

Setting up Quest[®] QoreStor[™] as an RDA Backup Target for NetVault Backup

Technical White Paper

Quest Engineering June 2018

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Quest Software Inc.

Attn: LEGAL Dept

4 Polaris Way

Aliso Viejo, CA 92656

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Legend

WARNING: A WARNING icon indicates a potential for property damage, personal injury, or death

CAUTION: A CAUTION icon indicates potential damage to hardware or loss of data if instructions are not followed.

IMPORTANT, NOTE, TIP, MOBILE, or VIDEO: An information icon indicates supporting information.

Setting up Quest® QoreStor™ as an RDA Backup Target for NetVault Backup Updated – June 14, 2018

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Executive Summary

This white paper provides information about how to set up QoreStor as a backup target for Netvault Backup. This document is a quick reference guide and does not include all QoreStor deployment best practices.

For additional information, see the QoreStor documentation and other data management application best practices whitepapers at:

http://support.quest.com/qorestor

For more information about NetVault Backup, refer to the NetVault documentation at:

https://support.quest.com/productline/netvault

NOTE: The QoreStor and NetVault Backup screenshots used in this document might vary slightly depending on QoreStor version and NetVault Backup version you are using.

Installing and configuring QoreStor

- 1. Before installing QoreStor, refer to the *QoreStor Interoperability Guide* to ensure your system(s) meet the installation requirements.
- 2. To install QoreStor on your system(s), follow the procedures documented in the *QoreStor Installation Guide*.

Using a supported web browser (refer to *QoreStor Interoperability Guide* for a list of supported browsers), connect to the QoreStor administrative console via https, using the host IP address/FQDN and port 5233 (https://<hostname:5233>). Log in with the username admin and password St0r@ge! (The "0" in the password is the numeral zero)

QoreStor	× +			- a
→ C' @	Q, https://mygorestorhost.5233		Q Search	II\ 🖸
		Quest		
		CiOCSC		
		QoreStor		
		Username		
		Password		
		Sign in		
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3. By default, QoreStor has a user with RDA Role named backup_user and password "St0r@ge!". Refer to the *QoreStor User Guide* for information on changing user accounts.

Adding a QoreStor device to NetVault Backup

- 1. Open the NetVault Backup UI
- 2. Open the menu drawer (1), and select Manage Devices (2)

nitoring Server Monitor Dashboard Job Status Job Calendar	Client Status			St	orage Devices 0/0				Total Data Stor 0.00 bytes	ed	r1
Device Activity View Logs											
View Events Deployment Task Status											
Create Backup Job											
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Manage Policies (xplore Storage											
ating											
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guration											
Guided Configuration											-
Manage Clients											
Manage Users	09:55 10 AM	10:05	10:10	10:15	10:20	10,25	10:30	10:35	10:40	10:45	10
Catalog Search	O she O take O take								From Only	O Key Events	O All Events
Change Settings	0 6165 (0 12165 (0 24165								e croisony	O Ney cients	Q MI EVENIS
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Documentation			D Maalting				C Maalthu				
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Support Diagnostics			0 Frees				D Frenes				

3. Click the Add Device button 3

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≡ Quest	NetVault Backup		며 📮 · 🏷 · 🚯 🛓 admin •
Manage Devices	Table View O Tree View	Remember this selection	
			3 + Add Device

4. Select Quest RDA Device 4 and click the Next button 5



NOTE: If using NetVault 11.4.5 select Add Quest DR Device.

- 5. Specify the:
 - IP Address or FQDN of the QoreStor host,
 - RDA Username
 - Password 6
- 6. Click the Add RDA Device button 7.

■ Quest NetVault Backup)		Ø- 4)- 0 T ч	fmin •
Add Quest RDA Device				
Provide Quest RDA server hostname/IP address and user credent	əlz			
6	Hostname/IP Username Password	myqorestorhost.mydomain.local backup_user		
			,	
			Back Add RDA Device	

i NOTE: The default username is backup_user and the password is St0r@ge! (The "0" in the password is the numeral zero). If you wish to change this, please refer to the *QoreStor User Guide* for specific steps.

