

SS7 Routing Domain Configuration Mode Commands

Command Modes

The SS7 Routing Domain configuration mode is used to configure Signaling System 7 (SS7) parameters. For convenience in configuration management, all SS7 parameters have been collected into a proprietary grouping called an *SS7 routing domains*.

Exec > Global Configuration > SS7 Routing Domain Configuration

configure > ss7-routing-domain *routing_domain_id* **variant** *variant_type*

Entering the above command sequence results in the following prompt:

`[local]`*`host_name`*`(config-ss7-routing-domain-`*`ss7rd_id`*`)#`

Important The commands or keywords/variables that are available are dependent on platform type, product version, and installed license(s).

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asp

This command creates or removes an M3UA Application Server Process (ASP) instance and enters the ASP configuration mode. See the *SGSN ASP Configuration Mode* chapter in the *Command Line Interface Reference* for command details.

Important In Release 20 and later, HNBGW is not supported. This command must not be used for HNBGW in Release 20 and later. For more information, contact your Cisco account representative.

Product

SGSN

HNB-GW

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > SS7 Routing Domain Configuration

configure > ss7-routing-domain *routing_domain_id* **variant** *variant_type*

Entering the above command sequence results in the following prompt:

`[local]host_name(config-ss7-routing-domain-ss7rd_id)#`

Syntax Description

asp instance *asp_inst*
no asp instance *asp_inst*
default asp instance *asp_inst* **end-point port**

no

Deletes the ASP instance for the SS7 routing domain configuration.

default

Sets the ASP instance parameters to the end-point port value of 2905.

instance *asp_inst*

Identifies a specific ASP configuration. Up to four ASP instances can be configured for a single SS7 routing domain.

asp_inst : instance must be an integer from 1 through 4. For SGSN with release 15.0, the instance must be an integer from 1 to 12.

Usage Guidelines

Use this command to create an ASP instance or enter the ASP configuration mode.

Example

The following command enters the ASP configuration mode for a specific ASP.

asp instance *1*

description

This command defines an alphanumeric string that describes the current SS7 routing domain. This is used for operator reference only.

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Command Modes

Exec > Global Configuration > SS7 Routing Domain Configuration

configure > ss7-routing-domain *routing_domain_id* **variant** *variant_type*

Entering the above command sequence results in the following prompt:

`[local]host_name(config-ss7-routing-domain-ss7rd_id)#`

Syntax Description

description *string*
no description

no

Removes the description string from the current SS7 routing domain configuration.

string

Specifies the alphanumeric string that is stored. Strings with spaces must be enclosed in double-quotes (see the example below).

string: Must be from 1 to 255 alphanumeric characters.

Usage Guidelines

Use this command to set a description for reference by operators.

Example

The following command sets the description to identify a routing domain for messages transmitted within a national boundary.

description *"National Service Routing Domain"*

do show

Executes all **show** commands while in Configuration mode.

Product

All

Privilege

Security Administrator, Administrator

Syntax Description

do show

Usage Guidelines Use this command to run all Exec mode **show** commands while in Configuration mode. It is not necessary to exit the Config mode to run a **show** command.

The pipe character | is only available if the command is valid in the Exec mode.



Caution There are some Exec mode **show** commands which are too resource intensive to run from Config mode. These include: **do show support collection**, **do show support details**, **do show support record** and **do show support summary**. If there is a restriction on a specific **show** command, the following error message is displayed:

```
Failure: Cannot execute 'do show support' command from Config mode.
```

end

Exits the current configuration mode and returns to the Exec mode.

Product All

Privilege Security Administrator, Administrator

Syntax Description **end**

Usage Guidelines Use this command to return to the Exec mode.

exit

Exits the current mode and returns to the parent configuration mode.

Product All

Privilege Security Administrator, Administrator

Syntax Description **exit**

Usage Guidelines Use this command to return to the parent configuration mode.

inbound-asp-identifier validate

This command enables validation of ASP identifiers inbound to the SGSN via routes defined with this SS7 routing domain.



Important This command is only available in Release 8.1 and higher releases.

Product SGSN

Privilege Security Administrator, Administrator

Command Modes Exec > Global Configuration > SS7 Routing Domain Configuration

configure > ss7-routing-domain *routing_domain_id* **variant** *variant_type*

Entering the above command sequence results in the following prompt:

`[local]host_name(config-ss7-routing-domain-ss7rd_id)#`

Syntax Description

```
inbound-asp-identifier validate
default inbound-asp-identifier validate
no inbound-asp-identifier validate
```

default

Validates the inbound ASP Id.

no

Disables validation of the inbound ASP Id.

Usage Guidelines The standard is to validate the ASP Id. However, in some circumstances it is necessary to skip such validation. For example, if the same ASP Id is assigned to more than one RNC (peer-server).

Example

Use the following command to skip validation of inbound ASP Ids:

```
no inbound-asp-identifier validate
```

Use either of the following commands to enable validation if it has been disabled:

```
default inbound-asp-identifier validate
inbound-asp-identifier validate
```

linkset

This command creates an instance of an MTP3 linkset and enters the Linkset configuration mode. See the Linkset configuration mode chapter for the commands to configure the linkset.

Important In Release 20 and later, HNBGW is not supported. This command must not be used for HNBGW in Release 20 and later. For more information, contact your Cisco account representative.

