Cisco Networking Services Enhanced Results Message

The Cisco Networking Services Enhanced Results Message feature sends a second Cisco Networking Services result message to the subject "cisco.cns.config.results" in addition to the Cisco Networking Services results messages sent to the Cisco Networking Services Event bus after a partial configuration is complete.

The Cisco Networking Services enhanced results message contains both overall and line-by-line information about the configuration that was sent and the result of the action requested in the original message.

Finding Feature Information

Your software release may not support all the features documented in this module. For the latest caveats and feature information, see Bug Search Tool and the release notes for your platform and software release. To find information about the features documented in this module, and to see a list of the releases in which each feature is supported, see the feature information table at the end of this module.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to www.cisco.com/go/cfn. An account on Cisco.com is not required.

Information About Cisco Networking Services Enhanced Results Message

Cisco Networking Services Results Messages

When a partial configuration has been received by the device, each line of the configuration will be applied in the same order as it was received. If the Cisco parser has an error with one of the lines of the configuration,

then all the configuration up to this point will be applied to the device, but none of the configuration beyond the error will be applied. If an error occurs, the **cns config partial** command will retry until the configuration successfully completes. In the pull mode, the command will not retry after an error. By default, NVRAM will be updated except when the **no-persist** keyword is configured.

A message will be published on the Cisco Networking Services event bus after the partial configuration is complete. The Cisco Networking Services event bus will display one of the following status messages:

- cisco.mgmt.cns.config.complete—Cisco Networking Services configuration agent successfully applied the partial configuration.

- cisco.mgmt.cns.config.warning—Cisco Networking Services configuration agent fully applied the partial configuration, but encountered possible semantic errors.

- cisco.mgmt.cns.config.failure (CLI syntax)—Cisco Networking Services configuration agent encountered a command line interface (CLI) syntax error and was not able to apply the partial configuration.

- cisco.mgmt.cns.config.failure (CLI semantic)—Cisco Networking Services configuration agent encountered a CLI semantic error and was not able to apply the partial configuration.

With the CNS Enhanced Results Messages feature, a second message is sent to the subject "cisco.cns.config.results" in addition to the appropriate message above. The second message contains both overall and line-by-line information about the configuration that was sent and the result of the action requested in the original message. If the action requested was to apply the configuration, then the information in the results message is semantic in nature. If the action requested was to check syntax only, then the information in the results message is syntactical in nature.

How to Configure Cisco Networking Services Enhanced Results Message

Configuring the Cisco Networking Services Event and EXEC Agents

SUMMARY STEPS

1. **enable**
2. **configure   terminal**
3. **cns config partial** {*host-name* | *ip-address*} [**encrypt**] [*port-number*] [**source** *interface name*] [**inventory**]
4. **logging cns-events** [*severity-level*]
5. **cns exec** [**encrypt**] [*port-number*] [**source** {*ip-address* | *interface-type-number*}]
6. **cns event** {*hostname* | *ip-address*} [**encrypt**] [*port-number*] [**backup**] [**failover-time** *seconds*] [**keepalive** *seconds retry-count*] [**source** *ip-address* | *interface-name*][**clock-timeout** *time*] [**reconnect-time** *time*]
7. **exit**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**enable**	Enables privileged EXEC mode.

	Command or Action	Purpose
	Example: `Device> enable`	• Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.

Step 3	**cns config partial** {*host-name* | *ip-address*} [**encrypt**] [*port-number*] [**source** *interface name*] [**inventory**]
	Example:
	
	`Device(config)# cns config partial 172.28.129.22`
	`80`
		(Optional) Starts the Cisco Networking Services configuration agent, which provides Cisco Networking Services configuration services to Cisco clients, and initiates an incremental (partial) configuration.
		
		• Use the optional *port-number* argument to specify the port number for the configuration server. The default is 80.
		
		• Use the optional **source** keyword and *ip-address* argument to specify the use of an IP address as the source for Cisco Networking Services configuration agent communications.
		
		• Use the optional **inventory** keyword to send an inventory of the linecards and modules in the device to the Cisco Networking Services configuration engine as part of the HTTP request.
		
		Note The optional **encrypt** keyword is available only in images that support SSL.

Step 4	**logging cns-events** [*severity-level*] **Example:** `Device(config)# logging cns-events 2`	(Optional) Enables XML-formatted system event message logging to be sent through the Cisco Networking Services event bus. • Use the optional *severity-level* argument to specify the number or name of the desired severity level at which messages should be logged. The default is level 7 (debugging).
Step 5	**cns exec** [**encrypt**] [*port-number*] [**source** {*ip-address* | *interface-type-number*}] **Example:** `Device(config)# cns exec source 172.17.2.2`	(Optional) Enables and configures the Cisco Networking Services EXEC agent, which provides Cisco Networking Services EXEC services to Cisco clients. • Use the optional *port-number* argument to specify the port number for the EXEC server. The default is 80. • Use the optional **source** keyword and *ip-address*/*interface-type number* argument to specify the use of an IP address as the source for Cisco Networking Services EXEC agent communications.

