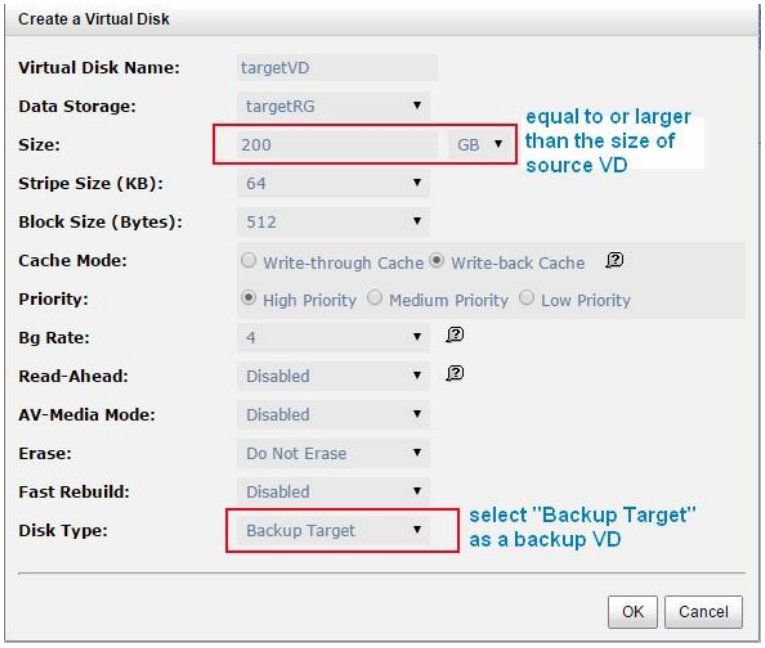
Qsan

Here are the prerequisites.

1. Make sure the controller firmware version of source and target SAN storage is above than V3.2.2.
2. Make sure there is enough space the RIAD group of the virtual disk so that the snapshot space can be successfully allocated automatically after the replication job created, otherwise user has to allocate the snapshot space manually before creating the replication job.
3. Make sure the snapshot space on the RIAD group of virtual disk has been allocated before executing any replication job. The target SAN storage will automatically take a snapshot on the BACKUP VD after each replication job finishes.

The QReplica function copies data from the virtual disk of source SAN storage to the target over LAN or WAN. You may follow the steps as listed below to finish the creation of first replication job

1. Make sure which virtual disk on the source SAN storage is the one you want to backup
2. Create a virtual disk on the target SAN storage as a backup virtual disk



3. The backup virtual disk will need to be attached with an iSCSI LUN ID so that it could be discovered by the source SAN storage and the replication job could be established successfully

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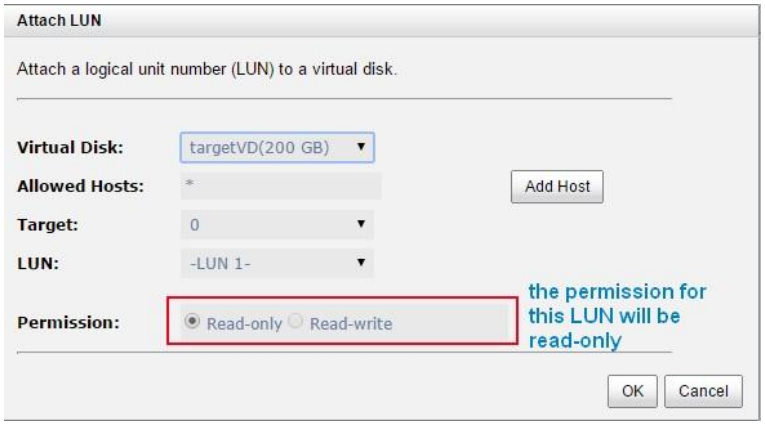
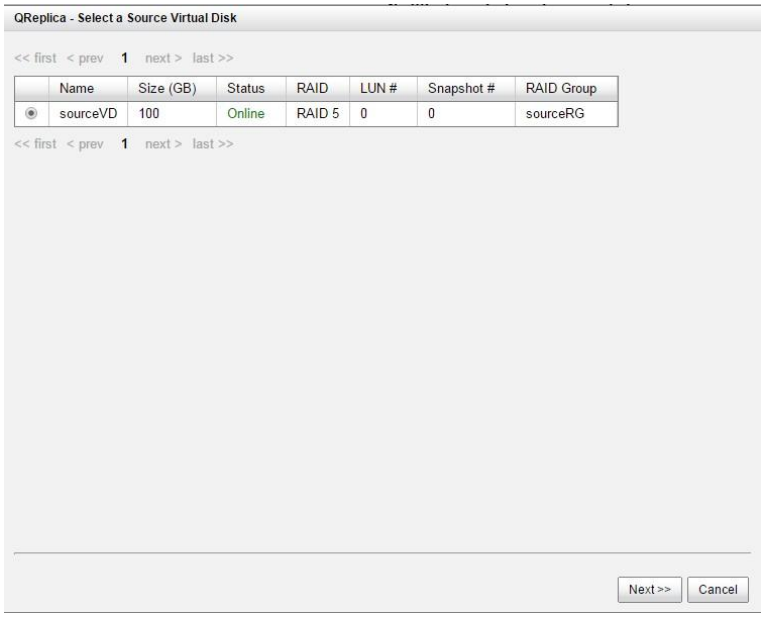


