Release Notes for Cisco HX Data Platform, Release 5.0

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Introduction

Cisco HyperFlex™ Systems unlock the full potential of hyperconvergence. The systems are based on an end-to-end software-defined infrastructure, combining software-defined computing in the form of Cisco Unified Computing System (Cisco UCS) servers, software-defined storage with the powerful Cisco HX Data Platform, and software-defined networking with the Cisco UCS fabric that integrates smoothly with Cisco Application Centric Infrastructure (Cisco ACI). Together with a single point of connectivity and hardware management, these technologies deliver a pre-integrated and adaptable cluster that is ready to provide a unified pool of resources to power applications as your business needs dictate.

These release notes pertain to the Cisco HX Data Platform, Release 5.0, and describe the features, limitations and caveats for the Cisco HX Data Platform.

Recent Revisions

For the complete revision history, see Revision History.

Release	Date	Description
5.0(2g)	March 5, 2024	Release of Cisco HyperFlex 5.0(2g). The following features were introduced or updated: • Maintenance release: caveat updates.
5.0(2e)	September 27, 2023	Release of Cisco HyperFlex 5.0(2e). The following features were introduced or updated: • Maintenance release: caveat updates.
5.0(2d)	June 22, 2023	Release of Cisco HyperFlex 5.0(2d). The following features were introduced or updated: • Maintenance release: caveat updates.
5.0(2c)	April 4, 2023	Release of Cisco HyperFlex 5.0(2c). The following features were introduced or updated: • Maintenance release: caveat updates.

Release	Date	Description
5.0(1x)	February, 28, 2023	End-of-Life. For more information, see the End-of-Life and End-of-Support Dates for Cisco HyperFlex Data Platform Software Release 5.0(1x) notice.

New Features

New Features in Release 5.0(2g)

None.

New Features in Release 5.0(2e)

None.

New Features in Release 5.0(2d)

None.

New Features in Release 5.0(2c)

None.

New Features in Release 5.0(2b)

The following features were introduced or updated in Cisco HyperFlex Release 5.0(2b):

- **HyperFlex License Info in Basic Support Bundle**—Starting with HX Release 5.0(2b), the basic support bundle includes license information with registration and expiration status. For more information, see Cisco HX Data Platform Support Bundles in the HX Troubleshooting Reference Guide, 5.0.

- **Secure Admin Shell Enhancement for Air-Gapped Clusters**—For HX nodes licensed with Subscription License Reservations or Permanent License Reservations, customers now have the option to enable a persistent advance shell for troubleshooting, after a one-time Consent Token authentication with TAC. For more information, see Facilitating Controller VM Root Access for Air-Gapped Clusters in the HX Installation Guide for VMware ESXi, 5.0.

- **Reduce CVM memory needed for C240 and C220 M6 NVME+AF 8T+15 T Configuration**—For more information, see CPU Resource Reservation for Controller VMs and Memory Resource Reservation for Controller VMs in the HX Installation Guide for VMware ESXi, 5.0.

- **Support for NVIDIA GPUs**—HX Release 5.0(2b) supports the following NVIDIA GPUs: HX-GPU-A10, HX-GPU-A30, HX-GPU-A40, HX-GPU-A100-80 and HX-GPU-A16 on HyperFlex 240 and 245 M6 platform series. The Qualified FI/Server Firmware required is 4.2(2d). For more information see the HyperFlex Spec Sheets.

- **1.6TB NVMe Cache Support**—Starting with HX Release 5.0(2b) available on Intel M5 and M6 All NVMe 220 and 240 configurations. Inter-operability of mixed cache drives available on HyperFlex M5 and M6 All Flash and All NVMe clusters with certain hardware configurations. For expansion of existing clusters or general information about interoperability of different drives, see HyperFlex Spec Sheets and the HX Drive Compatibility Guide.

- **Support for Third-party 100G NIC card on HX M6 (Intel)**—HX Release 5.0(2b) supports the following 100G NIC card: UCSC-P-I8D100GF (Intel E810CQDA2 2x100 GbE QSFP28).

New Features in Release 5.0(2a)

The following features were introduced or updated in Cisco HyperFlex Release 5.0(2a):

- **Cisco HyperFlex HX245C/225C M6 All Flash/Hybrid Server Data Center Nodes support**—

  - The Cisco HyperFlex HX245C M6SX All Flash and Hybrid Server Nodes extends the capabilities of Cisco's HyperFlex portfolio in a 2U form factor with the addition of the AMD CPUs, 16 DIMM slots per CPU for 3200-MHz DDR4 DIMMs with individual DIMM capacity points up to 256 GB. The maximum memory capacity for 2 CPUs is 8 TB (for 32 x 256 GB DDR4 DIMMs).

