

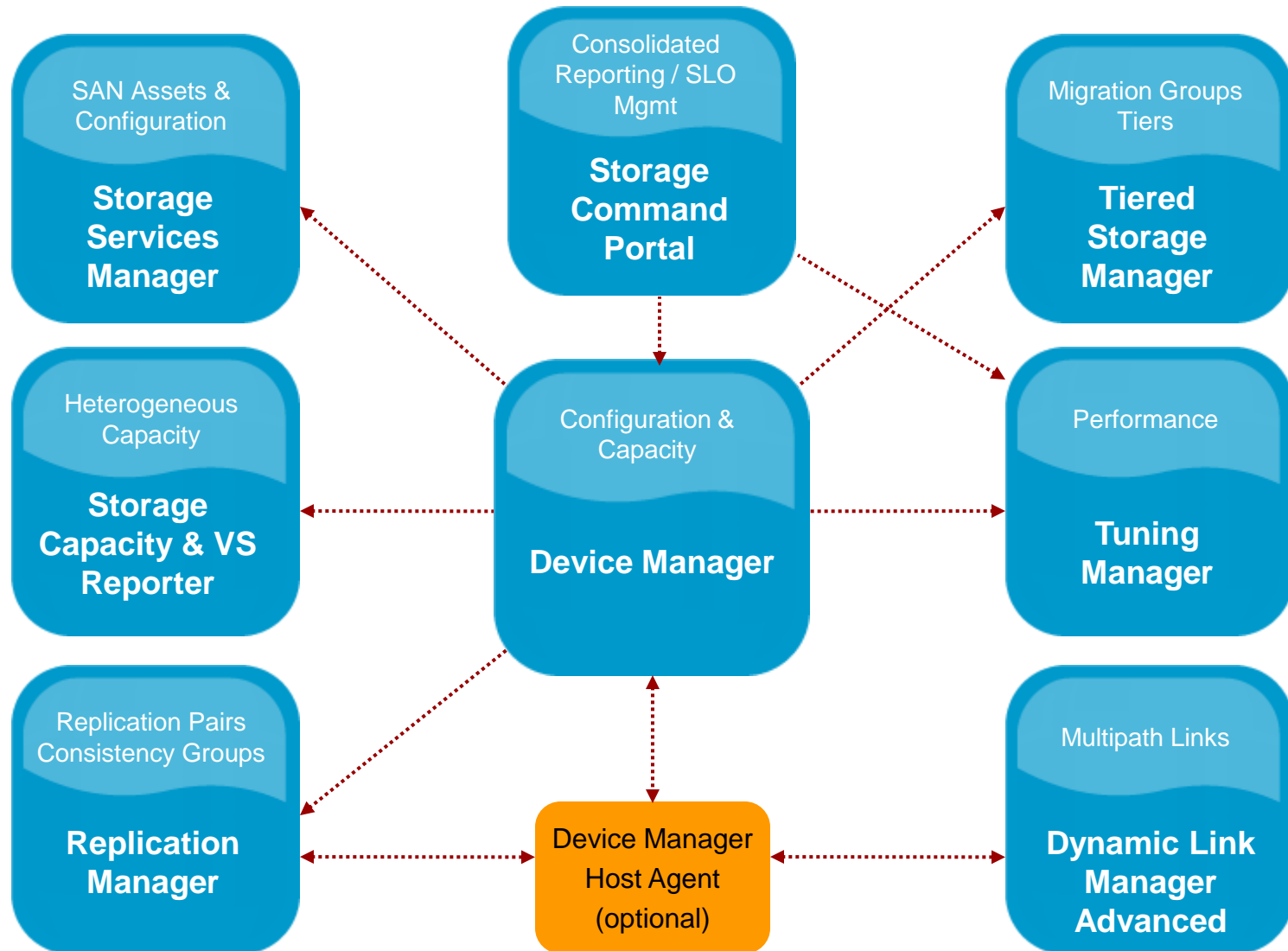
HSCS 6.4 : **mieux appréhender la gestion du stockage** **en environnement VMware et service de** **fichiers HNAS**

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Product Marketing Manager



Hitachi Storage Command Suite Portfolio



Hitachi Device Manager

HITACHI

Add Storage - Step 1 of 5

1. Define Host/Port Connections

2. Define LUs

3. Assign Host/Port Connections

4. Assign LUNs

5. Summary of Changes

Adding storage is straightforward and consistent across all Hitachi arrays. You learn one method to give hosts storage. Adding even more storage to a host is even easier by using the same settings for the current volumes

- ▼ Logical Groups
 - ▶ Backup Hosts
 - ▶ Exchange 2003 Cluster 1
 - ▶ Oracle Servers

[Resource Group Administration](#)

[Resource Group Allocation](#)

Logical Groups allow you to manage your allocated storage in a consistent manner. **Resource Groups** allow you to segment your storage for more control of your storage administrators.

You can create **Reports** on your storage in either HTML or CSV formats.

Reports

[Physical Configuration of Storage Subsystem *](#)

[Storage Utilization by Host *](#)

[Storage Utilization by Logical Group *](#)

[Users and Resource Groups](#)

[Detailed Array Reports](#)

Host: **ha8505a**

n/a (Group is not assigned)

n/a (Parent group is not assigned)

Subsystem

USP_V@172.16.110.1

LDEV	Type	SLPR	CLPR	Port/HSD/LUN	Er	Host	Assigned LDEV	External Subsystem	External LDEV	Size	State	Other
00:06:1B	-	0	0	CL2-D/ha8505/00	OPEN-V	Unpaired		CVS	CMD DEV			
							ha8505a	21.00.00.E0.8B.0F.58.2C		1,000 MB		
00:06:1C	-	0	0	CL2-D/ha8505/01	OPEN-V	Unpaired		CVS				
							ha8505a	21.00.00.E0.8B.0F.58.2C		1,000 MB		
00:06:1D	-	0	0	CL2-D/ha8505/02	OPEN-V	Unpaired		CVS				
							ha8505a	21.00.00.E0.8B.0F.58.2C		1,000 MB		



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Hitachi Device Manager

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Hosts

- ▶ Oracle 11i
- ▶ Exchange 2003
- ▶ Sharepoint 2007
- ▶ HCMD0000
- ▶ HCMD0001
- ▶ HCMD0002
- ▶ HCMD0602
- ▶ HCMD0816
- ▶ HCMD1010
- ▶ HP_STD
- ▶ MyHost
- ▶ QA_TEST
- ▶ aguni
- ▶ aibetsu
- ▶ aito
- ▶ alaska
- ▶ amd64

Tracking hosts lets you see what hosts are using your storage and how much they are consuming.

BL2500-04A
Hosts > BL2500-04A

Name	BL2500-04A
World Wide Names /iSCSI Names	21.01.00.E0.8B.A3.5C.FD
IP Address	
Capacity	6.25 GB

	LDEV	Label	Subsystem	Port	Port Type	H
<input type="checkbox"/>	00:F2		USP@172.16.100.1	CL2-G	Fibre	BI
<input type="checkbox"/>	00:F3		USP@172.16.100.1	CL2-G	Fibre	BI
<input type="checkbox"/>	00:F4		USP@172.16.100.1	CL2-G	Fibre	BI
<input type="checkbox"/>	00:F5		USP@172.16.100.1	CL2-G	Fibre	BI

<input type="checkbox"/>	LDEV ▲	Label	Capacity
<input checked="" type="checkbox"/>	00:00	Oracle DB Volumes	2.29 GB
<input checked="" type="checkbox"/>	00:01	Oracle DB Volumes	2.29 GB
<input checked="" type="checkbox"/>	00:02	Oracle DB Volumes	2.29 GB
<input type="checkbox"/>	00:06	Oracle Log Volumes	2.29 GB
<input type="checkbox"/>	00:07	Oracle Log Volumes	2.29 GB

LDEV Labeling gives each volume a purpose like data volumes or log volumes. This can be used with **Logical Groups** to identify the application and then what purpose each volume has for that application by it's label.

Logical Groups

- ▶ Backup Hosts
- ▶ Exchange 2003 Cluster 1
- ▶ Oracle Servers



Hitachi Tuning Manager

Surveiller et analyser les performances de vos ressources de stockage de l'application aux périphériques de stockage

HITACHI
Inspire the Next

Hitachi Tuning Manager

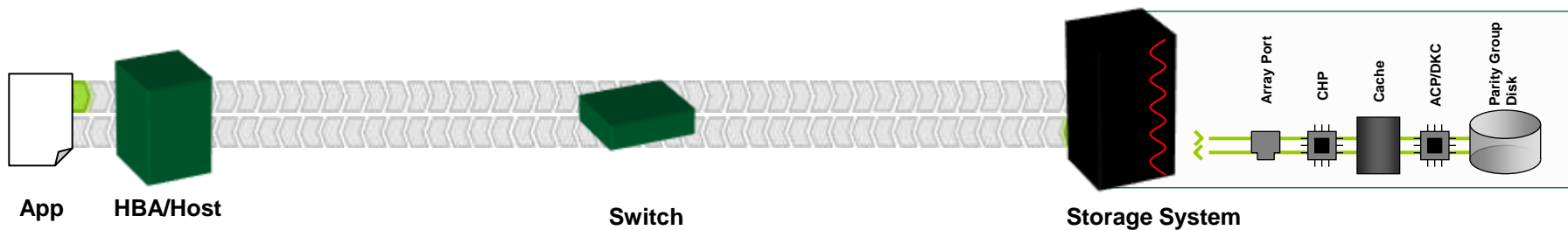
Advanced application-to-disk reporting, analysis, troubleshooting and alerting for Hitachi storage systems

Hitachi Basic Operating System (Hitachi Performance Monitor)

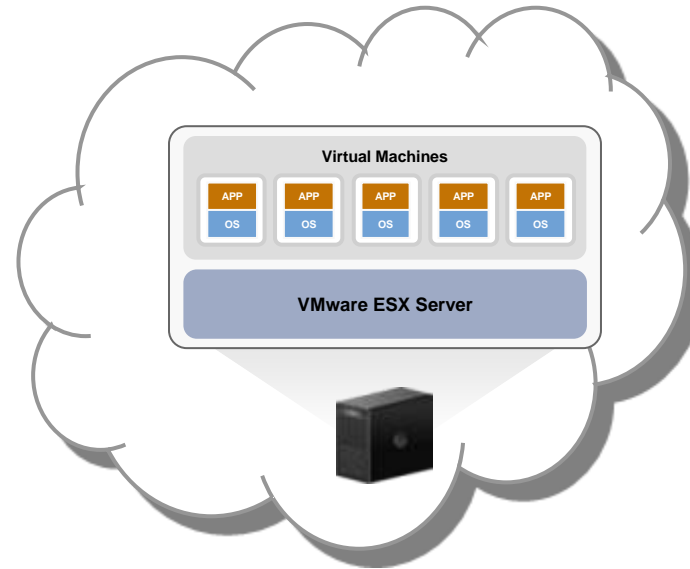
Detailed point-in-time reporting of individual Hitachi storage systems

