



RADIUS Attribute 5 (NAS-Port) Format Specified on a Per-Server Group Level

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The RADIUS Attribute 5 (NAS-Port) Format Specified on a Per-Server Group Level feature allows you to customize configurations for different RADIUS server groups. This flexibility allows customized network access server- (NAS-) port formats to be used instead of global formats.

History for the RADIUS Attribute 5 (NAS-Port) Format Specified on a Per-Server Group Level Feature

Release	Modification
12.3(14)T	This feature was introduced.
12.2(28)SB	This feature was integrated into Cisco IOS Release 12.2(28)SB.

Finding Support Information for Platforms and Cisco IOS Software Images

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Prerequisites for RADIUS Attribute 5 (NAS-Port) Format Specified on a Per-Server Group Level

- You must be running a Cisco IOS image that contains the authentication, authorization, and accounting (AAA) components.

Information About RADIUS Attribute 5 (NAS-Port) Format Specified on a Per-Server Group Level

To configure the RADIUS Attribute 5 (NAS-Port) Format Specified on a Per-Server Group Level feature, you must understand the following concept:

- [RADIUS Attribute 5 Format Customization, page 2](#)

RADIUS Attribute 5 Format Customization

Prior to Cisco IOS Release 12.3(14)T, Cisco IOS software allowed RADIUS attributes that were sent in access requests or accounting requests to be customized on a global basis. You could customize how each configurable attribute should function when communicating with a RADIUS server. Since the implementation of server groups, global attribute configurations were not flexible enough to address the different customizations that were required to support the various RADIUS servers with which a router might be interacting. For example, if you configured the **global radius-server attribute nas-port format command** option, every service on the router that interacted with a RADIUS server was used in the same way.

Effective with Cisco IOS Release 12.3(14)T, you can configure your router to support override flexibility for per-server groups. You can configure services to use specific named methods for different service types on a RADIUS server. The service types can be set to use their own respective service groups. This flexibility allows customized NAS-port formats to be used instead of the global formats.

How to Configure RADIUS Attribute 5 (NAS-Port) Format Specified on a Per-Server Group Level

This section contains the following procedures:

- [Configuring the RADIUS Attribute 5 Format on a Per-Server Group Level, page 3](#)
- [Monitoring and Maintaining RADIUS Attribute 5 Format on a Per-Server Group Level, page 4](#)

Configuring the RADIUS Attribute 5 Format on a Per-Server Group Level

To configure your router to support the RADIUS Attribute 5 format on a per-server group level, perform the following steps.



Note

To use this per-server group capability, you must actively use a named method list within your services. You can configure one client to use a specific named method while other clients use the default format.

Prerequisites

Before performing these steps, you should first configure method lists for AAA as is applicable for your situation.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **aaa group server radius** *group-name*
4. **server** *ip-address* [**auth-port** *port-number*] [**acct-port** *port-number*]
5. **attribute nas-port format** *format-type* [*string*]

DETAILED STEPS

	Command or Action	Purpose
Step 1	<code>enable</code> Example: Router> enable	Enables privileged EXEC mode. <ul style="list-style-type: none">Enter your password if prompted.
Step 2	<code>configure terminal</code> Example: Router# configure terminal	Enters global configuration mode.
Step 3	<code>aaa group server radius group-name</code> Example: Router (config)# aaa group server radius radius1	Groups different RADIUS server hosts into distinct lists and distinct methods and enters server-group configuration mode.
Step 4	<code>server ip-address [auth-port port-number] [acct-port port-number]</code> Example: Router (server-group)# server 172.101.159.172 auth-port 1645 acct-port 1646	Configures the IP address of the RADIUS server for the group server.
Step 5	<code>attribute nas-port format format-type [string]</code> Example: Router (server-group)# attribute nas-port format d	Configures a service to use specific named methods for different service types. <ul style="list-style-type: none">The service types can be set to use their own respective server groups.

Monitoring and Maintaining RADIUS Attribute 5 Format on a Per-Server Group Level

To monitor and maintain RADIUS Attribute 5 Format on a Per-Server Group Level, perform the following steps (the **debug** commands may be used separately):

SUMMARY STEPS

- enable**
- debug aaa sg-server selection**
- debug radius**

DETAILED STEPS

	Command or Action	Purpose
Step 1	<pre>enable</pre> <p>Example: Router> enable</p>	Enables privileged EXEC mode. <ul style="list-style-type: none"> • Enter your password if prompted.
Step 2	<pre>debug aaa sg-server selection</pre> <p>Example: Router# debug aaa sg-server selection</p>	Displays information about why the RADIUS and TACACS+ server group system in a router is choosing a particular server.
Step 3	<pre>debug radius</pre> <p>Example: Router# debug radius</p>	Displays information showing that a server group has been selected for a particular request.

