

[Back to Technical Advisory List](#)

Important QTS Update for Potential Silent Data Corruption on NAS Using RAID 5/6

Release date: July 25, 2017 (Updated: 2017/07/27)

Severity: Critical

Scope

Update (2017/07/27): The following table contains a more complete list of unaffected models.

Question	Answer	
	Yes	No
<p>Are you using any of the following models?</p> <p>1-bay:</p> <ul style="list-style-type: none"> - TAS-168 - TS-109 / TS-109 Pro / TS-109 II / TS-109 Pro II - TS-110 - TS-112 / TS-112P - TS-119 / TS-119P+ / TS-119P II - TS-120 - TS-121 - TS-128 - TS-131 <p>2-bay:</p> <ul style="list-style-type: none"> - HS-210 - TAS-268 - TS-209 / TS-209 Pro / TS-209 Pro II / TS-209 II - TS-210 - TS-212 / TS-212P / TS-212E - TS-219 / TS-219P / TS-219P+ / TS-219P II - TS-220 - TS-221 - TS-228 - TS-231 - TS-239H / TS-269H - TS-239 Pro / TS-239 Pro II / TS-239 Pro II+ - TS-259 Pro / TS-259 Pro+ - TS-269 Pro / TS-269L <p>4-bay:</p> <ul style="list-style-type: none"> - SS-439 Pro - TS-409 / TS-409 Pro / TS-409U - TS-410 / TS-410U - TS-412 / TS-412U 	Your NAS is not affected.	Proceed to the next question.

<ul style="list-style-type: none"> - TS-419P / TS-419P+ / TS-419P II / TS-419U / TS-419U+ / TS-419U II - TS-420 / TS-420-D / TS-420U - TS-421 / TS-421U - TS-431 / TS-431U - TS-439 Pro / TS-439 Pro II / TS-439 Pro II+ / TS-439U-RP/SP - TS-459 Pro / TS-459 Pro+ / TS-459 Pro II / TS-459U-RP/SP / TS-459U-RP+/SP+ - TS-469 Pro / TS-469L / TS-469U-RP / TS-469U-SP <p>5-bay:</p> <ul style="list-style-type: none"> - TS-509 Pro - TS-559 Pro / TS-559 Pro+ / TS-559 Pro II - TS-569 Pro / TS-569L <p>6-bay:</p> <ul style="list-style-type: none"> - TS-639 Pro - TS-659 Pro / TS-659 Pro+ / TS-659 Pro II - TS-669 Pro / TS-669L <p>8-bay:</p> <ul style="list-style-type: none"> - SS-839 Pro - TS-809 Pro / TS-809U-RP - TS-859 Pro / TS-859 Pro+ / TS-859U-RP / TS-859U-RP+ - TS-869 Pro / TS-869L / TS-869U-RP <p>12-bay:</p> <ul style="list-style-type: none"> - TS-1269U-RP 		
<p>Are you using RAID 5 or RAID 6?</p>	<p>Proceed to the next question.</p>	<p>Your NAS is not affected.</p>
<p>Have you ever installed any of the following builds?</p> <ul style="list-style-type: none"> • 4.2.x: Builds released between versions 4.2.0 and 4.2.6 • 4.3.x: Builds released before version 4.3.3.0238 build 20170703 <p>Update (2017/07/27): 4.3.x: Builds released before version 4.3.3.0154 build 20170413</p>	<p>Follow the recommended solution.</p>	<p>Your NAS is not affected.</p>

Summary

A RAID 5 and RAID 6 algorithm issue that was reported by IT expert Wayne Small has been resolved in QTS builds released after April 17, 2017.

Silent data corruption might have occurred on NAS devices with affected QTS builds and RAID 5 or RAID 6 configurations. The latest QTS builds already address this issue and users can recover corrupted data by installing a recent build and then performing RAID scrubbing. However, RAID scrubbing cannot recover corrupted data if the RAID is degraded.

For details, see the related FAQ: https://www.qnap.com/en/support/con_show.php?cid=121

Solution

QNAP recommends installing any of the following QTS builds:

- **QTS 4.3.3.0238 Build 20170703**
- **QTS 4.2.6 Build 20170628 (only for NAS devices that do not support 4.3.x)**

Update (2017/07/27): NAS devices that do not support QTS 4.3.x are not affected.