Enterprise Management Tools

Network Infrastructure Monitoring and Alerting



Nouvelles fonctionnalités autour de VMware



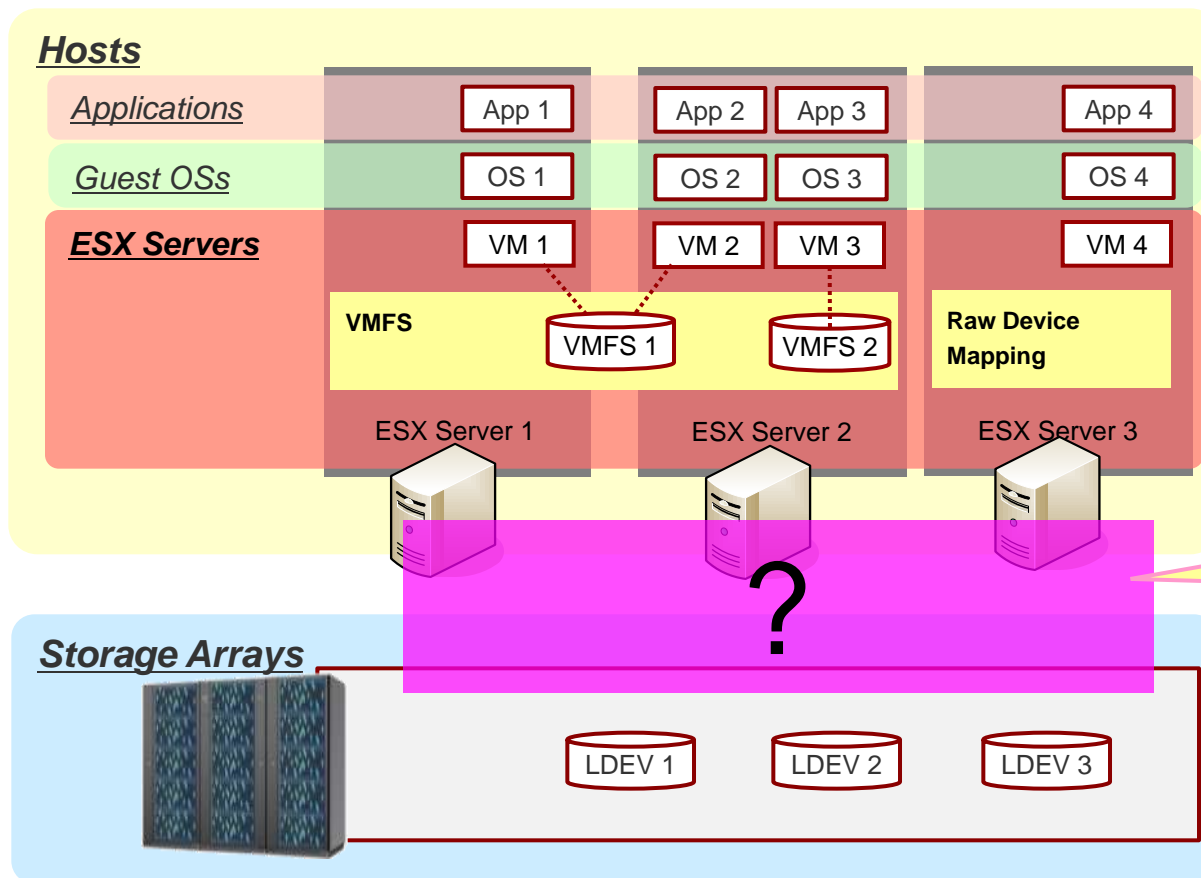
The screenshot shows the Hitachi Tuning Manager interface. The main window displays a dashboard with various metrics and a table of LDEVs. The interface includes a navigation pane on the left, a central area with a man thinking, and a right-hand panel with a table of LDEVs.

L Type	Port Speed	Port Role	Number of LDEVs
auto	Target	Target	94
auto	Target	Target	35
auto	Target	Target	46
auto	Target	Target	23



Challenges : corréler les informations entre VMware et les ressources de stockage

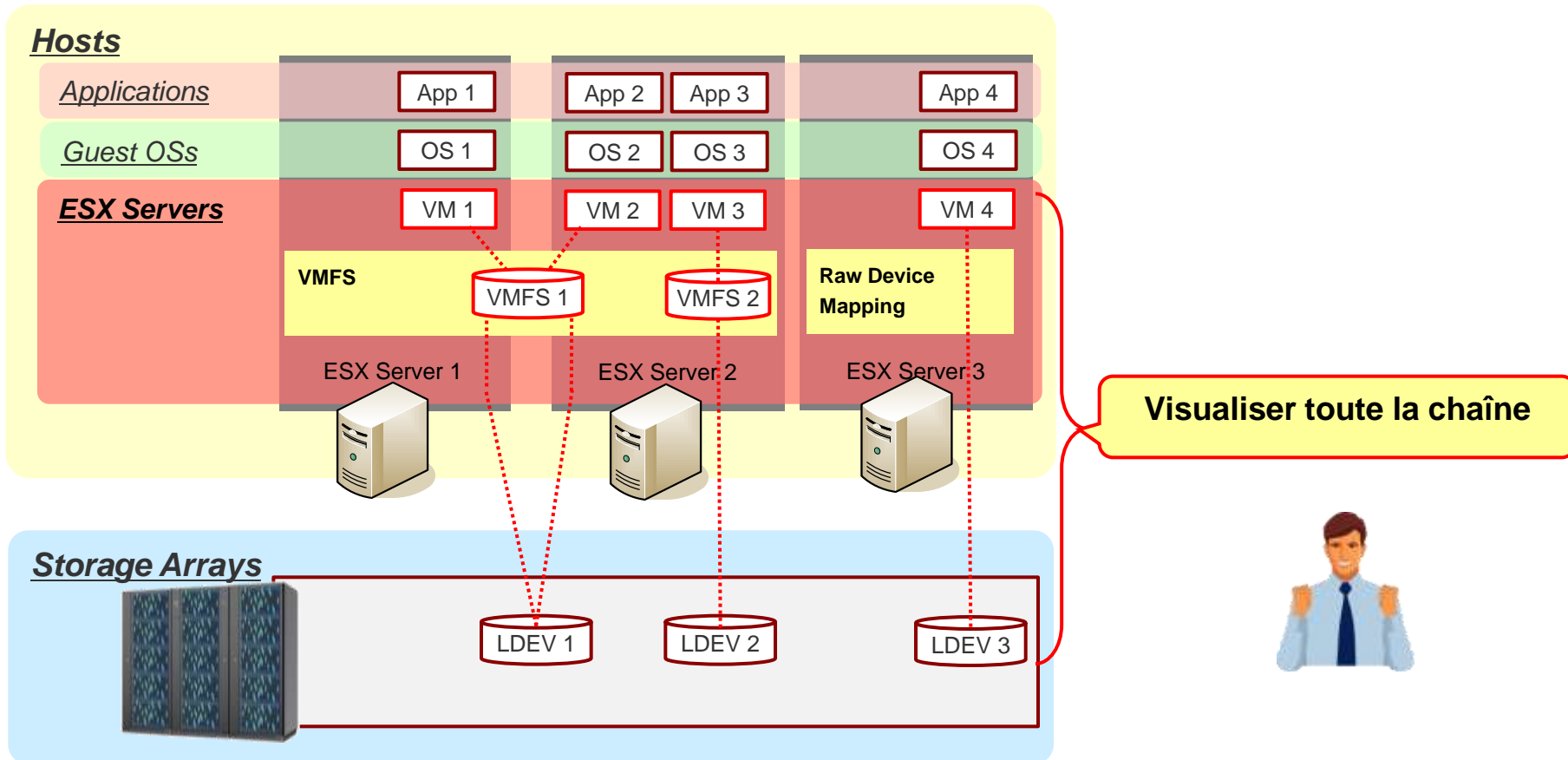
Difficile de faire le lien entre les Datastores et les volumes même en utilisant VMware vCenter car le stockage est virtualisé dans l'environnement VMware.



Quels volumes sont affectés à quels Datastores ?