  - The HyperFlex HX225C M6S All Flash and Hybrid Server Nodes extends the capabilities of Cisco's HyperFlex portfolio in a 1U form factor with the addition of the AMD CPUs, 16 DIMM slots per CPU for 3200-MHz DDR4 DIMMs with DIMM capacity points up to 128 GB. The maximum memory capacity for 2 CPUs is 4 TB (for 32 x 128 GB DDR4 DIMMs).

  - See the Mixed Cluster Expansion Guidelines - Cisco HX Release 5.0(x), on page 8 and HyperFlex Install and Upgrade Guides for more details.

    For ordering HyperFlex M6, please check the Cisco HyperFlex Systems Ordering and Licensing Guide, HyperFlex Data Sheets, and the HX Drive Compatibility Guide.

  - The Cisco HyperFlex HX245 M6 Edge All Flash and Hybrid Server Nodes extends the capabilities of Cisco's HyperFlex portfolio in a 2U form factor with the addition of the AMD CPUs, 16 DIMM slots per CPU for 3200-MHz DDR4 DIMMs with individual DIMM capacity points up to 256 GB. The maximum memory capacity for 2 CPUs 8 TB (32 x 256 GB DDR4 DIMMs).

  - The HyperFlex HX225 M6 Edge All Flash and Hybrid Server Nodes extends the capabilities of Cisco's HyperFlex portfolio in a 1U form factor with the addition of the AMD CPUs, 16 DIMM slots per CPU for 3200-MHz DDR4 DIMMs with DIMM capacity points up to 128 GB. The maximum memory capacity for 2 CPUs is listed here: 4 TB (32 x 128 GB DDR4 DIMMs).

- **15TB NVMe support**— Available on Intel M6 All NVMe 220 and 240 configurations.

- **"Diag" User in HX Shell** — A new "diag" user for the HyperFlex command line interface, HX Shell, is introduced. The "Diag" user is a local user account with escalated privileges designed for troubleshooting. Log in to HX Shell remains restricted to the "admin" user account, and users must switch-user (su) to the "diag" user by providing the diag user password and passing a CAPTCHA test. For more information, see the Cisco HyperFlex Data Platform Administration Guide, Release 5.0.

- **Software Encryption Support for Stretched Cluster**— Provides File Level end-to-end data Encryption for confidentiality of data at-rest from theft of storage media for stretched cluster.

- **Support for editing the MTU of the DR Replication Network**— HX Connect provides an option to edit the MTU of the DR Replication Network without needing to clean up the replication configuration.

- **Support for ESXi 7.0 U3**—HXDP 5.0(2a) provides support for VMware ESXi 7.0 U3.

- **iSCSI Support for HX Edge and DC-No-FI clusters**—Adds iSCSI support to HX Edge and DC-no-FI clusters, in addition to existing iSCSI support on FI-based standard clusters which was introduced in HX 4.5(1a).

- **HXCSI Release 1.2(3a)**—Cisco HyperFlex Container Storage Interface (HXCSI) adds support for the following features compatible with HX 5.0(2a): creating software encrypted volumes, creating volume snapshots and using CHAP protection for volumes.

- **Intel® Optane™ DC Persistent Memory (DCPMM) support**—in memory mode. HX 5.0(2a) provides support for Intel® Optane™ DC Persistent Memory (DCPMM) memory in memory mode. DCPMM in memory mode only supports the VDI use case. DCPMM Memory mode is supported only through RPQ process

    - DCPMM memory mode is only supported on HyperFlex M6 - HX 220 and HX 240 series

    - Supported DCPMM memory mode DRAM:DCPMM ratio configuration is 1:2, 1:4 (only VDI workload)

    - Please contact Cisco Sales for RPQ form completion

New Features in Release 5.0(1c)

None.

New Features in Release 5.0(1b)

The following features were introduced or updated in Cisco HyperFlex Release 5.0(1b):

- **Support for HyperFlex Software Encryption**—HyperFlex Software Encryption provides File Level end-to-end data Encryption for confidentiality of data at-rest from theft of storage media. You can leverage the capability of Software Encryption to protect your data, when there is theft of drives, servers, or clusters. Intersight manages the keys natively with Intersight Key Manager. See Intersight HyperFlex Software Encryption for more details.

- **UX Enhancements to HX Connect**—An upgrade status appears in the Upgrade page providing the result of the last upgrade along with the versions that were upgraded (source and target versions for each component selected in the upgrade).

- **Intel® Optane™ NVMe Cache support** for DC-no-FI on M6 servers.

