



Troubleshooting with Extract Log Feature on PowerEdge MX

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SUMMARY

Dell EMC PowerEdge MX7000 comes with a Management Module that provides chassis management. Management Module supports High Availability with the help of a redundant module. An integral feature of the management firmware is to keep a detailed log of events from managed devices as well as software events in the management firmware.

Firmware logs collected from Management Module components, which can be used for troubleshooting, are grouped together as Extract Logs. Extract Log saves time and streamlines technical support cases.

This 4 page technical white paper describes a method to collecting Extract Logs that can be later used by Technical Support to troubleshoot any hardware or firmware issues.

Overview of Extract Logs

Management Module provides an application interface for gathering platform information that enables support services (tech support) to resolve platform and system problems.

Management Module consists of various firmware components used for configuring, controlling and monitoring all hardware in the chassis. Each firmware component produces debug logs at runtime that are stored internally in the Management Module. Each debug log is capped and logs are rotated when configured buffer size is reached (older logs removed to make place for new ones).

Some of the types of logs collected are:

- REST API query history from user interface
- REST API communication between Management Module and rest of chassis components
- Firmware and hardware revision information
- Redundancy logs to monitor health of Management Module
- Power management logs that includes power inventory, allocation and PSU health
- IOM management logs that include inventory, power allocation, health, etc
- Networking logs that manage communication link between various chassis components
- Switchover logs that captures reason for last reboot of Management Module

Management Module firmware code and debug logs have been vetted to never log username, password and other Personally Identifiable Information (PII). As an additional safeguard, the collected logs are run through a Log Filter (built in to Extract Log feature) to detect and remove any PII before archiving.

Extract Log takes several minutes to collect, filter, and archive logs from local and remote (if present) Management Modules. Management Module creates job to monitor Extract Log collection progress.

Logs from various firmware components thus collected are archived into a standard ZIP file. The ZIP file is then saved to a network share (that customer has pre-configured).

Need for Extract Log Feature

Customers using PowerEdge MX7000 can troubleshoot issues with the help of online documentation available at <https://www.dell.com> and guidance over phone from tech-support.

However, tech-support and engineering teams will need to investigate debug logs from the chassis to troubleshoot some of the firmware / hardware issues. Under such situations, Extract Logs can be collected from Management Module's web/API interface.

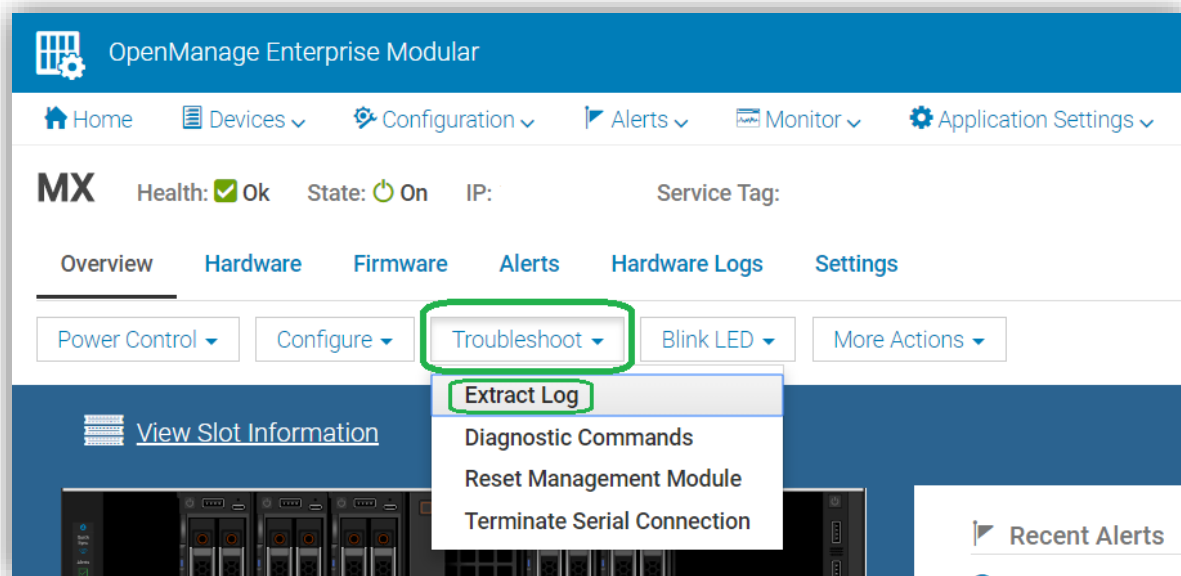
It is important to note that Extract Logs collected on-demand (user initiated) from Management Module are always stored in network share that customer configures. They are never sent directly to Dell support. Customer has to explicitly share the file with Dell tech-support so that they can begin investigating the logs.

