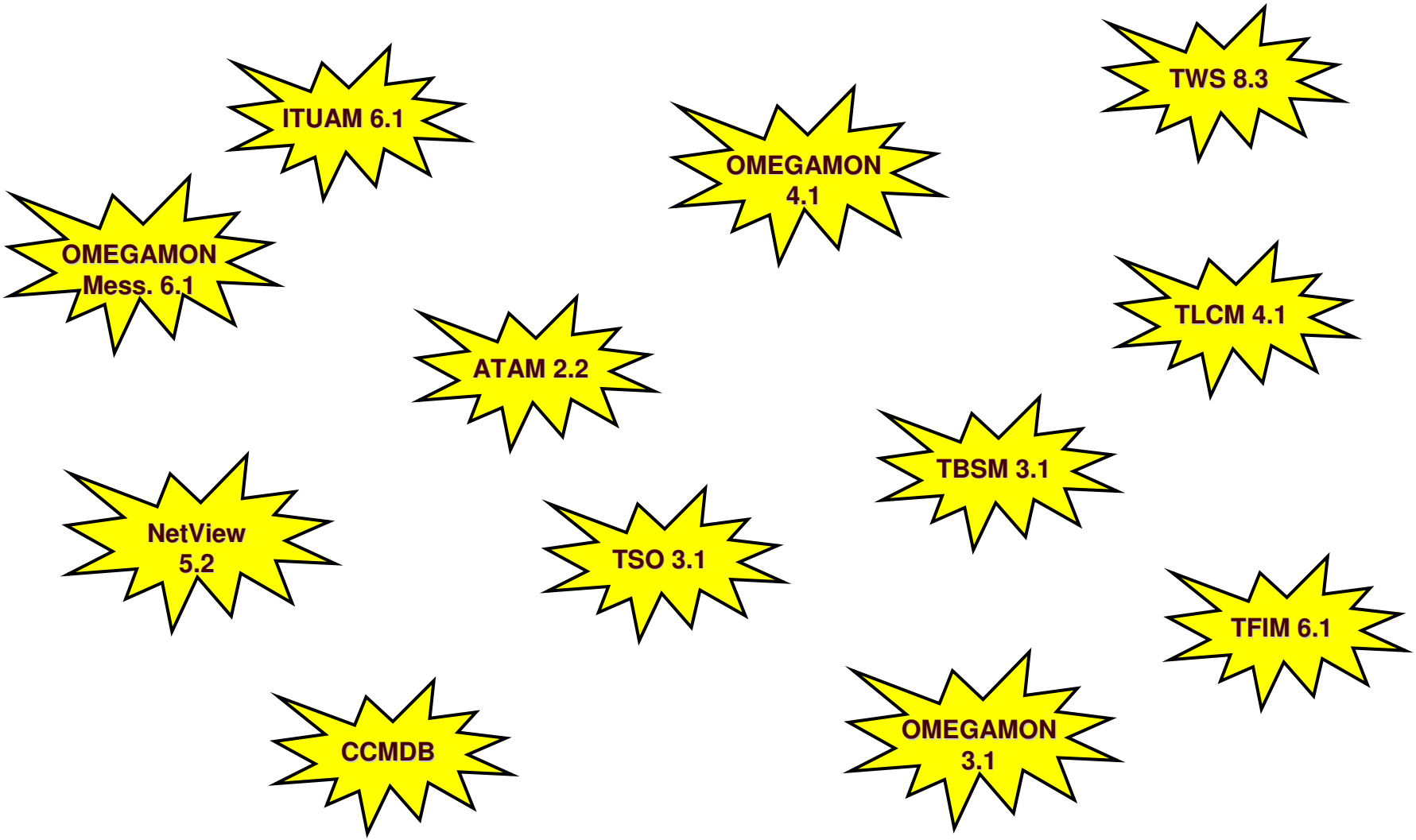
Tivoli Systems Management update - rundt i Tivoli på 60 minutter

