IBM System Storage N series

OnCommand Unified Manager Core
Package 5.1 Release Notes
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OnCommand Core Package 5.1 release notes overview

The release notes describe new features, fixed issues, and known issues for OnCommand Core Package 5.1.

Overview of OnCommand Core Package

OnCommand Core Package is part of the OnCommand family of IBM N series management software. OnCommand Unified Manager is the product name for the combination of the Core Package and the Host Package.

OnCommand Core Package brings together multiple products, including Operations Manager, Protection Manager, and Provisioning Manager, into a single framework that provides an integrated, policy-based data and storage management solution for virtual and physical environments.

Storage management solution for a virtual environment also requires the installation of OnCommand Host Package.

OnCommand Core Package components

The following components are included in OnCommand Core Package:

OnCommand console
  Provides the primary graphical interface to monitor, manage, and report in virtual and physical environments.

DataFabric Manager server
  Provides the services and database for your storage environment.

Operations Manager console
  Enables comprehensive monitoring and management of storage objects, with alerts and reports, in addition to performance and configuration tools.

N series Management Console
  Helps you simplify and automate common data protection and storage provisioning management tasks.
  It also provides a single location from which you can view and analyze comprehensive information about storage system performance.

OnCommand Windows PowerShell cmdlets
  Enables you to perform a subset of operations by using the Windows PowerShell command line.
The cmdlets are supported only for datasets containing VMware virtual objects.
OnCommand Core Package new and enhanced features

OnCommand Core Package 5.1 includes the following new and enhanced features.

**Enhanced protection capabilities (7-Mode only)**
- Dynamic secondary sizing for mirror destination volumes
- Partial on demand backup
- Removal of original directory paths when restoring to new location
- Support for Data ONTAP 8.1 mixed block size mirror

**Enhanced provisioning capabilities (7-Mode only)**
- Choice of resource selection for volume creation

**New chargeback reports**
- Qtrees Chargeback report
- User Quotas Chargeback report

**Sybase support**
- The DataFabric Manager server supports Sybase server 11.0.1.

**OpenSSL protocol support**
- The DataFabric Manager server supports OpenSSL protocol 1.0.0e.
OnCommand Core Package changes

You should be aware of the features that were changed in OnCommand Core Package 5.1.

The changes in this release are as follows:
- References to Hyper-V are removed from the OnCommand console due to the removal of Hyper-V support from Host Package 1.1 and later.
- Cluster Config Checker tool has been removed.
- Canned views in Performance Advisor are renamed to predefined views.

Terminology changes on the OnCommand console

You should be aware of the changes in some of the terms displayed on the OnCommand console.

All instances of the following terms are changed on the OnCommand console:
- The term vserver is changed to Vserver.
- The term controller is changed to node.
- The term Virtual Server is changed to Vserver.

However, you might see some instances of vserver, controller, and Virtual Server in the DataFabric Manager server CLI.
OnCommand Core Package limitations

OnCommand Core Package 5.1 includes limitations that you should consider before you configure your environment, including restrictions applicable to virtual-object datasets, numeric object names and IDs, and NFS datastore creation.

- vFiler units are not supported on secondary and tertiary nodes of a dataset with only virtual objects.
- If you delete the configuration files from the DataFabric Manager server, the files cannot be retrieved because they are permanently deleted.
- Data ONTAP Edge is not supported.
- Creating VMware NFS datastores on a directory-level NFS export is not supported for backup operations.
  NFS exports must be created at the volume or qtree level.
- You cannot enable, disable, or schedule reports from the CLI.
- You cannot over-provision 64-bit volumes.
  Provisioning is limited to the aggregate size.
OnCommand Core Package 5.1 fixed issues

Some known issues are fixed in OnCommand Core Package 5.1.

The dfm command displays an error message

After a DataFabric Manager server failover, when you are trying to access the DataFabric Manager server from the newly active node, in a disaster recovery setup, or an MSCS or a VCS environment, you might see the following error message:

Failed to get encryption key

When you run the dfm datastore setup command, the encryption file dfmenc.keys (located in installation_directory\conf\keys) is not copied from the DataFabric Manager server to the shared disk or LUN. The dfmenc.keys file is located in the local drive of the DataFabric Manager server, and therefore is not accessible to the secondary DataFabric Manager server.

The DataFabric Manager server is unable to provision a secondary FlexVol volume due to 999 stale entries for this volume in the database

When the DataFabric Manager server creates a protection relationship, it automatically provisions a secondary volume and creates an associated entry in the DataFabric Manager server database.

If the job fails at later stage, the volume is deleted in the controller and the database entry is marked deleted, but remains in the database as a stale entry. When the next conformance check is run, the conformance engine attempts to create a relationship using the stale volume entry as the base name, appending a number that is incremented with each attempt. After 999 such stale database entries are created, the conformance engine issues the following error message:

Error: Unable to provision flexible volume of size <size>. Error: Unable to construct a unique volume of name <flex_vol_name> on the host <hostname> as there are more than 999 volumes with the same base name.
DataFabric Manager server tries to protect deleted drives on a Windows Open System SnapVault host

When a Windows Open Systems SnapVault host is added to a dataset, the DataFabric Manager server creates SnapVault relationships for all drives mounted on that host. If any of those drives are deleted, the DataFabric Manager server still tries to back up those deleted drives, resulting in partial backup failure.

Cannot log in to the OnCommand console if the FQDN contains an underscore

If you use a fully qualified domain name (FQDN) that contains the underscore character, you cannot log in to the OnCommand console on Internet Explorer.

Host service discovery jobs fail

After the host services are installed, a host service cannot register itself with the DataFabric Manager server. Therefore, the host service discovery jobs fail.

The dfmserver and dfmscheduler services fail to start after installation on a Windows 32-bit server

After a new installation of OnCommand Core Package on a Windows 32-bit server, the dfmserver and dfmscheduler services fail with the following error messages:

Error: Call to StartService for scheduler failed: 1053
Error: Call to StartService for server failed: 1053

Enabling only the Auto delete Snapshot copies option causes NAS provisioning to fail

In the N series Management Console, when creating a NAS provisioning policy, if you select only the Auto delete Snapshot copies option and attach this policy to a dataset, NAS provisioning fails with the following error message:

Failed to set the option value

Workaround

You can perform one of the following actions:

- From the NAS provisioning policy, clear the Auto delete Snapshot copies option.
- From the NAS provisioning policy, select both the Auto delete Snapshot copies and Auto Grow Capacity options.
The reportDesignPath option is not updated

When you run the dfm datastore setup command, it fails to update the reportDesignPath option with the modified location of the reports.

Oracle security alert

OnCommand Unified Manager uses an Oracle Java Runtime Environment (JRE) that has an Oracle security issue (CVE-2010-4476) that affects access security.

The JRE issue allows unauthenticated network attacks, without requiring a user name and password. A successful attack of this vulnerability can result in unauthorized ability to cause JRE to hang or crash frequently (complete denial of service) of the JRE. Java-based application and web servers are especially at risk from this issue.

