Reinstatement of RN426 to XRAID, RAID 6 by Factory Default reset

Rev date: 24-Jun-2019

1. Backup all data shares taking note of the Share names – no Apps to uninstall
2. Backup Config file
3. With all 6 original disks installed do a **Factory Default** reset of the system from the **Settings** menu. This action has a 10min timeout period (to allow you to change your mind) and thereafter takes about 15min and will make the following changes;
    a. Erase all data and data shares
    b. Reset all configuration settings to factory defaults
    c. Reset IP address of device and set DHCP
    d. Reset admin user id and password to '*admin*' and *'password'* respectively
    e. Reformat all 6 disks to X-RAID, RAID 5. See footnote [1] for query on default RAID setting.
4. Perform a basic configuration as follows, but do NOT create shares yet:
    a. Device name to be *'Primary'*
    b. Setup email alerts and test
    c. On ethernet port Eth0 set IP address to Static with IP address of 192.168.1.60
    d. Starting with Eth0, set ethernet bonding to all 4 ports bonded to 'bond0' by adding in Eth1, Eth2 and Eth3, and set teaming mode to **Round-Robin**
    e. Password
    f. Reconnect to RN426 via Raidar to check ability to connect
5. Under **Volume**, hover over the data pie chart to check only one RAID group is present
6. Change from X-RAID to Flex-RAID:
    a. Under **Volume**, click the **X-RAID** button at the right side of the page.
    b. Confirm **Yes** that you want to switch from X-RAID to Flex-RAID.
    c. The volume switches from X-RAID mode to Flex-RAID mode (still RAID 5) and the indicator on the X-RAID button turns gray.
7. Now under FlexRAID;
    a. Under **Volume**, destroy the default volume[2]. Click **Destroy** and type in the word DESTROY in the box. This wipes all data, but not device configuration data;
    b. Create a new volume[3] called '*data*' (no quotes) in RAID 6 using all 6 disks;
    c. RAID level should change to RAID 6.
8. Change from Flex-RAID back to X-RAID.
    a. Click the **X-RAID** button at the right side of the page.
    b. Confirm **Yes** that you want to switch from Flex-RAID to X-RAID.
    c. The volume switches from Flex-RAID mode to X-RAID mode and the indicator on the X-RAID button turns green.
    d. The RAID level of 6 will now be maintained in X-RAID mode.

[1] The ReadyNAS OS Flex-Raid Volume Optimisation Guide (p4) states that the default volume for 6 new disks (at start up) is RAID 6. Other Netgear sources state that for up to and including 6 disks, the default volume at start up will be set as RAID 5. This difference must be resolved as it affects the above process of establishing the volume as X-RAID, RAID 6.
[2] See notes on p3 to delete a volume.
[3] See notes on p4 and 5 to create a new volume.

