

IBM XIV Storage System Management Tools
Version 4.6

Release Notes



First Edition (June 2015)

This edition applies to IBM XIV Management Tools version 4.6 release, and to all subsequent releases and modifications until otherwise indicated in new editions. Newer document editions may be issued for the same product version in order to add missing information or amend typographical errors. The edition is reset to 'First Edition' for every new product version.

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Overview

These release notes are for the IBM® XIV® Storage System Management Tools version 4.6.

Release date

June 2015

On IBM Hyper-Scale Manager

IBM Hyper-Scale Manager was previously named IBM XIV Multi-System Manager.

Working with the IBM Hyper-Scale Manager

IBM XIV recommends using the IBM Hyper-Scale Manager and an XIV GUI in Manager mode if you have more than 10 systems.

Compatibility

XIV GUI 4.6 is compatible with IBM Hyper-Scale Manager 1.7.

Supported microcode releases

This version supports IBM XIV releases 11.6, and all previous IBM XIV releases.

Management Tools documentation set

The documentation for this release contains instructions for installation and operations.

IBM Hyper-Scale Manager installation

- *IBM Hyper-Scale Manager as an Application User Guide (GC27-5984)*
- *IBM Hyper-Scale Manager Quick Start Guide for Installation as an Application*

Management Tools

- *IBM XIV Storage System Management Tools Operations Guide (SC27-5986)*
- *IBM XIV Storage System Management Tools Release Notes*

Specifications

XIV GUI specifications

The XIV GUI runs in either *Direct* mode, or *Manager* mode. Additionally, the XIV GUI installed on a 64-bit OS has different specifications than a 32-bit OS.

Direct mode

CPU Dual core

Memory

Up to 25 systems
32-bit and 64-bit: 700MB

More than 25 systems

32-bit: 1.1GB

64-bit: 1.5GB

Max number of XIV systems monitored by a single XIV GUI in direct mode is:
144

Best practice: IBM XIV recommends to use the IBM Hyper-Scale Manager and an XIV GUI in Manager mode if you have more than 10 systems.

Server mode

CPU Dual core

Memory
1GB

Allowed latency between a single XIV GUI and the IBM Hyper-Scale Manager:
Max of 50ms

Supported OS for XIVGUI, XCLI, XIVTOP

Windows

- Windows Server 2003 (32 bit)
- Windows Server 2003 (64 bit)
- Windows Server 2008 (32 bit)
- Windows Server 2008 (64 bit)
- Windows Server 2012 R1 (64 bit)
- Windows Server 2012 R2 (64 bit)
- Windows 7 (32 bit)
- Windows 7 (64 bit)
- Windows Vista (32 bit)
- Windows Vista (64 bit)
- Windows 8 (32 bit)
- Windows 8 (64 bit)
- Windows 8.1 (32 bit)
- Windows 8.1 (64 bit)

Make sure you install the relevant package (64-bit or 32-bit) according to your OS type.

Linux

- Linux Red Hat 6.4 (32 bit)
- Linux Red Hat 6.4 (64 bit)
- Linux Red Hat 6.5 (32 bit)
- Linux Red Hat 6.5 (64 bit)

Mac OSx 10.9
OSx 10.10

Additional supported OS for XCLI only

AIX AIX 6
AIX 7

Oracle Solaris 11 (SPARC)
 Solaris 11 (INTEL)
 HP-UX HP-UX 11i v3 (IA64)

IBM Hyper-Scale Manager specifications

Important: Starting from version 1.7, *IBM Hyper-Scale Manager as a Virtual Appliance* is no longer supported.

For more information on installation instructions and migrating data from the *IBM Hyper-Scale Manager as a Virtual Appliance* to the *IBM Hyper-Scale Manager as an Application* on a RHEL operating system, refer to the *IBM Hyper-Scale Manager as an Application User Guide (GC27-5984)*, or the IBM Knowledge Center (http://www-01.ibm.com/support/knowledgecenter/STJTAG/com.ibm.help.xivgen3.doc/Gen3/xiv_mt46_migration.dita).

Installing IBM Hyper-Scale Manager requires the following specifications:

- The installation should be done on a 64-bit RHEL 6 (and up) OS.

Note: For best performance, install the IBM Hyper-Scale on an independent server.

