

IBM Hyper-Scale Manager
Version 5.5.2

Release Notes



First Edition (May 2019)

This edition applies to the release of IBM® Hyper-Scale Manager version 5.5.2. Newer document editions may be issued for the same product version in order to add missing information, update information, or amend typographical errors. The edition is reset to 'First Edition' for every new product version.

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Contents

- Overview.....1**
- What's new in version 5.5.2.....1
- Compatibility and requirements.....3
 - Server requirements.....3
 - Supported storage systems.....4
- Change log.....5
 - Version 5.5.2 (May 2019).....5
 - Version 5.5.1.a (February 2019).....6
 - Version 5.5.1 (January 2019).....6
 - Version 5.5.0.a (December 2018).....6
 - Version 5.5.0 (November 2018).....7
 - Version 5.4.0.b (June 2018).....7
 - Version 5.4.0.a (March 2018).....8
 - Version 5.4.0 (March 2018).....8
- Fixes and features of earlier versions.....8
- Limitations.....8
- Known issues.....9
- Related information and publications.....12

- Notices.....15**
- Trademarks.....16

Overview

IBM Hyper-Scale Manager provides a single and centralized management platform for multiple and different members of the IBM Spectrum Accelerate Family, including **IBM FlashSystem® A9000** and **A9000R**, **IBM XIV® Gen3** and **IBM Spectrum Accelerate** software defined storage (SDS) solutions.

Storage administrators use IBM Hyper-Scale Manager from its advanced web-based user interface (UI), to manage and monitor multiple storage systems. IBM Hyper-Scale Manager reduces operational complexity and simplifies capacity planning by consolidating and integrating information from multiple systems into helpful report views.

IBM Hyper-Scale Manager operations can be automated by using its Representational State Transfer (REST) application programming interfaces (APIs).

The IBM Hyper-Scale Manager software package can be downloaded at any time from the IBM Fix Central website (www.ibm.com/support/fixcentral). For more information about IBM Hyper-Scale Manager, see [Related information and publications](#).

What's new in version 5.5.2

Version 5.5.2 of IBM Hyper-Scale Manager introduces the following new features.

VLAN support

Partition your connectivity to managed storage systems or hosts using VLAN tagging.

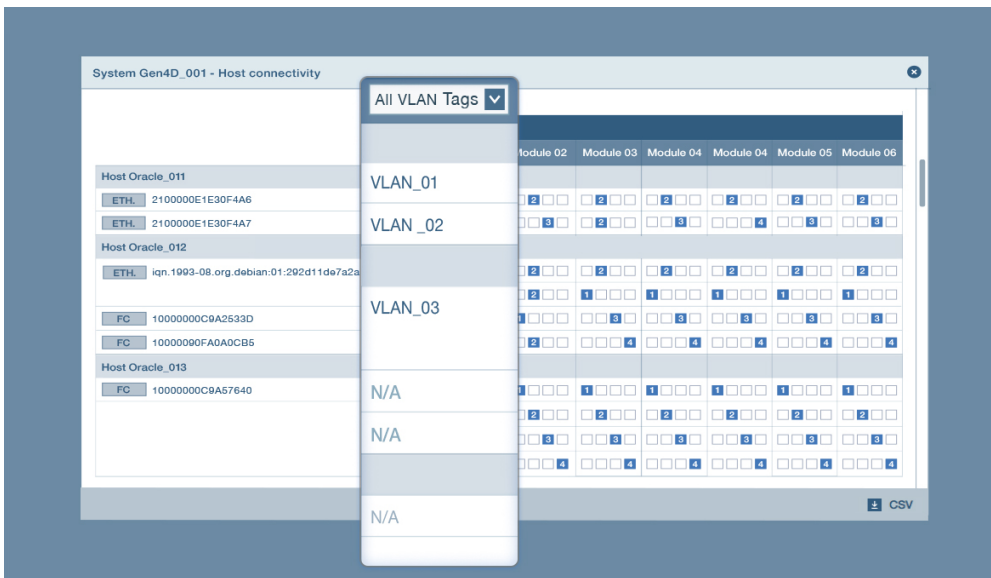


Figure 1. VLAN tagging

Enhanced REST API support

Improve and automate storage deployment with enhanced RESTful API capabilities.

