

Quest® NetVault® 14.0

Release Notes

February 2025

These release notes provide information about the Quest® NetVault® release.

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About this release

Quest NetVault (NetVault) offers the most advanced, cross-platform data protection capabilities on the market and unsurpassed ease of use, out-of-the-box deployment, and pain-free scalability. NetVault allows you to safeguard your data and applications in both physical and virtual environments from one intuitive user interface and to protect a massive number of servers that contain many petabytes of data. NetVault also features heterogeneous support, so you can safeguard data on a wide range of operating systems, applications, databases, processor architectures, and networked storage devices. Such cross-platform versatility makes it easy for you to tailor NetVault to match the ever-changing and growing landscape of your IT infrastructure.

NetVault 14.0 is a major release, with enhanced features and functionality. For complete product documentation, visit <https://support.quest.com/technical-documents>.

i | **NOTE:** NetVault 14.0 does not support MSP installation mode for this release.

i **NOTE:** For the RDA feature work on an HP-UX platform, you must manually copy **librofsoca.so** from `/usr/netvault/dynlib/bit64` to `/usr/netvault/dynlib/`. Without this change, RDA backup does not work on HP-UX.

NOTE: When installed on a NetVault Client running NetVault 13.0, NetVault Plug-in *for Oracle* 12.3 and earlier does not support Oracle controlfile autobackups and Oracle RMAN CLI backups. Restoring from Oracle RMAN CLI is supported, but Oracle controlfile autobackups and RMAN CLI backups are not supported.

If running NetVault Plug-in *for Oracle* 12.3 or earlier, to allow full usage from NetVault WebUI and Oracle RMAN CLI, use NetVault 12.4 Client software or earlier on the NetVault Client with Oracle installed. Alternatively, use NetVault 13.0 Client software on the NetVault Client with Oracle installed and disable Oracle controlfile autobackups and run backups only from the NetVault WebUI.

i **NOTE:** While upgrading from NetVault 12.3.0.15, you may face authentication issues at few places while performing various operations. This is due to a change in the algorithm from NetVault 12.3.0.15 to NetVault 14.0. For more information, see [Upgrading from NetVault Backup 12.3](#)

! **CAUTION:** If you are using NetVault Client 12.2 with HP-UX and QoreStor, Quest recommends that you do not upgrade the client to 13.3. NetVault 13.3 does not support Client installed on an HP-UX or macOS operating system.

Licensing changes

With the release of NetVault 13.0, instead of a license key, NetVault uses license files in the .dlv format that install on the NetVault Server machine. NetVault 13.0 is compatible with older versions of the client and plug-ins, but for each older client or plug-in installation, you must obtain a license in the new format.

Before an upgrade

Prior to upgrading your NetVault Server to release 13.0, Go to My Account at www.quest.com, download the .dlv license files for NetVault Server and all licensed plug-ins used in your configuration, and then save the files to your current NetVault Backup Server's `\tmp` folder.

! **CAUTION:** It is very important to copy all necessary license files to the `\tmp` folder of your NetVault Server before you upgrade. If the installer does not find any .dlv license files in NetVault Server's `\tmp` folder during upgrade, it installs the default 30-days trial license for NetVault. If you are using features and plug-ins not included or allowed or allowed under a trial license, the installation could cause unexpected changes in your NetVault configuration and failed backup jobs. To install the license files after an upgrade, go to the License Management page in the WebUI. For more information, see the *Quest NetVault 14.0 Installation Guide*.

i **NOTE:** If the plug-in exists on a previous version of NetVault Client, you need to confirm that the old license key for that plug-in is installed on the client and the new license file for it on the NetVault Server machine. If the plug-in exists on a NetVault 13.0 Client or Server, you need only install the new license file.

After an upgrade

The new license format is not compatible with the old format of license keys. If you do not download and install the appropriate license files before you upgrade, subsequent backups could fail.

! CAUTION: It is very important to copy all necessary license files to the \tmp folder of your NetVault Server before you upgrade. If the installer does not find any .dlv license files in NetVault Server's \tmp folder during upgrade, it installs the default 30-days trial license for NetVault. If you are using features and plug-ins not included or allowed or allowed under a trial license, the installation could cause unexpected changes in your NetVault configuration and failed backup jobs. To install the license files after an upgrade, go to the License Management page in the WebUI. For more information, see the *Quest NetVault 14.0 Installation Guide*.

The format of license and number of licenses you need depends on your system configuration and the products that you upgrade. All plug-ins released prior to NetVault 13.0 require that you install a license in the new format, but certain scenarios require the old license key format as well. To know what licenses you need to have to prevent backup interruptions, see the following scenarios.

Scenario 1: Older plug-in on NetVault 13.0 Server. If you install a plug-in that was released prior to 13.0 on a NetVault 13.x Server, a trial license key is included in the installation package for the plug-in, but it is not installed. You must obtain a new license file for this plug-in to install on the NetVault Server.

Scenario 2: Older plug-in on NetVault 13.0 Client and attached to NetVault 13.0 Server. If you install a plug-in that was released prior to 13.0 on a NetVault 13.0 Client, a "Plug-in installed successfully" message appears along with a message that prompts you to manually install the trial or permanent plug-in license on the server. The packaged trial license does not automatically install with the plug-in, so you must obtain and install a trial license, and eventually the permanent license, in the .dlv format and install it on the NetVault Server. You do not need to install a license on the client.

Scenario 3: Older plug-in on older NetVault Client attached to NetVault 13.0 Server. If you install a plug-in that was released prior to 13.0 on a NetVault Client that was released prior to 13.0, and that client is attached to a NetVault 13.0 Server, you need both license formats. A trial license in the old format is included in the installation package for the plug-in and automatically installs on the older client. When the trial is over, you must obtain and install a permanent license in the same format. To allow the older client to communicate with the NetVault 13.0 Server and prevent plug-in backups from failing, you must also install the trial .dlv license file, and eventually the permanent .dlv license file, on the NetVault 13.0 Server.

To install new .dlv licenses for versions of NetVault plug-ins that were released prior to 13.0, see [Product licensing](#) or the *Quest NetVault 14.0 Installation Guide*.

