



DATACORE

DataCore SANsymphony

Version 10.0 PSP13

**Release Notes and
Installation Guide**

Change Summary

Version/Change Summary	Date
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DataCore Software Corporation

1901 West Cypress Road

Suite 200

Fort Lauderdale, FL 33309

Phone: 954.377.6000

Fax: 954.938.7953

E-mail: info@datacore.com

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Overview

DataCore SANsymphony infrastructure software takes isolated storage devices, sometimes spread between different locations, and places them under one common set of enterprise-wide services. It pools its collective resources, managing them centrally and uniformly despite the differences and incompatibilities among manufacturers, models, and generations of equipment in use.

What's New

Windows Server 2022

SANsymphony can now be deployed on Windows Server 2022 and supports hosts running Windows Server 2022 as well.

Enhancements

Scripts and DataCore SANsymphony Installation Folder

During installation, there will only be support for files placed in the "Powershell Support" subfolder. All pre-existing scripts targeting the DataCore SANsymphony installation folder will no longer function and will need to be modified to target the "Powershell Support" folder.

Support Bundles

Support bundles that are not configured for upload to DataCore Technical Support will be stored in the Local subfolder.

Secure Boot

Microsoft Secure Boot is now supported for new installations of DataCore SANsymphony.

Fixes

QLogic Fibre Channel Host Bus Adapters

Problem: The ports on certain Qlogic QLE26xx and QLE27xx HBAs stated an error "Ports not started" after the firmware was updated.

Cause: Incompatibility between a part of the firmware update and the firmware that was used by the SANsymphony Qlogic driver.

Resolution: Update the firmware used by the DataCore SANsymphony Qlogic driver on these HBAs to version 9.6.2.

Important: The service update does not install by default and only applies to this release. See the [Qlogic Service Update](#) instructions for more information.

Creating a Snapshot Prevents Host Access to Source Virtual Disk

Problem: If a DataCore SANsymphony server has crashed or did not shutdown cleanly, then creating a snapshot may fail and may block access to the virtual disk (vDisk).

Cause: The vDisk would be marked as having an unclean shutdown. This would cause the snapshot creation to fail.

Resolution: Allow the snapshots to be created if the source vDisk was shutdown uncleanly.

Constant Election Error

Problem: One of the nodes in the DataCore Management Console was unavailable due to constant elections.

Cause: The exception gave the error code: NTE_BAD_KEYSET/0x80090016 from ncrypt.dll.

Resolution: An exception handler was added to stop the error that was causing the DataCore Executive Service (DCSX.exe) to start new elections.

Disabling CDP

Problem: Disabling CDP causes the DataCore Management Console to crash.

Cause: The stream state in the base logical disk was not present.

Resolution: Added a check for the null object and used the default value if it was null.

Disk Pool Purging

Problem: Purging a failed physical disk could fail with the exception "Failed to force log recovery". This occurred when DataCore SANsymphony was restarted with the disk pool in the failed state.

Cause: A check-in in a DataCore SANsymphony driver incorrectly detected that a mirrored virtual disk (vDisk) was out of sync.

Resolution: Removed the check-in in the DataCore SANsymphony driver. DataCore Executive Service (DCSX.exe) is now used to check that the mirrored vDisks are synchronized.

Snapshot Clone Issues

Problem: Periodically, when ports are reset or reinitialized, the renewed port IDs do not reflect internally. This causes the Snapshot clone to fail.

Cause: Controller is unaware of the newly renewed port IDs.

Resolution: Notified the Controller to delete and add the ports back with new port IDs.

iSCSI Port Error

Problem: Clicking a "Not Present" iSCSI port may display the error "Something went wrong. It is advisable to restart the DataCore Management Console."

Cause: The null object for the iSnsAddress value in ServeriScsiPortPresenter.cs/IntializeUserConfigData() was not handled.

Resolution: Code changed to handle the null objects. As a result, the DataCore Management Console functionality is not interrupted upon clicking a "Not Present" iSCSI port.

System Health License Expiration Error

Problem: System Health displays License Expiration messages even though one or more licenses may be activated on the server.

Cause: A miscalculation of the remaining time on the license generates an erroneous message.

Resolution: Code changed to ensure the remaining time on the license is calculated accurately.

Hyper-V

Problem: The System Center Virtual Machine Manager (SCVMM) is unable to manage any virtual machines (VM) in the Hyper-V environment.

Cause: The ZFS driver had not implemented one of the WMI methods 'GetDiscoveredPortAttributes' that was expected by the SCVMM and was returning an error.