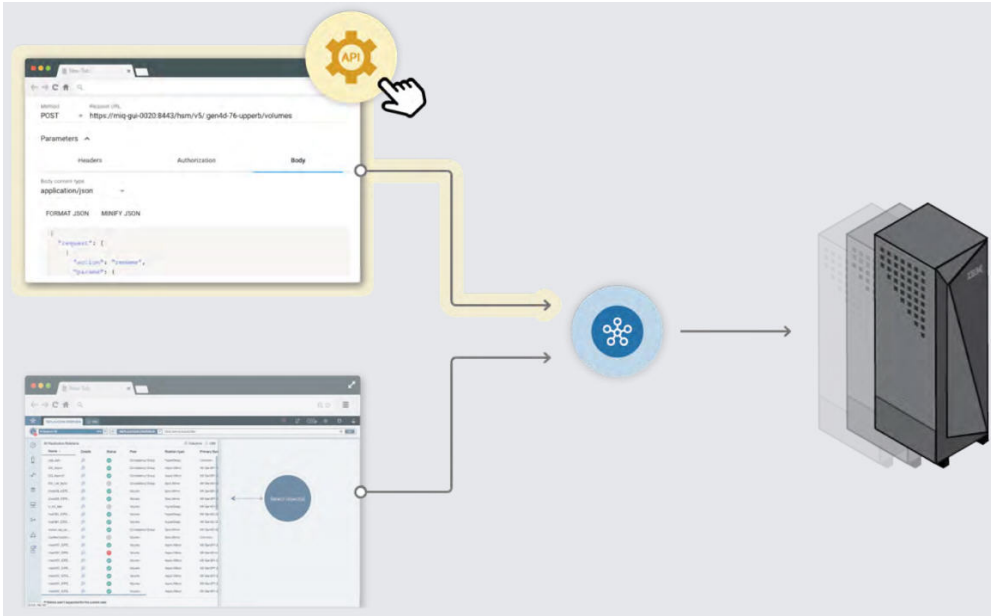


Figure 2. REST API

Cloud-based views of Hyper-Scale Manager health data

All IBM Hyper-Scale Manager health data, alerts, and best practices are also available through IBM Storage Insight.

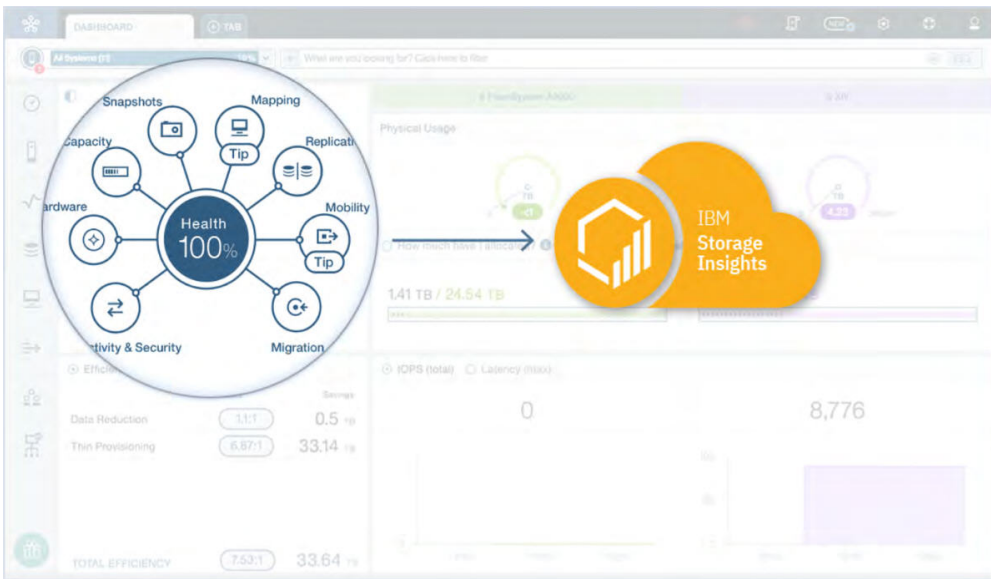


Figure 3. HSM health data

For information about the resolved issues in version 5.5.2, see the [“Version 5.5.2 \(May 2019\)”](#) on page 5 change log.

