Hitachi VSP, VSP G and HUS-VM setup guide

Follow the steps described below to configure your Hitachi VSP, HUS VM or VSP G storage system from the array side. This guide also applies to HPE XP where high end Hitachi arrays are concerned (XP Remote Web Console is the HPE equivalent of Hitachi Storage Navigator).

1. Set date and time

The date and time settings (including time zone) used by the Hitachi Performance Monitor should match the stor2rrd server. Otherwise, all metrics obtained from the array will not be graphed properly:



As you can see above, the array time is 3 hours behind the Stor2rrd server.

On a high-end Hitachi array, just set the proper time and time zone on the SVP like on any other typical Windows machine. However, on mid-range Hitachi VSP arrays (G200/400/800 and later models) the Export Tool ignores any time settings on the SVP and uses CTL (controller) time instead. Open Maintenance Utility, click Administration – Date & Time and make sure time and time zone are set up correctly.

2. Create a local user to run the Export Tool

Hitachi Export Tool should run under a designated local user with 2 roles assigned:

- Storage Administrator (View Only) assigned by default
- Storage Administrator (Performance Management)

The user with a **Storage Administrator (Performance Management)** role can do the following:

- Save the monitoring data into files
- Change the gathering interval
- Start or stop monitoring by the set subcommand

The Storage Administrator (Performance Management) role is not assigned to any of the pre-defined user groups. Therefore, a new user group should be created first.

Hitachi Device Manager Storage Navigator							
Explorer	User Groups User Groups						
Storage Systems							
Analytics							
Administration							
V User Groups	User Groups						
	Create User Group Add Users Edit Resource Group Assig	nment More Actions					
	User Group Name 1 🛦	User Group Type	Number of Roles				
	Administrator User Group	Built-in	8				
	Audit Log Administrator (View & Modify) User Group	Built-in	2				
	Audit Log Administrator (View Only) User Group	Built-in	2				
	Maintenance User Group	Built-in	2				
	Performance Monitor	User-created	2				
	Security Administrator (View & Modify) User Group	Built-in	3				
	Security Administrator (View Only) User Group	Built-in	3				
	Storage Administrator (View & Modify) User Group	Built-in	6				
	Storage Administrator (View Only) User Group	Built-in	1				
	Support Personnel Group	Built-in	8				
	System User Group	Built-in	8				

In Hitachi Storage Navigator, open Administration – User Groups and click the Create User Group button.

Create User Group	,			Ŧ□×
1.Create User Group	> 2.Assign Roles > 3.Assign Resou	rce Groups > 4.Confirm		
This wizard lets you and click Check to co	create a user group. Enter a name of the onfirm whether the name is available or r	e user group you want to create, not on the external authentication se	erver. Click Next to add roles to this user	group.
User Group Name:	Performance Monitor	Check		
			Back Next 🔉 Finish	Cancel ?

Type in the name of the new group (e.g. Performance Monitor)

Creat	e User Group					Ŧ□×
1.Crea	te User Group > 2.Assign Roles > 3.Assign Resource Groups >	- 4	1.Confirm			
To a	ssign roles to the user group, select roles from the Unassigned Roles	lis	t and click Add. Clic	·k N	ext to assign resource groups to the user or	oup.
10 0.	sign tores to the user group, select fores normale onssigned tores	11.2				
		_				[
U	nassigned Roles			As	signed Roles	
	Hiter ON OFF Select All Pages Options ▼ (€ € 1 7)	1		Sel	ect All Pages	
	Role 1 🛦	î.			Role	
	Security Administrator (View & Modify)				Storage Administrator (View Only)	
	Security Administrator (View Only)					
	Storage Administrator (Initial Configuration)		Add 🕨			
	Storage Administrator (Local Copy)					
\checkmark	Storage Administrator (Performance Management)		Remove			
	Storage Administrator (Provisioning)					
	Storage Administrator (Remote Copy)					
	Storage Administrator (System Resource Management)					
	Support Personnel	×				
	Selected: 1 of 1	1				Selec
<		=				>
					G Back Next D Finish Can	:el ?

In the list of Unassigned Roles on the left, select Storage Administrator (Performance Management) and click the Add button.

Create User Group									
1.Crea	1.Create User Group > 2.Assign Roles > 3.Assign Resource Groups > 4.Confirm								
Whe Clic	When All Resource Groups Assigned is No, select resource groups from the Unassigned Resource Groups list and click Add to assign resource groups to the u Click Next to add users to the user group or Finish to confirm.								
All I	All Resource Groups Assigned: No								
U	nassigned Resour	ce Groups				A	ssigned Resource	Groups	
*	Filter ON OFF	Select All Pages	Options 🗸 💽 🧲	1 / 1		Se	lect All Pages		
~	Resource Group Name (ID)	Number of User Groups	Number of Parity Groups	Number of LDEVs	r		Resource Group Name (ID)	Number of User Groups	Number of Parity Groups
\checkmark	meta_resource	10	4	65273	Add N				
\checkmark	rg_VDI_1 (1)	8	2	7					
								No Da	ita
< 0				>		< 0			
<	Detail Selected: 2 of 2 Detail Select								
	Next Task Option : Continue to Add Users 🛛 Back Next 🕨 Finish Cancel ?								