4. Go to on the web interface of source SAN storage and create the first replication job via clicking button.

5. In the pop-up window, select the virtual disk you want to backup data and then click button.



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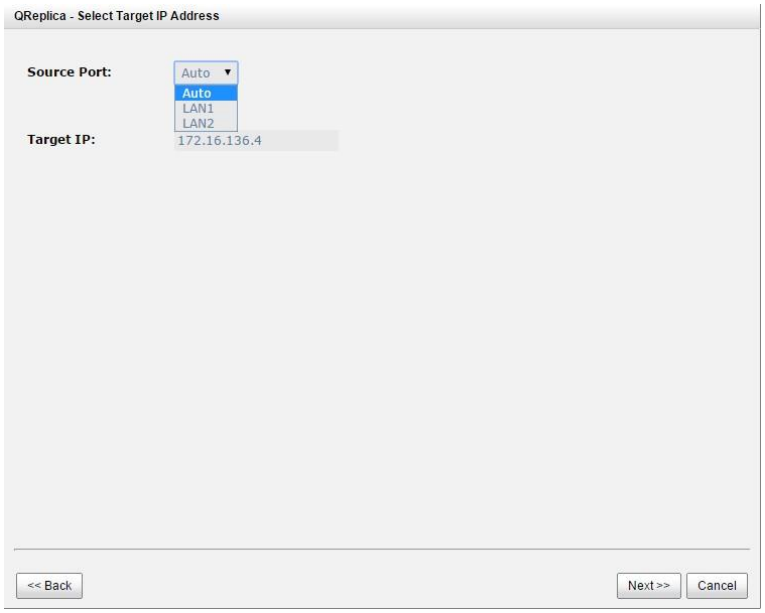
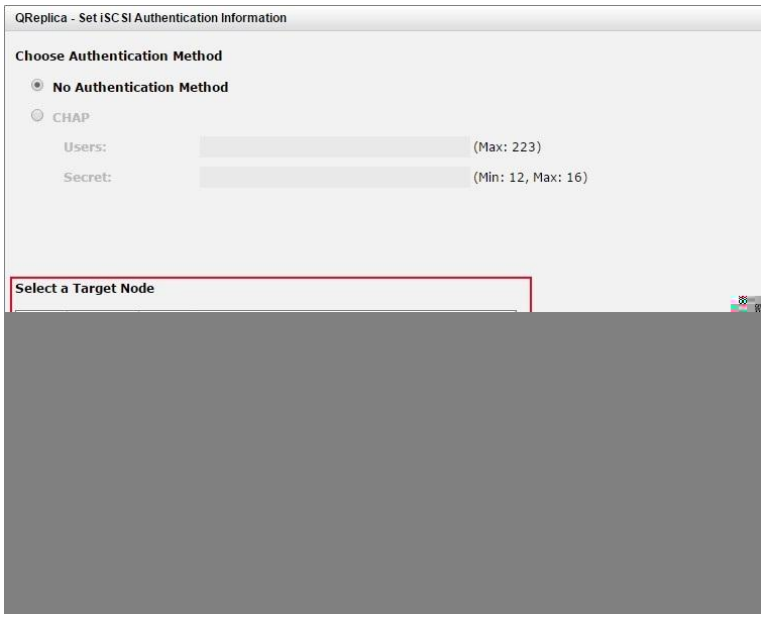
6. Select the portal which you would like to use as the transferring port from the source SAN storage, and specify the IP address of the portal that you want to use as receiving port on the target SAN storage. If is selected, system will choose one available portal automatically



