

HITACHI
Inspire the Next

Storage Area Management

Management von Applikationen, SAN und Terrabyte-Speichersystemen am praktischen Beispiel

April 21, 2004

Steffen Bartsch
Product Marketing Manager

DECUS
© 2004 Hitachi Data Systems
DECUS Vortrag 3C06

Partner Beyond Technology

SEE TECHNOLOGY AT WORK

DATA STORAGE SOLUTIONS

Our storage solutions reduce the costs and complexity of storage expansion. Our Freedom Data Networks leverage existing investments and prepare for future growth.

[CLICK THE CIRCLE FOR MORE DETAILS](#)

Technology List

ENVIRONMENT IT

Click and explore our slice of earth and you'll see how Hitachi Technology touches your life. In ways that are shaping not just the future of technology, but the future of mankind.

HITACHI
Inspire the Next

Home Contact Us Hitachi Global Site © Hitachi, Ltd. 2003. All rights reserved.

HITACHI
Inspire the Next

Was ist SAM?

“The emergence of storage networks and high storage growth rates are forcing users to look at storage area management software.

Solutions that manage the complex relationships between applications, their storage, and everything in between should be considered by users with medium to high levels of storage complexity or growth as a way to reduce costs and improve efficiency.”

Nick Allen
Vice President and Research Director
Gartner, Inc.

Storage Area Management (SAM)

Storage Resource Management (SRM)

SAN Management

Storage Provisioning

© 2004 Hitachi Data Systems
 DECUS Vortrag 3C06 3

HITACHI
Inspire the Next

Wozu SAM? – Die Sicht der Unternehmen

Storage Management – Top Priority Projects

Project	Percentage
Storage Resource Management (SRM)	22%
Business Continuity Management	15%
Storage capacity forecasting	15%
Storage Area Management (SAM)	11%
SAN topology mapping	10%
Recovery Management	10%
Active archiving	9%
Centralized SAN & NAS management	8%
Data Replication Management	7%
Disk-to-Disk Backup	7%
Asset management	7%
Storage provisioning tools	7%
LUN management	7%
Email (Content) Storage Management	6%
Policy-based management	6%
Security management tools or services	5%
Charge-back based on utilization	5%
Automated storage provisioning	5%
Storage Domain Management	4%

SAM deckt 15 der Top 19 Speicher-Anforderungen ab.

HITACHI
Inspire the Next

Entstehung moderner Labyrinth

- Werkzeuge sind nicht integriert
- Technologien sind inkompatibel
- Konfigurationsregeln aus gehen vom Gerät, nicht von Applikation aus

DECUS
© 2004 Hitachi Data Systems
DECUS Vortrag 3C06

5

HITACHI
Inspire the Next

„Wetter Management“ - in Handarbeit

DECUS
© 2004 Hitachi Data Systems
DECUS Vortrag 3C06

6

HITACHI
Inspire the Next

„Storage Area Management“ - in Handarbeit

Microsoft Excel - LatestConfig.xls

Storage Array	Volume	LUN (plex)	LUN	Size	Port	Authorized	Type
1	185700562	0	0	0.00708	03aa	no	Vcm
2	185700562	0	0	0.00708	03ab	no	Vcm
3	185700562	0	0	0.00708	03ba	no	Vcm
4	185700562	0	0	0.00708	03bb	no	Vcm
5	185700562	0	0	0.00708	04aa	no	Vcm
6	185700562	0	0	0.00708	04ab	no	Vcm
7	185700562	0	0	0.00708	04ba	no	Vcm
8	185700562	0	0	0.00708	04bb	no	Vcm

