



Exos® X 4006 Series

I200R004 Release Notes

Part Number 205036300-01, A • July 2023

Description

This package delivers firmware for the Exos X 4006 Series storage enclosures.

Model	Firmware version
4006 Series	I200R004

Operating systems

Supported operating systems include:

- Microsoft Windows Server 2022
Microsoft Windows Server 2019 Hyper V
Microsoft Windows Server 2019
Microsoft Windows Server 2016 Hyper V
Microsoft Windows Server 2016
- Red Hat Enterprise Linux 8.2
Red Hat Enterprise Linux 7.8
- SuSE Linux Enterprise Server 15 SP2
SuSE Linux Enterprise Server 12 SP5
- VMware ESXi Server 7.0
VMware ESXi Server 6.7
- Citrix Hypervisor 8
Citrix XenServer 7

Installation instructions

Upgrading from firmware version I200R002-03 or I200R002-04 requires use of one of the following methods.

- The Storage Management Console (SMC). In this case, disable the PFU and upgrade one controller at a time, then re-enable PFU. See "[Description](#)" above.
- The normal SFTP/FTP interface upgrade process. For more information, see the *Seagate Exos X 4006 Series Storage Management Guide*.

NOTE

- Make sure that your system is in the healthy state prior to the upgrade.
 - This firmware version does not support downgrades to previous versions.
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Autonomous Drive Regeneration (ADR) disclaimer

ADR is a new feature for HDD remanufacture. For certain specific single-head failures within a disk drive, ADR can logically remove that offending head and continue to use the rest of the drive. This prevents replacement of the drive. The first release (I200R002-04 coupled with our 18TB and 20TB drives) contained the first part of this feature. The second part of this feature will be introduced in a subsequent release.

New features or enhancements in I200R004

- Added Lattice CPLD support for 5U84 system.
- Completed USGv6R1 certification.
- Added support for FIPS-compliant Seagate and Kioxia drives.

Issues fixed in I200R004

- For the SMC, fixed an issue where a "not ready" message state would appear.
- Fixed an issue where the ADAPT drive map was not updated when a scrub was in progress or when a new drive was added.
- Fixed an issue where the SMC would hang due to an internal memory problem.
- Implemented security improvements.
- Fixed controller crash with message "The Asic is not responding to pcie communication."
- Fixed an issue where a blank window would open during a firmware update, obscuring the update progress.
- Fixed an issue on single-pool systems where Broadcast was not enabled properly on both controllers to allow for consistency of data on both controllers.

Known issues and workarounds

Issue: Attempting a hot swap of sideplane 3 results in loss of data path redundancy and causes the root expander to go down.
Workaround: Cold swap all sideplanes.
Issue: Network port LEDs do not report information as expected for Network Port Activity Status and Network Port Link Speed.
Workaround: None
Issue: In CLI help text for the <code>remove ipv6-address</code> command, index values for controllers are listed as 0 to 3 but the actual values should be 1 to 4.
Workaround: Use index values from 1 to 4.
Issue: Help recommendation for QTOF disk group condition is not sufficient to resolve the condition.
Workaround: None
Issue: In SMC help, some text is missing from translated (non-English) content.
Workaround: Use English version if possible.

<p>Issue: A controller crashes on a multi-enclosure system due to heartbeat loss.</p> <p>Workaround: Manually unkill the controller.</p>
<p>Issue: If a controller fails, the partner controller is not generating expected alert email messages.</p> <p>Workaround: Resolve the condition that caused the failover event.</p>
<p>Issue: A single-ported drive causes a proper health condition, which prevents code load from progressing.</p> <p>Workaround: If this condition does not resolve automatically, restart the controller.</p>
<p>Issue: The downloaded CSV file for heatmap information is an invalid file.</p> <p>Workaround: Review the heatmap in the SMC.</p>
<p>Issue: Code load fails because the expected version appears to be incorrect.</p> <p>Workaround: Retry code load operation.</p>
<p>Issue: During I/O, when code load fails on one controller, and an attempt is made to load code on the partner controller, it also errors and then iteratively loops while displaying the error.</p> <p>Workaround: Restart both controllers, and then initiate the code load.</p>
<p>Issue: Within the Maintenance > Firmware > System tab, SMC displays the incorrect controller location when used in single-controller mode.</p> <p>Workaround: Invoke the <code>show versions detail</code> CLI command to see the correct controller module FRU actually in use.</p>
<p>Issue: Repetitive failovers can cause a controller module to go into data protect mode.</p> <p>Workaround: Use the <code>unfail controller</code>, <code>restart mc</code>, or <code>restart sc</code> CLI commands, or SMC Restart/Shutdown System action (restart actions) to unkill/restart the controller module. Use the <code>shutdown</code> CLI command or SMC Restart/Shutdown System action (shutdown actions) to perform an orderly shutdown for properly power cycling the enclosure.</p>
<p>Issue: During storage system startup, SMC says the system is not ready.</p> <p>Workaround: Either restart both Management Controllers or power cycle the system.</p>
<p>Issue: After Firmware update from I200R002-03 or I200R002-04 to I200R004, the storage system could show degraded health or show the data path as not redundant.</p> <p>Workaround: Restart the storage system.</p>
<p>Issue: Firmware fails on the SP (sideplane) component.</p> <p>Workaround: With PFU (Partner Firmware Update) enabled (which is the default), wait from 5 to 10 minutes and check the system health. The auto update process will automatically correct this issue.</p>
<p>Issue: Firmware update from I200R002-03 or I200R002-04 to I200R004 fails to update expander 0 left sideplane, and causes a crash when performing the firmware update via FTP.</p> <p>Workaround: Restart the storage system and retry the firmware update.</p>
<p>Issue: Using SMC to perform firmware update failed when an IOM was replaced prior to the firmware update.</p> <p>Workaround: Ensure the system is updated to I200R004 before IOM replacement. If that is not possible then perform the firmware update with PFU (Partner Firmware Update) disabled or by using FTP.</p>

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