New features

New features in NetVault 14.0:

- NetVault Plug-in for Malware Detection
- Saveset immutability period extension when QoreStor is unavailable (Tick-Count immutability)
- Support for immutability on Object Storage

Enhancements

The following is a list of enhancements implemented in NetVault 14.0:

Table 1. Enhancements

Enhancement	Issue ID
<ul style="list-style-type: none">Enhanced CDP scheduler with a calendar-based synthetic full schedule configuration.For improved security:<ul style="list-style-type: none">PostgreSQL upgrade to 16.6OpenSSL upgrade to 3.0.15Elasticsearch upgrade to 7.17.24	

Resolved issues

The following is a list of issues addressed in NetVault 14.0 release:

Table 2. Resolved issues

Resolved issue	Issue ID
NetVault 13.x upgrade from NVBU 12.x;	NV-1510
NetVault 13.x Server with div license; NetVault Server logs an error message 'License #nnnnn expires in -dd days' every two hours when the NVBU 12.x Server that was upgraded had a non-expired license.	
LV Integration:	NV-1694
NetVault 13.x install license key (string) dialog is accessible as a part of Add Client workflow.	
Several backend connections to the NetVault PostgreSQL database remain open in an idle state, leading to a decrease in the performance of the NetVault GUI and its operations. Over time, this situation can result in the exhaustion of the maximum allowable open connections causing the NetVault Server to become unresponsive.	NV-1703
Executing report "Audits - cli default template" using nvreport CLI does not produce output; instead for each line of the expected output just two constant characters "()" are displayed.	NV-1791
Apache Log4j2 vulnerable to RCE via JDBC Appender when attacker controls configuration.	NV-3019
'Change Saveset Expiry Date' does not change expiry based on full backup generations for Data Copy savesets Change Generation Cycle (Discard after full backups) -- Ideally, only expire by date could/should be allowed for Data Copy backups.	NV-3212
Historicjobs reports do not contain any data. For example, Historic Jobs - By Date. when generated from CLI using nvreport tool doesn't show any result.	NV-3500
CDP Synthetic fulls are being generated using the most recent instance from the expected Incrementals instead of utilizing the latest instance from the expected set.	NV-3691
Handle the new error code for CDP failures on a container where the replication is configured.	NV-3895
NDMP Backup completes with warning <i>rofs_immute_file_list failed 'requested object is busy'</i> , failed to mark backup as immutable.	NV-3945
VMware restored virtual machines do not successfully boot when the "Active Block Mapping" feature is activated in the plugin settings during the backup process.	NV-3959

Table 2. Resolved issues

Resolved issue	Issue ID
<i>util\invsendmail</i> code flow, for send mail case, results in parameters <i>real_name</i> , <i>smtp_host</i> , and <i>smtp_port</i> to be required to enter in the command line instead of option allowing read them from config file; resulting in scripts no working, i.e., <i>scripts\psmail</i> , <i>scripts\psmail_logs</i> ,	NV-4281
The NDMP Client 13.3.0.6 crashes at NetVault plugin library layer <i>netvault-base/[library https://github.com/quest-dp/netvault-base/tree/main/library]/[plugin https://github.com/quest-dp/netvault-base/tree/main/library/plugin]/plgbackupstreamras.c</i> BackupStreamRasSetNdmFrontEnd() asserting oConnectInfo; The crash causes NetVault marking all RAS devices offline (SmartDisk, DataDomain, etc.)	NV-4442

Known issues

The following is a list of issues, including those issues attributed to third-party products, known to exist at the time of release.

Table 3. General known issues

Known issue	Issue ID
When performing a push install from NetVault Server running on a CentOS 6 32-bit operating system to Windows Server 2019, the temporary share created on the target server cannot be mounted on the CentOS machine, which causes the operation to fail. This issue also prevents the share created on the Windows Server 2019 machine from being added as a package store to the NetVault Server running on the CentOS 6 32-bit operating system.	DNAD-2014
If you are using Huawei OceanStor Device Manager and a snapshot is mounted on multiple NetVault clients, unmounting that snapshot from any one of the NetVault Clients also unmounts the snapshot from all NetVault Clients.	NV-64, NVBU-18684
When created on a Windows 32-bit operating system with a NetVault 13.0 hybrid installation, array-based persistent snapshots fail.	NV-652
When multistreaming jobs, the Job Status may not represent the exact amount of data backed up, as aggregation logic is inaccurate for multiple streams. Workaround: View the Device Activity.	NV-840
In the WebUI, the configuration setting for the license warning message does not work properly.	NV-889
On a Windows server, when upgrading and performing a hybrid-to-pure migration, the catalog service does not start.	NV-896
When a user installs a version of a plug-in that is prior to 13.0, an “installation successful” message appears, along with a warning that the user must manually install a temporary or permanent license.	NV-935
In Push Installation, if the installation path is <i>/usr</i> , the installation fails and then removes the contents of the <i>/usr</i> directory on the target machine, which includes the system commands and libraries from <i>/usr/bin</i> , <i>/usr/sbin</i> , <i>/usr/lib</i> , and <i>/usr/lib64</i> directories. Workaround: When using Push Installation, use <i>/usr/netvault</i> as the installation path.	NV-1416
Resolved an issue where a blank Job Monitor page loaded when using Internet Explorer version 11.	NV-1518
The procedure for creating a continuous data protection (CDP) backup job is not available from the NetVault Guided Configuration screen.	NV-2491
A CDP job that runs for an extended amount of time may prevent a VMware 6.7 VM from being locked again for future jobs. Workaround: Before you begin taking CDP backups, upgrade VMware to version 7.x.	NV-2547