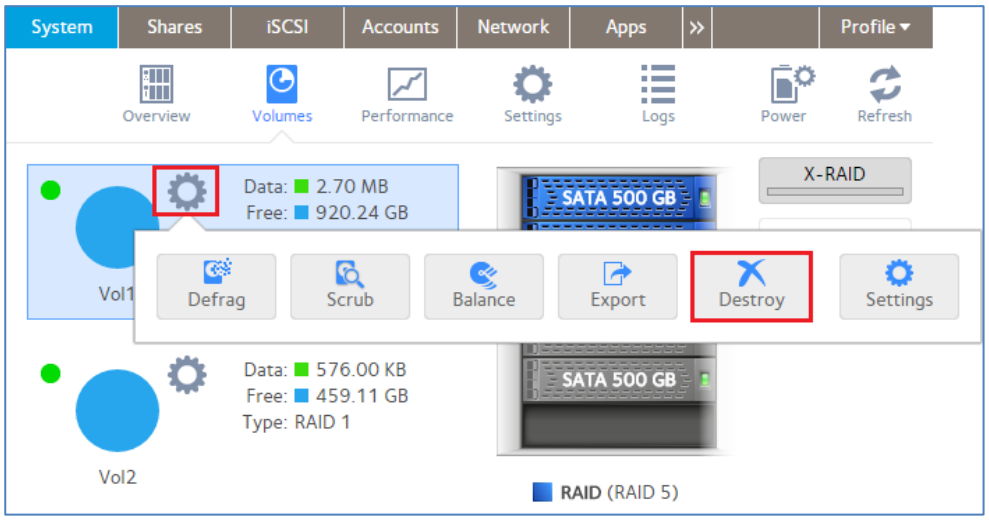
9. Complete configuration of RN426 for the following aspects:
    a. UPS
    b. Power settings and disk spindown settings as previously set
    c. Services such antivirus and updating as previously set
    d.
10. Add shares to volume '*data*' so as to replicate the original shares with their attributes (from 1 above).
11. On RN424 (BackupA), create backup-restore jobs (using RSYNC) per share, with 'BackupA' as the source and 'Primary' as destination.
    a. Note: Uncheck the box **'Enabled'** to force a manual triggering of a backup-restore job.
    b. Manually trigger one restore job (eg Accounts) to test if the system works and data is indeed restored
    c. If all OK, manually trigger the remaining jobs. This should take about 7-10 hours.
    d. Check all shares looks good and PC can connect to mapped shares as required
12. Set up new ReadyDR jobs;
    a. Import public key
    b. Create ReadyDR jobs to BackupA
    c. Create ReadyDR jobs to BackupB
    d. Test run these jobs

To delete a volume on ReadyNAS OS 6 storage system

Before you delete a volume, make sure that you back up any data (folders and LUNs) that you want to save to another volume or another storage device.

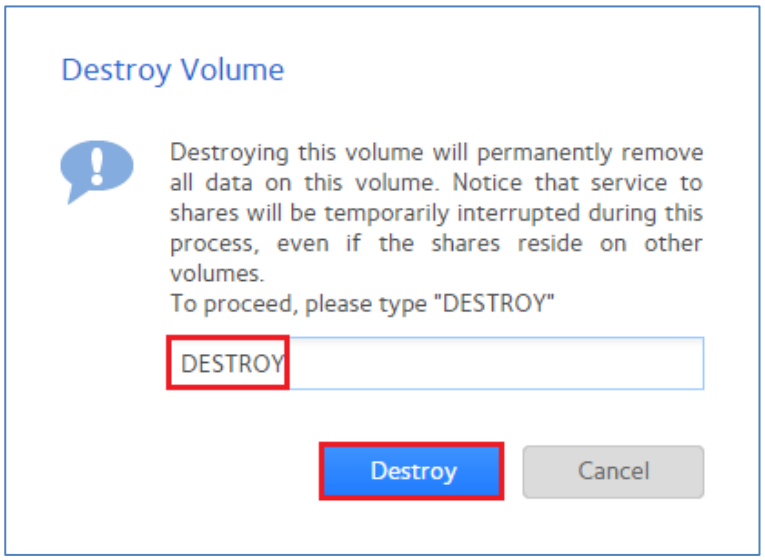
To delete a volume:

1. Select **System > Volumes**.
2. Select the volume that you want to delete.
3. Click on the gear icon. From the pop-up menu that displays, select **Destroy**.



Note: *The Destroy option is not available when the ReadyNAS has a single volume only. The Destroy option is available if you have at least two volumes.*[4]

A pop-up screen displays as follows;



4. Type **DESTROY** (all caps) to confirm your decision.
5. Click the **Destroy** button.

   The volume is deleted. The disks that were part of the volume become available again for other purposes (the colour of the disks turns black).