This JRE issue affects the OnCommand Unified Manager components differently. For example, JRE (and Java) is used to support the OnCommand console GUI, and the issue impacts the GUI. However, the attack is mitigated because there is a command-line interface to perform the OnCommand console tasks.

On the other hand, the protection and provisioning components of the N series Management Console does not have a web server and are installed on the user workstation, and therefore the JRE issue impacts the GUI.
OnCommand Core Package 5.1 known issues

You must be aware of the known issues and workarounds for each of the OnCommand Core Package 5.1 features so that you can use the product more effectively.

Windows server stops responding when the dfm service stop -k command is run

After a restore operation is complete, when you run the dfm service stop -k command, the Windows server might stop responding and reboot.

Workaround

Perform the following steps to complete the restore operation successfully:
1. Stop all services except the SQL service.
2. Take a new backup.
3. Restore the new backup.

The dfmmonitor service stops responding

If you have installed OnCommand Core Package on a Linux system that does not have RSH installed, the dfmmonitor might stop responding. This issue might occur on the DataFabric Manager server that manages 7-Mode objects.

Workaround

Perform one of the following actions:
• Install RSH on your Linux system.
• If you do not want to install RSH, configure SSH by completing the following steps:
  1. Run the following command to set SSH as the preferred protocol:
     ```
     dfm option set hostloginprotocol=ssh
     ```
  2. Set the login credentials for the storage systems that the DataFabric Manager server manages.

Note: You must delete the storage systems which you do not want to manage.
3. Restart the dfmmonitor service.
DataFabric Manager server discovers obsolete storage objects after Data ONTAP reversion

When you revert the Data ONTAP version from 8.1.1 to 8.0.3, the DataFabric Manager server continues to discover objects from the earlier version.

Workaround
1. Delete the Data ONTAP 8.1.1 objects.
2. Add the Data ONTAP 8.0.3 objects.

OnCommand host services storage mapping does not work (588281)

You cannot perform storage mapping on systems running Data ONTAP 8.1 if the MultiStore license is enabled and the licensed_feature.multistore.enable option is disabled.

Workaround
1. Enable the licensed_feature.multistore.enable option.
2. Restart the service OnCommand Host Service VMware plug-in.

Cannot create alarms with an SNMP traphost

If you create an alarm with an SNMP traphost in the community@<ip>:port format, the alarm fails with an error message indicating that the traphost address is invalid.

Workaround
Use the dfm alarm create -A command with full Lightweight Directory Access Protocol name to create an alarm with an SNMP traphost.

The dfm service start command fails with an error message on Windows

When you run the dfm service start command on Windows 2000, Windows XP, or Windows 2003, the following error message is reported to the Apache server: Service server did not reach state 'started' due to win32 error 1067.

Workaround
Rerun the dfm service start command.
The dfm service start http command fails with an error message

If you cancel the dfm ssl server setup command, and then stop and restart the HTTP service, the dfm service start http command fails with the following error message: SSLCertificateKeyFile: file '/opt/IBMdfm/conf/server.key' does not exist or is empty.

The dfm service start http command fails because the server.key file is deleted when you cancel the dfm ssl server setup command.

Workaround

Run the dfm ssl server setup command before running the dfm service start http command.

Performance data not collected for renamed nodes

When the nodes in a cluster are renamed, Performance Advisor does not collect performance data for these nodes.

Workaround

Restart the DataFabric Manager server by using the dfm service stop server and dfm service start server commands.

The OnCommand console repeatedly prompts for login credentials

After the Core Package installation is complete, the OnCommand console repeatedly prompts for the user name and password.

Workaround

Clear the browser cache, and restart the browser.

Unsolicited messages in the dfmserver.log file

When a combination threshold is created by using a volume counter and a volume:vserver counter, and it is applied to a cluster, the dfmserver.log file is populated with spam messages. An example spam message is as follows: Unable to find instance with id 203 and objtype volume:Vserver.

Workaround

None.
**Client statistics data not collected**

Performance Advisor is unable to collect client statistics data for NFS and CIFS objects in storage systems running Data ONTAP 8.1. operating in 7-Mode.

**Workaround**

None.

**Cannot retrieve performance data about Vservers for NFSv3**

For storage systems running Data ONTAP 8.1.1 or later, the `dft perf data retrieve` command cannot retrieve Vserver performance data related to the NFSv3 protocol.

**Workaround**

None.

**Cannot use purely numeric host service-assigned object names or virtual object IDs**

DataFabric Manager server commands do not accept purely numeric host service-assigned object names or virtual object IDs.

**Workaround**

Use alternate IDs for both host service-assigned object names and virtual objects.

**Charts are not displayed after disabling HTTP and enabling HTTPS**

If you disable HTTP and enable HTTPS, and then access the OnCommand console by using the IP address, charts and icons are not displayed.

**Workaround**

Use an FQDN the first time you access the OnCommand console to view the charts and icons.
**Internet Explorer does not display content in the OnCommand console if HTTPS is configured**

If the DataFabric Manager server is configured for HTTPS, Internet Explorer displays the following message: This Web page contains content that will not be delivered using a secure HTTPS connection, which could compromise the security of the entire Web page.

After the error message is displayed, when you choose to view the content of the page either securely or not securely, the OnCommand console does not display any content.

**The dfm report view command fails with an error message**

When you run the `dfm report view` command, the following error message is displayed: 

```
http_open_url_socket failed with return value -2. Please validate dfm http and webui services are running correctly.
```

When you log in to view the reports from the OnCommand console, the session expires.

**Workaround**

None.

**Blank graphs and incorrect reports for protocols**

The graphs for NFS and CIFS protocols in the Operations Manager console are blank. Also, the Storage System Operations report displays a value of 0 Ops/sec for the NFS, CIFS, HTTP, and FC protocols. The blank graphs and incorrect reports are displayed because the DataFabric Manager server does not collect data about these protocols.

**Workaround**

None.

**Edit Group Membership page displayed incorrectly in the Operations Manager console**

The *Edit Group Membership* page is not displayed correctly when the Operations Manager console is opened in the Internet Explorer 8 browser. The *Groups Member* text box is displayed in a separate pane at the bottom of the *Edit Group Membership* page.

**Workaround**

None.
1. Launch the OnCommand console.
2. Click the Administration menu, and then click the Groups option.
3. From the Groups tab, select the group you want to modify.
4. Click Edit.

Creation of an Open Systems SnapVault relationship fails on Linux

When you create an Open Systems SnapVault relationship from the DataFabric Manager server, the operation stops responding.

You should verify if running the snapvault status command displays the following error message: Transferring (0 KB done). You should also verify if the Open Systems SnapVault space estimator stops responding while processing a mount point. If you experience both these issues, then you can perform the following workaround.

