



Enterprise Operating System

Version 05.03.01

Release Notes P/N 958-000190-531 Rev A

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These release notes describe features, code fixes, and other information for enterprise operating system (E/OS) version 05.03.01.

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Applicable Products

McDATA E/OS firmware version 05.03.01 is only supported on the second-generation Sphereon 4500 Switch.

What's New in E/OS 05.03.01

E/OS 05.03.01 provides support for second-generation Sphereon 4500 switches. E/OS 05.03.01 gives customers the option of keeping their fabrics at E/OS version 05.xx.xx, instead of upgrading the entire fabric to version 06.02.00 or higher when installing a second-generation Sphereon in an existing fabric.

E/OS 05.03.01 is based on E/OS 05.03.00 and does not contain any additional changes or bug fixes. For additional fixes or functions, it is recommended that the entire fabric be upgraded to E/OS release 06.02.00 or higher.

E/OS 05.03.00 fixed the incident reports (IRs) listed under [Code Enhancements & Fixes in E/OS 05.03.01](#), page 1-5. E/OS 05.03.00 is based on E/OS 05.02.00.

With larger fabrics, larger zone/zone set sizes, and the increased capability in E/OS release 05.xx.xx, the amount of time required to initialize firmware, notify the fabric of changes, and respond to nameserver queries has increased. This increased time could result in devices entering error recovery and even possibly logging out of the fabric. E/OS 05.03.00 contains enhancements to significantly improve code load performance (HotCAT) and reduce the amount of time the nameserver database is temporarily unavailable to respond to nameserver queries. These changes represent several magnitudes of improvement over previous 05.xx.xx releases, and also all versions of release 04.xx.xx. These improvements enhance fabric performance and reliability during firmware activations, IML/IPLs, large zone set activations, and fabric changes. Incident Reports (IRs) related to these changes are identified in [Code Enhancements & Fixes in E/OS 05.03.01](#), page 1-5.

A standalone Configuration Backup and Restore (CBR) utility is now available for customers that do not use EFCM for backing up and restoring user configuration data. You can use this utility to backup and restore configuration data from all switch and director products running E/OS versions 04.00.00 and higher.

The CBR utility is available for no charge in the McDATA support section at www.mcdata.com or by contacting your sales representative or service provider. For details on CBR, refer to the *Configuration Backup and Restore Utility CBR Version 6.0.0 Installation and User Guide* (958-000370-000), also available from the same Website location.

To locate the CBR utility and publication on the Website:

1. Select *File Center* from the *Support* tab.
2. Log into *File Center*.
3. Select the *Documents* tab.
4. Select *E/OS Release Notes* as a category
5. Select *Search*.

Select *Download* for the *Backup/Restore Utility*.

Upgrade and Downgrade Considerations

- E/OS 05.03.01 is the first E/OS version supported on the second-generation Sphereon 4500 Switch. You do not need to install this on any first generation 4500 switches or any other switch or director model. You cannot downgrade the second-generation 4500 Switch below version 05.03.01.
- First generation 4500s are also supported in E/OS releases 06.00.00 and above, but second generation 4500s are not supported until release 06.02.00. When upgrading a second generation 4500, you must use version 06.02.00 or above.
- The switch is not required to be offline before performing an upgrade or downgrade operation.
- Downgrading directly to a release before 04.00.00 from release 05.03.01 is not allowed.
- Downgrades directly to release 05.03xx from release 06.xx.xx are not concurrent when the switch/director is configured in Open Fabric operating mode. In other words, downgrades in open fabric mode cannot be done with the switch or director online without disrupting port operations.

If this process is not followed, I/O through the switch/director may be significantly disrupted or stopped. Recovery for this situation can be accomplished by re-activating the current zone set. Downgrades to release 05.03.xx from 06.xx.xx in McDATA Fabric mode are not impacted and will continue to be concurrent. Downgrades directly to release 05.00.00, 05.01.00, or 05.02.00 will also continue to be concurrent.