7

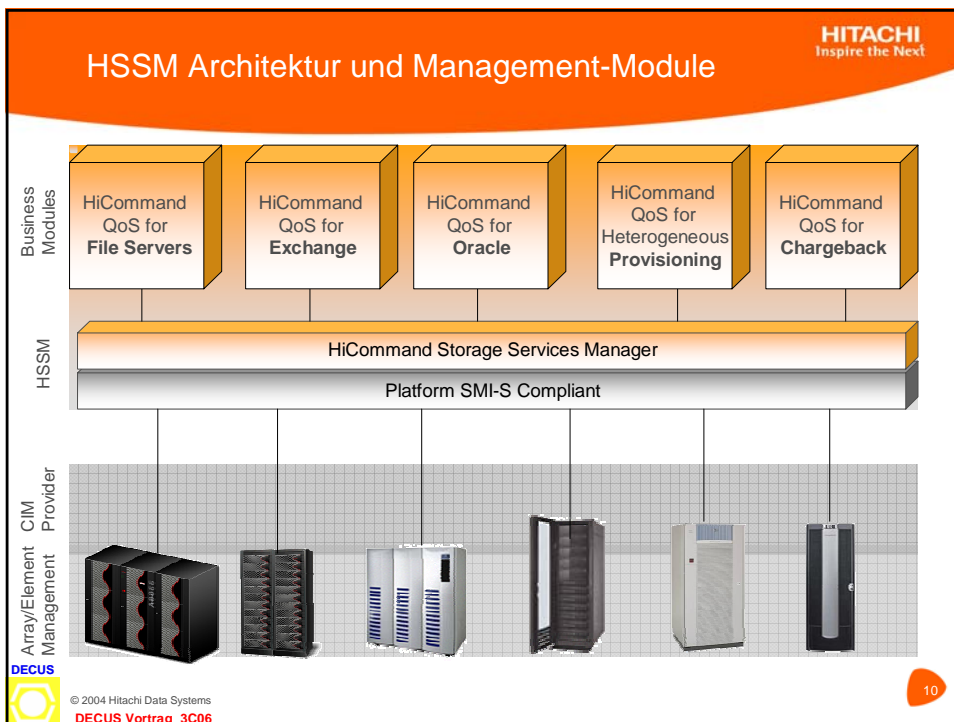
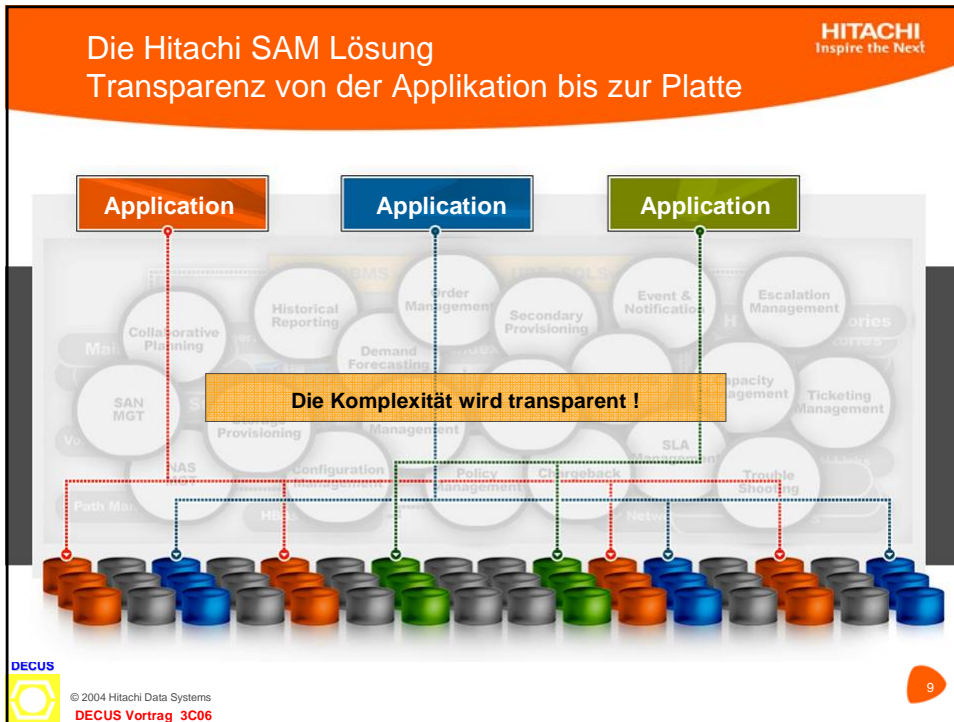
HITACHI
Inspire the Next