New Features in Release 5.0(1a)

The following features were introduced or updated in Cisco HyperFlex Release 5.0(1a):

- **Cisco HX220c M6 and Cisco HX240c M6 HyperFlex nodes support**—

    - The Cisco HyperFlex HX240C M6 All NVMe/All Flash/Hybrid Server Nodes extends the capabilities in a 2U form factor with the addition of the 3rd Gen Intel® Xeon® Scalable Processors, 16 DIMM slots per CPU for 3200-MHz DDR4 DIMMs with DIMM capacity points up to 256 GB.

    - Cisco HyperFlex HX220C M6 All NVMe/All Flash/Hybrid Server Nodes extends the capabilities in a 1U form factor with the addition of the 3rd Gen Intel® Xeon® Scalable Processors 16 DIMM slots per CPU for 3200-MHz DDR4 DIMMs with DIMM capacity points up to 256 GB.

    - See the Mixed Cluster Expansion Guidelines - Cisco HX Release 5.0(x), on page 8 and HyperFlex Install and Upgrade Guides for more details.

      For ordering HyperFlex M6, please check the Cisco HyperFlex Systems Ordering and Licensing Guide, HyperFlex Data Sheets, and the HX Drive Compatibility Guide.

- **Support for a new M5 node data drive (PID: HX-SD76TBKNK9) has been added**—This drive was introduced in the HXDP 5.0 release.

- **Native Snapshots for iSCSI -** Provides the ability to create iSCSI LUN snapshots. You can create a group of iSCSI LUNs as a "consistency group" in which all the iSCSI LUNs in the group are snapshotted at the exact same "IO time". For applications like databases, where database and log files reside on separate iSCSI LUNs, this feature helps create a consistent snapshot across both the LUNs. This feature is enabled via HxCLI and HyperFlex REST APIs. These APIs/CLIs help with various operations like creating a group of iSCSI LUNs, listing all the LUNs in a specified group, and creating, viewing and deleting snapshots. It also lets the user expose a read-only snapshot for external consumption.

- **Updated VAAI snapshot offload mechanism without Sentinels –** Supports a new VAAI interface for snapshot offload which will eliminate the need for Sentinel Snapshots.

Intersight-Powered Features

The following features are HyperFlex features that are enabled exclusively through Intersight.

Introduced or updated in Cisco HyperFlex Release 5.0(2a):

- **Cisco HyperFlex Datacenter Without Fabric Interconnect (DC-No-FI)**—Added support for NVMe cache in All Flash models, All NVMe hardware models, and 40/100 GE Networking with DC-No-FI HyperFlex clusters. You can deploy DC-No-FI for 3- 12 nodes using Cisco Intersight from the cloud. For more information see the Cisco HyperFlex Data Center without Fabric Interconnect Installation.

- **Intersight support for NIC-based-HX**—The 10 or 25 Gigabit Ethernet (GE) switch NIC-based topology is available for 2-, 3-, and 4-Node topologies. It provides a fully redundant design that protects against switch (if using dual or stacked switches), link and port failures. For more information see the Cisco HyperFlex Edge Deployment Guide, Release 5.0(x)

New Supported Drives

New 1.6TB NVMe cache drive is supported in HX 5.0(2b) on M5 and M6 All NVMe clusters.

HX 5.0(2b) supports the ability to handle inter-operability of mixed cache drives on HyperFlex M5 and M6 All Flash and All NVMe clusters with certain hardware configurations:

- Existing cluster with 375G cache can be expanded with 1.6TB cache.

- New cluster creation with heterogeneous cache drives needs a two-step approach for a minimum of 4 node cluster: (Step 1) cluster creation with minimum three of lesser capacity 375G cache; (Step 2) cluster expansion with 1.6TB cache. New heterogeneous cluster with less than three 375G cache is not supported. Upgrade to homogenous cluster with 1.6TB cache is recommended.

For expansion of existing clusters or general information about interoperability of different drives, see HyperFlex Spec Sheets and the HX Drive Compatibility Guide.

Table 1: Supported Drives

Drive Function	Drive PID	Applicable Platforms	Version
All NVMe 1.6TB Cache drive	HX-NVMEM6-W1600	Intel M5 and M6 All NVMe and All Flash 220 and 240: HXAF220C-M5SN, HXAF220C-M6SN, HXAF240C-M6SN, HXAF220C-M5SX, HXAF240C-M5SX, HXAF220C-M6SX, HXAF240C-M6SX	5.0(2b)

Supported Versions and System Requirements for Cisco HXDP Release 5.0(x)

Cisco HX Data Platform requires specific software and hardware versions, and networking settings for successful installation.