Creating an RDS container for NetVault Backup

This section provides information needed to create an RDS container for NetVault Backup using the NetVault Backup UI. If you wish to use the QoreStor administrative console or CLI, please refer to the *QoreStor User Guide* or the *QoreStor CLI Reference Guide* respectively.

- 1 Open the NetVault Backup UI
- 2 Open the menu drawer ① and select Manage Devices ②

Quest	NetVault Backup									× □ · ◇	• 🔒 🕹 adr
onitoring Server Montor Dashboard Dob Status	Client Status			Ste	orage Devices 0 / 0				Total Data Sto 0.00 bytes	red	
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View Logs View Events Deployment Task Status											
Create Backup Job Create Restore Job											
Manage Sets											
Manage Job Definitions Manage Policies Explore Storage											
orting View Reports Job History											_
figuration											
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Manage Users	09.55 10 AM	10:05	10:10	10:15	10:20	10.25	10:30	10:35	10:40	10:45	
Catalog Search Configure Notifications	r O 8 hrs O 12 hrs O 24 hrs								Errors Only	O Key Events	O All Events
Change Settings											
p	Current Activity:				Policies:				Regular Jobs:		
Documentation			0 Healthy				0 Healthy				
Video and Tutorials			0 Warnings				Warnings				
Support Diagnostics			A Frence								

3. Click on the Manage Device button 3

OUest NetVault Backup	며 💭 · 🏷 · 🕘 🛓 admin -
Manage Devices	3
RAS: Quest QoreStor myqorestorhost.mydomain.local (backup_user)	+ 20 •

4. Click the Create Container button 4

Setting up Quest® QoreStor™ as an RDA Backup Target for NetVault Backup Installing and configuring QoreStor

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torage Utilization (mygorestorhost.mydomain.lo	all		
Containers Storage Groups	Remember this selection		Q search
Letiens Centainer Name	- Sterage Group Name A	- Attached To NVEU	-

5. On the pop-up dialog:

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- a Select the Storage Group Name* from the drop-down arrow
- b Enter a Container Name
- c Click the Save button.

Create Containe	r		
Storage Group Name	Select Storage Group	~	
Container Name	Container Name		
		×	ancel 🔄 Save

* By default, the QoreStor host has a storage group created, *DefaultGroup*. If you wish to create a new storage group, please refer to Appendix C on this guide.

NOTE: If using NetVault 11.4.5, after clicking the **Manage Device** button, open the **menu drawer** under **Actions** and select **Explore** for the chosen Storage Group; then click the **Add LSU** button and enter the name for the Container you wish to create under **Add LSU Name**.

Adding a RDS container to NetVault Backup

This section provides information needed to add an existing or newly created RDS container to NetVault Backup. The steps below assume that the QoreStor Device has been added to the NetVault Backup configuration. If not, please refer to *Adding a QoreStor Device to NetVault Backup* in this document.

- 1. Open the NetVault Backup UI
 - a Open the menu drawer ① and select Manage Devices ②

Ionitoring Server Montor O Dashboard B Job Status	Client Status			Ste	0 / 0				Total Data Stor 0.00 bytes	ed	
Job Calendar Device Activity											["
View Logs											-
Deployment Task Status											
Create Backup job											
Create Restore Job											
Manage job Definitions											
Manage Policies											
o Espiore storage											-
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nfiguration											t
Guided Configuration											
Manage Clients											
Manage Users	09:55 10 AM	10:05	10:10	10:15	10:20	10:25	10:30	10:35	10:40	10.45	+0
Catalog Search	0.00-0.00-0.00									0	0.00
Configure Notifications II Change Settings	U ans U 12hs U 24h	a.							in Errors Only	 Key Events 	Q All Events
le	Current Activity:				Policies:				Regular jobs:		
Decumentation			B Healthy				B Healthy				
Video and Tutorials			Warnings				Warnings				
Support Diagnostics			Errors				Errors				

b Click on the Manage Device button 3

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Manage Devices	0
RAS: Quest QoreStor myqprestorhost.mydomain.local (backup_user)	+ • • •

c For the container you wish to add, click the Actions menu drawer (4) and select Add As A Media
(5)