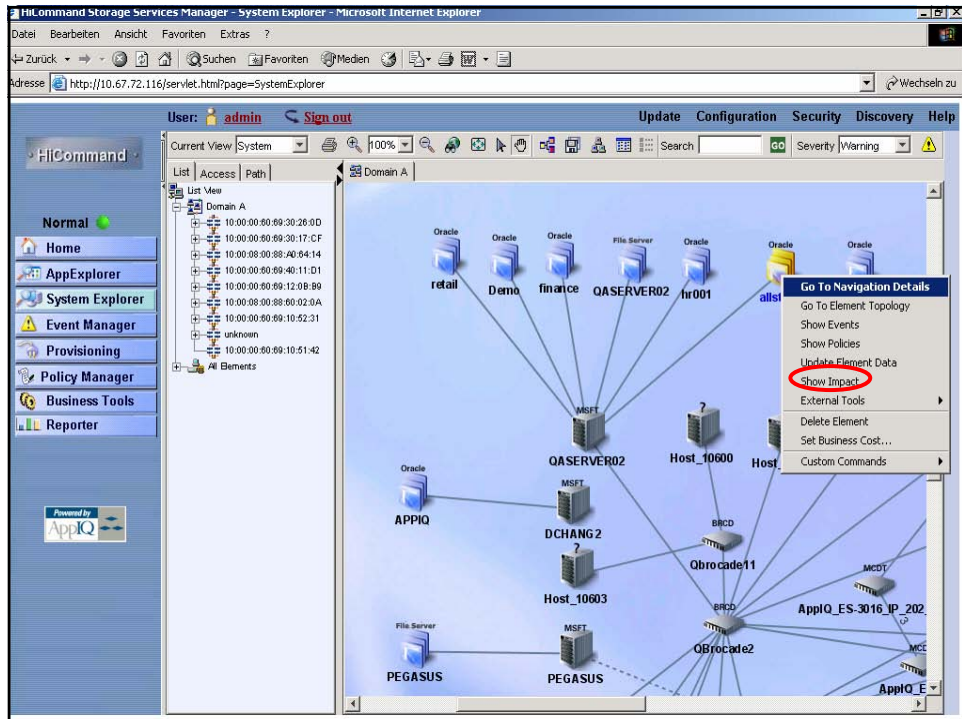
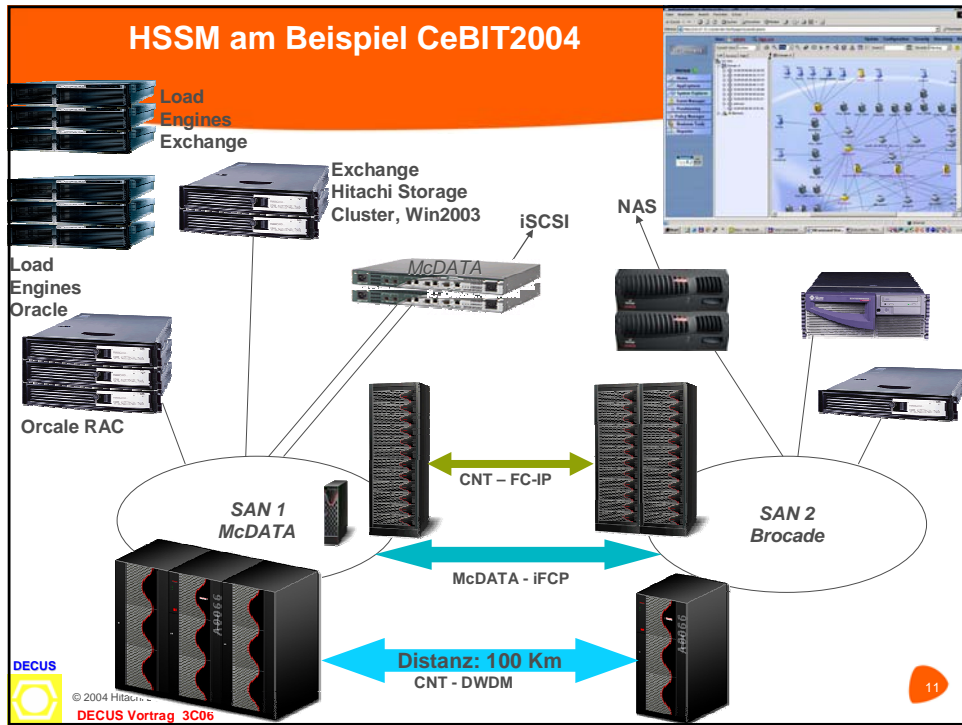
Storage Area Management mit HiCommand Storage Services Manager

