

ATM Conditional Debug Support

Most ATM debugging commands are implemented either at the system level or at the interface level. The ATM Conditional Debug Support feature allows debugging to be limited specifically to an ATM interface, to a virtual channel identifier (VCI), or to a virtual path identifier/virtual channel identifier (VPI/VCI) pair, through use of the **debug condition interface** command.

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Prerequisites for ATM Conditional Debug Support

One or more ATM-encapsulated interfaces must be enabled, and one or more of the following **debug** commands must be enabled, to use the ATM Conditional Debug Support feature:

- **debug atm arp**
- **debug atm counters**
- **debug atm errors**
- **debug atm events**
- **debug atm oam**
- **debug atm packet**
- **debug atm state**

Restrictions for ATM Conditional Debug Support

- Only the ATM debugging commands listed in thePrerequisites for ATM Conditional Debug Support, on page 1 section can use the ATM Conditional Debug Support feature.

- Conditional debugging for virtual circuits (VCs) can be enabled only for permanent virtual circuits (PVCs). Switched virtual circuits (SVCs) are not supported.

Information About ATM Conditional Debug Support

ATM Debugging Extended to the VC Level

The ATM **debug** commands are implemented either at the interface level or at the system level. The **debug** command output at these levels is not very useful when the user is interested in a particular set of virtual circuits (VCs).

The Cisco IOS XE software has the infrastructure to support conditional debugging based on various filters that are set at the command-line interface (CLI). The conditional debugging infrastructure can filter out or suppress unwanted messages from the output of any existing **debug** command. The ATM Conditional Debug Support feature extends this infrastructure to support conditional debugging at the ATM VC level by extending the **debug condition interface** command with keywords that address specific virtual circuits. This feature can be implemented on top of conventional debugging, so that backward compatibility is ensured and at the same time applications can take advantage of conditional debugging where required. However, the extended **debug condition interface** command has priority over the older version of the command; that is, a debug condition setting using the older **debug condition interface** command will be discarded as soon as a new debug condition is enabled on a virtual circuit.

How to Configure ATM Conditional Debugging on ATM Interfaces

Enabling Debugging for the ATM Interface

Perform this task to enable conditional debugging on a set of specified interfaces.

Before you begin

You must enable ATM debugging and specify the conditions (interface, VCI, or VPI/VCI pair) for the ATM Conditional Debug Support feature to work.

SUMMARY STEPS

1. **enable**
2. **debug atm** [**arp** | **counters** | **errors** | **events** | **oam** | **packet** | **state**]
3. **debug condition interface** *interface-type interface-number* [**vc** {*vci* | *vpi* / *vci*}]

DETAILED STEPS

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Router> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**debug atm** [**arp** | **counters** | **errors** | **events** | **oam** | **packet** | **state**] **Example:** `Router# debug atm state`	Displays various ATM events.
Step 3	**debug condition interface** *interface-type interface-number* [**vc** {*vci* | *vpi* / *vci*}] **Example:** `Router# debug condition interface ATM1/1/0 vc 10/100`	Limits output for debugging according to the interface or ATM VC number.

Configuration Examples for ATM Conditional Debug Support

Enabling Debugging for an ATM Interface and VPI VCI Pair Example

The following example shows how to enable an ATM interface, specify an IP address for the interface, enable conditional debugging for that interface with a VPI/VCI pair of 10/100, and verify that debugging has been enabled:

```
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)# interface atm 1/1/0.100 point-to-point

Router(config-if)# ip address 10.0.0.5 255.255.255.0
Router(config-if)# pvc 10/100

Router(config-if-atm-vc)# no shutdown

Router(config-if)# exit

Router(config)# exit

Router#
Router# debug atm state

ATM VC States debugging is on
Router# debug condition interface ATM1/1/0 vc 10/100
```

```
Condition 1 set
Router#
```

Enabling Debugging for a Specific VCI Example

The following example shows how to enable conditional debugging on a specific VCI. Note that when you enable conditional debugging on a specific VCI alone, the VPI value is automatically set to 0.

```
Router# debug condition interface atm 1/0 vc 4335
Condition 1 set
Router# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)# interface atm 1/0
Router(config-if)# pvc 4335
Router(config-if-atm-vc)# end
Router#
*Jul 12 21:46:52.487: atmdx_setup_vc(ATM1/0): vc=5, vpi=0, vci=4335,  config_status=0
*Jul 12 21:46:52.487: atmdx_setup_cos(ATM1/0): vc=5, wred_name=, max_q=0
*Jul 12 21:46:52.487: ATM VC Debug: Condition 1, atm-vc 0/4335 AT1/0 triggered, count 1
*Jul 12 21:46:52.487: ATM1/0 Current Active VC count 4

*Jul 12 21:46:52.487:  ATM VC notification event 0
*Jul 12 21:46:52.487: atmdx_platform_set_vc_state(ATM1/0): Setting the VC 5 state to UP
*Jul 12 21:46:52.487: ATM: PVC activated, ATM1/0 VCD 5 (0/4335)
*Jul 12 21:46:52.487:  ATM VC notification event 2
*Jul 12 21:46:52.487: %SYS-5-CONFIG_I: Configured from console by console
Router# show atm vc
Codes: DN - DOWN, IN - INACTIVE

           VCD /                                              Peak Av/Min Burst
Interface  Name         VPI   VCI Type    Encaps     SC     Kbps   Kbps Cells St
1/0        1              0    16 PVC     ILMI       UBR  149760              UP
1/0.10     4              0   100 PVC     SNAP       UBR  149760              UP
1/0        5              0  4335 PVC     SNAP       UBR  149760              UP
1/0.1      one            1    40 PVC     SNAP       UBR  149760              UP
1/0        2              3   100 PVC-A   SNAP       VBR    1000   1000     0 IN
4/ima1     1             23    34 PVC     SNAP       UBR       0              IN
```

Additional References

Related Documents

Related Topic	Document Title
Conditionally triggered debugging	"Conditionally Triggered Debugging" chapter in the *Cisco IOS Debug Command Reference*
ATM Overview	Overview of the ATM SPAs
ATM commands: complete command syntax, defaults, command mode, command history, usage guidelines, and examples.	*Cisco IOS Asynchronous Transfer Mode Command Reference*

Standards

Standard	Title
None	--

MIBs

MIB	MIBs Link
None	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

RFCs

RFC	Title
None	--

Technical Assistance

Description	Link
The Cisco Support website provides extensive online resources, including documentation and tools for troubleshooting and resolving technical issues with Cisco products and technologies. To receive security and technical information about your products, you can subscribe to various services, such as the Product Alert Tool (accessed from Field Notices), the Cisco Technical Services Newsletter, and Really Simple Syndication (RSS) Feeds. Access to most tools on the Cisco Support website requires a Cisco.com user ID and password.	http://www.cisco.com/cisco/web/support/index.html

Feature Information for ATM Conditional Debug Support

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 1: Feature Information for ATM Conditional Debug Support

Feature Name	Releases	Feature Information
ATM Conditional Debug Support	Cisco IOS XE Release 2.3	ATM Conditional Debug Support feature allows debugging to be limited specifically to an ATM interface, to a VCI, or to a VPI/VCI pair. The following commands are introduced or modified in the feature: **debug condition interface**, **show debug**.