

VPDN MIB and Syslog Facility

Feature Summary

The Virtual Private Dialup Network (VPDN) Management Information Base (MIB) feature is intended to support all the tables and objects defined in the Cisco VPDN Management MIB for VPDN user sessions. VPDN system wide information is available. This includes active VPDN tunnels, active user sessions in active VPDN tunnels, and failure history information, per username.

The VPDN Syslog facility provides generic logging output for VPDN information, such as Layer 2 Forwarding Protocol (L2F). The syslog messages are generated to inform authentication or authorization errors, resource issues, and time-out events.

Benefits

- The VPDN MIB feature offers a mechanism to track failures of user calls in a VPDN system allowing SNMP retrieval of user call failure information, on a per user basis.
- The VPDN Syslog Facility feature offers real-time access to VPDN fault information.

List of Terms

client ID (CLID)—An identification associated with a specific endpoint which is used to assist endpoints in demultiplexing tunnels when the underlying point-to-point substrate lacks an efficient or dependable technique for doing so directly.

command-line interface (CLI)—An interface that allows the user to interact with the operating system by entering commands and optional arguments.

Common Management Information Protocol (CMIP)—OSI network management protocol created and standardized by ISO for monitoring and control of heterogeneous networks.

graphical user interface (GUI)—An interface that uses both graphics and text for input and output of applications and a hierarchical or other data structure in which information is stored. Conventions such as buttons, icons, and windows are typical, and many actions are performed using a pointing device (such as a mouse). Microsoft Windows and the Apple Macintosh are prominent examples of platforms utilizing a GUI.

home gateway (HGW)—The local termination point of a VPDN tunnel.

Management Information Base (MIB)—A database of network management information that is used and maintained by a network management protocol such as SNMP or CMIP. The value of a MIB object can be changed or retrieved using SNMP or CMIP commands, usually through a graphical user interface (GUI) network management system. MIB objects are organized in a tree structure that includes public (standard) and private (proprietary) branches.

message identifier (MID)—A unique session identification number that correlates to a logged event.

Simple Network Management Protocol (SNMP)—A Network management protocol used almost exclusively in TCP/IP networks. SNMP provides a means to monitor and control network devices and to manage configurations, statistics, collection, performance, and security.

Virtual Private Dialup Network (VPDN)—Networks that allow separate and autonomous protocol domains to share common access infrastructure including modems, access servers, and ISDN routers. VPDN uses the Layer 2 Forwarding (L2F) protocol, which permits the tunneling of link level frames. The forwarding of PPP links from an Internet Service Provider (ISP) to a home gateway.

Restrictions

A high number of active VPDN tunnels typically signifies a high number of SNMP inquiries, which can slightly impact system performance.

Platforms

This feature is supported on these platforms:

- Cisco 1000 series
- Cisco 1600 series
- Cisco 2500 series
- Cisco 3600 series
- Cisco 4000 series (Cisco 4000, 4000-M, 4500, 4500-M, 4700, 4700-M)
- Cisco 5200
- Cisco 5300
- Cisco 7200 series
- Cisco 7500 series

Configuration Tasks

Refer to the Cisco VPDN Management MIB for a list of supported objects for the VPDN MIB.

By default, VPDN failure history logging is enabled. In order to manually configure a router to capture information queries if this function was previously disabled, perform the following tasks. The first task is required. The last task is optional.

- Configure Event Logging
- Set the History Table Size

Configure Event Logging

Failure event logging is on by default; therefore, if you wish to disable VPDN failure events you must specifically configure the router or access server to do so. In order to disable the router to log VPDN history events, perform the following task in global configuration mode:

Task	Command
Disable the logging of failure events to the failure history table.	no vpdn logging history failure

Set the History Table Size

You may set the failure history table to a specific number of entries based on the amount of data you wish to track. To set the failure history table, perform the following task in global configuration mode:

Task	Command
(Optional) Set the failure history table depth.	vpdn history failure table-size <i>entries</i>

Configuration Example

The following example enables VPDN history logging and sets the history failure table size to 30 entries:

```
vpdn logging history failure
vpdn history failure table-size 30
```

Command Reference

This section documents new commands introduced by the VPDN MIB function.