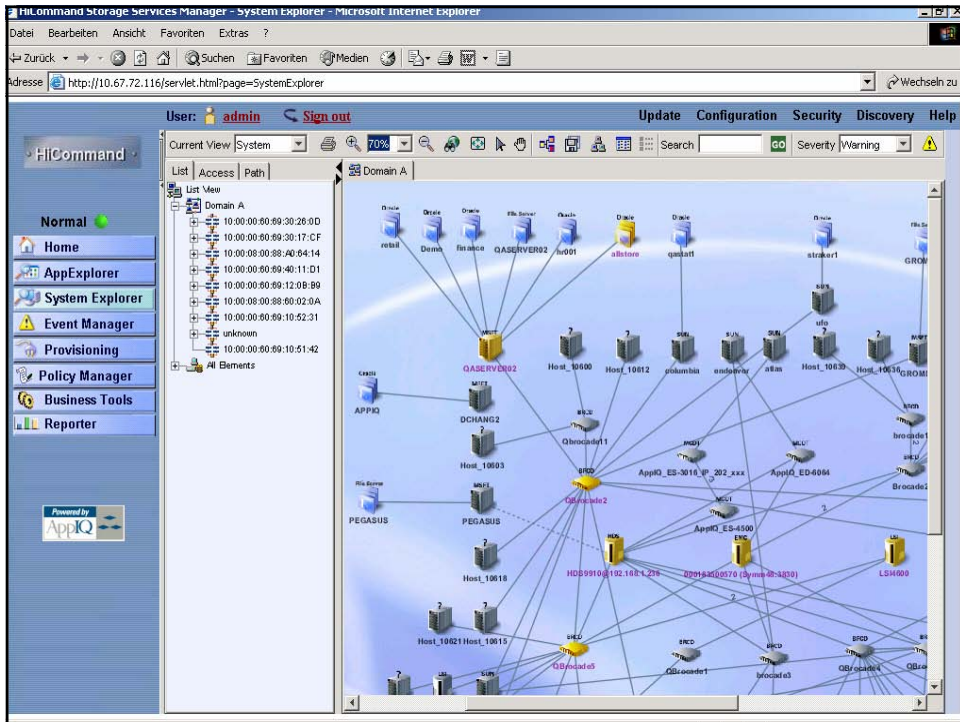
DECU

© 2004 Hitachi Data Systems
DECUS Vortrag 3C06

8







HITACHI
Inspire the Next

HiCommand™ Storage Services Manager

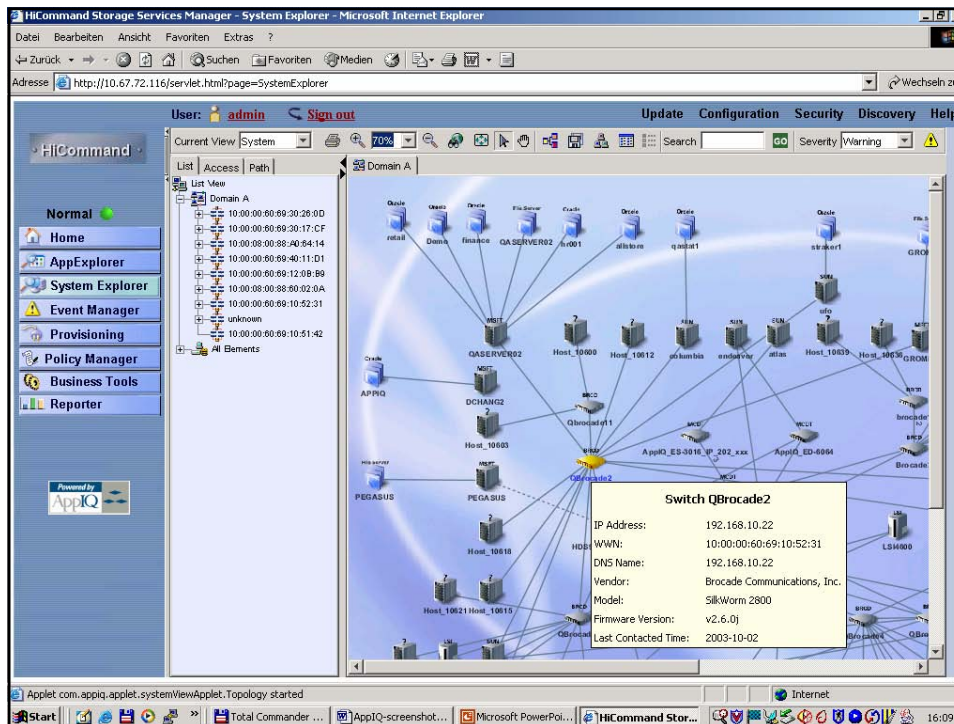
EINE Konsole für offenes, heterogenes SAN -Management

Merkmale:

- Discovery von Servern, Applikationen, HBAs, Filesystemen, Switche & Speicher(-Systemen)
- Pfad- und Abhängigkeits-Management
- Fabric Management
- Kapazitäts-Management
- Performance-Management
- Advisors & Automators

The screenshot shows the same HiCommand Storage Services Manager interface as above, but with a magnifying glass icon positioned over a specific node in the network diagram to highlight it. The magnifying glass is centered over a node labeled 'Host_10012'. The interface elements are the same as in the previous image.

© 2004 Hitachi Data Systems
 DECUS Vortrag 3C06



HiCommand™ QoS für Oracle

