AAA-SERVER-MIB Set Operation

The AAA-SERVER-MIB Set Operation feature allows the authentication, authorization, and accounting (AAA) server configuration to be extended or expanded by using the CISCO-AAA-SERVER-MIB to create and add new AAA servers, modify the “KEY” under the CISCO-AAA-SERVER-MIB, and delete the AAA server configuration.

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Prerequisites for AAA-SERVER-MIB Set Operation

AAA must have been enabled on the router, that is, the **aaa new-model** command must have been configured. If this configuration has not been accomplished, the set operation fails.

Restrictions for AAA-SERVER-MIB Set Operation

Currently, the CISCO SNMP set operation is supported only for the RADIUS protocol. Therefore, only RADIUS servers in global configuration mode can be added, modified, or deleted.

Information About AAA-SERVER-MIB Set Operation

The AAA-SERVER-MIB Set Operation feature allows the authentication, authorization, and accounting (AAA) server configuration to be extended or expanded by using the CISCO-AAA-SERVER-MIB to create and add new AAA servers, modify the “KEY” under the CISCO-AAA-SERVER-MIB, and delete the AAA server configuration.

CISCO-AAA-SERVER-MIB

The CISCO-AAA-SERVER-MIB provides that statistics reflect both the state of the AAA server operation with the server itself and of AAA communications with external servers. The CISCO-AAA-SERVER-MIB provides the following information:

- Statistics for each AAA operation
- Status of servers that are providing AAA functions
- Identities of external AAA servers

CISCO-AAA-SERVER-MIB Set Operation

With the SET operation, you can do the following:

- Create or add a new AAA server.
- Modify the KEY under the CISCO-AAA-SERVER-MIB. This "secret key" is used for secure connectivity to the AAA server, which is present with the network access server (NAS) and the AAA server.
- Delete the AAA server configuration.

How to Configure AAA-SERVER-MIB Set Operation

The following sections provide information about how to configure AAA-SERVER-MIB set operation:

Configuring AAA-SERVER-MIB Set Operations

No special configuration is required for this feature. The Simple Network Management Protocol (SNMP) framework can be used to manage MIBs. See the Additional References section for a reference to configuring SNMP.

Verifying SNMP Values

SNMP values can be verified by performing the following steps.

SUMMARY STEPS

1. **enable**
2. **show running-config aaa**
3. **show aaa servers**

DETAILED STEPS

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enters privileged EXEC mode. Enter your password, if prompted.
Step 2	**show running-config aaa** **Example:** `Device# show running-config aaa`	Displays all the authentication, authorization, and accounting (AAA) servers that are configured in the global configuration mode.
Step 3	**show aaa servers** **Example:** `Device# show aaa servers`	Displays information about the number of requests sent to and received from authentication, authorization, and accounting (AAA) servers.

Configuration Examples for AAA-SERVER-MIB Set Operation

This section provides information about configuration examples for AAA-SERVER-MIB set operation:

RADIUS Server Configuration and Server Statistics Example

The following sample output shows the RADIUS server configuration and server statistics before and after the set operation.

Before the Set Operation

```
Device# show aaa servers

RADIUS: id 2, priority 1, host 172.19.192.238, auth-port 2095, acct-port 2096
State: current UP, duration 25s, previous duration 0s
     Dead: total time 0s, count 7
Authen: request 8, timeouts 8
     Response: unexpected 0, server error 0, incorrect 0, time 0ms
     Transaction: success 0, failure 2
Author: request 0, timeouts 0
     Response: unexpected 0, server error 0, incorrect 0, time 0ms
     Transaction: success 0, failure 0
Account: request 0, timeouts 0
     Response: unexpected 0, server error 0, incorrect 0, time 0ms
     Transaction: success 0, failure 0
Elapsed time since counters last cleared: 5m
RADIUS: id 3, priority 2, host 172.19.192.238, auth-port 1645, acct-port 1646
State: current UP, duration 5s, previous duration 0s
     Dead: total time 0s, count 2
Authen: request 8, timeouts 8
```

```
     Response: unexpected 0, server error 0, incorrect 0, time 0ms
     Transaction: success 0, failure 4
Author: request 0, timeouts 0
     Response: unexpected 0, server error 0, incorrect 0, time 0ms
     Transaction: success 0, failure 0
Account: request 0, timeouts 0
     Response: unexpected 0, server error 0, incorrect 0, time 0ms
     Transaction: success 0, failure 0
Elapsed time since counters last cleared: 3m
```