Workaround: Disable AutoSupport and the space estimator

Note: Ensure that you have access to the snapvault.cfg file.
1. Open the snapvault.cfg file.
2. Set Value to FALSE for [QSM:EnableASUP].
   Result: AutoSupport is disabled.
3. Set Value to FALSE for [Configuration:Run Estimator].
   Result: The space estimator is disabled.

Workaround: Enable AutoSupport and the space estimator, and unmount the failed mount points

Note: Ensure that you have access to the svestimator.exe file.

Locate the mount point at which the operation stopped responding by performing the following steps:
1. Run the Open Systems SnapVault utility svestimator.exe.
   Result: One or more messages are displayed on the screen: 1
   ASUPDATA:-136288576 18 0 045656 Skipping mount point '/t/99.888.777.666/root'.
2. Disable svestimator.exe, and set EnableASUP to false.
   Result: The Open Systems SnapVault relationship creation stops responding indefinitely.
3. Open the qsmserver log.
4. Locate the mount point at which the creation operation stopped responding.
5. Unmount that mount point from the storage system.
6. Verify that the Open Systems SnapVault relationship is being created. If the creation fails, repeat the above steps to locate the other mount point that is not working, and then unmount it.

**Changing the Performance Advisor perfTopnchartinterval setting might require you to restart N series Management Console**

If you modify the Performance Advisor perfTopnchartinterval setting to change your data sampling rate, the chart data in Performance Advisor Monitor Dashboard panels might not be consistently displayed until you restart your N series Management Console session.

**Workaround**

After you use the CLI command `dfm options set perfTopnchartinterval` to change the data sampling and update rate for the panels in the Performance Advisor's **Monitor Dashboard** window, you must login again to N series Management Console to reliably view those updated panels.

**Delay in updating entries in the Top Network Interface view**

The Top Network Interface view does not display updated information about global groups because there is a delay in updating the objectMap table.

**Workaround**

None.

**Handling of Log4j internal errors**

OnCommand console hides all Log4j internal errors from users, and in some cases, due to such errors, DataFabric Manager server log files might not be updated. These errors are not DataFabric Manager server errors and do not affect any processing of tasks.

**Workaround**

None.
Unable to add a cluster to the DataFabric Manager server with SNMP

When you run the dfm host add command, adding a cluster fails with an error message stating that the host cannot be contacted. This issue occurs when the Windows firewall policies—domain, public, and private—are enabled.

Workaround

Disable the domain firewall policy to add the clusters to the DataFabric Manager server. You must keep the domain firewall policy disabled to allow monitoring of the cluster.

Provisioning operations are not supported on systems running Data ONTAP 7.3.5.1P5

Storage systems running Data ONTAP 7.3.5.1P5 do not support provisioning operations executed by the DataFabric Manager server.

Workaround

Either exclude resources on storage systems running Data ONTAP 7.3.5.1P5 from DataFabric Manager server provisioning operations, or upgrade those storage systems to Data ONTAP 7.3.6 or later.

Email alerts generated for deleted objects

The DataFabric Manager server sends email alerts for deleted storage objects. The email provides a link to the event details on the OnCommand console; however, no details are available because the object is deleted.

Workaround

None.

vFiler unit migration operation might fail

When you start a migration operation for vFiler units (Data Motion for vFiler), the operation might fail if you have different versions of Data ONTAP running on the primary and secondary storage systems or if the versions do not support the migration of vFiler units. No error messages are displayed if the operation fails.

Workaround
Before you start the migration operation, ensure that you are running the same version of Data ONTAP on the primary and the secondary storage systems and that the versions support the migration of vFiler units. For more information about the Data ONTAP versions that support Data Motion for vFiler, see the N series interoperability matrix, which is available at: [www.ibm.com/systems/storage/network/interophome.html](http://www.ibm.com/systems/storage/network/interophome.html).

---

**Creating a dataset fails if the dataset has storage service with provision only policy**

You can use the Add Dataset Using Storage Service wizard or the storage-service-dataset-provision API with the provision-member parameter to create a dataset with provisioning policy and provision a member to the dataset.

In both cases, provisioning the member to the dataset fails with the following error message: There is no node by name in the DP Policy No protection NM.

**Workaround**

You can avoid this error message by using one of the following methods:

- Using the Add Dataset Using Storage Service wizard:
  - Create an empty dataset by using the wizard.
  - Provision members to the dataset after you have created the dataset.

- Using the storage-service-dataset-provision API:
  - Create an empty dataset by using the storage-service-dataset-provision API, and by not providing inputs to the provision-member parameter.
  - After you have created the dataset, use the dataset-provision-member API to provision members to the dataset.

---

**Events Current report shows wrong event name**

The events Volume Quota Overcommitted and Volume Quota Not Overcommitted are named incorrectly in the Events Current report. Information provided as Volume Quota Not Overcommitted should be read as Volume Quota Overcommitted. Information provided as Volume Quota Overcommitted should be read as Volume Quota Not Overcommitted.

**Workaround**

None.
The DataFabric Manager server communicates on the first available interface when the preferred interface is not running

The DataFabric Manager server is not aware of the preferred interface that is set on systems running Data ONTAP 7.3 or later. When the option `ndmpDataUseAllInterfaces` is set to `No`, the DataFabric Manager server communicates through the first available interface assuming it to be the preferred interface.

Workaround

None.

Users cannot modify values in custom fields

Even though you have the appropriate permissions to create and edit a custom field object that is configured for a dataset, protection policy, or provisioning policy, you must also have the DFM.Database.write permission to edit a value in a custom field using N series Management Console. Permission to create and edit a custom field object configuration does not automatically include the permission to edit the value in the field.

Workaround

None.

Names generated for secondary qtree backup copies of root qtrees in datasets of virtual objects might be shortened

The names of secondary qtrees that are generated by OnCommand console backups of primary root qtrees might be renamed and limited to 30 characters.

If the custom naming format for secondary qtrees is `%Q` (which specifies using the primary qtree name for the secondary qtree name also), and if in a dataset of virtual objects a primary qtree is a root qtree with the name "." or "etc", then an OnCommand console protection job substitutes the `%Q` format with a `%L_%S_%V (custom-label_primary-storage-system_primary-volume)` format when generating a name for the secondary qtree. The resulting qtree name is limited to 30 characters. Any characters beyond that number are truncated.

If, in the previous case, the naming format for secondary qtrees specifies the primary qtree name plus extension characters (for example, `%Q%1, %Q%2, or %Q%3), the qtree name is limited to 30 characters plus the extension characters.
Limiting the length of the virtual object name accommodates restoration of the virtual object if restoration is necessary.

**Workaround**

If you specify a custom label to be associated with a dataset, consider the possibility that it might be combined with the storage system name and the primary volume name to generate the name for a secondary qtree backup copy of a root qtree, which might in turn be subject to truncation if the name is over 30 characters.

---

**Breadcrumb trail not updated**

When you navigate from one group to another in the Groups list, the breadcrumb trail in the Storage tab and Server tab does not display the updated trail information.