Sicherstellung der Verfügbarkeit und Leistungsfähigkeit von Datenbank-Applikationen

Merkmale:

- Discovery von Datenbank-Servern, Datenbanken & Tablespace
- SAN dependency & Pfad-Management
- Echtzeit Performance monitoring

© 2004 Hitachi Data Systems
DECUS Vortrag 3C06

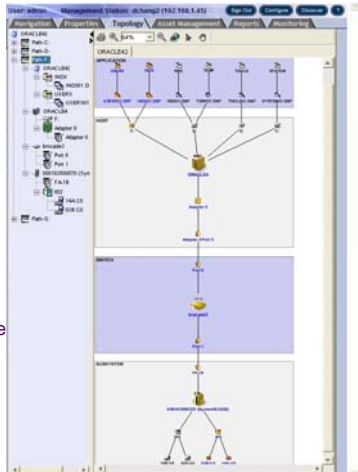
HITACHI Inspire the Next

HiCommand™ QoS für Oracle

Sicherstellung der Verfügbarkeit und Leistungsfähigkeit von Datenbank-Applikationen

Merkmale:

- Discovery von Datenbank-Servern, Datenbanken & Tablespace
- SAN dependency & Pfad-Management
- Echtzeit Performance monitoring




Application Visualization, Topology, Availability, Performance and Capacity Management

Server level logical file Storage Resource Management

SAN Management
Device Management

Storage Operations Management:
-Reporting
-Capacity Planning
-Storage Consolidation
-Asset/Chargeback
-Provisioning
-Policy
-Groups and Roles