After installing the update, you must also perform RAID scrubbing in order to detect and repair silent data corruption. When RAID scrubbing is enabled, QTS automatically verifies all parity blocks and fixes all mismatched parities to ensure data integrity.

Important: Your NAS usage and RAID capacity greatly affects the RAID scrubbing completion time. It may take any time from several hours to several days, depending on how often the NAS is accessed and on the NAS capacity. QNAP recommends minimizing NAS access while RAID scrubbing is in progress.

Please contact QNAP Support at scrubbing_support@qnap.com if you have any further questions.

Installing the Update

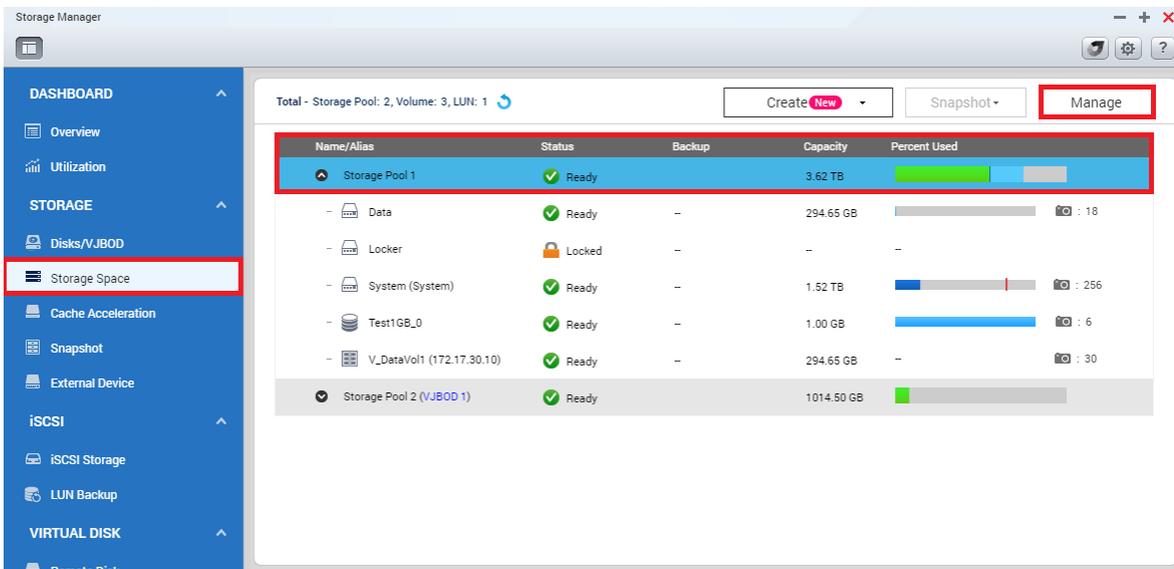
1. Log on to QTS as administrator.
2. Go to **Control Panel > System > Firmware Update**.
3. Under **Live Update**, click **Check for Update**.

QTS downloads and installs the latest available update.