Tivoli software

Hans Peder Thomsen
Consultant IT Specialist, IBM Tivoli Danmark

e business on demand software

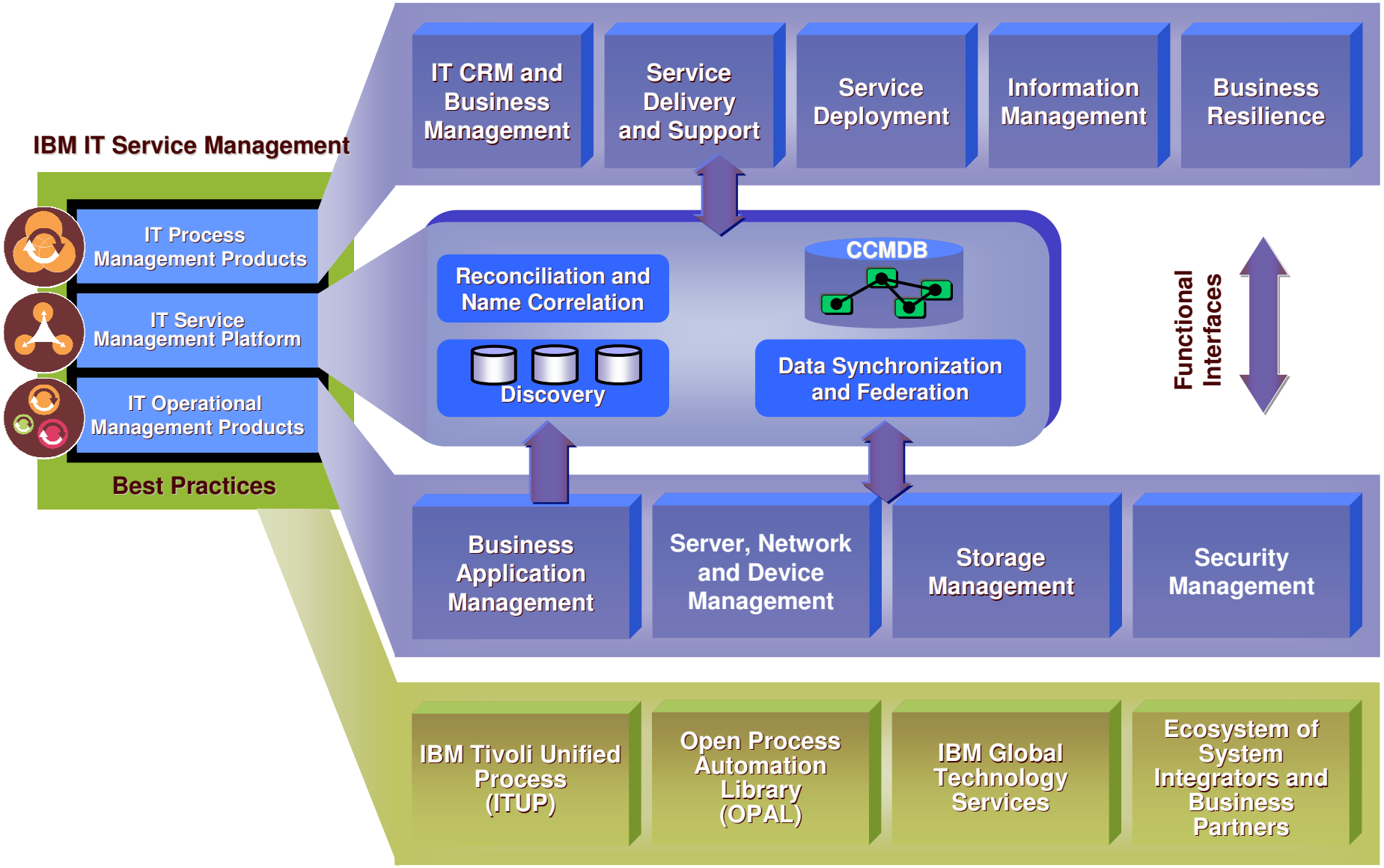
Væsentlige Tivoli zSeries nyheder siden LSU 2005



Agenda

- **IT Service Management**
  - CCMDB
  - Process Managers
- **IBM Usage and Accounting Manager**
- **Tivoli OMEGAMON**
  - OMEGAMON z/OS Management Console
  - OMEGAMON XE for z/VM and Linux