7. Select the iSCSI target that just attached on the target SAN storage



8. Select the available virtual disk which attached to this target, and finish the creation of replication job

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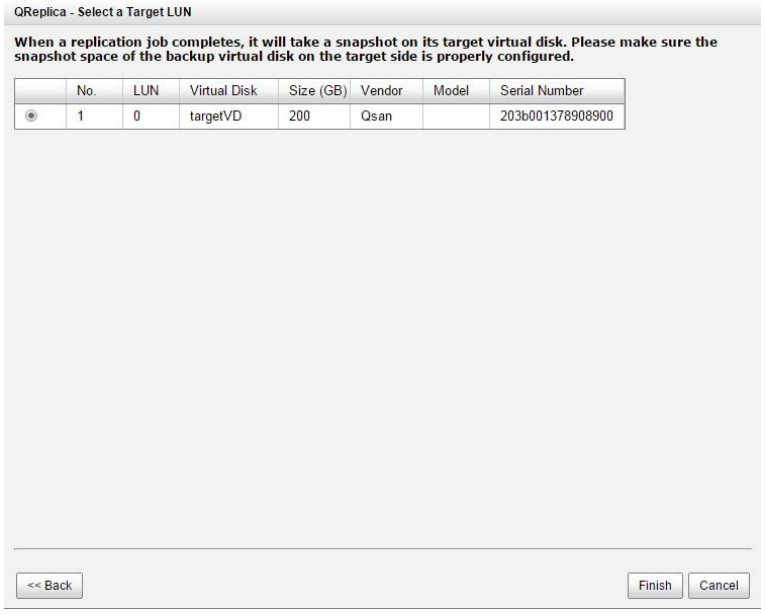
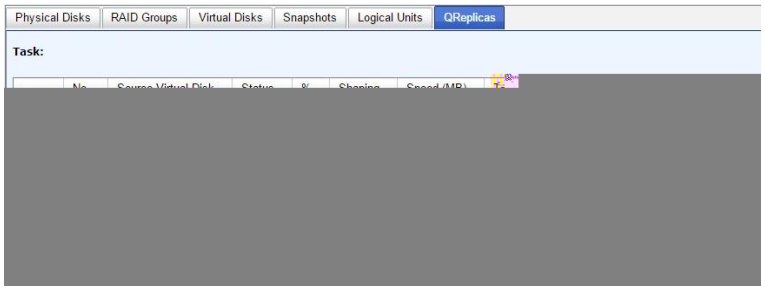
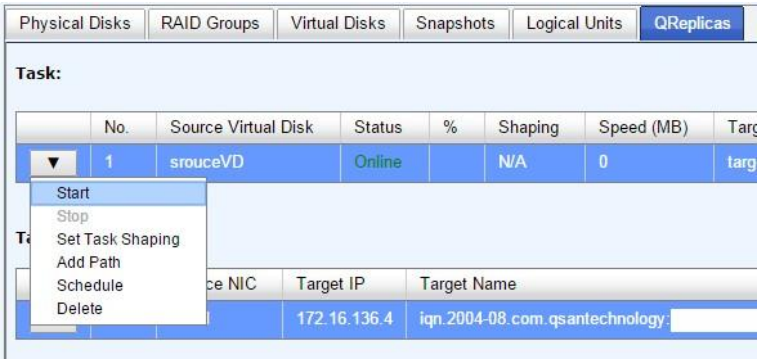


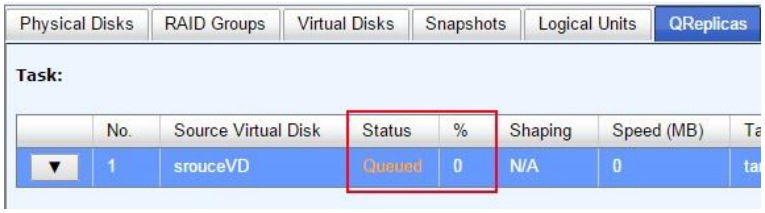
9. The task will be listed and the path of session will be displayed for monitoring the status of replication job



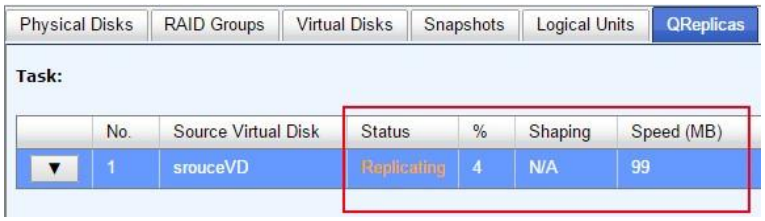
1. Click on the▼ -> to execute the replication job