Resolution: Changed the code and provided the default implementation for the WMI method to return the correct status.

Known Issues

Installs

- The DataCore iSCSI driver will not install if there are no network interface cards with an IP address configured. An iSCSI error message will be displayed during installation when manually installing DataCore SANsymphony.
- If a DataCore Server has no Internet access, software installation can take a significant amount of time. To correct this problem: Open Internet Explorer. Select the Tools menu and choose Options. Scroll down to the Security section and clear the Check for Publisher's Certificate Revocation check box in the Advanced tab. Click OK. This setting may be changed at any time during the installation of the software; there is no need to cancel an installation already in progress. It will take effect immediately.

Mirrored Physical Disks

Recovery of a mirrored physical disk in a pool hosting the virtual disk content may lead to incorrectly written data on the recovered physical disk. As a workaround, split the local pool mirrors when running DataCore SANsymphony 10.0 PSP 13, and do not re-establish until a fix is made available to address this issue. Further, do not use the pool mirroring for hardware replacement of physical disks unless a fix is provided.

Dynamic Data Resiliency

When using Dynamic Data Resiliency, log recoveries may not start as expected after a storage source replacement or if the virtual disk (vDisk) is split and unserved from the parent, child, or backup. If this occurs, rescan all of the vDisk's ports.

Asynchronous Replication

- When performing offline replication on a destination with multiple virtual disks (vDisks), the initialization process throws an exception but the offline replication operation completes successfully. As a workaround, run the offline replication on the destination vDisks one by one.

- Creating a replication on a destination disk already served via loopback might fail and leave both sides on standby or only one side with successful replication. As a workaround, if only one side knows about the replication, perform a forced split and start over. If both are stating standby - activate the one that should be active.
- The Replication Group may show as disconnected on one of the replication sides. As a workaround, re-enter the credentials for the disconnected partner group.

Mirrored Virtual Disks

On a three-way mirrored Virtual Disk (vDisk) configuration, the log recovery does not start following a replace or split-and-unserve on the mirror. As a workaround, rescan the ports.

Encryption at Rest

- Using encryption backend arrays implementing deduplication is not recommended.
- Encryption is not supported with SMPA.
- Reserved space is not guaranteed when using a pool with both encrypted and non-encrypted virtual disks (vDisks). To maintain allocation guarantees, use separate pools of either all encrypted or all non-encrypted vDisks.
- The creation of encrypted snapshots in a pool with no encrypted disks may be problematic. The issue occurs when there are no encrypted SAUs in the pool. To avoid this issue, create a "dummy" encrypted vDisk in the pool. Examples of scenarios where this issue may occur:
 - Using local move for encrypted vDisks to a pool with only non-encrypted vDisks may fail. Similarly, using the local move for non-encrypted vDisks to a pool with only encrypted vDisks may fail.
 - VSS-based snapshots

- Manual snapshots

Hosts with SCSI UNMAP Support

This issue applies to hosts with Microsoft Windows 2016, 2012 R2, 2012, 2019, 2022, or VMware ESX. By default, these hosts will have SCSI UNMAP support enabled. In some cases, this feature can cause the following:

- Disk format operations on the host may take longer than expected.
- IO load to back-end storage on the DataCore Server may increase.
- Retention times for the history log of CDP-enabled virtual disks (vDisks) may drop suddenly.

See [DataCore FAQ 1544](#) for more details.

Adding Disks to a Pool

Adding a large number of physical disks to a pool may cause the DataCore Management Console to timeout. To avoid this, add disks one at a time to a pool.

Stopping the DataCore Server

- Stopping and immediately restarting virtualization may not allocate the expected amount of cache on systems with large amounts of memory.
- DataCore software services are not being stopped when a connected UPS battery status changes to 'Low Power' or 'Critically Low'.

Performance Recording

- The DataCore SANsymphony Backup feature does not include the Performance Recording database when it resides on a DataCore Server, thus the performance recording data will be lost when restoring after upgrading or rebuilding an operating system.
- When recording a large number of counters on a local performance

recording database, the database may become full and stale data may not be deleted as fast as new data is recorded. When this occurs, reading and recording performance data will stop until deletion operations are complete, and event log messages will be posted. Consider reducing the number of counters being recorded if this occurs.

- Some counters may show differing values in recorded performance and live performance (Physical disk % Idle Time, Average Queue Length).
- When grouping two servers, the recording sessions and recording endpoints are deleted for the server that is being added.