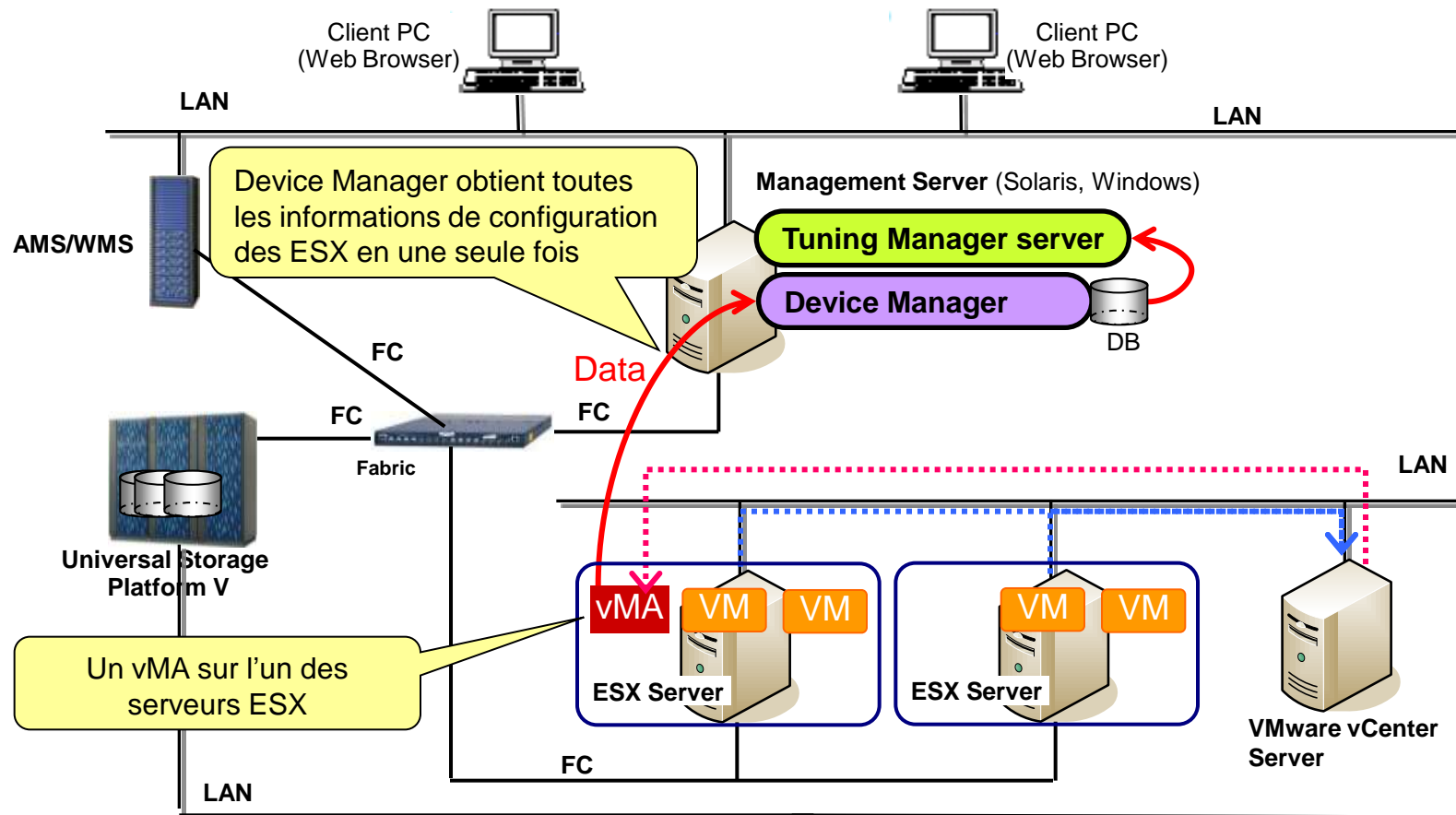


Faire le lien des VMs en passant par les Datastores et jusqu'au volumes



HSCS 6.4 : configuration avec VMware vCenter

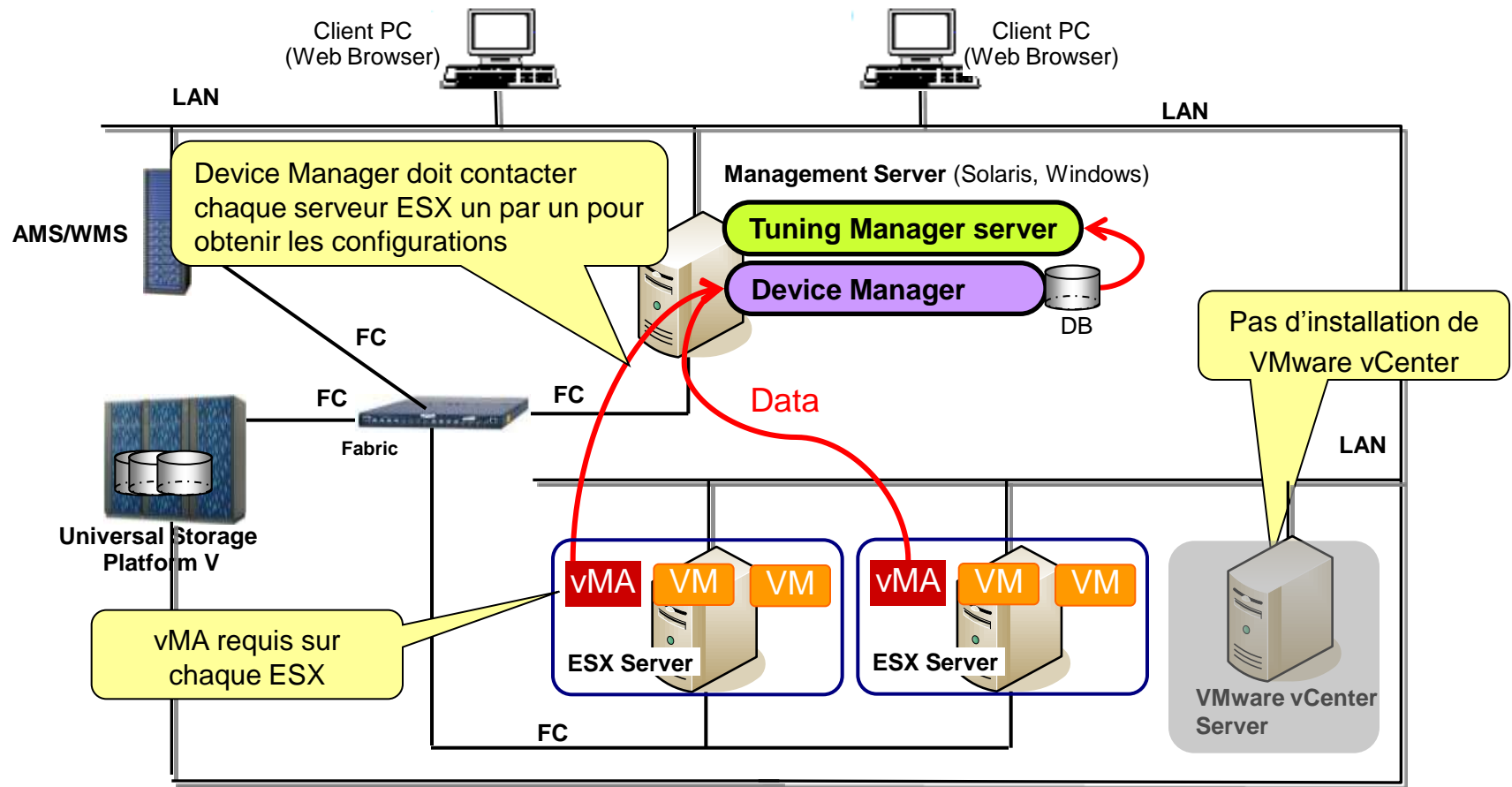
- Hitachi Device Manager obtient les données de configuration de VMware depuis vMA.
- Hitachi Tuning Manager lui interroge la base de données de Device Manager.



vMA: vSphere Management Assistant



HSCS 6.4 : configuration sans VMware vCenter

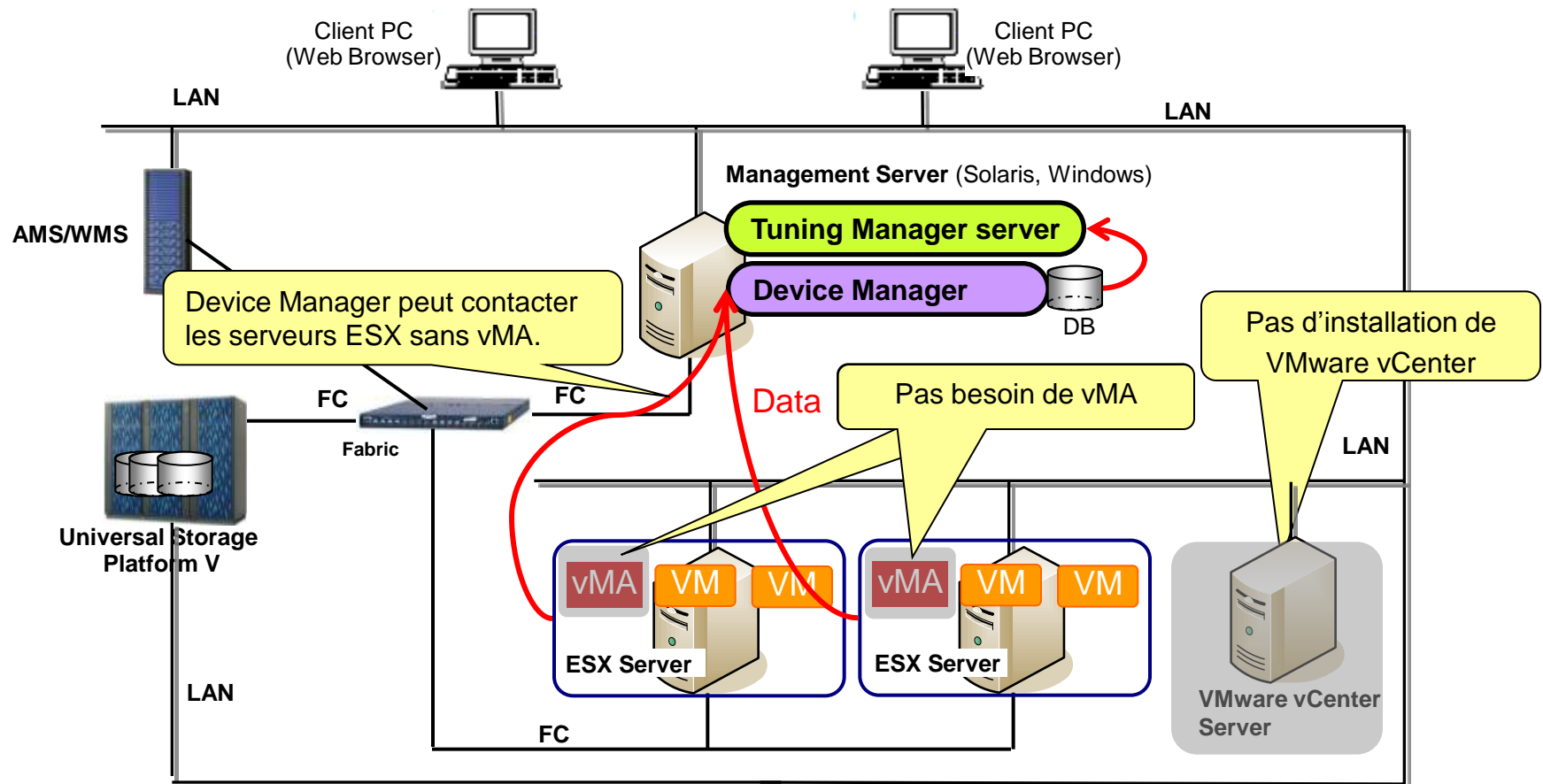


vMA: vSphere Management Assistant



HSCS 6.4 : configuration sans VMware vCenter et avec ESX v3.5

- Hitachi Device Manager peut fonctionner sans vMA mais ceci n'est pas recommandé car en ESX v4, vMA est un prérequis.

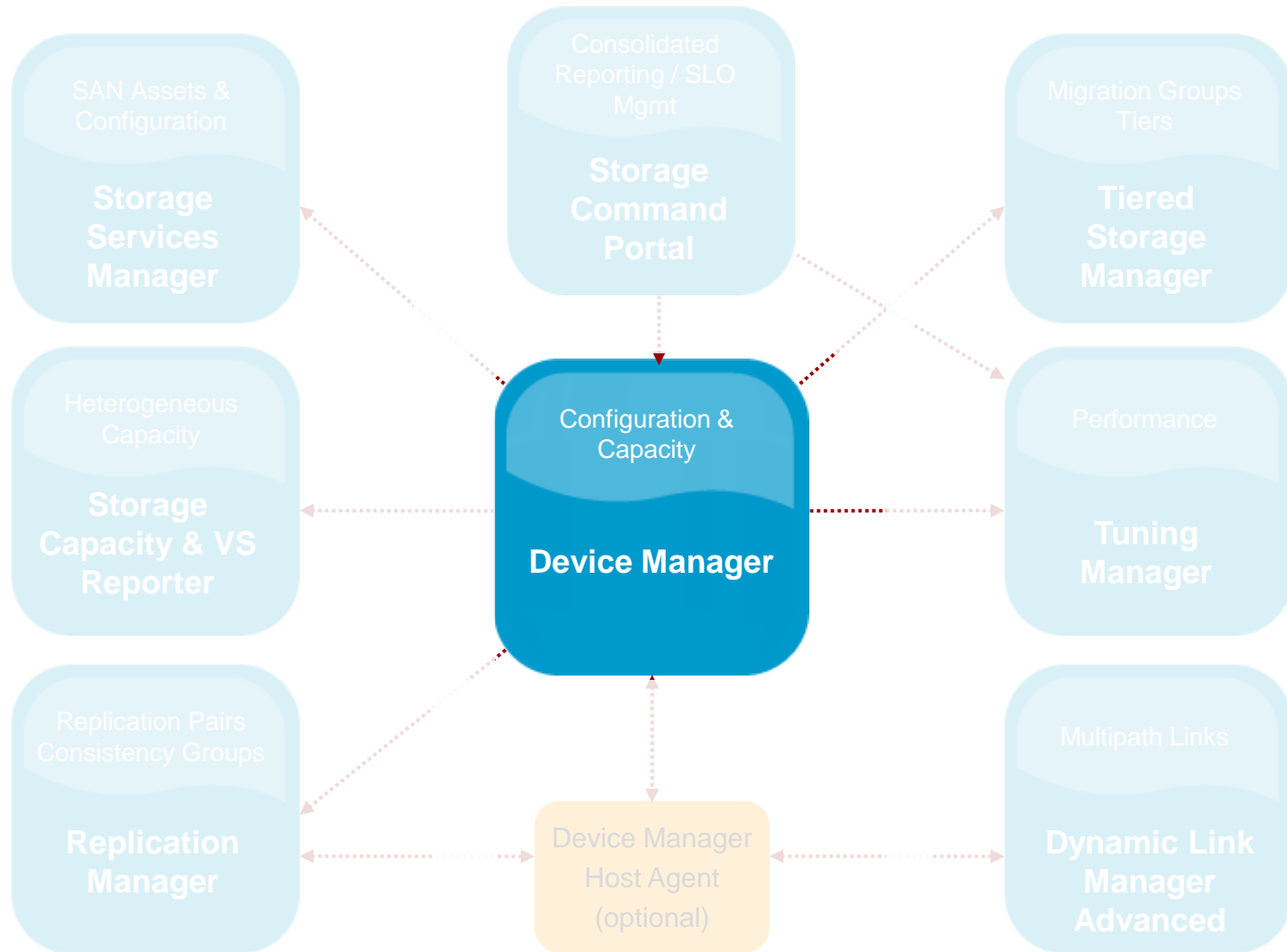


vMA: vSphere Management Assistant



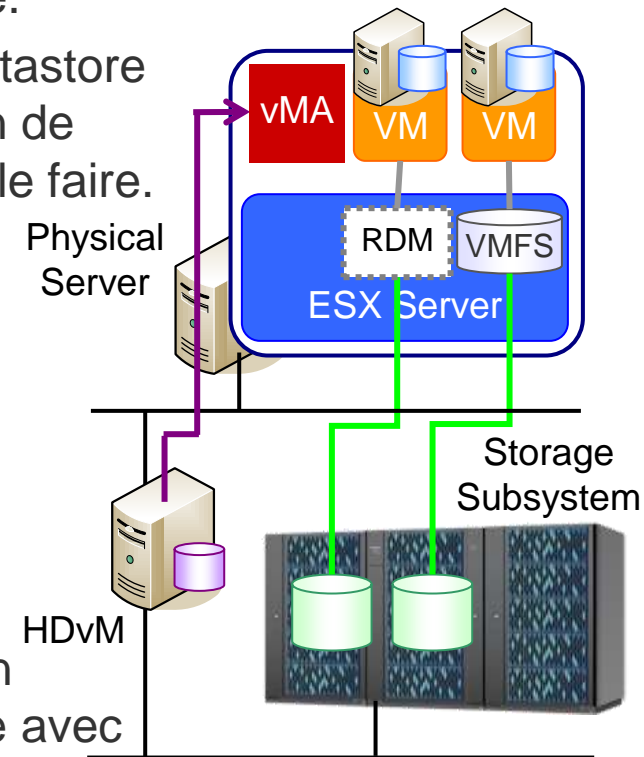
- Versions VMware supportées
 - VMware ESX Server 3.5, 4.0
 - VMware ESXi Server 3.5, 4.0
- Ressources maximum
 - Nombre de VMs par serveur HSCS
 - Moins de 3000
 - Nombre de serveurs ESX par serveur HSCS
 - Moins de 300
 - Nombre de VMs pour un serveur ESX
 - Moins de 60





HDvM 6.4 : meilleur support des machines virtuelles VMware

- Acquis
 - HDvM 6.3 affiche les configurations VMware et les liens entre les volumes, le serveur ESX et les datastore.
 - HDvM 6.3 ne sait pas afficher les liens entre le datastore et les Virtual Machine (VMs). Les outils de gestion de VMware ou HTnM sont nécessaires pour pouvoir le faire.
- Nouveauté en 6.4
 - HDvM affiche maintenant les liens serveur ESX/datastore et VMs.
- Bénéfice
 - Pour faire croître un volume assigné à une VM, un utilisateur peut affecter correctement la volumétrie avec HDvM.



