



CNS Event Agent

Feature History

Release	Modification
12.2(2)T	This feature was introduced.
12.0(18)ST	This feature was integrated into Cisco IOS Release 12.0(18)ST.
12.0(22)S	This feature was integrated into Cisco IOS Release 12.0(22)S.

This feature module describes the CNS Event Agent feature. This feature module includes the following sections:

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- [Supported Platforms, page 2](#)
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Feature Overview

Cisco Networking Services (CNS) is a foundation technology for linking users to network services. CNS Software Developers Kit (SDK) accomplishes this linking by making applications network-aware and increasing the intelligence of the network elements. CNS SDK provides building blocks to a range of customers in market segments such as enterprise, service provider, independent software vendors, and system integrators.

The CNS Event Agent is part of the Cisco IOS infrastructure that allows Cisco IOS applications to publish and subscribe to events on a CNS Event Bus. CNS Event Agent works in conjunction with the CNS Configuration Agent feature.

Benefits

- Enables the full set of CNS Configuration Services.
- Opens up Cisco IOS applications to allow interoperability with third-party services that may exist on the CNS Event Bus.

Supported Platforms

CNS Event Agent is supported on the following platforms in Cisco IOS Release 12.2(2)T:

- Cisco 800 series
- Cisco 1400 series
- Cisco 1600 series
- Cisco 1700 series
- Cisco 2500 series
- Cisco 2600 series
- Cisco 3600 series (Cisco 3620, 3640, and 3660 platforms)
- Cisco 3800 series
- Cisco 4500
- Cisco 7100 series
- Cisco 7200 series
- Cisco 7500 series
- Cisco AS5300 series*
- Cisco AS5400*
- Cisco AS5800*

**Software images for Access Server platforms have not been released for version 12.2(2)T, but this feature is supported in any release based on 12.2 T that includes software images for Access Servers.*

CNS Event Agent is supported on the following platforms in Cisco IOS Release 12.0(18)ST (12.0.18-ST):

- Cisco 7500 series (RSP7000/7500)
- Cisco 7200 series
- Cisco 10000 series
- Cisco 10700 series
- Cisco 12000 series

CNS Event Agent is supported on the following platforms in Cisco IOS Release 12.0(22)S

- Cisco 7200 series
- Cisco 7500/RSP series
- Cisco 10000 series
- Cisco 10720
- Cisco 12000 series

Supported Standards, MIBs, and RFCs

Standards

None

MIBs

None

For descriptions of supported MIBs and how to use MIBs, see the Cisco MIB web site on CCO at <http://www.cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml>.

RFCs

None

Configuration Tasks

To configure the CNS Event Agent, use the following commands beginning in global configuration mode:

	Command	Purpose
Step 1	Router (config)# cns event	Configures the Event Gateway for CNS.
Step 2	Router# show cns event	Displays information about the CNS Event Agent.

Command Reference

This section documents new commands. All other commands used with this feature are documented in the Cisco IOS Release 12.2 command reference publications.

- [cns event](#)
- [debug cns event](#)
- [show cns event](#)

cns event

To configure the Cisco Networking Services (CNS) event gateway, which provides CNS event services to Cisco IOS clients, use the **cns event** command in global configuration mode. To remove the specified event gateway from the gateway list, use the **no** form of this command.

```
cns event {host-name | ip-address} [port-number] [encrypt] [backup] [failover-time seconds]
[keepalive seconds retry-count] [source ip-address] [clock-timeout time] [reconnect time]
```

```
no cns event {host-name | ip-address} [port-number] [encrypt] [backup] [failover-time seconds]
[keepalive seconds retry-count] [source ip-address] [clock-timeout time] [reconnect time]
```

Syntax Description

<i>host-name</i>	Hostname of the event gateway.
<i>ip-address</i>	IP address of the event gateway.
<i>port-number</i>	(Optional) Port number for the event gateway. The default is 11011 with no encryption or 11012 with encryption.
encrypt	(Optional) Uses a Secure Sockets Layer (SSL) encrypted link to the event gateway.
backup	(Optional) Indicates a backup gateway. If omitted, indicates the primary gateway. A primary gateway must be configured before you can configure a backup gateway. Optional keywords, if omitted, are set as for the primary gateway.
failover-time <i>seconds</i>	(Optional) Specifies a time interval, in seconds, to wait for the primary gateway route after the route to the backup gateway is established. The default is 3.
keepalive <i>seconds</i> <i>retry-count</i>	(Optional) Specifies a keepalive timeout, in seconds, and retry count.
source <i>ip-address</i>	(Optional) Indicates the IP address of the source for CNS communications.
clock-timeout <i>time</i>	(Optional) Specifies the maximum time, in minutes, that the CNS event agent will wait for the clock to be set for transports (such as SSL) that require an accurate clock. The default is 10 minutes.
reconnect <i>time</i>	(Optional) Specifies the configurable upper limit of the maximum retry timeout. The valid range is 1 through 65535. The default is 3600.

Command Default

The event gateway default port number is 11011 with no encryption or 11012 with encryption.
The default number of seconds to wait for a primary gateway route is 3.
The clock timeout default is 10 minutes.
The reconnection time default is 3600 seconds.

