



SSG Service Profile Caching

The SSG Service Profile Caching feature enhances the authentication process for Service Selection Gateway services by allowing users to authenticate a service using the service profile cached in SSG.

When SSG Service Profile Caching is not enabled, an authentication, authorization, and accounting (AAA) transaction is required to download a service profile each time an SSG subscriber logs onto the service. The other SSG subscribers already logged onto the service also have their service parameters automatically refreshed as a result of this AAA transaction. In many cases, this automatic refresh causes unnecessary traffic in SSG and on the AAA server.

Feature History for the SSG Service Profile Caching Feature

Release	Modification
12.2(15)B	This feature was introduced.
12.3(4)T	This feature was integrated into Cisco IOS Release 12.3(4)T

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Prerequisites for SSG Service Profile Caching

SSG must be configured. For a list of prerequisites for SSG, see the “Prerequisites” section of the *Service Selection Gateway* document.

Information About SSG Service Profile Caching

To configure SSG Service Profile Caching, you should understand the following concepts:

- [How SSG Service Profile Caching Works, page 2](#)
- [Benefits of SSG Service Profile Caching, page 2](#)

How SSG Service Profile Caching Works

The SSG Service Profile Caching feature creates a cache of service profiles in SSG. A service profile is downloaded from the AAA server and then stored in the SSG service profile cache as a Service-Info object. Subsequent SSG subscribers hoping to use that service are authorized by the SSG service profile cache, provided that the service profile remains in the cache.

To ensure that the service profiles in the SSG service profile cache are regularly updated, the SSG service profile cache automatically refreshes the service profiles by downloading the service profiles from the AAA server at user-configured intervals (the default is every 120 minutes). SSG service profile caches can also be refreshed at any time by user action. Service profiles that are not being used by any SSG subscriber are removed from the SSG service profile cache.

Benefits of SSG Service Profile Caching

Additional AAA Server Resources

SSG service profile caching significantly reduces the number of SSG transactions with the AAA server, thereby freeing the AAA server from processing these transactions and freeing AAA server resources for other purposes.

Additional Bandwidth for SSG and the AAA Server

Because the SSG Service Profile Caching feature eliminates traffic used for authorizing users for service logon from the AAA server, additional bandwidth for SSG and the AAA server is available.

How to Configure SSG Service Profile Caching

This section contains the following procedures:

- [Enabling SSG Service Profile Caching, page 3](#)
- [Changing the SSG Service Profile Caching Refresh Interval, page 3](#)
- [Refreshing the SSG Service Profile Cache Manually, page 4](#)
- [Verifying SSG Service Profile Caching and Refresh: Example, page 7](#)

Enabling SSG Service Profile Caching

SSG service profile caching is enabled by default. If SSG service profile caching has been disabled, it can be re-enabled using the commands described in this section.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **use the `ssg service-cache` command**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Router> enable	Enables higher privilege levels, such as privileged EXEC mode. • Enter your password if prompted.
Step 2	configure terminal Example: Router# configure terminal	Enters global configuration mode.
Step 3	ssg service-cache Example: Router(config)# ssg service-cache	Enables caching of service profiles. Upon entering the command, all service profiles currently being used by SSG are cached in SSG. SSG service profiles are cached by default, so this command must be entered only if service profile caching has been disabled and has to be re-enabled.

Changing the SSG Service Profile Caching Refresh Interval

An SSG service profile refreshes by getting the service profile in the SSG service profile cache from the AAA server. The SSG service profile cache has a default refresh interval of 120 minutes. Use the commands in this section to change the refresh interval.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ssg service-cache refresh-interval *minutes***

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Router> enable	Enables higher privilege levels, such as privileged EXEC mode. • Enter your password if prompted.
Step 2	configure terminal Example: Router# configure terminal	Enters global configuration mode.
Step 3	ssg service-cache refresh-interval <i>minutes</i> Example: Router(config)# ssg service-cache refresh-interval 160	Changes the refresh interval of the SSG service profile cache. The refresh interval is expressed in minutes. The refresh interval can be configured at any one-minute interval between 10 minutes and 34,560 minutes (24 days). The default refresh interval is 120 minutes.