For example, in the storage controller view, when you double-click an object O1, which belongs to the group G1, the breadcrumb trail is modified to display the list view of O1. However, if you select another group, G2, from the Groups list to which O1 does not belong, the breadcrumb trail is not updated.

**Workaround**

Click the parent breadcrumb object to update the trail information.

---

**Restore operations performed from most recent backup on the tertiary (mirror destination) node might fail**

If you use a back up, then mirror topology to restore your most recent backup of the secondary node, the restore operation might fail. Secondary qtrees are present in the base Snapshot copy of the backup relationship, which can cause the restore operation to fail because LUNs exported from such qtrees are read-only.

**Workaround**

You can retry the restore operation from the same backup version on the primary or the secondary node of the dataset, or you can restore from an older backup version.
**Backup scripts that refer to directories or files require full path names**

Backup scripts that refer to directories or files for creation or output redirection might cause these directories or files to be created in unexpected locations if the script uses a relative path rather than the full path to refer to these directories and files.

**Workaround**

To ensure that directories and files are created where you intend them to be created, include the full path name to your intended location on the DataFabric Manager server or the host services system.

For example, the following full paths guarantee that the specified directory `abc` and the specified output redirection file `abc.txt` are created in the root directory of the DataFabric Manager server or host services system:

- `mkdir c:\abc`
- `dir >> c:\abc.txt`

However, the following relative paths might cause the specified directories or files to be created in a subdirectory that is not obvious:

- `mkdir abc`
- `dir >> abc.txt`

**Cannot include an NFS datastore in a renamed volume in a dataset**

Renaming the volume that contains an NFS datastore, and then attempting to include that datastore in a dataset can result in a `Could not find any storage mapping...` error message.

When you change the volume name, the datastore's NFS export path might be automatically changed on the storage system. However, the original NFS export path remains in effect on existing clients such as the ESX server.

In such cases, you cannot add that datastore to a dataset because the OnCommand console cannot map the datastore to an existing NFS export.

**Workaround**

None.
Reregister host services after restoring an older version of a DataFabric Manager server

You must reregister a host service after you restore an older version of a DataFabric Manager server. If you restore an older version of a DataFabric Manager server and a host service is not reregistered with the DataFabric Manager server, any operations on that host service fails until the host service is reregistered.

Workaround

None.

DataFabric Manager server on Windows Server 2008 does not support RSH protocol

The DataFabric Manager server, by default, uses RSH for storage system communication; however, if the DataFabric Manager server is installed on a Windows Server 2008 system, communication with the storage system fails because Windows Server 2008 does not support RSH.

Workaround

Change the global login protocol to SSH.

Faulty export file entry might prevent inclusion of NFS-exported virtual machine or datastore objects in a dataset of VMware objects

The DataFabric Manager server cannot read exports file entries whose path names do not begin with `vol` if the path name for any NFS export virtual machine or datastore entry in a storage system’s `etc.exports` file does not start with `/vol`.

The objects that those unread entries specify remain undiscovered by the DataFabric Manager server, and any attempt to include those objects in a dataset results in a storage mapping error.

Workaround

If a storage mapping error is caused by an incorrect path name, you must delete the entries that do not start with `/vol` from the `etc.exports` file, and then allow the DataFabric Manager server monitor to run again. After you run host service discovery (`dfm hs discover`) one more time, the DataFabric Manager server allows inclusion of the newly discovered objects in a dataset.
Host service selects wrong DataFabric Manager server IP address

While registering a host service in MSCS, VCS, or a multihomed environment, the DataFabric Manager server does not select the right IP address. This might cause server notifications to fail.

Workaround

- Use the following command to register the host service and explicitly mention the right IP address: `dfm hs register -i dfm_server_ip_address hostservice_dns_or_ip_address`
- If the host service is registered with the Cluster IP address, set the new IP address by entering the following command: `dfm hs configure -i dfm_server_ip_address hostservice_dns_or_ip_address`
- View the configured DataFabric Manager server IP address by entering the following command: `dfm hs diag hostservice_dns_or_ip_address`

Mount operation of remote backup fails with "write operations are not allowed" message

When mounting a backup that contains the latest Snapshot copy on a SnapVault destination, the backup is mounted as read-only and write operations are not allowed on the mounted datastore.

Workaround

To recover your data, you must copy the VMDK to a read/write datastore.

Improperly specified SnapVault source to target access list causes restore operation failure

A restore operation from a SnapVault secondary system to a SnapVault primary system might fail if the SnapVault access list settings that are specified on the primary system and secondary system by the options `snapvault.access host` command do not properly enable access from primary system to host and from host to primary system.

This type of failure results in empty qtrees at the restore destination volume and an uninitialized SnapVault relationship that you must clean up manually by issuing the `snapvault abort` command on the restored host.

Further complicating the cleanup, if the owner of the restore destination volume is a vFiler unit, the `snapvault status` command lists this uninitialized relationship under the name of the vFiler unit's physical storage system. The `snapvault abort` command, however, must use the name of the vFiler unit.
Workaround

To avoid these restore failure and cleanup problems, ensure that both the SnapVault primary system and SnapVault secondary system enable SnapVault access to one another in their options snapvault.access host settings before you start a restore operation from the OnCommand console.

For example, if the SnapVault primary system is primary1 and the SnapVault secondary system is secondary2, then the following settings are the minimum required to ensure a successful restore:

- On the SnapVault primary system primary1, enter the following command:
  `options snapvault.access host=secondary2`
- On the SnapVault secondary system secondary2, enter the following command: 
  `options snapvault.access host=primary1`

Job status labeled as successful for incomplete scheduled backups

If a dataset consists of virtual machines from multiple host services and one of the host services goes offline, the associated scheduled backup job does not fail or display an error. Dataset backup failure alarms are not triggered under these circumstances.

Workaround

Set up alarms that monitor the host service status so you know when a host service goes offline.

Note: This issue does not affect on-demand backup jobs, which display partial success if the host service goes down during the operation.

Opening the Server tab by clicking a link from the Related Objects pane in the Datasets tab restricts the Server tab display

If you click the link of a VMware object that is listed in the Related Objects pane of the Datasets tab, the OnCommand console opens the Server tab to display the details for the clicked object; however, only the data for the clicked object is displayed.

The other objects of that type that are normally displayed in the Server tab are not listed when it is displayed in this way. After you access the Server tab in this way, you cannot refresh it or modify its filtering to list or display details for any other virtual objects.

Workaround
Click the All breadcrumb button in the top left corner to restore the display of all the objects of the same type.

You can also select another object type in the navigation pane, and then reselect the original object type to restore the display of all objects of that type.

**Mixed LUN connections in a virtual machine can cause backups to fail**

Virtual machines containing mixed environments— for example, an ESX-enabled environment with a direct-connect iSCSI environment can cause a backup to fail.

**Workaround**

You can avoid this by not mixing LUN connections in a virtual machine.

**Report share functionality unavailable through OnCommand console for users who do not have Read permission for the Global group**

If you do not have permission to read the Global group, you cannot use OnCommand console to schedule and share any reports.

