ERICSSON

BGF Command Reference

COMMAND DESCRIPTION

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Contents

1 Command Descriptions

All commands for border gateway function features are included.

1.1 alarms h248-link-status

alarms h248-link-status [**interval** *value*]

no alarms h248-link-status

1.1.1 Purpose

Configures the timer used to raise the H248-Link-Status alarm. If the timer is set to 0, no alarm is raised.

1.1.2 Command Mode

Global mode

1.1.3 Syntax Description

interval *value*	The timer interval after which the H248-Link-Status alarm is raised. The range is 0 to 86400 seconds.

1.1.4 Default

The timer is set to 30 seconds.

1.1.5 Usage Guidelines

This alarm is raised when the H248 link for a virtual media gateway (VMG) is operationally down for more than the configured timer value because the media gateway controller (MGC) is not reachable. This alarm is also raised if the MGC is administratively down, removed, or not configured.

The alarm indicates the VMG name, (including the MGC group name and MGD instance ID). The alarm is cleared when any of the following conditions are met:

- The VMG successfully connects to any configured MGC.
- The corresponding MGC group is either shut down or deleted.

- The media gateway configuration is either shut down or deleted.

The H248-Link-Status alarm timer value must be less than that of the Autonomous Pin Hole Closing timer.

The **no** form of the command sets the default timer value of 30 seconds.

1.1.6 Examples

The following example shows how to set the alarm to be raised 100 seconds after the link with the Media Gateway Controller (MGC) goes down:

```
[local]Redback(config-mg)# alarms h248-link-status interval 100
```

In this example, using the **no** form of the command sets the default timer value of 30 seconds:

```
[local]Redback(config-mg)# no alarms h248-link-status
```

1.2 bulkstats schema

bulkstats schema *profile-name* **policy** *policy-name context-name*

1.2.1 Purpose

In media-gateway configuration mode, applies a predefined MG global bulk statistics (bulkstats) schema profile and bulkstats policy in the specified context to the MG to collect global MG statistics.

In mgc-group configuration mode, applies a predefined Media Gateway Controller (MGC) group bulkstats schema profile and bulkstats policy in the specified context to the MGC group to collect MGC group statistics.

1.2.2 Command Mode

- media-gateway configuration
- mgc-group configuration

1.2.3 Syntax Description

profile-name	Name of the bulkstats schema profile. Alphanumeric string with up to 19 characters.
policy ***policy-name***	Name of the bulkstats policy. Alphanumeric string with up to 19 characters.
context-name	Name of the context in which the bulkstats policy is defined. Alphanumeric string with up to 31 characters.

1.2.4 Default

None

1.2.5 Usage Guidelines

In media-gateway configuration mode, use the **bulkstats schema** command to apply a predefined MG global bulk statistics (bulkstats) schema profile and bulkstats policy in the specified context to the MG to collect global MG statistics.

In mgc-group configuration mode, use the **bulkstats schema** command to apply a predefined MGC group bulkstats schema profile and bulkstats policy in the specified context to the MGC group to collect MGC group statistics.

1.2.6 Examples

The following example shows how to apply an existing MG global bulkstats schema profile, `MG1bulkstat`, to the MG using the `policybulkstat` policy in the `local` context.

```
[local]Redback(config-mg)#bulkstats schema MG1bulkstat
policy policybulkstat local
```

The following example shows how to apply an existing MGC group bulkstats schema profile, `MG2bulkstat`, to the MGC group using the `policybulkstat2` policy in the `contextNA` context.

```
[local]system-2(config-grp)#bulkstats schema MG2bulkstat
policy policybulkstat2 contextNA
```

1.3 clear media-gateway [instance] mgc-group

clear media-gateway [**instance***instance-id*] **mgc-group** ***name***

1.3.1 Purpose

Clears information about the MGC group for all media gateway (MG) instances or a specified MG instance in the specified MGC group.

1.3.2 Command Mode

Exec mode (10)

1.3.3 Syntax Description

instance ***instance-id***	Optional. Instance ID. Specify the instance ID of the border gateway function (BGF) for which to clear information. The range of values is 1 to 3.
name	Media gateway controller (MGC) group name. Specify the MGC group name for which to clear information. The valid value is an alphanumeric string of up to 30 characters.

1.3.4 Default

None

1.3.5 Usage Guidelines

Use the **clear media-gateway mgc-grp** command to clear information for all virtual media gateways (VMGs) or a specified VMG instance in the specified MGC group. To clear the information, this command shuts down and then brings up the affected VMGs at the MG group level.

1.3.6 Examples

The following example shows how to clear information for VMG instance `3` in MGC group `group2`.

```
[local]Redback#clear media-gateway instance 3 mgc-group group2
```

The following example shows how to clear information for all VMG instances in the MGC group `group2`.

```
[local]Redback#clear media-gateway mgc-group group2
```

1.4 clear media-gateway [instance] statistics

clear media-gateway [**instance** ***instance-id***] **statistics** { **call** ***rate*** | **mgc-group** ***name***}

1.4.1 Purpose

Clears statistical information about all of the virtual media gateways (VMGs) or a specified VMG instance.

1.4.2 Command Mode

Exec mode (10)

1.4.3 Syntax Description

mgc-grp ***mgc-group-name***	Media gateway controller (MGC) group name. Specify the MGC group name for which to clear statistical information. The valid value is an alphanumeric string of up to 30 characters.
statistics call ***rate***	Clear VMG call rate statistics.

1.4.4 Default

None

1.4.5 Usage Guidelines

Use the **clear statistics media-gateway** command to clear statistical information about all of the VMGs or a specified VMG instance.

This command clears all signaling and media statistics.

1.4.6 Examples

The following example shows how to clear VMG statistics within the MGC group `group7` of the MG instance `3`.

```
[local]Redback#clear media-gateway instance 3 mgc-group group7
```

1.5 debug sctp

debug sctp

no debug sctp

1.5.1 Purpose

Enables generation of debug messages for events related to the Stream Control Transmission Protocol (SCTP).

1.5.2 Command Mode

Exec

1.5.3 Syntax Description

This command has no keywords or arguments.

1.5.4 Default

Generation of debug messages is disabled.

1.5.5 Usage Guidelines

Use the **debug sctp** command to enable generation of debug messages for SCTP events. SCTP is used on the media gateway (MG) to transport H.248 control messages between the MG and the controlling device.

Caution!

Risk of performance loss. Enabling generation of debug messages can severely affect system performance. To reduce the risk, exercise caution when enabling generation of debug messages on a production system.

To store debug messages in the system log buffer, use the **logging debug** command (in global configuration mode). Use the **show log** command (in exec mode) to display these stored debug messages.

To display messages in real time, use the **logging console** command (in context configuration mode) if you are connected to the system through the console port. Use the **terminal monitor** command (in exec mode) if you are connected to the system through a Telnet or Secure Shell (SSH) session.

Note: For more information about **logging** commands, see the *Logging* document.

Use the **no** form of this command to disable generation of debug messages.

1.5.6 Examples

The following example shows how to enable generation of debug messages for SCTP:

```
[local]Redback#debug sctp
```

1.6 debug [standby] media-gateway [instance]

debug [standby] media-gateway [**instance** *instance-id*] {**all** | **call** | **caudit** | **config** | **general** | **ips** | **manager** | **media** | **mg-dpp** | **pkg** | **port-table** | **protocol** | **rcm** | **resource** | **shm** | **smr** | **snmp** | **throttle**}

1.6.1 Purpose

Enables generation of debug messages for media gateway (MG) daemons.

1.6.2 Command Mode

Exec (10)

1.6.3 Syntax Description

Enables generation of debug messages for:

all	All MG daemon functions available in this mode.
caudit	All MG daemon configuration audits.
call	MG calls.
config	Back-end configuration handling.
general	General operation.
ips	Enables buffer tracing for IPS.
media	Media traffic.
mg-dpp	Media gateway data plane proxy debug traces.
pkg	Package operations.

port-table	Port table.
protocol	H.248 protocol processing. Optional.
rcm	Router Configuration Manager (RCM).
resource	Resource processing. Optional.
shm	Shared memory.
smr	Route Information Base (RIB) shared memory.
snmp	SNMP alarms and traps.
throttle	Call throttling.

1.6.4 Default

Generation of debug messages for the MG daemons is disabled.

1.6.5 Usage Guidelines

Use the **debug media-gateway** command to enable generation of debug messages for MG daemons. Use the **debug standby media-gateway** command to enable generation of debug messages for MG daemons on the standby controller card in a SmartEdge® router. Specify the **instance** keyword to enable debug messages for the daemons of a specified MG instance.

Use the **no** form of this command to disable generation of debug messages for the specified type of MG daemon.

1.6.6 Example

The following example shows how to enable generation of debug messages for all media gateway daemons:

```
[local]Redback#debug media-gateway all
[local]Redback#
```

1.7 debug media-gateway manager

debug media-gateway manager {**all** | **caudit** | **config** | **general** | **mg-dpp** | **ppa** | **rcm** | **resource** | **shm**}

1.7.1 Purpose

Enables generation of debug messages for media gateway manager (MGM) daemons.

1.7.2 Command Mode

Exec (10)

1.7.3 Syntax Description

Enables generation of debug messages for:

all	All MGM functions available in this mode.
caudit	All MGM daemon configuration audits.
config	Backend configuration handling.
general	General operation.
mg-dpp	Media gateway data plane proxy debug traces.
ppa	PPA interactions.
rcm	Router Configuration Manager (RCM).
resource	Resource processing. Optional.
shm	Shared memory.

1.7.4 Default

Generation of debug messages for the MGM events is disabled.

1.7.5 Usage Guidelines

Use the **debug media-gateway manager** command to enable generation of debug messages for MGM daemons. Use the **debug standby media-gateway manager** command to enable generation of debug messages for MGM daemons on the standby controller card in a SmartEdge router.

Use the **no** form of this command to disable generation of debug messages for the specified type of MGM daemons.

1.7.6 Example

The following example shows how to enable generation of debug messages for MGM general operations:

```
[local]Redback#debug media-gateway manager general
[local]Redback#
```

1.8 default-realm

default-realm ***realm-name***

1.8.1 Purpose

Configures the default realm for the media gateway controller (MGC) group.

1.8.2 Command Mode

MGC group configuration

1.8.3 Syntax Description

realm-name	Default realm name. The valid value is a string of up to 63 characters and is case insensitive. It must start and end with an alphanumeric character, have as interior characters only letters, digits, hyphens (-), and periods (.), and consist of at least two characters.

1.8.4 Default

The default realm is local.

1.8.5 Usage Guidelines

Use the **default-realm** command to configure the default realm to use for the MG. If no realm is specified by the Session Gateway Controller (SGC) for a call, the configured default realm is used.

Use the **no** form of this command to return to the default setting of local.

1.8.6 Example

The following example shows how to configure the default realm named `defaultaccess1` for the MG:

```
[local]Redback(config-grp)#default-realm defaultaccess1
[local]Redback(config-grp)#
```

1.9 dscp

dscp range ***min max***

1.9.1 Purpose

Specifies a Differentiated Services Code Point (DSCP) range to be associated with a media address group.

1.9.2 Command Mode

MG configuration (global)

1.9.3 Syntax Description

range ***min max***	DSCP range. Valid integer values between 0 to 63.

1.9.4 Default

The default range is 0 (minimum) to 63 (maximum).

1.9.5 Usage Guidelines

Use the **dscp** command to specify the DSCP range to be associated with a media address group.

Use the **no** form of this command to return to the default setting.

1.9.6 Example

The following example shows how to specify a media address group **QoS** and associate it with a DSCP range:

```
[local]Redback(config-mg)#media-address-group QoS
[local]Redback(config-mg-media-addr-grp)#dscp range 8 63
```

1.10 extended-port-range

extended-port-range

1.10.1 Purpose

Specifies to use ports in the range of 32K to 48K for the configured loopback IP address.

1.10.2 Command Mode

Realm MG configuration

1.10.3 Syntax Description

This command has no keywords or arguments.

1.10.4 Default

The port range of 16K to 32K is used for an IP address.

1.10.5 Usage Guidelines

Use the **extended-port-range** command to specify to use ports in the range 32K to 48K for the configured loopback IP address. This command allows you to maximize the port usage per configured loopback IP address. Use the **no** form of this command to return to the default behavior. Removing the extended port range deletes calls gracefully.

