IBM XIV Storage System Management Tools
Version 4.5.0.2

Release Notes

IBM

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Overview

The IBM® XIV® Storage System Management Tools version 4.5.0.2 Release Notes are a hotfix to address the CVE-2015-4000 issue, also known as the "Logjam" vulnerability. For more detailed information, refer to "IBM Hyper-Scale Manager specifications" on page 3.

Note: XIV GUI version 4.5.x should be used to deploy and monitor IBM Spectrum Accelerate systems.

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 4.5.x is compatible with IBM Hyper-Scale Manager 1.6.x.

Supported microcode releases

This version supports IBM XIV releases 11.5.1.b, 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)

HPUX HPUX 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.

Before upgrading to version 4.5.0.2 hotfix, refer to the following use cases to determine which version of IBM Hyper-Scale Manager is most suitable for your system:

- If you are currently working with *IBM Hyper-Scale Manager as an Application* on an RHEL operating system, manually download and install the most updated version of *IBM Hyper-Scale Manager as an Application* 1.7.1 and the XIV GUI version 4.6.1. See the *IBM Hyper-Scale Manager as an Application User Guide (GC27-5984)* or the IBM Knowledge Center (Installing the IBM Hyper-Scale Manager).

- If you are currently working with *IBM Hyper-Scale Manager as a Virtual Appliance* and would like to continue working with it, manually download and upgrade the *IBM Hyper-Scale Manager as a Virtual Appliance* version 1.6.2 hotfix, and the XIV GUI version 4.5.0.2. See "Chapter 2, Installing the Management Tools on a VM" in the *IBM Hyper-Scale Manager as a Virtual Appliance User Guide (GC27-5985-02)*, version 1.6.

- If you are currently working with *IBM Hyper-Scale Manager as a Virtual Appliance* and would like Real-time Compression support, as well as the most up-to-date features of version 4.6, manually download and install the most updated version of *IBM Hyper-Scale Manager as an Application* 1.7.1 and the XIV GUI version 4.6.0.1. Follow the instructions for migrating data to *IBM Hyper-Scale Manager as an Application*.

  For detailed information, refer to the *IBM Hyper-Scale Manager as an Application User Guide (GC27-5984)*, or to the IBM Knowledge Center (Installing the IBM Hyper-Scale Manager and Migrating data to IBM Hyper-Scale Manager as an application).

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 4.5.x

XIV Management Tools version 4.5.x introduces the following new features:

IBM Spectrum Accelerate - a software-defined storage (SDS) solution
> Starting from Management Tools version 4.5.x, IBM Spectrum Accelerate systems can be managed alongside and together with XIV storage systems. The new management options for IBM Spectrum Accelerate systems from the GUI include:
>
> - Deployment of a new IBM Spectrum Accelerate system
> - License management
> - A new "Operations Administrator" role
> - Proactive Support configuration