For a complete list of requirements, see:

- Cisco HyperFlex Systems Installation Guide for VMware ESXi, Release 5.0 or
- Cisco HyperFlex Systems Installation Guide for Microsoft Hyper-V, Release 5.0

Requirement	Link to Details
For a complete list of hardware and software inter-dependencies,	Hardware and Software Interoperability for Cisco HyperFlex HX-Series
Details on cluster limits and Cisco HX Data Platform Compatibility and Scalability Details	Cisco HX Data Platform Compatibility and Scalability Details - 5.0(x) Releases
Verify that each component, on each server used with and within an HX Storage Cluster is compatible.	FI/Server Firmware - 5.0(x) Releases
Confirm the component firmware on the server meets the minimum versions supported.	HyperFlex Edge and Firmware Compatibility Matrix for 5.0(x) Deployments
HX Data Platform Software Versions for HyperFlex Witness Node for Stretched Cluster	HX Data Platform Software Versions for HyperFlex Witness Node for Stretched Cluster - 5.0(x) Releases
Verify that you are using compatible versions of Cisco HyperFlex Systems (HX) components and VMware vSphere, VMware vCenter, and VMware ESXi.	Software Requirements for VMware ESXi - 5.0(x) Releases
To verify that you are using compatible versions of Cisco HyperFlex Systems (HX) components and Microsoft Hyper-V (Hyper-V) components.	Software Requirements for Microsoft Hyper-V - 5.0(x) Releases
List of recommended browsers.	Browser Recommendations - 5.0(x) Releases

Guidelines and Limitations

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Important Do not upgrade HyperFlex Stretch clusters to HXDP 5.0(2b) See Software Advisory https://www.cisco.com/c/en/us/td/docs/unified_computing/ucs/sw/SA/sw-advisory-hyperflex-release-5-0-2b.html

- Hyper-V is supported exclusively on M5 severs.

For HX Edge M6 Support:

- OVA based installer does not support HX Edge M6. Use Intersight for lifecycle management
- HX datacenter clusters can be deployed using either OVA or Intersight installer.

Prerequisites for Upgrading HyperFlex Software

The following tasks should be performed prior to beginning the upgrade process:

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Important Using VMware Update Manager (VUM) or VMware Lifecycle Manager (vLCM) for upgrading the ESXi on HyperFlex node is not supported. Using these upgrade methods may delete Cisco custom drivers and cause cluster outages. We recommend using Cisco Intersight or HyperFlex Connect for ESXi upgrades including the security patches from VMware or manually installing patches using the offline zip bundle with ESXCLI commands.

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Important **Upgrades to HXDP Release 5.0(2e)**- Refer to HX Field Notice and apply the mitigation before upgrading the cluster to HXDP Release 5.0(2e). Any cluster running HXDP Release 5.0(2a), 5.0(2b), 5.0(2c), or 5.0(2d) may be affected by the field notice and should apply the mitigation before upgrade to 5.0(2e) to avoid the issue. Mitigation is not required for upgrades to HXDP Release 5.0(2g) or later.

- Ensure Storage I/O Control (SIOC) is completely disabled on each HyperFlex datastore and the local datastore on each ESXi host in the HyperFlex cluster. This can be confirmed through the vCenter Web Client:

  Datastores -> <datastore name> -> Configure -> General -> Datastore Capabilities -> Storage I/O Control -> Verify > both **Status** and **Statistics Collection** is set to **Disabled**.

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Note Please refer to the VMware documentation site for more details and steps to disable SIOC.

- Clusters running HXDP Release 4.0(2x) or later can upgrade directly to 5.5(1a).
- HXDP Release 5.0 supports ESXi version 6.5 U3 and later only. If your current ESXi version is earlier than 6.5 U3, make sure to perform a combined upgrade of HXDP and ESXi to a target level 6.5 U3 or later. M6 nodes require a minimum of ESXi 6.7 U3 or later supported version.

- Review the Cisco HyperFlex Upgrade Guidelines in the Recommended Cisco HyperFlex HX Data Platform Software Releases - for Cisco HyperFlex HX-Series Systems.

- Beginning with Cisco HXDP Release 5.0(2a), full feature functionality and configuration changes require a valid Cisco HyperFlex Software License. HX Connect users with expired or insufficient licenses at the end of the evaluation or the grace period after the license compliance date, view a prominent countdown banner that alerts the user to the license compliance need and provides a link to the license renewal page until the license expiration is remedied.

  In the event a license passes both the license expiration date and the grace period countdown, the current configurations will operate as expected with limited information. Renewing the license allows a user to resume full feature functionality, and make configuration changes. For details and examples of the banners, see the License Compliance and Feature Functionality section of the Cisco HyperFlex Systems Ordering and Licensing Guide.

- vCenter version check: Verify that the vCenter meets the minimum requirement for the ESXi version being upgraded to. See, VMware Product Interoperability Matrices to ensure compatibility between vCenter and ESXi.

- Ensure all VM network port groups exist on all nodes in the cluster for vMotion compatibility.