Keep the following in mind *before* configuring the **extended-port-range** command:

- Ensure that there are no port conflicts for the configured loopback IP address. Do not use this command if the same loopback IP address is also used as the H.248 local signaling IP address.
- This command is supported only for configurations where the SmartEdge OS is used only as a border gateway function (BGF).

1.10.6 Example

The following example shows how to specify the extended port range for interface `media20`, which has a loopback address used for media traffic within the realm. This interface is configured in interface configuration mode, in the same context in which the realm is configured.

```
[local]Redback(config-realm)#media-local-address interface media20
[local]Redback(config-realm-media)#extended-port-range
```

1.11 maximum (media gateway)

maximum {**msrp-header-len** | **streams-per-call**} ***value***

no maximum {**msrp-header-len** | **streams-per-call**}

1.11.1 Purpose

Specifies maximum values for media-gateway attributes.

1.11.2 Command Mode

MG configuration (global)

1.11.3 Syntax Description

msrp-header-len ***value***	Specifies the maximum aggregated length of all the headers in an MSRP message, in bytes. If the aggregated header length is higher than the specified value, the corresponding MSRP message is dropped. The range is 0–1500. Setting the value to zero disables the check. By default, the maximum aggregated header length is set to 500 bytes.
streams-per-call ***value***	Sets the maximum number of streams supported per call. The range is 1–50. (1) (2) (3)

(1) You must enable multimedia license for the specified value to be set.
(2) If multimedia license is not configured, by default, a maximum of one stream is set per call.
(3) If the multimedia license is configured, by default, a maximum of five streams are set per call.

1.11.4 Default

All the configurations are set to default values.

1.11.5 Usage Guidelines

Use the **maximum** command to specify a maximum value for the media attributes flowing through a media gateway.

Use the **no** form of this command to configure the default values.

1.11.6 Examples

The following example shows how to specify a maximum length of 600 bytes for an MSRP header:

```
[local]Redback(config-mg)#maximum msrp-header-len 600
```

The following example shows how to specify a maximum of six streams per call:

```
[local]Redback(config-mg)#maximum streams-per-call 6
```

1.12 maximum (media gateway controller)

maximum {**calls** | **signaling-rtt** | **pending-responses**} ***value***

no maximum {**calls** | **signaling-rtt** | **pending-responses**}

1.12.1 Purpose

Sets system maximum values related to the media gateway controller (MGC) group function.

1.12.2 Command Mode

MGC configuration (global)

1.12.3 Syntax Description

calls	Sets the maximum number of media calls (that is, H.248 contexts) allowed on the MGC group at any given time. This value corresponds to the H.248 BaseRoot package property **maxNumberOfContexts**. The default value is 76,500.
signalling-rtt	Sets the maximum acceptable round-trip propagation delay, in seconds, in the network. This delay is added to the interval configured for the **timers request** option to construct the H.248 “long timer,” which determines how long transaction responses are cached for retransmission. The retransmission timer is dynamically adjusted based on the measured round-trip time (RTT). The configured maximum signaling RTT value limits the value used in the retransmission timer computation. The range of values is 1 to 1,073,741,823. The default value is 4.
pending-responses	Sets the maximum number of pending responses generated before a request is considered timed out. This value corresponds to the H.248 BaseRoot package property **MGOriginatedPendingLimit**. The range of values is 1 to 100. The default value is 6.
value	Value to be used for the specified maximum.

1.12.4 Default

All maximum values are set to their default values.

1.12.5 Usage Guidelines

Use the **maximum** command to set maximum values related to the MGC group function.

Use the **no** form of this command to restore the default values for MGC group maximums.

1.12.6 Examples

The following example shows how to set the maximum number of calls on the MG to `2000`:

```
[local]Redback(config-grp)#maximum calls 2000
```

The following example shows how to set the maximum number of calls to the default value:

```
[local]Redback(config-mg)#no maximum calls
```

The following example shows how to set the maximum number of pending responses on the MG to `6`:

```
[local]Redback(config-mg)#maximum pending-responses 6
```

The following example shows how to disable the sending of pending responses:

```
[local]Redback(config-mg)#no maximum pending-responses
```

1.13 maximum (realm)

maximum {**l4-payload-size** *bytes* | **rate** {**in***kbps* | **out***kbps*}

no maximum {**l4-payload-size** *bytes* | **rate** {**in***kbps* | **out***kbps*}

1.13.1 Purpose

For the specified realm, configures the maximum values for media packet size and rate attributes.

1.13.2 Command Mode

Realm configuration (context specific)

1.13.3 Syntax Description

l4-payload-size ***bytes***	Optional. Specifies the maximum media packet size in bytes for this realm. The range of values is 0 to 65535; the default value is 65,535.Any media packets exceeding the configured size are dropped and included in dropped-packet statistics.
rate	Specifies the maximum rate value for this realm.
in ***kbps***	Specifies the maximum egress rate, in kbps, for this realm. The range of values is 1 to 4,294,967,295; the default value is 4,294,967,295.
out ***kbps***	Specifies the maximum ingress rate, in kbps, for this realm. The range of values is 1 to 4,294,967,295; the default value is 4,294,967,295.

1.13.4 Default

The default values for media packet size and rate attributes are specified in the Syntax Description section.

1.13.5 Usage Guidelines

Use the **maximum** command to configure the maximum values for media packet size and rate attributes.

Use the **maximum** command with the **l4-payload-size** keyword to configure the maximum value for media packets. If the **l4-payload-size** keyword is not configured, the MG forwards legitimate media packets of any size by default.

Use the **maximum rate in** command to configure the maximum ingress rate for this realm. The default is 2^{32} kbps.

Use the **maximum rate out** command to configure the maximum egress rate for this realm. The default is 2^{32} kbps.

Note: Specifying a low maximum egress or ingress rate value may result in a failure of calls.

1.13.6 Examples

The following example shows how to configure a maximum value of `65535` bytes for media packets for the realm:

```
[local]Redback(config-realm)#maximum l4-payload-size 65535
```

The following example shows how to configure a maximum traffic rate of **100000** kbps for the realm:

```
[local]Redback(config-realm)#maximum rate in 100000
```

1.14 media-address-group

media-address-group ***group-name***

no media-address-group ***group-name***

1.14.1 Purpose

Enters MG media address group configuration mode for the configuration of a Quality of Service (QoS) group.

1.14.2 Command Mode

Global configuration

1.14.3 Syntax Description

group-name	Specifies the name of a media address group. The valid value is an alphanumeric string of up to 30 characters.

1.14.4 Default

None.

1.14.5 Usage Guidelines

Use the **media-address-group** command to enter the MG media address group configuration mode for the configuration of a QoS group. In MG media address group configuration, you can then specify the DSCP range to be associated with the QoS group. Use the media-address grouping to have QoS-based allocation of IP addresses.

Note: Currently only two media address groups are supported.

Use the **no** form of this command to remove the QoS group.

1.14.6 Examples

The following example shows how to specify a media address group **BE** and associate it with a DSCP range:

```
[local]Redback(config-mg)#media-address-group BE
[local]Redback(config-mg-media-addr-grp)#dscp range 0 7
```

1.15 media-gateway

media-gateway

no media-gateway

1.15.1 Purpose

In global configuration mode, enters the media gateway (MG) configuration mode for the configuration of border gateway function (BGF) services on the router.

In context configuration mode, enters the MG configuration mode for the configuration of BGF services available in the context.

1.15.2 Command Mode

- Global configuration
- Context configuration

1.15.3 Syntax Description

This command has no keywords or arguments.

1.15.4 Default

None.

1.15.5 Usage Guidelines

Use the **media-gateway** command (in global configuration mode) to enter the MG configuration mode to configure BGF services on the router. The SmartEdge OS currently supports only one configured BGF. When a BGF is configured, three MG instances are created along with an MG manager.

Use the **no** form of this command to remove the BGF from the router. When the BGF is removed by using the **no** form of the configuration command, the MG level is forcibly shut down and the BGF configuration is deleted.

Note: After unconfiguring the media gateway at global configuration level, we recommend that you reconfigure the media gateway only after the mgmd and mgd processes on both active and standby XC cards change to the 'demand' state.

Use the **show process mgmd** and **show process mgd** commands on the active and standby cards to check the state of the processes.

Use the **media-gateway** command (in context configuration mode) to enter the MG configuration mode to configure BGF services in the context.

Use the **no** form of this command to remove the BGF from the context.

1.15.6 Examples

The following example shows how to enter the MG configuration mode to configure MG services on the router:

```
[local]Redback(config)#media-gateway
[local]Redback(config-mg)#
```

The following example shows how to remove the MG from the router:

```
[local]Redback(config)#no media-gateway
[local]Redback(config)#
```

The following example shows how to enter MG context configuration mode to configure MG services for the context:

```
[local]Redback(config-ctx)#media-gateway
[local]Redback(config-ctx-mg)#
```

The following example shows how to remove the MG from the context you are in:

```
[local]Redback(config-ctx)#no media-gateway
[local]Redback(config-ctx)#
```

1.16 media-gateway-controller

media-gateway-controller ***index***

no media-gateway-controller ***index***

1.16.1 Purpose

Adds a media gateway controller (MGC) to the numbered list of MGCs that can control the virtual media gateway (VMG) on the router, or enters configuration mode for the specified MGC.

1.16.2 Command Mode

MGC group configuration

1.16.3 Syntax Description

index	Position of this MGC in the list of MGCs that can control the VMG. The range of values is from 1 to 4,294,967,295.

1.16.4 Default

None

1.16.5 Usage Guidelines

Use the **media-gateway-controller** command to add an entry to the list of external MGCs able to control the VMG on the router, or to enter configuration mode for an MGC to define its characteristics. This command allows you to define the association between the VMG corresponding to the MGC group and the MGC.

MGCs are referenced by number. The index value is used to position each MGC within the list. When the VMG starts up, it attempts to establish an association with each MGC in the list one by one, in the order specified by the index values. If it fails to establish an association with all listed MGCs, it begins again at the start of the list, continuing this process indefinitely.

Use the **no** form of this command to remove the specified MGC from the list.

1.16.6 Examples

The following example shows how to configure an MGC as the fourth MGC in the MGC list and enter configuration mode for the MGC:

```
[local]Redback(config-grp)#media-gateway-controller 4

[local]Redback(config-mgc)#
```

The following example shows how to remove the MGC in position 4 from the list:

```
[local]Redback(config-grp)#no media-gateway-controller 4
[local]Redback(config-grp)#
```

1.17 media-gateway calls

media-gateway calls ***simultaneous-calls*** **password** ***password***

no media-gateway calls ***simultaneous-calls*** **password** ***password***

1.17.1 Purpose

Enables support for simultaneous calls.

1.17.2 Command Mode

software license configuration

1.17.3 Syntax Description

simultaneous-calls	Specifies the number of simultaneous calls supported. Possible values are: • 2000 • 4000 • 8000 • 16000 • 24000 • 32000 • 48000 • 64000
password	License password required to enable the specified number of simultaneous calls.

1.17.4 Default

Support for simultaneous calls is disabled.

1.17.5 Usage Guidelines

Use the **media-gateway calls** command to enable the support for handling simultaneous calls.

Use the **no** form of this command to disable this feature.

1.17.6 Example

The following example shows how to enable the support for 2000 simultaneous calls.

```
[local]Redback(config-license)#media-gateway calls 2000 password calls-password
```

1.18 media-gateway multimedia

media-gateway multimedia password ***password***

no media-gateway multimedia

1.18.1 Purpose

Enables support for multimedia calls.

1.18.2 Command Mode

software license configuration

1.18.3 Syntax Description

password	License password required to enable multimedia calls.

1.18.4 Default

Support for multimedia calls is disabled.

1.18.5 Usage Guidelines

Use the **media-gateway multimedia** command to enable the processing of multimedia calls.

Use the **no** form of this command to disable multimedia call processing.

1.18.6 Example

The following example shows how to enable the processing of multimedia calls.

```
[local]Redback(config-license)#media-gateway multimedia password multimedia-password
```

1.19 media-gateway srtp

media-gateway srtp password ***password***

no media-gateway srtp

1.19.1 Purpose

Enables Secure RTP call processing.

1.19.2 Command Mode

software license configuration

1.19.3 Syntax Description

password	License password required to enable SRTP call processing.

1.19.4 Default

SRTP support is disabled.

