

Rebuilding a degraded RAID array

In case a RAID array becomes degraded, in this example one SSD has broken down and is not detected anymore, you will be met with this screen at startup:

RAID	Volumes:				
1D 0	Name Volume1	Level RAID1(Mirror)	Strip N∕A	Size Status 238.5GB Degraded	Bootable Yes
Phys	ical Devices:				
ID 1	Device Model	Serial # 6979790066		Size Type/Status	(Vol ID)
Press (CTRL-I) to enter Configuration Utility					

In Windows, you will also see the following alerts and notifications:



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Your system is reporting one or more warnings, and data may be at risk. Open the application for details. 13:01



Autic System AS support@autic.no



In the Intel RST GUI you will see the same:

🙉 Intel® Rapid Storage Technology	- 🗆 X
Status Manage Performance Preferences Help	(intel)
Current Status Your system is reporting one or more events, and data may be at risk. Refer to the details below for more information. Manage Click on any element in the storage system view to manage its properties. The Windows* write-cache buffer flushing policy can be enabled for all RAID array drives to ensure data integrity or disabled to improve data performance. Click the Help icon for more information on setting the write-cache buffer flushing policy based on your needs. SATA_Array_0000 Volume1: Degraded Details: Fix any problems reported on the array disks, or rebuild the volume to a new disk. Unknown disk on Controller Unknown, Port Unknown: Missing	Storage System View SATA_Array_0000 Volume 1 Type: RAID 1 238 GB Internal empty port 0 Internal empty port 2
	More help on this page

To repair the array, you will need to replace the faulty SSD and install a new, preferably identical SSD in its place.

Power off the computer, replace the SSD and power the computer back on.

After installing the new SSD, you will see the following screen at startup:



Press Ctrl+I to enter the RAID configuration utility.



The Configuration utility will suggest rebuilding the degraded array, giving you the option to select the new SSD to be added to the array.

	"Degraded" volume and a disk initiates a re	[DEGRADED VOLUME DETEC disk available for reb build. Rebuild complete	TED] muilding detected. Selecting es in the operating system.
ID 0 Ph ID 1 2	ID Drive Mo 2 TS256GSS [↑↓]-Previou	del Serial # D452K G979790068 s/Next [ENTER]-Selec	TEDUTITING (ESC to exit). Size 238.46B
	[↑↓]-Select	[ESC]-Exit	[ENTER]-Select Menu

Press Enter to select it and start the rebuild process.

Int	el(R) Rapid Copyright ((Storage Technolo C) Intel Corporat	gy - Opt ion. Al MENU 1—	ion ROM - 15.2.0.27 l rights reserved.	740
1. 2. 3.	Create RAII Delete RAII Reset Disk	D Volume D Volume s to Non-RAID 	4. 5. <mark>6.</mark> Informat	Recovery Volume Opt Acceleration Option Exit ION]	ions Is
RAID Volume ID Name 0 Volume	es: e1	Level RAID1(Mirror)	Strip N∕A	Size Status 238.5GB Rebuild	Bootable Yes
Physical D ID Devic 1 TS256 2 TS256	evices: e Model GSSD452K GSSD452K	Serial # G979790066 G979790068		Size Type/Statu: 238.4GB Member Dis 238.4GB Member Dis	s(Vol ID) k(0) k(0)
Volumes u	vith "Rebuild	" status will be	rebuilt u	within the operating	ı system.

As the screen states, the array will be rebuilt within the OS.

Select 6. Exit and press Enter to exit the RAID configuration utility.

In Windows, the Intel RST GUI will show the rebuilding progress:

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<u>Status</u> <u>Manage</u> Performance Preferences <u>H</u> elp	(intel)
Your system is reporting one or more events, and data may be at risk. Refer to the details below for more information. Manage Click on any element in the storage system view to manage its properties. The Windows* write-cache buffer flushing policy can be enabled for all RAID array drives to ensure data integrity or disabled to improve data performance. Click the Help icon for more information on setting the write-cache buffer flushing policy based on your needs. SATA_Array_0000 % Volume1: Rebuilding 4% complete Unknown disk on Controller Unknown, Port Unknown: Missing	Storage System View SATA_Array_0000 238 GB 238 GB 0 GB Internal empty port 0
	More help on this page

In addition to the notifications in system tray:



When the rebuilding is completed, they array will be back to normal:

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<u>Status</u> <u>Manage</u> Performance Preferences <u>H</u> elp	intel
Worrent Status Your system is functioning normally. Manage Click on any element in the storage system view to manage its properties. The Windows* write-cache buffer flushing policy can be enabled for all RAID array drives to ensure data integrity or disabled to inprove data performance. Click the Help icon for more information on setting the write-cache buffer flushing policy based on your needs.	Storage System View SATA_Array_0000 Volume1 Type: RAID 1 238 GB Internal empty port 0
	More help on this page
Intel® Rapid Storage Technology Volume Volume1: Rebuilding complete. 13:42	



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