Identification simple et rapide des serveurs virtualisés

L'onglet LDEVs montre des informations sur les volumes affectés au serveur de virtualisation (comme en 6.3).

L'onglet VM montre des informations concernant les VM s'exécutant sur le serveur ESX
- Nom et système d'exploitation hôte

The screenshot shows a management console interface. On the left, a tree view under 'Hosts' shows a list of virtualization servers, with '172.17.250.11' selected. The main area displays details for the selected server, including 'Name', 'World Wide Names', and 'Capacity'. Below this, there are two tabs: 'LDEVs' and 'VMs'. The 'VMs' tab is active, showing a table of virtual machines with columns for 'VM' and 'Guest OS Version'.

VM	Guest OS Version
00-ACADEMY-BUGZILLA-027	Red Hat Enterprise Linux 5 (64-bit)
02-ECLAIRLAB-LINSERV1	Red Hat Enterprise Linux 5 (32-bit)
02-ECLAIRLAB-WINCLIENT1	Microsoft Windows Vista (32-bit)
02-ECLAIRLAB-WINCLIENT2	Microsoft Windows Vista (32-bit)
02-ECLAIRLAB-WINSERV2	Microsoft Windows Server 2008 (32-bit)
04-ASSIMA-REPO01	Ubuntu Linux (64-bit)
04-VM-ASSIMA-DEV1	Microsoft Windows Server 2003, Standard Edition (32-bit)
05-HSCP-SERVER-110	Microsoft Windows Server 2003, Standard Edition (32-bit)
05-VM-ASSIMA-DEV2	Microsoft Windows Server 2003, Standard Edition (32-bit)
19-DEV1	Microsoft Windows Server 2003, Standard Edition (32-bit)
21-BULGE	Red Hat Enterprise Linux 5 (64-bit)



- Lorsque le lien avec le nom de la VM est cliqué dans l'onglet VM, tous les liens sont affichés.

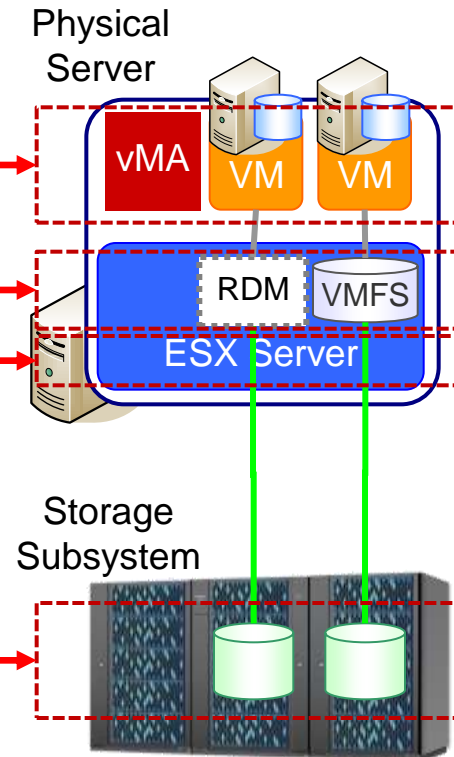
05-VM-ASSIMA-DEV2
Hosts > Virtualization Servers > 172.17.250.11 > 05-VM-ASSIMA-DEV2

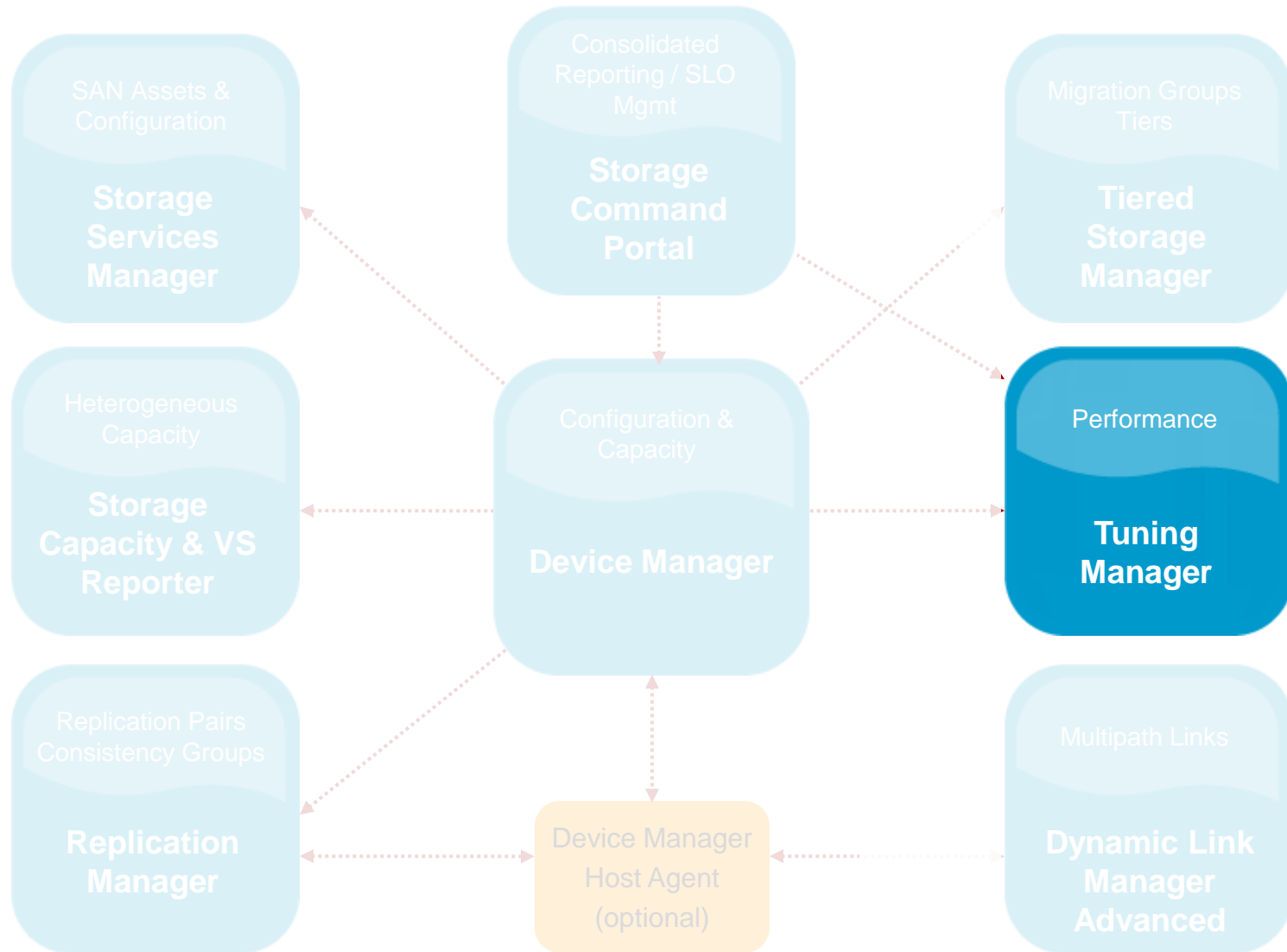
VM

Name	05-VM-ASSIMA-DEV2
Guest OS Version	Microsoft Windows Server 2003, Standard Edition (32-bit)
Virtualization Server	172.17.250.11

Rows/Page: 25 | Page 1 of 1

	LDEV	Copy File	Copy Status	File System	% Used	Last Updated
<input type="checkbox"/>	48	VOL	Pair	Datastore(AMS-DS-24)	--	Nov 24, 2009 3:52:19 PM
<input type="checkbox"/>	48	VOL	Pair	Datastore(AMS-DS-24)	--	Nov 22, 2009 2:01:33 AM
<input type="checkbox"/>	48	VOL	Pair	Datastore(AMS-DS-24)	--	Nov 24, 2009 3:52:19 PM
<input type="checkbox"/>	49	VOL	Pair	Datastore(AMS-DS-24)	--	Nov 24, 2009 3:52:19 PM
<input type="checkbox"/>	49	VOL	Pair	Datastore(AMS-DS-24)	--	Nov 22, 2009 2:01:33 AM
<input type="checkbox"/>	49	VOL	Pair	Datastore(AMS-DS-24)	--	Nov 24, 2009 3:52:19 PM





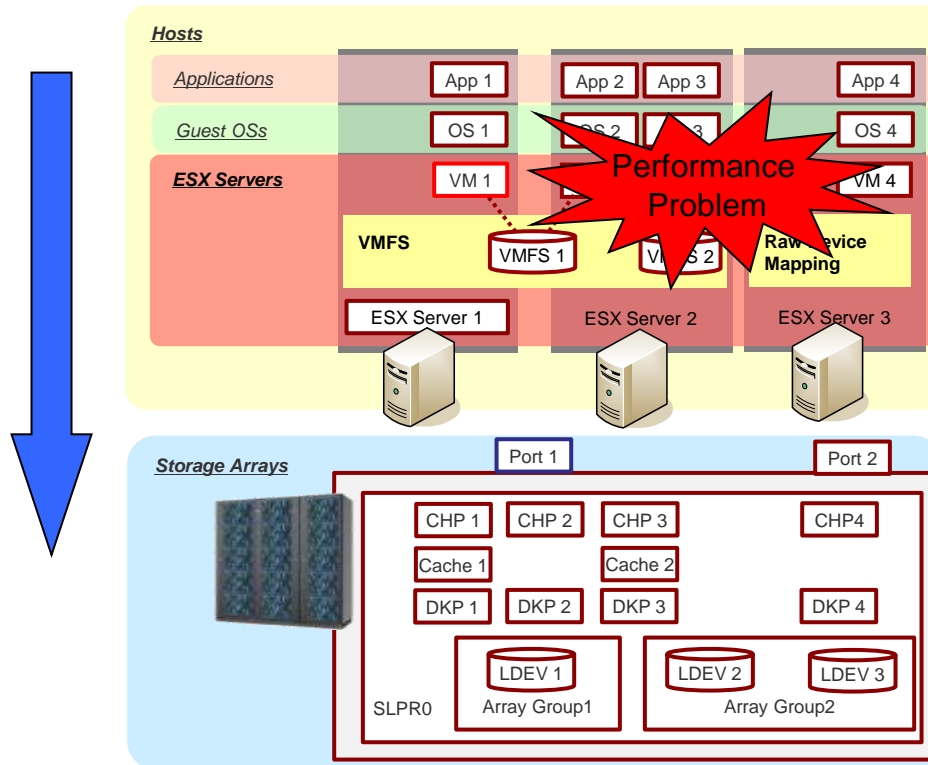
- Améliorations en 6.4 :
 - Analyse de performance : aider les administrateurs à trouver la cause des problèmes de performance observés dans une VM
 - Identifier les VMs, Datastores et autres ressources impactés par un problème de performance soudain ou un changement de configuration fait au niveau des périphériques de stockage
- Nouveautés en 6.4 :
 - Rapport sur la capacité : aider les administrateurs à surveiller la capacité utilisée du Datastore