Compatibility and requirements

IBM Hyper-Scale Manager is compatible with different versions of the Linux operating system and the storage systems as shown.

Server requirements

The following server specifications are required for IBM Hyper-Scale Manager version 5.5.2.

Operating system

- Red Hat Enterprise Linux (RHEL) 6.x or 7.x, 64-bit.
- CentOS 6.x or 7.x

CPU architecture

- x86-64

CPU cores and RAM

- Deduplication-aware capacity management activated:
 - At least 4 physical cores
 - At least 6 GB of RAM
- Deduplication-aware capacity management deactivated:
 - At least 2 physical cores
 - At least 4 GB of RAM

Note: If needed, you can control the usage of the deduplication-aware capacity management via the Hyper-Scale Manager text-based user interface (TUI). Refer to the IBM Hyper-Scale Manager user guide for details.

Tables below detail the recommended sizing for aggregated managed writable capacity (of all the managed systems):

Table 1. CPU and memory allocation per total writable capacity (deduplication-aware capacity management activated)

Total writable capacity	CPU and RAM specifications
Up to 3 Petabytes (PB)	Quad-core/6 GB
3 PB to 6 PB	Quad-core/8 GB
6 PB to 15 PB	6 cores/8 GB
15 PB to 30 PB	8 cores/16 GB

Table 2. CPU and memory allocation per total writable capacity (deduplication-aware capacity management deactivated)

Total writable capacity	CPU and RAM specifications
Up to 3 Petabytes (PB)	Dual-core/4 GB
3 PB to 6 PB	Quad-core/6 GB
6 PB to 15 PB	6 cores/8 GB
15 PB to 30 PB	8 cores/8 GB

Disk space

- At least 4 GB of disk space where the installation file is located

- 78 GB (or 76 GB, if deduplication-aware capacity management is deactivated) free space in the installation folder. The default installation path is /home/msms/hyperscale, but this path can be modified.

For more than 4 monitored storage systems, calculate required free disk space according to the following formula: 76 GB + 500 MB × <number of monitored systems>.

To determine the amount of disk space available, enter the following Linux command:

```
$ df -h %DIRECTORY%
```

Communication ports

- TCP 25 (SMTP)
- TCP 7778 (backend communication with storage systems)
- TCP 8443 (HTTPS supported browser access)
- TCP 8080 (HTTP supported browser access)
- TCP 8440 (HTTPS supported browser access for cloud integration)

Concurrently connected GUI clients

Maximum number of GUI clients (connected to a storage system) that can concurrently send requests to IBM Hyper-Scale Manager: 10

Web browser

- Google Chrome version 49 or later
- Mozilla Firefox 45 or later

Screen resolution

The supported screen resolutions for viewing the IBM Hyper-Scale Manager are 1280 x 800 (lowest) to 1920 x 1200 (highest).

Supported storage systems

IBM Hyper-Scale Manager version 5.5.2 supports the following storage systems.

Storage system	Microcode version
IBM FlashSystem A9000 (models 415, 425, and U25)	12.0.x – 12.3.2.x
IBM FlashSystem A9000R (models 415, 425, and U25)	12.0.x – 12.3.2.x
IBM XIV Storage System Gen3 (models 281x-114, 281x-214, and 281x-314)	11.4.2 – 11.6.2.x
IBM Spectrum Accelerate deployable software	11.5.0.x – 11.5.4.x

See [Cross-system feature use in the IBM Spectrum Accelerate family](#) on the Knowledge Center for related information about the functional features available when used across different IBM Spectrum Accelerate™ family storage systems.

Important:

- IBM XIV Storage System Gen3 and IBM Spectrum Accelerate systems can only be managed with IBM Hyper-Scale Manager 5.1 or later. For systems with versions previous to 5.1.x, use IBM XIV Management Tools version 4.8.x or migrate your system inventory to the newest version of IBM Hyper-Scale Manager. For more information, see "*Migrating IBM Hyper-Scale Manager inventory from XIV Management Tools 4.x*" in the *IBM Hyper-Scale Manager User Guide*.
 - Deploying IBM Spectrum Accelerate requires certain hardware, software, and configurations of VMware ESXi host machines and vSwitches, interconnect network, and deployment host. Refer to the *IBM Spectrum Accelerate Planning, Deployment, and Operation Guide* for further information on deploying IBM Spectrum Accelerate.
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Change log

This change log summarizes the changes that were made in recent 5.x code level versions of IBM Hyper-Scale Manager.