- **clear vpdn history failure**
- **show vpdn history failure**
- **vpdn history failure table-size**
- **vpdn logging history failure**

clear vpdn history failure

To clear the content of the failure history table, use the **clear vpdn history failure** command.

```
clear vpdn history failure
```

Syntax Description

This command has no arguments or keywords.

Command Mode

EXEC

Usage Guidelines

This command first appeared in Cisco IOS Release 11.3 T.

Example

The following example clears the content of the failure history table:

```
clear vpdn history failure
```

show vpdn history failure

To show the content of the failure history table, use the **show vpdn history failure** with the optional **username** keyword EXEC command.

```
show vpdn history failure [username]
```

Syntax Description

username Specifies the username. The specified username helps to display only the entries mapped to that particular user.

Command Mode

EXEC

Usage Guidelines

This command first appeared in Cisco IOS Release 11.3 T.

If a username is specified, only the entries mapped to that username are displayed; when the username is not specified, the whole table is displayed.

Sample Display

The following is a sample output from the **show vpdn history failure** command, which displays the failure history table for a specific user:

```
router> show vpdn history failure
Table size: 20
Number of entries in table: 1

User: jcchan@cisco.com, MID = 1
NAS: isp, IP address = 172.21.9.25, CLID = 1
Gateway: hp-gw, IP address = 172.21.9.15, CLID = 1
Log time: 13:08:02, Error repeat count: 1
Failure type: The remote server closed this session
Failure reason: Administrative intervention
```

Table 1 describes the fields shown in the sample output.

Table 1 Show VPDN History Failure Field Descriptions

Field	Description
Table size	Configurable VPDN history table size.
Number of entries in table	Number of entries currently in the history table.
User	Username for the entry displayed.
MID	VPDN user session ID that correlates to the logged event. The MID is a unique ID per user session.
NAS	Network access server identity.
IP address	IP address of the NAS or home gateway (HGW).
CLID	Tunnel endpoint for the NAS and HGW.

Table 1 **Show VPDN History Failure Field Descriptions (Continued)**

Field	Description
Gateway	HGW end of the VPDN tunnel.
Log time	The event logged time.
Error repeat count	Number of times a failure entry has been logged under a specific user. Only one log entry is allowed per user and is unique to its MID, with the older one being overwritten.
Failure type	Description of failure.
Failure reason	Reason for failure.

Related Commands

clear vpdn history failure

vpdn history failure table-size

To set the failure history table depth, use the **vpdn history failure table-size** global configuration command.

vpdn history failure table-size *entries*

Syntax Description

entries Defines the number of entries. Valid entries are 20 to 50.

Default

20 entries

Command Mode

Global configuration

Usage Guidelines

This command first appeared in Cisco IOS Release 11.3 T.

The logging of a failure history event is triggered by event logging by the Syslog facility. The Syslog facility creates a failure history table entry, which keeps records of failure events. The table starts with 20 entries and the size of the table can be expanded to a maximum of 50 entries.

All failure entries for the user are kept chronologically in the history table. Each entry records the relevant information of a failure event. Only the most recent failure event per user, unique to its name and tunnel client ID (CLID), is kept.

When the total number of entries in the table reaches the configured table size, the oldest record is deleted and a new entry is added.

Example

The following example sets the history failure table size to 40 entries:

```
vpdn history failure table-size 40
```

vpdn logging history failure

To enable the logging of failure events to the failure history table, use the **vpdn logging history failure** global configuration command. To disable the logging of failure events, use the **no** form of this command.

vpdn logging history failure
no vpdn logging history failure

Syntax Description

This command has no arguments or keywords.

Default

Enabled

Command Mode

Global configuration

Usage Guidelines

This command first appeared in Cisco IOS Release 11.3 T.

Example

The default behavior is to enable logging of VPDN history failures; however, if you wish to reenble the feature after removal, the following example shows how to reenble the logging of history failures:

```
vpdn logging history failure
```

Related Commands

show vpdn history failure