- Ensure that the management and storage data VLANs are configured on the top-of-rack network switches to ensure uninterrupted connectivity during planned fabric failover.

- If using jumbo frames in your environment, ensure jumbo frames are enabled on the vMotion and data networks on the top of rack switch.

- Verify that the ESXi hosts are not in lockdown mode and SSH service is enabled and set to start and stop with the host for the duration of the upgrade. Lockdown mode can be re-enabled after the upgrade is complete along with disabling SSH service.

- Blade Package and Rack Package versions are not displayed in the Host Firmware Package: **HyperFlex-m5-con** and **HyperFlex-m6-con** for M6 nodes.

- Upgrading the VM compatibility version or hardware version of the Storage Controller Virtual Machine (SCVM) is not supported and should not be performed. This action is detrimental to the SCVM and will require a rebuild of the SCVM if performed.

- If you are using HX CSI then contact TAC.

Mixed Cluster Expansion Guidelines - Cisco HX Release 5.0(x)

General Guidelines:

- HX240c M6 is not able to use the additional slots if combined in a cluster with M5 or M4 nodes.

- HX220c M6 uses a maximum of 6 capacity disks (2 disk slots to remain empty) when mixed with HX220-M4.

- All servers must match the form factor (220/240), type (Hybrid/AF), security capability (Non-SED only) and disk configuration (QTY, capacity, and non-SED) across the cluster.

Mixed Cluster Expansion Options: Supported

- Expanding existing M4 or M5 or M4+M5 cluster with M6 converged nodes is supported.

- Expanding existing mixed M4/M5/M6 cluster with M4 or M5 or M6 converged nodes is supported.

- Adding any supported compute-only nodes is permitted with all M4, M5, M6 and mixed M4/M5/M6 clusters using the HX Data Platform 5.0 or later Installer. Some example combinations are listed here, many other combinations are possible.

- Only expansion workflow is supported to create a mixed cluster (Initial cluster creation with mixed M4/M5/M6 servers is not supported).

Mixed Cluster Expansion Options: Not Supported

- Expanding existing M6 cluster with M4 or M5 converged nodes is NOT supported

- Initial cluster creation with mixed M4/M5/M6 servers is not supported.

- Mixing Intel and AMD M6 is not supported.

Security Fixes

The following security issues are resolved:

Defect ID	Description	Known Affected Releases	Open or Known Fixed Releases
HXDP			
CSCwb26980	This product includes Third-party Software that is affected by the vulnerabilities identified by the following Common Vulnerability and Exposures (CVE) IDs:CVE-2022-0778	4.5(2b), 5.0(1b)	See defect ID for details.
CSCwa33933	Hyperflex Controller VM might be affected by python vulnerability CVE-2021-3737	4.5(2a)	5.0(2a)
CSCvy19321	A vulnerability in the command line interface (CLI) of HyperFlex System could allow an authenticated, local attacker to bypass the Consent Token authentication.	5.0(1a)	4.5(2b), 5.0(1a)
CSCvx17208	Python 3.x through 3.9.1 has a buffer overflow in PyCArg_repr in _ctypes/callproc.c, which may lead to remote code execution in certain Python applications that accept floating-point numbers as untrusted input.	3.5(2h) 4.0(2d)	4.5(2b), 5.0(1a)
CSCvv52948	Hyperflex Multiple Linux Kernel Vulnerabilities - High - USN-4427-1	3.5(2h)	5.0(1a)
CSCvv04506	Hyperflex Multiple Linux Kernel Vulnerabilities - High - USN-4391-1	3.5(2g)	5.0(1a)

Defect ID	Description	Known Affected Releases	Open or Known Fixed Releases
CSCvv12183	Hyperflex Multiple Linux Kernel Vulnerabilities - High - USN-4414-1 USN-4390-1	4.0(2b)	5.0(1a)

Caveats in Release 5.0(x)

HXDP Release 5.0(x)

The following list all non-security HXDP, Hyper-V and HXCSI caveats for the Cisco HyperFlex Release 5.0.

HXDP Caveats

The Bug Search Tool (BST) is designed to improve the effectiveness in network risk management and device troubleshooting. The BST allows partners and customers to search for software bugs based on product, release, and keyword, and aggregates key data such as bug details, product, and version. The tool has a provision to filter bugs based on credentials to provide external and internal bug views for the search input. Access the BST (use your Cisco user ID and password) at https://tools.cisco.com/bugsearch/.

The following table list all non-security HXDP caveats for the Cisco HyperFlex Release 5.0(x)

- To view the list of found and fixed caveats for a given release: Click on the link associated with the desired release.