Product SGSN

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Command Modes

Exec > Global Configuration > SS7 Routing Domain Configuration

configure > ss7-routing-domain *routing_domain_id* **variant** *variant_type*

Entering the above command sequence results in the following prompt:

`[local]host_name(config-ss7-routing-domain-ss7rd_id)#`

Syntax Description

linkset id *id*
no linkset id *id*

no

Removes the identified linkset definition from the system configuration.

id

This value uniquely identifies a linkset for the specific SS7 routing domain.

id : Must be an integer of 1 to 49.

Usage Guidelines

This command creates instances of linkset configurations and provides access to the linkset configuration mode.

Example

Use the following command to create the 12th linkset:

linkset id *12*

MTU-size

This command has been deprecated.

peer-server

This command creates a peer-server instance to setup a SIGTRAN peer for sending and receiving M3UA traffic. Completing the command automatically enters the peer- server configuration mode. To define 1 or more (up to 145) peer servers, use the commands documented in the *Peer-Server Configuration Mode* chapter in this reference.



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Command Modes

Exec > Global Configuration > SS7 Routing Domain Configuration

configure > ss7-routing-domain *routing_domain_id* **variant** *variant_type*

Entering the above command sequence results in the following prompt:

`[local]host_name(config-ss7-routing-domain-ss7rd_id)#`

Syntax Description

peer-server id *srvr_id*
no peer-server id *srvr_id*

no

Removes the identified peer-server definition from the system configuration.

srvr_id

srvr_id uniquely identifies a peer-server. The id must be an integer from 1 to 144. For SGSN Release 15.0, the id must be an integer from 1 to 256.

Usage Guidelines

Use the following command to create a definition for peer-server 2 and enter the configuration mode to configure the communication parameters for peer-server 12.

Example

peer-server id *12*

route

This command configures SS7 routes for the current SS7 routing domain.

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Command Modes

Exec > Global Configuration > SS7 Routing Domain Configuration

configure > ss7-routing-domain *routing_domain_id* **variant** *variant_type*

Entering the above command sequence results in the following prompt:

`[local]host_name(config-ss7-routing-domain-ss7rd_id)#`

Syntax Description

route destination-point-code *dp_code* **{ linkset id** *id* **[priority** *pri_value* **] | peer-server-id** *srvr_id* **}**

no route destination-point-code *dp_code* **{ linkset id** *id* **| peer-server-id** *srvr_id* **}**

no

Removes the SS7 route from the current SS7 routing domain configuration.

destination-point-code *dp_code*

Specifies the SS7 destination point code for this route.

Reminder: the point-code structure must match the variant defined for the SS7 routing domain when the SS7RD was configured in the global configuration mode.

linkset id *id*

This keyword identifies a linkset instance, created and configured with the **linkset** command.

This keyword identifies a linkset instance, created and configured with the **linkset** command.

id : Must be an integer from 1 to 49.

peer-server-id *srvr_id*

This keyword identifies a peer-server configuration instance, created and configured with the **peer-server** command.

srvr_id must be an integer from 1 to 49.

Usage Guidelines

This command associates the previoiusly configured linksets and peer servers and the destination point codes with a specified SS7 route.

Example

Define a route setting an ITU-type destination point-code address for the linkset Id 12:

route destination-point-code *6.211.6* **linkset id** *12*

routing-context

Identifies the routing context for this SS7 routing domain.

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Command Modes

Exec > Global Configuration > SS7 Routing Domain Configuration

configure > ss7-routing-domain *routing_domain_id* **variant** *variant_type*

Entering the above command sequence results in the following prompt:

`[local]host_name(config-ss7-routing-domain-ss7rd_id)#`

Syntax Description

`routing-context` *`value`*
`default routing-context`

default

Resets the local routing context value to the index (instance ID) for this SS7 routing domain.

value

An integer that uniquely identifies the routing context for this SS7 routing domain.

value : Must be integers from 1 to 65535 (for releases 8.0) or 1 to 4294967295 (for releases 8.1 to 17.0) or 0 to 4294967295 (for releases 17.1 and higher) .

Usage Guidelines

Use this command to set the routing context IDs for a specific SS7 routing domain configuration.

Example

`routing-context` *`2355`*

ssf

This command sets the network indicator in the subservice field for SS7 message signal units (MSUs).

Important In Release 20 and later, HNBGW is not supported. This command must not be used for HNBGW in Release 20 and later. For more information, contact your Cisco account representative.

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Command Modes

Exec > Global Configuration > SS7 Routing Domain Configuration

configure > ss7-routing-domain *routing_domain_id* **variant** *variant_type*

Entering the above command sequence results in the following prompt:

`[local]host_name(config-ss7-routing-domain-ss7rd_id)#`

Syntax Description

`ssf ( international | national | reserved | spare }`

international

The network indicator identifies the message as international with a point code structure that does not match the national point code structure,

national

The network indicator identifies the messages as having a national point code structure.

reserved

Provides an alternate network indicator for national messages.

spare

Provides an alternate network indicator for international messages.

Usage Guidelines

In SS7 signaling, the Message Transfer Part (MTP) Level 2 message signal units (MSUs) contain a service information octet (SIO). The SIO field in an MSU contains a 4-bit subservice field (SSF) followed by a 4-bit service indicator. The indicator carried in the message's routing information typically identifies the structure of the point code as a message from within a nation or as a message coming from outside the nation - international. As well, the 4-bit SSF determines the point code structure of the messages transmitted from the SGSN.

Example

For messages being transmitted within a country, set the indicator to national with the following command.

```
ssf national
```