**Workaround**

None.

**Groups tab displays incorrect values for total capacity and used capacity**

When storage controllers, aggregates, volumes, qtrees, and clusters are members of a group, the values displayed for total capacity and used capacity are incorrect.

**Workaround**

View the correct values for total capacity and used capacity from either the appropriate storage inventories (Storage Controllers view, Aggregates view, Volumes view, Qtrees view, and Clusters view) or the storage capacity reports.

**DataFabric Manager server configured on a Microsoft cluster and configured as cluster services fails**

If you configure DataFabric Manager server on a Microsoft cluster, and perform the dfm datastore setup operation, the DataFabric Manager server pauses to move the directories, and failover occurs. This causes the operation to fail.
Workaround

Follow these steps to resolve the issue:
1. Stop DataFabric Manager server cluster services.
2. Using the CLI, start the DataFabric Manager server services.
3. Run the dfm datastore setup command.
4. Start DataFabric Manager server cluster services.

**Storage tab displays blank page**

When you perform a particular task from the Storage tab, then navigate away from the tab and return to it, a blank page is displayed. This occurs when you add an object to a group from any of the inventory views, navigate to another tab, change from the Global group to the group you added the object to, and then return to the Storage tab.

**Workaround**

To update the page, click any inventory view and return to your previous view.

**Core Package support issues related to Data ONTAP**

The following known issues pertain to N series Management Console.

**Network and port traffic information is not displayed**

Because of updates to Data ONTAP counters, the network and port information for clusters running Data ONTAP 8.0 or later is not displayed in the Operations Manager console and in the Performance Advisor reports.

An error message is logged in the dfmmonitor.log file stating that the DataFabric Manager server is unable to traverse the nodeStats table.

**N series Management Console known issues**

The following known issues pertain to N series Management Console.

**Compression option for imported SnapMirror connections not preserved**

When you use N series Management Console to import a SnapMirror relationship that has compression enabled and if the DataFabric Manager server option hostPreferredAddr1 is set for both the source and destination storage systems, the compression option for SnapMirror connections is not preserved.
After the SnapMirror relationship is imported, the next transfer update job for the dataset creates a new connection with the preferred host addresses and modifies the `snapmirror.conf` entry. This entry does not have the `compression=enable` option.

If you manually edit the `snapmirror.conf` file and add the `compression=enable` option for any existing connections, and if `hostPreferredAddr1` is set for both the source and destination storage systems, the next transfer update job for the dataset overwrites the `snapmirror.conf` entry and deletes the compression option.

**Workaround**

Ensure that the `hostPreferredAddr1` option is not set for the source and destination storage systems. If the option is not set, N series Management Console leaves the `compression=enable` option intact in the `snapmirror.conf` file.

**First update of a mirror connection after the source has shrunk and then grown might generate a false error message**

When Dynamic Secondary Sizing is enabled for a mirror relationship and the source volume has shrunk for one update, the next update might generate a secondary resizing error message that can be ignored.

If the source volume has shrunk for one update, the next update attempts to shrink the destination volume. The update job might display an error for the resize operation, but the mirror job is successful nevertheless.

This error message can be ignored if seen only as part of a first update after a source volume has grown. The displayed message is similar to the following:

```plaintext
Error Message: myOfmStation: Could not resize secondary volume myFiler:/myVolumeName (10565) to 10.0 GB. The new volume size would be less than that of the replica file system.
```

This issue fixes itself and no backups are lost, so no workaround is necessary.

**Open Systems SnapVault relationship baseline backup version is not registered**

When N series Management Console creates a new Open Systems SnapVault relationship that uses extended ASCII characters in the source directory path, the relationship gets created but a baseline backup version is not registered.

This occurs because the create job includes a name from the storage system that is encoded differently from what it expects, which causes the job to fail when trying to match the directory with the newly created relationship.
**Workaround**

Either manually run the backup job immediately after the relationship create job ends, or wait for the next scheduled job to run. These options work because neither on-demand or scheduled jobs require extra information from the storage system to create a backup version.

**Reducing a mirrored source volume does not reduce its destination volume on the next transfer**

Even if dynamic secondary sizing is enabled for a dataset, reducing a mirrored source volume does not reduce its destination volume on the next transfer.

The transfer is successful, but the destination volume does not reduce its size, and a false error message similar to the following might be displayed:

```
my_dfn_station: Could not resize secondary volume my_storage_system:/my_vol
(295) to 20.0 MB. The new volume size would be less than that of the replica file system
```

Unless this message appears after subsequent transfers, you can disregard it.

If the source volume remains reduced in size, the destination volume reduces to match it on subsequent transfers.

**Workaround**

No workaround is necessary.

**Resizing a full mirrored source volume with dynamic secondary volume sizing enabled might cause a protection job to fail**

Resizing a full primary volume SnapMirror source volume in a dataset with dynamic secondary volume sizing enabled might cause the subsequent SnapMirror operation to fail with the following error message: destination volume too small.

The cause of this failure might be that the secondary or tertiary storage space requirements to accommodate the resized primary volume might exceed the size of the secondary or tertiary aggregate in which the target secondary or tertiary volume is contained.

If dynamic secondary volume sizing is not enabled, the N series Management Console protection capability attempts thin provisioning with the existing secondary or tertiary storage space, and this type of failure does not occur.

**Workaround**

No workaround is necessary.
If you disable dynamic secondary volume resizing, this type of failure does not occur.

If you have to keep dynamic secondary volume resizing enabled, then resize the source volume to less than 60 percent of the tertiary storage aggregate size. After you resize, the dynamic sizing update resizes the secondary storage volume, enabling the final SnapMirror copy to fit into the final destination aggregate.

**Terminating a DataFabric Manager server restore operation by using Ctrl-C causes subsequent restore operations to end in SQL database failure**

If you terminate a dfm backup restore operation by using Ctrl-C, subsequent attempts to restore end in SQL database failure, even if rollback of the terminated original restore operation succeeds.

A message similar to the following is displayed:

```
***** SQL error: Item '/opt/IBMdfm/data/monitor.db' already exists
Error: Unable to upgrade the database to the latest file format.
Error: Service start failed.
```

**Workaround**

After you start dfm backup restore, observe the warning message and avoid terminating the operation by using Ctrl-C. If you cannot avoid this action, contact technical support for help in restoring database operations. Do not attempt to delete any database file without first contacting technical support.

**vFiler units cannot provision secondary storage of virtual objects**

You cannot use vFiler units to provision secondary storage nodes in a dataset of virtual objects.

**Adding a directory from an unsupported file system to a dataset fails with an error**

An attempt to add a directory that resides on a host file system that is not supported by Open Systems SnapVault causes N series Management Console to issue an error indicating that the directory does not exist or is not suitable for backup.

You can use Open Systems SnapVault to back up supported file system types only. For example, Open Systems SnapVault supports only NTFS on systems running Windows.