HTnM 6.4 : cas pratique n° 1

Analyse de performance

Un problème de performance a été trouvé
au niveau d'un serveur ESX



HTnM 6.4 : cas pratique n° 1

Analyse de performance

Le client VMware est utilisé pour identifier le nom de la VM sur le serveur ESX qui a le problème de performance.

vSphere Client 4.0

Nom de la VM

1. Selection d'un serveur ESX concerné

The screenshot displays the vSphere Client interface. On the left, a tree view shows the hierarchy of ESX hosts and VMs. The host 'scsf7432.SILLAB.LOCAL' is selected, and under it, the VM 'scsvm7228.sllab.local' is highlighted with a red dashed box. A yellow callout box points to this selection with the text '1. Selection d'un serveur ESX concerné'. The main pane shows the 'Summary' tab for the selected VM, 'scsvm7228.sllab.local'. A green callout box points to the VM name in the title bar with the text 'Nom de la VM'. The 'General' section shows: Guest OS: Microsoft Windows Server 2003, Enterprise ...; VM Version: 7; CPU: 1 vCPU; Memory: 1024 MB; Memory Overhead: 118.47 MB; VMware Tools: Not installed; IP Addresses: ; DNS Name: ; State: Powered On; Host: scsvm7228.sllab.local. The 'Resources' section shows: Consumed Host CPU: ; Consumed Host Memory: ; Active Guest Memory: ; Provisioned Storage: ; Not-shared Storage: ; Used Storage: ; Datastore table with columns 'Datastore' and 'Status', showing 'ISOPPOOL (1)' with status 'Normal' and 'debastore03' with status 'Alert'. The 'Commands' section includes: Shut Down Guest, Suspend, Restart Guest, Edit Settings, Open Console, Migrate, and Clone to New Virtual Machine. The 'Annotations' section has a 'Notes' field with an 'Edit' button. At the bottom, a 'Recent Tasks' table is visible with columns: Name, Target, Status, Details, Initiated by, vCenter Server.



HTnM 6.4 : cas pratique n° 1

Analyse de performance

Ensuite, selection du serveur ESX sur la console principale

1. Selection de la ressource Hypervisors

2. Selection de VMware ESX

3. Selection onglet Hosts

4. Selection du serveur ESX

The screenshot shows the Hitachi Tuning Manager (HTM) interface. The left navigation pane has 'Hypervisors' selected, with 'VMware ESX' highlighted. The main content area displays 'VMware ESX' details. A 'Hosts' tab is selected, showing a table of hosts. A callout box points to the 'Hosts' tab, and another points to the first host in the table. A diagram on the left illustrates the architecture, showing ESX Servers, VMs, and Storage Arrays.

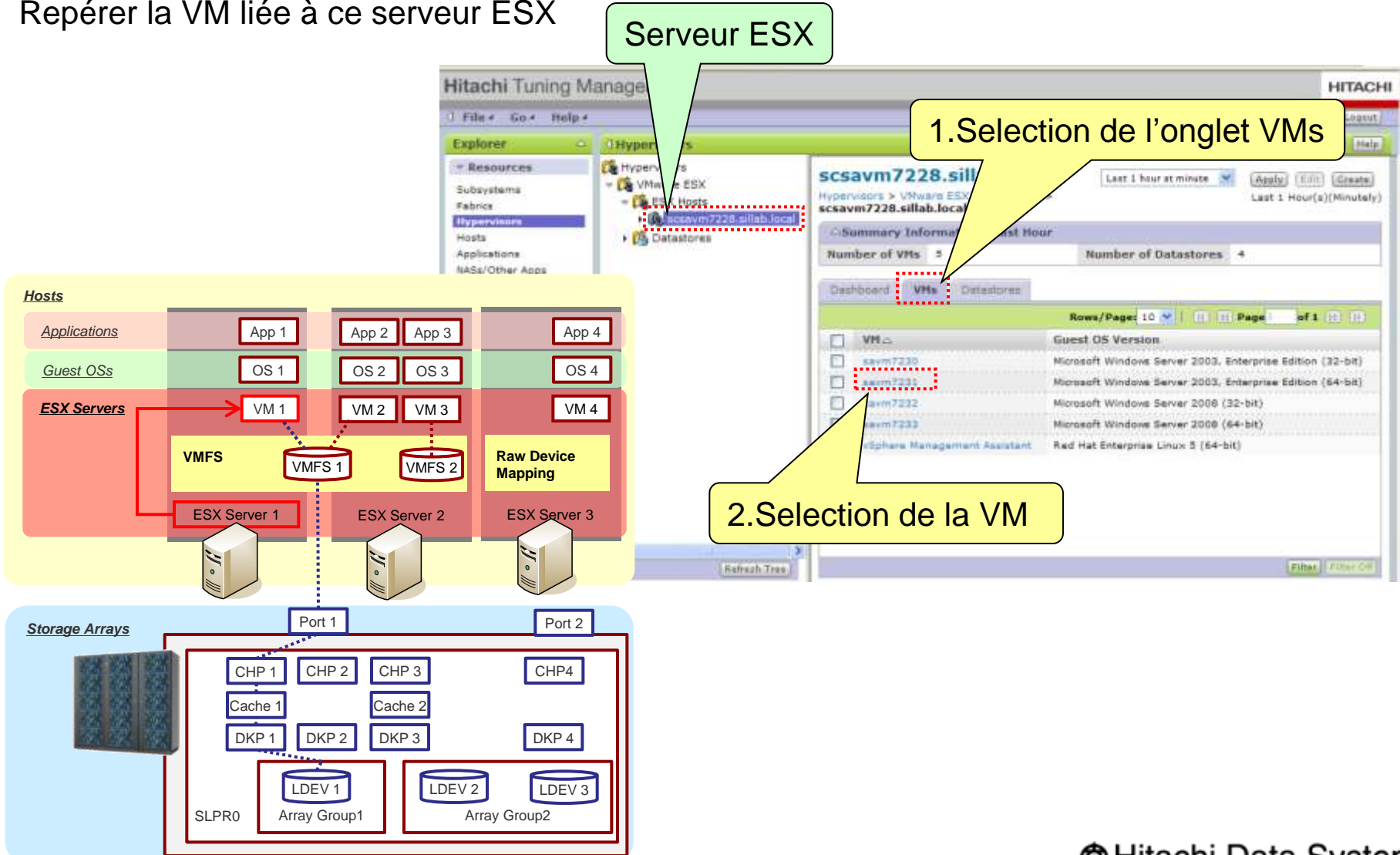
Host	Number of VMs
<input type="checkbox"/> 172.17.72.51	
<input type="checkbox"/> scsavm7228.sillab.local	
<input type="checkbox"/> scsil7250.sillab.local	
<input type="checkbox"/> scsil7480.sillab.local	

The diagram on the left shows the architecture. It includes Applications (App 1-4), Guest OSs (OS 1-4), ESX Servers (ESX Server 1-3), VMs (VM 1-4), VMFS (VMFS 1-2), Raw Device Mapping, and Storage Arrays (SLPR0, Array Group1, Array Group2). The storage arrays are connected to the ESX servers via Port 1 and Port 2.

HTnM 6.4 : cas pratique n° 1

Analyse de performance

Repérer la VM liée à ce serveur ESX



HTnM 6.4 : cas pratique n° 1

Analyse de performance

Les métriques de performance des ressources de stockage liées à la VM peuvent être contrôlés.

1. Selection de l'assistant "Correlation"

Nom de la VM

Correlation Wizard (Report Settings)

Correlation Wizard (Trend report)

Storage Architecture Diagram:

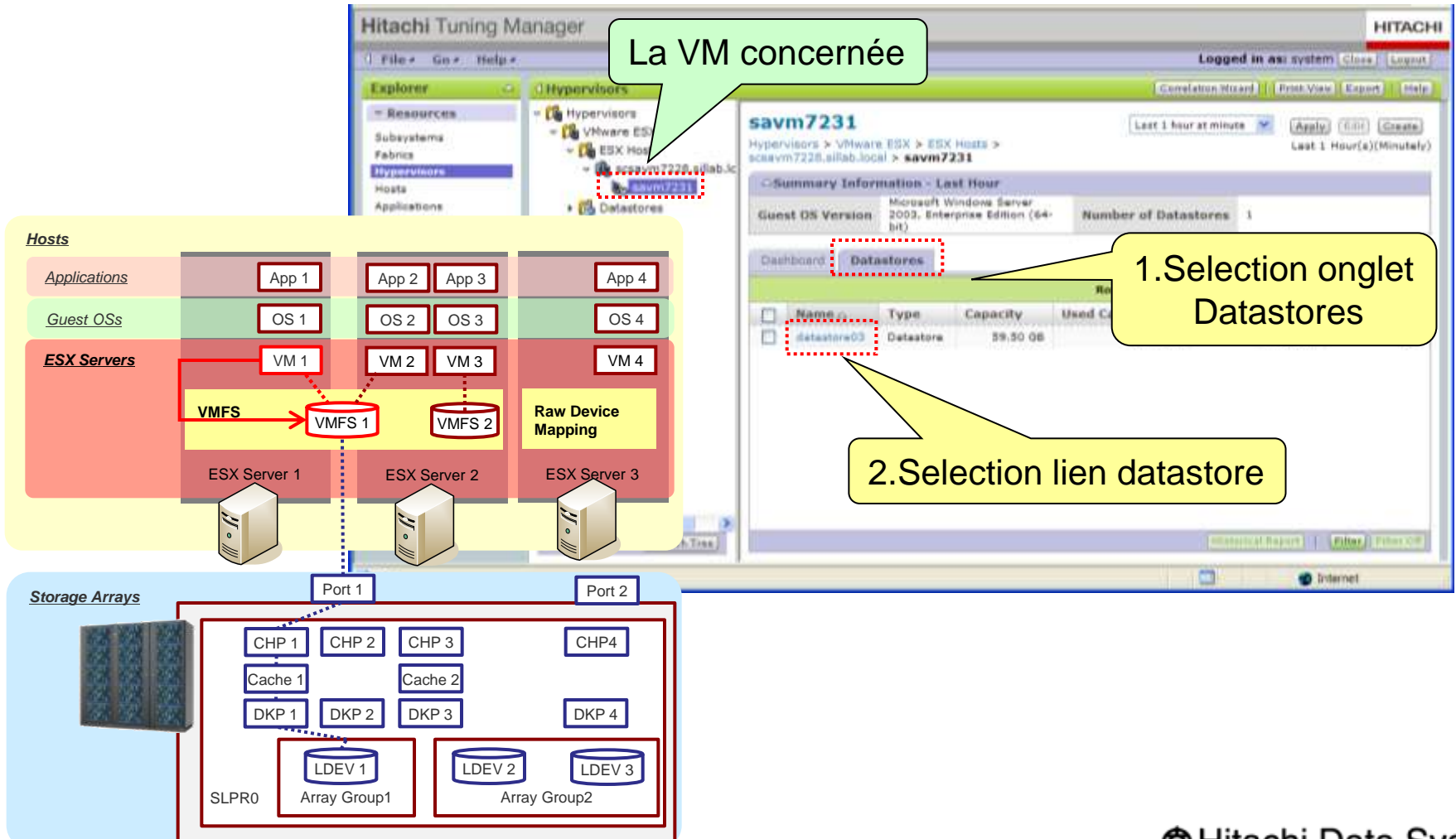
- Hosts:** Applications (App 1-4), Guest OSs (OS 1-4), ESX Servers (VM 1-4).
- Storage:** VMFS (VMFS 1, 2), Raw Device Mapping, ESX Server 1-3, Storage Arrays (SLPR0) with CHPs, Caches, DKPs, and LDEVs (LDEV 1-3).

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HTnM 6.4 : cas pratique n° 1

Analyse de performance

Regardons maintenant une analyse de performance basée sur la ressource Datastore.