Support Bundles

The performance recording error logs are sometimes not included in the support bundles. If this occurs, the logs may be collected manually from the local application data folder associated with the user account that the SQL service is running under. Navigate to the subfolder `\Microsoft\Microsoft SQL Server Local DB\Instances\v11.0` and collect all files in this location with the extension `.log`.

Snapshot Split Error

When attempting to split a full snapshot, an error is displayed stating that the snapshots are not fully migrated as the migration map percentage is stuck. As a workaround, update the snapshot and retry splitting the snapshot.

Removing DataCore Servers from a Server Group

If after removing a DataCore Server from a server group, the removed server is still displayed in the DataCore Management Console, re-connect to the original server group by either using the 'Server Group Connections' Window or the 'Connect to Server Group' option in the Common Actions menu option.

User Role Assignments

- Predefined roles have been renamed from Owners to Full Privileges, and from Readers to View. PowerShell scripts that refer to a role by name rather than ID will have to be modified accordingly.

- Snapshots and CDP rollback volumes will not inherit ownership properties.

Shared Physical Disks and Pools

- To prevent uncoordinated access to shared physical disks, join DataCore Servers in a server group before configuring disk pools.
- Automatic reclamation may not occur for dual virtual disks in a shared pool. Manual reclamation may be required.
- While reclamation is being performed on a virtual disk (vDisk) in a shared disk pool, the allocated storage amounts displayed may differ on the DataCore Servers.
- While reclamation is being performed on a vDisk in a shared disk pool, deleting the vDisks and then the pool will not delete the pool from both DataCore Servers. Wait until reclamation has been completed to perform this operation.

ReFS-formatted Virtual Disks

Formatting a virtual disk (vDisk) with Microsoft ReFS (Resilient File System) that is mapped over a loopback port will fail with an error stating the drive is not accessible.

Move Across Server

Moving across servers of multiple virtual disks (vDisks) simultaneously is a long operation and occasionally the call can timeout and the DataCore Management Console will disconnect with the error “Connection time out”. The action will be marked as failed in the action panel but actually continues. Ignore the error, reconnect and then confirm the operation succeeded. To avoid this issue, set the selected vDisks in write-thru mode before attempting the operation OR move the vDisks one at a time.

Evacuating DataCore Servers

- Evacuation of disk pools using the PowerShell cmdlet ‘StartDcsDistributionPlan’ on servers with pools that are missing disks is

not supported.

- When using the Preferred All host setting, the host can lose access to the virtual disks (vDisks) that are being evacuated (moved). To avoid this issue, set the static (non-moving) side as the preferred server before evacuating.
- Before evacuating a DataCore Server, confirm that the path to the static DataCore Server is healthy to avoid loss of access by the host. Also, confirm that a path can be created from the destination DataCore Server to the host.
- Evacuation of disk pools using the PowerShell cmdlet 'StartDcsDistributionPlan' on servers with pools that are missing disks is not supported.

Initiator IP Ignored for iSCSI Connections

When configuring an iSCSI connection via either the DataCore Management Console or PowerShell Cmdlets, you can specify the initiator IP but it will be ignored.

Splitting and Remirroring Disks

Splitting and re-mirroring of one or more virtual disks (vDisks) may sometimes result in the DataCore Management Console displaying parts of the vDisks with Data Status as "Unknown", even though the vDisk state is Healthy. Please contact DataCore Technical Support for a workaround. Also refer to [DataCore FAQ 1277](#) (Known Issues: Third Party Hardware and Software).

Failing Status of Mirrored Disk Pool

After adding a mirror to a physical disk in a pool, the status of the mirror set will remain Failed. To work around the issue and get the correct state, perform a rescan on the DataCore Server which is the owner of the disk pool.

SMPA Disk Pools

Preserved space for an authorized SMPA disk pool may be reset to 0% when the authorized node changes. An example of this would be if the authorized node is stopped.

Internet Access on Server

If there is no internet access on a server, the data collection services need to be stopped rather than just disabling data collection. Otherwise, a periodic warning in the Windows Application Event Log from DcsUpdater and BundleCollectorPlugin will be displayed. For more information, see [Enabling or Disabling Data Collection](#).

Reinitializing a Port Prevents Host Access to Disk

The Windows Server 2022 host may display an error when reinitializing a port on the backend server. Upon reinitializing one of the FE ports on the backend server the host may lose access to the disk and display an error.