**Workaround**
To determine which file system types are supported by the version of Open Systems SnapVault that you are using, you can run the svinstallcheck utility on the Open Systems SnapVault host. See the Open Systems SnapVault documentation for details.

**Blocking access to web servers**

The DataFabric Manager server enables search engines to quickly search, find and index the web pages in the Operations Manager console; however, you can configure a text file to block search engine access, if required.

If you want to block access by search engines to the web pages, create a file called `robots.txt` in the directory `installpath/DFM/web`. If the file contains only the following text, search engines do not search or index Operations Manager web pages:

```
User-agent: *
Disallow: /
```

**Data migration rollback and cutover jobs sometimes time out in N series Management Console**

Sometimes a data migration rollback and cutover operation that is invoked from the N series Management Console GUI times out even though the source and target systems are carrying acceptable input output processing loads.

In such circumstances, the following message is displayed:

```
=== SEVERITY ===
Error: Requested operation did not complete in 60 seconds. This could be due to network latency or server problems. The operation is still running and may succeed or fail later.
```

**Workaround**

Under these circumstances data migration rollback and cutover can still be completed by using the following CLI commands:

- `dfpm migrate rollback`
- `dfpm migrate cutover`

**During online migration, SnapManager-initiated backups to secondary storage fail**

During online migration initiated through N series Management Console, backing up migrated objects to secondary storage locations that are initiated through a SnapManager product sometimes fail.
Because, during online migration, objects with identical names and paths exist at both migration source and destination locations, the DataFabric Manager server running a backup job cannot determine which object to back up to secondary storage.

**Workaround**

On the DataFabric Manager server, create a text file named testpoints.txt.

- In the text file insert the following text:
  ```bash
testpoint -m check-datamotion-progress -n enforce -e 1 -r 1
```
- Locate the text file on the following path:
  ```bash
dfm_installed_path/log/testpoints.txt
```
  If `dfm_installed_path` is not specified, the value of the environment variable `NETAPP_TESTPOINTS` is the default path.

**Enabling on-demand backup operations on SnapDrive-generated datasets requires the snapdrive dataset backup_add command**

For on-demand backup operations to apply to SnapDrive-generated datasets, you must first invoke the `snapdrive dataset backup_add` command.

Clicking the **Protect Now** button in the N series Management Console Datasets tab, does not necessarily create a backup copy in secondary storage. To enable datasets generated by SnapDrive for Unix or SnapDrive for Windows for on-demand backup operations in N series Management Console, the SnapDrive database administrator must invoke the `snapdrive dataset backup_add` command in the SnapDrive for Windows or SnapDrive for UNIX interface.

**High CPU usage on storage systems during a Data Motion migration cutover causes storage system panic**

If source or destination storage system CPU usage rises above 90 percent during a Data Motion migration cutover phase, those systems might panic when the source vFiler is destroyed.

Although the DataFabric Manager server employs mechanisms that usually postpone migration cutover attempts in cases of high CPU usage, sometimes these mechanisms do not.

**Workaround**

Before beginning the cutover phase of an online migration operation, manually verify that CPU usage on the source and destination physical storage systems is below 50 percent.
Qtrees is not the source for the snapmirror destination

If N series Management Console generates the error message the qtree is not the source for the snapmirror destination, there are three possible causes:

- The SnapVault relationship was released manually from the source node.
- The base Snapshot copy was deleted manually from the source node.
- The source qtree for which the relationship was originally created was deleted and later re-created with the same name.

Number of bytes of data transferred during backup is inaccurate

Monitoring a backup job reveals that the number of bytes of data transferred during the job does not match the number of bytes displayed in the N series Management Console Jobs window.

This is expected behavior. The number of bytes transferred is an approximation and does not reflect an exact count; it is always less than the actual number of bytes transferred. For jobs that take a short time to complete, N series Management Console might report a data transfer size of zero.

Provisioning policies and online migration are not supported on SAN datasets with multiple-space names

SAN provisioning policies and online migration are not supported for datasets with names that contain multiple spaces.

As an example of this issue, creating a SAN dataset named "My First Dataset," causes a the provisioning capability to display the error message, "igroup create failed." If this dataset is created with online migration capability enabled, that capability is disabled by this condition.

Workaround

Name SAN datasets with names containing no more than a single space.

Provisioning failure despite sufficient space

An overcommitment threshold set for the DataFabric Manager server can impact the provisioning of flexible volumes in the resource pool.

The DataFabric Manager server enables you to set a NearlyOvercommittedThreshold parameter that reserves space on your system for projected future use. If this threshold is set too low, you can encounter problems provisioning volumes on destination storage systems. When such provisioning problems occur, you might see an inconsistency in which the dry run result reports insufficient space when the reported space available for the destination aggregate appears to be sufficient.
Workaround

To resolve this problem, increase the Nearly Overcommitted Threshold in the DataFabric Manager server. By default, the aggrNearlyOvercommittedThreshold value is set to 95%. Increasing this value causes the DataFabric Manager server to allocate more storage in an aggregate before reporting it as full. Setting this value over 100% could result in an out-of-space condition. Note that other factors, such as Snapshot copy retention settings or resizing primary volumes, can also result in an out-of-space condition.

SnapMirror job fails with "process was aborted" message

Problems on the data source node can prevent N series Management Console from creating a SnapMirror relationship, even though a preview of your dataset configuration detected no configuration problems.

When the problem is with the data source node itself, the job that creates the SnapMirror relationship fails and the protection application displays the following message: process was aborted.

Problems with a data source node that can prevent the creation of a SnapMirror relationship include the following:
- The maximum number of Snapshot copies that can be created on the source node has been reached; therefore, no new Snapshot copies can be created.
- The Snapshot copy on the source node is locked, possibly by another operation.

You can find additional information about problems that can prevent the creation of a SnapMirror relationship by checking the following files on the SnapMirror destination node:
- /vol/vol0/etc/logs/snapmirror
- /vol/vol0/etc/logs/messages

Sometimes the Cancel button does not cancel a failed migration

Sometimes a data migration operation initiated from the N series Management Console vFiler Units window might fail, and even though the Conformance Results window instructs you to cancel the operation, clicking the Cancel button only displays a message that the Cancel operation failed.

Workaround

Complete the following actions:
1. Navigate to the N series Management Console, Storage Systems Hosts window, and click Refresh.
   Wait for the refresh operation to finish.
2. In the CLI, enter the command, `dfpm migrate fix`

3. Return to N series Management Console vFiler Units window and click Cancel.

After the migration operation is cancelled, you can attempt the migration again.

**Temporary conformance impact of deleting volumes or qtrees**

If you delete a volume or qtree that is part of a dataset without deleting the volume or qtree from the DataFabric Manager server database, the deleted object is temporarily flagged in the database as “disappeared” for up to an hour before it is marked deleted.

N series Management Console references the DataFabric Manager server database regarding objects used in protection implementations. Until a deleted object is marked as deleted in the database, N series Management Console attempts to create relationships for it, as specified in the policy applied to its dataset, generating conformance error messages. After a deleted object is marked as deleted in the database, N series Management Console no longer attempts to create relationships for it, and the conformance error messages are no longer generated.