1.19.5 Usage Guidelines

Use the **media-gateway srtp** command to enable the processing of SRTP calls.

Note: You must configure the ASE cards using the **asp pool service** command to process SRTP calls.

Use the **no** form of this command to disable SRTP calls.

1.19.6 Example

The following example shows how to enable the processing of SRTP calls.

```
[local]Redback(config-license)#media-gateway srtp password srtp-password
```

1.20 media-gateway msrp

media-gateway msrp password ***password***

no media-gateway msrp

1.20.1 Purpose

Enables MSRP back-to-back user agent (B2BUA) feature.

1.20.2 Command Mode

software license configuration

1.20.3 Syntax Description

password	License password required to enable MSRP call processing.

1.20.4 Default

MSRP B2BUA support is disabled.

1.20.5 Usage Guidelines

Use the **media-gateway msrp** command to enable MSRP B2BUA functionality.

Note: You must configure the ASE cards using the **asp pool service** command to enable MSRP B2BUA.

Use the **no** form of this command to disable MSRP B2BUA.

1.20.6 Example

The following example shows how to enable MSRP B2BUA.

```
[local]Redback(config-license)#media-gateway msrp password msrp-password
```

1.21 msrp validate

msrp validate {**session-id** | **path-uri**}

no msrp validate

1.21.1 Purpose

Specifies the basis on which MSRP message validation is performed: session identifier or path uniform resource identifier.

1.21.2 Command Mode

MG configuration (global)

1.21.3 Syntax Description

session-id	MSRP is validated based on the session identifier.
path-uri	MSRP is validated based on the path uniform resource identifier (URI).

1.21.4 Default

Validation is based on the path URI.

1.21.5 Usage Guidelines

Use **msrp validate** command to set the validation type for MSRP messages.

Note: This configuration is applicable only to those MSRP calls that are established after the configuration change.

The **no** form of this command sets the validation to none.

1.21.6 Example

The following example shows how to set the validation type to the session ID:

```
[local]Redback(config-mg)#msrp validate session-id
```

The following example shows how to set the validation type to the path URI:

```
[local]Redback(config-mg)#msrp validate path-uri
```

1.22 media-local-address

media-local-address interface ***if-name*** [**media-address-group** ***media-address-group-name***]

no media-local-address interface ***if-name*** [**media-address-group** ***media-address-group-name***]

1.22.1 Purpose

Specifies the interface to use for media traffic in the realm you are configuring.

1.22.2 Command Mode

Realm configuration mode (context-specific)

1.22.3 Syntax Description

interface ***if-name***	Specifies the interface to use for media traffic. This must be a loopback interface that has already been defined within the context.
media-address-group ***media-address-group-name***	Specifies the media address group to be attached to the interface(1). This must be a media address group that has already been defined at the global level.

(1) If you do not specify the media-address-group, the media interface is not tagged for QoS-based allocation of IP addresses.

1.22.4 Default

None

1.22.5 Usage Guidelines

Use the **media-local-address** command to specify the interface to use for media traffic in the realm you are configuring. The interface must be a media loopback interface already defined for this context. You can specify one or more media loopback interfaces for a realm.

The interface attached to the realm can also be optionally attached to a globally defined media address group.

Note: You cannot modify the media-interface-group name attached to an interface once it is configured.

Use the **no** form of this command to remove the specified interface configuration for media traffic.

1.22.6 Examples

The following example shows how to configure the media local address using the address of a loopback interface named `loopback-mg`:

```
[local]Redback(config-realm)#media-local-address interface loopback-mg
[local]Redback(config-realm-media)#
```

The following example shows how to configure a media local address and associate it with a media address group that has already been defined at the global level:

```
[local]Redback(config-realm)#media-local-address interface media1 media-address-group QoS
[local]Redback(config-realm-media)#
```

1.23 mgc-group

mgc-group ***mgc-group-name***

no mgc-group ***mgc-group-name***

1.23.1 Purpose

In global media gateway (MG) configuration mode, specifies a media gateway controller (MGC) group name to configure and enters MGC group configuration mode.

In realm configuration mode, specifies an MGC group that can use this realm for calls.

1.23.2 Command Mode

- MG configuration (global)
- Realm configuration (context-specific)

1.23.3 Syntax Description

mgc-group-name	MGC group name. Specify the MGC group name to configure. The valid value is an alphanumeric string of up to 30 characters. The first character must be a letter.

1.23.4 Default

In MG (global) configuration mode, there is no default behavior.

In realm configuration mode, calls from all MGC groups are allowed by default. If an MGC group is specified in a realm configuration, only that MGC group can use that realm.

1.23.5 Usage Guidelines

Use the **mgc-group** command (in global MG configuration mode) to specify an MGC group name to configure and enter MGC group configuration mode. The maximum number of MGC groups you can configure is 64. Use the **no** form of this command to remove a specified MGC group from the MG.

When a MGC group is configured, three virtual media gateways (VMGs) are created. The parameters applied to the MGC group are also applied to each VMG, with the exception of the local port on which the VMG opens the link; the local port for the VMG or MGC is not defined. Any change applied to the MGC group parameters are also applied to each of the VMGs.

Use the **mgc-group** command (in realm configuration mode) to specify an MGC group that can use this realm for calls. This MGC group advertises to the MGC, indicating that it can use this realm. This group must already be defined in global MG configuration mode. If no MGC group is specified, this realm is used by all MGC groups. Use the **no** form of this command to remove a specified MGC group from using a realm for its calls.

1.23.6 Examples

The following example shows how to specify the MGC group named `group1` to configure and enter MGC group configuration mode:

```
[local]Redback(config-mg)#mgc-group group1
[local]Redback(config-grp)#
```

The following example shows how to specify the MGC group named `group1` that can use realm **`realm1`**.

```
[local]Redback(config-ctx-mg)#realm realm1
[local]Redback(config-realm)#mgc-group group1
```

1.24 process mgd

`process` {**`restart`** | **`stop`** | **`start`**} **`mgd`** [**`instance`** ***`instance-id`***]

1.24.1 Purpose

Starts, stops, or restarts the media gateway (MG) daemon process.

1.24.2 Command Mode

All modes

1.24.3 Syntax Description

`restart`	Restart the process.
`stop`	Stop the process.
`start`	Start the process.

1.24.4 Default

None

1.24.5 Usage Guidelines

Use the **`process mgd`** command to restart, stop, or start the MG daemon process.

1.24.6 Examples

The following example shows how to restart the MG daemon process using the **`process`** command:

```
[local]Redback#process restart mgd
```

1.25 process mgmd

process {**restart** | **stop** | **start**} **mgmd**

1.25.1 Purpose

Starts, stops, or restarts the media gateway manager (MGM) daemon process.

1.25.2 Command Mode

All modes

1.25.3 Syntax Description

restart	Restart the process.
stop	Stop the process.
start	Start the process.

1.25.4 Default

None

1.25.5 Usage Guidelines

Use the **process mgmd** command to restart, stop, or start the MGM daemon process.

1.25.6 Examples

The following example shows how to restart the MGM daemon process using the **process** command:

```
[local]Redback#process restart mgmd
```

1.26 profile

profile {**etsi-bgf** | **ericsson-bgf**} [**version** *version-num*]

no profile [**etsi-bgf** | **ericsson-bgf**] [**version**]

1.26.1 Purpose

Specifies the H.248 protocol profile to use for the association between the virtual media gateway (VMG) and the media gateway controller (MGC).

1.26.2 Command Mode

MGC group configuration (global)

1.26.3 Syntax Description

etsi-bgf	Uses the European Telecommunications Standards Institute (ETSI) H.248 protocol profile for the border gateway function (BGF).
ericsson-bgf	Sets the Ericsson H.248 protocol profile for the BGF.
version *version-num*	Optional. Sets the version number of the protocol profile. The only supported value for the ETSI profile is version 1, the default value. The only supported value for the Ericsson profile is version 2, the default value.

1.26.4 Default

The default profile is Ericsson version 2.

1.26.5 Usage Guidelines

Use the **profile** command to specify the H.248 protocol profile to use in the association between the VMG and MGC.

Specifying the ETSI profile causes the BGF to send the string `ETSI_BGF` in service change messages on the ROOT termination. Specifying the Ericsson profile causes the BGF to send the string `ETSI_BGF` in service change messages on the ROOT termination. The profile version number is concatenated to the profile string with a slash (“/”) as the separator character.

Use the **no** form of this command to restore the default protocol profile and version.

1.26.6 Examples

The following example shows how to change the protocol profile in the MGC group `groupt3` from the default profile to ETSI version 1, which is the default version for the ETSI profile:

```
[local]Redback(config-mg)#mgc-group groupt3
[local]Redback(config-grp)#profile etsi_bgf
[local]Redback(config-grp)#
```

1.27 qos mark out dcsp

qos mark out dcsp {***dscp-class*** **[override]** | **ignore**}

no qos mark out dcsp {***dscp-class*** **[override]** | **ignore**}

1.27.1 Purpose

Assigns a quality of service (QoS) Differentiated Services Code Point (DSCP) priority value to all outgoing media packets that a virtual media gateway (VMG) can use for the realm.

1.27.2 Command Mode

Realm configuration

1.27.3 Syntax Description

dscp-class	Optional. DSCP priority value with which packets are marked. Values can be: • Integer from 0 to 63. • One of the keywords in Table 1. Only one marking instruction can be in effect at any time.
override	Optional. Overrides any DSCP value the media gateway controller (MGC) specifies for all outgoing traffic for a realm and instead uses the specified DSCP value.
ignore	Optional. Ignores any DSCP value the MGC specifies for all outgoing traffic for a realm so that the DSCP value is not changed.

1.27.4 Default

Packets are assigned a DSCP priority value for a realm, based on the command that the MGC sends to the VMG.

1.27.5 Usage Guidelines

Use the **qos mark out dcsp** command to assign a QoS DSCP priority value to all outgoing media packets that a VMG can use for the realm.

Use the **no** form of this command to return to the default behavior.

Table 1 lists the keywords for the ***dscp-class*** argument.

Table 1 DSCP Class Keywords

DSCP Class	Keyword	DSCP Class	Keyword
Assured Forwarding (AF) Class 1/ Drop precedence 1	**af11**	Class Selector 0 (same as default forwarding)	**cs0** (same as **df**)
AF Class 1/Drop precedence 2	**af12**	Class Selector 1	**cs1**
AF Class 1/Drop precedence 3	**af13**	Class Selector 2	**cs2**
AF Class 2/Drop precedence 1	**af21**	Class Selector 3	**cs3**
AF Class 2/Drop precedence 2	**af22**	Class Selector 4	**cs4**
AF Class 3/Drop precedence 3	**af23**	Class Selector 5	**cs5**
AF Class 3/Drop precedence 1	**af31**	Class Selector 6	**cs6**
AF Class 3/Drop precedence 2	**af32**	Class Selector 7	**cs7**
AF Class 3/Drop precedence 3	**af33**	Default Forwarding (same as Class Selector 0)	**df** (same as **cs0**)
AF Class 4/Drop precedence 1	**af41**	Expedited Forwarding	**ef**
AF Class 4/Drop precedence 2	**af42**		
AF Class 4/Drop precedence 3	**af43**		

1.27.6 Example

The following example shows how to assign the QoS DSCP priority value of `ef` for expedited forwarding of all outgoing media packets for the realm.

```
[local]Redback(config-mg)#qos mark out dcsp ef
```

1.28 realm

realm ***realm-name***

no realm ***realm-name***

1.28.1 Purpose

Specifies the name of a realm to configure for the border gateway function (BGF) and enters realm configuration mode.

1.28.2 Command Mode

MG context

1.28.3 Syntax Description

realm-name	Name of realm. The valid value is a string of up to 63 characters and is case insensitive. It must start and end with an alphanumeric character, have as interior characters only letters, digits, hyphens (-), and periods (.), and consist of at least two characters.

1.28.4 Default

None.

1.28.5 Usage Guidelines

Use the **realm** command to specify the name of a realm to configure for the BGF and enter realm configuration mode. This realm is added in the context you are configuring.

Realms map to either an access network or a core network. The realm name must be unique across all contexts.

Use the **no** form of this command to remove the specified realm from the BGF, resulting in the deletion of all configured IP addresses.

Note: Using the **no** form of the **realm** command deletes all H.248 contexts in the specified realm.