HTnM 6.4 : cas pratique n° 1

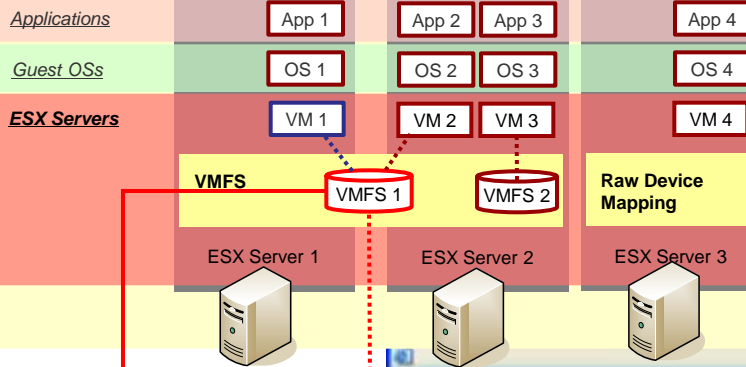
Analyse de performance

Les métriques de performance des ressources de stockage liées au Datastore peuvent être contrôlés.

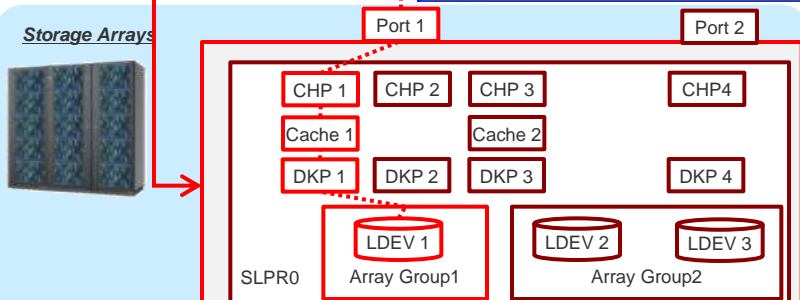
1. Sélection de l'assistant "Correlation"

La ressource Datastore est affichée

Hosts



Storage Arrays



The screenshot shows the Hitachi Data System interface. The top navigation bar includes "Correlation Wizard", "Historical Report", "Forecast Report", "Print View", "Export", and "Help". The "Correlation Wizard (Report Settings)" screen is displayed, showing "Report Settings" for "datastore03". The "Resource Types" section includes "Ports", "Processors", "Array Groups", "LDEVs", and "Subsystems". The "Attributes" section includes "IOPS", "Max IOPS", "Min IOPS", "Busy Rate", "Max Busy Rate", "Max I/O Group", "I/O Usage", "Read Hit Rate", "Read Hit Rate", "Read I/O Response Time", "Write Pending Rate", and "Cache Rate". The "Correlation Wizard (Trend Report)" screen is also shown, displaying a "Trend Report (Report Window: Last 1 Hour(s) (Minutely))" for the attribute "IOPS". The graph shows IOPS over time, with a peak around 11:20:00. The "Port" and "Subsystem" table is also visible.

Port	Subsystem
<input type="checkbox"/> CLS-A	USP_VB172.17.41.64
<input type="checkbox"/> CLS-B	USP_VB172.17.41.64
<input type="checkbox"/> CLS-A	USP_VB172.17.41.64
<input type="checkbox"/> CLS-B	USP_VB172.17.41.64

HTnM 6.4 : cas pratique n° 1

Analyse de performance

Analyse de performance en contrôlant les ressources de stockage depuis la vue Datastore

La ressource Datastore est affichée

Onglet à disposition

Hosts

Applications	App 1	App 2	App 3	App 4
Guest OSs	OS 1	OS 2	OS 3	OS 4
ESX Servers	VM 1	VM 2	VM 3	VM 4

VMFS (VMFS 1, VMFS 2) and **Raw Device Mapping** are shown connecting VMs to ESX Servers (ESX Server 1, ESX Server 2, ESX Server 3).

Storage Arrays (SLPR0) are connected via **Port 1** and **Port 2**. Components include CHP (Control Path), Cache, DKP (Data Key Path), and LDEV (Logical Device) within Array Group1 and Array Group2.

HTnM 6.4 : cas pratique n° 1

Analyse de performance

Regardons le port par exemple en premier.

1. Selection de l'onglet port

Les ports associés au Datastore

Hosts

Applications	App 1	App 2	App 3	App 4
Guest OSs	OS 1	OS 2	OS 3	OS 4
ESX Servers	VM 1	VM 2	VM 3	VM 4

Storage Arrays

Port 1	Port 2
CHP 1	CHP 4
Cache 1	Cache 2
DKP 1	DKP 4
LDEV 1	LDEV 2
LDEV 3	

SLPR0 Array Group1 Array Group2

VMFS VMFS 1 VMFS 2 Raw Device Mapping

ESX Server 1 ESX Server 2 ESX Server 3

Port 1

Port ID	Subsystem	WWN	Port Type	Port Speed	Port Role	Number of LDEVs
CL3-A	USP_V@172.17.41.64	20.06.06.80.05.27.55.20	Fibre	auto	Target	94
CL3-B	USP_V@172.17.41.64	20.06.06.80.05.27.55.21	Fibre	auto	Target	35
CL3-A	USP_V@172.17.41.64	20.06.06.80.05.27.55.40	Fibre	auto	Target	46
CL3-B	USP_V@172.17.41.64	20.06.06.80.05.27.55.41	Fibre	auto	Target	23

HTnM 6.4 : cas pratique n° 1

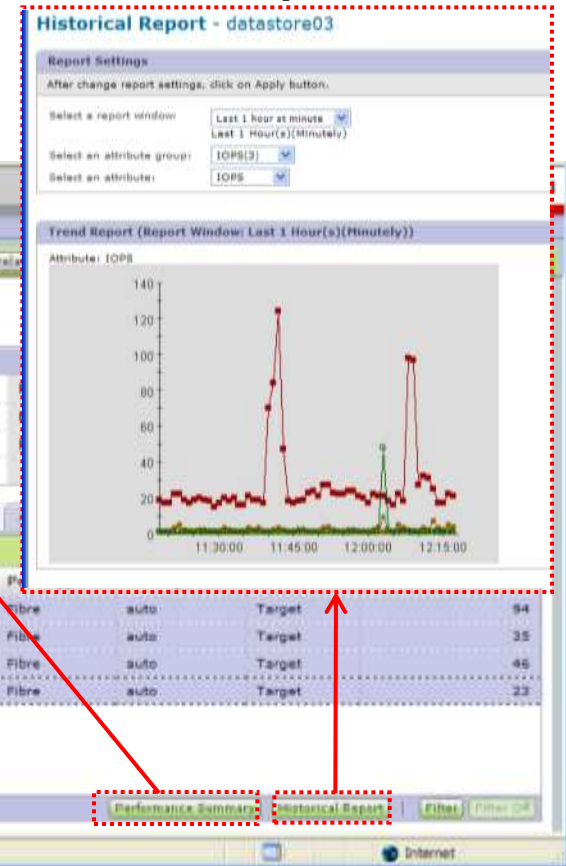
Analyse de performance

Performance Summary

Performance Summary - datastore03

Port	Type	Max IOPS	Min IOPS	IOPS	Max Transfer	Min Tran
CL3-A	USP_V	333	0	29	34.70 MB/sec	0.00
CL3-B	USP_V	338	0	2	1.32 MB/sec	0.00
CL3-A	USP_V	322	0	2	7.04 MB/sec	0.00
CL3-B	USP_V	1005	0	3	13.36 MB/sec	0.00

Historical Report



Hosts

Applications

App 1 App 2 App 3 App 4

Guest OSs

OS 1 OS 2 OS 3 OS 4

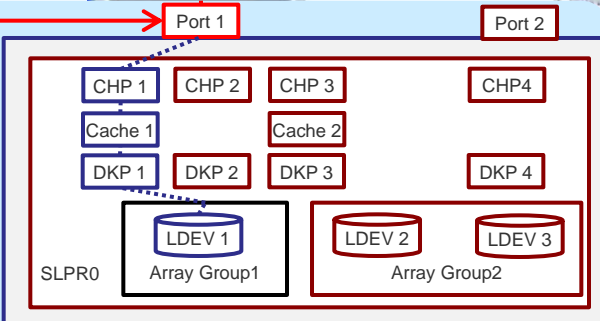
ESX Servers

VM 1 VM 2 VM 3 VM 4

VMFS VMFS 1 VMFS 2 Raw Device Mapping

ESX Server 1 ESX Server 2 ESX Server 3

Storage Arrays



HTnM 6.4 : cas pratique n° 1

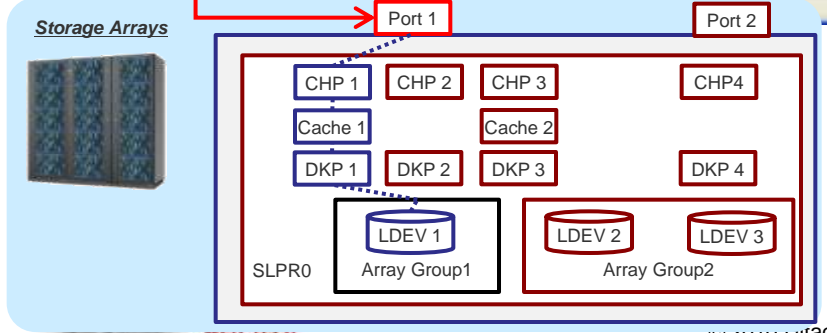
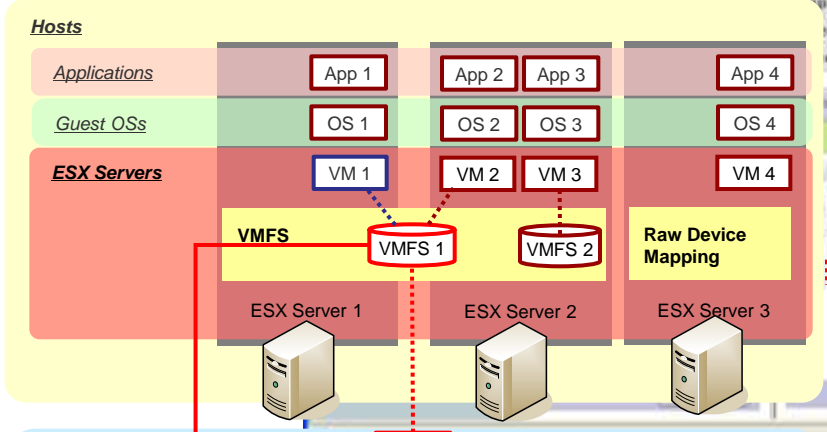
Analyse de performance

The screenshot shows the Hitachi Tuning Manager interface. On the left, a navigation pane shows 'Resources' with 'Subsystems' selected. The main area displays 'datastore03' with a table of port information:

Port	Subsystem
CLS-A	USP_V@172.17.41.64
CLS-B	USP_V@172.17.41.64
CLS-A	USP_V@172.17.41.64
CLS-B	USP_V@172.17.41.64

The right-hand pane shows a detailed view for 'CLS-B', including 'Summary Information - Last hour' with WWN, Port Type, and Port Speed, and a 'Dashboard' with a line graph showing IOPS over time.

