IBM Hyper-Scale Manager
5.5.4

Release Notes

IBM

Contents

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 IBM Hyper-Scale Manager 5.5.4

IBM Hyper-Scale Manager 5.5.4 resolves a common security issue.

For information about the resolved issue in version 5.5.4, see the 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 5.5.4.

Operating system

- Red Hat Enterprise Linux® (RHEL) 8.0 - 8.3, 64-bit
- CentOS 8.0 - 8.3

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 5.5.4 supports the following storage systems.

Storage system	Microcode version
IBM FlashSystem A9000 (models 415, 425, and U25)	12.3.2.b or later
IBM FlashSystem A9000R (models 415, 425, and U25)	12.3.2.b or later
IBM XIV Storage System Gen3 (281x-214, and 281x-314)	11.6.2.x
IBM Spectrum Accelerate deployable software	11.5.3.c, 11.5.4

See Cross-system feature use in the IBM Spectrum Accelerate family in IBM Documentation 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.

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.

5.5.4 (December 2021)

IBM Hyper-Scale Manager 5.5.4 resolves the following issue.

Ticket ID	Description
PUI-17808	**Fixed**: Common security issue. For more information about these security issues, see CVE-2021-4104 on the Common Vulnerabilities and Exposures (CVE) information website (cve.mitre.org).

5.5.3 (June 2021)

IBM Hyper-Scale Manager 5.5.3 now supports Red Hat Enterprise Linux (RHEL) and CentOS 8.0 - 8.3 operating systems and resolves the following issues.

Ticket ID	Description
PUI-17734	**Fixed**: Hyper-Scale Manager uses various outdated versions of Open Source third party libraries, including the following: • Oracle Java JRE • Apache Tomcat • Apache Derby • Jython • Additional utility Java packages
PUI-17801	**Fixed**: Common security issue. For more information about these security issues, see CVE-2015-4000 on the Common Vulnerabilities and Exposures (CVE) information website (cve.mitre.org).

5.5.2 (May 2019)

Version 5.5.2 of IBM Hyper-Scale Manager introduced 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.

Ticket ID	Description
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 *X-Frame-Options* header in HTTP response.
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.

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.

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.

Ticket ID	Description
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 *Default*.
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.

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.

Fixes and features of earlier versions

IBM Hyper-Scale Manager version 5.5.4 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 in IBM Documentation.

Limitations

The following functional limitations apply to IBM Hyper-Scale Manager version 5.5.4 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 section for the XCLI utility for your product version in IBM Documentation.

- 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 5.5.4. For more information, refer to *IBM Spectrum Connect User Guide* in the IBM Spectrum Connect documentation.

- In extremely rare cases, an excessive amount of Fibre Channel connections to the system, together with other internal system connection degradation and/or failures, may ultimately result in the Hyper-Scale Manager management connection to stop working. If this happens, management can continue through the XCLI utility. In order to continue working with the Hyper-Scale Manager, remove some of the Fibre Channel connections and try again. In order to see how many FC connections there are on a system, use the **fc_connectivity_list** CLI command. For more information regarding this command, see the CLI reference guide.

Known issues

Following are the known issues in IBM Hyper-Scale Manager version 5.5.4, along with possible solutions or workarounds (if available).

Ticket ID	Description
PUI-17804	In some cases after deleting volumes in a high availability relationship, the `Identical WWNs exist on Volumes that aren't in a HyperSwap or Hyper-Scale Mobility relation` alert continues to show in the Hyper-Scale Manager interface. **Workaround:** Restart the Hyper-Scale Manager service.
PUI-17756	In some cases, moving a VMware Hypervisor that hosts a Hyper-Scale Manager instance, may cause the Hyper-Scale Manger to request a new setup. **Workaround**: To avoid a new setup request, perform the following before the VMWare Hypervisor move: 1. Backup the Hyper-Scale Manager. 2. Stop the Hyper-Scale Manager. From the text user interface (TUI) **User Menu**, go to **Start/Stop Hyper-Scale Manager Service** and follow the instructions. 3. After the VMware Hypervisor move has completed, start the Hyper-Scale Manager, using the **Start/Stop Hyper-Scale Manager Service** option in the **User Menu**. If needed, restore the Hyper-Scale Manager configurations using the TUI. **Note:** For backup and restore information, see the *IBM Hyper-Scale Manager User Guide*.
PUI-17755	In rare cases, the IBM Hyper-Scale Manager deduplication-aware capacity management calculations experience an unrecoverable error. **Workaround:** If such a case occurs, perform the following steps: 1. Backup the Hyper-Scale Manager. 2. Reinstall the Hyper-Scale Manager. 3. Use the restore option in the Hyper-Scale Manager text user interface (TUI). **Note:** For backup and restore information, see the *IBM Hyper-Scale Manager User Guide*.
PUI-17749	In rare cases, multiple volumes (but not all) may start showing "Multi-site Failed/Broken" errors in Hyper-Scale Manager on systems that have never been configured with Multi-site. This occurs after the volumes were running with no previous issues. **Workaround:** Perform one (or more) of the following steps: • Restart the Hyper-Scale Manager service. • Remove and then re-add the systems from the Hyper-Scale Manager inventory.
PUI-17728	In some cases, updating or patching your RHEL version may cause the Hyper-Scale Manager to request a new setup. **Workaround:** If Hyper-Scale Manager requests a new setup perform the following: 1. Reinstall the Hyper-Scale Manager. 2. Use the restore option in the Hyper-Scale Manager text user interface (TUI). See the *IBM Hyper-Scale Manager User Guide* for more information.

