

Network Configuration Protocol Commands

This chapter includes commands to configure the Network Configuration (Netconf) Protocol. More details on the Netconf protocol and the Yang model, please see the *System Security Configuration Guide for Cisco NCS 5500 Series RoutersSystem Security Configuration Guide for Cisco NCS 540 Series RoutersSystem Security Configuration Guide*.

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netconf-yang agent rate-limit

To set the rate-limit for the netconf yang agent, use the **netconf-yang agent rate-limit** command in the appropriate mode. To delete the set rate-limit, use the **no** form of the command.

netconf-yang agent rate-limit *bytes*
no netconf-yang agent rate-limit *bytes*

Syntax Description

bytes	The number of bytes to process per second. Range is 4096-4294967295. It is based on the size of the request(s) from the client to the netconf server.

Command Default

By default, no limit is set

Command Modes

XR Config mode

Command History

Release	Modification
Release 7.0.1	This command was introduced.

Usage Guidelines

No specific guidelines impact the use of this command.

Use the **show netconf-yang rate-limit** command to check if the set limit is adequate.

Task ID

Task ID	Operation
config-services	read, write

Example

This example shows how to use the **netconf-yang agent rate-limit** command:

```
RP/0/RP0/CPU0:router # netconf-yang agent rate-limit 5000
```

clear netconf-yang agent rate-limit

To clear the set rate-limit statistics, use the **clear netconf-yang agent rate-limit** command in the appropriate mode.

clear netconf-yang agent rate-limit

Syntax Description

This command has no keywords or arguments.

Command Default

None

Command Modes

EXEC

Command History

Release	Modification
Release 7.0.1	This command was introduced.

Usage Guidelines

No specific guidelines impact the use of this command.

Task ID

Task ID	Operation
config-services	read, write

Example

This example shows how to use the **clear netconf-yang agent rate-limit** command:

```
RP/0/RP0/CPU0:router # clear netconf-yang agent rate-limit
```

clear netconf-yang agent session

To clear the specified netconf agent session, use the **clear netconf-yang agent session** in XR EXEC mode.

clear netconf-yang agent session *session-id*

Syntax Description

session-id	The session-id which needs to be cleared.

Command Default

None

Command Modes

XR EXEC mode

Command History

Release	Modification
Release 7.0.1	This command was introduced.

Usage Guidelines

No specific guidelines impact the use of this command.

The **show netconf-yang clients** command can be used to get the required session-id(s).

Task ID

Task ID	Operation
config-services	read, write

Example

This example shows how to use the **clear netconf-yang agent session** command:

```
RP/0/RP0/CPU0:router (config) #  clear netconf-yang agent session 32125
```

netconf-yang agent session

To set the session details (limits and timeouts) for a netconf-yang agent, use the **netconf-yang agent session** command in the appropriate mode. To remove the configured session limits and timeouts, use the **no** form of the command.

netconf-yang agent session { **limit** *value* | **absolute-timeout** *value* | **idle-timeout** *value* }
no netconf-yang agent session { **limit** *value* | **absolute-timeout** *value* | **idle-timeout** *value* }

Syntax Description

limit *value*	Sets the maximum count for concurrent netconf-yang sessions. Range is 1 to 1024.
absolute-timeout *value*	Enables session absolute timeout and sets the absolute session lifetime. Range is 1 to 1440. Unit is minutes.
idle-timeout *value*	Enables session idle timeout and sets the idle session lifetime. Range is 1 to 1440. Unit is minutes.

Command Default

By default, no limits are set

Command Modes

XR Config mode

Command History

Release	Modification
Release 7.0.1	This command was introduced.

Usage Guidelines

No specific guidelines impact the use of this command.

