IBM Spectrum Control Base Edition
Version 2.2.0

Release Notes

First Edition (September 2015)

This edition applies to version 2.2.0 of the IBM Spectrum Control Base Edition software package. 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

IBM® Spectrum Control Base Edition is a centralized server system that consolidates a range of IBM storage provisioning, automation, and monitoring solutions through a unified server platform.

IBM Spectrum Control Base Edition is an improved and enhanced version of the IBM Storage Integration Server. It provides a single server backend location and enables centralized management of IBM storage resources for different virtualization and cloud platforms.

The following solution components, referred to as applications, are included in the software package:

- IBM Storage Provider for VMware VASA – Improves the ability to monitor and automate storage-related operations on VMware platforms. This includes support for VASA 2.0 and virtual volumes. In addition, it uses Storage Policy Based Management (SPBM) technology for optimizing the virtual machine provisioning process.
- IBM Storage Enhancements for VMware vSphere Web Client – Integrate into the VMware vSphere Web Client platform and enable VMware administrators to independently and centrally manage their storage resources on IBM storage systems.
- IBM Storage Plug-in for VMware vCenter Orchestrator – Allows VMware administrators to include IBM XIV® discovery and provisioning in their vCenter Orchestrator automation workflows.
- IBM Storage Management Pack for VMware vCenter Operations Manager – Allows VMware administrators to obtain comprehensive monitoring information about the IBM XIV resources that are utilized in their virtualized cloud environment.

You can download the IBM Spectrum Control Base Edition software package at any time from the IBM Fix Central website (www.ibm.com/support/fixcentral).

Compatibility and requirements

This section specifies the compatibility and requirements of version 2.2.0 of IBM Spectrum Control Base Edition.

Note: For information about the compatibility and requirements of previous versions, refer to relevant release notes of IBM Spectrum Control Base Edition or IBM Storage Integration Server.

Supported storage systems

IBM Spectrum Control Base Edition version 2.2.0 supports different IBM storage systems as listed in the following table.

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Storage system	Microcode version	Compatibility note	Supported cloud interface(s)
IBM DS8870	7.5.x	VMware VASA 2.0 support is introduced by the bundle 87.51.xxx with the RESTful API patch. Virtual volume technology is not supported.	• IBM Storage Provider for VMware VASA • IBM Storage Enhancements for VMware vSphere Web Client
IBM FlashSystem 900	1.2		• IBM Storage Provider for VMware VASA
IBM FlashSystem V9000	7.4.1, 7.5.0		• IBM Storage Provider for VMware VASA • IBM Storage Enhancements for VMware vSphere Web Client
IBM Flex System V7000	7.1.0, 7.2.0	IBM Flex System V7000 is bundled with Storwize product family	• IBM Storage Provider for VMware VASA • IBM Storage Enhancements for VMware vSphere Web Client
IBM Storwize® V3500	7.1.0, 7.2.0, 7.3.0, 7.4.0, 7.5.0	Microcode 7.3.0 PTF (with security fix) is also supported	• IBM Storage Provider for VMware VASA • IBM Storage Enhancements for VMware vSphere Web Client
IBM Storwize V3700	7.1.0, 7.2.0, 7.3.0, 7.4.0, 7.5.0	Microcode 7.3.0 PTF (with security fix) is also supported	• IBM Storage Provider for VMware VASA • IBM Storage Enhancements for VMware vSphere Web Client
IBM Storwize V5000	7.1.0, 7.2.0, 7.3.0, 7.4.0, 7.5.0	Microcode 7.3.0 PTF (with security fix) is also supported	• IBM Storage Provider for VMware VASA • IBM Storage Enhancements for VMware vSphere Web Client
IBM Storwize V7000	7.1.0, 7.2.0, 7.3.0, 7.4.0, 7.5.0	Microcode 7.3.0 PTF (with security fix) is also supported	• IBM Storage Provider for VMware VASA • IBM Storage Enhancements for VMware vSphere Web Client
IBM Storwize V7000 Unified	1.4.2, 1.4.3, 1.5.x	Only block storage is supported. File shares and file systems are not supported.	• IBM Storage Provider for VMware VASA • IBM Storage Enhancements for VMware vSphere Web Client
IBM XIV Storage System	10.2.4.x 11.0.x, 11.1.x, 11.2.x, 11.3.x, 11.4.x, 11.5.x, 11.6.x	VMware VASA 2.0 (VVOL) is supported by version 11.5.1 and above	• IBM Storage Provider for VMware VASA • IBM Storage Enhancements for VMware vSphere Web Client • IBM Storage Plug-in for VMware vCenter Orchestrator • IBM Storage Management Pack for VMware vCenter Operations Manager