SNMP Get Operation to Check the Configuration and Statistics of the RADIUS Servers

```
aaa-server5:/users/smetri> getmany 10.0.1.42 casConfigTable
casAddress.2.2 = 172.19.192.238
casAddress.2.3 = 172.19.192.238
casAuthenPort.2.2 = 2095
casAuthenPort.2.3 = 1645
casAcctPort.2.2 = 2096
casAcctPort.2.3 = 1646
casKey.2.2 =
casKey.2.3 =
! The following line shows priority for server 1.
casPriority.2.2 = 1
! The following line shows priority for server 2.
casPriority.2.3 = 2
casConfigRowStatus.2.2 = active(1)
casConfigRowStatus.2.3 = active(1)
aaa-server5:/users/smetri>
```

SNMP Set Operation

The key of the existing RADIUS server is being changed. The index “1” is being used. That index acts as a wildcard for addition, deletion, or modification of any entries.

```
Change the key for server 1:=>
aaa-server5:/users/smetri>  setany -v2c 10.0.1.42 public casAddress.2.1 -a 172.19.192.238
casAuthenPort.2.1 -i 2095 casAcctPort.2.1 -i 2096 casKey.2.1 -o king
casAddress.2.1 = 172.19.192.238
casAuthenPort.2.1 = 2095
casAcctPort.2.1 = 2096
casKey.2.1 = king
aaa-server5:/users/smetri>
```

After the Set Operation

After the above SNMP set operation, the configurations on the device change. The following output shows the output after the set operation.

```
Device# show aaa servers

RADIUS: id 3, priority 1, host 172.19.192.238, auth-port 1645, acct-port 1646
State: current UP, duration 189s, previous duration 0s
     Dead: total time 0s, count 2
Authen: request 8, timeouts 8
     Response: unexpected 0, server error 0, incorrect 0, time 0ms
     Transaction: success 0, failure 4
Author: request 0, timeouts 0
     Response: unexpected 0, server error 0, incorrect 0, time 0ms
     Transaction: success 0, failure 0
Account: request 0, timeouts 0
```

```
     Response: unexpected 0, server error 0, incorrect 0, time 0ms
     Transaction: success 0, failure 0
Elapsed time since counters last cleared: 6m

! The following line shows a new server with new statistics.
RADIUS: id 4, priority 2, host 172.19.192.238, auth-port 2095, acct-port 2096
State: current UP, duration 209s, previous duration 0s
     Dead: total time 0s, count 7
Authen: request 0, timeouts 0
     Response: unexpected 0, server error 0, incorrect 0, time 0ms
     Transaction: success 0, failure 0
Author: request 0, timeouts 0
     Response: unexpected 0, server error 0, incorrect 0, time 0ms
     Transaction: success 0, failure 0
Account: request 0, timeouts 0
     Response: unexpected 0, server error 0, incorrect 0, time 0ms
```

Additional References for AAA-SERVER-MIB Set Operation

Related Documents

Related Topic	Document Title
For complete syntax and usage information for the commands used in this chapter.	Consolidated Platform Command Reference, Cisco IOS Release 15.2(7)Ex (Catalyst 2960-L Switches)

MIBs

MIB	MIBs Link
AAA-SERVER-MIB	To locate and download MIBs for selected platforms, Cisco IOS XE software releases , and feature sets, use Cisco MIB Locator found at the following URL: http://www.cisco.com/go/mibs

Feature History for AAA-SERVER-MIB Set Operation

This table provides release and related information for features explained in this module.

These features are available on all releases subsequent to the one they were introduced in, unless noted otherwise.

Release	Feature	Feature Information
Cisco IOS Release 15.2(5)E	AAA-SERVER-MIB Set Operation	The AAA-SERVER-MIB Set Operation feature allows the authentication, authorization, and accounting (AAA) server configuration to be extended or expanded by using the CISCO-AAA-SERVER-MIB to create and add new AAA servers, modify the "KEY" under the CISCO-AAA-SERVER-MIB, and delete the AAA server configuration.

Use Cisco Feature Navigator to find information about platform and software image support. To access Cisco Feature Navigator, go to http://www.cisco.com/go/cfn.