Deployment of IBM Spectrum Accelerate systems
> Deployment of a new IBM Spectrum Accelerate system can be done from the XIV GUI in Direct or Manager mode:
>
> In Direct mode, select **Systems** > **Deploy Spectrum Accelerate System**.
>
> From Manager mode, select **Systems** > **Manager Configuration**, and click the **Deploy Spectrum Accelerate System** icon.
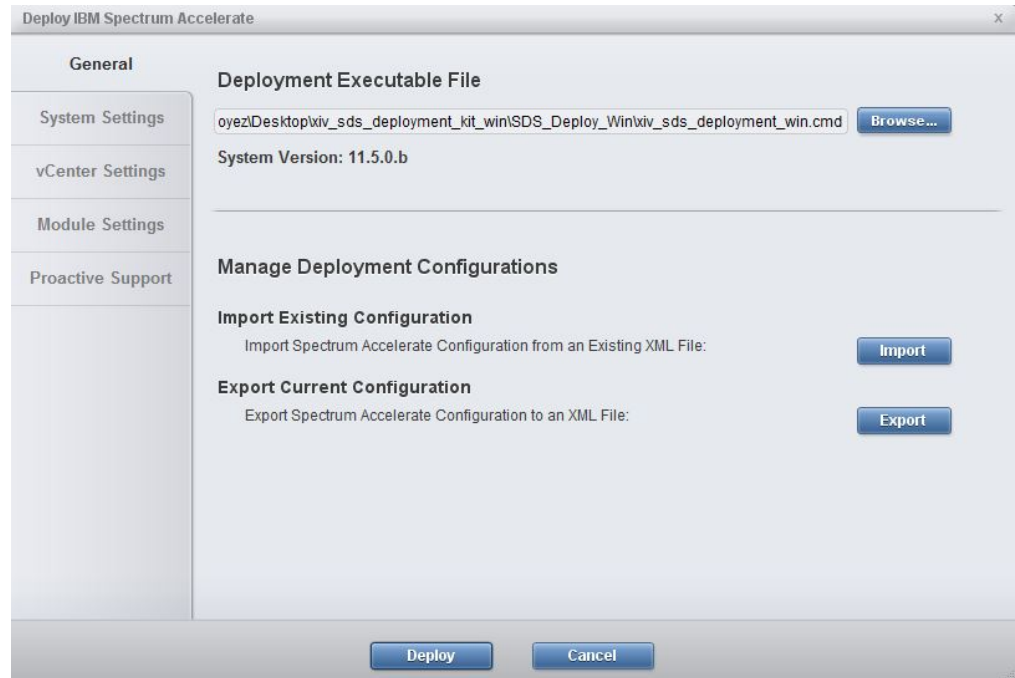
Figure 1. Deploying a Spectrum Accelerate system

> Browse for the deployment executable file and click **Deploy** to install
> Spectrum Accelerate. If this is a first-time deployment, you can export the
> configuration information to an XML file for future use.

Licensing management

> IBM Spectrum Accelerate licenses can be downloaded quickly and easily,
> and flexible terms offer all-inclusive features.

> Using IBM Hyper-Scale Manager, you can easily manage and view your
> Spectrum Accelerate system licenses by generating a PDF report:

Spectrum Accelerate Licenses Status

36.2 TiB	**Total Usable Hardware Capacity**
48.83 TiB	Total Available Licensed Capacity
■ 39.06 TiB	Total Fixed Lease Capacity
■ 9.77 TiB	Total Perpetual Capacity
12.63 TiB	**Total Unutilized Licensed Capacity**

Type	Description	Start	Expiration	Capacity
Perpetual	Azrieli Site	19-Mar-2014	Never	9.77 TiB
Fixed Lease	Expansion Project	19-Jan-2015	19-Jul-2015	19.53 TiB
Fixed Lease	For mtgenp-03	19-Apr-2014	19-Jun-2015	19.53 TiB

License History - Last 12 Months

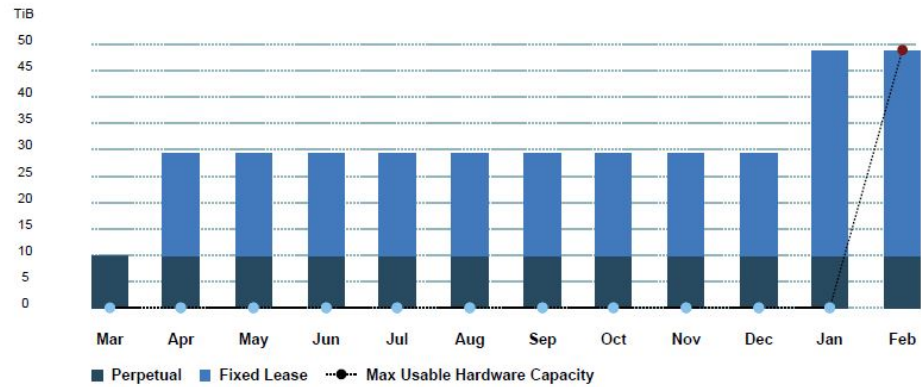|	
Total unlicensed capacity in the last 12 months:	84 GiB
Total unutilized licensed capacity in the last 12 months:	322.27 TiB