A Comprehensive Approach to IT Service Management



A CMDB is More Than a Data Store

Data integration

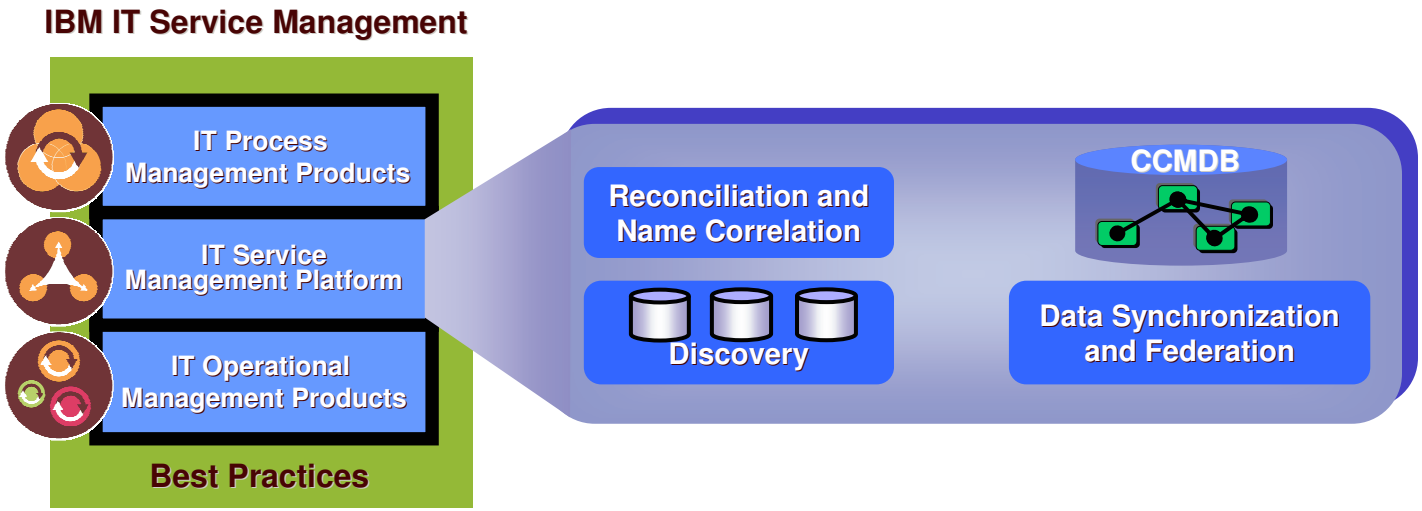
- Integrates and shares data across complex organizational silos
- Proactively manages data currency and accuracy
- Is the true, authoritative source of record

Workflow integration

- Is coupled with an automated change management process to ensure integrity and consistency of configuration items
- Increases coordination and data sharing