Setting up Quest® QoreStor™ as an RDA Backup Target for NetVault Backup Installing and configuring QoreStor

Storage Utilization (mygnesterhost.mydomain.local) Costalisers Storage Groups Remember this selection	• [
Containers Storage Groups Remember this selection	· Conver
	Q sarch
Actions Centainer Name V Storage Group No	Attached To NVBU
E And A Alerta S	Na

d On the pop-up dialog, chose the Stream Limit and click on Add As A Media button.

Add As A Media		
Container	NV1	
Block Size (in KiB):	512	
Stream Limit:	64	A V
Force Add		
		🗙 Cancel 🔷 Add As A Media

i NOTE: QoreStor supports a maximum of 64 streams per connection with a maximum of 64 connections.

Configuring transport modes for NetVault Backup

There are two transport modes for backing up data over RDA: **Optimized/Dedupe** and **Passthrough**. Optimized backup does source-side deduplication on the NetVault Backup clients. The Passthrough mode does target-side deduplication on the QoreStor host.

The default mode for each client is decided based on the number of CPU cores in the client machine and whether the architecture is 32-bit or 64-bit. In general, there is no need to change the mode. In the event you want to change the mode, proceed by setting the RDA mode in the QoreStor using the following CLI command:

rda --update_client --name <RDA Client Hostname> --mode <auto|passthrough|dedupe>

Appendix A

Setting up the QoreStor system cleaner

Performing scheduled disk space reclamation operations is needed as a method for recovering disk space from system containers in which files were deleted as a result of deduplication. Ideally, the QoreStor cleaner should complete a full cycle at least once a week. This will be accomplished in most cases by the predefined QoreStor cleaner schedule. The cleaner also runs during idle time.

To change the predefined cleaner schedule times, perform the following steps:

- 1. Open the QoreStor administrative console
- 2. Select System Configuration in the top navigation area
- 3. Click Edit Schedule. 2

ystem Configuration		0			
Operating System System State:	CentOS Linux release 7.3.1611 (Core) Operational Mode	CLEANER STATUS DONE	CURRENT SAVINGS 98.33 %	CAPACITY USED 244.82 GB	PHYSICAL CAPACITY 977.65 68
HostName: System ID: Version:	mygorestorhost 4C4C4544094443198058CAC04F425831 4.1.0.219	TOTAL FILES 739	NUMBER OF CONTAINERS	NUMBER OF STORAGE GROUPS	DICTIONARY TYPE STANDARD
			Cleaner Schedule		0
DAY			MART THE	Ru	n Ceaner Orce Edit scheduk
Monday			13:00	18:	00
Tuesday			13.00	18.	00
Wednesday			13:00	18:	00
Thursday			13:00	18:	00
Friday			13:00	18.	00
Saturday			13:00	18:	00
Currentaire			1200	18	10

4. Define the schedule and click **Submit 4**.

		Cleaner Schedule	
ction.	DAY	SING	Cancel Subm exa tiver 4
9 Remove	Monday	13:00	18:00
Remove	Tuesday	13:00	18:00
9 Remove	Wednesday	13:00	18:00
Remove	Thursday	13:00	18:00
9 Remove	Friday	13:00	18:00
Remove	Saturday	13:00	18:00
Remove	Sunday	13:00	18:00

If necessary, you can also perform a full cleaner cycle manually using either the QoreStor Administrative Console, QoreStor CLI or the NetVault Backup UI.

stem Configuration					
Operating System System State:	CentOS Linux release 7.3.1611 (Core) Operational Mede	CLEANER STATUS DONE	CURRENT SAVINGS 38.33 %	CAPACITY USED 244.82 6B	PHYSICAL CAPACITY 977.63.68
HostName: System ID: Version:	myqoxestorhost «C4C4544004443108058CACD4F425631 4.1.0.219	TOTAL FILES	NUMBER OF CONTAINERS	NUMBER OF STORAGE GROUPS	DICTIONARY TYPE STANDAED
			Cleaner Schedule		