Ticket ID	Description
PUI-17587	An LDAP user that is defined within a specific domain can see other unauthorized system objects. **Workaround:** No workaround is currently available.
PUI-17708	Due to Hyper-Scale Manager adding more restrictions about security items, if the data in the `/etc/hosts file` contains wrong information, the Hyper-Scale Manager may not launch properly. **Workaround:** If Hyper-Scale Manager doesn't launch after upgrade, perform the following steps: 1. From the server, where the Hyper-Scale Manager is installed, open the `/etc/hosts` file. 2. Search for the line which contains the current host name (not "localhost"). 3. Make sure that the IP address in the current host name line is correct. If not correct, fix the IP address and then restart the Hyper-Scale Manager. **Note:** While this is a known issue, this is not a bug.
PUI-17648	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. **Workaround:** Select less than 6 volumes to view their current IOPS statistics.
PUI-17486	Spectrum Connect cannot be installed on Red Hat 6.10. **Workaround:** Install Spectrum Connect on any version of Red Hat other than 6.10, or on Cent OS.
PUI-17418	In the Host Connectivity form, host names, exceeding 25 characters, become truncated. **Workaround:** No workaround is currently available.
PUI-17145	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. **Workaround:** Use XCLI to establish iSCSI connectivity, if autoconnect fails.
PUI-17346	In the Host Connectivity form does not include a VLAN search field. **Workaround:** Search for a specific VLAN by scrolling through the VLAN list in the combo box.
PUI-17310	When exporting latency data for multiple storage systems into a `.csv` file, the resulting data does not contain internal latency statistics. **Workaround:** No workaround is currently available. However, you can display the internal latency data by exporting it for each individual storage system.
PUI-17116	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. **Workaround:** No workaround is currently available.

Ticket ID	Description
PUI-17044	Selecting any option from the **Settings** menu on the dashboard opens a tab which looks like a new tab but with the **Dashboard** title. **Workaround:** Open a new tab before choosing an option from **Dashboard**.
PUI-17018	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. **Workaround:** Use XCLI to rename domains.
PUI-16790	Link synchronization fails between empty consistency groups in Multi-site HA/DR relation. **Workaround:** No workaround is currently available.
PUI-16789	When defining storage system connectivity (**System and Domains Views** > **System Connectivity** > **Targets** > **Define Connectivity**), the user cannot navigate away from the **Systems** table. **Workaround:** Deselect the storage system in the **Systems** table and select it again.
PUI-16782	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. **Workaround:** Use the **Actions** menu to unblock the primary volume I/Os.
PUI-16779	A second attempt of creating mirrored snapshots for multiple volumes in async mirrored relations fails. **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.
PUI-16684	An active replication in async mirroring appears as inactive, although the Activation state is set to Active in the **Change Activation State** dialog box. **Workaround:** Select both parts of the relations and click **Change Activation State**. When the *hourglass toggle* is displayed, indicating that one part is active and the other is not, either of them can be activated or deactivated.
PUI-16680	Host name is missing from the Mapped Volume graph (part of the Host statistics graph), when it is exported as an .csv file. **Workaround:** No workaround is currently available.
PUI-16638	There is no indication in the status bar that a primary storage system in a HyperSwap relation has ran out of physical space. **Workaround:** No workaround is currently available.
PUI-16599	SNMP trap type cannot be changed using Hyper-Scale Manager. **Workaround:** Use the following XCLI command to change SNMP trap type: `config_set name=snmp_trap_type value=<value>`.

Ticket ID	Description
PUI-16566	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. **Workaround:** Attach the Quorum Witness to the target manually: 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**.
PUI-16333	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. **Workaround:** Edit the `/home/msms/hyperscale/server/conf/msms_conf.customized.properties` file to set the **LOCAL_PORTS_USED_FOR_MIRRORING_RATIO** parameter to *1*. In this case all online ports can be used for the auto-connect mirroring function.
PUI-16308	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. **Workaround:** No workaround is currently available.
PUI-16077	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. **Workaround:** No workaround is currently available.
PUI-15557	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. **Workaround:** Connect to Hyper-Scale Manager using HTTPS.
PUI-14432	When displaying **Written by Host + Forecast** statistics for a Host associated to two different systems, the same graph is displayed for both systems. **Workaround:** No workaround is currently available.
PUI-14331	When the width of a statistics graph is changed, a pinned tooltip doesn't display correctly. **Workaround:** No workaround is currently available.
PUI-13092	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. **Workaround:** Adjust the server or client locales to be the same.
PUI-12196	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. **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**.

Ticket ID	Description
PUI-10892	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. **Workaround:** Close the entry, cancel the task, and restart the procedure to create a new Host Mapping.
PUI-10093	Three-way mirroring is not supported for IBM XIV Storage System Gen3. **Workaround:** No workaround is currently available.
PUI-9429	There is no upgrade path from IBM Hyper-Scale Manager version 4.x to version 5.x. See the *IBM Hyper-Scale Manager User Guide* 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 documentation (ibm.com/docs/en/hyper-scale-manager)
- IBM FlashSystem A9000 documentation (ibm.com/docs/en/flashsystem-a9000)
- IBM FlashSystem A9000 documentation (ibm.com/docs/en/flashsystem-a9000r)
- IBM XIV Storage System documentation (ibm.com/docs/en/xiv-storage-system)
- IBM Spectrum Accelerate documentation (ibm.com/docs/en/xiv-spectrum-accelerate)
- IBM IT Infrastructure (ibm.com/it-infrastructure)
- IBM Storage Redbooks® website (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
Release Notes	Describes what's new, requirements, compatibility, change log, and known issues information in the latest version.
User Guide	Describes how to install, configure, and operate IBM Hyper-Scale Manager.
Quick-Start Guide	Walks you through installing the IBM Hyper-Scale Manager software and initial configuration of the GUI.
REST API Specifications	Provides specifications of the IBM Hyper-Scale Manager Representational State Transfer (REST) application programming interface (API).

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