Table 3. General known issues

Known issue	Issue ID
Unable to run two Instant Restore jobs from two different NetVault Servers at the same time. Workaround: Run one job after the other by deleting the NFS connection before the second job.	NV-2580
When a CDP saveset has an excluded data disk, Instant Restore fails	NV-3105
Immutable time for duplicate secondary job is using immutable time for primary backup even after selection of discard after in secondary copy screen.	NV-3179
Media Management - Change Saveset Expiry Date does not change expiry based on full backups generations for Data Copy savesets Change Generation Cycle (Discard after full backups) -- Ideally only expire by date could/should be allowed for Data Copy backups. Note: If Generation-Based Retirement is used for data copy backup, then the generation count cannot be modified later using 'Change Expiry'.	NV-3212
Phase2 NDMP with multiple volumes jobs status not visible on jobs status page and phase 2 savesets not created.	NV-3901
While editing a restore selection set on the Edit Selection Set page, the Next button is disabled. Workaround: Select or clear the data selection tree check box on the Edit Selection Set page.	NVBU-16148
The diagnostic data for some NetVault Client machines with an older configuration is intermittently collected only partially due to a timeout. Workaround: Increase the value in the Physical Client Long Timeout field of the Web Service dialog box.	NVBU-15735
Quest DR Device is not accessible after you change the DR Device user password.	NVBU-15843
CLI displaying non English characters incorrectly. For example, C:\Program Files\Quest\NetVault\util>nvscanmedia.exe -medialabel "FOREIGN:VM_WIN2016_FR 14 avr 11:14-1" Sent scan media request... Scan request failed - 'Média inconnu'	NVBU-13974 (31104)
The restore job from NDMP backup data copied to 256Kib drive fails and displays an “NDMP data does not start on a block boundary” error message. Workaround: https://support.quest.com/netvault/kb/212701	DNNDMP-657 (31825)
On the Manage Devices page, in Tree View, clicking Scan starts scanning the selected slot, drive, or library immediately. It does not show the Minimum life for imported backups (days) dialog box or confirmation message.	NVBU-14745 (32197)
On the Manage Devices page, in Tree View, you cannot select multiple media from the list of available media for a bulk blank operation.	NVBU-14758 (32214)
On the Manage Devices page, in Tree View, you cannot select multiple media from the list of available media for a bulk label operation.	NVBU-14759 (32215)
When performing backups with the NetVault Plug-in for <i>Teradata</i> , if the number of parallel streams exceeds the SoftStreamLimit set for the target NetVault SmartDisk, the backup job stops responding.	NVBU-389 (1948)
When a backup that is configured as “restartable” is duplicated, only the data backed up in the last restarted instance of the job is duplicated.	NVBU-1160 (3971, NVG-4022)
In NetVault with a non-English locale, the Running Status field does not display a current job status as the output of <code>nvreport</code> command and Report Job.	NVBU-1186 (3997) (NVG-4206)
On Linux- and UNIX-based systems, the progress message that is displayed during NetVault installation is displayed correctly only if the system is configured to use the UTF-8 character set.	NVBU-10588 (26249)

Table 3. General known issues

Known issue	Issue ID
<p>If the Network Manager process (nvnmgr) stops responding due to any error and fails to exit properly, it prevents the NetVault Service from starting on that machine.</p> <p>Workaround: If this error occurs, manually stop or end the nvnmgr process before restarting the NetVault Service.</p>	NVBU-11005 (26778)
<p>After upgrading to Firefox 31, if you try to log in to the NetVault WebUI, the following error message is displayed:</p> <p>Issuer certificate is invalid. (Error code: sec_error_ca_cert_invalid)</p> <p>The new security library security.use_mozillapkix_verification raises this certification error when you try to access a self-signed certificate.</p> <p>Workaround: To resolve this issue, do the following:</p> <ol style="list-style-type: none"> 1 Type about: config in the Firefox address bar. 2 Locate the preference security.use_mozillapkix_verification, and set it to false. 3 To save the setting, close the browser window. 	NVBU-11321 (27189)
<p>On Windows, if a copy of a “.cfg” file is created in the <NetVault home>/config directory, the WebUI may display empty or partly empty dialog boxes when the settings are accessed from the Change Settings page after restarting the service.</p>	NVBU-12734 (29149)
<p>Under certain conditions, the NetVault Server may be unable to determine the status of the push installation task on a remote client. In such cases, the task status may remain in the “Running” state. This error can occur under the following conditions:</p> <ul style="list-style-type: none"> • The deployment agent (nvclientinstaller) exits unexpectedly. • The deployment agent fails to update its completion status to the server due to unknown errors. • The deployment agent fails to send the status update messages to the correct IP address. This error can occur if the NetVault Server is running on a multihomed machine and the preferred network address is not configured for the server. <p>Subsequent tasks remain in a “Pending” state until you cancel the previous task.</p>	NVBU-13610 (30508)
<p>When performing push installations, if you use any illegal characters in the machine password for a new client, the remote installer reports an error and fails to install the software on the client.</p>	NVBU-13632 (30537)
<p>If the server IP address is used to configure a local package store (for example, \\10.11.12.3\PkgStore), the user credentials are not validated when the package store is added or updated. If you specify invalid credentials, no errors are reported. However, the deployment task fails if the authentication fails and the packages cannot be retrieved from the store. Therefore, Quest recommends that you use the server name when configuring the path to a local store (for example, \\WinServer1\PkgStore).</p>	NVBU-13647 (30558)
<p>Known issues related to Plug-in for RDA on Solaris:</p> <ul style="list-style-type: none"> • Backing up file system data from Solaris clients to DR Series Systems: When you perform file system backups to DR Series systems, the backups run in the Passthrough mode by default. You can change the default setting on the DR Series system to run backups in the Dedupe mode, but you may experience slow backup performance in this mode. • Restoring data from a DR Series System to a Solaris Client: When you run multiple restore jobs at the same time, it can affect the performance of individual jobs and result in low aggregate throughput. 	NVBU-13678 (30596)