Figure 1: Using the QoreStor Administrative Console



Figure 2: Using the QoreStor CLI

est QoreStor Device					
Storage Utilization (esc-kvm-q)1.ocarin	ulacali)				
Containers Storage	Groups 🗖 Remember	this selection		Q search	
Container Name	0	Stonge Group Name 🛋	Attached to NetNook Beckup		
NV1201_Copy		DefaultGroup	Yes		-

Figure 3: Using the NetVault Backup UI

Monitoring deduplication, compression and performance

After backup jobs have run, QoreStor tracks capacity, storage savings, and throughput. The historical representation of these values is shown in the dashboard of the QoreStor administrative console. This information is valuable in understanding the benefits of QoreStor.



NOTE: Deduplication ratios increase over time. It is not uncommon to see a 2-4x reduction (25-50% total savings) on the initial backup. As additional full backup jobs are completed, the ratios will increase. Backup jobs with a 12-week retention will average a 15x ratio in most cases.

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Setting up Quest® QoreStor™ as an RDA Backup Target for NetVault Backup Monitoring deduplication, compression and performance

Appendix C

Creating a QoreStor storage group

If you wish to create a QoreStor storage group, you can use the QoreStor Administrative Console, QoreStor CLI or the NetVault Backup UI. In this document we will show how to do it using the NetVault Backup UI.

- 1. Open the NetVault Backup UI
- 2. Open the menu drawer ① and select Manage Devices ②

Server Mentor Dashboard Job Status Job Calendar	Client Status 1 / 1			St	orage Devices 0/0				Total Data Stor 0.00 bytes	ed	
Device Activity View Logs											
View Events Deployment Task Status											
Create Backup Job											
Create Restore Job Manage Sets											
Manage Job Definitions Manage Policies											
Explore Storage											
orting											
View Reports Job History											
iguration											
Guided Configuration											-
Manage Devices 2				ala.	ale -			dare			
Manage Users Catalog Search	09:55 10.4M	10:05	10:10	10:15	10.20	10:25	10:30	10:35	10640	10:45	
Configure Notifications	r O 8hrs O 12 hrs O 24 hrs								Errors Only	O Key Events	O All Events
Change Settings	Current Activity:				Policies:				Regular Jobs:		
Documentation			Water								
Video and Tutorials			o nearcry				Pleasury				

3. Click on the Manage Device button 3

Cuest NetVault Backup	며 🖾 - 🏷 - 🖯 🕇 admin -
Manage Devices	3
RAS: Quest QoreStor myqorestorhost.mydomain.local (backup_user)	+ = 💿 •

- 4. Click the Storage Groups button 4
- 5. Click the Create Storage Group button $\boldsymbol{\Theta}$

st QoreStor Device	2					
itorage Utilization (mygores)	torhost.mydomain.local)					
Containers	Storage Groups	temember this selection			Q search	
itorage Group Name 🔺	- Encryption Type	~ Compression Type	~ Rotation Period (days)	- Container Count	- Dedupe Savings (%)	
DefaultGroup	None	Fast		1	88	
/ST_SG	None	Fast		1	0	

6. On the pop-up dialog:

f

- a Enter the Storage Group Name
- b Select the desired Compression Type using the dropdown arrow
- c Select the desired **Encryption Type** using the dropdown arrow if you wish to use encryption If you select Internal, chose a Passphrase, Confirm passphrase and Rotation Period
- d Click the Save button

Storage Group Name	Storage Group Name		Storage Group Name			
Compression Type	Fast	~				
Encryption Type	None	~	•			
Passphrase	Passphrase		•			
Confirm passphrase	Confirm passphr	ase	•			
Rotation Period	30 🛔 Days					

NOTE: If using NetVault 11.4.5, after clicking the **Manage Device** button, open the **menu drawer** under **Actions** and select **Explore** for the chosen Storage Group; then click the **Add LSU** button and enter the name for the Container you wish to create under **Add LSU Name**.