Note: New functional features of these versions are only briefly summarized. For a detailed summary of the new functional features of a specific version, refer to the 'What's new' section of its individual release notes.

Version 5.5.2 (May 2019)

Version 5.5.2 of IBM Hyper-Scale Manager introduces the following enhancements.

- VLAN support.
- Enhanced REST API.
- Cloud-based views of Hyper-Scale Manager health data.

Fixed issues:

Ticket ID	Description
PUI-10355	Fixed: A system in the Hyper-Scale Manager inventory is not displayed when an incorrect timezone is defined on that specific system.
PUI-16626	Fixed: Internal latency statistics are missing from the latency graphs, when they are exported as an .csv file.
PUI-16661	Fixed: The Unmap Host option is inactive in the snapshots/volume table for the mapped snapshots or volumes.
PUI-16692	Fixed: A DSO user defined for all storage systems cannot extend an async or HyperSwap relation to a full-scale Multi-site HA/DR solution. Likewise, this user fails to add a standby system to an existing Multi-site deployment.
PUI-16985	Fixed: Hyper-Scale Manager does not clear the critical Automatic Failover is not working due to connectivity issues alert after HyperSwap relationship has been canceled.
PUI-17077	Fixed: Hyper-Scale Manager cannot be used to power off FlashSystem A9000/ A9000R storage systems in HyperSwap relationship.
PUI-17085	Fixed: Hyper-Scale Manager fails to clear an alert on a failed HyperSwap relationship, ever after a required volume deletion has been performed.
PUI-17134	Fixed: Hyper-Scale Manager uses obsolete Apache Tomcat version.
PUI-17135	Fixed: Hyper-Scale Manager does not use the <i>X-Frame-Options</i> header in HTTP response.

Ticket ID	Description
PUI-17136	Fixed: Hyper-Scale Manager fails to include HTTP Strict Transport Security (HSTS) headers during HTTPS communication sessions.
PUI-17349	Fixed: By default, Hyper-Scale Manager uses 1024-bit RSA keys for SSL certificate encryption. However, 2048-bit RSA public keys are required for better security.

Version 5.5.1.a (February 2019)

Version 5.5.1.a of IBM Hyper-Scale Manager resolved the following issues.

Ticket ID	Description
PUI-17226	Fixed: Resource usage leak causes Hyper-Scale Manager to detect a non-existent deduplication-aware capacity calculation failure. As a result, an alert is raised and multiple email notifications are sent about the issue.
PUI-17227	Fixed: When creating an async replication between two volumes within domains on the storage systems with microcode below 12.3, the domain of the source system is not included in the command, causing it to generate an error.

Version 5.5.1 (January 2019)

Version 5.5.1 of IBM Hyper-Scale Manager introduced the following enhancement.

- Deduplication-aware capacity management.

Fixed issues:

Ticket ID	Description
PUI-13284	Fixed: Occasionally when you create a new user, the Add User form appears to be inaccessible, even though it does work.
PUI-16661	Fixed: The Unmap Host option is inactive in the snapshots/volume table for the mapped snapshots or volumes.
PUI-16735	Fixed: Default host type option disappears from the Type drop-down menu if any other host type is selected during host creation.
PUI-16811	Fixed: The Hyper-Scale Manager UI does not allow changing a type of a previously mapped host, unless it has been already set to <i>Default</i> .
PUI-16830	Fixed: Vulnerabilities are detected on HTTP ports 8080 and 8443.
PUI-16905	Fixed: Microcode version of an IBM FlashSystem A9000 or A9000R storage system does not change after a CCL upgrade procedure.

Version 5.5.0.a (December 2018)

Version 5.5.0.a of IBM Hyper-Scale Manager resolved the followings issue.

Ticket ID	Description
PUI-17009	<p>Fixed: Activating or deactivating multiple HyperSwap relations with primary and secondary volumes mixed between storage systems might result in operation failure with the A remote operation failed, the command should be retried error message. This might occur in the following HyperSwap configuration:</p> <ul style="list-style-type: none"> • Storage system 1 with primary volume A and secondary volume B. • Storage system 2 with primary volume B and secondary volume A.