Table 3. General known issues

Known issue	Issue ID
Known issues related to DR Series Systems:	
<ul style="list-style-type: none"> • When performing optimized replication between two DR Series systems, if the source DR Series system becomes unavailable, a normal data copy operation using the NetVault Server or Client is performed when the device becomes available again. • When performing a backup using the NetVault Plug-in <i>for VMware</i> (Plug-in <i>for VMware</i>), if you set the client mode type to dedupe, the throughput is lower when compared with the passthrough mode. If you do not set the client mode on the DR Series system, the Plug-in <i>for RDA</i> automatically chooses the best mode for the backup. • Restore to a NFS location fails when a Duplicate saveset created using the optimized replication option is used for the job. 	
On a Linux system, NetVault fails to access a DR Series system if you do the following:	
<ol style="list-style-type: none"> 1 Install the Plug-in <i>for RDA</i>. 2 Install NetVault. 3 Stop NetVault Service. 4 Remove the Plug-in <i>for RDA</i>. 	
When you remove the plug-in, it deletes the directory /usr/local/oca-libs , which causes an error when NetVault tries to access the device.	
Workaround: After removing the plug-in, complete the following steps:	
<ol style="list-style-type: none"> 1 Ensure that the /usr/local/oca-libs directory has been removed. If not, remove the directory. 2 To create a symbolic link, type the following command: <pre data-bbox="277 1025 1086 1050">ln -sf /usr/netvault/dynlib/oca-libs /usr/local/oca-libs</pre> 3 Restart the NetVault Service. 	
The Delete Non-Scheduled Jobs option is intended to delete unscheduled jobs after a specified period. Because the jobs using the Triggered schedule type have no physical scheduled time, they are also deleted after the specified period elapses. If you are using Triggered jobs in your NetVault environment, do not use the Delete Non-Scheduled Jobs option.	
When using NetVault Plug-in <i>for NDMP</i> (Plug-in <i>for NDMP</i>), if you run multiple jobs with the auto-deletion option set to "On," the parent and child jobs may still be listed on the Job Status page.	
Workaround: To correct this issue, close the NetVault WebUI, and start it again. There is no need to stop and restart the NetVault Service.	
The canned report "Disk Storage Devices — General" is intended for the NetVault SmartDisk devices; this report does not show details about the DR Series systems and Data Domain Systems.	
After restoring the NetVault Database, when you restart the NetVault Service, the job status shows "Scheduler Aborted Whilst Job Running." This message can be ignored.	
On a Solaris (SPARC or x86-64) system, when the LANG variable is set to en_US.UTF-8 , the restore job wizard does not display the filenames on the Create Selection Set page. This issue is not encountered when LANG is set to C .	
If the default locale is changed (for example, from UTF8 to EUC or from EUC to UTF8), the EULA may not be displayed properly.	
Workaround: To view the EULA, use a terminal that can display EUC character set.	

Table 3. General known issues

Known issue	Issue ID
<p>Beginning with NetVault Backup 11.1, if Plug-in <i>for Oracle</i> or Plug-in <i>for Informix</i> is installed on a Linux machine where NetVault Server is also installed, the backups of the plug-ins may fail due to certain libraries loading.</p> <p>Workaround: Add the NetVault library path to the NetVault <code>startup.sh</code> script. For example, on a Linux-based NetVault Server:</p> <pre>LD_LIBRARY_PATH=/usr/netvault/lib:/lib:/usr/lib:\$LD_LIBRARY_PATH export LD_LIBRARY_PATH</pre>	NVBU-14424 (31721)
<p>Pre-configured reports, including Disk Storage Devices - General, Front Side Data, Storage Utilization, and Storage Utilization - RAS, did not report the correct value for Licensed Protected Capacity.</p>	NVBU-14623
<p>Job details are not displayed when you click a policy job in the Job Status widget on the NetVault Dashboard page.</p>	NVBU-17538
<p>After running a job, when you go to the Job Status page to monitor the status of the job, it shows all the jobs with previously applied filters instead of showing all current activity.</p> <p>Workaround: Select the Current Activity option in the View By job status filter option.</p>	NVBU-17582
<p>You cannot restore the data items of a network share backup located using the catalog search feature.</p>	NVBU-17632
<p>If you perform multi-stream backups to tape, select the Archive and Migration options in Backup Life, and identify an expiration date, the savesets are corrupted after the expiration is reached.</p> <p>Workarounds:</p> <ul style="list-style-type: none"> • When you scan the media to recover data, select the Migrate (Discard) Original option. • Take the index offline and perform the restore. 	NVBU-18297
<p>When a LUN is mounted on an unsupported volume and the disk information is retrieved for a snapshot, the disk properties shows for VMware disk and not Huawei or Compellent disk. This causes the snapshot to fail.</p>	NV-47, NV-49, (NVBU-18642, DNFSP-1016)
<p>In the NetVault WebUI, when editing the Notification Profile, Extra Environment variables do not display.</p>	NVBU-18925
<p>In specific instances, changing the time window in the server monitor from 8 hours to another time range then back to 8 hours results in an incorrect graph.</p> <p>Workaround: Use the 12-hour or 24-hour setting.</p>	NVBU-18975
<p>The Unusable Media widget on the dashboard does not show media that must be recovered.</p>	NVBU-19214
<p>The error “duplicate key value violates unique constraint” message appears multiple times in the <code>pg_sql</code> log files.</p>	NVBU-19246
<p>For LTO-7 tapes, the Explore Storage page inaccurately displays the size of an unused tape.</p>	NVBU-19250
<p>When running a historic job report by date on a Japanese Standard Time server, not all information displays in the report.</p>	NVBU-19313
<p>The Storage Utilization report shows the wrong licensed capacity for SmartDisk.</p>	NVBU-19385
<p>While choosing a default plug-in option after switching the language, the Web UI goes into deadlock, and performs no further operations.</p>	NVBU-19427
<p>When you try to reset the locale from French to English from the Server Change Setting page, the NetVault Server goes into Safe Mode.</p>	NVBU-19493
<p>On Linux, when creating a Large_VTL, if the WebUI times out due to inactivity or the user closes the WebUI while the creation is still in progress, the VTL creation does not occur.</p> <p>Workaround: In the WebUI, create a VTL using the “Re-add previously generated virtual device” option, and then, in the <code>webservice.cfg</code> file, increase the <code>SessionExpiryTime</code>.</p>	NVBU-19625
<p>When a large number of jobs are in Running state, the Job Status page hangs.</p>	NVBU-19694