Virtual Disk

When virtual disks (vDisks) were served as a loopback disk, the vDisks were getting served as a locked disk. The iSCSI port names were missing when adding a host that has the first 15 bytes in the name. This is due to the internal Server Name length limitation which is by specification, i.e., only 15 symbols by names (according to the NetBIOS name specification). As a workaround, the Server Name should have at least one different symbol in the first 15 bytes.

SNMP Output

After deleting the virtual disks (vDisks) and rebooting the servers, the name of some objects may display with extra spacing. This should be a non-functional problem as the object ID remains the same.

Replication Transfer State

After exiting the test mode, if the device is not removed from the Windows Disk Management tool at the destination (standby) side, the Replication Transfer displays in the stuck state (the data was not transferring to the Replicated Virtual Disks (vDisks)) and few of the vDisks display an error such as destaging failure. As a workaround, manually refresh the Disk Management tool at the standby side.

DataCore Executive Service

The Smart Deployment Wizard (SDW) did not start the DataCore Executive

Service (DCSX.exe) in the SDW-Clustered Virtual Machines Deployment Scenario after deploying the HVSAN. As a workaround, check if the DCSX.exe is running in the target server. If not, start it manually and click "re-run" to continue the deployment in SDW.

Install, Upgrade, and Uninstall

Download Package

Included in the self-extracting, executable download package (SANsymphonyWizard.exe) are:

- Automated installation and upgrade wizard (automatically launches after the download package is extracted to the specified folder.)
- DataCoreServer.exe executable file (base software installation package)
- DataCore SANsymphony Getting Started Guide
- DataCore SANsymphony Release Notes and Installation Guide (this document)
- DataCore Intelligence Service Release Notes and Installation Guide

Configuration Notes

Custom Cache Setting

If you have a custom cache setting on a DataCore Server and you then add that server to a different server group, the cache setting will be changed back to the default, "Use system managed cache size". However, you will need to do a stop and start on the DataCore Server you added to the group for the default cache setting to be fully applied.

Individual Component Installation

Do not install individual components (e.g. DataCore cmdlets) from the DataCoreServer.exe because uninstall and upgrade to the full product are known to fail. As a workaround, install the stand-alone version of the component (DataCorePowerShellSupport.exe or DataCoreManagementConsole.exe).

Asynchronous Replication

- When activating or deactivating the replication side, please make sure there is no I/O running on this virtual disk (vDisk) to avoid data corruption.

- Entering Test mode on many vDisks at the same time might cause the DataCore Management Console to stop responding, even though the test mode will complete successfully in the background.
- For setting up addresses specific to a partner replication server:
 - Modify the 'hosts' files for the destination servers with the correct IP addresses that should be used to reach the source server. The 'hosts' file is located at "%windir%\System32\Drivers\etc\hosts".

Note: This will affect all the applications running on these machines.

- Then, set the network interface for the remote machine back to 'Default' which will allow the destination servers to use the different IP addresses stored in their 'hosts' files.

Support of Microsoft Hyper-V Server as SANsymphony Server

Installation in the parent partition of the Microsoft Hyper-V Server 2016 stand-alone product (that contains only the Windows hypervisor) is not supported.

Support of Microsoft Windows Server 2012 R2 as SANsymphony Operating System

This is the last release to support Microsoft Windows Server 2012 R2 operating system. The Microsoft Windows Server 2012 R2 operating system has been deprecated and future releases will no longer support the installation.

Microsoft Windows Features or Roles on Microsoft DataCore Servers

- Do not create storage pools from with Windows Server Manager/File and Storage Services as this will interfere with DataCore SANsymphony.
- The DataCore REST service will install the following Windows features: Web-Server, NET-WCF-HTTP-Activation45, Web-Http-Redirect, and Web-Mgmt-Console.

Microsoft IIS Settings

Existing configuration settings will be overwritten when installing for the first time. In addition, IIS logging is enabled by default. See [DataCore FAQ 2196](#) for information on managing IIS log files on a DataCore SANsymphony node.

Server Group Connections and the DataCore Management Console

Always use the same DataCore Management Console version when connecting to a server group.

DataCore SANsymphony Help

See [About the Help](#) for details on accessing the DataCore SANsymphony Help.

Host Operating Systems

Before performing storage source replacements for mirrored virtual disks (vDisks) on Sun Solaris or HP-UX hosts, perform manual failover I/O paths to the "other" DataCore Server.

Fibre Channel Adapters

- Do not configure host Emulex Fibre Channel adapters to use Third Party Logout (TPRLO) as a method of resetting storage target devices.
- Installing DataCore SANsymphony software will set the Fibre Channel Port WW Port Name (WWPN) and the WW Node Name (WWNN) to be the same. If the native QLogic driver was previously configured with unique WWPN and WWNNs, these will be reset to be the same and will have to be reconfigured.