Storage system	Microcode version	Compatibility note	Supported cloud interface(s)
IBM Spectrum Accelerate	11.5.0.x, 11.5.1.x	Can be managed using Spectrum Control RESTful APIs	• IBM Storage Provider for VMware VASA • IBM Storage Enhancements for VMware vSphere Web Client • IBM Storage Plug-in for VMware vCenter Orchestrator • IBM Storage Management Pack for VMware vCenter Operations Manager
IBM Spectrum Virtualize	7.1.0, 7.2.0, 7.3.0, 7.4.0, 7.5.0	Microcode 7.3.0 PTF (with security fix) is also supported	• IBM Storage Provider for VMware VASA • IBM Storage Enhancements for VMware vSphere Web Client

Note: Newer microcode versions may also be compatible. When a newer microcode version becomes available, contact IBM Support to inquire whether the new microcode version is compatible with version 2.2.0 of IBM Spectrum Control. Alternatively, check for a newer version of IBM Spectrum Control.

Supported operating systems

The IBM Spectrum Control Base Edition software can be installed on the following Linux versions.

Operating system	Architecture
Red Hat Enterprise Linux (RHEL) 6.3 – 6.6	x64

Minimum server hardware requirements

The Linux server upon which IBM Spectrum Control Base Edition is installed should meet the following minimum hardware requirements:

- 64-bit dual-core CPU
- At least 4 GB of RAM
- At least 16 GB of free disk space

The same requirements apply if a virtual machine is used instead of a physical server.

Note:

- For best performance, use a dedicated server.
- The minimum requirements are for supporting up to 20 storage arrays and up to 1000 objects (storage pools, volumes, hosts, mappings, snapshots, mirroring groups, consistency groups).

Supported VMware platforms

Version 2.2.0 of IBM Spectrum Control Base Edition supports the following VMware platforms and frameworks.

VMware platform or framework	Version
vSphere Web Client Server	5.1, 5.5.x, 6.0.x
vSphere APIs for Storage Awareness (VASA)	1.0, 2.0
vCenter Server Appliance (VCSA)	5.5.x, 6.0.x
vCenter Operations Manager (vCOps)	5.8.x
vCenter Orchestrator (vCO)	5.1.x, 5.5.x
vCloud Automation Center (vCAC)	5.x

Note:

- The IBM Storage Enhancements for VMware vSphere Web Client are automatically deployed and enabled by registering vCenter servers on Spectrum Control.
- The IBM Storage Plug-in for VMware vCenter Orchestrator is deployed by installing its plug-in package on the vCenter Orchestrator server.
- The IBM Storage Management Pack for VMware vCenter Operations Manager is deployed by installing its PAK file on the vCenter Operations Manager server.

For more information, refer to the user guide.

Supported browsers

IBM Spectrum Control Base Edition can be accessed and managed with the following web browsers:

- Microsoft Internet Explorer 10.0 or later.
- Mozilla Firefox 29.0 or later.
- Google Chrome 39.0 or later.

The required screen resolution for GUI management is 1024×768 or higher.

CPU and memory consumption on vCenter Orchestrator

When the IBM Storage Plug-in for VMware vCenter Orchestrator is used, the CPU and memory consumption impact on the vCenter Orchestrator server is minimal: approximately 2% CPU usage at peak, and less than 1% memory usage.

The server environment on which the IBM Storage Plug-in for VMware vCenter Orchestrator was tested included:

- CPU: 2 vCPU, Intel Xeon X5650 @ 2.67GHz
- Memory: 3088 MB

Change log

This section summarizes the changes that were made in released version of IBM Spectrum Control Base Edition.

Version 2.2.0 (September 2015)

Version 2.2.0 introduces the VMware virtual volume technology support for the IBM Spectrum Virtualize, IBMStorwize and IBM FlashSystem storage systems. For DS8870 systems, it adds support for VMware VASA 2.0 without virtual volumes. It also introduces support for IBM Spectrum Accelerate version 11.5.1.x.

Note: The virtual volume functionality is supported by the IBM XIV (11.5.1 or later) and IBM Spectrum Virtualize/Storwize (7.6 or later) storage systems.

Version 2.2.0 has the following additional changes.

Ticket ID	Description
SCB-818	**Enhancement**: Spectrum Control Base GUI can be used to delete a storage resource from a storage system.
SCB-975	**Enhancement**: The Spectrum Control Base for DS8000 upgrade and installation process has been improved by introduction of a RESTful API client.
SCB-38	**Fixed**: Spectrum Control Base fails to fetch updates from the storage array, if the server time is set back after the Spectrum Control Base installation.
SCB-662	**Fixed**: VMware vWC fails to take into consideration encryption capabilities, when creating volumes based on services with attached DS8000® storage pools.
SCB-807	**Fixed**: vWC fails during volume unmapping process, when deleting a volume that belongs to a consistency group.