1.28.6 Examples

The following example shows how to enter the context `sanjosenorth` and MG configuration mode to configure a realm named `access1`:

```
[local]Redback(config)#context sanjosenorth
[local]Redback(config-ctx)#media gateway
[local]Redback(config-ctx-mg)#realm access1
[local]Redback(config-realm)#
```

1.29 reserved calls

reserved calls emergency ***percentage-value***

no reserved calls emergency

1.29.1 Purpose

Configures reserved call values for the border gateway function (BGF).

1.29.2 Command Mode

MG group configuration (global)

1.29.3 Syntax Description

emergency ***percentage-value***	Specify the percentage of total calls reserved for emergency. The range of values is 0 to 100. The default value is 20.

1.29.4 Default

By default, 20% of the total calls handled by the BGF are reserved for emergency calls.

1.29.5 Usage Guidelines

Use the **reserved calls** command to configure reserved call values for the BGF. Use the **no** form of this command to remove the specified reserved call values.

1.29.6 Examples

The following example shows how to reserve 5% of the total calls BGF handles for emergency calls:

```
[local]Redback(config-mg)#reserved calls emergency 5
```

1.30 segmentation

segmentation {**size** ***size*** |**hold-time** ***hold-time***}

no segmentation [**size** | **hold-time**]

1.30.1 Purpose

Sets the properties for segmentation when the H.248 segmentation package is used.

1.30.2 Command Mode

MGC group configuration (global)

1.30.3 Syntax Description

size ***size***	Sets the maximum size, in bytes, of the protocol data unit (PDU) that can be sent to the media gateway controller (MGC) from the media gateway (MG) when the segmentation package is used. The range of values is from 1 to 65,535.
hold-time ***hold-time***	Sets the time, in milliseconds, within which the MGC can receive any outstanding message segments from the MG when the segmentation package is used. The range of values is from 1 to 30,000.

1.30.4 Default

By default, use of the segmentation package is disabled.

1.30.5 Usage Guidelines

Use the **segmentation** command to set the properties for segmentation when the H.248 Segmentation Package (defined in the ITU-T H.248.1 specification, Gateway Control Protocol, version 3, Annex E) is used.

Use the **no** form of this command to disable use of the segmentation package. When use of the segmentation package is disabled, any MGC request that includes segmentation package properties is rejected.

1.30.6 Examples

The following example shows how to set the maximum PDU size to `2500`:

```
[local]Redback(config-group)#segmentation size 2500
```

The following example shows how to set the MGC hold time to `360`:

```
[local]Redback(config-group)#segmentation hold-time 360
```

1.31 show media-gateway [instance]

show media-gateway [**instance** *instance-id*] [**circuit** | **mgc-group** | **statistics**]

1.31.1 Purpose

Displays high-level information for one or all media gateway (MG) instances, depending on configuration.

1.31.2 Command Mode

All modes

1.31.3 Syntax Description

instance	Displays MG instance information. Specify the instance ID of the MG to display. The range of values is 1 to 3. If an MG instance is not specified, information for all instances is displayed.
circuit	Displays MG information on circuits. For more information, see show media-gateway [instance] circuit.
mgc-group	Displays media gateway controller (MGC) group information. For more information, see show media-gateway [instance] mgc-group.
statistics	Displays MG statistics. For more information, see show media-gateway [instance] statistics.

1.31.4 Default

None

1.31.5 Usage Guidelines

Use the **show media-gateway** command to display high-level information for one or all three media gateway (MG) instances, depending on configuration. Without the **circuit**, **mgc-group**, or **statistics** keywords specified, the output of the **show media-gateway** command displays the operation state of all MG instances or a specified instance.

1.31.6 Examples

The following example shows how to display output from the **show media-gateway** command for all MG instances:

```
[local]Redback#show media-gateway
Instance ID                     Oper State
----------------------------------------
1                               Up

Instance ID                     Oper State
----------------------------------------
2                               Up

Instance ID                     Oper State
----------------------------------------
3                               Up
```

The following example shows how to display output from the **show media-gateway instance 2** command for MG instance 2:

```
[local]Redback#show media-gateway instance 2
Instance ID                    Oper State
---------------------------------------
2                              Up
```

1.32 show media-gateway card

Syntax to display media log information:

show media-gateway card ***slot-number/processor-number*** **log** [**start** ***entry-number number-of-entries*** | **detail**]

Syntax to display grid and detailed media information for the next hop and port:

show media-gateway card ***slot-number/processor-number*** {**next-hop** | **port**} [**detail** | **grid**]

1.32.1 Purpose

Displays media information from the ASP that is configured for media-gateway services.

1.32.2 Command Mode

All modes

1.32.3 Syntax Description

slot-number	The slot number on the chassis where the ASE card is installed. The range of values is 1 to 14.
processor-number	ID of the ASP on the ASE card. Possible values are 1 and 2.
log	Displays media event log.
next-hop	Displays media next-hop list.
port	Displays media details flowing through the port.
start ***entry-number number-of-entries***	Displays content from the selected section of the log. The entry number indicates the index ID, which marks the start of the section. Values can range from 0 to 4095. The number of entries specifies the total number of entries displayed in the log. Values can range from 1 to 4096.

detail	Displays detailed information about the media flowing through the card.
grid	Displays the next-hop grid.

1.32.4 Default

None

1.32.5 Usage Guidelines

Use the **show media-gateway card** command to display all the media information flowing through the ASE card.

1.32.6 Examples

The following example shows how to display the media event log:

```
[local]Redback#show media-gateway card 3/1 log
Media gateway logs for card 3/1
Last updated entry index: 9
Index  Hdrid Subid Len Dir Data
    0      1     0  12  TX MG_DPP_REGISTER_REQ ipc_slot 3  ipc_cpu 1  ipc_asp 5
    1      2     0  44  RX MG_DPP_NEXTHOP_ADD nh_grid 0x31d00003, nh_ip 10.10.11.1
    2      4     0  20  RX MG_DPP_PORT_RANGE_ADD nh_grid 0x31d00003, index 1, Start 16384 End 32767
    3      2     0  44  RX MG_DPP_NEXTHOP_ADD nh_grid 0x31d00004, nh_ip 10.10.11.2
    4      4     0  20  RX MG_DPP_PORT_RANGE_ADD nh_grid 0x31d00004, index 1, Start 16384 End 32767
    5      2     0  44  RX MG_DPP_NEXTHOP_ADD nh_grid 0x31d00005, nh_ip 10.10.11.3
    6      4     0  20  RX MG_DPP_PORT_RANGE_ADD nh_grid 0x31d00005, index 1, Start 16384 End 32767
    7      2     0  44  RX MG_DPP_NEXTHOP_ADD nh_grid 0x31d00006, nh_ip 10.10.11.4
    8      4     0  20  RX MG_DPP_PORT_RANGE_ADD nh_grid 0x31d00006, index 1, Start 16384 End 32767
    9      2     0  44  RX MG_DPP_NEXTHOP_ADD nh_grid 0x31d00007, nh_ip 10.10.11.5
```

The following example shows how to display a section of the media event log based on the specified criteria: entry number and number of entries:

```
[local]Redback#show media-gateway card 3/1 log 3 4
Media gateway logs for card 3/1
Last updated entry index: 9
Index  Hdrid Subid Len Dir Data
    3      2     0  44  RX MG_DPP_NEXTHOP_ADD nh_grid 0x31d00004, nh_ip 10.10.11.2
    4      4     0  20  RX MG_DPP_PORT_RANGE_ADD nh_grid 0x31d00004, index 1, Start 16384 End 32767
    5      2     0  44  RX MG_DPP_NEXTHOP_ADD nh_grid 0x31d00005, nh_ip 10.10.11.3
    6      4     0  20  RX MG_DPP_PORT_RANGE_ADD nh_grid 0x31d00005, index 1, Start 16384 End 32767
```

The following example shows how to display the next-hop list:

```
[local]Redback#show media-gateway card 3/1 next-hop
------------------------------------------------------------------------
       Grid Id: 0x31d00003       Realm Id:     0     Num-Ranges:     1
------------------------------------------------------------------------
       Grid Id: 0x31d00004       Realm Id:     0     Num-Ranges:     1
------------------------------------------------------------------------
       Grid Id: 0x31d00005       Realm Id:     0     Num-Ranges:     1
------------------------------------------------------------------------
       Grid Id: 0x31d00006       Realm Id:     0     Num-Ranges:     1
------------------------------------------------------------------------
       Grid Id: 0x31d00007       Realm Id:     0     Num-Ranges:     1
------------------------------------------------------------------------
       Grid Id: 0x31d00008       Realm Id:     0     Num-Ranges:     1
------------------------------------------------------------------------
       Grid Id: 0x31d00009       Realm Id:     0     Num-Ranges:     1
------------------------------------------------------------------------
       Grid Id: 0x31d0000a       Realm Id:     0     Num-Ranges:     1
------------------------------------------------------------------------
       Grid Id: 0x31d0000b       Realm Id:     0     Num-Ranges:     1
------------------------------------------------------------------------
       Grid Id: 0x31d0000c       Realm Id:     1     Num-Ranges:     1
------------------------------------------------------------------------
       Grid Id: 0x31d0000d       Realm Id:     1     Num-Ranges:     1
------------------------------------------------------------------------
```

The following example shows how to display media information flowing through a port:

```
[local]Redback#show media-gateway card 3/1 port

Port:                                  32792      Grid Id:     0x31d00003
 MGD Instance:                             1       VMG Id:              0

 Local Side Info
  From IP:                            0.0.0.0    From Port:             0
    To IP:                         10.10.11.1      To Port:           32792

 Translation Info
  From IP:                         10.10.12.1    From Port:           32792
    To IP:                            0.0.0.0      To Port:               0

 SRTP info
  Cipher action:  Decrypt
  Replayed packets:  0
  Authentication failures: 0
  Crypto suite: F8_128_HMAC_SHA1_80
  Session flags: 0x0
  Context mask: 0x1
  SSRC: 0x0
  Key expired: no
  Number of contexts:  1
------------------------------------------------------------------------
     Port:                               32793      Grid Id:     0x31d00003
  MGD Instance:                             1       VMG Id:              0

 Local Side Info
  From IP:                         25.10.10.2    From Port:           16001
    To IP:                         10.10.11.1      To Port:           32793

 Translation Info
  From IP:                                 ::    From Port:             0
    To IP:                                 ::      To Port:             0

 SRTCP info
  Cipher action:  Decrypt
  Lost packets:  0
  Average jitter:  0
------------------------------------------------------------------------
     Port:                               32792      Grid Id:     0x31d00004
  MGD Instance:                             1       VMG Id:              0

 Local Side Info
```

```
  From IP:                                0.0.0.0    From Port:              0
    To IP:                             10.10.12.1      To Port:          32792

 Translation Info
  From IP:                             10.10.11.1    From Port:          32792
    To IP:                                0.0.0.0      To Port:              0

 SRTP info
  Cipher action:  Encrypt
  Replayed packets:  0
  Authentication failures: 0
  Crypto suite: F8_128_HMAC_SHA1_80
  Session flags: 0x0
  Context mask: 0x1
  SSRC: 0x0
  Key expired: no
  Number of contexts:  1
--------------------------------------------------------------------------------
     Port:                               32793      Grid Id:     0x31d00004
  MGD Instance:                              1       VMG Id:              0

 Local Side Info
  From IP:                             10.10.12.1    From Port:          32795
    To IP:                             10.10.12.1      To Port:          32793

 Translation Info
  From IP:                                   ::    From Port:              0
    To IP:                                   ::      To Port:              0

 SRTCP info
  Cipher action:  Encrypt
  Lost packets:  0
  Average jitter:  0
--------------------------------------------------------------------------------

Port:                                    17924      Grid Id:     0x31d00003
  MGD Instance:                              2    VMG Id: 0

 Local Side Info
  From IP:                              1.1.1.1    From Port:           8700
    To IP:                             10.10.11.1      To Port:          17924

 Translation Info
  From IP:                             10.10.12.1    From Port:          17924
    To IP:                             10.10.12.1      To Port:          17926

 MSRP info
  Local authority:  msrp://10.10.11.1:17924/access_session_orig;tcp
  Local session id:
  Remote authority: msrp://1.1.1.1:8700/access_r_session_orig;tcp
  Remote session id:
--------------------------------------------------------------------------------
     Port:                               17924      Grid Id:     0x31d0000c
  MGD Instance:                              2    VMG Id: 0

 Local Side Info
  From IP:                             10.10.12.1    From Port:          17926
    To IP:                             10.10.12.1      To Port:          17924

 Translation Info
  From IP:                             10.10.11.1    From Port:          17924
    To IP:                                1.1.1.1      To Port:           8700

 MSRP info
  Local authority:  msrp://10.10.12.1:17924/core_session_orig;tcp
  Local session id:
  Remote authority: msrp://10.10.12.1:17926/core_session_term;tcp
  Remote session id:
--------------------------------------------------------------------------------
```