Version 5.5.0 (November 2018)

Version 5.5.0 of IBM Hyper-Scale Manager introduced the following enhancements:

- Multi-site replication.
- New views for multi-site replication management.
- System-level internal or external latency displays.
- Exporting statistics to CSV.
- Japanese language support.

Fixed issues:

Ticket ID	Description
PUI-14051	Fixed: WWPNs of some host FC ports fail to be displayed in the New Host tab of Hyper-Scale Manager.
PUI-15546	Fixed: Hyper-Scale Manager does not allow selection of multiple storage systems in the Create mode.
PUI-15551	Fixed: Hyper-Scale Manager does not display the correct timestamp of the last replicated snapshot (LRS) in asynchronous mirroring relations.
PUI-15581	Fixed: Excessive refresh rate of the alert table causes the WWN disconnect alert timestamps to change. As a result, Hyper-Scale Manager treats existing alerts as new events.
PUI-15615	Fixed: A thick-provisioned storage pool cannot be resized. Hyper-Scale Manager indicates that the pool contains a non-existent snapshot with high delete priority as a reason for the failure.
PUI-15838	Fixed: Mapping 6 or more volumes simultaneously might take an excessive amount of time, when performed using Hyper-Scale Manager.
PUI-15910	Fixed: Hyper-Scale Manager generates a critical alert during the Hyper-Scale Mobility process, when a volume which is being migrated reaches the Proxy stage.
PUI-16086	Fixed: Redundant JMX ports on the Hyper-Scale Manager server are open for communication.
PUI-16243	Fixed: There are discrepancies between the values of the Hyper-Scale Manager live statistics, historic statistics and the statistic_get output.
PUI-16270	Fixed: For storage systems in a HyperSwap relation, Hyper-Scale Manager displays the Auto. Failover Capability to be OK, even if the secondary volume is not mapped.
PUI-16607	Fixed: Editing support information in Hyper-Scale Manager might cause the existing support settings to be deleted or changed.

Version 5.4.0.b (June 2018)

Version 5.4.0.b of IBM Hyper-Scale Manager resolved the following issue.

Ticket ID	Description
PUI-15926	Fixed: Cross-gen mirroring is not supported on IBM XIV Gen3 systems with software version 11.6.2.b.

Version 5.4.0.a (March 2018)

Version 5.4.0.a of IBM Hyper-Scale Manager added support for the Cloud Integration component based on IBM Spectrum® Connect version 3.4.0 (previously known as IBM Spectrum Control Base Edition) and resolved the following issues.

Ticket ID	Description
PUI-15623	Fixed: Due to security vulnerabilities, the Hyper-Scale Manager client-server communication protocol is restricted to TLS version 1.2.
PUI-15584	Fixed: In Hyper-Scale Manager, external latency is depicted as Network Latency in the tooltip of the Host latency statistics.

Version 5.4.0 (March 2018)

Version 5.4.0 of IBM Hyper-Scale Manager resolved the following issues.

Ticket ID	Description
PUI-15435	Fixed: In IBM Hyper-Scale, when you try to restore a volume that has multiple snapshots, the snapshot selection automatically jumps to the last snapshot taken.
PUI-14659	Fixed: When you create an asynchronous mirror relation on a Volume in a FlashSystem A9000/R storage system, the tooltip on the RPO (Seconds) field displays a minimum RPO setting of 30, when the minimum is actually 120.
PUI-14219	Fixed: The 5th digit of the System version (for example, 12.1.0.a-1) is not displayed in the Hyper-Scale Manager UI.
PUI-14211	Fixed: When you add a host to a cluster, the host mapping is lost.
PUI-14192	Fixed: IBM Hyper-Scale Manager must be restarted after any MES procedure (HW part replacement) is complete.
PUI-8907	Fixed: When you change the RPO for an asynchronous mirror, the interval is updated only on the source system if the destination system is not monitored.

Fixes and features of earlier versions

IBM Hyper-Scale Manager version 5.5.2 includes all the features and fixes that were included in previous 5.x versions.

To obtain information regarding previously introduced features or issues that were resolved in previous versions, see the [PDF publications page](#) on the IBM Knowledge Center for IBM Hyper-Scale Manager (ibm.com/support/knowledgecenter/SSUMNQ).