Version 2.1.1 (June 2015)

Version 2.1.1 replaced version 2.1.0 and resolved the following issue.

Ticket ID	Description
SCB-800	**Fixed**: The Migrate, Clone and Deploy actions on a template VM from a VVOL-based datastore are not available, when: • Migrating from a VVOL-based to a VMFS datastore. • Migrating between VVOL-based datastores on different XIV systems.

Version 2.1.0 (June 2015)

Version 2.1.0 added support for newer versions of IBM storage systems, as detailed in Supported XIV storage systems. In addition, version 2.1.0 introduced the enhancements and resolved the issues, as listed below.

Ticket ID	Description
SCB-181	**Enhancement**: Support for RHEL 6.6.
SCB-467	**Enhancement**: Support for IBM Real-time Compression™, as introduced in the XIV microcode version 11.6. This includes creation of storage services with data compression in Spectrum Control, presenting only compatible storage pools for volume creation in vWC and filtering datastores according to storage profiles in VASA 1.0.

Ticket ID	Description
SCB-587	**Enhancement**: Introduction of the stricter password reuse policy by preventing the user to submit a new password that is the same as any of the prior passwords for that account.
SCB-605	**Enhancement**: Improvements in configuration procedure for storage services. This includes cancellation of the 'Any' option for space efficiency and encryption, allowing more flexible storage resource attachment.
SCB-31	**Fixed**: Spectrum Control does not generate an error message, when a storage service with a certain capability is attached to a storage array, which does not support the required capability.
SCB-35	**Fixed**: VASA 1 trusted certificates cannot be revoked, using the Spectrum Control interface.
SCB-392	**Fixed**: VMware vSphere Web Client fails to initialize in the vSphere 6 environment, displaying the following error message: `Error: Unable to load resource module from /ibmNgcVSpeherePlugin-ui/locales/ibmNgcVSpeherePlugin-ui-en_US.swf`. This may occur if a vCenter server, connected to Spectrum Control, was offline during the Spectrum Control upgrade. To ensure proper vWC initialization, remove the server from Spectrum Control, and reconnect it after the upgrade is finished.
SCB-593	**Fixed**: Both local and directory-server users are able to connect to Spectrum Control.

Version 2.0.1 (April 2015)

Version 2.0.1 replaced version 2.0.0 and introduced support for IBM DS8870. In addition, version 2.0.1 resolved the following issues.

Ticket ID	Description
HSGSVR-262521	**Fixed**: Backup and restore operations are not available.
HSGSVR-262815	**Fixed**: A storage resource can be created on a managed domain and non-VVOL-enabled service.
VWC-261791	**Fixed**: IBM Storage Enhancements for VMware vSphere Web Client are missing from the **Actions** menu of vWC, running under vSphere 6.

Version 2.0.0 (March 2015)

Version 2.0.0 of IBM Spectrum Control Base Edition was the first released version, supporting a range of IBM storage systems and including the following features and primary components:

- Newly designed, powerful and intuitive web management interface with improved usability and superb user experience.

- **IBM Storage Provider for VMware VASA**, improving ability to monitor and automate storage-related operations on VMware platforms. This includes support for VMware virtual volumes (VVOLs), with XIV v11.5.1, and for Storage Policy Based Management (SPBM).
- **IBM Storage Enhancements for VMware vSphere Web Client**, allowing VMware administrators to self-provision volumes (LUNs) in selected storage pools that were predefined by the storage administrators. The volumes are mapped to ESXi hosts, clusters, or datacenters as logical drives that can be used for storing VMware datastores (virtual machine data containers).
- **IBM Storage Plug-in for VMware vCenter Orchestrator**, allowing VMware administrators to include IBM storage discovery and provisioning in their vCenter Orchestrator (vCO) automation workflows.
- **IBM Storage Management Pack for VMware vCenter Operations Manager**, allowing Operations Manager users to obtain comprehensive monitoring information about the IBM storage resources that are utilized in their virtualized environment.

Known issues

This section details the known issues in version 2.2.0 of IBM Spectrum Control Base Edition and its solution components, along with possible solutions or workarounds (if available).