The following example shows how to display detailed media information flowing through a port:

```
[local]Redback#show media-gateway card 3/1 port detail

Port:                                  32792      Grid Id:     0x31d00003
  MGD Instance:                            1       VMG Id:     0

 Local Side Info
  From IP:                            0.0.0.0    From Port:              0
    To IP:                         10.10.11.1      To Port:          32792

 Translation Info
  From IP:                         10.10.12.1    From Port:          32792
    To IP:                            0.0.0.0      To Port:              0

 SRTP info
  Cipher action:  Decrypt
  Replayed packets:  0
  Authentication failures: 0
  Crypto suite: F8_128_HMAC_SHA1_80
  Session flags: 0x0
  Context mask: 0x1
  SSRC: 0x0
  Key expired: no
  Number of contexts:  1
    MKI: 0x00000001
        Stream (SSRC) : 0x0
        Direction : Unknown direction

        RTP details..
                security level : No security
                cipher type : Null Cipher
                auth type : Null Authentication
                Total packets : 0
                Total bytes : 0
                Crypto bytes : 0
                Auth bytes : 0
        RTCP details..
                security level : No security
                cipher type : Null Cipher
                auth type : Null Authentication
                Total packets : 0
                Total bytes : 0
                Crypto bytes : 0
                Auth bytes : 0
        Master key life time left for : 0  pkts

-------------------------------------------------------------------------
     Port:                             32793      Grid Id:     0x31d00003
  MGD Instance:                            1       VMG Id:     0

 Local Side Info
  From IP:                         25.10.10.2    From Port:          16001
    To IP:                         10.10.11.1      To Port:          32793

 Translation Info
  From IP:                                 ::    From Port:              0
    To IP:                                 ::      To Port:              0

 SRTCP info
  Cipher action:  Decrypt
  Lost packets:  0
  Average jitter:  0
-------------------------------------------------------------------------
     Port:                             32792      Grid Id:     0x31d00004
  MGD Instance:                            1       VMG Id:     0

 Local Side Info
  From IP:                            0.0.0.0    From Port:              0
    To IP:                         10.10.12.1      To Port:          32792

 Translation Info
  From IP:                         10.10.11.1    From Port:          32792
    To IP:                            0.0.0.0      To Port:              0

 SRTP info
  Cipher action:  Encrypt
```

```
  Replayed packets:  0
  Authentication failures: 0
  Crypto suite: F8_128_HMAC_SHA1_80
  Session flags: 0x0
  Context mask: 0x1
  SSRC: 0x0
  Key expired: no
  Number of contexts:  1
    MKI: 0x00000001
        Stream (SSRC) : 0x0
        Direction : Unknown direction

        RTP details..
                security level : No security
                cipher type : Null Cipher
                auth type : Null Authentication
                Total packets : 0
                Total bytes : 0
                Crypto bytes : 0
                Auth bytes : 0
        RTCP details..
                security level : No security
                cipher type : Null Cipher
                auth type : Null Authentication
                Total packets : 0
                Total bytes : 0
                Crypto bytes : 0
                Auth bytes : 0
        Master key life time left for : 0  pkts

--------------------------------------------------------------------------
     Port:                                  32793      Grid Id:     0x31d00004
  MGD Instance:                                 1       VMG Id:     0

 Local Side Info
  From IP:                              10.10.12.1    From Port:          32795
    To IP:                              10.10.12.1      To Port:          32793

 Translation Info
  From IP:                                     ::    From Port:              0
    To IP:                                     ::      To Port:              0

 SRTCP info
  Cipher action:  Encrypt
  Lost packets:  0
  Average jitter:  0
--------------------------------------------------------------------------

Port:                                    17924      Grid Id:     0x31d00003
  MGD Instance:                                 2       VMG Id:     0

 Local Side Info
  From IP:                                 1.1.1.1    From Port:           8700
    To IP:                              10.10.11.1      To Port:          17924

 Translation Info
  From IP:                              10.10.12.1    From Port:          17924
    To IP:                              10.10.12.1      To Port:          17926

 MSRP info
  Local authority:  msrp://10.10.11.1:17924/access_session_orig;tcp
  Local session id:
  Remote authority: msrp://1.1.1.1:8700/access_r_session_orig;tcp
  Remote session id:
  Accepted MSRP packets:    92366
  Discarded MSRP packets:   0
  TCP Socket State:  ESTABLISHED
--------------------------------------------------------------------------
     Port:                                  17924      Grid Id:     0x31d0000c
  MGD Instance:                                 2      VMG Id:     0

 Local Side Info
  From IP:                              10.10.12.1    From Port:          17926
    To IP:                              10.10.12.1      To Port:          17924

 Translation Info
```

```
  From IP:                              10.10.11.1    From Port:          17924
    To IP:                                 1.1.1.1      To Port:           8700

MSRP info
 Local authority:  msrp://10.10.12.1:17924/core_session_orig;tcp
 Local session id:
 Remote authority: msrp://10.10.12.1:17926/core_session_term;tcp
 Remote session id:
 Accepted MSRP packets:    92462
 Discarded MSRP packets:   0
 TCP Socket State:  ESTABLISHED
```

1.33 show media-gateway [instance] circuit

show media-gateway [**instance** *instance-id*] **circuit** {**user-name** *user-name* | **agent-circuit-id** *agent-circuit-id* | **agent-remote-id** *agent-remote-id* | *slot/port*:*chan-num*:*sub-chan-num* | **all**}

1.33.1 Purpose

Displays summary information for circuits enabled with media gateway (MG) functionality for all MG instances or a specified MG instance.

1.33.2 Command Mode

All modes

1.33.3 Syntax Description

instance *instance-id*	Optional. Instance ID. Specify the instance ID of the border gateway function (BGF) to display. The range of values is 1 to 3.
agent-circuit-id *agent-circuit-id*	Optional. Displays information for the specified agent circuit ID.
agent-remote-id *agent-remote-id*	Optional. Displays information for circuits associated with the specified remote agent.
all	Displays information for all VoIP-enabled circuits on the system.

slot/port*:*chan-num*:*sub-chan-num	Optional. Displays circuit information for a specific slot on the chassis: ***slot*** is the slot number of a traffic card. ***port*** is the port number of the slot. ***chan-num*** is the channel number. The range of values depends on the type of port. ***sub-chan-num*** is the subchannel number. If a subchannel is not specified, circuit information for all subchannels is displayed for the specified channel. The range depends on the type of port.
user-name ***user-name***	Optional. Displays information for circuits associated with the specified subscriber.

1.33.4 Default

None

1.33.5 Usage Guidelines

Use the **show media-gateway instance circuit** command to display information for circuits enabled with media gateway (MG) functionality for all MG instances or a specified MG instance.

1.33.6 Examples

The following example shows how to display summary information for a specified slot, port, channel, and subchannel of a circuit enabled with media gateway (MG) functionality in the MG instance 2:

```
[local]Redback#show media-gateway instance 2 circuit
4/2:1023:63

-----------------------------------------
Instance Id : 2
-----------------------------------------
Circuit:           4/2 pppoe 69
Internal Circuit:  4/2:1023:63/6/2/69
Context Id:        0
Port Table Entries:4
```

1.34 show media-gateway instance media-flow

show media-gateway instance *instance-id* **media-flows** [**context** *ctx-name* [**ip-address** *ip-addr* [**port** *port*]]] [**detail**]

1.34.1 Purpose

Displays summary information for all media flows associated with the specified media gateway (MG) instance.

1.34.2 Command Mode

All modes

1.34.3 Syntax Description

instance-id	Optional. Instance ID. Specify the instance ID of the border gateway function (BGF) to display. The range of values is 1 to 3.
context *ctx-name*	Optional. Displays information for media flows in the specified context.
ip-address *ip-addr*	Optional. Displays information for media flows for the specified IP address.
port *port*	Optional. Displays information for media flows on the specified port. The range is 16K to 48K.
detail	Optional. Displays detailed information for media flows for the specified BGF instance, context or IP address, depending on which keyword you enter.

1.34.4 Default

Displays summary information for all media flows associated with the instance ID.

1.34.5 Usage Guidelines

Use the **show media-gateway instance media-flows** command to display media flow information for a specified MG instance.

1.34.6 Examples

The following example shows how to display all media flows on the MG instance `1` at a detailed level:

```
[local]Redback#show media-gateway instance 1 media-flows detail


Context Id:     0x40080002
IpAddress:      10.10.11.1              Port:           35844
State:          Unbound                 Type:           SRTP E2AE
Circuit:        Unknown circuit
Remote User IP: 25.10.10.2              Port:           16000
Active PPA Slots:   None
ASP id:             6
Configured Services:
        Send-Recv
        DSCP Remarking      : 0x1e
Inactivity Duration: 86400          Direction:      Both
Slot:               04              Status:         Active
Media Stop Time: NULL
BW params
Realm Index:   0    IN:       247  OUT:      247
Policing:      Disabled  SDR:      0    MBS:      0
Route Lookup:  Prefix:       25.10.10.2/32   RIB Prefix length: 32
SRTP params
Session Flags:
        Unencrypted SRTP Session
Cipher Action: Decrypt                      SRTP Tag   : 1
Crypto Suite : AES-CM-128-HMAC-SHA1-32      Key Params : 1
Lifetime  [1]: 2^20
MKI       [1]: 1:4

------------------------------------------------------------------------
Context Id:     0x40080002
IpAddress:      10.10.11.1              Port:           35845
State:          Unbound                 Type:           SRTCP E2AE
Circuit:        Unknown circuit
Remote User IP: 25.10.10.2              Port:           16001
Active PPA Slots:   None
ASP id:             6
Configured Services:
        Send-Recv
        DSCP Remarking      : 0x1e
Inactivity Duration: 86400          Direction:      Both
Slot:               04              Status:         Active
Media Stop Time: NULL
BW params
Realm Index:   0    IN:       0    OUT:      0
Policing:      Disabled  SDR:      0    MBS:      0
Route Lookup:  Prefix:       25.10.10.2/32   RIB Prefix length: 32
Receiver Freq:  0                       Sender Freq:    0

------------------------------------------------------------------------
Context Id:     0x40080002
IpAddress:      10.10.11.1              Port:           35846
State:          Unbound                 Type:           RTP
Circuit:        Unknown circuit
Remote User IP: 55.10.10.2              Port:           15000
Active PPA Slots:   None
ASP id:             0
Configured Services:
        Send-Recv
        DSCP Remarking      : 0x1e
Inactivity Duration: 86400          Direction:      Both
Slot:               04              Status:         Active
Media Stop Time: NULL
BW params
Realm Index:   0    IN:       247  OUT:      247
Policing:      Disabled  SDR:      0    MBS:      0
Route Lookup:  Prefix:       55.10.10.2/32   RIB Prefix length: 32

------------------------------------------------------------------------
Context Id:     0x40080002
IpAddress:      10.10.11.1              Port:           35847
```

```
State:          Unbound                  Type:           RTCP
Circuit:        Unknown circuit
Remote User IP: 55.10.10.2               Port:           15001
Active PPA Slots:   None
ASP id:             0
Configured Services:
        Send-Recv
        DSCP Remarking      : 0x1e
Inactivity Duration: 86400          Direction:      Both
Slot:               04              Status:         Active
Media Stop Time: NULL
BW params
Realm Index:   0    IN:       0    OUT:      0
Policing:      Disabled  SDR:      0    MBS:      0
Route Lookup:  Prefix:       55.10.10.2/32   RIB Prefix length: 32
Receiver Freq:  0                        Sender Freq:    0

------------------------------------------------------------------------
Context Id:     0x40080002
IpAddress:      10.10.12.1               Port:           35844
State:          Unbound                  Type:           SRTP E2AE
Circuit:        Unknown circuit
Remote User IP: 10.10.12.1               Port:           35846
Active PPA Slots:   None
ASP id:             6
Configured Services:
        Send-Recv
        DSCP Remarking      : 0x1e
Inactivity Duration: 86400          Direction:      Both
Slot:               04              Status:         Active
Media Stop Time: NULL
BW params
Realm Index:   1    IN:       247  OUT:      247
Policing:      Disabled  SDR:      0    MBS:      0
Route Lookup:  Prefix:       10.10.12.1/32   RIB Prefix length: 32
SRTP params
Session Flags:
        Unencrypted SRTP Session
Cipher Action: Encrypt                       SRTP Tag    : 1
Crypto Suite : AES-CM-128-HMAC-SHA1-32       Key Params : 1
Lifetime  [1]: 2^20
MKI       [1]: 1:4

------------------------------------------------------------------------
Context Id:     0x40080002
IpAddress:      10.10.11.1               Port:           16398
State:          Non Flow Bound           Type:           MSRP
Circuit:        1/10
Remote User IP: 10.10.11.1               Port:           16400
Active PPA Slots:   01
ASP id:             0
Configured Services:
        Send-Recv
Filter IP Address:  10.10.11.1      , Mask: 32
Filter Port No., MIN: 16400           , MAX: 16400
Inactivity Duration: 0              Direction:      None
Slot:               None            Status:         Active
Media Stop Time: NULL
BW params
Realm Index:   0    IN:       309  OUT:      309
Policing:      Disabled  SDR:      0    MBS:      0
Route Lookup:  Prefix:       10.10.11.1/32   RIB Prefix length: 32
MSRP Params:
Local Conn Setup:   Passive   Remote Conn Setup:  Active    Flags:    0x6
Local URI:  msrp://10.10.11.1:16398/core_session_orig;tcp
Remote URI: msrp://10.10.11.1:16400/core_session_term;tcp
```