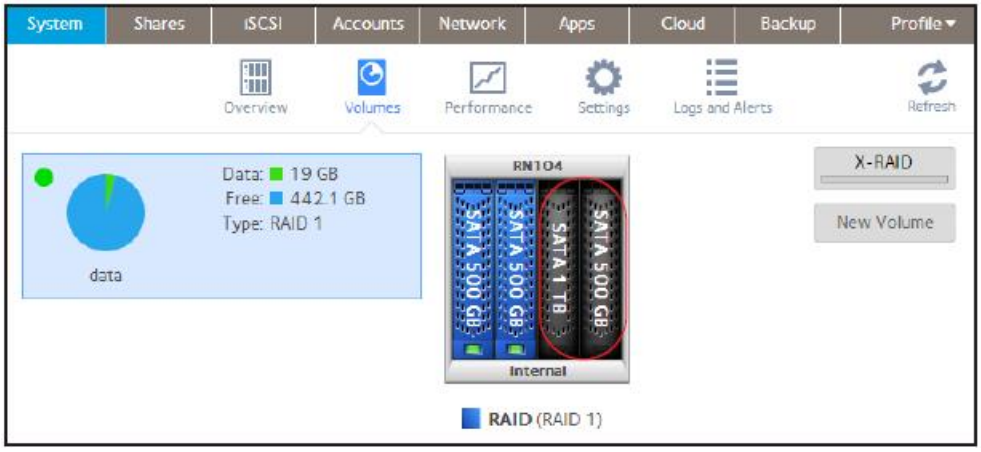
[4] There is debate about the accuracy of this statement. Clarification required.

To create a volume on ReadyNAS OS 6 storage system

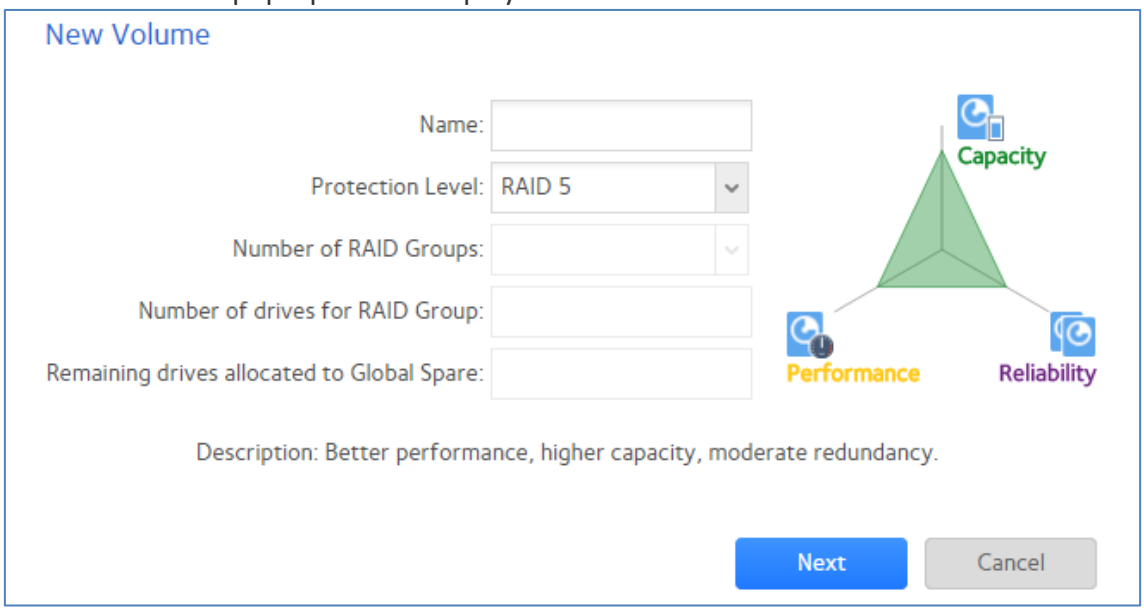
In order to create a new volume, you must be in Flex-RAID. You can turn off X-RAID to enable Flex-RAID at any time.

1. Select **System > Volumes**.
2. From the enclosure graphic, select the disks (coloured black) that you want to include in the new volume by clicking on them – select all 6 for this exercise.

   Available disks are coloured black. Active disks are coloured blue, higher tiered disks are coloured yellow, global spares are coloured green. Unused disks are coloured grey, previously formatted disks are coloured red.