Table 1. Known issues in IBM Spectrum Control Base Edition

Ticket ID	Component	Description
SCB-93	IBM Spectrum Control Base Edition	During installation, Spectrum Control Base fails to acknowledge license agreement acceptance by the user. To avoid this issue, mount the `/tmp` folder on the host with read/write permissions prior to the package installation.
SCB-165	IBM Spectrum Control Base Edition	Editing the `ldap.ini` file manually may cause the Spectrum Control Base LDAP integration failure. To avoid this issue, use the **`sc_ldap`** CLI command for LDAP configuration.
SCB-255	IBM Spectrum Control Base Edition	Cloning of a virtual machine fails, if the user chooses to customize the VM hardware during the cloning procedure. To avoid this issue, customize the virtual machine hardware only after the VM cloning is completed.
SCB-569	IBM Spectrum Control Base Edition	XIV and Spectrum Accelerate storage systems can be differentiated in VMware VASA 1.0 only using the UUID field under **Manage** > **Storage Providers** > **Storage System Details**. The XIV storage system UUID includes the `900` code, and Spectrum Accelerate includes either `104` or `204`code. Currently there is no solution or workaround for this limitation.

Table 1. Known issues in IBM Spectrum Control Base Edition (continued)

Ticket ID	Component	Description
SCB-671	IBM Spectrum Control Base Edition	vWC volume creation and mapping task may fail, if a source pool that exists on an array within a domain, has been attached to service created by the default Spectrum Control user. To avoid this issue, associate the default Spectrum Control Base user with the storage array domain.
SCB-753	IBM Spectrum Control Base Edition	Upgrading Spectrum Accelerate via RESful API by a user with insufficient access level may fail. This incomplete procedure prevents further upgrade attempts, using RESful API. To avoid this issue, verify that the user performing the Spectrum Accelerate upgrade has sufficient access level for completing the task.
SCB-794	IBM Spectrum Control Base Edition	The *ibm_spectrum_control* and the *rsyslog*services do not load properly after the Spectrum Control Base reboot. To resolve this issue, restart the *ibm_spectrum_control* and the *rsyslog*services manually.
SCB-803	IBM Spectrum Control Base Edition	Restoring Spectrum Control Base version 2.1.0 from a backup file created in a previous version may result assigning service capabilities that did not exist in the 2.1.0 configuration. To resolve this issue, restore the required service capabilities manually.
SCB-1023	IBM Spectrum Control Base Edition	Starting from version 2.2.0, a vCO server must be added manually to the Spectrum Control Base. However, if the Spectrum Control Base is upgraded from any previous release to version 2.2.0, a vCO server is added automatically to the GUI. To resolve this issue, remove the vCO server manually after the upgrade is completed.
SCB-1085	IBM Spectrum Control Base Edition	When attempting to resize a virtual disk while the disk formatting is in progress, vCenter displays the following error message: '`The disk extend operation failed:The VVol target encountered a vendor specific error.`'. To avoid this issue, resize the virtual disk only after the disk formatting process is finished.

Table 1. Known issues in IBM Spectrum Control Base Edition (continued)

Ticket ID	Component	Description
SCB-1138	IBM Spectrum Control Base Edition	A VM cannot be created on a datastore, if a size of thick-provisioned virtual disk size is bigger than any of the Spectrum Virtualize/Storwize child pools comprising the vDisk. To avoid this issue, make sure that at least one of the child pools has sufficient disk space to host the datastore vDisk.
SCB-1214	IBM Spectrum Control Base Edition	Non-English characters in vCenter datacenter or VM names result in refresh failure of the VMware vSphere Web Client plug-in. To avoid this issue, use only English characters in the names assigned to vSphere dataceners and virtual machines.
SCB-1264	IBM Spectrum Control Base Edition	The Spectrum Control Base GUI does not limit the storage service name length. As a result, a storage resource creation may fail, if a length of its automatically assigned name exceeds 64 characters. The storage resource name consist of the following elements: service name_*pool*_identification suffix. To avoid this issue, keep the length of the storage service name under 50 characters.
SCB-1333	IBM Spectrum Control Base Edition	When Spectrum Control Base is uninstalled and installed again, the storage services on its new instance that have the same name as the ones on the previous copy, are not recovered properly after failover to the standby instance. This occurs when the services are created before registering the Spectrum Control Base as VASA provider and results in the datastores becoming inaccessible. Currently there is no solution or workaround for this limitation.
SCB-1355	IBM Spectrum Control Base Edition	LDAP configuration is reset after Spectrum Control Base is upgraded from version 2.1.1 to version 2.2.0. Currently there is no solution or workaround for this limitation.
SCB-1361	IBM Spectrum Control Base Edition	The IBM Spectrum Virtualize/Storwize user catalog is not updated immediately after storage system credentials are changed via the Spectrum Control Base GUI. Currently there is no solution or workaround for this limitation.