Limitations

The following functional limitations apply to IBM Hyper-Scale Manager version 5.5.2 and may remain in effect in future software versions.

- The XCLI utility needs to be installed separately. For more information on the XCLI utility, see the [Overview of the XCLI Utility for XIV Storage System](#), [Overview of the XCLI Utility for IBM FlashSystem A9000](#), or [Overview of the XCLI Utility for IBM FlashSystem A9000R](#) on the IBM Knowledge Center.
- If you are working with versions of IBM Hyper-Scale Manager or IBM XIV Management Tools previous to version 5.x, a clean installation of IBM Hyper-Scale Manager version 5.x is required. Install IBM Hyper-Scale Manager version 5.x and migrate your existing systems inventory from XIV Management Tools 4.x to the newly installed IBM Hyper-Scale Manager. See the *IBM Hyper-Scale Manager User Guide* for information.

- IBM Hyper-Scale Manager must be restarted after any MES procedure (HW part replacement) is complete.
- If you are working with a Hyper-Scale Manager version previous to 5.1.1, and want to upgrade to the Cloud Integration component based on IBM Spectrum Connect version 3.6.x, first upgrade to Hyper-Scale Manager version 5.4.0 and then to Hyper-Scale Manager version 5.5.2. For more information, refer to *IBM Spectrum Connect User Guide* on the [IBM Knowledge Center](#).

Known issues

Following are the known issues in IBM Hyper-Scale Manager version 5.5.2, along with possible solutions or workarounds (if available).

Ticket ID	Description
PUI-17648	<p>Mozilla Firefox tab with an active Hyper-Scale Manager instance crashes when the current IOPS statistics are displayed for 6 or more volumes and the cursor hovers over graph points.</p> <p>Workaround: Select less than 6 volumes to view their current IOPS statistics.</p>
PUI-17486	<p>Spectrum Connect cannot be installed on Red Hat 6.10.</p> <p>Workaround: Install Spectrum Connect on any version of Red Hat other than 6.10, or on Cent OS.</p>
PUI-17418	<p>In the Host Connectivity form, host names, exceeding 25 characters, become truncated.</p> <p>Workaround: No workaround is currently available.</p>
PUI-17145	<p>Autoconnect between two storage systems fails if an iSCSI port on one of them has more than one VLAN, while the opposite port has only one configured VLAN.</p> <p>Workaround: Use XCLI to establish iSCSI connectivity, if autoconnect fails.</p>
PUI-17346	<p>In the Host Connectivity form does not include a VLAN search field.</p> <p>Workaround: Search for a specific VLAN by scrolling through the VLAN list in the combo box.</p>
PUI-17310	<p>When exporting latency data for multiple storage systems into a .csv file, the resulting data does not contain internal latency statistics.</p> <p>Workaround: No workaround is currently available. However, you can display the internal latency data by exporting it for each individual storage system.</p>
PUI-17116	<p>The error margin provided in the Capacity (Reclaimable) column of the Hyper-Scale Manager GUI for a specific volume might be overly precise. This occurs on account of the reclaimable capacity granularity level, 103 GB, used by a storage system. As a result, the reported system capacity after deletion of the volume might be above or below the predicted value by up to 103 GB.</p> <p>Workaround: No workaround is currently available.</p>
PUI-17044	<p>Selecting any option from the Settings menu on the dashboard opens a tab which looks like a new tab but with the Dashboard title.</p> <p>Workaround: Open a new tab before choosing an option from Dashboard.</p>
PUI-17018	<p>A domain name change using the Hyper-Scale Manager UI fails if only a letter case (lower to upper case or vice versa) is altered.</p> <p>Workaround: Use XCLI to rename domains.</p>