Table 3. General known issues

Known issue	Issue ID
When using file immutability, removing a full backup saveset with no immutable files also removes persistent immutable Incremental Backup savesets. Workaround: In the Advanced Options > Backup Life section, do NOT select Make Backup Immutable . If you select this option for an incremental backup but you do not select it for a full backup, if you try to delete the saveset, then an error occurs.	NV-2044, NV-2045
According to <i>Plug-in for Advanced Encryption Release Notes</i> : The Plug-in for Advanced Encryption is incompatible with the following NetVault Backup Plug-ins: <ul style="list-style-type: none"> • <i>NetVault Backup Plug-in for Consolidation</i> • <i>NetVault Backup Plug-in for NDMP</i> • <i>NetVault Backup Plug-in for SnapMirror to Tape</i> • <i>NetVault Backup Plug-in for Informix</i> • <i>NetVault Backup Plug-in for Teradata</i> • <i>NetVault Backup Plug-in for NetWare:</i> <p>If you enable the encryption for a backup, the saveset header indicates that the backup is encrypted, and when you try to restore the data, the plug-in requests for the encryption key. However, the saveset does not contain any encrypted data.</p> <ul style="list-style-type: none"> • NetVault Bare Metal Recovery Plug-ins: <ul style="list-style-type: none"> ▪ <i>Plug-in Offline Client</i> : It ignores the encryption settings as the client is taken offline for backup. ▪ <i>Plug-in Live Client</i> : It cannot recover encrypted backups. 	
NDMP Plugin: Sec copy with "Use Life of Original" and 1 Day immutability not being honored.	NV-3450
Immutability not set as expected for phase 2 job which is created with 'Duplicate' option	NV-3647
Windows upgrade to 14.x stuck at pg_upgrade process.	NV-4633
Workaround: Hit the Enter key on the CLI session.	

Table 4. QoreStor known issues

Known issue	Issue ID
NetVault job fails if it uses the same container with data stubbed for new jobs.	NV-1428
An Plug-in <i>for Oracle</i> restore job passes silently with errors when it should fail because the data is still on a QoreStor glacier tier.	NV-1430
A Plug-in <i>for NDMP</i> restore job succeeds when it should fail immediately as the data is archived with QoreStor.	NV-1431
QoreStor does not support multi-tenancy.	QS-437, DNR3-71
If you run parallel backup or restore jobs on an AIX client with a QoreStor target, the jobs fail with a "Job Manger has lost the message channel unexpected" error message.	QS-4252, DNR3-870

Table 5. Command-Line Interface known issues

Known issue	Issue ID
<p>When the Broadcast details to machines on local networks setting is disabled on a client, the nvclient utility fails to add the client.</p> <p>Workaround: Use the <code>nvclientadd -clientip <Client IP address></code> command to add the client.</p>	<p>NVBU-12966 (28829)</p>
<p>The asf_load_media command fails if the machine name contains any spaces.</p> <p>When the asf_release_drive command is issued to various brands of library devices (for example, those containing various Exabyte or 9840 drives), a delay of up to eight (8) minutes may occur before a piece of media is unloaded.</p> <p>Workaround: The workaround is to issue the “Unload” command from the NetVault WebUI.</p> <ol style="list-style-type: none"> 1 In the Navigation pane, click Manage Devices, and then in the list of devices, click the applicable drive or the corresponding Manage Device icon. 2 On the Tape Drive Management page, click Unload. <p>The drive remains in and “Idle” state, and media are not unloaded as expected. If the logs for the selected device are viewed, an entry stating “Unload media in drive <X> failed — Device unavailable” is displayed. Repeat Step 2 to unload the media.</p>	
<p>The range function does not work properly for the nvacslsmedia command.</p> <p>Workaround: The workaround is to explicitly run this command for each media item that you want to allocate or deallocate. You can use a script to do this task.</p>	
<p>When a space character is all that is specified for a library name with the nvcleandrive command, the first library on the Manage Devices page performs a clean operation on the specified drive. For example, if you run the command <code>nvcleandrive libraryname "<space character only>" -librarydrivenumber <X></code>, NetVault automatically targets the first library on the Manage Devices page and perform a clean operation on drive <X>.</p>	
<p>When a null value is specified with the nvexpiresaveset command, any random saveset is expired.</p>	
<p>When you run the nvjobmodify command, the job is submitted to run, even if you do not include the “-submit” option in the syntax.</p>	
<p>When a null string is specified with the nvremovedia command, the first entry is deleted from the Media Database.</p>	
<p>The nvsetcleaninglives command does not report any errors if you configure incorrect values for the lives option.</p>	
<p>The “-include” option for nvsetcreate cannot be used to specify data selections below the “Fixed Drives” node in the selection tree.</p>	
<p>The nvsetmodify command cannot be used to modify Schedule Sets. You can create a set using nvsetcreate, and assign it the same name to overwrite the existing set.</p>	
<p>On Windows-based installations, the nvsyncronizesilomedia command does not update the media status on the Manage Devices page.</p>	
<p>In an environment where the NetVault Client is installed on a Linux machine and the NetVault Server is installed on a Windows machine, if a non-default user password contains eight or more characters, the Command-Line Interface (CLI) utilities fail.</p> <p>Workaround: Reset the user password to one that contains seven or fewer characters.</p>	<p>NVBU-17861</p>
<p>When used to select nodes for backup and restore, the <code>nvsetcreate</code> command does not interpret a single quote and instead changes it to a blank space.</p> <p>Workaround: To avoid this issue, write the string argument into a parameter file and use the <code>nvsetcreate -parameters switch</code> to specify the file.</p>	<p>NV-2157</p>
<p>The start date of some jobs in the CLI report is not the same as the GUI report for the Historic Jobs by date template.</p>	<p>NVBU-19746</p>