Qlogic Service Update

A Service Update installation is required to address the issue regarding the ports not starting with certain Qlogic QLE26xx and QLE27xx firmware. After completing the 10.0 PSP13 installation, do the following on each SANsymphony server:

- Locate the readme.rtf file in C:\Program Files\DataCore\ServiceUpdatePackages.

- Follow the instructions to install the QLogic QLE26xx and QLE27xx Service Update (a reboot is required).

Front-End Ports

Most host operating systems require the DataCore Server port to be configured with FE-only ports (or FE/MR ports where the target-only property has been explicitly set) for failover to work when the host is stopped. Refer to the appropriate Host Configuration Guide for host-specific operating system requirements (see [DataCore FAQ 838](#)).

Network Interface Cards (NICs)

- Ensure that there is at least one network interface card with an IP address configured. DataCore Servers will time out when connecting to the user interface if there are no network cards with IP addresses present in the system.
- The installation of the DataCore iSCSI driver will pause if one or more NICs do not have an IP address or a network connection. Please choose **OK** in the resulting dialog box to continue the install and troubleshoot after the installation completes.

Server and Host Clocks

System clocks on all DataCore Servers and hosts should be time-synchronized wherever possible. This makes it easier to use the Asynchronous Replication, Snapshot, and Continuous Data Protection (CDP) features as well as helps troubleshoot issues using Windows and DataCore log files.

Physical Disks

- Disks under DataCore SANsymphony management will appear as Unknown/Not initialized in Microsoft Windows Disk Management. An Unknown/Offline disk appears in Disk Management for each mirrored virtual disk (vDisk). Upon opening Windows Disk Manager, a prompt to initialize these disks will be displayed. Select Cancel to close the dialog box.

- Do not present disks that are being used by a DataCore Server to any other non-DataCore Server at the same time, as this could lead to corrupt data.

Post-Processing Deduplication

- Post-Processing Deduplication is considered to be experimental.
- On Windows Server 2016 installations, ensure that Microsoft KB4013429 (July 2017 Rollup) or greater is installed.
- Post-Processing Deduplication is not appropriate for high I/O patterns where hosts are constantly changing the same files over extended periods.
- Create deduplication pools one at a time. Wait for completion before creating another pool.
- Do not run disk defragmentation software on volumes used to create deduplication pools or on volumes created from deduplication pools. In Windows 2012, defragmentation is a maintenance mode task that occurs automatically during optimization. Disks are optimized automatically by default, so optimization must be disabled for volumes involved in post-processing deduplication. Settings for scheduled optimization must be changed by the administrator in the Windows Defragment and Optimize Drives utility so that volumes used in deduplication pools and volumes created from deduplication pools are not selected for optimization. See Microsoft documentation for more information and also [DataCore FAQ 1622](#)

New Product Installations

Ensure that the [minimum hardware and software requirements](#) are met before installing.

For new installations, refer to the DataCore SANsymphony Getting Started Guide. Ensure that all hardware and software requirements, including Microsoft .NET, Microsoft Visual C++ redistributable packages (both x64 and x86) as well as all Windows operating system updates and hotfixes are applied before installing the DataCore SANsymphony software. See

[Prerequisites](#) for details.

DataCore Windows Integration Kit

DataCore Windows Integration Kit 4.1.1 or greater is a Windows host prerequisite when using DataCore SANsymphony 10.0 PSP13 on the DataCore Server. The DataCore Windows Integration Kit must be installed on the Windows hosts prior to installing or upgrading to DataCore SANsymphony 10.0 PSP13 on DataCore Server. For more information on version compatibility between DataCore Windows Integration Kit and DataCore SANsymphony refer to [DataCore FAQ 1715](#).

Upgrading from Previous Versions

The minimum supported upgrade path is DataCore SANsymphony 10.0 PSP 10 Update 1. If you are on a previous version, refer to [DataCore FAQ 1660](#).

Pre-Upgrade Steps

Note: The DcsAdmin account and password must be known before proceeding.

