter Buffer Minimal Delay, the more significantly the optimization factor influences the error ratio
Jitter Buffer Optimization Factor	Integer 0-12	Instant	Dynamic Jitter Buffer frame error/delay optimization.
Enable RFC 2658 Interleaving	Enum Disabled Enabled	Online	When enabled, RTP packets include an interleaving byte for VBR coders.
Enable Std SID P/L Type	Enum Disable enable	Offline	Enable Standard SID PayLoad Type.

8.4 Tab: PSTN

Table 8-5: Frame: Board1610 Parameters Provisioning, Tab: PSTN

Parameter Name	Type	Provisioning Type	Description
No. of CAS Config Files	Integer 0-1	Online	Number of CAS protocol configuration files. When CAS protocol is not to be used, set this parameter to 0.
IUA Version	Integer 0-100	Online	1. ISDN Q.931 / Q.921 Interface relay using IUA.
Q.931 Relay Mode	Enum None activateLAPDMessanging Q931RelayToHost Layer3IsIUA	Online	Q.931 relay mode Controls the activation/deactivation of Q.931 relay mode. Q.931 relay is a new way to establish or tear down a call in a media gateway Host/channel architecture. It is suitable for Users who need to handle a complete Q.931 protocol at the HOST level. Normally, ISDN call operation is controlled by PSTN library commands or events. In Q.931 relay mode, Users can get or send a packet with Q.931 message information to a specific trunk (LAPD interface). Q.931 data is “relayed” directly between the link and Host. Notice that PRI D-channel Maintenance is still controlled by the on-board ISDN stack.

Parameter Name	Type	Provisioning Type	Description
Caller ID Transport	Enum Disable Relay Reserve Mute	Online	Set the Caller ID transport type to either Disable-CallerID detectors aren't activated and the tones are going through Transparently, Relay-Currently same as Mute, or Mute- CallerID signals detected and reported but muted from the RTP stream.
Default Caller ID	Enum bellcore etsi ntt	Instant	Set the default Caller ID type to either Bellcore, ETSI or NTT.

8.5 Tab: Fax / Modem

Table 8-6: Frame: Board1610 Parameters Provisioning, Tab: Fax / Modem

Parameter Name	Type	Provisioning Type	Description
Fax Transport	Enum Transparent Relay Bypass TransparentWithEvents	Instant	Set the fax transport method to either Transparent, Relay, Bypass or Transparent With Events.
V.21 Modem Transport	Enum Transparent Relay Bypass TransparentWithEvents	Instant	Set the V.21 modem transport method to either Transparent, Relay, Bypass or Transparent With Events.
V.22 Modem Transport	Enum Transparent Relay Bypass TransparentWithEvents	Instant	Set the V.22 modem transport method to either Transparent, Relay, Bypass or Transparent With Events.
V.23 Modem Transport	Enum Transparent Relay Bypass TransparentWithEvents	Instant	Set the V.23 modem transport method to either Transparent, Relay, Bypass or Transparent With Events.
V.32 Modem Transport	Enum Transparent Relay Bypass TransparentWithEvents	Instant	Set the V.32 modem transport method to either Transparent, Relay, Bypass or Transparent With Events.
V.34 Modem Transport	Enum Transparent Relay Bypass TransparentWithEvents	Instant	Set the V.34 modem transport method to either Transparent, Relay, Bypass or Transparent With Events.
Modem Bypass Payload Type	Integer 0-127	Online	To assign the RTP Payload Type for the Modem Bypass payloads
Fax Relay Redundancy Depth	Integer 0-2	Online	-