© 2004 Hitachi Data Systems
DECUS Vortrag 3C06

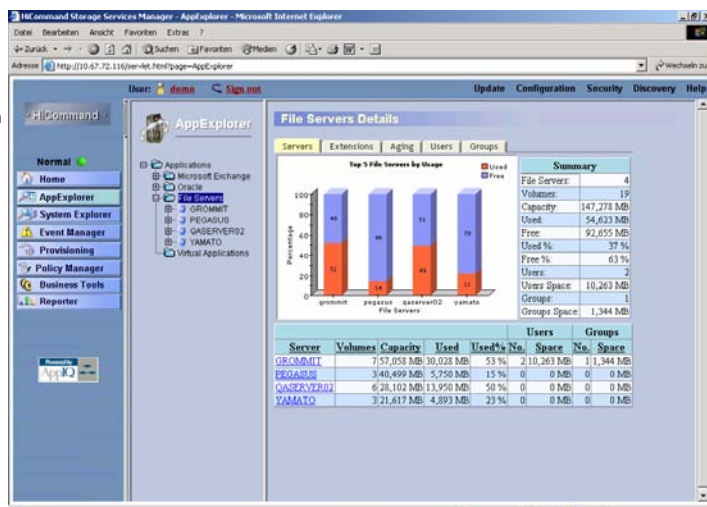
17

HITACHI Inspire the Next


HiCommand™ QoS für File Server

Merkmale:

- Discovery von Fileservern, shares, Mountpoints, und Benutzerverzeichnissen
- User consumption management
- Quota management
- Datei: Alter, Größe, Zugriff, Type Details
- SAN dependency & Pfad-Management
- End-to-end Performance Monitoring



Server	Volumes	Capacity	Used	Used%	No. Users	No. Groups	Space
ORCOMMIT	7	7,57,058 MB	30,028 MB	53 %	2	10,263 MB	1,344 MB
PEGASUS	3	40,499 MB	5,750 MB	15 %	0	0 MB	0 MB
QASERVER02	6	26,102 MB	13,950 MB	50 %	0	0 MB	0 MB
YAMATO	3	21,617 MB	4,993 MB	23 %	0	0 MB	0 MB



© 2004 Hitachi Data Systems
DECUS Vortrag 3C06

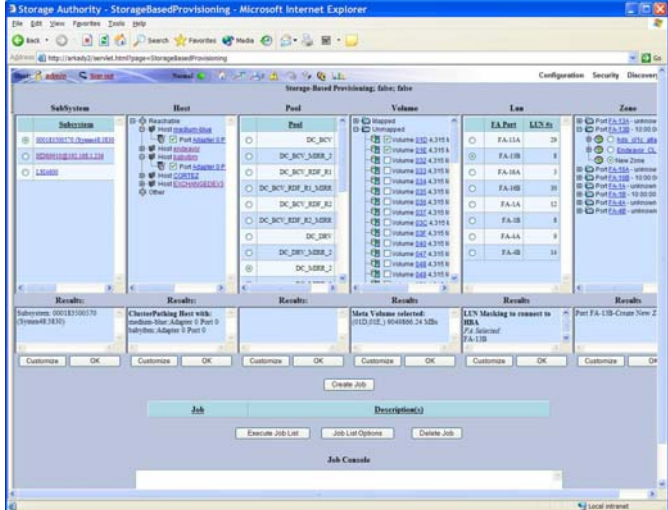
HiCommand™ Heterogeneous Provisioning

HITACHI
Inspire the Next

Schnelles und fehlerfreies Zuweisen von Speicher an den Server über das SAN

Merkmale:

- Regel-basierend
- LUN mapping
- Zone creation
- HBA Installation
- Standard-Routine Speichersystem - übergreifend
- Interaktiv oder automatisiert