1. Refer to [DataCore FAQ 1277](#) (Known Issues: Third Party Hardware and Software) before upgrading.
2. Read and understand the [Upgrade Notes](#) and the [Installation and Upgrading from Previous DataCore SANsymphony Versions](#) sections (see [Known Issues](#)).
3. Ensure that all hardware and software requirements are met before installing or upgrading DataCore SANsymphony. See [Software-defined Storage Prerequisites](#) for detailed information.
4. Ensure all mirrored virtual disks (vDisks) are healthy and all replication streams are fully initialized before performing the upgrade.
5. Ensure that the "Windows Modules Installer" service is not disabled. By default, this service should be set to "Manual", and will be automatically started and stopped as required.

6. Back up the configuration. Refer to [Backing Up and Restoring Configuration Files](#) in the DataCore SANsymphony Help for directions that includes stopping the DataCore Server before doing the backup. A backup folder will be created automatically if the location has not been previously set in the DataCore Server Details>Settings Tab.
7. If DataCore Technical Support has previously requested that the DataCore.Executive.CorePMFdll.config file be customized because of a specific hardware configuration, copy this file to a safe location, as it must be restored after the upgrade, replacing the newly installed file.
8. Close all DataCore windows on all DataCore Servers being upgraded before proceeding with the upgrade instructions below.
9. Enable firewall rules on all servers. In Server Manager->Configuration->Windows Firewall with Advanced Security, select Inbound Rules, and enable the following:
 - Windows Management Instrumentation (WMI-In)
 - Windows Management Instrumentation (ASync-In)
 - Windows Management Instrumentation (DCOM-In)
 - Remote Volume Management (RPC-EPMAP)
 - Remote Volume Management - Virtual Disk Service (RPC)
 - Remote Volume Management - Virtual Disk Service Loader (RPC)
 - File and Printer Sharing (Echo Request - ICMPv4-In)
10. Next, select Outbound Rules and enable the following: Windows Management Instrumentation (WMI Out).
11. Open local TCP port 445 (File Sharing/RPC) for incoming connections from remote hosts.

Upgrading Asynchronous Replication

For configurations where one source server replicates all of the virtual disks

(vDisks), use the upgrade procedure provided in this section.

The automated installation wizard should not be used when upgrading the destination server of a replication configuration. The destination server must be upgraded manually first. The installation tool may then be used to upgrade the source side.

For bi-directional replication relationships, either server group may be upgraded first, but all servers must be manually upgraded. Replication transfer will be stopped in one direction until the update is complete on all groups. (See [Manually Upgrading DataCore Servers](#) for instructions). The upgraded server group may show as 'Unavailable' until all groups are upgraded.

Important: All replications must be initialized and healthy at the time of upgrade. If it's necessary to perform the upgrade before all replications have been initialized, DataCore recommends force-splitting the replications and re-creating them after the upgrade is complete. Checksum initializations will take care to avoid unnecessary data transfer.

To upgrade a configuration where one source server replicates all vDisks:

1. Upgrade the destination server.
2. When the server is back up and running, wait for the file transfer to resume. Then upgrade the server in the source group that replicates the vDisks to the destination.
3. After the server is back up and running, wait for the mirror recoveries to complete. Then upgrade the other server in the group.
4. In the case of more than two servers, continue with server upgrades ([step 3](#)) until all servers are running DataCore SANsymphony 10.0 PSP13.

Note: All servers in all groups involved in asynchronous replication should be on DataCore SANsymphony 10.0 PSP13 to operate properly.

Upgrade Notes

- During the upgrade procedure, do not modify the existing configuration until the entire upgrade is complete. This includes making changes to replication when server groups are on different versions of DataCore SANsymphony software. If issues are experienced during the upgrade, such as mirrors not recovering, contact DataCore Technical Support.
- It is assumed that DataCore Servers always have the most up-to-date “Root Certificates” (used for verifying signed drivers). If DataCore Servers have unknown or expired ca-certificates, download and install the most recent “DigiCert Assured ID Root CA” from here:
<https://www.digicert.com/kb/digicert-root-certificates.htm>.
- After upgrading the first DataCore Server and restarting it, do not open the DataCore Management Console on any other DataCore Servers until they are upgraded. To monitor the upgrade, use the DataCore Management Console on the newly upgraded DataCore Server. Alternatively, for DataCore Servers without the DataCore Management Console component installed, next upgrade the stand-alone DataCore Management Console server to monitor the status during the upgrade.
- After upgrading a DataCore Server and completing the reboot required by the installer, do not stop that DataCore Server or reboot it again until all other DataCore Servers in the same server group have been upgraded.
- When upgrading DataCoreDataCore SANsymphony installations on Windows Hyper-V servers where a dependency has been set up between the Hyper-V Virtual Machine Management Properties (VMMS) service and the DataCore Executive Service will require that the VMMS service is manually stopped before the server is upgraded. (See [System Startup and Shutdown Considerations for SANsymphony in Hyperconverged](#)

[Infrastructure](#).) Not doing so will cause the DataCore Executive Service to be unable to be stopped by the installer. The VMMS service may be restarted by other dependencies if there are still cluster resources on the server, so if this is the case, the VMMS service should be stopped and disabled.