1.35 show media-gateway [instance] mgc-group

show media-gateway [**instance** *instance-id*] **mgc-group** [*mgc-group-name* [**context** [*context-number*]| **termination** [*name*]] | **detail**]

1.35.1 Purpose

Displays information for the virtual media gateway (VMG) corresponding to the media gateway controller (MGC) group for all media gateway (MG) instances or a specified MG instance.

1.35.2 Command Mode

All modes

1.35.3 Syntax Description

instance-id	Optional. Instance ID. Specify the instance ID of the border gateway function (BGF) to display. The range of values is 1 to 3.
mgc-group-name	Optional. MGC group name. Specify the MGC group name for which to display information. The valid value is an alphanumeric string of up to 30 characters. The first character must be a letter.
context *context-number*	Optional. Displays information for all active H.248 contexts or for a specified active H.248 context. To display information for a specific context, enter the H.248 context ID. The valid values are from 1 to 4,294,967,295.
termination [*name*]	Optional. Displays information for all active H.248 terminations or for a specified active H.248 termination. To display information for a specific H.248 termination, enter the H.248 termination ID. The valid value is an alphanumeric string of up to 30 characters.
detail	Displays detailed MGC group statistics.

1.35.4 Default

None

1.35.5 Usage Guidelines

Use the **show media-gateway instance mgc-group** command to display information for the VMG corresponding to the MGC group for all MG instances or a specified MG instance.

1.35.6 Examples

The following example shows how to display the MGC group information for the MGC group named `grp1`:

```
[local]Redback#show media-gateway mgc-group grp1

-----------------------------------------
Instance Id : 1
-----------------------------------------

Media gateway                           : grp1
============================================================
H.248 Message ID (MID)                  : grp1/1@003088049091
Admin state                             : Up
Operational state                       : Up
Maximum number of calls                 : 384
Maximum round trip propagation delay    : 1000
Maximum number of pending response      : 4
Initial association wait time           : 5000 ms
Maximum association wait time           : 60000 ms
Normal execution time                   : 2000 ms
Pending response time                   : 3000 ms
Request timeout                         : 15000 ms
Signaling inactivity time               : 0 ms
Overload threshold time                 : 0 ms
Default media idle time                 : 3000 sec
Default hanging termination timer       : 3600 sec
Call Cleanup Timer                      : 0 sec
Segmentation size                       : 0
Segmentation hold time                  : 0
Profile name                            : ETSI_BGF
Profile Version                         : 2

MGC Index  Local IP:Port         Remote IP:Port        Transport  Active
-------------------------------------------------------------------------
1          5.0.0.2:60029         4.0.0.2:6944          SCTP       No
2          5.0.0.2:0             4.0.0.2:5944          SCTP       No
3          5.0.0.2:0             4.0.0.2:7944          SCTP       No


-----------------------------------------
Instance Id : 2
-----------------------------------------

Media gateway                           : grp1
============================================================
H.248 Message ID (MID)                  : grp1/2@003088049091
Admin state                             : Up
Operational state                       : Up
Maximum number of calls                 : 384
Maximum round trip propagation delay    : 1000
Maximum number of pending response      : 4
Initial association wait time           : 5000 ms
Maximum association wait time           : 60000 ms
Normal execution time                   : 2000 ms
Pending response time                   : 3000 ms
Request timeout                         : 15000 ms
Signaling inactivity time               : 0 ms
Overload threshold time                 : 0 ms
Default media idle time                 : 3000 sec
Default hanging termination timer       : 3600 sec
Call Cleanup Timer                      : 0 sec
Segmentation size                       : 0
```

```
Segmentation hold time                  : 0
Profile name                            : ETSI_BGF
Profile Version                         : 2

MGC Index  Local IP:Port         Remote IP:Port        Transport  Active
-------------------------------------------------------------------------
1          5.0.0.2:57878         4.0.0.2:6944          SCTP       No
2          5.0.0.2:0             4.0.0.2:5944          SCTP       No
3          5.0.0.2:0             4.0.0.2:7944          SCTP       No


-------------------------------------------
Instance Id : 3
-------------------------------------------

Media gateway                           : grp1
=============================================================
H.248 Message ID (MID)                  : grp1/3@003088049091
Admin state                             : Up
Operational state                       : Up
Maximum number of calls                 : 37184
Maximum round trip propagation delay    : 1000
Maximum number of pending response      : 4
Initial association wait time           : 5000 ms
Maximum association wait time           : 60000 ms
Normal execution time                   : 2000 ms
Pending response time                   : 3000 ms
Request timeout                         : 15000 ms
Signaling inactivity time               : 0 ms
Overload threshold time                 : 0 ms
Default media idle time                 : 3000 sec
Default hanging termination timer       : 3600 sec
Call Cleanup Timer                      : 0 sec
Segmentation size                       : 0
Segmentation hold time                  : 0
Profile name                            : ETSI_BGF
Profile Version                         : 2

MGC Index  Local IP:Port         Remote IP:Port        Transport  Active
-------------------------------------------------------------------------
1          5.0.0.2:59735         4.0.0.2:6944          SCTP       Yes
2          5.0.0.2:0             4.0.0.2:5944          SCTP       No
3          5.0.0.2:0             4.0.0.2:7944          SCTP       No
```

The following example shows how to display information for all active H.248 contexts on MGC group `grp1`:

```
[local]Redback#show media-gateway mgc-group grp1 context

-------------------------------------------
Instance Id : 1
-------------------------------------------
Context-id EC   Termination-Id
=========================================================================
  6061     No   ip/1/0/6017
                ip/1/0/6018
```

The following example shows how to display information for the H.248 context `6061` on MGC group `grp1`:

```
[local]Redback#show media-gateway mgc-group grp1 context 6061

context 6061

-----------------------------------------
Instance Id : 1
-----------------------------------------

Context-id: 6061
Emergency : No
Streams   : 1

Termination-Id                                                          Idle
=========================================================================
ip/1/0/6017                                                             Yes
ip/1/0/6018                                                             Yes
```

1.36 show media-gateway [instance] statistics

show media-gateway [**instance** *instance-id*] **statistics** {**call** [**rate**] | **mgc-group** *mgc-group-name* [**call**] | **stream** | [**realm** [**name** *realm_name*]] **media**}

1.36.1 Purpose

Displays media gateway (MG) statistics for all MG instances or a specified MG instance.

1.36.2 Command Mode

All modes

1.36.3 Syntax Description

instance-id	Optional. Instance ID. Specify the instance ID of the border gateway function (BGF) to display. The range of values is 1 to 3.
call	Optional. Displays MG call statistics. When used with the **mgc-group**keyword, displays call statistics for the specified MGC group.
rate	Optional. Displays MG call rate statistics.
mgc-group ***mgc-group-name***	Optional. MGC group name. Specify the MGC group name for which to display statistics. The valid value is an alphanumeric string of up to 30 characters. The first character must be a letter.

stream	Optional. Displays the current and peak number of MG stream statistics.
realm name ***realm_name***	Optional. Specifies the name of the realm for which media statistics are displayed.
media	Optional. Displays different types of media in the system and corresponding statistics.

1.36.4 Default

None

1.36.5 Usage Guidelines

Use the **show media-gateway instance statistics** command to display MG statistics for a specified MG instance.

1.36.6 Examples

The following example shows how to display MG group call statistics for the MGC group `mg1` in MG instance `1`:

```
[local]Redback#show media-gateway instance 1 statistics mgc-group mg1 call
-------------------------------------------
Instance Id : 1
-------------------------------------------
Current Calls:        69
Peak Calls:           5794

Call Type             Current     Peak
===========================================
Normal Calls:         69          5794
Emergency Calls:      0           0


Rejections Due To
====================
Emergency Threshold:     0
Licensing Limit:         0
Stream Limit:            0
Bandwidth Limit:         0
Insufficient Resources:  0
Routing Failures:        0
```

The following example shows the MG stream statistics:

```
[local]Redback#show media-gateway statistics stream

Current Streams                              15960

Stream Type                          Current
=========================================
IPv4 <-> IPv4                        15960
IPv4 <-> IPv6                        0
IPv6 <-> IPv6                        0
SRTP E2E                             0
SRTP E2AE                            1
```

The following example shows the current and peak number of MG stream statistics for MG instance `3`:

```
[local]Redback#show media-gateway instance 3 statistics stream

-------------------------------------------------------
Instance Id : 3
-------------------------------------------------------
Current Streams                              3862
Peak    Streams                              3862

Stream Type                          Current     Peak
=============================================================
IPv4 <-> IPv4                        3862        3862
IPv4 <-> IPv6                        0           0
IPv6 <-> IPv6                        0           0
SRTP E2E                             0           0
SRTP E2AE                            1           1
```

The following example shows call statistics for all MGC groups in MG instance `1`:

```
[local]Redback#show media-gateway instance 1 statistics call

-----------------------------------------
Instance Id : 1
-----------------------------------------
Current Calls:        1
Peak Calls:           1010

Call Type             Current     Peak
=========================================

Normal Calls:        1           1010
Emergency Calls:     0           0

Rejections Due To
====================
Emergency Threshold:     0
Licensing Limit:         0
Stream Limit:            0
Bandwidth Limit:         0
Insufficient Resources:  0
Routing Failures:        0
```

The following example shows call rate statistics for all MGC groups in MG instance `1`:

```
[local]Redback#show media-gateway instance 1 statistics call rate

-----------------------------------------
Instance Id : 1
-----------------------------------------
                SBC call rate statistics
=========================================================
                             Accepted        Rejected
---------------------------------------------------------
Current calls per second       0               0
Average calls per second       0               0
Minimum calls per second       0               0
Maximum calls per second       0               0
```

The following example shows MGC statistics for MGC group `grp1` in MG instance `1`:

```
[local]Redback#show media-gateway instance 1 statistics mgc-group grp1

-------------------------------------------
Instance Id : 1
-------------------------------------------
                     Signaling Statistics
-------------------------------------------------------------
State                          Connected
Local Address                  3.0.0.2
Local Port                     58093
Remote Address                 2.0.0.2
Remote Port                    2944
Requests Sent                  11613
Requests Rcvd                  4057
Replies Sent                   4057
Replies Rcvd                   11023
Requests Failed                590
Requests Retried               1655

Replies Retried                0
MG Seg timer                   0
MGC Seg timer                  0
MG Seg max pdu                 0
MGC Seg max pdu                0
Resp Seg Sent                  0
Resp Seg Rcvd                  0
Max allowed calls              384
EC Threshold                   384
Runtime calls                  1
Runtime normal calls           1
Runtime EC calls               0
Runtime Peak calls             1010
Runtime Peak normal calls      1010
Runtime Peak EC calls          0
Runtime Rej calls              0
Runtime Rej EC calls           0
Runtime Rej Streams            0
Runtime Rej BW                 0
Runtime Rej Resources          0
Hangterm notifications         106
Runtime Route Failures         0

                         Media Statistics
-------------------------------------------------------------
Used Bandwidth(bytes/sec)      0
Used Packet Rate               200
Current Media Flows            1
Current Active Media Flows     0
Peak Active Media Flows        548
Cumulative Total Media Flows   1011
RTP Packet/Bytes Received      0/0
RTP Packet/Bytes Sent          0/0
RTP Packet/Bytes Dropped       0/0
Deleted Idle Media Flows       1096
```