Refreshing the SSG Service Profile Cache Manually

An SSG service profile refreshes by getting the service profile from the AAA server. The SSG service profile cache can be refreshed manually at any time by entering the command in this section.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ssg service-cache refresh** [*service-name* | **all**]

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Router> enable	Enables higher privilege levels, such as privileged EXEC mode. • Enter your password if prompted.
Step 2	configure terminal Example: Router# configure terminal	Enters global configuration mode.
Step 3	ssg service-cache refresh [<i>service-name</i> all] Example: Router> ssg service-cache refresh servicel	Causes the SSG service profile cache to be refreshed. The <i>service-name</i> variable specifies a specific SSG service profile in the service profile cache to refresh. The all option specifies that all service profiles in the service profile cache be refreshed.

Verifying SSG Service Profile Caching

Use the commands in this section to verify the SSG Service Profile Caching feature.

SUMMARY STEPS

4. **show ssg service** *service-name*
5. **show running-config**

DETAILED STEPS

	Command or Action	Purpose
Step 1	show ssg service <i>service-name</i> Example: Router> show ssg service servicel	Displays various information about an SSG service, including the time remaining for the specified service to refresh.
Step 2	show running-config Example: Router# show running-config	Displays the running configuration. If no SSG service profile caching information is show in the running configuration output, SSG service profile caching is enabled since it is on by default. If SSG service profile caching has been disabled, the no ssg service-cache command should be visible in the show running-config output.

How to Monitor and Maintain SSG Service Profile Caching

The command in this section can be used to monitor information relevant to the SSG Service Profile Caching feature.

SUMMARY STEPS

1. use the `show ssg service` command
2. use the `show ssg service service-name` command

DETAILED STEPS

	Command or Action	Purpose
Step 1	<pre>show ssg service</pre> <p>Example: Router> show ssg service</p>	Displays which services are currently being used by SSG and are, therefore, part of the SSG service profile cache if SSG service profile caching is enabled.
Step 2	<pre>show ssg service <i>service-name</i></pre> <p>Example: Router> show ssg service servicel</p>	Displays various information about an SSG service, including the time remaining for the specified service to refresh.

Configuration Examples for SSG Service Profile Caching

- [Enabling SSG Service Profile Caching: Example, page 7](#)
- [Changing the SSG Service Profile Cache Refresh Interval: Example, page 7](#)
- [Refreshing the SSG Service Profile Cache Manually: Example, page 7](#)
- [Verifying SSG Service Profile Caching and Refresh: Example, page 7](#)

Enabling SSG Service Profile Caching: Example

In the following example, the caching of SSG service profiles is enabled:

```
Router(config)# ssg service-cache enable
```

Changing the SSG Service Profile Cache Refresh Interval: Example

In the following example, the SSG service profile cache will refresh by getting all of the service profiles in the SSG service profile cache from the AAA server every 240 minutes:

```
Router(config)# ssg service-cache refresh-interval 240
```

Refreshing the SSG Service Profile Cache Manually: Example

Refreshing All SSG Service Profiles

In the following example, all of the service profiles in the SSG service profile cache will be retrieved from the AAA server and will replace the service profiles in the SSG service profile cache:

```
Router# ssg service-cache refresh all
```

Refreshing a Specific SSG Service Profile

In the following example, service profile service1 will be retrieved from the AAA server and will replace the current service1 profile in the SSG service profile cache:

```
Router# ssg service-cache refresh service1
```

Verifying SSG Service Profile Caching and Refresh: Example

The **show ssg service** command is used to verify SSG service profile caching and the time remaining until the next SSG service profile cache refresh. The “Service Refresh timeleft” output shows how much time remains until the next SSG service profile cache refresh. If this field is not displayed in the **show ssg service** output, SSG service profile caching is not enabled.

```
Router# show ssg service passthru0
----- ServiceInfo Content -----
Uplink IDB:Ethernet2/2 gw:0.0.0.0
Name:passthru0
Type:PASS-THROUGH
Mode:CONCURRENT
Service Session Timeout:0 seconds
Service Idle Timeout:0 seconds
Service refresh timeleft:57 minutes
<cut>
```

Additional References

The following sections provide references related to the SSG Service Profile Caching feature.