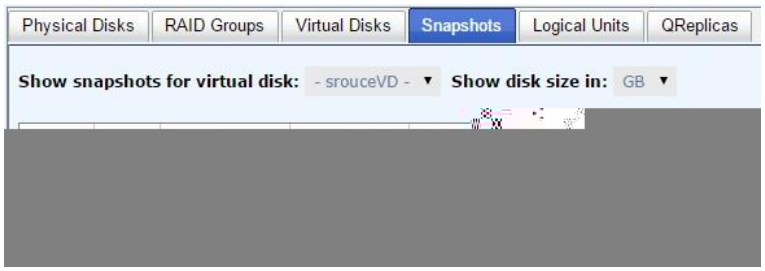
2. You may see the status of task displays as when the percentage is stay in , but actually the data transferring process has already begun at the moment



3. While the percentage becomes or more, the status will be displayed as , and there is transferring speed of the task displayed in the column



4. At the meantime there will be a snapshot taken on the source virtual disk when the replication job starts



1. Click on the ▼ -> to arrange the time for executing replication job

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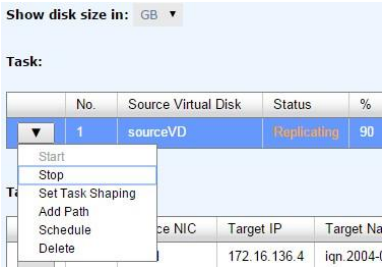
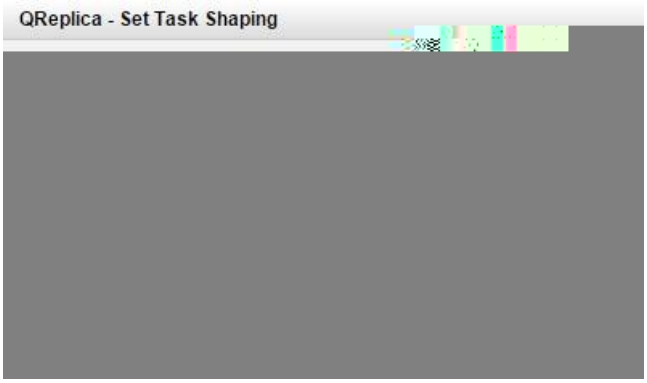
In this example, the [Shaping Group1] is selected, and from Monday to Friday 07:00 ~ 19:00, the replicating speed will be limited within 50MB/s in this group. But for the rest of time, the replicating speed will not be limited. Click OK to finish.

3. Click ▼ -> on the task.



4. Select the in the drop-down menu and click button.



5. There will be an additional column showed and indicating the current applied Shaping group for this replication job.

There are up to 8 shaping groups in the system for users to apply. If two replication jobs apply to the same shaping group, the limited replicating speed will be shared. For example, if there are two replication jobs created, applied to the same shaping group which the limited replicating speed is 100MB/s, they will be running in the same time, the maximum speed for each replication

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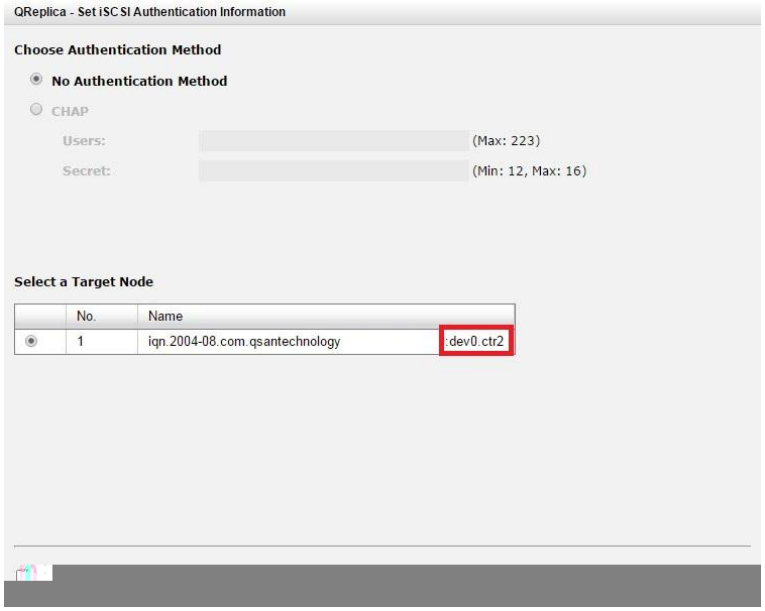