Table 6. Plug-in for FileSystem known issues

Known issue	Issue ID
On Snap Appliance Filers, data must only be relocated to existing directories. Items relocated to directories that do not exist cannot be accessed due to permissions settings on the newly created directories.	DNFSP-113 (13979, FSG-188)
On ZFS, if the backup data contains ACLs on extended attributes, the restore job fails when you use the default restore options. If errors occur on restore of metadata, select the Discard Metadata option to restore the data.	DNFSP-456 (14324, FSG-514)
On Solaris ZFS and UFS file systems, the files and directories for which only the extended attributes have changed do not qualify for Incremental Backups.	DNFSP-636 (14504, FSG-684)
When restoring a Linux or UNIX backup to a Windows-based NetVault Client, the items are restored successfully, but the job generates the following warning and log context: Log message: <num> items and their contents could not be restored Log context: <filename>: writing to file: Incorrect function These messages can be ignored.	DNFSP-718 (14586, FSG-760)
NetVault does not allow Apple Xsan restores when there are no affinity tags on the target server.	DNFSP-727 (14596, FSG-770)
The exclusion list is not enforced for a corrupt file in an Incremental Backup.	DNFSP-910
On Oracle Solaris hosts, enabling a multi-stream FileSystem backup causes Incremental Backup performance to appear similar or worse than a Full Backup.	DNFSP-921
If the name of a network share folder includes Japanese characters, NetVault does not add it.	DNFSP-932
The FileSystem backup and restore job fails to write an entry into the log file when the Path to Backup log and Path to Restore log options are selected.	DNFSP-991
On Windows 2008 and Windows 2003, the System State node does not include the Removable Storage Manager Database node.	
The Verify After Backup option does not work for a restarted job instance.	
When you submit a policy job created for a UNIX file system on a Windows system, the job status shows “ Completed with Warnings, ” but no data is backed up.	
The following known issues apply to the Backup Windows File Short Names and Restore Windows File Short Names options: <ul style="list-style-type: none"> <li data-bbox="236 1335 1193 1388">• Restoring short names only works if an existing file with the same short name does not exist. <li data-bbox="236 1400 1193 1458">• Attempts to back up or restore short names fail if you enable Windows-based Compression or Encryption option on a target system. 	
Although VSS backups complete successfully, the message “Error deleting volume snapshot(s): VSS_E_BAD_STATE” is written to the NetVault logs.	
If a job restores a Windows symbolic link (file created using mklink , not Windows shortcut), where the symbolic link file exists on the target file system and the data file the symbolic link targets also exists, the data in the targeted data file is lost. Ensure that the data files targeted by symbolic links are included in backups. Quest recommends that you delete the existing symbolic links that you want to restore from the target file system before running a restore job. To avoid any risks of data loss, you can also perform backup of data files possibly at risk before running the restore job.	
When a symbolic link is restored, GuardianOS applies the Xattr attribute user.SnACL to it. This behavior is expected and does not have any negative effects.	
Backups on GFS and GFS2 can stop responding if the files or directories are frozen.	

Table 6. Plug-in for FileSystem known issues

Known issue	Issue ID
<p>In an environment with many direct automounts on Solaris Clients, a backup job may remain at “Waiting for Job Options” status while the Plug-in for FileSystem attempts to load the automounts temporarily to determine whether they are on remote systems. This delay can be alleviated by selecting the “Backup through Remote Mounts” option. If necessary, clear or exclude remote mounts or add the following stanza to the file <code>nvfs.cfg</code>:</p> <pre>[Performance:DoRecursiveAutoMountScan] Value=FALSE</pre>	
<p>Restore operation of multi-volume selection for an offhost backup fails after successful off-host backup for multi-volume selection.</p>	NV-48 (NVBU-18349)

System requirements

Before installing NetVault 14.0, ensure that your system meets the following minimum hardware and software requirements.

Table 8. System requirements

Requirement	Details
Platform	For complete supported platform information, see the <i>Quest NetVault Compatibility Guide</i> available at https://support.quest.com/technical-documents .
Memory	Memory requirements on a target system can vary based on the intended use.
Hard disk space	A NetVault server installation requires about 800 MB of disk space on Windows-based systems and 800 MB of disk space on Linux-based systems.
Operating system	<p>NetVault Server</p> <p>The server can be installed on the following operating systems:</p> <ul style="list-style-type: none"> • Ubuntu • Debian • Red Hat Enterprise Linux (RHEL) • SUSE Linux Enterprise Server (SLES) • Windows <p>NetVault Client</p> <p>The client can be installed on the following operating systems:</p> <ul style="list-style-type: none"> • Linux • Windows <p>For more information, see the <i>Quest NetVault Compatibility Guide</i> available at https://support.quest.com/technical-documents.</p>
Web browser	<p>The NetVault WebUI supports the following browsers:</p> <ul style="list-style-type: none"> • Internet Explorer 11 and later • Firefox 20 and later • Chrome 28 and later • Microsoft Edge 44 and later

Upgrade and compatibility

- **FIPS and NetVault Plug-in for Encryption:** As of version 13.0.3, NetVault Plug-in for Encryption includes both a FIPS compliant AES-256 option and a non FIPS compliant AES-256 option. For more information about the NetVault Plug-in for Encryption FIPS compliant AES-256 and non FIPS compliant AES-256 encryption algorithms, see the *Quest NetVault Built-in Plug-ins User's Guide*.
- **Licensing:** NetVault Server 14.0 uses License Validator, which was introduced with NetVault 13.0. If you are running a NetVault Server version prior to 13.0, before you upgrade to 14.0, you must install the new license file on the NetVault Server. For more information, see "Upgrading NetVault" in the *Quest NetVault Installation Guide*.
- **Previous versions:** NetVault 14.0 Server installations are backwards compatible with previous releases of the client and plug-ins. However, before you upgrade NetVault Server, download the license file for each licensed plug-in. Without the license file, the plug-in may stop working. For more information, see the *Quest NetVault Installation Guide*.
- **NetVault Server OS requirements:** The NetVault Server installation is supported on Windows and Linux operating systems. The NetVault Server installation is not supported on Mac OS X and UNIX operating systems. For information about supported operating system versions, see the *Quest NetVault Compatibility Guide* available at <https://support.quest.com/technical-documents>. For information on migrating NetVault Server 9.2 from Mac OS X or UNIX to Windows or Linux, see <https://support.quest.com/kb/SOL126805>.
- **NetVault Database migration:** Upgrade from 9.2 involves the migration of NetVault Database from proprietary format to the PostgreSQL database. The migration can take a significant amount of time depending on the size of your NetVault Database and other factors such as system performance.

i | **NOTE:** Before upgrading from NetVault 9.2, purging unnecessary logs can significantly reduce the database migration time. For more information about purging log files, see the *Quest NetVault Administrator's Guide*.

i | **IMPORTANT:** Before upgrading from 9.2, verify that you created a backup of the NetVault Database. The database format introduced in 10.0 increases the importance of performing NetVault Database backups before upgrading from 9.2. For more information about backing up the NetVault Database with the Plug-in for Databases, see the *Quest NetVault Built-in Plug-ins User's Guide*.

- **Select the correct installation package on Linux and Windows:** NetVault offers separate client-only and server-only installation packages for Linux- and Windows-based systems. Both the server and the client packages are available in hybrid and pure 64-bit versions:
 - **Hybrid server and client packages:** The hybrid packages are intended for users who do not have a pure 64-bit-only requirement.