- To view details about the symptom, conditions, and workarounds that apply to a bug, in the BST output, hover over the desired bug and view the details in the right panel or click on the bug entry to open the record in a new tab.

- To export the results to Excel: Click the **Export Results to Excel** button.

Table 2: Cisco Bug Search Tool:

HyperFlex Release	Affecting Releases	Fixed in Releases
5.0(2g)	5.0(2g) Open Caveat List	5.0(2g) Fixed Caveat List
5.0(2e)	5.0(2e) Open Caveat List	5.0(2e) Fixed Caveat List
5.0(2d)	5.0(2d) Open Caveat List	5.0(2d) Fixed Caveat List
5.0(2c)	5.0(2c) Open Caveat List	5.0(2c) Fixed Caveat List
5.0(2b)	5.0(2b) Open Caveat List	5.0(2b) Fixed Caveat List
5.0(2a)	5.0(2a) Open Caveat List	5.0(2a) Fixed Caveat List
5.0(1c)	5.0(1c) Open Caveat List	5.0(1c) Fixed Caveat List
5.0(1b)	5.0(1b) Open Caveat List	5.0(1b) Fixed Caveat List
5.0(1a)	5.0(1a) Open Caveat List	5.0(1a) Fixed Caveat List

Hyper-V Caveats

Caveats are listed in descending order to keep the newest additions at the top. Each caveat number is linked to the Cisco Bug Search Tool. Use the link to access additional details about the symptom, conditions and workarounds that apply.

Defect ID(s)	Symptom Summary	Known Affected Releases	Open, Closed or Fix Applied to:
CSCwb25877	Upgrade process already in progress even after failure for Hyper-V setup.	5.0(2a)	See defect ID for details.
CSCvy98639	Hyper-V: Datastore becomes inaccessible from a host as result of smbscvmclient being unresponsive.	4.0(2b)	4.5(2b) 5.0(1a)
CSCvy16092	HyperFlex support bundles for Hyper-V do not collect a backtrace of Hyper-V smbscvmclient, rather scvmclient which is not used for datapath in Hyper-V.	4.0(2b)	5.0(1a)
CSCvx00104	Management and Data should be on different networks. Ensure that the management IPs entered are in the same subnet... This error is blocks cluster expansion.	4.5(1a)	4.5(2a) 5.0(1a)
CSCvw77025	Upgrade will timeout or get error on larger clusters. Upgrade fails with error "Upgrade validation failed. Unable to fetch controller vm state information"	4.0(2e) 4.5(1a)	4.5(2a) 5.0(1a)
CSCvw26610	During HX Hyper-V cluster creation using Windows Server 2019, the HX installer may fail in Hypervisor configuration step stating it was unable to acquire IP address. Inspecting the failed node(s) using KVM console reveals that Windows roles such as Hyper-V, Failover cluster etc. did not get enabled.	4.5(1a)	4.0(2e) 4.5(2a) 5.0(1a)

HXCSI 1.2 Caveats

Caveats are listed in descending order to keep the newest additions at the top. Each caveat number is linked to the Cisco Bug Search Tool. Use the link to access additional details about the symptom, conditions and workarounds that apply.

Defect ID(s)	Symptom Summary	Known Affected Releases	Open, Closed or Fix Applied to:
CSCwc03564	Few Sample pods in ContainerCreation status after HXDP upgrade to 5.0.2a-41681	5.0(2a) HXCSI 1.2(3a)	Open

Defect ID(s)	Symptom Summary	Known Affected Releases	Open, Closed or Fix Applied to:
CSCwc03526	1.2.3a-659/5.0.2a-41670: Resizing the pvc with larger size (1Ti->40Ti) took longer time(11 mins)	5.0(2a) HXCSI 1.2(3a)	Open
CSCwb32748	5.0.2a-41416/hxcsi-1.2.3a-648: hxcli/Hxconnect vol info throws bad req 400 er with 4K volumes	5.0(2a)	See defect ID for details.
CSCvw80780	Resizing of Persistent Volumes fails sometimes for Pods using XFS file system.	1.2(569)	1.2(1a)
CSCvw75518	When editing iSCSI network from HX CLI, the old IP ranges get replaced by the new IP ranges. Only the new IP ranges will be displayed in the network info.	4.5(1a)	4.5(2a)
CSCvw75427	"Running" pod recreated after delete using "kubectl delete pod", got stuck in "Terminating" state on deleting its name space.	4.5(1a)	1.2(1a)
CSCvv68273	When attempting to mount volumes during the HXCSI component deployment, this fails with the error `NodePublishVolumeFSModeError` in 4.5.1a release.	4.5(1a)	1.2(1a)
CSCvu23442	Application pods gets stuck in container creating state or multi attach error state and not able to mount the volumes	4.5(2a)	See defect ID for details.

