Logging to Local Nonvolatile Storage (ATA Disk)

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The Logging to Local Nonvolatile Storage (ATA Disk) feature enables system logging messages to be saved on an advanced technology attachment (ATA) flash disk. Messages saved on an ATA drive persist after a router is rebooted.

Finding Feature Information

Your software release may not support all the features documented in this module. For the latest feature information and caveats, see 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 at the end of this document.

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.

Prerequisites for Logging to Local Nonvolatile Storage (ATA Disk)

The logging buffered Command Must Be Enabled

Before the Logging to Local Nonvolatile Storage (ATA Disk) feature can be enabled with the **logging persistent** command, you must enable the logging of messages to an internal buffer with the **logging buffered** command. For additional information, refer to the Writing Logging Messages to an ATA Disk, page 3, and to the Prerequisites for Logging to Local Nonvolatile Storage (ATA Disk), page 1.

Restrictions for Logging to Local Nonvolatile Storage (ATA Disk)

Available ATA Disk Space Constrains the Size and Number of Stored Log Files

The amount of ATA disk space allocated to system logging messages constrains the number of logging files that can be stored. When the allocation threshold is passed, the oldest log file in the directory is deleted to make room for new system logging messages. To permanently store system logging messages, you must archive them to an external device. For more information, refer to the Copying Logging Messages to an External Disk, page 4.

Note Logging to Local Nonvolatile Storage can use up to 2 GB of storage space.

Information About Logging to Local Nonvolatile Storage (ATA Disk)

The Logging to Local Nonvolatile Storage (ATA Disk) feature adds a router's ATA flash disk as a storage destination for logging messages. When using this feature, be sure to understand the following concepts:

- System Logging Messages, page 2
- ATA Flash Disks, page 2

System Logging Messages

System logging messages include error and debug messages generated by application programming interfaces (APIs) on the router. Typically, logging messages are stored in a router's memory buffer; when the buffer is full, older messages are overwritten by new messages. All logging messages are erased from the memory buffer when the router reboots.

ATA Flash Disks

ATA flash disks are PC cards included with some Cisco routers, which are used to provide nonvolatile data storage. The greater the capacity of the ATA flash disk, the more data, such as logging messages, it can hold. Logging messages written to an ATA flash disk persist when the router reboots.

How to Configure Logging to Local Nonvolatile Storage (ATA Disk)

Writing Logging Messages to an ATA Disk

Perform this task to enable the Logging to Local Nonvolatile Storage (ATA Disk) feature and write logging messages to an ATA flash disk:

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **logging buffered** [*buffer-size* | *severity-level*]
4. **logging persistent** [**url** {**disk0:**/*directory* | **disk1:**/*directory*}] [**size** *filesystem-size*] [**filesize** *logging-file-size*] [**batch** *batch-size*]

DETAILED STEPS

	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`	Enables global configuration mode.
Step 3	**logging buffered** [*buffer-size* | *severity-level*] **Example:** `Router(config)# logging buffered`	Enables system message logging to a local buffer and limits messages logged to the buffer based on severity. • The optional *buffer-size* argument specifies the size of the buffer from 4096 to 4294967295 bytes. The default size varies by platform. • The optional *severity-level* argument limits the logging of messages to the buffer to those no less severe than the specified level.

Command or Action	Purpose
Step 4 **logging persistent** [**url** {**disk0:**/ *directory* | **disk1:**/*directory*}] [**size** *filesystem-size*] [**filesize** *logging-file-size*] [**batch** *batch-size*] **Example:** `Router(config)# logging persistent url disk0:/syslog size 134217728 filesize 16384 batch 5098`	Writes logging messages from the memory buffer to the specified directory on the router's ATA disk. • Before logging messages are written to a file on the ATA disk, the Cisco IOS software checks to see if there is sufficient disk space. If not, the oldest file of logging messages (by timestamp) is deleted, and the current file is saved. • The filename format of log files is *log_MM:DD:YYYY::hh:mm:ss* (for example, log_06:10:2008::07:42:14). For Release 12.4(20)T and later releases, the filename format is changed to *log_YYYYMMDD-hhmmss* (for example, log_20080610-074214). This feature supports only one log file per second due to its filename format, which contains a timestamp suffix down to the seconds level.

Copying Logging Messages to an External Disk

Perform this task to copy logging messages from the ATA flash disk to an external disk.

SUMMARY STEPS

1. **enable**
2. **copy** *source-url destination-url*

DETAILED STEPS

Command or Action	Purpose
Step 1 **enable** **Example:** `Router> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2 **copy** *source-url destination-url* **Example:** `Router# copy disk0:/syslog ftp://myuser/ mypass@192.168.1.129/syslog`	Copies the specified file or directory on the ATA flash disk via FTP to the specified URL.

Configuration Examples for Logging to Local Nonvolatile Storage (ATA Disk)

Writing Logging Messages to an ATA Disk Example

The following example shows how to write up to 134217728 bytes (128 MB) of logging messages to the syslog directory of disk 0, specifying a file size of 16384 bytes:

```
Router(config)# logging buffered
Router(config)# logging persistent url disk0:/syslog size 134217728 filesize 16384
```

Copying Logging Messages to an External Disk Example

The following example shows how to copy logging messages from the router's ATA flash disk to an external disk:

```
Router# copy disk0:/syslog ftp://myuser/mypass@192.168.1.129/syslog
```

Additional References

The following sections provide references related to the Logging to Local Nonvolatile Storage (ATA Disk) feature.

Related Documents

Related Topic	Document Title
copy command	*Cisco IOS Configuration Fundamentals Command Reference*
Network Management commands (including **logging** commands): complete command syntax, defaults, command mode, command history, usage guidelines, and examples	*Cisco IOS Network Management Command Reference*

Standards

Standards	Title
No new or modified standards are supported by this feature, and support for existing standards has not been modified by this feature.	--

MIBs

MIBs	MIBs Link
No new or modified MIBs are supported by this feature, and support for existing MIBs has not been modified by this feature.	To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL: http://www.cisco.com/go/mibs

RFCs

RFCs	Title
No new or modified RFCs are supported by this feature, and support for existing RFCs has not been modified by this feature.	--

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.	http://www.cisco.com/techsupport
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.	

Feature Information for Logging to Local Nonvolatile Storage (ATA Disk)

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.

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Table 1   *Feature Information for Logging to Local Nonvolatile Storage (ATA Disk)*

Feature Name	Releases	Feature Information
Logging to Local Nonvolatile Storage (ATA Disk)	12.0(26)S 12.2(25)S 12.2(28)SB 12.2(33)SRB 12.4(15)T 12.2(33)SB 12.4(20)T	The Logging to Local Nonvolatile Storage (ATA Disk) feature enables system logging messages to be saved on an advanced technology attachment (ATA) flash disk. Messages saved on an ATA drive persist after a router is rebooted. The following commands were introduced or modified: **logging persistent**, **logging buffered**.