Figure 2. Generated License Report

New "Operations Administrator" role

To manage administrator operations on IBM Spectrum Accelerate systems, create a user with the new *Operations Administrator* role:

Figure 3. Defining a User with an Operations Administrator role

Proactive Support

Configuring **Proactive Support** allows the system to report events back to the IBM Service Center. In IBM Spectrum Accelerate systems, Proactive Support is also used to report usage data for applicable license types.

Proactive Support is email based. To configure Proactive Support, select the **Proactive Support** tab in the **Support** window. Select **Proactive Support Enabled** and define the **Proactive Support SMTP Gateway**.

Complete the mandatory **Name**, **Email** and **Office Phone** fields to be used as the **Proactive Support** contact. In IBM Spectrum Accelerate systems, the email address is also used for the Service Center to send an email for confirmation that Proactive Support is properly configured.

Figure 4. Proactive Support window

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-265639

This release of the XIV GUI addresses the CVE-2015-4000 issue, also known as the "Logjam" vulnerability.

Fix: XIV disables the TLS protocol and requires a certificate with a minimal key size of 2048.

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.

Known issues

XIV GUI

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-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.

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.

General

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.
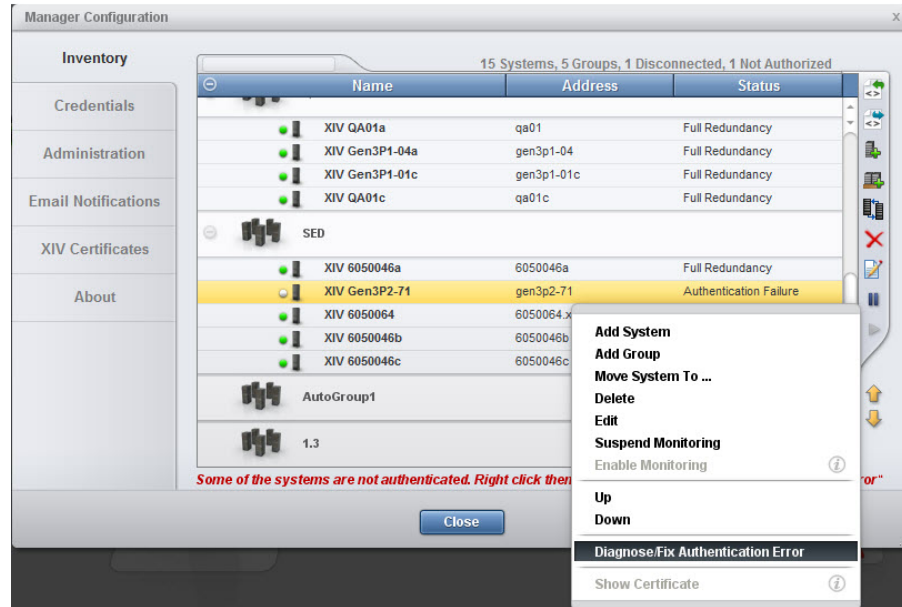
Severity
> Moderate

Affected versions:
> Version 1.5, or later

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

Virtual Appliance installation

MSM-256723

After upgrading the IBM Hyper-Scale Manager, a logged-in vSphere client (using 'root' user) does not see the updated menu and version.

Workaround

Select option 17) Exit on the root menu to logoff. When you log in again, the IBM Hyper-Scale Manager main menu and version are updated correctly.

Severity

Moderate

Affected versions:

Version 1.1, or later

Contacting IBM Support

The release is supported via:

Voice calls

Level 1 or Front Line Support

Use the appropriate support phone number for your country. Refer to the World Wide Directory for the support numbers by country: http://www.ibm.com/planetwide.

Documentation format

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