8.6 Tab: Diagnostics

Table 8-7: Frame: Board1610 Parameters Provisioning, Tab: Diagnostics

Parameter Name	Type	Provisioning Type	Description
Enable Diagnostics on Reset	Enum disable enable	Online	Enables media gateway board diagnostics when the media gateway board resets. Both TPMs (board modules) are affected. Diagnostics are then automatically performed every time the media gateway board is reset. Note that this takes time.
Enable COT	Enum No Yes	Online	Use this parameter to enable or disable Continuity Tones (COT).
Enable Syslog	Enum disable enable	Online	This parameter is used to enable or disable Syslog generation.
Syslog Server IP	IP Address	Online	The IP address of a Syslog server. The specific IP address for this board resident in the media gateway. This parameter is handled only if Syslog is enabled.
Diagnostics Startup Enable	Enum disable enable	Offline	-
Diagnostics Startup Level	Integer 0-3	Offline	-
Diagnostics Periodic Enable	Enum disable Enable	Offline	-
Diagnostics Periodic Level	Integer 0-3	Offline	-
Diagnostics Periodic Period	Integer 20-1000000000	Offline	-
Diagnostics Result	Enum Ok Failed indecisive	Read-Only	-

Parameter Name	Type	Provisioning Type	Description
Diagnostics Result Description	String Up to 400 chars.	Read-Only	-
Diagnostics Last Execution Time	String Up to 100 chars.	Read-Only	-
Temperature Severity	Enum clear indeterminate warning minor major critical	Read-Only	Options can be Clear, Indeterminate, Warning, Minor, Major or Critical.
Sensor 1 Temperature	Integer -99-9999	Read-Only	Board 1 Temperature indicates the temperature of the master TPM (master module).
Sensor 2 Temperature	Integer -99-9999	Read-Only	Board 2 Temperature indicates the temperature of the slave TPM (slave module).
Temperature Critical Level	Integer 0-100	Read-Only	If the Critical Temperature Level is reached, the media gateway board shuts down. This is a read-only parameter.
Temperature Warning Level	Integer 0-100	Read-Only	If the Temperature Warning Level is reached, an alarm is generated. This is a read-only parameter.

8.7 Tab: Board Debug Tools

Table 8-8: Frame: Board1610 Parameters Provisioning, Tab: Board Debug Tools

Parameter Name	Type	Provisioning Type	Description
Enable Web Access	Enum enabled disabled	Online	Enables or disables TP's Web Server Task
Enable Web Config	Enum enabled disabled	Online	Enables or disables TP's Web Configuration
1st Web Access IP	IP Address	Instant	1st IP address allowed to be connected to the Web and Telnet interfaces
2nd Web Access IP	IP Address	Instant	2nd IP address allowed to be connected to the Web and Telnet interfaces
3rd Web Access IP	IP Address	Instant	3rd IP address allowed to be connected to the Web and Telnet interfaces
Secure Web Access	Enum disabled enabled	Online	Enables or disables Secure Web Access (via HTTPS)
Secure Web Port	Integer 0-65535	Online	Secure Web Access (HTTPS) port
Enable Telnet Access	Enum disabled standard secure	Online	Configures Telnet Server mode
Telnet Idle Disconnect (min)	Integer 0-1440	Online	Set timeout for idle telnet session disconnect (min)

9 Frame: Trunk Parameters Provisioning

9.1 Tab: General Info

Table 9-1: Frame: Trunk Parameters Provisioning, Tab: General Info

Parameter Name	Type	Provisioning Type	Description
Trunk Number	Integer 1-63	Read-Only	Number of the trunk within a TP/SB board. This parameter is also used to index the trunk in the Trunks List.
Trunk Name	String Up to 20 chars.	Instant	Textual, User-defined name assigned to a trunk, enabling the User to identify it intuitively and easily.
Protocol Type	Enum None E1EuroIsdn T1Cas T1RawCas T1Transparent E1Transparent31 E1Transparent30 E1MfcR2 E1CasR2 E1RawCas T1Ni2Isdn T14EssIsdn T15Ess9Isdn T15Ess10Isdn T1Dms100Isdn J1Transparent T1NttIsdn E1AustelIsdn E1HktIsdn E1KorIsdn T1HktIsdn E1Qsig	Online	Use this parameter to define the PSTN protocol to be used for this trunk. Users can define any of the supported PSTN protocols for the trunk via this parameter. ▪ None – is none configuration trunk. This is the best choice for unused trunks. You can change the configuration later without TP board reset. ▪ E1EuroIsdn – currently not supported. ▪ T1Cas – with Megaco and MGCP controller only over 911 CAMA, Ground start and Loop start. ▪ T1RawCas – Not relevant for control protocols. Relevant for API library users. No CAS state machine is relevant. Users build their state machine in his application and controls it via commands of Open channel, send CAS, and event detection of CAS changes and digits events. ▪ T1Transparent – provides bearer path termination (T1 system) without signaling-related functions. Channels 1-24 mapped to DSP channels. Used for provisioning SS7 trunk