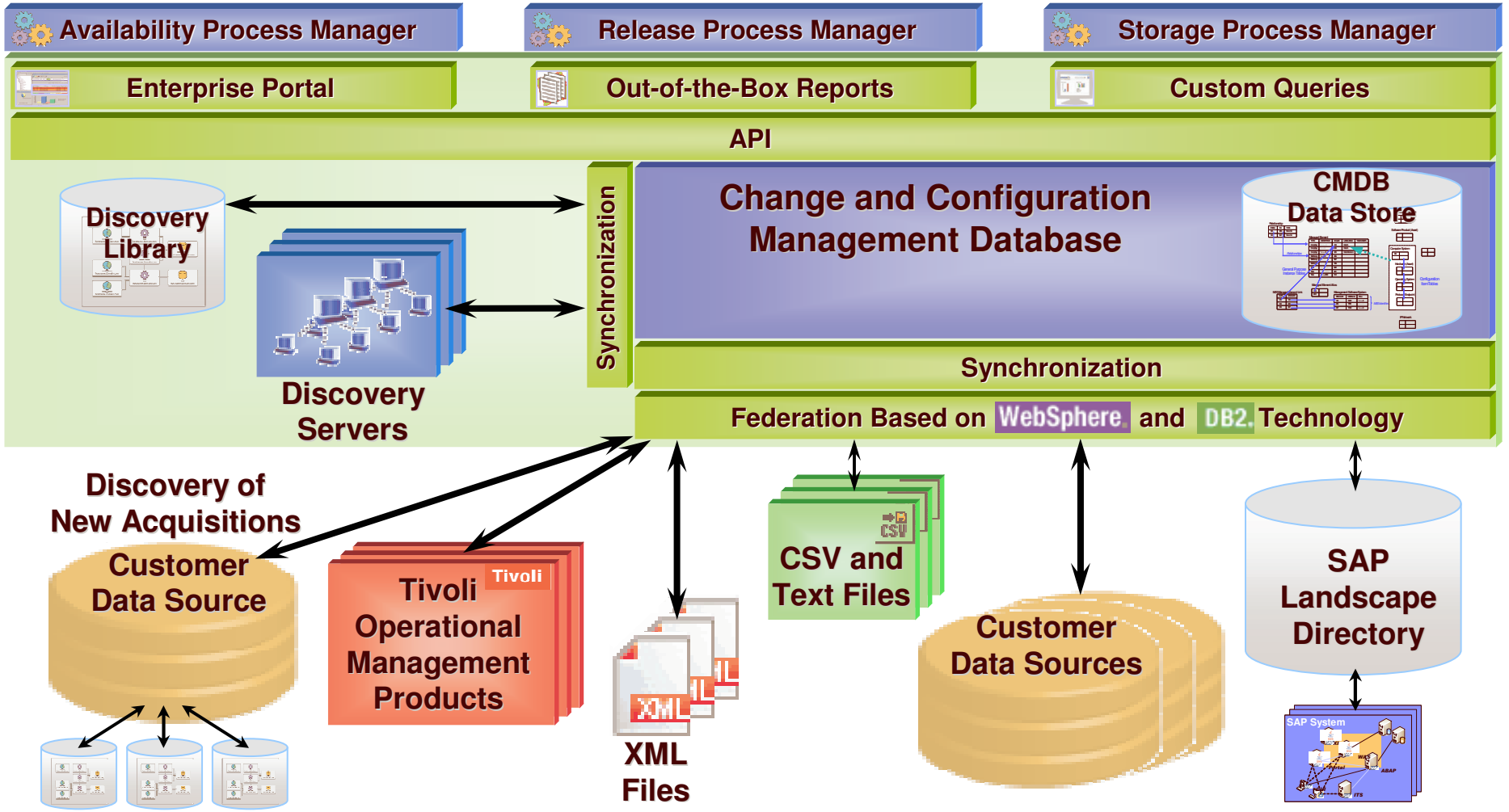
Policy integration

- Enforces policies to ensure compliance with internal and regulatory requirements