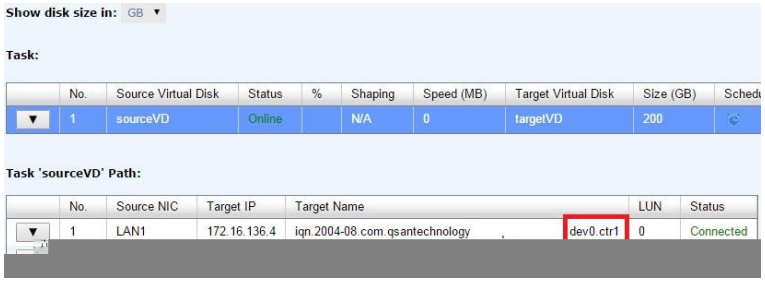

You may see there are two paths for one replication job to replicate data from source to target VD. One is from controller1 of the source SAN storage to the controller1 of target SAN storage, the

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Task 'sourceVD' Path:

	No.	Source NIC	Target IP	Target Name	LUN	Status
▼	1	LAN1	172.16.136.4	iqn.2004-08.com.qsantechnology: dev0.ctr1	0	Connected
		LAN2	172.16.136.7			
▼	2	LAN1	172.16.136.5	iqn.2004-08.com.qsantechnology dev0.ctr2	0	Connected

In theory, with two connections under one path for one replication job, the replicating speed can reach two times comparing to the condition of one connection. But just to remind that if the outgoing transmitting speed of your location is limited, the replicating speed might not be increased at the moment.

It is always being a problem that to do full copy over LAN or WAN when the replication task is executed at the first time. It may take days or weeks to replicate data from source to target with limited network bandwidth. We provide two methods to help user shorten the time of executing full copy.

1. One is to skip full copy on a new, clean virtual disk. The term "clean" means that the virtual disk has never been written data since created. For a new created virtual disk which has not been accessed, the system will recognize it and skip full copy automatically when the replication task is created on this virtual disk at the first time.

Any I/O access to the new created virtual disk will make it not "clean", even though executing "Erase" function when a virtual disk is created. The full copy will take place in such a case

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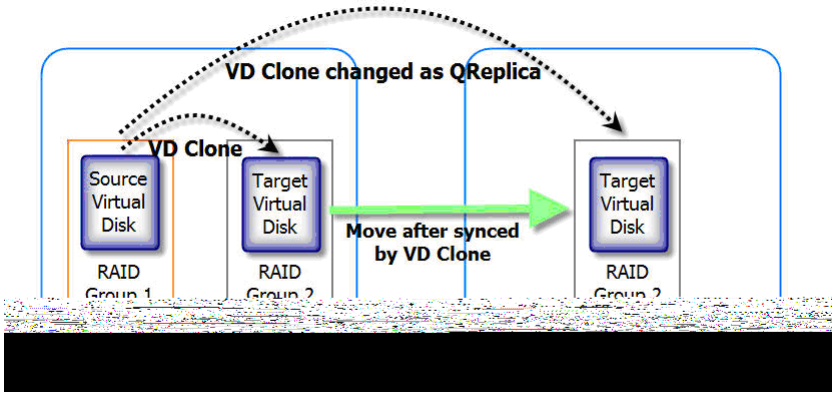
2. The other way is to use virtual disk clone function, which is a local data copy function between virtual disks to execute full copy at the first time. Then move the physical drives of the target virtual disk to the target system and then turn the cloning job into replication task with differential copy afterward.



The QReplica is a block-level copy which can provide more efficient way in differential copy than file-level copy. Because the changes on a volume are calculated by block, it copies the modified blocks only but not whole file.

It is very important to plan the snapshot space usage. Snapshot can be used for regular snapshot, s^^ Z Œ Á Œ ‰ Œ}À] Œ U À]Œ šµ o]•l o}v Y š X Z • ŒÀ]
Users have to be careful to prevent running out of snapshot space otherwise it will cause any service failed. So user should arrange the proper snapshot space. The most conservative way is reserve two or three times larger than virtual disk space for snapshot.

- AegisSAN LX FW 2.30
- AegisSAN Q500: FW 1.10

- Qsan White Paper
  QWP201005-P300H-How_to_use_the_QReplica.v1.5.pdf

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