Parameter Name	Type	Provisioning Type	Description
	E1Tnz22 T1Extra23 T1IUA E1IUA E1EXTRA30 E1EXTRA31		or PRI trunk of an NFAS group that does not host the D channel i.e. B-channel span only. ▪ E1Transparent31 – provides bearer path termination (E1 system) without signaling-related functions, with reclaiming timeslot 16. Channels 1-31 mapped to DSP channels. Used for provisioning SS7 trunk. Note: If using E1Transparent31, it is the only protocol type that can be used on that board (or logical gateway). Note: There are 240 DSP resources per logical GW. The first 240 channels requesting a DSP resource have those resources allocated. Attempt to open bearer channels beyond that is denied ▪ E1Transparent30 – provides bearer path termination (E1 system) without signaling-related functions. Channels 1-31, except 16 mapped to DSP channels. Used for provisioning SS7 trunk. Note: Attempts to establish a bearer path on timeslot 16 are rejected. ▪ E1MfcR2 – with Megaco controller only over Brazilian, Korean and Mexican R2 variants. ▪ E1CasR2 – this protocol type was changed to E1Cas. Megaco and MGCP do not use it. For API Library users, it is the same as E1RawCas. ▪ E1RawCas – Not relevant for control protocols. Relevant for API library users. No CAS state machine is relevant. Users build their state machine in his application and controls it via commands of Open channel, send CAS, and event

Parameter Name	Type	Provisioning Type	Description
			detection of CAS changes and digits events. The following protocol type is currently not supported: T1Ni2Isdn T14EssIsdn T15Ess9Isdn T15Ess10Isdn T1Dms100Isdn J1Transparent T1NttIsdn E1AustelIsdn E1HktIsdn E1KorIsdn T1HktIsdn E1Qsig E1Tnz22 T1Extra23 E1EXTRA30 E1EXTRA31 ▪ T1IUA – relays ISDN signaling (T1 system) through SIGTRAN IUA and SCTP protocols. Used for provisioning PRI trunk or PRI trunk of an NFAS group that hosts the D channel ▪ E1IUA – relays ISDN signaling (E1 system) through SIGTRAN IUA and SCTP protocols. Used for provisioning PRI trunk. Note: NFAS trunk is not supported on E1.

Parameter Name	Type	Provisioning Type	Description
Framing Method Type	Enum extendedSuperFrame, superFrame, E1FramingDdf, E1FramingMffCrc4, E1FramingMffCrc4Ext, E1FramingNil, T1FramingF4, T1FramingF12, T1FramingEsf, T1FramingEsfCrc6, T1FramingF72, T1FramigEsfCrc6Jt, G706, T1FramingNil	Instant	This parameter enables Users to select the T1/E1 framing method to be used for this trunk.
Trace Level Type	Enum NoTrace, FullIsdn, Layer3Isdn, OnlyIsdnQ931Msgs, Layer3IsdnNoDup, FullIsdnWithDup, IsdnQ931RawDataTrace, IsdnQ921RawDataTrace, IsdnQ931Q921RawDataTrace, FutureUse9, Ss7Mtp2, Ss7Mtp2AndAppli, FutureUse12, FutureUse13, FutureUse14, Ss7Aal, FutureUse16, FutureUse17, FutureUse18, FutureUse19, FutureUse24, FutureUse25	Online	Use this parameter to define the protocol trace level for debugging purposes. Default is 'NoTrace' (0). The parameter enables tracing of PSTN telephony protocol layer messages. Activating the tracing sets the transfer of PSTN trace events (acEV_PSTN_TRACE). If the parameter is left at its default, no trace packets are transferred but monitoring/tracing is still operated internally. Thus, there are no resource or performance implications regarding the activation of tracing. For field debugging, it is not recommended to use a trace level with duplication. Trace levels with duplication are used internally by Nortel for debugging. Note that the file that is generated when setting the Trace Level parameter is a binary .dat file. Convert this file to a .txt file using the PSTN Trace Utility, supplied to customers as part of the gateway's software package. The.txt file can be opened and viewed in any Text File Editor. Refer to the gateway user manual for detailed information.
Line Build-out Loss	Enum db0, db7p5, db15, db22p5	Instant	Use this parameter to select the line build-out loss to be used for this trunk.