- Firmware downgrades should not be performed using SANpilot and Internet Explorer version 5.00.3315.1000x. If this operation is performed, the download operation may not complete and may eventually time-out, leaving the switch with the previous version of firmware.
- Before upgrading or downgrading firmware, it is highly recommended that you back up the switch or director configuration in the event that a failure should occur.
 - Refer to *Backup and Restore Configuration* in Chapter 5 of your switch or director Product or Element Manager User Manual for more details.
 - SANpilot also provides an option to print or save product configuration to a file. Refer to Chapter 6 in your SANpilot User Manual, under *Obtaining Product Information*, for more details.
 - You can also use the Configuration Backup and Restore (CBR) utility. This backs up configuration data from E/OS 04.00.00 and above. Refer to the *Configuration Backup and Restore Utility CBR Version 6.0.0 Installation and User Guide* (958-000370-000).

Prerequisites for Installing and Using E/OS 05.03.01

If you are using EFCM applications, E/OS version 05.03.01 requires EFCM version 07.00.00 at a minimum. Check with McDATA Customer Support for the latest shipping version of EFCM. EFCM should be at the minimum level before installing the new E/OS firmware. Note that EFCM is not required for operating hardware products using E/OS.

Other McDATA products in the same fabric as E/OS version 05.03.01 must be at a minimum revision level for proper fabric operation. The minimum firmware levels are listed below, but it is recommended

you upgrade to the latest shipping versions of each release (check with McDATA Customer Support for latest version).

- All E/OS-based products: Version 05.01.00
- ED-5000 Version 04.01.00
- ES-1000 Version 02.00.02

Although products may co-exist in a fabric running different levels of E/OS firmware, all products *must* be at the same major functional release level for optimum fabric stability and robustness.

Code Enhancements & Fixes in E/OS 05.03.01

The code fixes and enhancements in the following table are the same as in E/OS 05.03.00. E/OS 05.03.01 is based on E/OS 05.03.00, which is based on E/OS 05.02.00. Therefore, all enhancements and fixes in E/OS 05.02.00 are also included in E/OS 05.03.01. Please refer to the E/OS 05.02.00 SRN for additional details on that release.

Enhancements and fixes in the following table are organized by their Problem Category, then their incident report number (IR Number). Each enhancement and fix is assigned a Problem Category based on whether it relates to simple network management protocol (SNMP), the Telnet command line interface (CLI), FICON management server, embedded management, open systems management server (OSMS), SANpilot, systems services, maintenance port, or other function.

IR Number	Description	Problem Category	Affected Model
9262,10037	Will now avoid segmenting an E-port when an illogical EFP frame is received.	Fabric Services	E/OS Family
9549	If a persistent NVSRAM failure is detected on the backup CTP card, the 420 event (backup CTP non-volatile memory failure) will now be throttled to prevent flooding the internal event log and FICON host with event messages.	System Services	Intrepid 6064, 6140

IR Number	Description	Problem Category	Affected Model
10038	Improvements have been made to increase code-load performance. This change will only take effect when migrating from a release that has this change (05.03.00) to a higher release that also has this change (06.00.00).	System Services	E/OS Family
9908	Resolved issue where zone set activations timed out. Zone set actually was activated, but EFCM did not receive response, so it posted a time out error. This only occurred on very large zone set sizes.	Other	E/OS Family
9940, 9185, 9908	Improvements have been made to reduce the time the name server is not available after an IPL (IPL occurs after new code upgrades).	Other	E/OS Family

Outstanding Known Issues in E/OS 05.03.01

Issues in the following table are organized by their Problem Category, then their incident report number (IR Number). Each issue is assigned a Problem Category, based on whether it relates to simple network management protocol (SNMP), the Telnet command line interface (CLI), FICON management server, embedded management, open systems management server (OSMS), SANpilot, systems services, maintenance port, or other function.