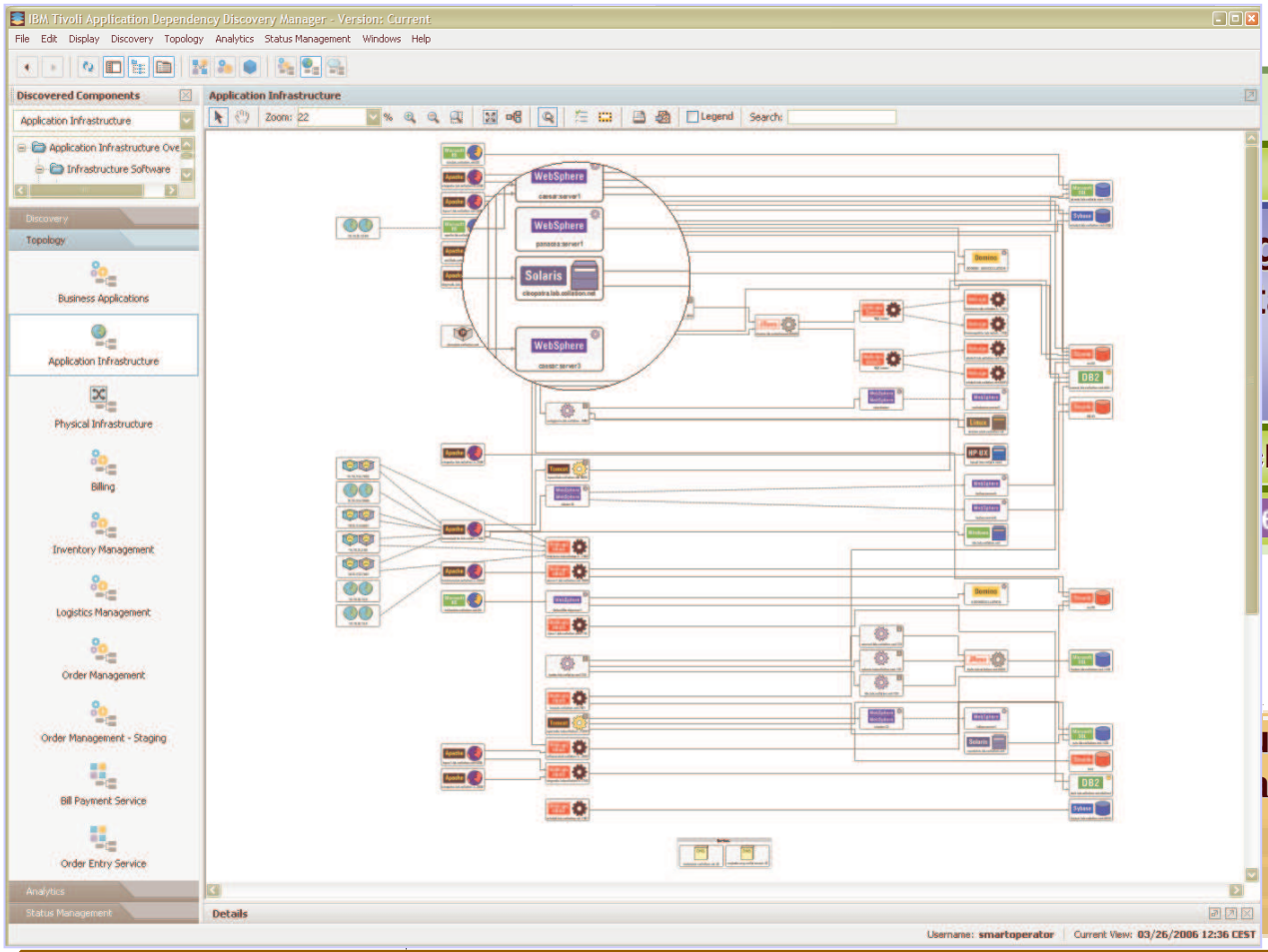
Synchronization

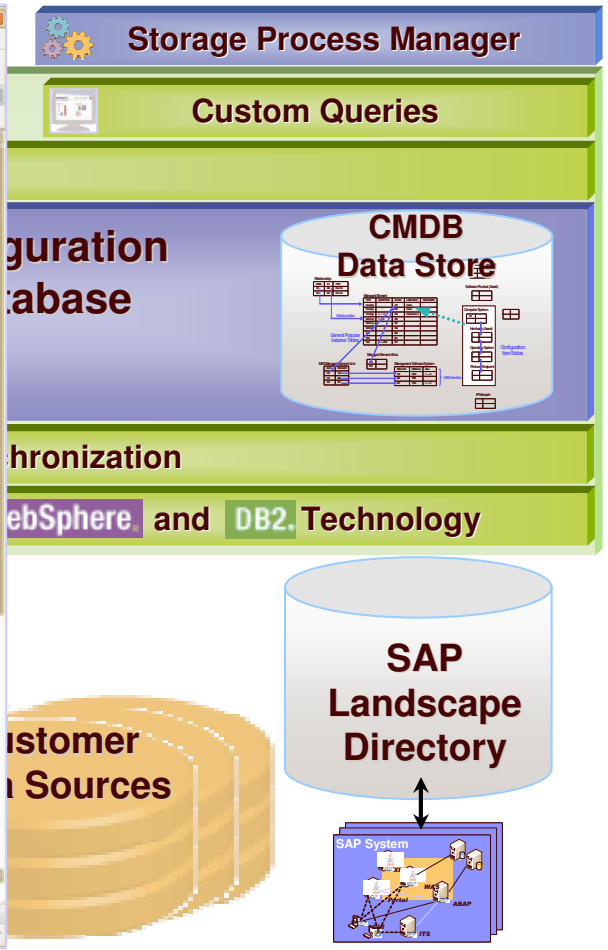
Synchronization will ensure the same version of the truth across integrated systems