These packages let you upgrade from pure 32-bit and hybrid installations of NetVault. The hybrid packages retain binary compatibility with all previous versions of 32-bit and 64-bit plug-ins. These packages also work on 32-bit systems that do not have 64-bit capability.
 - **Pure 64-bit server and client packages:** The pure 64-bit packages are intended for pure 64-bit operating systems. If you have a specific reason that you cannot use any 32-bit components (for example, you are using a Linux distribution that does not run 32-bit code), use these packages.

The pure 64-bit packages cannot be used to upgrade existing pure 32-bit or hybrid NetVault installations. You must remove the existing pure 32-bit or hybrid version and install the pure 64-bit version separately. To reduce confusion, warning messages have been added to both the upgrade and installation packages to ensure that you understand that they are incompatible.

Depending on your OS type, ensure that you select the correct installation package to install the NetVault Server software:

- **netvault-<RYYYYMMDD>-vx.x.x.x-Server-{LinuxX86Pure64|WindowsX86Pure64}:** Use this package to install or upgrade NetVault Server on pure 64-bit systems.

For client installations, ensure that you select the appropriate package based on your system.

- **Licensed plug-ins:** After upgrading to the latest version of NetVault, you may be unable to create new backup jobs with previously installed licensed plug-ins. This issue occurs in the following upgrade scenarios:
 - 9.2 -> 10.0 -> any later version
 - Pre-9.2 -> 9.x -> any later version

The issue can be fixed by reinstalling the plug-ins. The issue does not occur when you upgrade directly from 9.2 to 10.0.1 or a later version or when you upgrade from any 10.x version without a previous upgrade from 9.2.

- **SNMP Trap Notification Object Identifier (OID):** After you upgrade from NetVault 9.2, the OID for the SNMP Trap Notification method is changed.
- **NetVault Plug-in for NetWare (Plug-in for NetWare):** NetVault 10.0 and later do not support Plug-in for NetWare.
- **Plug-in for VMware and NetVault Plug-in for Hyper-V (Plug-in for Hyper-V):** After installing the Plug-in for VMware or Plug-in for Hyper-V, if you upgrade the NetVault software, you must re-install the plug-in on that machine. If you do not reinstall the plug-ins, you cannot open the **Drives** node of a mounted virtual machine to create any new file-level backup jobs.
- **Device names containing multibyte characters:** After upgrading from NetVault Server 9.2, a device that uses multibyte characters in its name must be removed and added again.

Upgrading from NetVault Backup 12.3

Due to a change in the encryption and decryption algorithm in NetVault Backup, you may experience authentication-related issues after upgrading from NetVault Backup 12.3.0.15.

See the following table for known issues and their possible workarounds.

Table 9. Authentication error workarounds

Impacted Area	Resolution
If "Bulk Blank" for Tape Library or Virtual Tape Library (VTL) fails with an authentication error...	Reset the password using the same existing password. For more information, see "Changing NetVault password" in the <i>NetVault 14.0 Administration Guide</i> .
If "Expire All" for DR fails with an authentication error...	Reset the password using the same existing. For more information, see "Changing NetVault password" in the <i>NetVault 14.0 Administration Guide</i> .
If backups are not cataloged after an upgrade...	Reconfigure catalog search with the same existing password. For more information, see "Configuring catalog search" in the <i>NetVault 14.0 Administration Guide</i> .
If CLI utilities fails with an authentication error...	Reset the password of the NetVault user that you used for CLI using the same existing password. For more information, see "Modifying a user account" in the <i>NetVault 14.0 Administration Guide</i> .
If VMware backups or restores fail with an authentication error in the logs...	Reset the password for vCenter or ESX Server using the Edit Server dialog box. For more information, see "Reconfiguring a server" in the <i>NetVault Plug-in for VMware 12.3 User's Guide</i> .

If you experience authentication issues in other areas of NetVault, reconfigure the password and perform the action again. If the issue continues, contact NetVault Support.

Product licensing

To obtain the license file for your NetVault Server environment, determine the NetVault Machine ID of your main NetVault Server. Also identify the machine IDs of any clients running application plug-ins, such as Oracle, MySQL, PostgreSQL, SQL Server, and Exchange.

You can use the License Management page to install the product license files.

- [Obtaining a machine ID](#)
- [Obtaining a permanent license file](#)
- [Installing a license file](#)

Obtaining a machine ID

- 1 Start the NetVault WebUI.
- 2 In the Navigation pane, click **License Management**.
- 3 In the **Client Details** list, note the machine ID for the applicable Server or Client entry.

Obtaining a permanent license file

To obtain a permanent license file for NetVault:

Submit the request using the on-line product licensing form at: <https://support.quest.com/>

Installing a license file

- 1 In the Navigation pane, click **License Management**.
- 2 On the **License Management** page, click **Install License**.
Because the NetVault WebUI is tied to a specific NetVault Server and all licenses are installed on the NetVault Server, there is no need to select a Client machine.
- 3 In the **Choose License File** dialog box, click **Select a file**, point to the “.dlv” file that contains the license key, and click **Open**.
- 4 In the dialog box, click **OK** to apply the selected license file.
After the license file is installed successfully, a message is displayed.
- 5 To dismiss the message, click **X**.

Upgrade and installation instructions

- Before installing or upgrading NetVault, you must upgrade the attached DR appliance to version 4.0.3 or later.

- After upgrading NetVault, you must re-run Full Backup jobs before resuming the scheduled backup jobs (Incremental/Differential/Consolidated) using NetVault Plug-in *for FileSystem*.
- To ensure the smooth operation of NetVault, after upgrading NetVault, you must clear the browser cache.

For information about installing and upgrading the NetVault Server and Client software, see the *Quest NetVault Installation Guide*.

More resources

Additional information is available from the following:

- [Online product documentation](#)
- [NetVault community](#)

Globalization

This section contains information about installing and operating this product in non-English configurations, such as those needed by customers outside of North America. This section does not replace the materials about supported platforms and configurations found elsewhere in the product documentation.

This release is Unicode-enabled and supports any character set. It supports simultaneous operation with multilingual data. This release is targeted to support operations in the following regions: North America, Western Europe and Latin America, Central and Eastern Europe, Far-East Asia, and Japan.

This release has the following known capabilities or limitations: Previously in NetVault, Quest predominantly supported Multibyte Character Sets, but had some Unicode Support. Starting with 10.0, Quest predominantly supports Unicode, however, Quest still supports MBCS sometimes.