Command Modes

Global configuration

Command History

Release	Modification
12.2(2)T	This command was introduced.
12.0(18)ST	This command was integrated into the Cisco IOS Release 12.0(18)ST.
12.0(22)S	This command was integrated into Cisco IOS Release 12.0(22)S.
12.2(2)XB	This command was implemented on Cisco IAD2420 series Integrated Access Devices (IADs).
12.2(8)T	The encrypt , init-retry , source , and force-fmt1 keywords were added.
12.3	The reconnect-time keyword was added.
12.3(1)	The init-retry keyword was replaced with the failover-time keyword. The force-fmt1 keyword was removed. The clock-timeout keyword was added.

Usage Guidelines

The CNS event agent must be enabled before any of the other CNS agents are configured because the CNS event agent provides a transport connection to the CNS Event Bus for all other CNS agents. The other CNS agents use the connection to the CNS Event Bus to send and receive messages. The CNS event agent does not read or modify the messages.

The **failover-time** keyword is useful if you have a backup CNS event gateway configured. If the CNS event agent is trying to connect to the gateway and it discovers that the route to the backup is available before the route to the primary gateway, the *seconds* argument specifies how long the CNS event agent will continue to search for a route to the primary gateway before attempting to link to the backup gateway.

Unless you are using a bandwidth-constrained link, you should set a keepalive timeout and retry count. Doing so allows the management network to recover gracefully should a Cisco IE2100 configuration engine fail. Without the keepalive data, such a failure requires manual intervention on every device. The *seconds* multiplied by the *retry-count* determines the length of idle time before the CNS event agent will disconnect and attempt to reconnect to the gateway. Cisco recommends a minimum *retry-count* of 2.

If the optional **source** keyword is used, the source IP address might be a secondary IP address of a specific interface to allow a management network to run on top of a production network.

If network connectivity between the Cisco IOS router running the CNS Event Agent and the gateway is absent, the Event Agent goes into an exponential backoff retry mode and gets stuck at the maximum limit (which may be hours). The **reconnect-time** keyword allows a configurable upper limit of the maximum retry timeout.

Examples

The following example shows how to set the address of the primary CNS event gateway to the configuration engine software running on IP address 10.1.2.3, port 11011, with a keepalive of 60 seconds and a retry count of 5:

```
Router(config)# cns event 10.1.2.3 11011 keepalive 60 5
```

Related Commands

Command	Description
cns id	Sets the unique event ID or config ID router identifier.
show cns event status	Displays status information about the CNS event agent.

debug cns event

To turn on debug messages related to the Cisco Networking Services (CNS) Event Gateway, use the **debug cns event** command in EXEC mode. To turn off the debug messages related to the Event Gateway, use the **no** version of this command.

```
debug cns event {all | subscriber | agent | connection}
```

```
no debug cns event {all | subscriber | agent | connection}
```

Syntax Description

all	Logs all debug messages about the Event Gateway.
subscriber	Logs messages about the event subscriber.
agent	Logs messages about the Event Agent.
connection	Logs messages about connections to the gateway.

Defaults

No default behavior or values.

Command Modes

EXEC

Command History

Release	Modification
12.2(2)T	This command was introduced.
12.0(18)ST	This command was integrated into Cisco IOS Release 12.0(18)ST.
12.0(22)S	This command was integrated into Cisco IOS Release 12.0(22)S.

Usage Guidelines

Use this command to turn on or turn off debug messages related to the Event Gateway.

Related Commands

Command	Description
cns event	Configures the CNS Event Gateway.
show cns event	Displays information about the CNS Event Agent.

show cns event

To display information about the Cisco Networking Services (CNS) Event Agent, use the **show cns event** command in EXEC mode.

```
show cns event {status | subject [name] | gateway | stats}
```

Syntax	Description
status	<p>Displays the following status information:</p> <ul style="list-style-type: none"> • Status of Event Agent: <ul style="list-style-type: none"> – Connected – Active • Gateway used by the Event Agent: <ul style="list-style-type: none"> – IP address – Port number – Device ID
subject	Displays a list of subjects that are subscribed to by applications.
<i>name</i>	(Optional) Displays a list of applications that are subscribing to this specific subject name.
gateway	<p>Displays the following information of the gateways:</p> <ul style="list-style-type: none"> • Primary gateway: <ul style="list-style-type: none"> – IP address – Port number • Backup gateways: <ul style="list-style-type: none"> – IP address – Port number • Currently connected gateway: <ul style="list-style-type: none"> – IP address – Port number
stats	<p>Displays the following statistics for the Event Agent:</p> <ul style="list-style-type: none"> • Number of events received • Number of events sent • Number of events not processed successfully • Number of events in the queue • Time stamp of latest event received (time stamp is router time) • Time stamp of latest event sent • Number of applications using the Event Agent • Number of subjects subscribed

■ show cns event

Defaults No default behavior or values.

Command Modes EXEC

Command History	Release	Modification
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	12.0(18)ST	This command was integrated into Cisco IOS Release 12.0(18)ST.
	12.0(22)S	This command was integrated into Cisco IOS Release 12.0(22)S.

Usage Guidelines Use this command to display information about the Event Agent.

Related Commands	Command	Description
	<code>cns event</code>	Configures the CNS Event Gateway.