DECUS
© 2004 Hitachi Data Systems
DECUS Vortrag 3C06

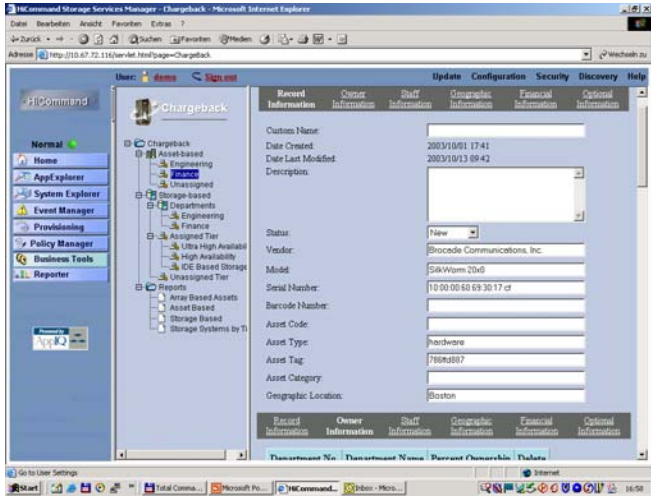
19

Chargeback-Modul zur Kostenvverrechnung

HITACHI
Inspire the Next

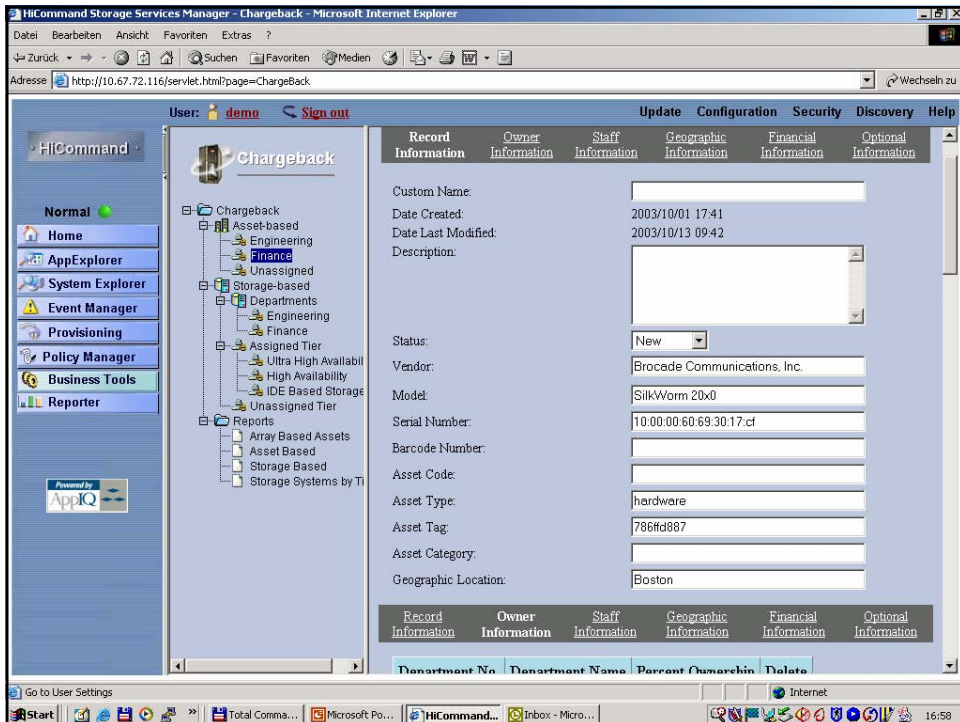
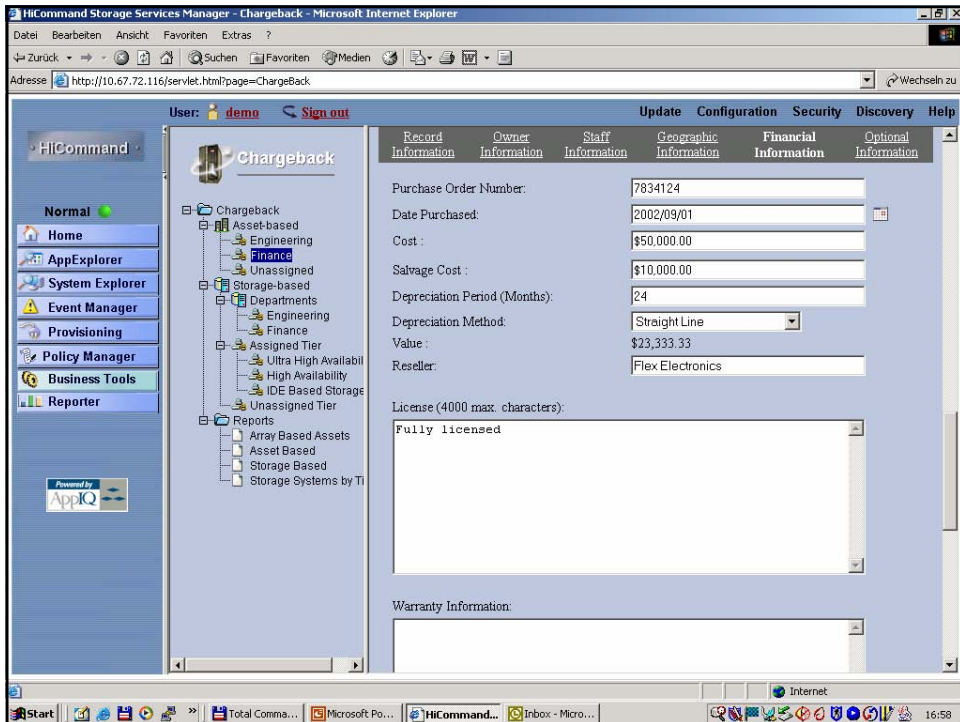
Merkmale:

- Benutzerdefinierbare Felder
- Inventar-Verwaltung und Verrechnung auf Kostenstellen
- Speicher-Verrechnung nach Belegung
- QoS metrics für differenzierte Kostenstufen
- Erstellung von Reports



DECUS
© 2004 Hitachi Data Systems
DECUS Vortrag 3C06

20



HITACHI
Inspire the Next

Wie ist die Kapazitätsauslastung meiner gesamten Landschaft?

JETZT !!!

DECUS
© 2004 Hitachi Data Systems
DECUS Vortrag 3C06

23

HiCommand Storage Services Manager - System Explorer - Microsoft Internet Explorer

Adresse <http://10.67.72.116/servlet.html?page=SystemExplorer>

User: admin Sign out

Update Configuration Security Discovery Help

Current View Capacity Utilization

Domain A Utilization

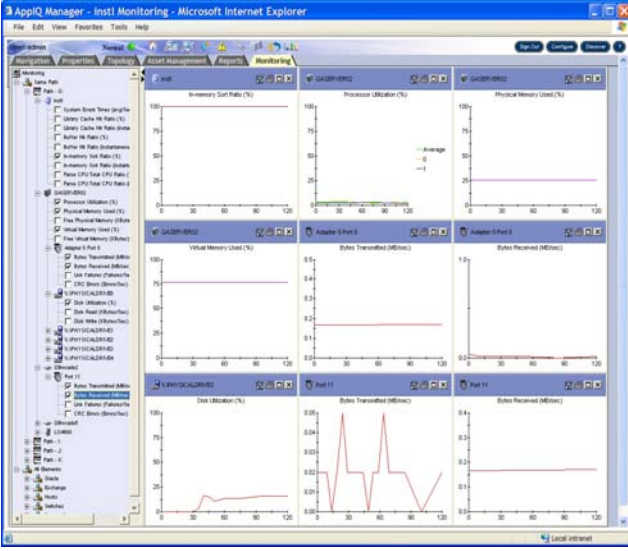
Sign Out


Start Total Commander ... Microsoft PowerP... HiCommand Sto... Inbox - Microsoft ... 17:19

HITACHI
Inspire the Next

Ihre Infrastruktur wird greifbar für alle Ebenen

- EXCEL ist zur Darstellung nicht mehr notwendig
- Statusreports der gesamten Landschaft, oder Teilen davon, auf Knopfdruck
- Beobachtung von Applikations-Speicher mit Events und Performance
- Zuweisung von Speicher nach automatisierten Regeln
- Transparente, flexible Verrechnungsmodelle





© 2004 Hitachi Data Systems
DECUS Vortrag 3C06

HITACHI
Inspire the Next

Vielen Dank

April 21, 200422. April 2004

Partner
Beyond
Technology



© 2004 Hitachi Data Systems
DECUS Vortrag 3C06