Table 1. Known issues in IBM Spectrum Control Base Edition (continued)

Ticket ID	Component	Description
SCB-1362	IBM Spectrum Control Base Edition	In VASA 1.0, storage resources on flash-based Spectrum Virtualize/Storwize systems cannot be filtered according to their type. Currently there is no solution or workaround for this limitation.
HSGSVR-261496	IBM Spectrum Control Base Edition	Volumes that were migrated from an XIV storage array (A) to another XIV storage array (B) using Hyper-Scale Mobility (online volume migration) might not be manageable. This specifically occurs if the volumes on the original XIV storage array (A) are deleted from the storage array (A), and then the same volume IDs are reused on that storage array (A). If both XIV systems (A and B) are connected to the same Spectrum Control Base and this situation occurs, it prevents the management of these volumes through Spectrum Control Base. Currently there is no solution or workaround for this limitation.
HSGSVR-261731	IBM Spectrum Control Base Edition	DS8000 storage array information is not updated on the Spectrum Control Base side after a connectivity break, or if the storage admin user group has been modified on the DS8000 side. To resolve this issue, restart the Spectrum Control Base service: `service ibm_spectrum_control restart`
HSGSVR-261745	IBM Spectrum Control Base Edition	For Storwize V7000 Unified storage arrays, the microcode version number, build number, and system ID number are not consistent when appearing in the Integration Server, vSphere Web Client, and storage system management GUIs. Different version numbers and system IDs are displayed on each platform. Currently there is no solution or workaround for this limitation.
HSGSVR-261753	IBM Spectrum Control Base Edition	The registration of the Spectrum Control Base as a VASA storage provider on the vCenter server side might fail if an expired self-signed SSL certificate is present on Spectrum Control Base. To resolve this issue, replace the self-signed certificate as explained in the user guide.

Table 1. Known issues in IBM Spectrum Control Base Edition (continued)

Ticket ID	Component	Description
HSGSVR-261771	IBM Spectrum Control Base Edition	Whenever a directory-based storage admin fails to log in (from the Spectrum Control Base side) to any storage array that is in use, Spectrum Control Base immediately locks the storage admin user account and all storage arrays become inaccessible on the Spectrum Control Base side. This is to prevent repeated login attempt failures after which the directory server blocks that user account. In such a case, update the storage admin credentials on the storage array with which the login has failed. Alternatively, you can remove that specific storage array from Spectrum Control Base and then reset the credentials. You can find the relevant storage array by checking the `events.log` log file. For example: `Mar 26 13:50:01 ronend-sc1 ERROR ID:SC-0008 | Severity:ERROR | Parameters:reason=Logging in to array 2810-214-MN65025 has failed with the provided credentials. ,user_name=ronenu | Message:Storage credentials for user ronenu were disabled. Reason: Logging in to array 2810-214-MN65025 has failed with the provided credentials.`
HSGSVR-261778	IBM Spectrum Control Base Edition	After an upgrade or reinstallation of Spectrum Control Base, some DS8000 or SAN Volume Controller storage array identifiers might change, causing Spectrum Control Base to stop synchronizing with these storage arrays. To resolve this issue, use the Spectrum Control Base GUI or CLI to remove and then add back these storage arrays.
HSGSVR-261888	IBM Spectrum Control Base Edition	The **Collect Log** GUI option does not work on Microsoft Internet Explorer 10 or 11. To resolve this issue, disable the **Internet Explorer Enhanced Security Configuration** option.
HSGSVR-261942	IBM Spectrum Control Base Edition	If the IP address of a storage array changes, the **`sc_storage_array`** CLI command is unable to update the IP address of the storage array. In such a case, use the Spectrum Control Base GUI to edit and update the IP address of the storage array (In the Arrays pane, move the mouse pointer over an array that you want to update, and then click the **Edit** button).

Table 1. Known issues in IBM Spectrum Control Base Edition (continued)

Ticket ID	Component	Description
HSGSVR-262136	IBM Spectrum Control Base Edition	In some cases, the Celery service might hang when it is stopped. To resolve this issue, terminate the Celery background process by using the Linux **kill -9** command.
HSGSVR-262165	IBM Spectrum Control Base Edition	When the XIV storage credentials are of an XIV domain administrator (supported by XIV microcode version 11.5 or later), volume mapping might return the 'LUN already in use' error message. This occurs if the LUN number is already associated with a volume outside of the XIV domain. Currently there is no solution or workaround for this limitation.
HSGSVR-262175	IBM Spectrum Control Base Edition	When an XIV array configuration includes a cluster with no hosts (empty cluster), a volume created from vSphere Web Client or vCenter Orchestrator is mapped to that cluster in addition to any specified host mapping. As a result, volumes that were mapped to an empty cluster must be manually unmapped. To avoid this issue: before mapping volumes to an XIV array, delete all empty cluster configurations on that array, or add at least one host to each empty cluster.