Collecting Extract Log

Management Module's web interface provides an option to initiate Extract Log collection. Refer to Management Module REST API document for information on using APIs for log collection.

Navigate to: Home page -> Troubleshoot menu -> Extract Log

Should either of these failure scenarios occur, the MX7000 will set a fault and can be configured to send notification of the issue.



Management Module supports two methods of saving Extract Logs to customer's network.

- NFS Share
- CIFS Share

Customer can choose any of the methods to save logs, based on their preference. Log save method has no impact on Extract Log collection procedure.

Note: NFS/CIFS share setup is outside the scope of this document.

If the network share is not reachable, Management Module shows an error message and Extract Log collection is not initiated. In such case, customer should check network share configuration and try again.

Collecting Logs to NFS Share

- Choosing “NFS” brings up:

Input the network share address and path in fields shown above

Collecting Logs to CIFS

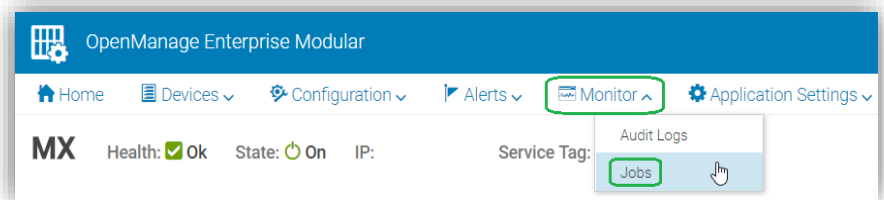
- Choosing “NFS” brings up

Input the mandatory fields – network share address, path, username and password. Domain is an optional field.

Monitoring *Extract Log* Job

Progress of Extract Log job can be monitored from Management Module User Interface.

Go to [Home page](#):



[Jobs page:](#)

The screenshot shows the 'Monitor' interface with a 'Jobs' tab selected. A table lists several jobs, with the 'Extract Log' job highlighted. A side panel provides details for the selected job.

JOB STATUS	STATE	JOB NAME	JOB TYPE	DESCRIPTION	LAST RUN
<input checked="" type="checkbox"/> Running	Enabled	Extract Log	Debug Logs	Extract device log to NFS location	Jul 22, 2018 7:10:43 PM
<input checked="" type="checkbox"/> Completed	Enabled	Default Inventory Task	Inventory	Default Inventory Task	Jul 22, 2018 7:00:00 PM
<input checked="" type="checkbox"/> Completed	Enabled	Refresh Inventory for Device	Inventory	Refresh Inventory for Device	Jul 19, 2018 9:44:30 AM
<input checked="" type="checkbox"/> Completed	Enabled	Refresh Inventory for Device	Inventory	Refresh Inventory for Device	Jul 19, 2018 9:44:25 AM
<input checked="" type="checkbox"/> Completed	Enabled	Refresh Inventory for Device	Inventory	Refresh Inventory for Device	Jul 19, 2018 9:43:17 AM
<input checked="" type="checkbox"/> Completed	Enabled	Refresh Non-Server Devices Invent...	Inventory	Refresh Non-Server Devices Inventory	Jul 19, 2018 9:43:02 AM
<input checked="" type="checkbox"/> Completed	Enabled	Refresh Inventory for Device	Inventory	Refresh Inventory for Device	Jul 14, 2018 1:56:35 AM
<input checked="" type="checkbox"/> Completed	Enabled	Refresh Inventory for Device	Inventory	Refresh Inventory for Device	Jul 14, 2018 1:56:30 AM

Extract Log Details:

- View Details** (button)
- Detailed Description:** Extract device log to NFS location
- Created By:**
- Last Run Date/Time:** Jul 22, 2018 7:10:43 PM

[Job details page](#)

Job Details

- Job Name:** Extract Log
- Job Type:** Debug Logs
- Description:** Extract device log to NFS location
- Status:** Completed

Results:
Target System: MX

Messages:
Running
Share path validated successfully
Extracting standby MM logs
Extracting controller logs
Successfully extracted controller logs
Extracting active MM logs
Successfully extracted Active MM logs
Extracted Logs are compressed as .zip
Copying the logs to the share location
Compressed logs are successfully exported to shared location
Completed

When the job transitions from Running to Completed, the ZIP containing Extract Logs (ApplicationLogs.zip) should be available in network share path.

Conclusion

Once data is available then active support calls can be enabled to ensure the fastest time to resolution. This ZIP file can be shared with support to ensure detailed analysis of actual chassis configurations to ensure the most effective support which can plan and take action for the health and insight into the PowerEdge MX.