Vue détaillée de la performance d'un port



1. Selection d'un port

HTnM 6.4 : cas pratique n° 1

Analyse de performance

datastore03

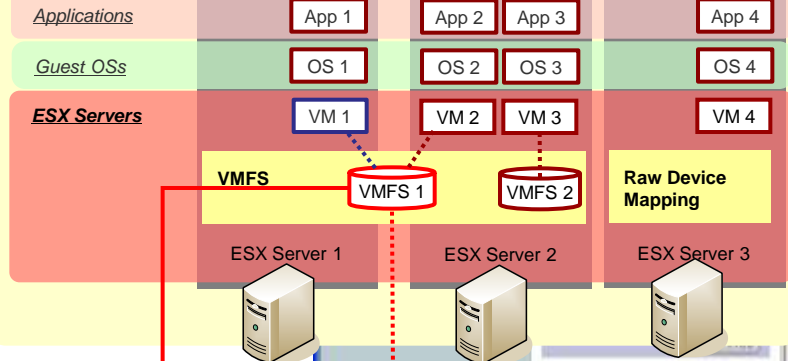
Summary Information - Last Hour

Type	Datastore	Number of Extents	2
Capacity	59.50 GB	Number of Hosts	1
Used Capacity	59.43 GB	Number of VMs	1
Free Capacity	73.08 MB		

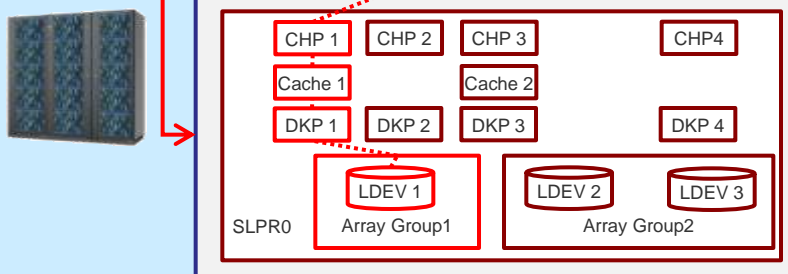
Cache Capacity

Subsystem	Cache Capacity
USP_VG172.17.41.64	8.00 GB

Hosts



Storage Arrays

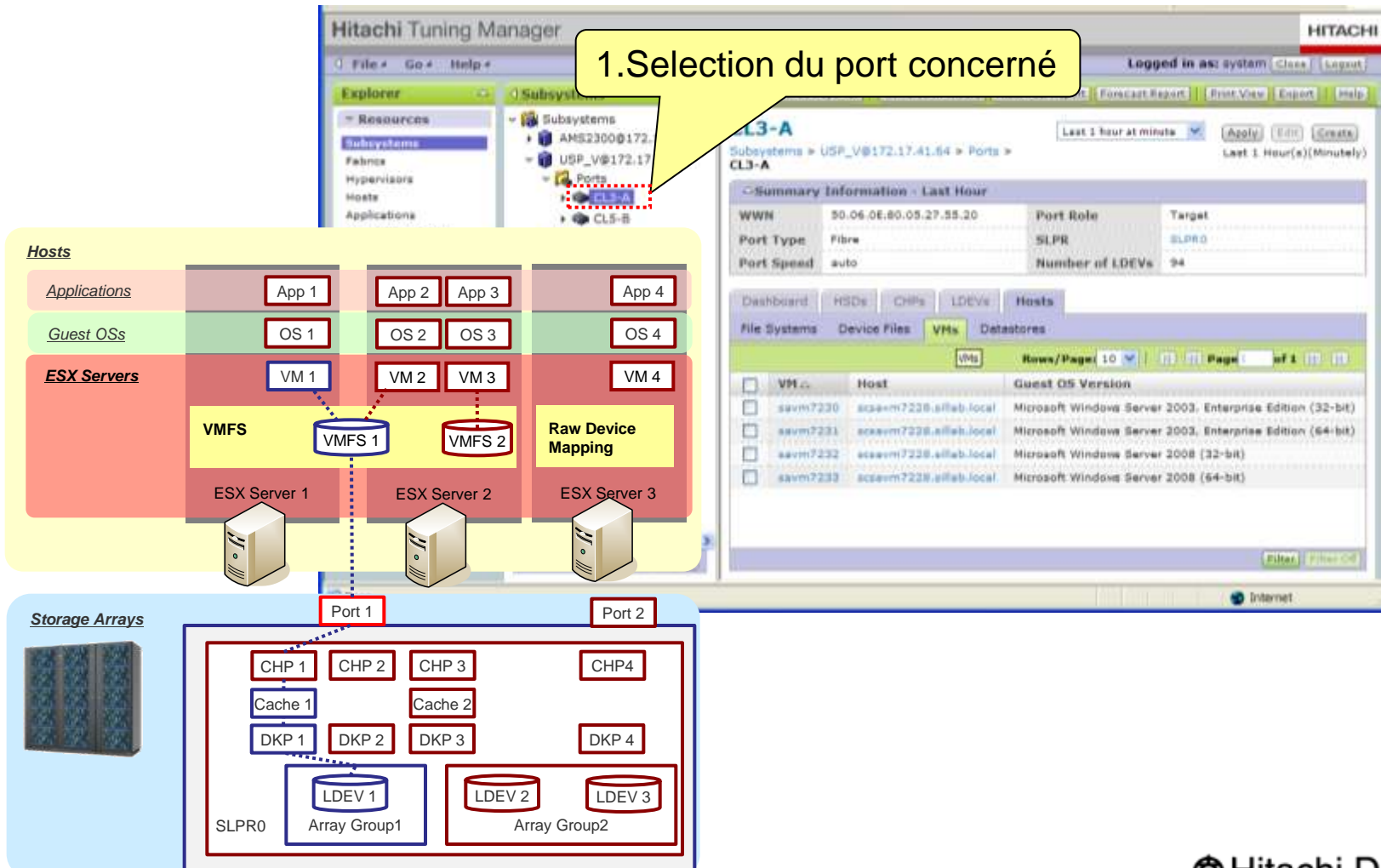


On pourrait procéder de la même manière avec d'autres ressources comme le cache, les processeurs, les groupes de disques et les volumes.

HTnM 6.4 : cas pratique n° 2

Identifiant qui est impacté

Un problème de performance est détecté sur une ressource : un port. Qui va être impacté ?



HTnM 6.4 : cas pratique n° 2

Identifier qui est impacté

Afficher les VMs liées à ce port

The image displays the Hitachi Tuning Manager (HTnM) interface with several annotations and a system architecture diagram. The interface shows the 'Subsystems' tree with 'CL3-A' selected, and the 'VMs' tab active in the 'CL3-A' details pane. A table lists VMs with columns for VM name, Host, and Guest OS Version. The 'savm7230' VM is highlighted. A callout points to the 'VMs' tab with the text '1. Selection onglet VMs'. Another callout points to the 'savm7230' link with the text '2. Selection lien VM'. A third callout points to the detailed view of 'savm7230' with the text 'Vue détaillée de la VM'. The detailed view shows 'Summary Information - Last Hour' and a 'Datstores' table with columns for Name, Type, Capacity, Used Capacity, and Free Capacity. The 'datstore01' entry is visible.

Hosts

Applications	App 1	App 2	App 3	App 4
Guest OSs	OS 1	OS 2	OS 3	OS 4
ESX Servers	VM 1	VM 2	VM 3	VM 4

Storage Arrays

CHP	Cache	DKP	LDEV
CHP 1	Cache 1	DKP 1	LDEV 1
CHP 2	Cache 2	DKP 2	LDEV 2
CHP 3		DKP 3	LDEV 3
CHP 4		DKP 4	

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HTnM 6.4 : cas pratique n° 2

Identifier qui est impacté

Les Datastores impactés par ce port.

On pourrait procéder de la même manière avec d'autres ressources.

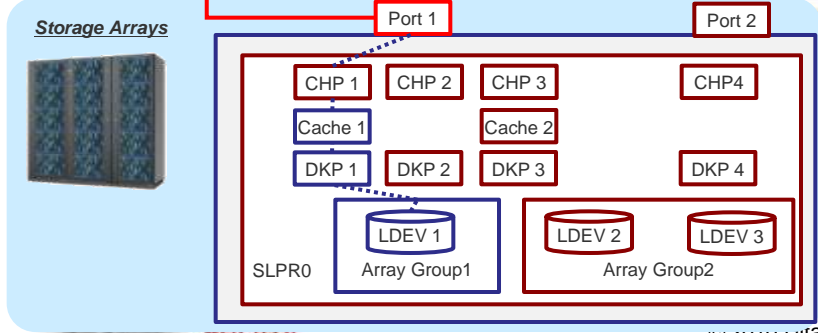
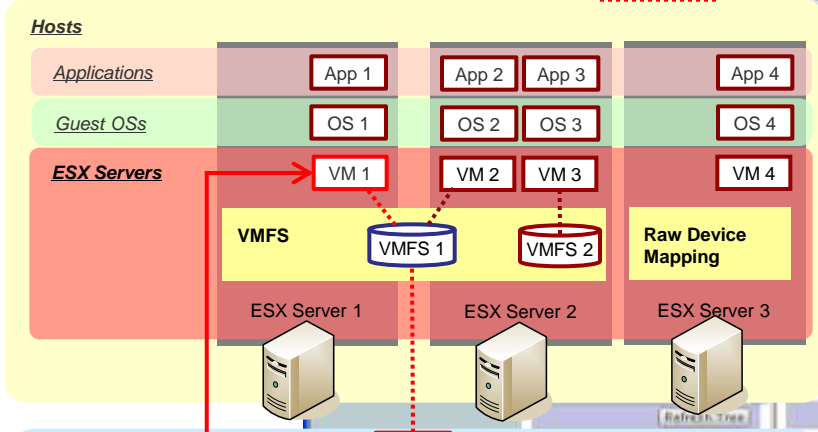
Hitachi Tuning Manager

Subsystems > USP_V@172.17.41.64 > Ports > CL3-A

Summary Information - Last Hour

WWN	50.06.06.80.05.27.55.20	Port Role	Target
Port Type	Fibre	SLPR	SLPR0
Port Speed	auto	Number of LDEVs	94

Name	Type	Capacity	Used Capacity	Free Capacity	Free Rate
datastore01	Datastore	119.00 GB	90.14 GB	28.86 GB	24%
datastore02	Datastore	59.30 GB	59.43 GB	73.00 MB	0%
datastore03	Datastore	59.30 GB	58.43 GB	1.07 GB	2%
datastore04	Datastore	59.30 GB	58.43 GB	1.07 GB	2%



datastore03

Summary Information - Last Hour

Type	Datastore	Number of Extents
Capacity	59.30 GB	Number of Hosts
Used Capacity	59.43 GB	Number of VMs
Free Capacity	73.00 MB	

Port	Subsystem	WWN	Port Type	Port Speed
<input type="checkbox"/>	CL3-A	USP_V@172.17.41.64	50.06.06.80.05.27.55.20	Fibre auto

HTnM 6.4 : cas pratique n° 3

Rapport sur la capacité

Pour visualiser la capacité utilisée par le Datastore, afficher la ressource Datastore

The image displays the Hitachi Tuning Manager interface and a corresponding storage architecture diagram. A yellow callout bubble points to the 'datastore03' resource in the Explorer pane, labeled 'Selection du Datastore'. A green callout bubble points to the capacity metrics in the Summary Information table, labeled 'Les métriques de capacité sont affichés ici'.

Property	Value	Property	Value
Type	Datastore	Number of Extents	2
Capacity	59.50 GB	Number of Hosts	1
Used Capacity	59.43 GB	Number of VMs	1
Free Capacity	73.00 MB		

The diagram illustrates the storage architecture, showing Applications, Guest OSs, ESX Servers, VMFS, Raw Device Mapping, and Storage Arrays (SLPR0) connected via Port 1 and Port 2. The Storage Arrays section includes CHP, Cache, DKP, and LDEV components, organized into Array Group1 and Array Group2.

HTnM 6.4 : cas pratique n° 3

Rapport sur la capacité

- Historiques et tendances sont disponibles pour le Datastore concerné.

The screenshot displays the Hitachi Tuning Manager interface. The left sidebar shows a navigation tree under 'Hypervisors' with 'USPVvol02' selected. The main content area shows the 'Historical Report' tab for 'USPVvol02'. A table provides summary information for the last hour, and two line charts show capacity usage and rate over the last 6 months.

USPVvol02
Hypervisors > VMware ESX > Datastores > USPVvol02

Summary Information - Last Hour

Property	Value	Property	Value
Type	Datastore	Number of Extents	1
Capacity	499.75 GB	Number of Hosts	1
Used Capacity	8.80 GB	Number of VMs	1
Free Capacity	490.95 GB		

Capacity Usage for last 6 months

Capacity Rate for last 6 months

HTnM 6.4 : cas pratique n° 3

Rapport sur la capacité

Maintenant, regardons les métriques de capacité du Datastore depuis d'autres ressources comme la VM.