The following example shows media statistics:

```
[local]Redback#show media-gateway statistics media

MSRP
-----------------------------------------------------------
Active MSRP Sessions:                3
Accepted MSRP Data Chunks:           0
Discarded MSRP Data Chunks:          0
```

The following example shows media statistics in MG instance `1`:

```
[local]Redback#show media-gateway instance 1 statistics media

MSRP
-------------------------------------------------------
Instance Id : 1
-------------------------------------------------------
Active MSRP Sessions:               2
Accepted MSRP Data Chunks:          0
Discarded MSRP Data Chunks:         0
```

The following example shows media statistics for all the realms:

```
[local]Redback#show media-gateway statistics realm media

-----------------------------------------
Instance Id : 1
-----------------------------------------
Realm Name:  voip1  Index: 1
 Context Id: 0x40080003

MSRP
-------------------------------------------------------
Active MSRP Sessions:               0
Accepted MSRP Data Chunks:          0
Discarded MSRP Data Chunks:         0

Realm Name:  voip  Index: 0
 Context Id: 0x40080002

MSRP
-------------------------------------------------------
Active MSRP Sessions:               2
Accepted MSRP Data Chunks:          0
Discarded MSRP Data Chunks:         0


-----------------------------------------
Instance Id : 2
-----------------------------------------
Realm Name:  voip1  Index: 1
 Context Id: 0x40080003

MSRP
-------------------------------------------------------
Active MSRP Sessions:               0
Accepted MSRP Data Chunks:          0
Discarded MSRP Data Chunks:         0

Realm Name:  voip  Index: 0
 Context Id: 0x40080002

MSRP
-------------------------------------------------------
Active MSRP Sessions:               1
Accepted MSRP Data Chunks:          0
Discarded MSRP Data Chunks:         0


-----------------------------------------
Instance Id : 3
-----------------------------------------
Realm Name:  voip1  Index: 1
 Context Id: 0x40080003

MSRP
-------------------------------------------------------
Active MSRP Sessions:               0
Accepted MSRP Data Chunks:          0
Discarded MSRP Data Chunks:         0

Realm Name:  voip  Index: 0
 Context Id: 0x40080002

MSRP
-------------------------------------------------------
Active MSRP Sessions:               0
Accepted MSRP Data Chunks:          0
Discarded MSRP Data Chunks:         0
```

The following example shows media statistics for a realm named `voip1`:

```
[local]Redback#show media-gateway statistics realm name voip1 media

-------------------------------------------
Instance Id : 1
-------------------------------------------
Realm Name:  voip1  Index: 0
 Context Id: 0x40080002

MSRP
-----------------------------------------------------
Active MSRP Sessions:               2
Accepted MSRP Data Chunks:          0
Discarded MSRP Data Chunks:         0


-------------------------------------------
Instance Id : 2
-------------------------------------------
Realm Name:  voip1  Index: 0
 Context Id: 0x40080002

MSRP
-----------------------------------------------------
Active MSRP Sessions:               1
Accepted MSRP Data Chunks:          0
Discarded MSRP Data Chunks:         0


-------------------------------------------
Instance Id : 3
-------------------------------------------
Realm Name:  voip1  Index: 0
 Context Id: 0x40080002

MSRP
-----------------------------------------------------
Active MSRP Sessions:               0
Accepted MSRP Data Chunks:          0
Discarded MSRP Data Chunks:         0
```

1.37 show process mgd

show process mgd [**instance** *instance-id*] [**crash-info** | **detail**]

1.37.1 Purpose

Displays the process status for the media gateway (MG) daemon for all MG instances or a specified MG instance.

1.37.2 Command Mode

All modes

1.37.3 Syntax Description

instance *instance-id*	Optional. Instance ID. Specify the instance ID of the border gateway function (BGF) for which to display information. The range of values is 1 to 3.
crash-info	Optional. Displays information about a process crash.
detail	Optional. Displays detailed information about the process.

1.37.4 Default

None

1.37.5 Usage Guidelines

Use the **show process mgd** command to display the process status for the media gateway (MG) daemon for all MG instances or a specified MG instance. Use this command to determine if the MG process is running or stopped.

1.37.6 Examples

The following example shows how to display the status of the MG daemon process for all MG instances:

```
[local]Redback#show process mgd
NAME            PID     SPAWN     MEMORY  TIME             %CPU  STATE     UP/DOWN
mgd-1           952         1   116228K  00:17:48.43    0.00%  run          5d01h
mgd-2           890         1   113720K  00:17:54.57    0.05%  run          5d01h
mgd-3           953         1   116080K  00:17:50.66
0.00%  run           5d01h
```

1.38 show process mgmd

show process mgmd [**crash-info** | **detail**]

1.38.1 Purpose

Displays the process status for the media gateway manager (MGM) daemon for the border gateway function (BGF).

1.38.2 Command Mode

All modes

1.38.3 Syntax Description

crash-info	Optional. Displays information about a process crash.
detail	Optional. Displays detailed information about the process.

1.38.4 Default

None

1.38.5 Usage Guidelines

Use the **show process mgmd** command to display the process status for the MGM daemon for the BGF. Use this command to determine if the MGM process is running or stopped.

1.38.6 Examples

The following example shows how to display the status of the MGM daemon process:

```
[local]Redback#show process mgmd

NAME            PID     SPAWN     MEMORY  TIME             %CPU  STATE      UP/DOWN
mgmd            913         1      4772K  00:01:50.74     0.00%  run           5d01h
```

1.39 show process sctp

show process sctp [**crash-info** | **detail**]

1.39.1 Purpose

Displays the process status for the Stream Control Transmission Protocol (SCTP).

1.39.2 Command Mode

All modes

1.39.3 Syntax Description

crash-info	Optional. Displays information about a process crash.
detail	Optional. Displays detailed information about the process.

1.39.4 Default

None

1.39.5 Usage Guidelines

Use the **show process sctp** command to display the SCTP process status. Use this command to determine if the SCTP process is running or stopped.

1.39.6 Examples

The following example shows how to display the status of the SCTP process:

```
[local]Redback#show process sctp

NAME              PID     SPAWN     MEMORY   TIME              %CPU   STATE      UP/DOWN
sctp             1237    5         18468K   00:00:13.22      1.32% run        00:17:56
```

1.40 show sctp

show sctp [**brief** [**all**] | **statistics**]

1.40.1 Purpose

Displays information and statistics about the Stream Control Transmission Protocol (SCTP) and SCTP associations.

1.40.2 Command Mode

All modes

1.40.3 Syntax Description

brief	Optional. Displays active Internet connections.
all	Optional. Displays active Internet connections, including servers. Used with the **brief** keyword.
statistics	Optional. Displays SCTP statistics.

1.40.4 Default

None

1.40.5 Usage Guidelines

Use the **show sctp** command to display SCTP information and statistics.

1.40.6 Examples

The following example displays output when the **statistics** keyword is specified:

```
[local]Redback#show sctp statistics


sctp:
        5144073 input packets
                5144068 datagrams
                2138719 packets that had data
                837066 input SACK chunks
                2138719 input DATA chunks
                36 duplicate DATA chunks
                2090216 input HB chunks
                77971 HB-ACK chunks
                0 input ECNE chunks
                0 input AUTH chunks
                0 chunks missing AUTH
                0 invalid HMAC ids received
                0 invalid secret ids received
                0 auth failed
                2138665 fast path receives all one chunk
                0 fast path multi-part data
        3868728 output packets
                1309870 output SACKs
                2136422 output DATA chunks
                106 retransmitted DATA chunks
                3 fast retransmitted DATA chunks
```

```
        0 FR's that happened more than once to same chunk.
        78030 intput HB chunks
        0 output ECNE chunks
        0 output AUTH chunks
        6 ip_output error counter
Packet drop statistics:
        0 from middle box
        0 from end host
        0 with data
        0 non-data, non-endhost
        0 non-endhost, bandwidth rep only
        0 not enough for chunk header
        0 not enough data to confirm
        0 where process_chunk_drop said break
        0 failed to find TSN
        0 attempt reverse TSN lookup
        0 e-host confirms zero-rwnd
        0 midbox confirms no space
        0 data did not match TSN
        0 TSN's marked for Fast Retran
Timeouts:
        3 iterator timers fired
        23 T3 data time outs
        0 window probe (T3) timers fired
        418 INIT timers fired
        2718 sack timers fired
        0 shutdown timers fired
        78696 heartbeat timers fired
        0 a cookie timeout fired
        711 an endpoint changed its cookiesecret
        4337 PMTU timers fired
        0 shutdown ack timers fired
        0 shutdown guard timers fired
        0 stream reset timers fired
        0 early FR timers fired
        0 an asconf timer fired
        0 auto close timer fired
        0 asoc free timers expired
        0 inp free timers expired
0 packet shorter than header
0 checksum error
5 no endpoint for port
0 bad v-tag
0 bad SID
0 no memory
0 number of multiple FR in a RTT window
483254 RFC813 allowed sending
1653168 RFC813 does not allow sending
45 max burst dosn't allow sending
0 look ahead tells us no memory in interface
0 numbers of window probes sent
```

```
0 times an output error to clamp down on next user send.
0 times sctp_senderrors were caused from a user
0 number of in data drops due to chunk limit reached
0 number of in data drops due to rwnd limit reached
0 times a ECN reduced the cwnd
5144065 used express lookup via vtag
0 collision in express lookup.
0 times the sender ran dry of user data on primary
0 same for above
12 sacks the slow way
0 window update only sacks sent
0 sends with sinfo_flags !=0
0 unordered sends
0 sends with EOF flag set
0 sends with ABORT flag set
0 times protocol drain called
0 times we did a protocol drain
0 times recv was called with peek
5392405 cached chunks used
0 cached stream oq's used
51 unread messages abandonded by close
3 send burst avoidance, already max burst inflight to net
0 send cwnd full avoidance, already max burst inflight to net
0 number of map array over-runs via fwd-tsn's
```

The following example displays general information about SCTP and SCTP associations:

```
[local]Redback#show sctp
```

```
Active SCTP associations
Socket    Proto Type  Local Address          Foreign Address        (state)
1008cd000 sctp  1to1   10.110.110.1.65519     10.0.6.3.2944         ESTABLISHED

1008cd274 sctp  1to1   10.110.110.1.64079     10.0.6.3.2944         ESTABLISHED

1008cd4e8 sctp  1to1   10.110.110.1.59396     10.0.6.3.2944         ESTABLISHED

1008cd75c sctp  1to1   10.110.110.2.58234     10.0.6.5.2944         ESTABLISHED

1008cd9d0 sctp  1to1   10.110.110.2.56890     10.0.6.5.2944         ESTABLISHED

1008cdc44 sctp  1to1   10.110.110.2.59679     10.0.6.5.2944         ESTABLISHED
```

1.41 shutdown

The syntax in media gateway (MG) and media gateway controller (MGC) configuration modes is:

shutdown

no shutdown

The syntax in media gateway controller (MGC) group configuration mode is:

shutdown [**graceful** | **force**]

no shutdown

1.41.1 Purpose

Shuts down or brings up the border gateway function (BGF), the specified media gateway controller (MGC) group, or the specified MGC.

1.41.2 Command Mode

- MG configuration (global)
- MGC group configuration (global)
- MGC configuration (global)

1.41.3 Syntax Description

graceful	In MGC group configuration mode, brings down the corresponding virtual media gateways (VMGs) gracefully. A service change request with graceful method is sent out to the MGC. Calls are not deleted and remain until a subtract message is received from MGC.
force	In MGC group configuration mode, specifies to bring down the corresponding VMGs forcefully. A service change request with forced method is sent to the MGC. All calls are deleted immediately.