HSGSVR-262194	IBM Spectrum Control Base Edition	The DS8000 proxy service fails to stop during uninstallation or upgrade.
		
		`Stopping Django service ... [OK]`
		`Stopping Celery services ... [OK]`
		`Stopping DS8K proxy.....[FAILED]`
		
		To resolve this issue, terminate all the Java™ background processes and then restart the Spectrum Control Base service.

HSGSVR-262279	IBM Spectrum Control Base Edition	Spectrum Control Base fails to lock out a storage admin user account with LDAP credentials after an unsuccessful login attempt. Currently there is no solution or workaround for this limitation.
HSGSVR-262573	IBM Spectrum Control Base Edition	RESTful API may not display the correct number of storage array IP interfaces. Currently there is no solution or workaround for this limitation.

Table 1. Known issues in IBM Spectrum Control Base Edition (continued)

Ticket ID	Component	Description
HSGSVR-262632	IBM Spectrum Control Base Edition	A long-running RESTful API task, such as phase-in, phase-out, etc, may not update its current state, if Spectrum Control Base service has been restarted during its operation. Currently there is no solution or workaround for this limitation.
HSGSVR-262655	IBM Spectrum Control Base Edition	If a vCenter server is disconnected from Spectrum Control Base during the upgrade, the vWC extension appears with the previous version, when the vCenter server is re-activated. To resolve this issue, remove and reattach the vCenter server on Spectrum Control Base.
HSGSVR-262725	IBM Spectrum Control Base Edition	XIV hosts appear in vWC as disconnected because of a mismatch between the XIV domain policy and the host domain settings. When a host without a domain added to the XIV in the open domain policy mode, it becomes inaccessible, if the XIV domain access policy is changed to Closed. To resolve this issue, delete all hosts defined without domain, and add these hosts again with valid domain settings.
HSGSVR-262762	IBM Spectrum Control Base Edition	Spectrum Control Base cannot use IPv6 addresses for management connection to the XIV storage systems. To resolve this issue, use IPv4 addressing, when configuring storage arrays.
HSGSVR-262847	IBM Spectrum Control Base Edition	Disconnected storage array disappear from the Spectrum Control Base web interface after the upgrade. To avoid this issue, before performing upgrade, verify that all storage arrays are connected to Spectrum Control Base properly.

Table 2. Known issues in IBM Storage Provider for VMware VASA

Ticket ID	Component	Description
VVOLVP-261037	IBM Storage Provider for VMware VASA	VASA 2.0 fails to connect to a storage array if only management port 1 is down and the rest of the management ports are available. Currently there is no solution or workaround for this limitation.

Table 2. Known issues in IBM Storage Provider for VMware VASA (continued)

Ticket ID	Component	Description
VASAVP-261237	IBM Storage Provider for VMware VASA	When the IBM Storage Provider for VMware VASA and the IBM Tivoli® Storage Productivity Center (TPC) storage provider are registered on the same VMware vCenter server, while the same storage array is configured for both, vCenter uses IBM Tivoli Storage Productivity Center provider as the only source of information for that array's storage views on vSphere Client. In such a case, determine whether the IBM Tivoli Storage Productivity Center capabilities are sufficient for replacing the IBM Storage Provider for VMware VASA. If the IBM Storage Provider for VMware VASA is still needed, IBM TPC 5.2 (or later) provides a method of excluding storage arrays from a specific storage provider, allowing you to remove the array association with the IBM TPC provider. For more information, refer to the IBM Tivoli Storage Productivity Center documentation.
VASAVP-261268	IBM Storage Provider for VMware VASA	If spaces are included in the IP interface name (iSCSI) of an XIV storage array, that XIV array cannot be monitored by the IBM Storage Provider for VMware VASA, and information of that XIV array is not visible to the relevant vCenter server. To avoid this issue, do not include spaces in the IP interface name of the XIV storage array.
VVOLVP-261511	IBM Storage Provider for VMware VASA	A storage space with a VVOL-enabled service deleted from a primary Spectrum Control Base in an HA group, still exists in the standby Spectrum Control Base. To resolve this issue, delete the space and the service from the standby Spectrum Control Base manually.
VVOLVP-261531	IBM Storage Provider for VMware VASA	If an array is removed and added to Spectrum Control Base after its storage resource was added to a VVOL-enabled service, its previous configuration is not preserved after the addition. This occurs if Spectrum Control Base is not registered as a VASA provider. To avoid this issue, verify that Spectrum Control Base is registered as a VASA provider before adding the array after its removal. In addition, after the array is added, it is recommended to check the vCenter log whether Spectrum Control Base was identified as an active VASA provider.