Revision History

This table shows the release history except for the current release.

Release	Date	Description
5.0(2e)	September 27, 2023	Release of Cisco HyperFlex 5.0(2e). The following features were introduced or updated: • Maintenance release: caveat updates.
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5.0(2b)	January 31, 2023	Release of Cisco HyperFlex 5.0(2b). The following features were introduced or updated: • HyperFlex License Info in Basic Support Bundle • Secure Admin Shell Enhancement for Air-Gapped Clusters • 1.6TB NVMe Cache Support on All NVMe and mixed Cache Support. • Support for B200 M6 Compute nodes for expansion. • Support for additional NVIDIA GPUs.

Release	Date	Description
5.0(2a)	August 23, 2022	Release of Cisco HyperFlex Release 5.0(2a). The following features were introduced or updated: • Support for Cisco HyperFlex HX245C/225C (AMD) M6 All Flash/Hybrid DC Server nodes, HX 245C/225C Edge nodes and support for HX 245C/225C DC-No-FI (DC Without Fabric Interconnect) • 15TB NVMe support • Support for NVIDIA - A100-80, A10,A16, A30 and A40 on M6 servers. • Supportability Improvement for HX CLI: New Diag User • Software Encryption Support for Stretched Cluster • Support for editing the MTU of the DR Replication Network • Support for ESXi 7.0 U3 • HXCSI Release 1.2(3a) • Intel® Optane™ DC Persistent Memory (DCPMM) memory mode support. **Note** The staging of the HX 5.0(1c) and HX 5.0(2a) versions of the storfs-se-core package is in progress and will follow Cisco HXDP 5.0(2a) posting. As a result, eDelivery of the storfs-se-core package is temporarily delayed until posting is complete. When posting is complete, the eDelivery link will automatically include HX 5.0(1c) and HX 5.0(2a) versions of the storfs-se-core package. In the meantime, Customers who want to enable HX Software Encryption should make sure they have ordered the special software PID for Software Encryption (HXDP-SW-PKG-SE-K9=); refer to the HyperFlex Ordering and Licensing Guide for details. Reminder: If you are enabling HX Software Encryption for the first time in a cluster, your storfs-se-core package must match the HXDP version of your cluster; refer to the HyperFlex Data Platform Administration Guide (Release 5.0).
5.0(1c)	June 7, 2022	Release of Cisco HyperFlex Release 5.0(1c).

Release	Date	Description
5.0(1b)	January 27, 2022	Release of Cisco HyperFlex Release 5.0(1b). The following features were introduced or updated: • Support for HyperFlex Software Encryption • UX Enhancements to HX Connect
5.0(1a)	November 10, 2021	First Release of Cisco HyperFlex Release 5.0(1x). The following features were introduced or updated: • Support for Cisco HX220c M6 and Cisco HX240c M6 HyperFlex nodes • Native Snapshots for iSCSI • Updated VAAI snapshot offload mechanism without Sentinels

Related Documentation

Document/Description	Quick Links
Preinstallation Checklist for VMware ESXi	
Provides an editable file for gathering **required** configuration information prior to starting an installation. This checklist must be filled out and returned to a Cisco account team.	Preinstallation Checklist for VMware ESXi
Installation Guide for VMware ESXi	
Provides detailed information about Day 0 configuration of HyperFlex Systems and related post cluster configuration tasks. It also describes how to set up multiple HX clusters, expand an HX cluster, set up a mixed HX cluster, and attach external storage.	Cisco HyperFlex Systems Installation Guide for VMware ESXi, Release 5.0
Upgrade Guides for VMware ESXi	
Provides information on how to upgrade an existing installation of Cisco HX Data Platform, upgrade guidelines, and information about various upgrade tasks.	Cisco HyperFlex Systems Upgrade Guide for VMware ESXi, Release 5.0
Cisco HyperFlex Systems Upgrade Guide for Unsupported Cisco HX Releases	
Guides Cisco HyperFlex users who need to upgrade their environment from a Cisco HyperFlex HX Data Platform software release that is past the last date of support, to the latest suggested release on the Cisco Software Download site.	Cisco HyperFlex Systems Upgrade Guide for Unsupported Cisco HX Releases
Administration Guide	