NOTE: Descriptions for these incident reports (IRs) may state that the problem will be fixed in a future release. Please note that the targeted release for this fix may change.

IR Number	Description	Problem Category	Affected Model
8337	If a (counter threshold alert) CTA is defined with a port type (i.e. fport, eport), the "all" option for the Perf.ThresholdAlerts.Counter.RemovePort command does not work. However, if the ports are defined for a CTA by #, the command works fine and Ports field is set to "None" as expected. This problem only relates to how data is displayed and does not impact switch operations. Fixed in 06.00.00.	CLI	E/OS Family

IR Number	Description	Problem Category	Affected Model
8343	CLI - Show.Open.Trunking.Config display doesn't indicate actual default values for either Credit Starvation or Credit Threshold, but only displays the word "Default". This problem only relates to how data is displayed and does not impact switch operations. Fixed in 06.00.00.	CLI	E/OS Family
8344	Valid "Type" displayed for the Show.NameServer and Show.NameServerExt commands are inconsistent. On the Intrepid 6140 and Sphereon 3232, the type is displayed as "fport", but on the Sphereon 4500 it is displayed as "F". Valid "Type" values are: N, NL, F/NL, F, FL, E, and B. There is only an inconsistent data display and does not affect switch operations. Fixed in 06.00.00.	CLI	E/OS Family
8346	CLI - When in comma delim mode true, the Show.NameServer command does not display the FC4 Types table in commadelim mode. Since comma delim mode is mostly just for scripting, there is no reason to display the table. Fixed in 06.00.00.	CLI	E/OS Family
8397	CLI - Enhancement Request - add FC Address to Show.Switch command. This is not a defect, but a request to add the address when this command is issued. Fixed in 06.00.00.	CLI	E/OS Family
8784	Changing Port Speed on all Ports causes EFCM Resource Unavailable error. Fixed in 06.00.00.	Embedded Mgmt	Intrepid 6140
7562	Port Binding offenders degrade switch performance. When port binding is enabled, unauthorized devices, older devices, and HBAs (such as Emulex 800 HBA), can bombard the switch with Fiber Channel login (FLOGI) requests as we reject them. Processing these exchanges can degrade embedded port performance. There are not many older devices in the field that would cause this issue. If this problem does occur, you can work around by disabling port binding. Resolution targeted for 08.00.00 release.	Fabric Services	Sphereon 4500
8726	Inconsistent RSCN format on IPL or code load when Domain RSCN's enabled. Most nodes seem to handle this without a problem. It appears that this is a channel problem and not a problem with the switch. There is a potential for FICON customers to encounter this in the field. Fixed in 06.00.00.	Fabric Services	Intrepid 6140
8620	ACA command contains 896 bytes of extra zeros. No operational or customer impact. Fixed in 06.00.00.	Fabric Services	E/OS Family

IR Number	Description	Problem Category	Affected Model
8843	700b fault when starting 24 multi alpha ports. Heavy load test case on all ports on Sphereon 4500 with multiple loop devices on every port caused a failure when all these ports were started simultaneously. This scenario is not likely to occur in the field. Fixed in 06.00.00.	Fabric Services	Sphereon 4500
9585	Adding a bad ISL between switches may result in all the ISLs between the switches becoming segmented. Fixed in 06.00.00.	Fabric Services	E/OS Family
9982	Switches in a large 24-switch fabric may fault with 801A fault code after taking the principal core director offline and deactivating the fabric zone set. The deactivate operation does complete on the switches, but EFCM posts an error that the operation timed out. Fixed in 06.01.00.	Fabric Services	E/OS Family
8773 and 9851	Fault 73: local and remote recovery to FMS. Occurs infrequently while driving simultaneous local and remote recovery to the CUP. Fixed in 06.00.00.	FICON Mgmt Server	Intrepid 6064
9318	Host times-out selective reset after cancel and CUE. Sequence is basically CUB, Cancel, Selective Reset, CUE. Channel times out the Selective Reset for lack of a response. Fix is targeted for 07.00.00.	FICON Mgmt Server	Intrepid 6064 and 6140
9586	FMS: 1520B fault when running recovery on multiple paths from a single LPAR. Fixed in 06.00.00.	FICON Mgmt Server	Intrepid 6140 and 6064
8824	NVRAM configuration reset. While the majority of NVRAM reset issues have been resolved, it is possible that the configuration held in NVRAM can be reset to defaults after either a power failure or user initiated power off. The possibility of this occurring is low, and we have not been able to reproduce this type of failure even on units where a failure has occurred once. If the configuration is reset after a power outage, it must be re-entered or restored from your backup. To minimize the impact, always maintain a current backup. This issue itself will not cause an outage since the unit must have been powered off, but it could delay returning the unit to full operation.	System Services	E/OS Family