Table 3. Known issues in IBM Storage Enhancements for VMware vSphere Web Client

Ticket ID	Component	Description
SCB-701	IBM Storage Enhancements for VMware vSphere Web Client	A volume being moved between two XIV storage systems using IBM Hyper-Scale Mobility, cannot be unmapped in vWC from the ESXi host after the source storage system enters the proxy mode. To resolve this issue, remove volume mapping using the XIV GUI.
SCB-705	IBM Storage Enhancements for VMware vSphere Web Client	A volume, whose deletion fails, disappears from the volume list. The volume reappears in the list after the next population. Currently there is no solution or workaround for this limitation.
SCB-771	IBM Storage Enhancements for VMware vSphere Web Client	The volumes listed in the **Related Objects** tab of vWC cannot be sorted by name. Currently there is no solution or workaround for this limitation.
SCB-775	IBM Storage Enhancements for VMware vSphere Web Client	Creating a volume with minimum size (87 GB) may fail, if the target pool size is smaller than 103 GB. To avoid this situation, increase the storage pool size to be 103 GB or bigger.
VWC-261324	IBM Storage Enhancements for VMware vSphere Web Client	If a combination of both iSCSI and FC initiator port types is defined for an ESXi host, mapping volumes to that ESXi host causes both iSCSI and FC to be used for those volumes. To avoid this situation, use the storage system management tools to define only one active protocol type (iSCSI or FC) for the initiators of each ESXi host.
VWC-261530	IBM Storage Enhancements for VMware vSphere Web Client	When using the storage system management GUI (as opposed to the IBM Storage Enhancements GUI in vSphere Web Client) to map a single volume to more than one ESXi hosts using different LUN IDs, the volume is not properly recognized by vSphere Web Client and cannot be managed by the IBM Storage Enhancements. In addition, multiple errors might occur on the vSphere Web Client during the use or modification of that volume. To avoid this issue, **always use the same LUN ID** when mapping a volume to multiple ESXi hosts via the storage system management GUI.
VWC-261542	IBM Storage Enhancements for VMware vSphere Web Client	The **Manage** > **Host Mapping** tab of the **IBM Storage Volume** object shows incorrect mapping information. Hosts that cannot access the datastore are shown as not being mapped to the LUN. Currently there is no solution or workaround for this limitation.

Table 3. Known issues in IBM Storage Enhancements for VMware vSphere Web Client (continued)

Ticket ID	Component	Description
VWC-261713	IBM Storage Enhancements for VMware vSphere Web Client	If a volume is mapped to more than one ESXi host while a virtual machine on one of these hosts uses this volume as an RDM LUN, the volume information might not be displayed correctly in vSphere. Currently there is no solution or workaround for this limitation.
VWC-261724	IBM Storage Enhancements for VMware vSphere Web Client	If a volume is mapped to two or more ESXi hosts that are managed by more than one vCenter server, volume operations fail. To avoid this issue, do not map a specific volume to ESXi hosts that are not managed by the same vCenter server.
VWC-261752	IBM Storage Enhancements for VMware vSphere Web Client	Error message '`Could not connect to vSphere Web Client server`' appears if the Spectrum Control Base software is upgraded without first logging out from vSphere Web Client. To avoid this error on the Spectrum Control Base side, log out of vSphere Web Client before upgrading the Spectrum Control Base software.
VWC-261759	IBM Storage Enhancements for VMware vSphere Web Client	If the **`host_rescan_timeout`** parameter value is changed to 1 in the `vwc_config.ini` configuration file (on Spectrum Control Base), volume creation and mapping operations might fail. To avoid this issue, keep the default value of 300 or keep the value higher than 1.
VWC-261760	IBM Storage Enhancements for VMware vSphere Web Client	When deleting a volume that is mapped to a host, the mapping is removed but the volume is not deleted. No indication is given on vSphere Web Client that the volume still exists. To avoid this issue, unmap the volume before deleting it.
VWC-261765	IBM Storage Enhancements for VMware vSphere Web Client	DS8000 volume creation might fail when mapping multiple volume groups to one ESXi host. If you encounter this problem, configure only one volume group for one ESXi host when creating and mapping a volume.
VWC-261795	IBM Storage Enhancements for VMware vSphere Web Client	A volume cannot be moved to or from a child storage pool on IBM Spectrum Virtualize (7.4), using vSphere Web Client. Currently there is no solution or workaround for this limitation.