Every Hitachi array has a default meta_resource group configured. Select it and click the Add button.

If the array is partitioned into multiple resource groups or features that require resource partitioning like GAD (Global Active Device) and VSM (Virtual Storage Machine) are used, add every resource group on the left to the list of Assigned Resource Groups by clicking the **Add** button.

Note: stor2rrd is only able to retrieve data on objects its user ID has access to. GAD always requires a VSM based on a separate resource group. If a stor2rrd user ID doesn't have this resource group assigned, metrics for GAD volumes will not show up in stor2rrd.

Click **Finish** to create the user group. Follow the task progress under **Storage Systems – Tasks**. Once the task is completed, go to **Administration – User Groups**, select the newly created user group and click the **Create User** button.

Create User			Ŧ□×
1.Create User >	2.Confirm		
Set values for the r	new user account and click Finis	h to confirm.	
User Name:	stor2rrd (Max 256 Characters)		
Account Status:	💿 Enable 🔵 Disable		
Authentication:	Local External		
	Password:	*****	
		(6 - 256 Characters)	
	Re-enter Password:	*****	
		📢 Back 🛛 Next 🕨 🛛 Finish	Cancel ?

Type in the user name and password, select Local authentication and click Finish to launch the CreateUser task.

3. Enable Performance Monitoring

The Performance Monitor license comes with every Hitachi array free of charge. Make sure the license is installed and enabled.

If you have a high-end Hitachi machine (VSP, VSP G1000, VSP G/F1500), open **Storage Navigator** and go to **Administration – License Keys**. The Performance Monitor license is displayed as below:

Install Licenses Remove Licenses Enable Licenses More Actions						
Status	Кеу Туре	Licensed Capacity		Torm (days)		
		Permitted (TB)	Used (TB)	reini (days)		
🔯 Installed	Permanent	Unlimited	-	-		
Not Installed						
	icenses More Actions V Settings Status Status Installed Not Installed	Icenses More Actions Settings Status Key Type Installed Permanent Not Installed	Installed Permanent Unlimited	More Actions Settings Status Licensed Capacity Wey Type Licensed Capacity Permitted (TB) Used (TB) Installed Permanent Unlimited Not Installed Operation Operation		

For a mid-range Hitachi array (VSP G200/400/600/800 and later models) open **Maintenance Utility**, then go to **Administration – Licenses**. The license should be displayed as below:

Lie	License Keys						
	Install Enable	Disable	e Remove				
					License Capac	ity (TB)	
	Program Product Name		Status	Кеу Туре	Permitted	Used	
	Data Retention Utility	×		Permanent	Unlimited	-	
	Dynamic Provisioning	¥		Permanent	Unlimited	587.68	
	Dynamic Tiering	¥	Not Installed				
	active flash	¥	Mot Installed				
	Thin Image	¥	Not Installed				
	dedupe and compression	×	Mot Installed				
	Open Volume Management	×		Permanent	Unlimited	-	
	LUN Manager	×		Permanent	Unlimited	-	
	Performance Monitor	≽	Installed €	Permanent	Unlimited	-	
	Server Priority Manager	¥	Installed ₩	Permanent	Unlimited	-	

If the license is not installed, contact your local Hitachi Vantara representative to obtain the license key.

Performance Monitor feature is disabled by default. To enable it, open Storage Navigator, then go to **Analytics – Performance Monitor** and click the Edit Monitoring Switch button.

Explorer	Performance Monitor			
Storage Systems	Performance Monitor			
Analytics	Monitor Performance Edit Monitoring Switch			
Performance Monitor	Monitoring Switch			
	Sample Interval			
	Monitored CUs Monitored WWNs			
	Reliter ON OFF Column Settings			
	CU Number of LDEVs			

Set the Monitoring Switch radio button to Enable and Sample Interval to 5 minutes (note: lesser values, e.g. 1 minute seem to work as well).

Edit Monitoring Swite	ch	TOX
1.Edit Monitoring Switch	> 2.Confirm	
Set Monitoring Switch s	settings and click Finish to confirm.	
Monitoring Switch:	💿 Enable 🔵 Disable	
Sample Interval:	5 V Minute(s)	
	€ Back	Next Finish Cancel ?

Clicking Finish will start the Edit Monitoring Switch task. Once the task is completed, you're all set.