IR Number	Description	Problem Category	Affected Model
8995	Firmware downloaded to 4500 units through EFCM sometimes times out. The problem occurs somewhat randomly, but is persistent once it does occur. Firmware downloads do progress via SANpilot without trouble even when they fail through EFCM. Fixed in 06.00.00.	System Services	Sphereon 4500
9263	During a firmware upgrade, if the "Download firmware file from" field is left blank or random text is entered in this field, you will get an error, "System File Error Firmware Successfully Loaded" when you click the Send and Load Firmware button. Fixed in 06.00.00.	Embedded Web Server	EOS Family
10007	A device will no longer be able to send frames to itself after the active zone set (which it is a member of) is deactivated. As a workaround, block then unblock the port. Fixed in 06.00.00.	Hard Zoning	E/OS Family
10036	Erroneous events 602 (SBAR detected anomaly) and 604 (SBAR failure) in high traffic environments. Unit will fail-over to backup SBAR and will not impact your operations. Fixed in 06.01.00.	HW High Avail Mgmt	Intrepid 6064
20534	Moving a Fibre Channel cable or changing port speeds while the port is autonegotiating can hang the port. Customer impact is medium. For a workaround and recovery, reset the port using your management application.	H/W High Avail Mgmt	Sphereon 4500

Standards Compliance

- E/OS 05.03.01 is compliant with the following Fibre Channel protocols:
 - FC-GS-3
 - FC-PH Rev 4.3
 - FC-PH-2
 - FC-PH-3
 - FC-GS-2
 - FC-FLA
 - FC-FG

- FC-SW-2
- E/OS 05.03.01 is compliant with the Fibre Channel Element MIB (FE-MIB).
- E/OS 05.03.01 is compliant with the following TCP/IP MIB-II groups:
 - System
 - Interface
 - Address Translation
 - IP
 - ICMP
 - TCP
 - UDP
 - SNMP
- E/OS 05.03.01 is compliant with the following classes of service:
 - Class 2
 - Class 3
 - Class F

Supported Configurations

The *Supported Fabrics Configuration* document provides information on supported fabric configurations containing McDATA directors and switches. This document is located on www.mcdata.com in the Resource Library section. Information contained in this publication includes:

- Guidelines for configuring maximum end ports, unique zone members, ISLs per switch, members per zone, zones, devices supported, and switch types per fabric.
- Supported fabrics containing from one to eight switches.
- Supported fabrics containing from nine to 24 switches.
- Fabric topology examples.

Related Documentation

The following documents provide additional support and information pertaining to E/OS release 05.03.01:

- Product Manager User Manual for your switch or director product (for example, Intrepid 6140 Director Product Manager User Manual or Sphereon 3232 Switch Product Manager User Manual)
- McDATA Command Line Interface User Manual
- McDATA Enterprise Fabric Connectivity Manager User Manual
- McDATA SANpilot User Manual
- McDATA Configuration Backup and Restore Utility CBR Version 6.0.0 Installation and User Guide