- Disk space:
 - At least 1 GB of free space in the /tmp directory
 - 76 GB free space under the installation path (the path is configurable, and does not have the home directory)
- CPU and Memory allocation:

Table 1. Standalone application CPU and Memory allocation per machines/objects

Specifications	Dual-core/4Gb	4 cores/6Gb	6 cores/6Gb	6 cores/8Gb
# of machines	up to 40	up to 80	up to 120	up to 144
# of objects	up to 80K	up to 120K	up to 180K	up to 220K

Other specifications

Ports

- Outbound/Inbound: RMI - 1199-1204
- Inbound only: SSH/SCP - 22
- Outbound only: SMTP - 25
 - Communication with XIV systems - 7778
 - RESTful API port - 8443

Latency

Allowed latency between the IBM Hyper-Scale Manager and the XIV systems it monitors: maximum of 200 ms.

Concurrently connected GUI clients to an XIV system

Maximum number of GUI clients connected to an XIV system that can concurrently send requests to the IBM Hyper-Scale Manager is 15.

Administered XIV systems

Maximum XIV Systems that are administered by one server is 144 (up to 12 groups with 12 systems each).

What's new in Management Tools version 4.6

XIV Management Tools version 4.6 introduces the following new features:

Real-time Compression

Starting from Management Tools version 4.6, XIV System Storage can compress volumes in "real-time", as opposed to offline compression or data-at-rest compression of other offerings. IBM XIV systems with IBM Real-time Compression (RtC) supports:

- Generation of new compressed volumes, as well as non-disruptive conversion of existing volumes from uncompressed data to compressed data, and vice versa.
- Reclaims the same space as usable capacity, dramatically reducing the risk of overprovisioning
- Roughly 50% capacity gain on compressible workloads
- Ease of use when enabling compression from the XIV GUI
- New XIV GUI display of capacity savings (in percentages and GBs) of volumes, pools, domains and overall systems:

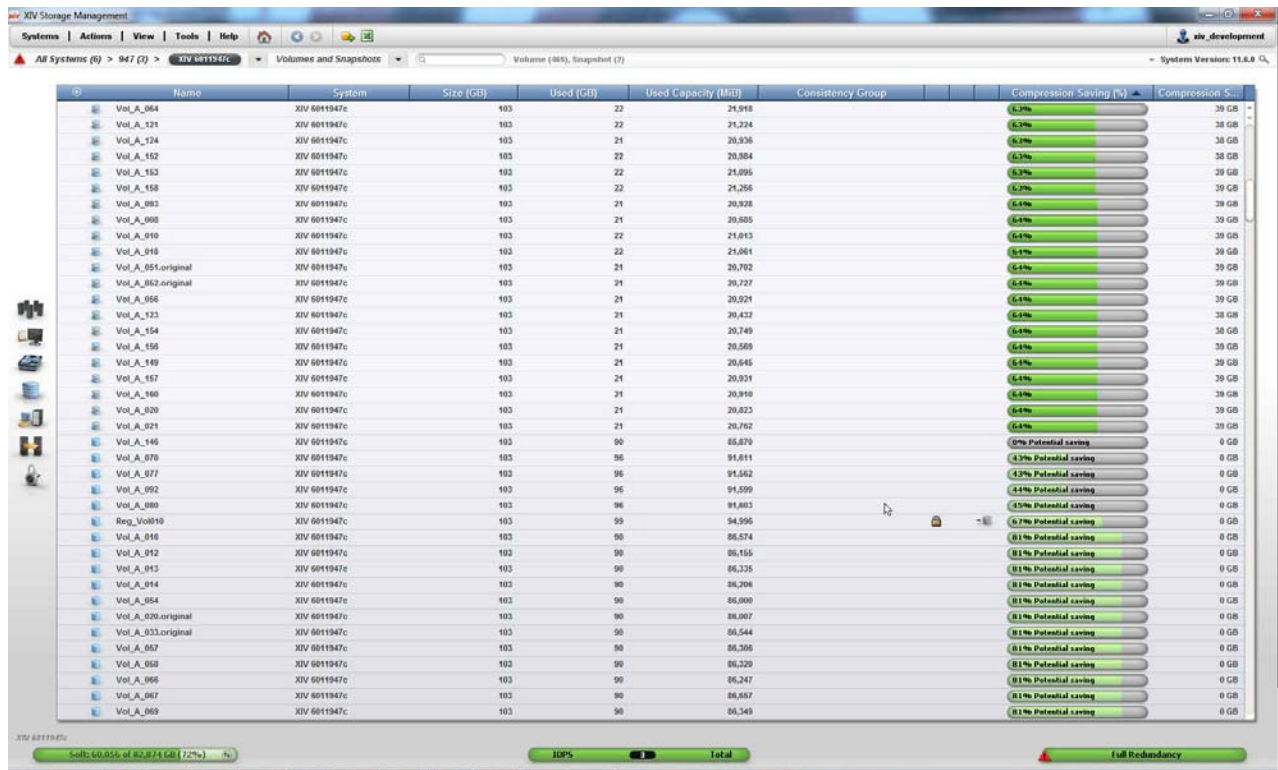


Figure 1. View of Volumes undergoing compression

Temperature threshold and events

The XIV Storage System sends warning events to the administrator in case the system temperature is overheating. An automatic thermal shutdown is initiated as a last resort. These event notifications indicate to the administrators if the system temperature is: normal, high, too high, and critically high (above which shutdown is applied immediately).

Note: After a manual or automatic thermal shutdown due to thermal conditions, IBM Support must be immediately contacted. Do not attempt to power up the system before contacting IBM Support.

The following table displays the IBM Storage System temperature thresholds and events with descriptions:

Table 2. IBM Storage System temperature thresholds and events

Temperature threshold	Event	Description
27°C (80°F)	SYSTEM_TEMPERATURE_IS_OK_NOW	No action required.
28°C (82.4°F)	SYSTEM_TEMPERATURE_IS_ABOVE_NORMAL	System should be closely monitored and, if possible, take action to cool down. It is recommended to either shutdown applications or create application snapshots, using quiesce functions in order to backup all data.
35°C (95°F)	SYSTEM_TEMPERATURE_IS_CRITICALLY_HIGH	Manually shutdown the machine using the shutdown command.
45°C (113°F)	SYSTEM_TEMPERATURE_IS_CRITICALLY_HIGH_SHUTTING_DOWN	Automatic system is in progress.

Used Snapshot Capacity view

The **Used Snapshot Capacity** column displays the total Snapshot capacity *used* per Volume. The **Used Snapshot Capacity** appears in the following views:

- Volumes by Pools
- Volumes and Snapshots
- Consistency Groups
- Volume Properties

The following example shows the **Used Snapshot Capacity** column in the **Volumes by Pools** view:

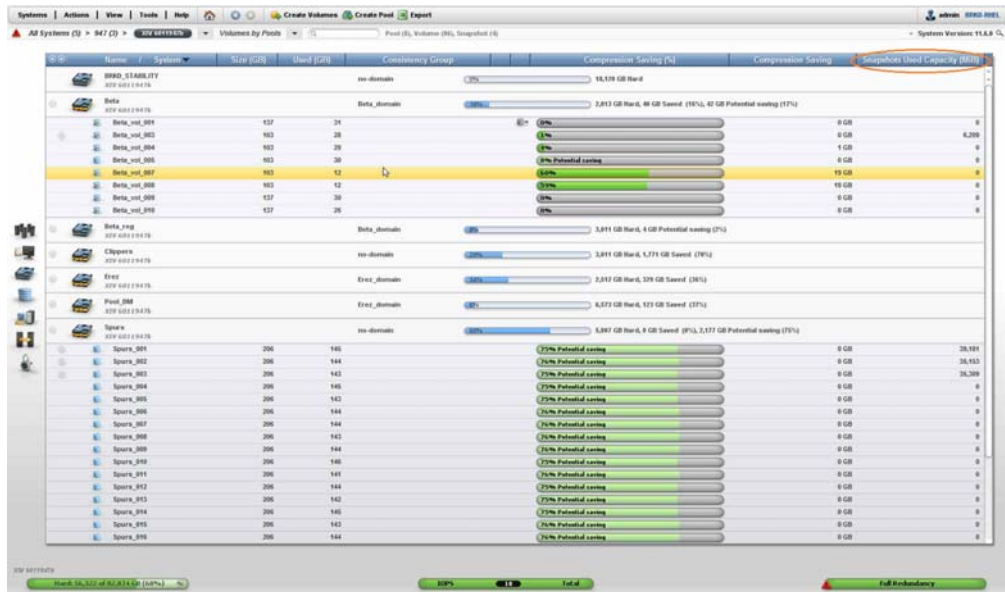


Figure 2. Snapshots Used Capacity in the Volumes by Pools view

IBM XIV Storage Systems announces the end of support for IBM Hyper-Scale Manager Virtual Appliance

Starting from version 1.7, IBM Hyper-Scale Manager as a Virtual Appliance is no longer supported.