1. Selection de la VM

2. Selection de l'onglet Datastores

Tous les Datastores liés à cette VM sont affichés ici

On pourrait procéder de la même manière avec d'autres ressources comme les serveurs ESX, les ports, le cache, les volumes, ...

Hosts

Applications	App 1	App 2	App 3	App 4
Guest OSs	OS 1	OS 2	OS 3	OS 4
ESX Servers	VM 1	VM 2	VM 3	VM 4

Storage Arrays

Port 1	Port 2
CHP 1	CHP 2
Cache 1	Cache 2
DKP 1	DKP 2
LDEV 1	LDEV 2
LDEV 3	

ESX Server 1, ESX Server 2, ESX Server 3

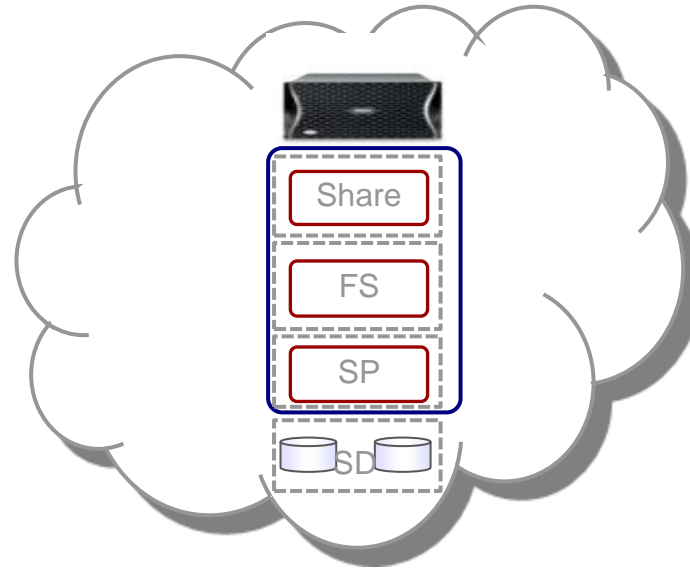
VMFS 1, VMFS 2

Raw Device Mapping

SLPR0, Array Group1, Array Group2

Name	Type	Capacity	Used Capacity	Free Capacity	Free Rate
datastore01	Datastore	119.00 GB	90.14 GB	28.86 GB	24%

Nouvelles fonctionnalités autour de HNAS




Hitachi Device Manager

File Servers

HNAS3200@192.0.2.11

Subsystem	Port
USP_v@172.17.41.71	CL2-G
USP_v@172.17.41.71	CL2-G
USP_v@172.17.41.71	CL2-G



Acquis

V6.3 ou précédente

Nouveauté

V6.4

Voir les noeuds HNAS?

Vus comme des serveurs

Un serveur ne peut être identifié si il est un HNAS ou non

Vus comme des serveurs de fichiers

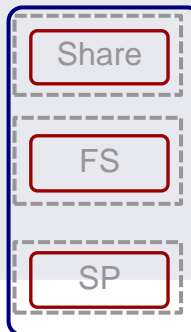
Facilement , les serveurs HNAS sont identifiables

Info. sur les noeuds HNAS

✓ Les volumes affectés au noeud

✓ Les volumes affectés au noeud

- ✓ Storage Pools (SP)
- ✓ System Drives (SD) lié au SP
- ✓ File Systems (FS)
- ✓ Partages liés au FS



Bénéfices

- Facilité de gestion en corrélatant le stockage et les composants HNAS
- Facilité d'affecter de la volumétrie au HNAS en regardant les caractéristiques des volumes



- Au niveau des **File Server**

The screenshot displays the Hitachi Device Manager web interface. The 'File Servers' menu item in the left sidebar is highlighted with a red dashed box and labeled 'Menu 'File Server' en plus'. The main content area shows a tree view of 'File Servers' with two nodes: 'HNAS3200@192.0.2.11' and 'HNAS3200@192.0.2.13'. A red callout box points to these nodes with the text 'Les noeuds HNAS s'affichent sous "File Servers"'. The right pane shows the configuration for 'HNAS3200@192.0.2.11', including its name, IP address, and a list of World Wide Names (iSCSI Names).

File Server				
Name	HNAS3200@192.0.2.11			
IP Address	192.0.2.11			
World Wide Names /iSCSI Names	50.03.01.70.00.00.C8.41			
	50.03.01.70.00.00.C8.42			
	50.03.01.70.00.00.C8.43			
	50.03.01.70.00.00.C8.44			
	50.03.01.70.00.00.C8.45			
	50.03.01.70.00.00.C8.46			
	50.03.01.70.00.00.C8.47			
	50.03.01.70.00.00.C8.48			

<input type="checkbox"/>	LDEV	Label	Subsystem	Port
<input type="checkbox"/>	00:0E:80		USP_V@172.17.41.71	CL2-G
<input type="checkbox"/>	00:0E:84		USP_V@172.17.41.71	CL2-G
<input type="checkbox"/>	00:0E:88		USP_V@172.17.41.71	CL2-G



- Au niveau **HNAS**
 - Les volumes assignés au noeud HNAS sont listés.

File Servers | Modify Properties | Remove Host | Help

File Servers

- File Servers
 - HNAS3200@192.0.2.11
 - File Systems
 - Storage Pools
 - HNAS3200@192.0.2.13
 - File Systems
 - Storage Pools

HNAS3200@192.0.2.11

File Servers > HNAS3200@192.0.2.11

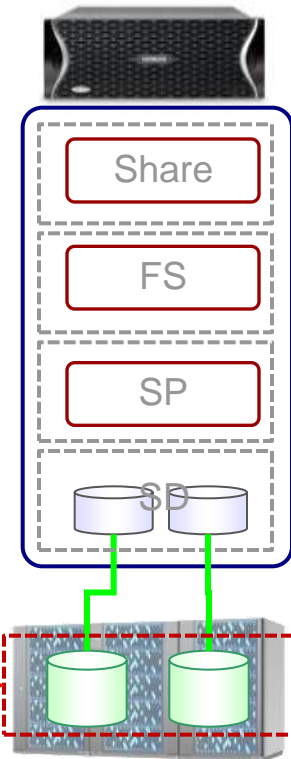
File Server	
Name	HNAS3200@192.0.2.11
Cluster	
IP Address	192.0.2.11
Capacity	1.25 TB
World Wide Names /iSCSI Names	50.03.01.70.00.00.C8.41 50.03.01.70.00.00.C8.42 50.03.01.70.00.00.C8.43 50.03.01.70.00.00.C8.44 50.03.01.70.00.00.C8.45 50.03.01.70.00.00.C8.46 50.03.01.70.00.00.C8.47 50.03.01.70.00.00.C8.48

Rows/Page: 25 | Page 1 of 2

<input type="checkbox"/>	LDEV	Label	Subsystem	Port	Port Type	HSD/iSCSI Target
<input type="checkbox"/>	00:0E:80		USP_V@172.17.41.71	CL2-G	Fibre	sd_10396_HNAS2
<input type="checkbox"/>	00:0E:84		USP_V@172.17.41.71	CL2-G	Fibre	sd_10396_HNAS2
<input type="checkbox"/>	00:0E:88		USP_V@172.17.41.71	CL2-G	Fibre	sd_10396_HNAS2
<input type="checkbox"/>	00:0E:8C		USP_V@172.17.41.71	CL2-G	Fibre	sd_10396_HNAS2
<input type="checkbox"/>	00:0E:90		USP_V@172.17.41.71	CL2-G	Fibre	sd_10396_HNAS2
<input type="checkbox"/>	00:0E:94		USP_V@172.17.41.71	CL2-G	Fibre	sd_10396_HNAS2
<input type="checkbox"/>	00:0E:98		USP_V@172.17.41.71	CL2-G	Fibre	sd_10396_HNAS2
<input type="checkbox"/>	00:0E:9C		USP_V@172.17.41.71	CL2-G	Fibre	sd_10396_HNAS2

Refresh Tree

Add Like Storage | Add Storage | Remove Storage



Ajout/suppression de volumes avec ces boutons

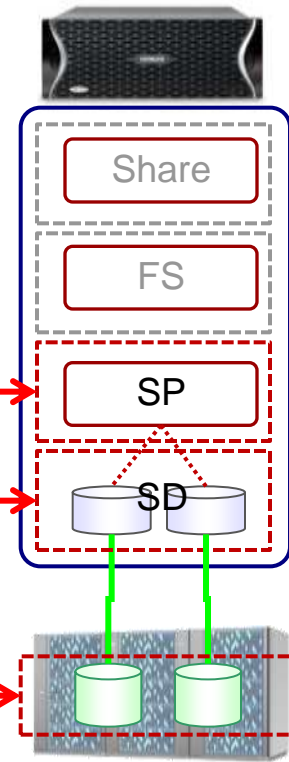
- Au niveau des **Storage Pools**
 - Les Storage Pools sont listés.
 - Les “System Drives” sont listés lorsque le label SP est cliqué.

The screenshot displays the HNAS management console. On the left, a tree view shows the hierarchy: File Servers > HNAS3200@192.0.2.13 > Storage Pools. The main area shows the 'Storage Pools' page for HNAS3200@192.0.2.13. A summary table indicates 32 storage pools with a total capacity of 1.24 TB. Below this is a table of storage pools, with 'SP1' selected. A detailed view for 'SP1' is shown below, including a summary table and a table of system drives. A purple arrow points from the 'SP1' entry in the storage pools table to the detailed view. A red dashed box highlights the 'System Drives' table in the detailed view.

Label	Number of Drives	Capacity	Used Capacity	% Used	Free Capacity	% Free	Stat
SP1	1	39.99 GB	0 MB	0 %	39.99 GB	100 %	Health
SP1.0	1	39.99 GB	0 MB	0 %	39.99 GB	100 %	Health

Label	Capacity
SP1	39.99 GB

ID	Label	Capacity	Access	Status	Type	Serial Number	LDEV	World Wide Name/iSCSI
0	OE00	40.00 GB	Allowed	OK	USP_V	10128	00:0E:00	50.06.0E.80.05.27.90.16



- Au niveau des **File Systems**
 - Les File Systems sont listés.
 - Les Partages sont listés pour chaque label FS cliqué.

The screenshot displays the HNAS management interface. On the left, a tree view shows the hierarchy: File Servers > HNAS3200@192.0.2.11 > File Systems. The main area shows the 'File Systems' overview for HNAS3200@192.0.2.13, including a summary table and a list of file systems.

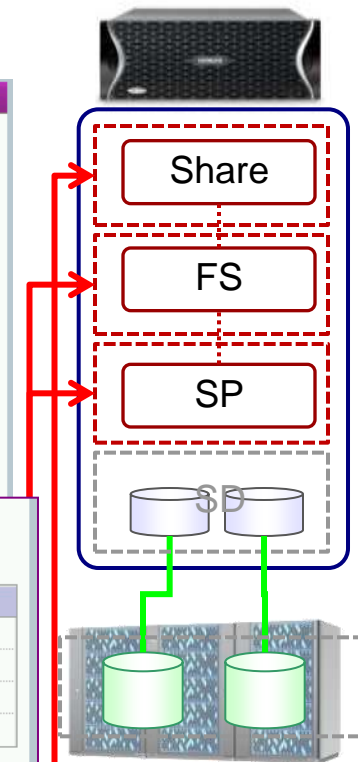
Label	Capacity	Used Capacity	% Used	Free Capacity	% Free	EVS	Storage Pool
FS1	3.75 GB	2.00 GB	53 %	1.74 GB	47 %	EVS-TEST	SP1
FS10	3.75 GB	2.00 GB	53 %	1.74 GB	47 %	EVS-TEST	SP3
FS100	3.75 GB	2.00 GB	53 %	1.74 GB	47 %	EVS-TEST	SP5

The 'FS1' details panel shows the following information:

Summary	
Label	FS1
Status	Mounted
Storage Pool	SP1
EVS	EVS-TEST
Capacity	3.75 GB
Used Capacity (% Used)	2.00 GB (53 %)
Free Capacity (% Free)	1.74 GB (47 %)
Number of Shares	2

The 'Shares' table for FS1 is as follows:

Name	Protocol	Path
Share1	CIFS	\home1
Share2	CIFS	\home2





Merci de votre attention

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