Task ID

Task ID	Operation
config-services	read, write

Example

This command shows how to use the **netconf-yang agent session** command:

```
RP/0/RP0/CPU0:router (config) #   netconf-yang agent session limit
```

netconf-yang agent ssh

To enable netconf agent over SSH (Secure Shell) , use the **netconf-yang agent ssh** command in XR Config mode. To disable netconf, use the **no** form of the command.

netconf-yang agent ssh

Syntax Description

This command has no keywords or arguments.

Command Default

None

Command Modes

XR Config mode

Command History

Release	Modification
Release 7.0.1	This command was introduced.

Usage Guidelines

SSH is currently the supported transport method for Netconf.

Task ID

Task ID	Operation
config-services	read, write

Examples

This example shows how to use the **netconf-yang agent ssh** command:

```
Router# configure
Router(config)#  netconf-yang agent ssh
```

show netconf-yang clients

To display the client details for netconf-yang, use the **show netconf-yang clients** command in XR EXEC mode.

show netconf-yang clients

Syntax Description This command has no keywords or arguments.

Command Default None

Command Modes XR EXEC mode

Command History

Release	Modification
Release 7.0.1	This command was introduced.

Usage Guidelines No specific guidelines impact the use of this command.

Task ID

Task ID	Operation
config-services	read

Example

This example shows how to use the **show netconf-yang clients** command:

```
RP/0/RP0/CPU0:router (config) #  sh netconf-yang clients
Netconf clients
client session ID|   NC version|    client connect time|        last OP time|        last
OP type|    <lock>|
 22969|                    1.1|          0d  0h  0m  2s|            11:11:24|
close-session|        No|
 15389|                    1.1|          0d  0h  0m  1s|            11:11:25|
get-config|        No|
```

Table 1: Field descriptions

Field name	Description
Client session ID	Assigned session identifier
NC version	Version of the Netconf client as advertised in the hello message
Client connection time	Time elapsed since the client was connected
Last OP time	Last operation time
Last OP type	Last operation type

Lock (yes or no)	To check if the session holds a lock on the configuration datastore

show netconf-yang rate-limit

To display the statistics of the total data dropped , due to the set rate-limit, use the **show netconf-yang rate-limit** command in the appropriate mode.

show netconf-yang rate-limit

Syntax Description This command has no keywords or arguments.

Command Default None

Command Modes EXEC

Command History

Release	Modification
Release 7.0.1	This command was introduced.

Usage Guidelines No specific guidelines impact the use of this command.

Task ID

Task ID	Operation
config-services	read

Example

This example shows how to use the **show netconf-yang rate-limit** command:

```
RP/0/RP0/CPU0:router # show netconf-yang rate-limit
rate-limit statistics
Total data dropped: 0 Bytes
```

show netconf-yang statistics

To display the statistical details for netconf-yang, use the **show netconf-yang statistics** command in XR EXEC mode.

show netconf-yang statistics

Syntax Description This command has no keywords or arguments.

Command Default None

Command Modes XR EXEC mode

Command History

Release	Modification
Release 7.0.1	This command was introduced.

Usage Guidelines No specific guidelines impact the use of this command.