Mapping and Visualization

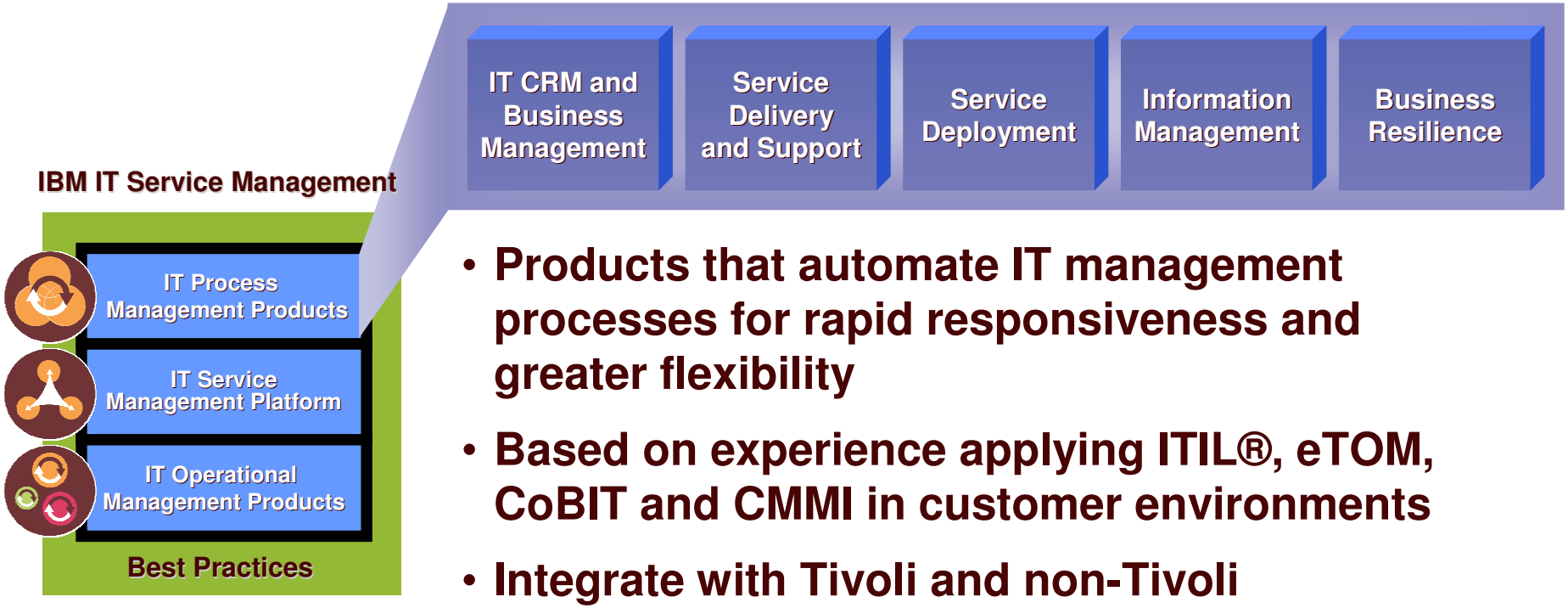
Mapping and visualization will enable a peer-to-peer and hierarchical view of the CIs





IT Infrastructure – Servers, Networks, Mainframes, Middleware, Applications, Business Services