Ticket ID	Description
PUI-16790	<p>Link synchronization fails between empty consistency groups in Multi-site HA/DR relation.</p> <p>Workaround: No workaround is currently available.</p>
PUI-16789	<p>When defining storage system connectivity (System and Domains Views > System Connectivity > Targets > Define Connectivity), the user cannot navigate away from the Systems table.</p> <p>Workaround: Deselect the storage system in the Systems table and select it again.</p>
PUI-16782	<p>An attempt to unblock I/Os for the primary volume after successful failover in multi-site HA/DR relation, using the Status bar tooltip (HyperSwap tab) might fail.</p> <p>Workaround: Use the Actions menu to unblock the primary volume I/Os.</p>
PUI-16779	<p>A second attempt of creating mirrored snapshots for multiple volumes in async mirrored relations fails.</p> <p>Workaround: Avoid bulk creation of mirrored snapshots for the volumes that already have snapshots. Instead, create each snapshot individually, using a custom name for each snapshot instance.</p>
PUI-16684	<p>An active replication in async mirroring appears as inactive, although the Activation state is set to Active in the Change Activation State dialog box.</p> <p>Workaround: Select both parts of the relations and click Change Activation State. When the <i>hourglass toggle</i> is displayed, indicating that one part is active and the other is not, either of them can be activated or deactivated.</p>
PUI-16680	<p>Host name is missing from the Mapped Volume graph (part of the Host statistics graph), when it is exported as an .csv file.</p> <p>Workaround: No workaround is currently available.</p>
PUI-16638	<p>There is no indication in the status bar that a primary storage system in a HyperSwap relation has ran out of physical space.</p> <p>Workaround: No workaround is currently available.</p>
PUI-16599	<p>SNMP trap type cannot be changed using Hyper-Scale Manager.</p> <p>Workaround: Use the following XCLI command to change SNMP trap type: config_set name=snmp_trap_type value=<value>.</p>
PUI-16566	<p>A HyperSwap relation cannot be created using Hyper-Scale Manager due to alleged lack of connectivity to Quorum Witness. However, the Quorum Witness status appears as OK.</p> <p>Workaround: Attach the Quorum Witness to the target manually:</p> <ol style="list-style-type: none"> 1. Navigate to the Storage System table and select the array. 2. Navigate to the Targets context. 3. On the second storage system target, click the Actions icon, and select Attach to Quorum Witness.

Ticket ID	Description
PUI-16333	<p>By default, Hyper-Scale Manager uses 75% of online ports for mirroring. As a result, when the Auto-connect function is used for a storage system with a small amount of active iSCSI ports (two or less), Hyper-Scale Manager fails to activate this function due to lack of sufficient number of ports.</p> <p>Workaround: Edit the <code>/home/msms/hyperscale/server/conf/msms_conf.customized.properties</code> file to set the LOCAL_PORTS_USED_FOR_MIRRORING_RATIO parameter to <code>1</code>. In this case all online ports can be used for the auto-connect mirroring function.</p>
PUI-16308	<p>When converting a Multi-site HA/DR relation to async mirroring (Actions > Convert type > Convert Multi-site to Async Mirroring), some of the objects, participating in the Muti-site solution, are not displayed in the warning message.</p> <p>Workaround: No workaround is currently available.</p>
PUI-16077	<p>The Activate Availability link displayed when hovering over the status bar of the Async Mirror section (Availability form) remains active for non-monitored storage systems.</p> <p>Workaround: No workaround is currently available.</p>
PUI-15557	<p>When working with the Hyper-Scale Manager UI on Mozilla Firefox version 52 or later, you may get a warning that the connection is insecure on certain text fields.</p> <p>Workaround: Connect to Hyper-Scale Manager using HTTPS.</p>
PUI-14432	<p>When displaying Written by Host + Forecast statistics for a Host associated to two different systems, the same graph is displayed for both systems.</p> <p>Workaround: No workaround is currently available.</p>
PUI-14331	<p>When the width of a statistics graph is changed, a pinned tooltip doesn't display correctly.</p> <p>Workaround: No workaround is currently available.</p>
PUI-13092	<p>In some areas of the UI, when the server and web browser are set to different locales, there are occasional globalization issues that may cause characters to appear incorrectly.</p> <p>Workaround: Adjust the server or client locales to be the same.</p>
PUI-12196	<p>Even when deleted from a system, a user can still log in to Hyper-Scale Manager for approximately 20 minutes and view (but can't alter) objects.</p> <p>Workaround: From the Management Server menu, select Manager Configuration to display the Inventory (Home) form. From the Actions menu, select Inventory > Re-authenticate all Users.</p>
PUI-10892	<p>Occasionally, when you want to create a new Host Mapping and click the + to add a new entry for Volume private mapping, two blank entries appear instead of only one as is expected.</p> <p>Workaround: Close the entry, cancel the task, and restart the procedure to create a new Host Mapping.</p>
PUI-10093	<p>Three-way mirroring is not supported for IBM XIV Storage System Gen3.</p> <p>Workaround: No workaround is currently available.</p>