Related Documents

Related Topic	Document Title
SSG commands	<i>Cisco IOS Wide-Area Networking Command Reference</i> , Release 12.3 T
SSG configuration tasks	<p><i>Service Selection Gateway</i>, 12.3(4)T new-feature document</p> <p><i>Service Selection Gateway Accounting Update Interval per Service</i>, 12.2(13)T new-feature document</p> <p><i>Service Selection Gateway Hierarchical Policing</i>, 12.2(13)T new-feature document</p> <p><i>SSG AutoDomain</i>, 12.2(13)T new-feature document</p> <p><i>SSG Autologoff Enhancement</i>, 12.3(4)T new-feature document</p> <p><i>SSG Autologon Using Proxy Radius</i>, 12.2(13)T new-feature document</p> <p><i>SSG Autologoff</i>, 12.2(13)T new-feature document</p> <p><i>SSG Proxy for CDMA2000</i>, 12.3(4)T new-feature document</p> <p><i>SSG Direction Configuration for Interfaces and Ranges</i>, 12.3(4)T new-feature document</p> <p><i>SSG EAP Transparency</i>, 12.3(4)T new-feature document</p> <p><i>SSG L2TP Dial-Out</i>, 12.3(4)T new-feature document</p> <p><i>SSG Open Garden</i>, 12.2(13)T new-feature document</p> <p><i>SSG Port-Bundle Host Key</i>, 12.2(13)T new-feature document</p> <p><i>SSG Prepaid</i>, 12.2(13)T new-feature document</p> <p><i>SSG Prepaid Idle Timeout</i>, 12.3(4)T new-feature document</p> <p><i>SSG Service Profile Caching</i>, 12.3(4)T new-feature document</p> <p><i>SSG Suppression of Unused Accounting Records</i>, 12.3(4)T new-feature document</p> <p><i>SSG TCP Redirect for Services</i>, 12.2(13)T new-feature document</p> <p><i>SSG Unconfig</i>, 12.3(4)T new-feature document</p> <p><i>SSG Unique Session ID</i>, 12.3(4)T new-feature document</p>
SESM	<p><i>Cisco Subscriber Edge Services Manager and Subscriber Policy Engine Installation and Configuration Guide</i></p> <p><i>Cisco Service Selection Dashboard Installation and Configuration Guide</i></p> <p><i>Cisco Service Selection Dashboard Web Developer Guide</i></p>

Related Topic	Document Title
RADIUS commands	<i>Cisco IOS Security Command Reference</i> , Release 12.3 T
RADIUS configuration tasks	<i>Cisco IOS Security Configuration Guide</i>

Standards

Standards	Title
No new or modified standards are supported by this feature. Support for existing standards has not been modified by this feature.	—

MIBs

MIBs	MIBs Link
No new or modified MIBs are supported by this feature. Support for existing MIBs has not been modified by this feature.	To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL: http://www.cisco.com/go/mibs

RFCs

RFCs	Title
No new or modified RFCs are supported by this feature. Support for existing RFCs has not been modified by this feature.	—

Technical Assistance

Description	Link
Technical Assistance Center (TAC) home page, containing 30,000 pages of searchable technical content, including links to products, technologies, solutions, technical tips, and tools. Registered Cisco.com users can log in from this page to access even more content.	http://www.cisco.com/public/support/tac/home.shtml

Command Reference

This section documents new commands. All other commands used with this feature are documented in the Cisco IOS Release 12.3 T command reference publications.