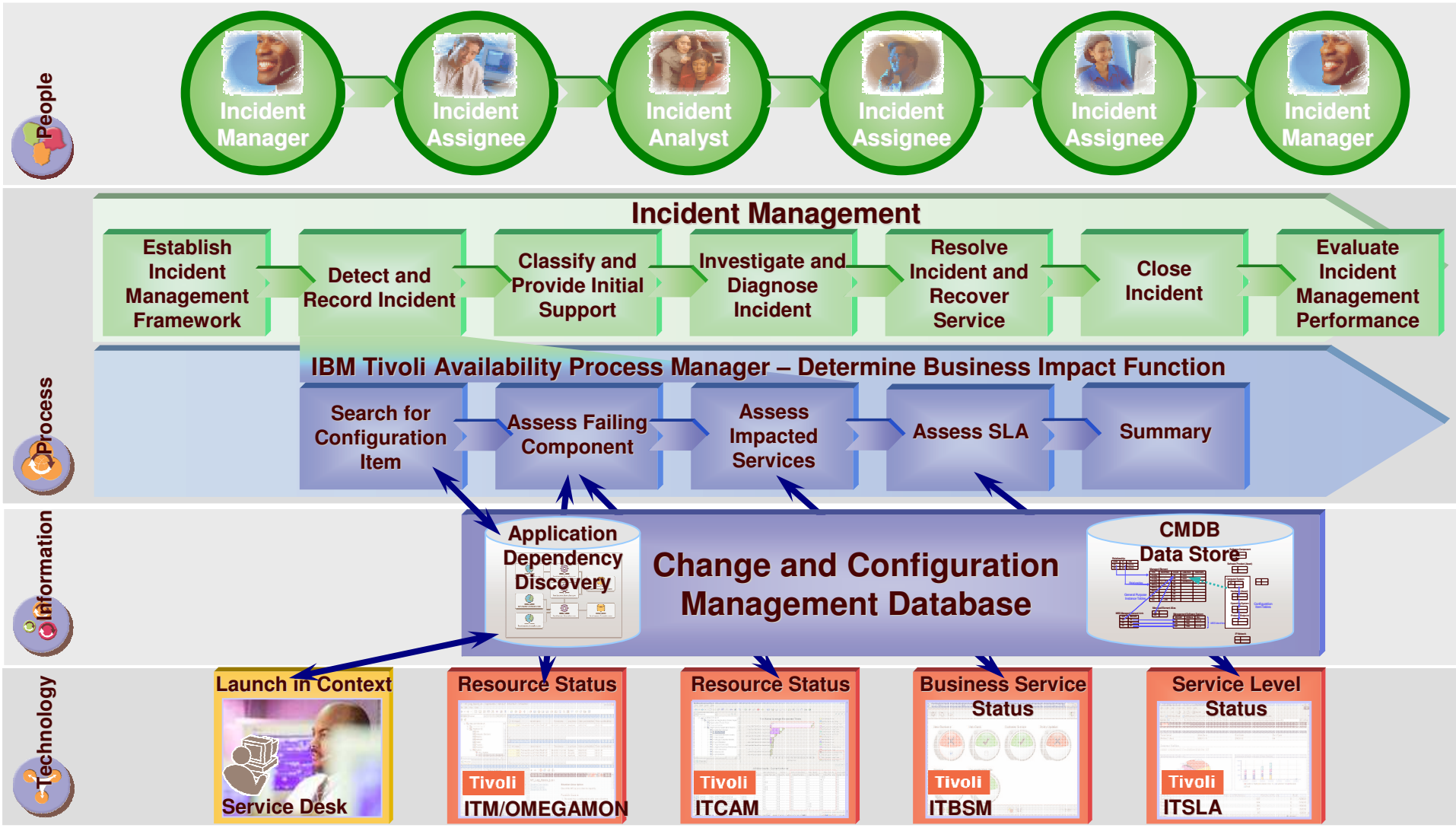
What are Process Managers?



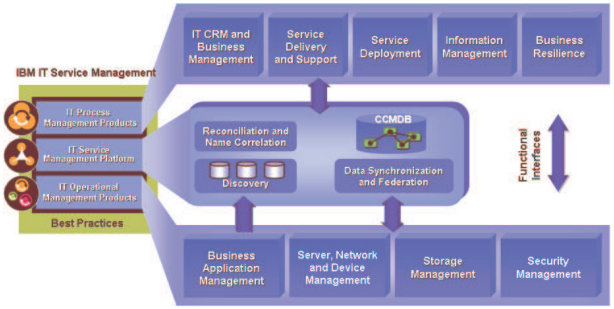
- **Products that automate IT management processes for rapid responsiveness and greater flexibility**
- **Based on experience applying ITIL®, eTOM, CoBIT and CMMI in customer environments**
- **Integrate with Tivoli and non-Tivoli management products**
- **Customization tools allow customers to:**
  - **Customize the processes**
  - **Integrate additional products into the processes including in-house and third party applications**

Maintaining Application Service Levels

IT Service Management in action – isolate, diagnose and resolve incidents



Benefits of Maintaining Application Service Levels



- **Improved time to resolution**
  - Automates incident correlation for fast problem identification
  - Improve first call resolution rate
  - Controls problems proactively by analyzing historical management data and identifying trends
- **Improved performance against SLAs**
  - Reduced financial impacts
  - Higher business satisfaction with IT services
- **Increased availability of critical business services**
  - Accurate classification and prioritization of problems
  - Higher customer satisfaction
- **Improved IT cost efficiencies**
  - Improved staff productivity and efficiency
  - Reduced overall incident and problem volumes