3. Click the **New Volume** button at the right of the screen.
   The New Volume pop-up screen displays.



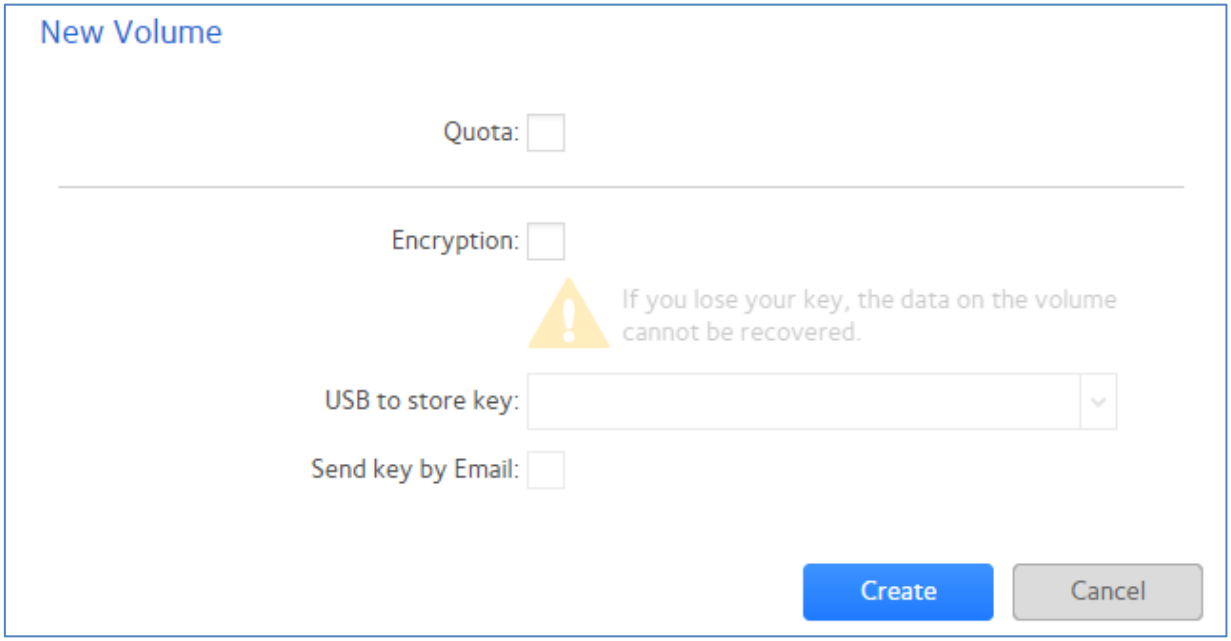
4. Configure the following settings for the New Volume:
   a. **Name**. Enter a name for the volume. The volume must not have the same name as a folder in the root folder system. The volume names *home*, *apps*, and *job_* are reserved and cannot be used. Use the name '*data*' (no quotes).
   b. **Protection Level**. Select an appropriate RAID level for your current selection of drives. Select RAID 6.

c. **Number of RAID Groups**: If the selected number of disks and the Protection level allow for RAID groups, you can manipulate this value here. It is not recommended to have more than four (4) RAID groups. Select 1 group.

d. **Number of drives for RAID Group**: This value changes when the number of RAID groups is entered based on your selected drives. Select 6.

e. **Remaining drives allocated to Global Spare**: If you selected an odd number of drives for the RAID group, remaining drives will be considered global spares and kick in when other drives fail. Select 0.

5. Click the **Next** button.
   Another New Volume pop-up screen displays.



6. Configure the following settings:

   a. **Quota**: Enable global quota on the volume. This is a prerequisite to enabling share-based quota. This is also used to calculate snapshot space in the Admin Page.

   b. **Encryption**. Select this check box to enable encryption on the volume. A key will be generated. If you lose your key, the data on the volume will be irrecoverable. Do not enable encryption.

   c. **USB to store key**. If you enabled encryption, select a USB storage device from the drop-down list to store the generated key.

   d. **Send key by Email**. If you enabled encryption, select this check box to have the generated key sent to an email address associated with the admin account.

7. Click the **Create** button.

8. The new volume is created and appears in the list of volumes at the left of the screen.