LENOVO THINKSTATION

# CAPTURING RAID 1 DEGRADATION USING MICROSOFT EVENT MANAGER



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#### Overview

Whenever a RAID configuration is setup, it is important to make sure that the RAID functionality is enabled, and the RAID is fully functional. For an instance, if you have RAID1 configuration it is best practice to check that the RAID1 is functional and not in a "degraded" mode.

This document provides a step by step guide to capture a status change of an Intel RST RAID1 configuration from normal operation to a degraded condition. For compatibility reasons, only standard Microsoft Windows 10 tools are used to realize this functionality.

This document was created and tested using:

Lenovo ThinkStation P330 Gen1 Microsoft Windows 10 Pro (1903) Intel RAID/AHCI Driver version: 17.5.0.1017

# Section 1 – Checking the RAID status manually

If the Intel RAID/AHCI Driver is installed on the system, the RAID functionality can be checked by selecting:

eelantel® Optane™ Memory and Stora...

The Intel RST Management window will show the current status of RAID:

Intel	Intel® Optane™ Memory and Storage Management	- 🗆 ×
✓ Manage               Create volume               Intel® Optane <sup>™</sup>	Status <ul> <li>Your storage system is functioning normally.</li> </ul> Storage System View           Click on any component below to manage its properties.           SATA_Array_0000	Volume1 Status: Normal System volume: Yes Initialized: Yes Rename volume Verify volume
	ATAPI Device          Internal empty port 3	Type: RAID 1 Change type Size: 238 GB Cache mode: Read only Modify Cache Mode Data stripe size: 64 KB Physical sector size: 512 Bytes Logical sector size: 512 Bytes

Here you can see that the RAID is in the normal state

Further actions can be selected in the Manage tab

### Section 2 – Preparation

Using the event notification, we need a small script that will push a message popup to the screen. Use your choice of text editor and create a file with a similar content

File	Edit	Forr	nat	Viev	N	Help								
msg	* /	time	:99	999	AL	ERT	:	Your	RAID	is	in	status	degraded	11

Save this file as yourname.bat in a directory and execute it once to see the popup message

Message from p330 10/9/2019 8:12 AM	×
ALERT : Your RAID is in status degraded !!	
ОК	

### Section 3 – Creating the RAID task

Use Microsoft Windows Task Scheduler to create the RAID status task. Follow the steps given below to get to your Task Scheduler: Windows logo in Windows Administrative Tools Task Scheduler



Select Create Task to create a new task

🕒 Create Task		×
General Trigg	gers Actions Conditions Settings	
Name:	Check RAID Status	
Location:	N N	
Author:	DESKTOP-NUOC1OU\p330	
Description:	Check if RAID1 is in status normal	
-Security opt	ions	
When runni	ng the task, use the following user account:	
DESKTOP-N	UOC10U\p330 Change User or Group	
O Run only	when user is logged on	
Run whe	ther user is logged on or not	
🗹 Do n	ot store password. The task will only have access to local computer resources.	
Run with	highest privileges	
Hidden	Configure for: Windows 10	$\sim$
	OK Cancel	I

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- Assign a name to the task
- Write a short description to define the functionality of the task
- Select Run whether user is logged on or not and Do not store password
- Select Windows 10 in the Configure for option

Note: Do not hit OK yet as the task definition is currently not complete!

Select the Triggers tab as next

ingger			×	
gin the task: ( ettings	)n an event	✓ Window Snip		
Basic	Log:	System	~	
O Custom	Source:	iaStorAC	~	
	Event ID:	129		
Delay task fo	r: 15 mir	utes 🗸		
Repeat task e	very: 1 hour	for a duration of: 1 day		
Stop tack if it	running tasks	at end of repetition duration		
	runs longer tr			
Activate: 10	/ 8/2019	2:30:58 PM     Synchronize across time zones       2:30:58 PM     Synchronize across time zones		
Expire: 10				

- Select On an event under Begin the task field
- Select System under Log field
- Select iaStorAC under Source field
- Type in the event id: 129 -
- Hit OK -

#### Select the Actions tab as next

#### In the Action window select New

Edit Action X	
You must specify what action this task will perform.	
Action: Start a program ~	
Settings	
Program/script:	
C:\Users\p330\Documents\RAID_message.bat Browse	
Add arguments (optional):	
Start in (optional):	
OK Cancel	

- Select Start a program in the Action field
- Browse to the file location of your previously created script
- Hit <mark>OK</mark>

From here select the **Settings** tab

🕒 Create Task	×
General Triggers Actions Conditions Settings	
Specify additional settings that affect the behavior of the task.	
Allow task to be run on demand	
Run task as soon as possible after a scheduled start is misse	ed
□ If the task fails, restart every:	1 minute $\sim$
Attempt to restart up to:	3 times
Stop the task if it runs longer than:	3 days 🗸
If the running task does not end when requested, force it to	o stop
If the task is not scheduled to run again, delete it after:	30 days $\sim$
If the task is already running, then the following rule applies:	
Do not start a new instance $\qquad \qquad \lor$	
	OK Cancel

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Uncheck Stop the task if it runs longer than option from the Settings tab

Now you can hit OK to finish the task definition

Your task is now defined and active

Task Scheduler						_	×
File Action View Help							
🗢 🄿 🞽 🖬 👔 🖬							
<ul> <li>Task Scheduler (Local)</li> <li>Task Scheduler Library</li> </ul>	Name	Status	Triggers		Actions Task Scheduler Library		<u>^</u> ^
> 🖆 Intel > 🖆 Lenovo > 🚆 Microsoft	nWizard_{B2     OneDrive St	Ready Ready . Ready	At log on of any user At 4:00 AM on 5/1/1992		Create Basic Task		
				Import Task			
	<		>		<ul> <li>Display All Running Tasks</li> <li>Enable All Tasks History</li> </ul>		
	General Trigge	rs Actio	ns Conditions 1		🞽 New Folder		
	Name:	Check RA	D Status		View		•
	Location:	\			a Refresh		
	Author: [	DESKTOP-NUOC1OU\p330			? Help		
	Description:	Check if RAID1 is in status norr			Selected Item		•
					Run Run		
					End		
					Export		
	- Security optio	ns			Properties		
	When runnin	g the task	, use the following us V		🗙 Delete		
	μ				<b>N</b>		~

In this example a script will be executed to show a message on the monitor. Depending on the need how to be notified can vary. An individual script can be used to log the event in a separate file or if a management system is in place a snmp trap can be send over the network.



# Section 4 – Document Revision History

Version	Date	Author	Changes/Updates
1.0	11/27/2019	Gregor Linzmeier	Initial launch release