1.41.4 Default

The default is to shut down forcefully.

1.41.5 Usage Guidelines

Use the **shutdown** command to take the BGF, an MGC group, or an MGC out of service. The behavior on shutdown depends on where the command is issued:

- In MG configuration mode, a shutdown at the MG level is always forced. For the configured BGF, issuing this command shuts down the entire BGF. The MG configuration defines a BGF.

- In MGC group configuration mode, shutting down an MGC group brings all the corresponding virtual media gateways (VMGs) down.
- In MGC configuration mode, when an active MGC is shut down, the VMG sends a FORCED service change message to the MGC and then attempts to establish an association with the next MGC in its list of configured MGCs. If no MGCs are available, the VMG waits until another MGC is added to the list. The VMG does not bring down any calls during this process.

Note: A forced shutdown can follow a graceful shutdown.

Use the **no** form of this command to enable a BGF, an MGC group, or an MGC.

1.41.6 Examples

The following example shows how to create a BGF `1` and then bring it into service:

```
[local]Redback(config)#media-gateway
[local]Redback(config-mg)#no shutdown
```

The following example shows how to disable the MGC with index `57`:

```
[local]Redback(config-group)#media-gateway-controller 57

[local]Redback(config-mgc)#shutdown
```

1.42 signaling-endpoint

signaling-endpoint {**local** *ip-address* [**context** *context-name*] | **remote** *ip-address* [*port*}]

no signaling-endpoint {**local** | **remote**}

1.42.1 Purpose

Specifies the IP addresses for the signaling endpoints.

1.42.2 Command Mode

Media gateway controller (MGC) configuration (global)

1.42.3 Syntax Description

local *ip-address*	Specifies the IP address for the local signaling endpoint—that is, the endpoint on the virtual media gateway (VMG). This is the local IP address that the VMG uses to establish connection with the MGC. This must be the IP address of a loopback address in the local context unless otherwise specified with the **context** keyword.
context *context-name*	Specifies the global context in which the local IP address resides. The default is the local context.
remote *ip-address*	Specifies the IP address for the remote signaling endpoint—the endpoint on the external media gateway controller (MGC).
port	Specifies the port on the remote signaling endpoint to use for H.248 signaling traffic. The range is 0 to 65,535.

1.42.4 Default

There is no default IP address.

1.42.5 Usage Guidelines

Use the **signaling-endpoint** command to specify the IP addresses and ports for the local signaling endpoint (that is, the border gateway function (BGF)) and the remote signaling endpoint (that is, the MGC). VMGs choose a local port from the port range. The local port may change when the association breaks and is retried.

Use the **no** form of this command to remove configuration for the specified endpoint.

1.42.6 Examples

The following example sets `40.1.1.1` as the IP address to be used by MGC `5` for sending signals to the local BGF endpoint:

```
[local]Redback(config-grp)#media-gateway-controller 5
[local]Redback(config-mgc)#signaling-endpoint local 40.1.1.1
```

The following example shows how to set `53.2.2.2` as the IP address and `2944` as the port used by the border gateway function (BGF) for sending signals to the remote endpoint on MGC `5`.

```
[local]Redback(config-grp)#media-gateway-controller 5
[local]Redback(config-mgc)#signaling-endpoint remote 53.2.2.2 2944
```

The following example shows how to remove configuration for the remote signaling endpoint IP address for MGC `1`:

```
[local]Redback(config-grp)#media-gateway-controller 1
[local]Redback(config-mgc)#no signaling-endpoint remote
```

1.43 site

site ***site-name***

no site

1.43.1 Purpose

Configures the name of the geographic location in which the media gateway (MG) resides.

1.43.2 Command Mode

MG configuration (global)

1.43.3 Syntax Description

site-name	Specifies the name of the geographic location in which the MG resides. The valid value is a string that adheres to the domain-name syntax as specified in the RFC 1035, Domain Names—Implementation and Specification. A site name must start and end with an alphanumeric character, have as interior characters only letters, digits, hyphens (-), and periods (.), and consist of at least two characters with a maximum of 63.

1.43.4 Default

None.

1.43.5 Usage Guidelines

Use the **site** command to configure the name of the geographic location in which the MG resides. Use the no version of this command to remove the site name from the MG.

Note: Before configuring the site name or removing it from the MG, you must first shut down the MG using the **shutdown** command from the MG configuration mode. Otherwise, the system does not allow you to perform the configuration. After the configuration, bring up the MG using the **no shutdown** command.

1.43.6 Examples

Prior to configuring a site name, you must first shut down the MG. The following example shows how to shut down the MG, configure site `sanjose1`, and then bring up the MG once again:

```
[local]Redback(config-mg)#shut
[local]Redback(config-mg)#site sanjose1
[local]Redback(config-mg)#no shut
[local]Redback(config-mg)#end
```

1.44 timers

timers {**association-init** | **association-maximum** | **call-cleanup** | **hanging-termination** | **media-idle** | **normal-execution** | **overload-threshold** | **pending-response** | **request** | **signaling-inactivity**} ***value***

no timers {**association-init** | **association-maximum** | **call-cleanup** | **hanging-termination** | **media-idle** | **normal-execution** | **overload-threshold** | **pending-response** | **request** | **signaling-inactivity**} }

1.44.1 Purpose

Sets the virtual media gateway (VMG) timers for H.248 signaling activity.

1.44.2 Command Mode

MGC group configuration (global)

1.44.3 Syntax Description

association-init	Specifies the amount of time, in milliseconds, the MG waits for an association to initialize. If this timer is exceeded, the MG times out and generates an error message. The range of values is 1 to 300,000. The default value is 5000.
association-maximum	Specifies the amount of time, in milliseconds, the MG waits for a maximum association. If this timer is exceeded, the MG times out and generates an error message. The range of values is 1 to 300,000. The default value is 60,000.
call-cleanup	Configures the value of the timer for closing pinholes or calls on a virtual media gateway (VMG) when it cannot reconnect to the Media gateway controller (MGC). No notifications are sent to the MGC. You must specify a value, unless you use the **no** form of the command. The range of the timer value is 1 to 86,400 seconds, and the timer value must be greater than that of the H248-Link-Status Alarm timer. By default, autonomous pin-hole closing is disabled.
hanging-termination	Specifies the default value of timer for detecting hanging termination in seconds. The value 0 is a special case to disable detection. If no H.248 signaling message is exchanged for a termination within configured time, a message is sent to MG controller to notify about this termination. The range of values is 0 to 86400. The default value is 3600.
media-idle	Specifies the amount of time, in milliseconds, the MG waits for media inactivity. If this timer is exceeded, the MG times out and generates an error message. The range of values is 10 to 86,400. The default value is 10. The media idle timer value is used if the MGC does not specify a value while enabling an ipstop event.
normal-execution	Specifies the amount of time, in milliseconds, the MG waits for normal execution activity. If this timer is exceeded, the MG times out and generates an error message. This timer corresponds to the H.248.1 BaseRoot package property **normalMGExecutionTime**. The range of values is 1 to 10,000. The default value is 2000.
overload-threshold	Specifies the processing time threshold for MG overload protection. If the H.248 request includes an ADD action, and the time between receiving the request and sending this response exceeds the overload threshold, a notification of an H.248 overload control event is sent for each Add command in the original request, if the media gateway controller (MGC) has subscribed to the overload control event. The range of values is 1 to 300,000. By default, MG overload protection is disabled, and an MGC request for subscription to overload control events is rejected.
pending-response	Specifies the amount of time, in milliseconds, the MG waits for pending responses. If this timer is exceeded, the MG times out and generates an error message. This timer corresponds to the H.248.1 BaseRoot package property **MGProvisionalResponseTimerValue**. The range of values is 1 to 110000. The default value is 3000.
request	Specifies the amount of time, in milliseconds, the MG waits for requests. If this timer is exceeded, the MG times out and generates an error message. This timer corresponds to the H.248.1 **T-MAX** timer. It is added to the interval configured for the **maximum signaling-rtt** option to construct the H.248 “long timer,” which is used to determine how long transaction responses are cached for retransmission. The range of values is 1 to 300,000. The default value is 15,000.
signaling-inactivity	Specifies the amount of time, in milliseconds, the MG waits before timing out due to signaling inactivity. The range of values is 10 to 655,350. By default, signaling inactivity is disabled.
value	Value to use for the specified timer.

1.44.4 Default

The **no** form of the command will set all timers to their default values.

1.44.5 Usage Guidelines

Use the **timers** command to set the VMG timers for H.248 signaling activity. No error message is generated when these timers expire.

Note: The MG can be configured only when it has been administratively shut down.

Use the **no** form of this command to restore any MG timer to its default value.

1.44.6 Examples

The following example shows how to set the value for the normal execution timer:

```
[local]Redback(config-grp)#timers normal-execution 2100
```

The following example shows how to set the value for the pending response timer:

```
[local]Redback(config-grp)#timers pending-response 2200
```

The following example shows how to set the value for the request timer:

```
[local]Redback(config-grp)#timers request 10000
```

The following example shows how to set the value for the association initialization timer:

```
[local]Redback(config-grp)#timers association-init 1100
```

The following example shows how to set the value for the association maximum timer:

```
[local]Redback(config-grp)#timers association-maximum 11000
```

The following example shows how to set the value for the signaling inactivity timer:

```
[local]Redback(config-grp)#timers signaling-inactivity 10000
```

The following example shows how to trigger call cleanup processing 300 seconds after a link goes down:

```
[local]Redback(config-grp)#timers call-cleanup 300
```

Use the following command to set call cleanup to its default value, 0, which disables call cleanup when a link goes down:

```
[local]Redback(config-grp)#no timers call-cleanup
```

The following example shows how to set the value for the hanging termination timer:

```
[local]Redback(config-mg)#timers hanging-termination 10000
```

1.45 transaction-response-ack

transaction-response-ack {**count** *count* | **delay** *delay*}

no transaction-response-ack [**count** | **delay**]

1.45.1 Purpose

Specifies the behavior of the virtual media gateway (VMG) for sending transaction response acknowledgements to the media gateway controller (MGC).

1.45.2 Command Mode

MGC configuration (global)

1.45.3 Syntax Description

count ***count***	Sets the number of transaction responses the MG should receive before sending a transaction acknowledgement to the MGC. The range of values is 1 to 300.
delay ***delay***	Sets the time, in seconds, that the MG should wait before sending a transaction acknowledgement response to the MGC. The range of values is 1 to 30,000.

1.45.4 Default

The sending of transaction response acknowledgements is disabled.

1.45.5 Usage Guidelines

Use the **transaction-response-ack** command to specify the behavior of the MG for sending transaction response acknowledgements to the MGC. When transaction response acknowledgements are enabled, the acknowledgements are sent when either the count or the delay is reached.

Use the **no** form of this command to disable transaction response acknowledgements.

1.45.6 Examples

The following example shows how to configure MGC `mg2` so that it waits to receive `5` transaction responses or waits for `45` seconds before sending a transaction response acknowledgement:

```
[local]Redback(config-mg)#media-gateway-controller mg2

[local]Redback(config-mgc)#transaction-response-ack count 5

[local]Redback(config-mgc)#transaction-response-ack delay 45
```

1.46 transport

transport {**udp** | **tcp** | **sctp**}

transport

1.46.1 Purpose

Sets the transport protocol used to carry H.248 signaling messages between the virtual media gateway (VMG) and the media gateway controller (MGC).

1.46.2 Command Mode

MGC configuration (global)

1.46.3 Syntax Description

udp	Sets User Datagram Protocol (UDP) as the transport protocol.
tcp	Sets Transmission Control Protocol (TCP) as the transport protocol.
sctp	Sets Stream Control Transmission Protocol (SCTP) as the transport protocol.

1.46.4 Default

The transport protocol is SCTP.

1.46.5 Usage Guidelines

Use the **transport** command to set the transport protocol used to carry H.248 signaling messages between the VMG and the MGC.

Note: SCTP protocol is supported only on XCRP4 Controller cards.

Use the **no** form of this command to restore the default transport protocol.

1.46.6 Examples

The following example shows how to set TCP as the transport protocol for messages between the MG and MGC 2:

```
[local]Redback(config-mg)#media-gateway-controller 2

[local]Redback(config-mgc)#transport tcp
```