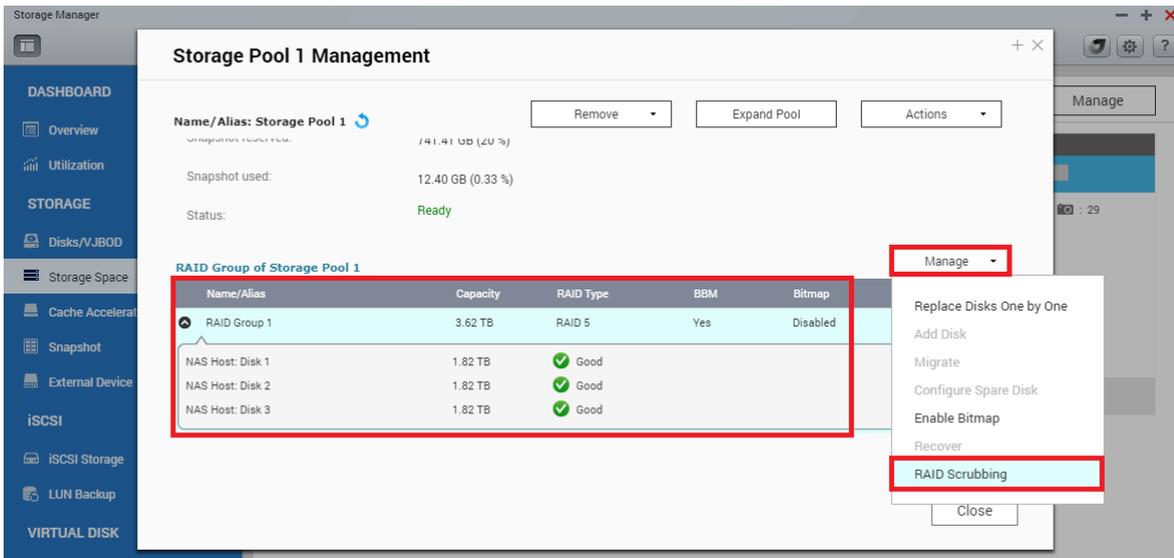
Tip: You can also download the build from the QNAP website. Go to **Support > Download** and then perform a manual update.

Performing RAID Scrubbing

1. Log on to QTS as administrator.
2. Go to **"Storage Manager" > "Storage Space"**.
3. Select the storage pool or volume that contains the RAID 5 or RAID 6 group and then click **"Manage"**.



4. Select the RAID group, click **"Manage"**, and then select **"RAID Scrubbing"**.



QTS starts the RAID scrubbing process. To check the progress, go to **Control Panel > System > System Logs**, or click **Background Tasks** from the QTS task bar.

Background Tasks

RAID Group: Scrubbing
RAID Group 1
0%

Type	Date	Time	Users	Source IP	Computer name	Content
Info	2017/07/25	10:04:07	System	127.0.0.1	localhost	[Pool 1] Started RAID scrubbing with RAID Group 1.
Info	2017/07/24	20:35:07	System	127.0.0.1	localhost	[Pool 1] RAID scrubbing done with RAID Group 1.
Info	2017/07/24	15:59:00	System	127.0.0.1	localhost	[Pool 1] Started RAID scrubbing with RAID Group 1.
Info	2017/07/24	06:49:45	System	127.0.0.1	localhost	[Pool 1] RAID scrubbing done with RAID Group 1.
Info	2017/07/24	02:15:03	System	127.0.0.1	localhost	[Pool 1] Started RAID scrubbing with RAID Group 1.
Info	2017/07/17	06:28:18	System	127.0.0.1	localhost	[Pool 1] RAID scrubbing done with RAID Group 1.
Info	2017/07/17	02:15:01	System	127.0.0.1	localhost	[Pool 1] Started RAID scrubbing with RAID Group 1.
Info	2017/07/11	01:09:55	System	127.0.0.1	localhost	[Pool 1] RAID scrubbing done with RAID Group 1.
Info	2017/07/10	20:34:00	System	127.0.0.1	localhost	[Pool 1] Started RAID scrubbing with RAID Group 1.
Info	2017/07/10	06:31:38	System	127.0.0.1	localhost	[Pool 1] RAID scrubbing done with RAID Group 1.
Info	2017/07/10	02:15:01	System	127.0.0.1	localhost	[Pool 1] Started RAID scrubbing with RAID Group 1.

Tip: To schedule RAID scrubbing, go to **Global Settings > RAID Scrubbing** and then click **Edit**.

Global Setting

Space Reclamation and SSD Trim Edit

Global SSD Trim settings.

RAID Scrubbing Close

Enable RAID Scrubbing ⓘ

Daily
 Weekly
 Monthly

Time: 02 : 15 (hh:mm)

Day: Monday

Finish Cancel

QIoT Suite Lite

DJ2 Live

QmailAgent

Qcontactz

WirelessAP Station

Qfiling

IFTTT Agent

QRM+

Qsirch

Q'center

Virtualization

Qsync

Copyright ©2017 QNAP Systems, Inc. All Rights Reserved.