

DMVPN Event Tracing

The DMVPN Event Tracing feature provides a trace facility for troubleshooting Cisco IOS Dynamic Multipoint VPN (DMVPN). This feature enables you to monitor DMVPN events, errors, and exceptions. During runtime, the event trace mechanism logs trace information in a buffer space. A display mechanism extracts and decodes the debug data.

You can use the DMVPN Event Tracing feature to analyze the cause of a device failure. When you configure the DMVPN Event Tracing feature, the router logs messages from specific DMVPN subsystem components into the device memory. You can view trace messages stored in the memory or save them to a file.

With the DMVPN event-trace integration with IOS-XE binary trace (btrace), you do not need to explicitly enable DMVPN Event Tracing. These events are automatically sent to the IOS process in the binary trace under the module name of nhrp at severity level of notice. To retrieve such events, use the **show logging process IOS module nhrp** command

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Information About DMVPN Event Tracing

Benefits of DMVPN Event Tracing

- Displays debug information on the console during runtime.
- Avoids multiple debug calls, and hence improves device performance.
- Saves memory space.

DMVPN Event Tracing Options

The DMVPN Event Tracing feature defines the event data type, provides functionalities to capture the event, and prints the events and the CLI extensions required to access and modify the log. The table below lists different options that can be monitored using the DMVPN Event Tracing feature.

Table 1: DMVPN Event Trace Options

Event Type	Description
NHRP Event Trace	General Next Hop Resolution Protocol (NHRP) events, such as NHRP protocol, NHRP messages, changes in NHRP data structure, NHRP NBMA or protocol address change, and NHRP traps.
NHRP Error Trace	All NHRP error events.
NHRP Exception Trace	All NHRP exception events.
Tunnel Event Trace	All tunnel events.

How to Configure DMVPN Event Tracing

You can configure the DMVPN Event Tracing feature in privileged EXEC mode or global configuration mode based on the desired parameters. See the *Cisco IOS Security Command Reference* for information on different parameters available in privileged EXEC mode or global configuration mode.

Perform one of the following tasks to configure the DMVPN Event Tracing feature:

Configuring DMVPN Event Tracing in Privileged EXEC Mode

Perform this task to configure DMVPN event tracing in privileged EXEC mode.

SUMMARY STEPS

1. **enable**
2. **monitor event-trace dmvpn** {**nhrp** {**error** | **event** | **exception**} | **tunnel**} {**clear** | **continuous** [**cancel**] | **disable** | **enable** | **one-shot**} | **tunnel**}

DETAILED STEPS

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Router> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**monitor event-trace dmvpn** {**nhrp** {**error**	**event**	**exception**}	**tunnel**} {**clear**	**continuous** [**cancel**]	**disable**	**enable**	**one-shot**}	**tunnel**} **Example:** `Router# monitor event-trace dmvpn nhrp error enable`	Monitors and controls DMVPM traces.

Configuring DMVPN Event Tracing in Global Configuration Mode

Perform this task to configure DMVPN event tracing in global configuration mode.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **monitor event-trace dmvpn** {**dump-file** *url* | {**nhrp** {**error** | **event** | **exception**} | **tunnel**} {**disable** | **dump-file** *url* | **enable** | **size** | **stacktrace** *value*}}
4. **exit**

DETAILED STEPS

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Router> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Router# configure terminal`	Enters global configuration mode.
Step 3	**monitor event-trace dmvpn** {**dump-file** *url* | {**nhrp** {**error** | **event** | **exception**} | **tunnel**} {**disable** | **dump-file** *url* | **enable** | **size** | **stacktrace** *value*}} **Example:** `Router(config)# monitor event-trace dmvpn nhrp error enable`	Monitors and controls DMVPM traces.
Step 4	**exit** **Example:** `Router(config)# exit`	Exits global configuration mode.

Configuration Examples for DMVPN Event Tracing

Example: Configuring DMVPN Event Tracing in Privileged EXEC Mode

The following example shows how to monitor NHRP error traces in privileged EXEC mode:

```
Router> enable
Router# monitor event-trace dmvpn nhrp error enable
```

Example: Configuring DMVPN Event Tracing in Global Configuration Mode

The following example shows how to monitor NHRP error traces in global configuration mode:

```
Router> enable
Router# configure terminal
Router(config)# monitor event-trace dmvpn nhrp error enable
```

Additional References

Related Documents

Related Topic	Document Title
DMVPN commands	*Cisco IOS Security Command Reference*

Standards

Standard	Title
None	--

MIBs

MIB	MIBs Link
None	--

RFCs

RFC	Title
None	--

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 DMVPN Event Tracing

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 www.cisco.com/go/cfn. An account on Cisco.com is not required.

Table 2: Feature Information for DMVPN Event Tracing

Feature Name	Releases	Feature Information
Integrating DMVPN event-tracing with IOS-XE btrace	Cisco IOS-XE 17.16.x	This feature enables retrieving events sent to the IOS process in the binary trace using **show logging process IOS module nhrp** command without the need to enable DMVPN event tracing.
DMVPN Event Tracing	15.1(4)M Cisco IOS XE Release 3.9S	The DMVPN Event Tracing feature provides a trace facility for troubleshooting Cisco IOS DMVPN. This feature enables you to monitor DMVPN events, errors, and exceptions. During runtime, the event trace mechanism logs trace information in a buffer space. A display mechanism extracts and decodes the debug data. The following commands were introduced or modified: **monitor event-trace dmvpn**, **show monitor event-trace dmvpn**.