Exos® X 4006 Series
I200R005 Release Notes

Part Number 205036300-02, A • June 2024

Description

This package delivers I200R005 firmware for Exos X 4006 Series storage enclosures.

Supported upgrade paths

The I200R005 firmware bundle is intended for upgrade from I200R003 or I200R004 controller firmware. Direct upgrade from controller firmware below I200R003 is not supported. If you have controller firmware below I200R003, please contact Seagate Support to determine the required steps to upgrade to I200R005.

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

To install this firmware by using either the Storage Management Console (SMC) or the SFTP/FTP interface, see the *Seagate Exos X 4006 Series Storage Management Guide*.

New features or enhancements in I200R005

- Added the ability to schedule media scrub operations for disk groups. Removed the ability to set the duration/interval for scrub operations, which is now automatically calculated. Removed the ability to scrub individual disks in favor of scrubbing disk groups.
- Implemented security enhancements.
- For certificate management, removed the old CLI commands `show certificate` and `create certificate`. Equivalent CLI commands are `show certificates` (plural) and `create certificate-signing-request`.
- Added the ability to configure the system's time zone. Based on the time zone, the system clock will automatically adjust for daylight saving time (DST).

Fixes and other changes in I200R005

- Fixed an issue where a user was unable to create more than 2 disk groups per controller.
- Fixed an issue where a single-ported drive health condition prevented firmware update from progressing.
- Fixed an issue that caused a time synchronization error between controller modules.
- Fixed an issue that displayed an error for valid characters ' and > in a peer connection name, a replication set name, or secondary volume name.
- Fixed an issue that caused a disk group to become quarantined after disk firmware updates.
- Increased email and local-user password length to 64 bytes.
- Fixed an issue where a rebalance job was running on a disk group but its pool was offline.
- Fixed an issue where a single snapshot tree mapped too much logical space, resulting in insufficient memory to perform operations to take, reset, or delete snapshots.
- Fixed an issue where after replacing a failed drive in an ADAPT disk group, rebalance completes but the actual spare capacity value did not adjust to match the target spare capacity.
- Fixed an issue where the Storage Controller became unresponsive when creating large disk groups in "offline mode."
- Fixed an issue where a SAS cable fault was detected for the wrong drawer in a 5U84 enclosure.
- Fixed an issue where in a dual-controller system, a single controller crash resulted in data unavailability.
- Corrected the health recommendation for an enclosure midplane reported as unhealthy with reason "A midplane SGPIO bus failure was detected."
- Fixed an issue where using the SMC to schedule local snapshot creation failed.
- Fixed an issue where, when using the **Create Volumes** wizard in the SMC, the **Use Remaining Space** checkbox could be set for controller A but was grayed-out for controller B.
- Fixed an email notification issue where if multiple email addresses were configured, only the first address succeeded.
- Fixed an issue where a copyback operation did not start until the user ran a manual rescan.
- In the SMC and CLI, ceased showing license information for the SRA and VSS host-software components, which don't require a Seagate license.
- Fixed an issue where, in the SMC, a user could not create and delete a host group name containing a space.
- Fixed an issue where, in a 5U84 system, installing I200R004 succeeded but upgraded only a subset of sideplanes.

- Fixed an issue where, via FTP, IOM firmware could be installed to the connected IOM but not to an IOM on the alternate path.
- Fixed an issue where a controller heartbeat was lost and the Management Controller was inaccessible.
- Optimized paged-storage allocation to avoid fragmentation, especially when snapshots are used, to improve performance.
- Fixed an issue where memory exhaustion errors caused the controller to restart.
- Fixed an issue in where, after replacing a faulty drive in a 5U84 enclosure, the drawer and enclosure fault LEDs remained lit.
- Fixed an issue where a virtual pool was offline because a metadata volume was unreadable or missing.
- Fixed an issue in the SMC where performance graphs did not load when using an LDAP account.
- Fixed an issue in the SMC where users were unable to view system IOPS and latency graphs.
- Fixed an issue where a disk group and pool went offline after drive replacement.
- Fixed an issue where, of 4 paths from a host to volumes, 2 paths had correct data and 2 had incorrect data.
- Fixed an issue where power-cycling a 5U84 enclosure resulted in a pool fault.
- Fixed an issue where DNS server logs showed systems sent many queries for their own A (host address) and AAAA (IPv6 address) records.
- Fixed an issue where a 5U84 system reported intermittent alert conditions for fans.
- Improved handling of EMP alerts in the case of a GEM expander soft reboot.
- Fixed an issue in the SMC where, after the current replication completed from the primary system, replication information disappeared from the volume's **Replications** tab.
- Fixed an issue where trying to add the same remote system to an existing peer connection caused the SMC to hang, requiring a browser refresh.
- Fixed an issue where setting DNS hostnames using only uppercase letters failed.
- Fixed an issue where after shutting down a system, both controllers entered a restart loop.
- Fixed an issue where event 658 was logged too frequently.
- Fixed an issue where a system using FDE could not transition out of Secured, Lock Ready state.
- Fixed an issue where after power-cycling a system, four drives went into a Secured, Locked state which caused several diskgroups to become degraded.
- Made firmware changes to improve performance.
- Made firmware changes to allow creation of 4 ADAPT disk groups of any size per controller.
- Fixed an issue where a system's iSCSI replication connection occasionally became disconnected and reported a CAPI hang event.
- Removed CLI remote-system commands.
- The FA MIB 2.2 SNMP event section (connUnitEventTable) is no longer supported.

Known issues and workarounds

Issue: In CLI help text for the `remove ipv6-address` 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: In SMC help, some text is missing from translated (non-English) content. **Workaround:** Use English version if possible.
Issue: The downloaded CSV file for heatmap information is an invalid file. **Workaround:** Review the heatmap in the SMC.
Issue: Codeload failure. **Workaround:** Retry installing the firmware bundle, then check the firmware update status by running the CLI command `show firmware-update-status`.
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. **Workaround:** Restart the storage system.
Issue: Management Controller restart (`restart mc`) failed, displaying an "MC not communicating" message. **Workaround:** Run the CLI command `restart sc <controller-ID>` to restart the MC that is not communicating.
Issue: Codeload failed, displaying an "MC not communicating" message. **Workaround:** Retry installing the firmware bundle.
Issue: Using the SMC, firmware upgrade from I200R002-03 to I200R005 shows success, but fails. **Workaround:** Either: • Use FTP to perform the firmware upgrade. • Use the SMC to upgrade from I200R002 to I200R004 and then to I200R005.
Issue: Controller crashed during firmware downgrade process. **Workaround:** None.
Issue: Firmware downgrade from I200R005 or I200R004 succeeds but should be blocked. **Workaround:** None; downgrade not recommended.
Issue: During downgrade from I200R005 to I200R004-07, the controller that downgraded to I200R004-07 became hung at shutdown. **Workaround:** None; downgrade not recommended.
Issue: Unsupported firmware downgrades are not blocked. **Workaround:** None. Minimum required firmware levels for Seagate storage systems are listed in notice 207973500-00. For 4006 Series systems the minimum level is I200R004.