For more information on installation instructions and migrating data from the *IBM Hyper-Scale Manager as a Virtual Appliance* to the *IBM Hyper-Scale Manager as an Application* on a RHEL operating system, refer to the *IBM Hyper-Scale Manager as an Application User Guide (GC27-5984)*, or the IBM Knowledge Center (http://www-01.ibm.com/support/knowledgecenter/STJTAG/com.ibm.help.xivgen3.doc/Gen3/xiv_mt46_migration.dita).

Limitations

UI-263912

After upgrading the Hyper-Scale Manager, the time of the Schedule Daily Backup is not saved and reverts to the default value. The default value is 11:30 p.m.

UI-263821

The XIV GUI does not launch when Single Sign-On (SSO) software is running on the client.

UI-262890

Unable to create or edit domain with size 0 through the GUI.

UI-261561

An untrusted XIV system (a system that is not authenticated via a certificate) is displayed as trusted. Removing an XIV system's certificate with the `xcli -C remove XCLI` command and then trying to connect to this system succeeds. This case happens as long as the XCLI server is up.

Workaround:

Log out of the XCLI server and log in again.

UI-253185

The GUI must be installed on a dedicated directory, as the uninstallation erases it completely.

UI-247041

Changing the PC local time when the GUI is open may also change the system time.

Workaround:

Restart the GUI.

Fixed issues

UI-265495

XIV systems running version 11.5.1.a or version 11.5.1.b are not monitored by the XIV GUI.

UI-265469

Hyper-Scale Manager creates multiple threads causing a connection error due to lack of memory.

UI-265460

This release of the XIV GUI addresses the CVE-2015-2808 issue, also known as the "Bar Mitzvah" vulnerability.

Fix: XIV disables the SSL/TLS protocols on which the Bar Mitzvah attack exploits the use of RC4.

UI-265411

From the Connectivity view, the XIV GUI stalls when defining or viewing the connectivity between XIV systems.

UI-265354

In the Systems view, a warning appears on all of the modules when compression is disabled on the system.

UI-264966

On XIV systems 11.5.0 and up, Hyper-Scale Manager supports LDAP UPN mode only when there are no domains configured on the system. If domains are configured on the system, LDAP UPN mode is not supported.

Known issues

XIV GUI

UI-265548

Currently, Hyper-Scale Manager comes with a preinstalled certificate with a key size of 1024 which is strong enough for most REST clients. With the latest versions of Chrome and Firefox search engines, however, a certificate with a minimal key size of 2048 is required to successfully connect to the server to use REST commands.

Workaround:

Using the GUI menu, import a certificate (in PKCS12 format) with a minimal key size of 2048.

Note: Once the certificate is imported, close and reopen the GUI.

UI-265425

When configuring the Hyper-Scale Manager server to a network interface, it automatically defaults to eth0, even if eth0 is unavailable.

Workaround:

Manually select a different network adapter.

UI-265379

An asynchronous mirror relation with an RPO that is different from the default (30 seconds) can not be extended to a 3-way mirror with the standby mirror option selected. In addition, an existing synchronous mirror relation can not be extended to a 3-way mirror if the asynchronous mirror created during the process has an RPO that is different from the default.

Workaround:

Manually create the mirror schedule on the secondary source and destination systems (if a standby mirror is created). Run the XCLI command **scheduler_create** prior to creating the 3-way mirror. Alternatively, you can set the RPO with the default value and modify it after the 3-way mirror is successfully created.

UI-265088

On the target of a compressed volume that is either mirrored or part of a Hyper-Scale Mobility relationship, the ratio and savings parameters are wrongly displayed as zero (0).

Workaround:

No workaround is available.