- [ssg service-cache](#)
- [ssg service-cache refresh](#)

ssg service-cache

To enable the SSG Service Profile Caching feature, or to change the refresh interval for services in the service profile cache, use the **ssg service-cache** command in global configuration mode. To disable Service Selection Gateway (SSG) service profile caching, use the **no** form of this command.

```
ssg service-cache [refresh-interval minutes]
```

```
no ssg service-cache [refresh-interval minutes]
```

Syntax Description

refresh-interval	(Optional) Changes the refresh rate for the SSG service profile cache. An SSG service profile refreshes by getting the service profile from the AAA server. If the refresh-interval argument is not entered, the default refresh rate of every 120 minutes is used.
<i>minutes</i>	(Optional) Specifies how often, in minutes, the service profiles in the SSG service profile cache will be refreshed. For instance, if the <i>minutes</i> option is set as 180, the SSG service profile cache will check the AAA server for the service profiles in the cache every 180 minutes. The refresh interval can be configured at any one-minute interval between 10 minutes and 34,560 minutes (24 days). The default is every 120 minutes.

Defaults

SSG service profile caching is enabled by default.

The default refresh interval for the SSG service profile cache is every 120 minutes.

Command Modes

Global configuration

Command History

Release	Modification
12.2(15)B	This command was introduced.
12.3(4)T	This command was integrated into Cisco IOS Release 12.3(4)T.

Usage Guidelines

The **ssg service-cache** command is used to enable SSG service profile caching. A refresh interval does not have to be specified (the default of 120 minutes will be used if no refresh interval is configured).

This command enhances the authentication process for SSG service logon by allowing users to authorize to a service using a service profile cached in SSG instead of downloading the service profile from the AAA server.

When this command is entered, all of the service profiles currently in use in SSG are immediately cached.

Examples

In the following example, SSG service profile caching is enabled:

```
Router(config)# ssg service-cache enable
```

In the following example, the service profiles in the SSG service profile cache will be updated from the AAA server every 240 minutes:

```
Router# configure terminal
Router(config)# ssg service-cache refresh-interval 240
```

Related Commands

Command	Description
show ssg service	Displays services that are currently being used by SSG and are, therefore, part of the SSG service profile cache if SSG Service Profile Caching is enabled.
show ssg service	Displays various information about an SSG service, including the time remaining for the specified service to refresh.
ssg service-cache refresh	Manually updates the SSG service profile cache with the service profiles available on the AAA server.

ssg service-cache refresh

To trigger an update the Service Selection Gateway service profile cache with the service profiles available on the AAA server, use the **ssg service-cache refresh** command in privileged EXEC mode.

```
ssg service-cache refresh [service-name | all]
```

```
no ssg service-cache refresh [service-name | all]
```

Syntax Description

<i>service-name</i>	(Required to refresh one SSG service profile in the SSG service profile cache.) Specifies that a specific service should be refreshed.
all	(Required to refresh all SSG profiles in the SSG profile cache.) Specifies that all of the service profiles in the SSG service profile cache should be refreshed.

Defaults

The SSG service profile cache, if enabled, is refreshed at intervals based on the **ssg service-cache refresh-interval** configuration. If an **ssg service-cache refresh-interval** is not specified, the default refresh rate is every 120 minutes.

Command Modes

Privileged EXEC

Command History

Release	Modification
12.2(15)B	This command was introduced.
12.3(4)T	This command was integrated into Cisco IOS Release 12.3(4)T.

Usage Guidelines

This command is used to refresh the profiles in the SSG service profile cache manually from the AAA server. The service profiles in the SSG service profile cache are automatically refreshed with the profiles from the AAA server at user-configurable intervals using the **ssg service-cache refresh-interval** command. The user can trigger a refresh at any time by issuing this command.

If an SSG service cache refresh fails for any reason (for instance, the AAA server is unreachable or down), the service profile caching for that service is disabled. Once a user is able to download the service successfully, caching for the service begins again.

Examples

In the following example, all of the service profiles in the SSG service profile cache will be retrieved from the AAA server and will replace the service profiles in the SSG service profile cache:

```
Router# ssg service-cache refresh all
```

In the following example, service profile service1 will be retrieved from the AAA server and will replace the current service1 profile in the SSG service profile cache:

```
Router# ssg service-cache refresh service1
```

Related Commands

Command	Description
ssg service-cache	Enables SSG service profile caching.

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