Parameter Name	Type	Provisioning Type	Description
Line Code	Enum b8ZS, aMI, hDB3	Instant	Use this parameter to select the line code type to be used for this trunk. B8ZS - use B8ZS line code (for T1 trunks only). AMI - use AMI line code. HDB3 - use HDB3 line code (for E1 trunks only). (B8ZS or AMI is used for T1 spans; HDB3 or AMI is used for E1 spans)
Clock Reference Priority	Integer 0-15	Offline	Assigns the priority to the clock reference candidate trunk. This parameter is used by the gateway's clock synchronization process to choose the new clock reference, when the current reference fails. The new clock reference is selected among all the clock reference candidates that were configured in the Gateway. Set 'Clock Priority' from 1 to 15 for all clock reference trunks, where 1 is the lowest priority. Use default '0' value if this trunk shouldn't be used as a clock reference. The clock priority parameter is applicable to the trunks of the clock master TP/SB boards only.

9.2 Tab: ISDN

Table 9-2: Frame: Trunk Parameters Provisioning, Tab: ISDN

Parameter Name	Type	Provisioning Type	Description
IUA I/F ID	Integer -1-2147483647	Online	This parameter is relevant to T1-based ISDN trunk groups only. It indicates for each T1 if it's part of the NFAS group (with a common D-channel). The following NFAS (Non-Facility Associated Signaling) restriction applies at present: All NFAS members should be sequential after the NFAS primary T1.
D-Channel Configuration	Enum Primary, Backup, Nfas, DchNotIsdnTrunk	Instant	Defines D-channel configuration. This setting is only applicable to ISDN PRI protocols that support the NFAS and/or D-channel backup procedures
Termination Side	Enum userTerminationSide, networkTerminationSide	Instant	This setting is applicable for ISDN trunks only. It is used for selecting the ISDN Termination to be either User Termination Side or Network Termination Side. Configure the parameter as 'User Side' when the PSTN or PBX side is configured as 'Network side', and vice-versa. If you don't know the gateway's ISDN termination side, choose 'User Side' and if an alarm is indicated, choose 'Network Side'.
ISDN CC Behavior	Integer 0-2147483647	Online	Use this parameter to specify general ISDN CC behavior.

Parameter Name	Type	Provisioning Type	Description
ISDN Outgoing Calls Behavior	Bitmap-0x6012	Online	Bitmap specifying ISDN state machine behavior for outgoing calls (for ISDN PRI trunk groups only). Each bit in this bitmap is described in detail in the EMS User's Manual.
ISDN Q931 Layer Response Behavior	Bitmap-0x0283	Online	Bitmap specifying ISDN state machine behavior when it's not standard (for ISDN PRI trunk groups only). Each bit in this bitmap is described in detail in the EMS User's Manual.
ISDN Incoming Calls Behavior	Bitmap-0x1810	Online	Bitmap specifying ISDN state machine behavior for incoming calls (for ISDN PRI trunk groups only). Each bit in this bitmap is described in detail in the EMS User's Manual.

9.3 Tab: CAS

Table 9-3: Frame: Trunk Parameters Provisioning, Tab: CAS

Parameter Name	Type	Provisioning Type	Description
Idle CAS ABCD Pattern	String Up to 20 chars.	Offline	Use this parameter to define the pattern to be applied to the CAS signaling bus when channel is idle (relevant to CAS trunks only).
CAS File Index	Integer 0-7	Offline	This parameter indicates the pointer to the previously downloaded Trunks List with CAS state-machine (parameters). Relevant to CAS trunks only.