Installer Notes

An automated installer tool assists and guides administrators through the process of configuring and deploying DataCore Servers in a variety of environments, such as:

- Single self-guided installation of a DataCore Server
- Basic installation of a pair of highly available DataCore Servers
- Clustered environment solutions, including a clustered NAS/SAN solution and clustered virtual machines solution using the Windows Hyper-V feature
- Upgrades to existing DataCore SANsymphony installations
- DataCore VASA Provider installation and registration in VMware vCenter
- DataCore Windows Integration Kit on application hosts. (The DataCore Windows Integration Kit is a separate software package and must be downloaded to the server running the installation wizard before selecting this template.)

Deployment Wizard Notes

- The wizard requires a minimum screen resolution of SXGA (1280x1024) is recommended.
- System requirements are not checked when selecting the upgrade template. The wizard only verifies that the servers meet the software, hardware, and operating system requirements necessary before new installations.

- To bypass the installation wizard and upgrade manually, exit the wizard by clicking the Exit button, and double-click the DataCore SANsymphony executable in the installation folder previously designated. See the [Manually Upgrading DataCore Servers](#) instructions in this document.
- Servers must be able to connect to each other over Network Interface Cards (NICs). NICs should be connected with a valid IPv4 address. Disable firewalls between servers while using the wizard to assure the connection. Upon successful completion of the deployment, the firewall may be re-enabled.
- Servers must be a member of the same domain or workgroup. If you need to install servers that share the same server group but are in different domains/workgroups, use the manual upgrade method. See the [Manually Upgrading DataCore Servers](#) instructions in this document.
- Log in with a local administrator account to deploy a single server using the self-guided installation or High Availability pair or virtualized SANsymphony server. Log in with a domain administrator account when running the wizard to configure a cluster solution.
- If the wizard is exited before it has completed, when the wizard is restarted there will be included an option to continue at the point where it left off. If the server is restarted during the installation or upgrade process, when the wizard is restarted it will automatically start where it left off.
- Warnings and errors received while the wizard is running will be logged in a file named log.txt in the DataCore Deployment installation folder, as well as the operating system Event Viewer>Windows Logs>Application Logs.
- Although steps may continue when warnings have been flagged, care should be taken that a valid configuration is created. Steps with errors may not be continued. The error should be corrected and the wizard resumed.
- After the wizard is finished, open the DataCore Management Console and connect to the server group. Consult the [DataCore SANsymphony Help](#) for instructions on using DataCore SANsymphony. Activate your permanent

licenses.

Upgrading Software Versions Using the Wizard

1. Log on to Windows using the local Administrator account (with the 'Full Privileges' role) and password to the server where deploying or upgrading the Server Group from (the wizard will remotely install or upgrade other servers, see above).
2. Save and close all files, programs, and windows. At the end of the installation, it will be necessary to restart the server to finalize the installation process.
3. Copy or download the self-extracting executable to the first server and run the executable.
4. Accept the EULA and enter a location where the files are to be extracted.
5. Select the appropriate software category from the initial panel. Choose DataCore SANsymphony to upgrade servers running that software.

Note: To update DataCore Windows Integration Kit, DataCore VASA Provider, or DataCore Storage Management Provider, choose **Application and Server Tools**.

6. Next select the appropriate Update option in the next panel, and follow the instructions to complete the update.
7. As the process begins, the top left panel will provide a high-level overview of the steps the wizard will follow, while the bottom panel will give a detailed list of steps, the status of the installation, and the start and end times for each step. The main panel describes the current operation and allows input for some configuration information when required.
8. If there are errors or a step fails, the wizard will pause and can be resumed where it left off when the issue has been resolved. Once a step has been completed, changes cannot be made.

9. In the Select Server Update Order panel, use the up and down blue arrows to the right of the Server List to move the highlighted server up or down in the upgrade order.
10. Status is also recorded in a text file named log.txt found in the installation folder, and additional troubleshooting information may be found in the DataCore SANsymphony and Windows event logs.
11. The DataCore Server will be restarted automatically when the upgrade is complete.
12. Submit the mini support bundles that were created for each server in the server group to DataCore Technical Support. (See the [Post-Upgrade Steps](#) section for more information.)