**Workaround**

You can perform one of the following actions:

- To stop the conformance error messages, manually delete the volume or qtree from the DataFabric Manager server database.
- Wait up to an hour for the DataFabric Manager server to mark the “disappeared” object as deleted, and the conformance error messages are no longer generated.

**Too many data transfer streams reduce throughput**

If your system runs too many data transfers concurrently, system throughput might slow down.

**Workaround**

Ensure that the DataFabric Manager server option `maxActiveDataTransfers` is not set to a value greater than the limit that is supported by your system. If a host uses mixed replication transfers, you should choose the lower limit. Set `maxActiveDataTransfers` at first to a low value, and then slowly increment the value, verifying the throughput after each increment.

For information about the maximum number of concurrent replication operations, see the *Data ONTAP 8.0 7-Mode Data Protection Online Backup and Recovery Guide.*
Changed commands

Some of the dataset and restore commands have changed in OnCommand Core Package 5.1

Changed dataset commands

CLI commands have been changed to support enhanced dataset thin provisioning.

The following table lists the changed commands for enhanced dataset thin provisioning, describes the purpose of each change, and specifies the release in which each change is introduced:

<table>
<thead>
<tr>
<th>Changed command</th>
<th>Change</th>
<th>Release introduced</th>
</tr>
</thead>
<tbody>
<tr>
<td>dfpm dataset set</td>
<td>With the isNoneGuaranteedProvision option, enables thin provisioning in a specified dataset of NAS volumes, with no space guarantee</td>
<td>5.1</td>
</tr>
<tr>
<td></td>
<td>With the isSkipAutosizeConformance option, skips the dataset conformance check on the Autosize option in a volume member of a specified dataset, and enables thin provisioning in a specified dataset of NAS volumes when the isNoneGuaranteedProvision option is also enabled</td>
<td></td>
</tr>
</tbody>
</table>
The following table lists the changed commands for enhanced dataset thin provisioning, describes the purpose of each change, and specifies the release in which each change is introduced:

<table>
<thead>
<tr>
<th>Changed command</th>
<th>Change</th>
<th>Release introduced</th>
</tr>
</thead>
<tbody>
<tr>
<td>dfm option set</td>
<td>With the <code>isNoneGuaranteedProvision</code> option, enables thin provisioning in all datasets of NAS volumes with no space guarantee With the <code>isSkipAutosizeConformance</code> option, skips the dataset conformance check on the Autosize option in a volume and enables thin provisioning in all datasets of NAS volumes when the <code>isNoneGuaranteedProvision</code> option is also enabled</td>
<td>5.1</td>
</tr>
</tbody>
</table>

**Changed restore command**

CLI commands have been changed to support improved restore functionality by the DataFabric Manager server.

**Changed command**

The following table lists changes in the `dfm restore start` command and specifies the release in which the command was introduced.

<table>
<thead>
<tr>
<th>Changed command</th>
<th>Change</th>
<th>Release introduced</th>
</tr>
</thead>
<tbody>
<tr>
<td>dfpm restore start</td>
<td>With the <code>-t</code> option, restores the specified object without that object's current directory path embedded in its restore destination path. This option enables restoration of an object without extra subdirectories being created at the restore destination.</td>
<td>5.1</td>
</tr>
</tbody>
</table>
System requirements

Before you begin the software installation process, you must ensure that your storage system conforms to all supported platform requirements. Servers running the OnCommand Core Package or OnCommand Host Package must meet specific software, hardware, and operating system requirements. For software, hardware, and operating system requirements, see the OnCommand Installation and Setup Guide. For additional software, hardware, and operating system requirements or the most current requirements, see the N series interoperability matrix. The interoperability matrix is available on the IBM N series support website, which is accessed and navigated as described in Websites.

Online migration support for vFiler units

Starting with Data ONTAP 8.1, you can perform online migration of vFiler units (also called Data Motion for vFiler) from one storage system to another without experiencing any disruption in data availability. You must be aware of the storage system models and disks that support online migration of vFiler units.

You must use the N series Management Console interface to perform online migration of vFiler units.

For more information about online migration, see the OnCommand Unified Manager Guide to Common Provisioning and Data Protection Workflows for 7-Mode and the OnCommand Unified Manager Provisioning and Data Protection Online Help for 7-Mode.

For more information about the supported platforms and requirements, see the Technical Report 4072: NetApp DataMotion for vFiler.

Supported storage systems

- High-end storage systems, such as N7x50T series and N7000 series
- Mid-range storage systems, such as N6200 series, N6000 series, N5600, and N5300
- Low-end storage systems, such as N3220, N3240, and N3400

Note: For gateway systems, online migration of vFiler units is supported with native disks only and not with array LUNs on third-party storage arrays.
Note: You cannot perform online migration of vFiler units when the source
storage system is a high-end system or a mid-range system and the
destination storage system is a low-end system.

Supported source and destination storage systems with
number of volumes for migration

<table>
<thead>
<tr>
<th>Source storage system</th>
<th>Destination storage system</th>
<th>Number of volumes for migration</th>
</tr>
</thead>
<tbody>
<tr>
<td>• N7x50T series</td>
<td>• N7x50T series</td>
<td>20</td>
</tr>
<tr>
<td>• N7000 series</td>
<td>• N7000 series</td>
<td></td>
</tr>
</tbody>
</table>

Note: If the source or destination storage system is either N7700 or N7600, then you can migrate only 8 volumes.

<table>
<thead>
<tr>
<th>Source storage system</th>
<th>Destination storage system</th>
<th>Number of volumes for migration</th>
</tr>
</thead>
<tbody>
<tr>
<td>• N7x50T series</td>
<td>• N6200 series</td>
<td>8</td>
</tr>
<tr>
<td>• N7000 series</td>
<td>• N6000 series</td>
<td></td>
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<td></td>
<td>• N5600</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• N5300</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source storage system</th>
<th>Destination storage system</th>
<th>Number of volumes for migration</th>
</tr>
</thead>
<tbody>
<tr>
<td>• N6200 series</td>
<td>• N7x50T series</td>
<td>8</td>
</tr>
<tr>
<td>• N6000 series</td>
<td>• N7000 series</td>
<td></td>
</tr>
<tr>
<td>• N5600</td>
<td>• N6200 series</td>
<td></td>
</tr>
<tr>
<td>• N5300</td>
<td>• N6000 series</td>
<td></td>
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<td></td>
<td>• N5600</td>
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</tr>
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<td></td>
<td>• N5300</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source storage system</th>
<th>Destination storage system</th>
<th>Number of volumes for migration</th>
</tr>
</thead>
<tbody>
<tr>
<td>• N3400</td>
<td>• N7x50T series</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>• N7000 series</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• N6200 series</td>
<td></td>
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<tr>
<td></td>
<td>• N6000 series</td>
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<tr>
<td></td>
<td>• N5600</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• N5300</td>
<td></td>
</tr>
</tbody>
</table>

Supported disk types
- FC
- SATA
- SAS
- BSAS
Documentation changes

There are corrections or changes to the documentation provided with OnCommand Core Package 5.1. This information is new and it should be added to the documentation.