UI-264605

When there is a role conflict in a mirroring relation, two rows are displayed in the GUI. The rows display the XIV systems with their source and destination volumes in different roles. That is, the system's role in the mirroring relation is reversed in each row.

Workaround:

Select only the row on which you would like to fix the role conflict and run the Change Role option on the mirror's source and destination. Refrain from selecting both rows at once, as this will only lead to further problems.

UI-264145

The XIV GUI truncates (rounding down) the Latency values in the Statistics view.

Workaround:

No workaround is available.

UI-264141

When there are two identical rows for the same mirror, the cursor might jump to the first mirror when you try to select the bottom mirror.

Workaround:

No workaround is available.

UI-263084

When an XIVTop session is open and the session idle timeout is changed, it will only take affect the next time the XIVTop is opened.

Workaround:

Close and reopen a new XIVTop session.

UI-261999

The option to determine where an imported certificate will be stored does not work. The certificate will be stored on: "C:\Users\{UserName}\AppData\Roaming\XIV\GUI12\properties" regardless of the address that is stated by the -h parameter.

Workaround:

Import the certificate using the IBM Hyper-Scale Manager.

UI-243418

The XIV GUI does not launch if the following **env** variables are defined:

- IBM_JAVA_OPTIONS
- JAVA_TOOL_OPTIONS

Workaround:

Delete the definition.

Hyper-Scale Manager

MSM-261090

The IBM Hyper-Scale Manager cannot monitor a pre-11.2.0 XIV system that is configured with LDAP, with an *xiv_msms* user that is configured both internally and in the LDAP.

Workaround

1. Disable LDAP on the specific XIV system.

```
ldap_mode_set mode=inactive
```

2. Delete the *xiv_msms* user which is defined internally.

```
user_delete user=xiv_msms
```

3. Re-enable LDAP.

```
ldap_mode_set mode=active
```

Severity

Moderate

Affected versions:

Version 1.1, or later

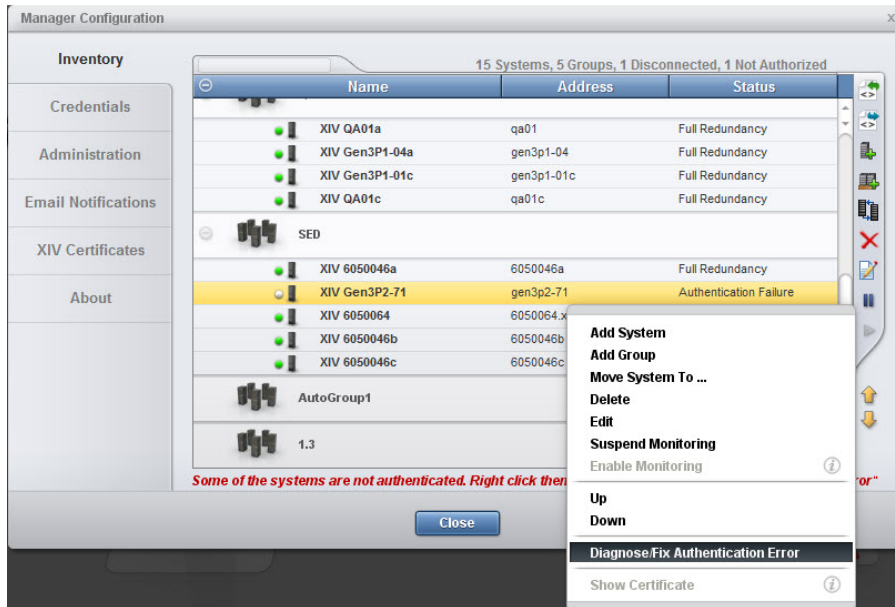
MSM-261538

Disabling LDAP on an XIV system may cause an authentication failure on all of the systems that are configured to this LDAP.

Workaround

1. Select **Systems > Manager Configuration** from the XIV GUI menu.
2. Type the **Manager Access Code**.
3. Select the **Inventory** tab.

4. Select and right-click the systems whose status is **Authentication Failure** and click **Diagnose/Fix Authentication Error** on the menu.



Severity

Moderate

Affected versions:

Version 1.5, or later

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<http://www.ibm.com/planetwide>.

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Readers' Comments — We'd Like to Hear from You

IBM XIV Storage System Management Tools
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Release Notes

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