Configuration Examples for RADIUS Attribute 5 (NAS-Port) Format Specified on a Per-Server Group Level

This section provides the following configuration example:

- [RADIUS Attribute 5 Format Specified on a Per-Server Level: Example, page 5](#)

RADIUS Attribute 5 Format Specified on a Per-Server Level: Example

The following configuration example shows a leased-line PPP client that has chosen to send no RADIUS Attribute 5 while the default is to use format d:

```
interface Serial2/0
  no ip address
  encapsulation ppp
  ppp accounting SerialAccounting
  ppp authentication pap

aaa accounting network default start-stop group radius
aaa accounting network SerialAccounting start-stop group group1

aaa group server radius group1
  server 10.101.159.172 auth-port 1645 acct-port 1646
  attribute nas-port none

radius-server host 10.101.159.172 auth-port 1645 acct-port 1646
radius-server attribute nas-port format d
```

Additional References

The following sections provide references related to RADIUS Attribute 5 (NAS-Port) Format Specified on a Per-Server Group Level.

Related Documents

Related Topic	Document Title
Cisco IOS commands	<i>Cisco IOS Security Command Reference</i> , Release 12.4
Configuring AAA and AAA method lists	“Authentication, Authorization, and Accounting (AAA)” <i>section of Cisco IOS Security Configuration Guide</i> , Release 12.3.

Standards

Standards	Title
None.	—

MIBs

MIBs	MIBs Link
None	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
None	—

Technical Assistance

Description	Link
The Cisco Technical Support & Documentation website contains thousands of 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/techsupport

Command Reference

This section documents the following new command only.

- **attribute nas-port format**

attribute nas-port format

To configure services to use specific named methods for different service types, which can be set to use their own respective RADIUS server groups, use the **attribute nas-port format** command in server-group configuration mode. To remove the override, which is to use specific named methods for different service types, use the **no** form of this command.

attribute nas-port format *format-type* [*string*]

no attribute nas-port format *format-type* [*string*]

Syntax Description	<i>format-type</i>	Type of format (see Table 1).
	<i>string</i>	(Optional) Pattern of the data format (see Table 2).

Defaults Default format type is used for all services.

Command Modes Server-group configuration

Command History	Release	Modification
	12.3(14)T	This command was introduced.
	12.2(28)SB	This command was integrated into Cisco IOS Release 12.2(28)SB.

Usage Guidelines The following format types may be configured.

Table 1 *Format Types*

a	Format is type, channel, or port.
b	Either interface(16), isdn(16), or async(16).
c	Data format (bits): shelf(2), slot(4), port(5), or channel(5).
d	Data format (bits): slot(4), module(1), port(3), vpi(8), or vci(16).
e	Configurable data format (see Table 2).

The following characters may be used in the string pattern of the data format.

Table 2 *Characters Supported by Format-Type e*

0	Zero
1	One
f	DS0 shelf
s	DS0 slot

Table 2 Characters Supported by Format-Type e (continued)

a	DS0 adapter
P	DS0 port
i	DS0 subinterface
c	DS0 channel
F	Async shelf
S	Async slot
P	Async port
L	Async line
S	PPPoX slot (includes PPP over ATM [PPPoA], PPP over Ethernet over ATM [PPPoEoA], PPP over Ethernet over Ethernet [PPPoEoE], PPP over Ethernet over VLAN [PPPoEoVLAN], and PPP over Ethernet over Queue in Queue [PPPoEoQinQ]).
A	PPPoX adapter
P	PPPoX port
V	PPPoX VLAN ID
I	PPPoX virtual path identifier (VPI)
C	PPPoX virtual channel indicator (VCI)
U	Session ID

Examples

The following example shows that a leased-line PPP client has chosen to send no RADIUS Attribute 5 while the default is set for format d:

```
interface Serial2/0
  no ip address
  encapsulation ppp
  ppp accounting SerialAccounting
  ppp authentication pap

aaa accounting network default start-stop group radius
aaa accounting network SerialAccounting start-stop group group1

aaa group server radius group1
  server 10.101.159.172 auth-port 1645 acct-port 1646
  attribute nas-port none

radius-server host 10.101.159.172 auth-port 1645 acct-port 1646
radius-server attribute nas-port format d
```

Related Commands

Command	Description
aaa group server radius	Groups different RADIUS server hosts into distinct lists and distinct methods.
ip radius source-interface	Forces RADIUS to use the IP addressing of a specified interface for all outgoing RADIUS packets.
radius-server host	Specifies a RADIUS server host.

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