NetVault 14.0 is available in English, Japanese, Korean, Chinese, French, and German.

About us

Quest provides software solutions for the rapidly-changing world of enterprise IT. We help simplify the challenges caused by data explosion, cloud expansion, hybrid datacenters, security threats, and regulatory requirements. We are a global provider to 130,000 companies across 100 countries, including 95% of the Fortune 500 and 90% of the Global 1000. Since 1987, we have built a portfolio of solutions that now includes database management, data protection, identity and access management, Microsoft platform management, and unified endpoint management. With Quest, organizations spend less time on IT administration and more time on business innovation. For more information, visit www.quest.com.

Technical support resources

Technical support is available to Quest customers with a valid maintenance contract and customers who have trial versions. You can access the Quest Support Portal at <https://support.quest.com>.

The Support Portal provides self-help tools you can use to solve problems quickly and independently, 24 hours a day, 365 days a year. The Support Portal enables you to:

- Submit and manage a Service Request.
- View Knowledge Base articles.
- Sign up for product notifications.
- Download software and technical documentation.
- View how-to-videos.
- Engage in community discussions.
- Chat with support engineers online.
- View services to assist you with your product.

Third-party contributions

This product contains the following third-party components. For third-party license information, go to <http://www.quest.com/legal/license-agreements.aspx>. Source code is available for some components on <https://opensource.quest.com>.

Table 10. List of third-party contributions

Component	License or acknowledgment
Elasticsearch 7.17.24	Apache 2.0 © 2018. All Right Reserved - Elasticsearch.
Expat XML Parser 1.6.0	MIT N/A © 1998, 1999, 2000 Thai Open Source Software Center Ltd and Clark Cooper © 2001, 2002, 2003, 2004, 2005, 2006 Expat maintainers.
freetype 6.8.1	FreeType Project License 1.0 © 1996-2002, 2006 David Turner, Robert Wilhelm, and Werner Lemberg Portions of this software are © 2006 The FreeType Project (www.freetype.org). All rights reserved.
glibmm 2.4	GNU Lesser General Public License 2.1 Copyright (C) 2002 The gtkmm Development Team
Iconv 1.9.1	GNU Library General License 2 © 2003 Free Software Foundation, Inc. This file is part of the GNU CHARSET Library. The GNU CHARSET Library is free software; you can redistribute it and/or modify it under the terms of the GNU Library General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.
jquery-toastmessage-plugin 0.2.0	Apache 2.0 Copyright © akquinet AG, 2009-2013.
Kerberos client libraries 5	MIT Kerberos 5.0

Table 10. List of third-party contributions

Component	License or acknowledgment
libedit 0.3	<p>BSD-style license</p> <p>© 1992, 1993</p> <p>The Regents of the University of California. All rights reserved.</p> <p>Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:</p> <ol style="list-style-type: none"> 1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer. 2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution. 3. The names of the authors may not be used to endorse or promote products derived from this software without specific prior written permission. <p>THIS SOFTWARE IS PROVIDED "AS IS" AND ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL JCRAFT, INC. OR ANY CONTRIBUTORS TO THIS SOFTWARE BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.</p>
libjpeg 8.4.0	<p>Freeware Public domain 1.0</p> <p>© 2000, 2001, 2002, 2003, 2004, 2006, 2007 Keith Packard</p> <p>© 2005 Patrick Lam</p> <p>© 2009 Roozbeh Pournader</p> <p>© 2008,2009 Red Hat, Inc.</p> <p>© 2008 Danilo Šegan</p> <p>© 2012 Google, Inc.</p>
Libpam 1.3.1	<p>GNU General Public License (GPL) 3</p> <p>Quest is providing this component as part of the operating system on which our product runs.</p>
libpng 1.2.10	<p>zlib/libpng license 1.0</p> <p>This product contains portions of the PAWN scripting software (formerly known as SMALL).</p>
libsigc++20 2.0.17.1	<p>LGPL (GNU Lesser General Public License) 2.1</p> <p>Copyright (C) 1991, 1999 Free Software Foundation, Inc.</p>
libssh 0.7.5	<p>LGPL (GNU Lesser General Public License) 2.1</p>
libstdc++ 3.3.3	<p>GPL 2.0 with the 'runtime exception'</p>
libstdc++ 4.1.1	
libtiff 5.0.6	<p>libtiff 3.8.2</p> <p>© 1988-1997 Sam Leffler</p> <p>© 1991-1997 Silicon Graphics, Inc.</p>

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Component	License or acknowledgment
libxml2 2.8	MIT
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ncurses 5.0	<p>Freeware Public domain 1.0</p> <p>© 2000, 2001, 2002, 2003, 2004, 2006, 2007 Keith Packard</p> <p>© 2005 Patrick Lam</p> <p>© 2009 Roozbeh Pournader</p> <p>© 2008, 2009 Red Hat, Inc.</p> <p>© 2008 Danilo Šegan</p> <p>© 2012 Google, Inc.</p>
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OpenLDAP client Libraries 2.4	<p>OpenLDAP 2.8</p> <p>© 1998-2013 The OpenLDAP Foundation</p> <p>All rights reserved.</p> <p>Redistribution and use in source and binary forms, with or without modification, are permitted only as authorized by the OpenLDAP Public License.</p> <p>A copy of this license is available in the file LICENSE in the top-level directory of the distribution or, alternatively, at http://www.OpenLDAP.org/license.html.</p> <p>OpenLDAP is a registered trademark of the OpenLDAP Foundation.</p>
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OpenSSL 3.0.15	<p>Apache License v2</p> <p>All Rights Reserved.</p>

Table 10. List of third-party contributions

Component	License or acknowledgment
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PhantomJS 2.1	BSD 3-Clause License
Search guard 7.17	<p>Apache 2.0</p> <p>Search Guard is a trademark of floragunn GmbH, registered in the U.S.</p>
Stack Builder 3.1.0	<p>BSD - PostgreSQL 1.0</p> <p>© 1997-2005 PostgreSQL Global Development Group. All rights reserved.</p> <p>© 2007-2011, EnterpriseDB</p>
zlib 1.2.11	<p>zlib 1.2.7</p> <p>Portions © 1995-2012 Jean-loup Gailly and Mark Adler.</p>

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Version 3, 29 June 2007

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