Manually Upgrading DataCore Servers

The automated installation wizard may be bypassed and a manual upgrade performed.

1. Log in as the local administrator on one of the DataCore Servers to be upgraded, copy or download the self-extracting executable to this server and run the executable.
2. Accept the EULA and click **OK** to begin the extraction. The DataCoreServer.exe file will be extracted to the C:\Program Files\DataCore\DataCoreDeployment\SANsymphony folder.
3. Exit the wizard by clicking **Exit** and navigating to the folder specified above.
4. Stop the DataCore Server from the DataCore Servers panel and wait for the status to change from "running" to "stopped"; then set the DataCore Executive Service to Manual start. Do not stop the DataCore Executive Service.
5. Click the DataCoreServer.exe executable.
6. If prompted, enter the login credentials for the DcsAdmin account. This

information should match the original credentials entered for the previous version and must be identical on all DataCore Servers and DataCore Management Consoles in the server group.

7. If the DataCore.Executive.CorePMFdll.config was modified, restore the saved version.
8. Restart the DataCore Server when prompted.
9. On the newly upgraded DataCore Server, open a command prompt and run 'net start dcsx' and then open the DataCore Management Console.
10. Perform a rescan by right-clicking the DataCore Server in the left pane and selecting **Rescan Ports** from the actions menu.
11. Start the DataCore Server from the DataCore Servers panel and wait for the status to change from 'stopped' to 'running'.
12. In the Microsoft Windows Services panel, reset the DataCore Executive Service to Automatic start.
13. Wait until all mirrored virtual disks (vDisks) have recovered and are marked 'on-line'. If recoveries remain to be completed, rescan ports. Check that all running hosts see the path to this DataCore Server before proceeding with the pre-upgrade instructions on the next DataCore Server, and then continue the upgrade of that server. Repeat for all servers in the configuration.
14. Create mini support bundles for each server in the server group and submit to DataCore Technical Support (see the [Post-Upgrade Steps](#) instructions).

Upgrading Cmdlets

- Upgrading stand-alone DataCore Cmdlets may be performed before or after an upgrade of DataCore SANsymphony, but a matching version of the cmdlets should be used when connecting the DataCore SANsymphony environment being managed by the cmdlets.

- If installing only the DataCore Cmdlets component or upgrading on a system that only has the DataCore Cmdlets, use the Management Console Deployment Scenario in the DataCore SANsymphony section of the DataCore Deployment Wizard.

Upgrading DataCore Management Consoles

- Upgrading stand-alone DataCore Management Consoles may be performed at any time, however, if there are DataCore Servers without the DataCore Management Console component in the configuration, the DataCore Management Console must be upgraded first to the monitor status during the upgrade.
- If installing only the DataCore Management Console component or upgrading on a system that only has the DataCore Management Console installed, use the Management Console Deployment Scenario in the DataCore SANsymphony section of the DataCore Deployment Wizard.

Host Considerations

- Hosts with the following versions of Microsoft Windows Server are supported: 2022, 2019, 2016, 2012 R2, and 2012.

Note: This is the last release to support Microsoft Windows Server 2012 R2 operating system.

- If using DataCore MPIO, hosts must upgrade to the MPIO version in the DataCore Windows Integration Kit 4.1.1 before installing this software release to take advantage of fixes and enhancements. See the DataCore Windows Integration Kit 4.1.1 Release Notes and Installation Guide for detailed instructions.
- For configurations using DataCore VSS, install the VSS component in the DataCore Windows Integration Kit 4.1.1 on all hosts using VSS.

- For configurations using the DataCore Cmdlets for Windows PowerShell on Windows hosts, including products such as DataCore SCOM Management Pack, Storage Replication Adapter, or the DataCore Plug-In for VMware vSphere Client, install the cmdlets using this installation package.

Post-Upgrade Steps

- Reactivate all license keys for the server group after the upgrade has been completed. See [Activating the License](#) in the DataCore SANsymphony Help.
- Open a new incident by sending an email to support@datacore.com and include "<Your Customer name> - Mini Bundle" in the Subject line. (Do not attach the support bundles to this email.)
- An automatic response explaining the next steps will be sent. The data included in the support bundles may be used as a baseline for future troubleshooting if needed.

Getting Support

Register for DataCore support here:

https://datacore.custhelp.com/app/utils/create_account

After registering, you'll have access to the DataCore Knowledge Base and be able to open support tickets at: <https://datacore.custhelp.com/>