Document/Description	Quick Links
Provides information about how to manage and monitor the cluster, encryption, data protection (replication and recovery), ReadyClones, Native snapshots, and user management. Interfaces include HX Connect, HX Data Platform Plug-in, and the `stcli` commands.	Cisco HyperFlex Release 5.0
Preinstallation Checklist for Cisco HyperFlex Edge	
Provides an editable file for gathering **required** configuration information prior to starting an installation. This checklist must be filled out and returned to a Cisco account team.	Preinstallation Checklist for Cisco HyperFlex Edge
Edge Deployment Guide	
Provides deployment procedures for HyperFlex Edge, designed to bring hyperconvergence to remote and branch office (ROBO) and edge environments.	Cisco HyperFlex Edge Deployment Guide, Release 5.0
Network and External Storage Management Guide	
Provides information about HyperFlex Systems specific network and external storage management tasks.	Network and External Storage Management Guide
Installation Guide on Microsoft Hyper-V	
Provides installation and configuration procedures on how to install and configure Cisco HyperFlex Systems on Microsoft Hyper-V.	Cisco HyperFlex Systems Installation Guide for Microsoft Hyper-V, Release 5.0
Cisco HyperFlex Upgrade Guide for Microsoft Hyper-V	
Provides information on how to upgrade an existing installation of Cisco HX Data Platform, upgrade guidelines, and information about various upgrade tasks.	Cisco HyperFlex Upgrade Guide for Microsoft Hyper-V, Release 5.0
Administration Guide for Hyper-V	
Provides information about how to manage and monitor the Hyper-V cluster, encryption, data protection (replication and recovery), ReadyClones, Hyper-V Checkpoints, and user management. Interfaces include HX Connect, HX Data Platform Plug-in, and the `hxcli` commands.	Cisco HyperFlex Data Platform Administration Guide, Release 5.0
Cisco HyperFlex Systems Network and External Storage Management Guide for Microsoft Hyper-V	
Overview of the network and external storage architecture for Cisco HyperFlex Systems.	Cisco HyperFlex Systems Network and External Storage Management Guide for Microsoft Hyper-V
Stretched Cluster Guide	

Document/Description	Quick Links
Provides installation and configuration procedures for HyperFlex Stretched cluster, enabling you to deploy an Active-Active disaster avoidance solution for mission critical workloads.	Cisco HyperFlex Systems Stretched Cluster Guide, Release 5.0
Kubernetes Integration	
Provides information about HyperFlex storage integration for Kubernetes, information on Kubernetes support in HyperFlex Connect, and instructions on how to configure Cisco HyperFlex Container Storage Interface (CSI) storage integration for both the Cisco container platform and the RedHat OpenShift container platform.	Cisco HyperFlex Systems Administration Guide for Kubernetes, HXCSI Release 1.2(x)
Administration Guide for Citrix Workspace Appliance	
Provides installation, configuration, and deployment procedures for a HyperFlex system to connect to Citrix Workspaces and associated Citrix Cloud subscription services such as Citrix Virtual Apps and Desktops Services. The Citrix Ready HCI Workspace Appliance program enables a Cisco HyperFlex System deployed on Microsoft Hyper-V to connect to Citrix Cloud.	Cisco HyperFlex Systems Administration Guide for Citrix Workspace Appliance
HyperFlex Intersight Installation Guide	
Provides installation, configuration, and deployment procedures for HyperFlex Intersight, designed to deliver secure infrastructure management anywhere from the cloud.	HyperFlex Intersight Installation Guide
Cisco HyperFlex SD-WAN Deployment Guide	
Feature preview for deploying the SD-WAN solution on a HyperFlex cluster. Cisco recommends that you test this feature on a test network/system (Not for use in your production environment).	Cisco HyperFlex SD-WAN Deployment Guide
Cisco HX Data Platform Security Hardening Guide	
Provides recommended configuration settings and deployment architectures for HXDP-based solutions.	Cisco HX Data Platform Security Hardening Guide
Provides additional vCenter Security Hardening settings.	How to Configure vCenter Security Hardening Settings
Tech Notes	
Provides information on recommended FI/Server firmware.	TechNotes
Troubleshooting Guide	

Document/Description	Quick Links
Provides troubleshooting for installation, configuration, Cisco UCS Manager to Cisco HyperFlex configuration, and VMware vSphere to HyperFlex configuration. In addition, this guide provides information about understanding system events, errors, Smart Call Home, and Cisco support.	Troubleshooting Guide
Command Line Interface (CLI) Guide	
Provides CLI reference information for HX Data Platform `stcli` commands.	Command Line Interface (CLI) Guide
Rest API Guides	
Provides information related to REST APIs that enable external applications to interface directly with the Cisco HyperFlex management plane.	REST API Getting Started Guide REST API Reference
Cisco HyperFlex PowerShell Cmdlets for Disaster Recovery	
Provides information on how to use the Cisco PowerShell Cisco HXPowerCLI cmdlets for Data Protection.	Cisco HyperFlex PowerShell Cmdlets for Disaster Recovery
Cisco HxBench Getting Started Guide	
This document describes how to use the Cisco HxBench storage performance testing tool to measure the storage infrastructure.	Cisco HxBench Getting Started Guide

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