Table 3. Known issues in IBM Storage Enhancements for VMware vSphere Web Client (continued)

Ticket ID	Component	Description
VWC-261802	IBM Storage Enhancements for VMware vSphere Web Client	A vCenter server that receives a new IP address retains information about storage resources of a Spectrum Control Base connected to it prior to the address change. If the vCenter server is added to another Spectrum Control Base instance, the previously connected arrays and pools remain visible in the vWC. To resolve this issue, log into vCenter Managed Object Browser (MOB) at `https://<vCenter_server_IP>/mob.`, using your vCenter credentials. Navigate to **Content** > **ExtensionManager** > **UnregisterExtension**. Enter `com.ibm.storage.vwc`, when a pop-up window is displayed, and click **Invoke Method** twice. Repeat registration of the vCenter server on the newly connected Spectrum Control Base.

Table 4. Known issues in IBM Storage Plug-in for VMware vCenter Orchestrator

Ticket ID	Component	Description
VCOPLUGIN-133	IBM Storage Plug-in for VMware vCenter Orchestrator	Due to a known issue in VMware vCenter Orchestrator, title texts are displayed improperly after clicking the **IBM Storage** tab. Currently there is no solution or workaround for this limitation.
VCOPLUGIN-162	IBM Storage Plug-in for VMware vCenter Orchestrator	If the **Map** workflow uses initiators that are not configured on the storage array, the workflow succeeds even though the initiators are silently ignored. Currently there is no solution or workaround for this limitation.

Table 5. Known issues in IBM Storage Management Pack for VMware vCenter Operations Manager

Ticket ID	Component	Description
SCB-796	IBM Storage Management Pack for VMware vCenter Operations Manager	When data collection interval is set to 1 minute, the array IOPS statistics are presented as 0. Currently there is no solution or workaround for this limitation.

Table 5. Known issues in IBM Storage Management Pack for VMware vCenter Operations Manager (continued)

Ticket ID	Component	Description
HSGSVR-262168	IBM Storage Management Pack for VMware vCenter Operations Manager	Not all XIV informational-level severity events are reported by Spectrum Control Base to vCenter Operations Manager. **Note:** All other XIV severity events (Warning, Minor, Major, Critical) are reported. Currently there is no solution or workaround for this limitation.
VCOP-244615	IBM Storage Management Pack for VMware vCenter Operations Manager	The thresholds reported to the vCOps server are tailored for XIV microcode version 11.2 or later, but not for earlier XIV microcode versions. To resolve this issue, manually update to the thresholds in vCOps to match the XIV microcode that you are using.
VCOP-244666	IBM Storage Management Pack for VMware vCenter Operations Manager	If a storage object name contains spaces, it is displayed in the vCOps custom view with underlines instead of spaces. Currently there is no solution or workaround for this limitation.
VCOP-244801	IBM Storage Management Pack for VMware vCenter Operations Manager	Duplicate thresholds might be appear in vCOps if a vCOps server was removed from Spectrum Control Base and then re-added. To resolve this issue, delete the duplicate thresholds.
VCOP-244802	IBM Storage Management Pack for VMware vCenter Operations Manager	If the vCOps server becomes unreachable while Spectrum Control Base is still reporting to it, the reporting ceases when the vCOps server becomes reachable again. To resolve this issue, restart the Spectrum Control Base service.

Related information and publications

You can find additional information and publications related to IBM Spectrum Control Base Edition on the following information sources.

- IBM Knowledge Center (ibm.com®/support/knowledgecenter)
- IBM DS8700 on IBM Knowledge Center (ibm.com/support/knowledgecenter/STUVMB)
- IBM DS8800 on IBM Knowledge Center (ibm.com/support/knowledgecenter/STXN8P)
- IBM DS8870 on IBM Knowledge Center (ibm.com/support/knowledgecenter/ST8NCA)
- IBM FlashSystem™ 900 on IBM Knowledge Center (ibm.com/support/knowledgecenter/STKMQB)
- IBM Spectrum Virtualize on IBM Knowledge Center (ibm.com/support/knowledgecenter/STPVGU)

- IBM Storwize V3500 on IBM Knowledge Center (ibm.com/support/knowledgecenter/STLM6B)
- IBM Storwize V3700 on IBM Knowledge Center (ibm.com/support/knowledgecenter/STLM5A)
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- IBM Spectrum Accelerate on IBM Knowledge Center (ibm.com/support/knowledgecenter/STZSWD)
- Spectrum Control-related questions on IBM developerWorks® (developer.ibm.com/answers/topics/spectrum%20control/#)
- VMware Documentation (vmware.com/support/pubs)
- VMware Product Support (vmware.com/support)
- VMware Knowledge Base (kb.vmware.com)

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- IBM Support Portal website (www.ibm.com/storage/support)
- IBM Directory of Worldwide Contacts website (www.ibm.com/planetwide)

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