Correction to OnCommand Core Package hardware and software requirements

You must install Adobe Flash Player 8.0 or later on the machine from which you launch the OnCommand console. The Installation and Setup Guide incorrectly states that the player must be installed on the server where the package is to be installed.

Update to software requirements for a Linux server on VMware ESX and VMware ESXi

The software requirements for a Linux server on VMware ESX and ESXi servers are updated to include Red Hat Enterprise Linux 6.2, 32-bit or 64-bit.

Update to setting up your system

You must configure Lightweight Directory Access Protocol (LDAP) to enable LDAP authentication to the DataFabric Manager server.

For information about the LDAP options and its configuration steps, see the OnCommand Unified Manager Online Help.

Update to upgrade prerequisites

If you are using DataFabric Manager 3.x and preparing to upgrade to OnCommand Core Package 5.1, you must have first upgraded from DataFabric Manager 3.x to DataFabric Manager 4.x.

When you try to upgrade from DataFabric Manager 3.x to OnCommand Core Package 5.1, the restore operation fails with an error message.

Update to adding thresholds using Performance Advisor

For storage systems running Data ONTAP 8.1.1 or later, you cannot use Performance Advisor to add thresholds for the nfsv3:nfsv3_ops counter.
Update to report scheduling

When you retain saved reports for a long period of time, you must delete the old reports or move the report archive directory reportsArchiveDir to a new location that has sufficient space.

You can delete the reports by using the dfm report output delete command.

Updated description of Volume Quota Overcommitted Threshold (%)

Volume Quota Overcommitted Threshold (%) specifies the percentage at which a volume is considered to have consumed the whole of the overcommitted quota space for that volume. A volume crosses this threshold if the sum of the tree quotas of all the qtrees in that volume is more than the volume quota overcommitted threshold.

This updated information should be included in the description for this field in the OnCommand Unified Manager Online Help.

Update to What Storage Capacity reports are topic

Space efficiency reports are available for 7-Mode environments only. This information is missing in the list item and section related to space efficiency reports in the “What Storage Capacity reports are” topic in the OnCommand console Help.

Performance threshold filters create unwanted events for cluster objects

If a performance threshold is applied to a cluster object (such as a Vserver) by specifying the threshold filter value (such as system model), unwanted events are generated for all the cluster objects within the group, instead of the object that matches the filter value.

Correction to the Configuration requirements for OnCommand Core Package in VCS topic

DataFabric Manager server supports Native ext3 File System and Logical Volume Manager (LVM) only. The following statement in the Installation and Setup Guide is incorrect: Veritas File System and Volume Manager on Native ext3 File System and Logical Volume Manager (LVM) must be used.

The statement should be read as follows: Native ext3 File System and Logical Volume Manager (LVM) must be used.
**Where to find product documentation and other information**

There are additional sources of information for this release of the OnCommand Core Package.

The following table describes where to find additional information about OnCommand Core Package functionality.

<table>
<thead>
<tr>
<th>To learn about...</th>
<th>Go to this information source...</th>
</tr>
</thead>
<tbody>
<tr>
<td>How to monitor and manage multiple N series systems, storage resources, user quotas, content distribution, and appliance configuration</td>
<td>OnCommand Unified Manager Operations Manager Administration Guide and the Operations Manager Help</td>
</tr>
<tr>
<td>How to download and install N series Management Console</td>
<td>OnCommand Unified Manager Installation and Setup Guide</td>
</tr>
<tr>
<td>How to use the Performance Advisor application to view performance data and customize the tools; also, how to use the statistical counters for storage system performance that are contained in Data ONTAP</td>
<td>OnCommand Unified Manager Performance Advisor Administration Guide and the N series Management Console Help</td>
</tr>
<tr>
<td>The workflows you might perform by using the N series Management Console provisioning and data protection capabilities to provision space and protect data by using real-life scenarios</td>
<td>The workflow examples in the OnCommand Unified Manager Guide to Common Provisioning and Data Protection Workflows for 7-Mode</td>
</tr>
<tr>
<td>The tasks involved when you use the N series Management Console data protection disaster recovery capabilities to set up and manage data protection relationships and disaster recovery, in addition to related concepts and reference information</td>
<td>Protection Manager and Disaster Recovery Help in N series Management Console</td>
</tr>
</tbody>
</table>
The tasks involved when you use the N series Management Console provisioning capability to provision space for your data, in addition to monitoring and managing space utilization

Provisioning Manager Help in N series Management Console

How to back up and recover data using Backup Manager and Disaster Recovery Manager

OnCommand Unified Manager Operations Manager Administration Guide, the Operations Manager Help, and the N series Management Console Help

How to use the CLI commands for the DataFabric Manager server, Backup Manager, Content Management System, and N series Management Console protection, provisioning, and disaster recovery capabilities

The help pages accessible from the command-line interface

Manual (man) pages are also included in the OnCommand Unified Manager Operations Manager Administration Guide

### Documentation on the N series support website

The OnCommand Core Package documentation set is available on the N series support website (accessed and navigated as described in [Websites](http://www.ibm.com/storage/support/nseries/)) at www.ibm.com/storage/support/nseries/.

### Online information

There are several ways to access online documentation and technical resources.

**Online documentation**

Included with your DataFabric Manager software is a Web-based administration tool, Operations Manager, and its Help.

Included with your N series Management Console software is Help for protection, provisioning, and disaster recovery capabilities, and for Performance Advisor.

You can also obtain online documentation and answers to frequently asked questions from the N series support website (accessed and navigated as described in [Websites](http://www.ibm.com/storage/support/nseries/)) at www.ibm.com/storage/

### Where to find third-party source material

Operations Manager, Provisioning Manager, and Protection Manager contain LGPL-licensed packages, which are available at ftp://ftp.netapp.com/frmtap/opensource.
Websites

IBM maintains pages on the World Wide Web where you can get the latest technical information and download device drivers and updates. The following web pages provide N series information:

- A listing of currently available N series products and features can be found at the following web page:
  www.ibm.com/storage/nas

- The IBM System Storage N series support website requires users to register in order to obtain access to N series support content on the web. To understand how the N series support web content is organized and navigated, and to access the N series support website, refer to the following publicly accessible web page:
  www.ibm.com/storage/support/nseries/
  This web page also provides links to AutoSupport information as well as other important N series product resources.

- IBM System Storage N series products attach to a variety of servers and operating systems. To determine the latest supported attachments, go to the IBM N series interoperability matrix at the following web page:

- For the latest N series hardware product documentation, including planning, installation and setup, and hardware monitoring, service and diagnostics, see the IBM N series Information Center at the following web page:
  http://publib.boulder.ibm.com/infocenter/nasinfo/nseries/index.jsp
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