TACACS+ over IPv6

An IPv6 server can be configured to be used with TACACS+.

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.

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 TACACS+ over IPv6

The Terminal Access Controller Access-Control System (TACACS+) security protocol provides centralized validation of users. TACACS+ services are maintained in a database on a TACACS+ daemon typically running on a UNIX or Windows NT workstation. You must have access to and must configure a TACACS+ server before the configured TACACS+ features on your devices are available.

TACACS+ provides for separate authentication, authorization, and accounting facilities. TACACS+ allows for a single access control server (the TACACS+ daemon) to provide each service (authentication, authorization, and accounting) independently. Each service is associated with its own database to take advantage of other services available on that server or on the network, depending on the capabilities of the daemon.

AAA over IPv6

Vendor-specific attributes (VSAs) are used to support Authentication, Authorization and Accounting(AAA) over IPv6. Cisco VSAs are inacl, outacl, prefix, and route.

You can configure prefix pools and pool names by using the AAA protocol. Customers can deploy an IPv6 RADIUS server or a TACACS+ server to communicate with Cisco devices.

TACACS+ Over an IPv6 Transport

An IPv6 server can be configured to use TACACS+. Both IPv6 and IPv4 servers can be configured to use TACACS+ using a name instead of an IPv4 or IPv6 address.

How to Configure TACACS+ over IPv6

Configuring the TACACS+ Server over IPv6

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **tacacs server** *name*
4. **address ipv6** *ipv6-address*
5. **key** [**0** | **7**] *key-string*
6. **port** [*number*
7. **send-nat-address**
8. **single-connection**
9. **timeout** *seconds*

DETAILED STEPS

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.

	Command or Action	Purpose
Step 3	**tacacs server** *name* **Example:** `Device(config)# tacacs server server1`	Configures the TACACS+ server for IPv6 and enters TACACS+ server configuration mode.
Step 4	**address ipv6** *ipv6-address* **Example:** `Device(config-server-tacacs)# address ipv6 2001:DB8:3333:4::5`	Configures the IPv6 address of the TACACS+ server.
Step 5	**key** [**0** | **7**] *key-string* **Example:** `Device(config-server-tacacs)# key 0 key1`	Configures the per-server encryption key on the TACACS+ server.
Step 6	**port** [*number* **Example:** `Device(config-server-tacacs)# port 12`	Specifies the TCP port to be used for TACACS+ connections.
Step 7	**send-nat-address** **Example:** `Device(config-server-tacacs)# send-nat-address`	Sends a client's post-NAT address to the TACACS+ server.
Step 8	**single-connection** **Example:** `Device(config-server-tacacs)# single-connection`	Enables all TACACS packets to be sent to the same server using a single TCP connection.
Step 9	**timeout** *seconds* **Example:** `Device(config-server-tacacs)# timeout 10`	Configures the time to wait for a reply from the specified TACACS server.

Specifying the Source Address in TACACS+ Packets

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ipv6 tacacs source-interface** *type number*

DETAILED STEPS

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 3	**ipv6 tacacs source-interface** *type number* **Example:** `Device(config)# ipv6 tacacs source-interface Gigabitethernet 1/2/1`	Specifies an interface to use for the source address in TACACS+ packets.

Configuring TACACS+ Server Group Options

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **aaa group server tacacs+** *group-name*
4. **server name** *server-name*
5. **server-private** {*ip-address* | *name* | *ipv6-address*} [**nat**] [**single-connection**] [**port** *port-number*] [**timeout** *seconds*] [**key** [**0** | **7**] *string*]

DETAILED STEPS

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 3	**aaa group server tacacs+** *group-name* **Example:** `Device(config)# aaa group server tacacs+ group1`	Groups different TACACS+ server hosts into distinct lists and distinct methods.
Step 4	**server name** *server-name* **Example:** `Device(config-sg-tacacs+)# server name server1`	Specifies an IPv6 TACACS+ server.
Step 5	**server-private** {*ip-address* | *name* | *ipv6-address*} [**nat**] [**single-connection**] [**port** *port-number*] [**timeout** *seconds*] [**key** [**0** | **7**] *string*] **Example:** `Device(config-sg-tacacs+)# server-private 2001:DB8:3333:4::5 port 19 key key1`	Configures the IPv6 address of the private TACACS+ server for the group server.

Configuration Examples for TACACS+ over IPv6

Example: Configuring TACACS+ Server over IPv6

```
Device# show tacacs

          Tacacs+ Server:          server1
          Server Address:          FE80::200:F8FF:FE21:67CF
            Socket opens:          0
           Socket closes:          0
           Socket aborts:          0
           Socket errors:          0
        Socket Timeouts:           0
  Failed Connect Attempts:         0
```

```
Total Packets Sent:          0
Total Packets Recv:          0
```

Additional References

Related Documents

Related Topic	Document Title
IPv6 addressing and connectivity	*IPv6 Configuration Guide*
Commands	Cisco IOS Master Command List, All Releases
IPv6 commands	Cisco IOS IPv6 Command Reference
IPv6 features	CiscoIOS_IPv6_Feature_Mapping

Standards and RFCs

Standard/RFC	Title
RFCs for IPv6	*IPv6 RFCs*

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 TACACS+ over IPv6

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.

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

Table 1: Feature Information for TACACS+ over IPv6

Feature Name	Releases	Feature Information
TACACS+ over IPv6	Cisco IOS XE 3.2SE Cisco IOS XE 3.3SE Cisco IOS XE Release 3.6E	The TACACS+ over IPv6 feature allows you to configure an IPv6 server to use the TACACS+ security protocol. In Cisco IOS XE Release 3.2SE, this feature was supported on the following platforms: • Catalyst 3850 Series Switches • Cisco 5760 Wireless LAN Controller In Cisco IOS XE Release 3.3SE, this feature was supported on the following platforms: • Catalyst 3650 Series Switches In Cisco IOS XE Release 3.6E, this feature is supported on Cisco Catalyst 3850 Series Switches. The following commands were introduced or modified: **aaa group server tacacs+**, **address ipv6 (TACACS+)**, **ipv6 tacacs source-interface**, **key (TACACS+)**, **port (TACACS+)**, **send-nat-address**, **server name (IPv6 TACACS+)**, **server-private (TACACS+)**, **single-connection**, **tacacs server**, **timeout (TACACS+)**.