Ticket ID	Description
PUI-9429	There is no upgrade path from IBM Hyper-Scale Manager version 4.x to version 5.x. See the <i>IBM Hyper-Scale Manager User Guide</i> for information on how to migrate your existing systems inventory from XIV Management Tools version 4.x to the newly installed IBM Hyper-Scale Manager. Workaround: No workaround is currently available.
PUI-9034	Adding a mirrored Volume to a mirrored Consistency Group won't work if the remote system is not monitored, since the RPO and schedule of the remote mirrored Consistency Group are unavailable.
PUI-8858	Creating a mirror in mass configuration fails when the Volumes aren't in the same Domain. Workaround: No workaround is currently available.
PUI-8840	If the login user is not defined on the destination system when you Create Mirror , the destination Domain/Pool fields are empty. Workaround: Define the login user on both the source and destination systems.
PUI-8808	When Capacity statistics data is collected over a 3-day interval (the minimum number of days for collecting data for Capacity graphs), the graphs with the forecast are not shown. Workaround: No workaround is currently available.
PUI-8750	The last data point on the Capacity statistics forecast graph is greater than the System's physical size. Workaround: No workaround is currently available.
PUI-8735	The Capacity statistics interval between the first date of the historical data displayed and the last date of the forecast data displayed is not accurate. Workaround: No workaround is currently available.
PUI-8592	When you select Last Month as the Range on a Capacity statistics graph, the first day of the month is not displayed on the x-axis. Workaround: The tooltip for this day displays the correct data.
PUI-8560	The Host and LUN dialog box in the Volume Mapping form does not close when you click on the "x". Workaround: Select Cluster in the capsule before clicking Create Mapping .
PUI-7745	When working with the Hyper-Scale Manager UI on Mozilla Firefox, copy/paste doesn't work on fields that are not editable. Workaround: No workaround is currently available.

Related information and publications

Additional information and publications related to IBM Hyper-Scale Manager can be found on the following information sources.

- [IBM Hyper-Scale Manager on IBM Knowledge Center \(ibm.com/support/knowledgecenter/SSUMNQ\)](http://ibm.com/support/knowledgecenter/SSUMNQ)
- [IBM Flash Storage and Solutions marketing website \(ibm.com/systems/storage/flash\)](http://ibm.com/systems/storage/flash)
- [IBM FlashSystem A9000 on IBM Knowledge Center \(ibm.com/support/knowledgecenter/STJKMM\)](http://ibm.com/support/knowledgecenter/STJKMM)
- [IBM FlashSystem A9000R on IBM Knowledge Center \(ibm.com/support/knowledgecenter/STJKN5\)](http://ibm.com/support/knowledgecenter/STJKN5)
- [IBM XIV Storage System marketing website \(ibm.com/systems/storage/disk/xiv\)](http://ibm.com/systems/storage/disk/xiv)

- [IBM XIV Storage System on IBM Knowledge Center \(ibm.com/support/knowledgecenter/STJTAG\)](http://ibm.com/support/knowledgecenter/STJTAG)
- [IBM Spectrum Accelerate marketing website \(ibm.com/systems/storage/spectrum/accelerate\)](http://ibm.com/systems/storage/spectrum/accelerate)
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- [IBM Storage Redbooks® website \(redbooks.ibm.com/portals/storage\)](http://redbooks.ibm.com/portals/storage)

IBM Hyper-Scale Manager documentation set

IBM Hyper-Scale Manager 5.x currently has the following documentation set.

IBM Hyper-Scale Manager publications	Description
<i>Release Notes</i>	Describes what's new, requirements, compatibility, change log, and known issues information in the latest version.
<i>User Guide</i>	Describes how to install, configure, and operate IBM Hyper-Scale Manager.
<i>Quick-Start Guide</i>	Walks you through installing the IBM Hyper-Scale Manager software and initial configuration of the GUI.
<i>REST API Specifications</i>	Provides specifications of the IBM Hyper-Scale Manager Representational State Transfer (REST) application programming interface (API).

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