	Command or Action	Purpose
		Note The optional **encrypt keyword** is available only in images that support SSL.
Step 6	**cns event** {*hostname* | *ip-address*} [**encrypt**] [*port-number*] [**backup**] [**failover-time** *seconds*] [**keepalive** *seconds retry-count*] [**source** *ip-address* | *interface-name*][**clock-timeout** *time*] [**reconnect-time** *time*] **Example:** `Device(config)# cns event 172.28.129.22 source 172.22.2.1`	Configures the Cisco Networking Services event gateway, which provides Cisco Networking Services event services to Cisco clients. • The optional **encrypt** keyword is available only in images that support SSL. • Use the optional *port-number* argument to specify the port number for the event server. The default is 11011 with no encryption and 11012 with encryption. • Use the optional **backup** keyword to indicate that this is the backup gateway. Before configuring a backup gateway, ensure that a primary gateway is configured. • Use the optional **failover-time** keyword and *seconds* argument to specify a time interval in seconds to wait for the primary gateway route after the route to the backup gateway is established. • Use the optional **keepalive** keyword with the *seconds* and *retry-count* arguments to specify the keepalive timeout in seconds and the retry count. • Use the optional **source** keyword and *ip-address*/*interface-name* argument to specify the use of an IP address as the source for Cisco Networking Services event agent communications. • Use the optional **clock-timeout** keyword to specify the maximum time, in minutes, that the Cisco Networking Services event agent will wait for the clock to be set for transports (such as SSL) that require an accurate clock. • Use the optional **reconnect-time** keyword to specify the configurable upper limit of the maximum retry timeout. **Note** Until the **cns event** command is entered, no transport connections to the Cisco Networking Services event bus are made and therefore no other Cisco Networking Services agents are operational.
Step 7	**exit** **Example:** `Device(config)# exit`	Exits global configuration mode and returns to privileged EXEC mode.

Troubleshooting Tips

- Use the **show cns event connections** command to check that the Cisco Networking Services event agent is connected to the Cisco Networking Services event gateway.

- Use the **show cns event subject** command to check that the image agent subject names are registered. Subject names for the Cisco Networking Services image agent begin with cisco.mgmt.cns.image.

Configuration Examples for Cisco Networking Services Enhanced Results Message

Example: Configuring a Partial Configuration

Incremental or partial configuration allows the remote device to be incrementally configured after its initial configuration. You must perform these configurations manually through the Cisco Networking Services configuration engine. The registrar allows you to change the configuration templates, edit parameters, and submit the new configuration to the device without a software or hardware restart.

The following example shows incremental (partial) configuration on a remote device. The Cisco Networking Services configuration engine IP address is 172.28.129.22, and the port number is 80.

```
cns config partial 172.28.129.22 80
```

Additional References

Related Documents

Related Topic	Document Title
Cisco IOS commands	Cisco IOS Master Commands List, All Releases
Cisco Networking Services commands: complete command syntax, command mode, command history, defaults, usage guidelines, and examples	Cisco IOS Cisco Networking Services Command Reference
Cisco Networking Services Configuration Engine	Cisco CNS Configuration Engine Administrator Guide, 1.3

Technical Assistance

Description	Link
The Cisco Support and Documentation website provides online resources to download documentation, software, and tools. Use these resources to install and configure the software and to troubleshoot and resolve technical issues with Cisco products and technologies. Access to most tools on the Cisco Support and Documentation website requires a Cisco.com user ID and password.	http://www.cisco.com/cisco/web/support/index.html

Feature Information for Cisco Networking Services Enhanced Results Message

The following table provides release information about the feature or features described in this module. This table lists only the software release that introduced support for a given feature in a given software release train. Unless noted otherwise, subsequent releases of that software release train also support that feature.

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Table 1: Feature Information for Cisco Networking Services Enhanced Results Message

Feature Name	Releases	Feature Information
Cisco Networking Services Enhanced Results Message	Cisco IOS XE Release 3.8S 12.2(33)SRA 12.4(4)T	The Cisco Networking Services Enhanced Results Message feature sends a second Cisco Networking Services result message to the subject "cisco.cns.config.results" in addition to the Cisco Networking Services results messages sent to the Cisco Networking Services Event bus after a partial configuration is complete. The following command was modified by this feature: **cns config partial**.