Task ID

Task ID	Operation
config-services	read

Example

This example shows how to use the **show netconf-yang statistics** command:

```
RP/0/RP0/CPU0:router (config) #  sh netconf-yang statistics
Summary statistics
                        # requests|             total time|   min time per request|   max
 time per request|   avg time per request|
other                             0|       0h  0m  0s   0ms|       0h  0m  0s   0ms|
 0h  0m  0s   0ms|       0h  0m  0s   0ms|
close-session                     4|       0h  0m  0s   3ms|       0h  0m  0s   0ms|
 0h  0m  0s   1ms|       0h  0m  0s   0ms|
kill-session                      0|       0h  0m  0s   0ms|       0h  0m  0s   0ms|
 0h  0m  0s   0ms|       0h  0m  0s   0ms|
get-schema                        0|       0h  0m  0s   0ms|       0h  0m  0s   0ms|
 0h  0m  0s   0ms|       0h  0m  0s   0ms|
get                               0|       0h  0m  0s   0ms|       0h  0m  0s   0ms|
 0h  0m  0s   0ms|       0h  0m  0s   0ms|
get-config                        1|       0h  0m  0s   1ms|       0h  0m  0s   1ms|
 0h  0m  0s   1ms|       0h  0m  0s   1ms|
edit-config                       3|       0h  0m  0s   2ms|       0h  0m  0s   0ms|
 0h  0m  0s   1ms|       0h  0m  0s   0ms|
commit                            0|       0h  0m  0s   0ms|       0h  0m  0s   0ms|
 0h  0m  0s   0ms|       0h  0m  0s   0ms|
cancel-commit                     0|       0h  0m  0s   0ms|       0h  0m  0s   0ms|
 0h  0m  0s   0ms|       0h  0m  0s   0ms|
lock                              0|       0h  0m  0s   0ms|       0h  0m  0s   0ms|
 0h  0m  0s   0ms|       0h  0m  0s   0ms|
unlock                            0|       0h  0m  0s   0ms|       0h  0m  0s   0ms|
 0h  0m  0s   0ms|       0h  0m  0s   0ms|
```

```
discard-changes                     0|       0h  0m  0s   0ms|       0h  0m  0s   0ms|
 0h  0m  0s   0ms|       0h  0m  0s   0ms|
validate                            0|       0h  0m  0s   0ms|       0h  0m  0s   0ms|
 0h  0m  0s   0ms|       0h  0m  0s   0ms|
xml parse                           8|       0h  0m  0s   4ms|       0h  0m  0s   0ms|
 0h  0m  0s   1ms|       0h  0m  0s   0ms|
netconf processor                   8|       0h  0m  0s   6ms|       0h  0m  0s   0ms|
 0h  0m  0s   1ms|       0h  0m  0s   0ms|
```

Table 2: Field descriptions

Field name	Description
Requests	Total number of processed requests of a given type
Total time	Total processing time of all requests of a given type
Min time per request	Minimum processing time for a request of a given type
Max time per request	Maximum processing time for a request of a given type
Avg time per request	Average processing time for a request type

ssh server capability netconf-xml

To enable NETCONF reach XML subsystem via port 22, use the **ssh server capability netconf-xml** command in in the XR Config mode. Use **no** form of this command to disable NETCONF reach XML subsystem.

ssh server capability netconf-xml

Syntax Description

This command has no keywords or arguments.

Command Default

Port 22 is the default port.

Command History

Release	Modification
Release 7.0.1	This command was introduced.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes appropriate task IDs. If the user group assignment is preventing you from using a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operations
crypto	read, write

Examples

This example shows how to use the **ssh server capability netconf-xml** command:

```
Router# configure
Router(config)# ssh server capability netconf-xml
```

ssh server netconf port

To configure a port for the netconf SSH server, use the **ssh server netconf port** command in XR Config mode. To return to the default port, use the **no** form of the command.

ssh server netconf port *port number*

Syntax Description

port *port-number*	Port number for the netconf SSH server (default port number is 830).

Command Default

The default port number is 830.

Command Modes

XR Config mode

Usage Guidelines

Starting with IOS-XR 6.0.0 it is no longer sufficient to configure a netconf port to enable netconf subsystem support. ssh server netconf needs to be at least configured for one vrf.

Task ID

Task ID	Operations
crypto	read, write

Examples

This example shows how to use the ssh server netconf port command with port 831:

```
RP/0/RP0/CPU0:router# configure
RP/0/RP0/CPU0:router(config)# ssh
```

Related Commands

Command	Description
ssh server netconf	Configures the vrf(s), where netconf subsystem requests are to be received.
netconf-yang agent ssh	Configures the **ssh netconf-yang backend** for the netconf subsystem (Required to allow the system to service netconf-yang requests). For more information, see the *Cisco ASR 9000 Series Aggregation Services Router System Management Command Reference*.