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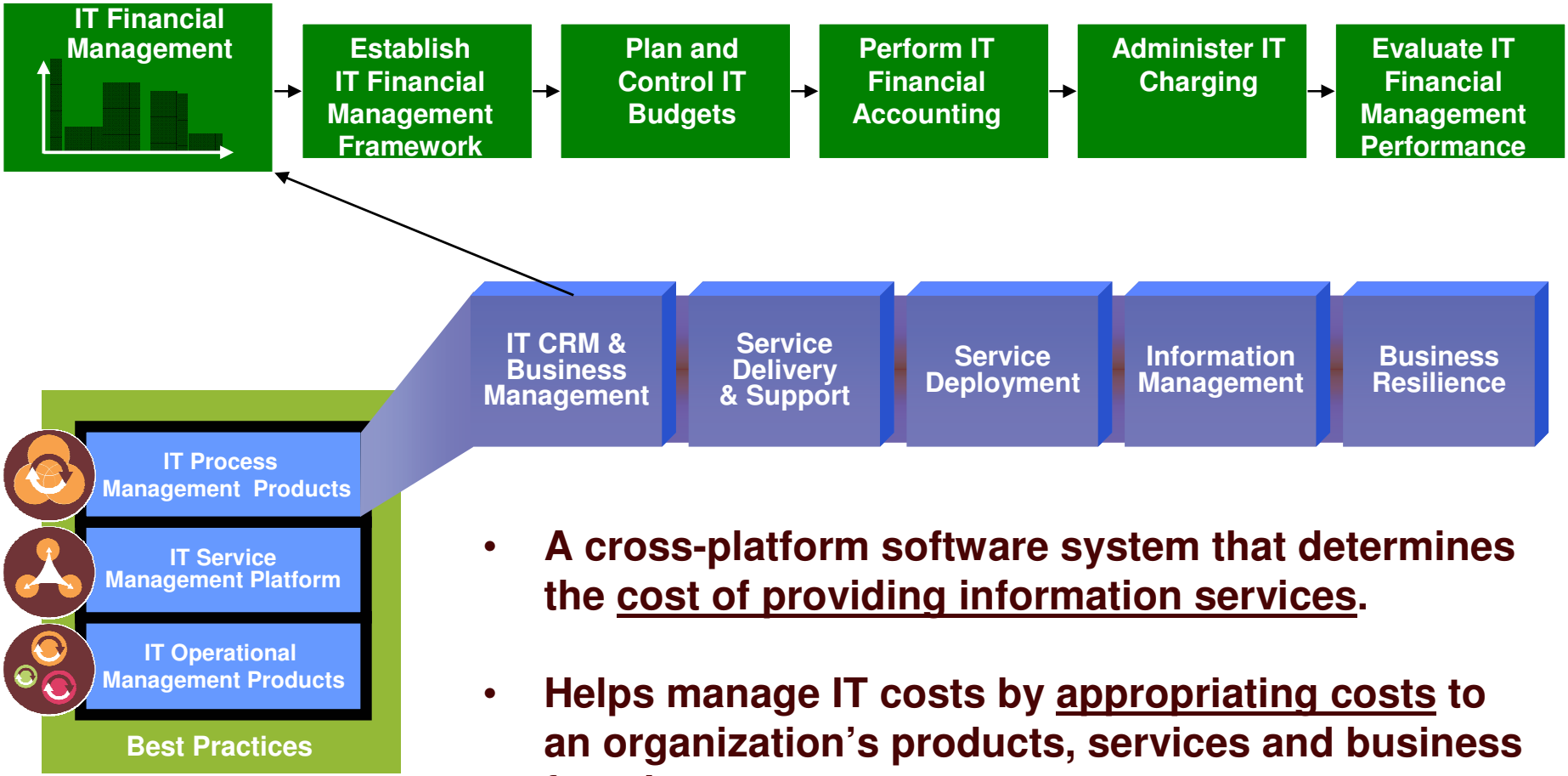
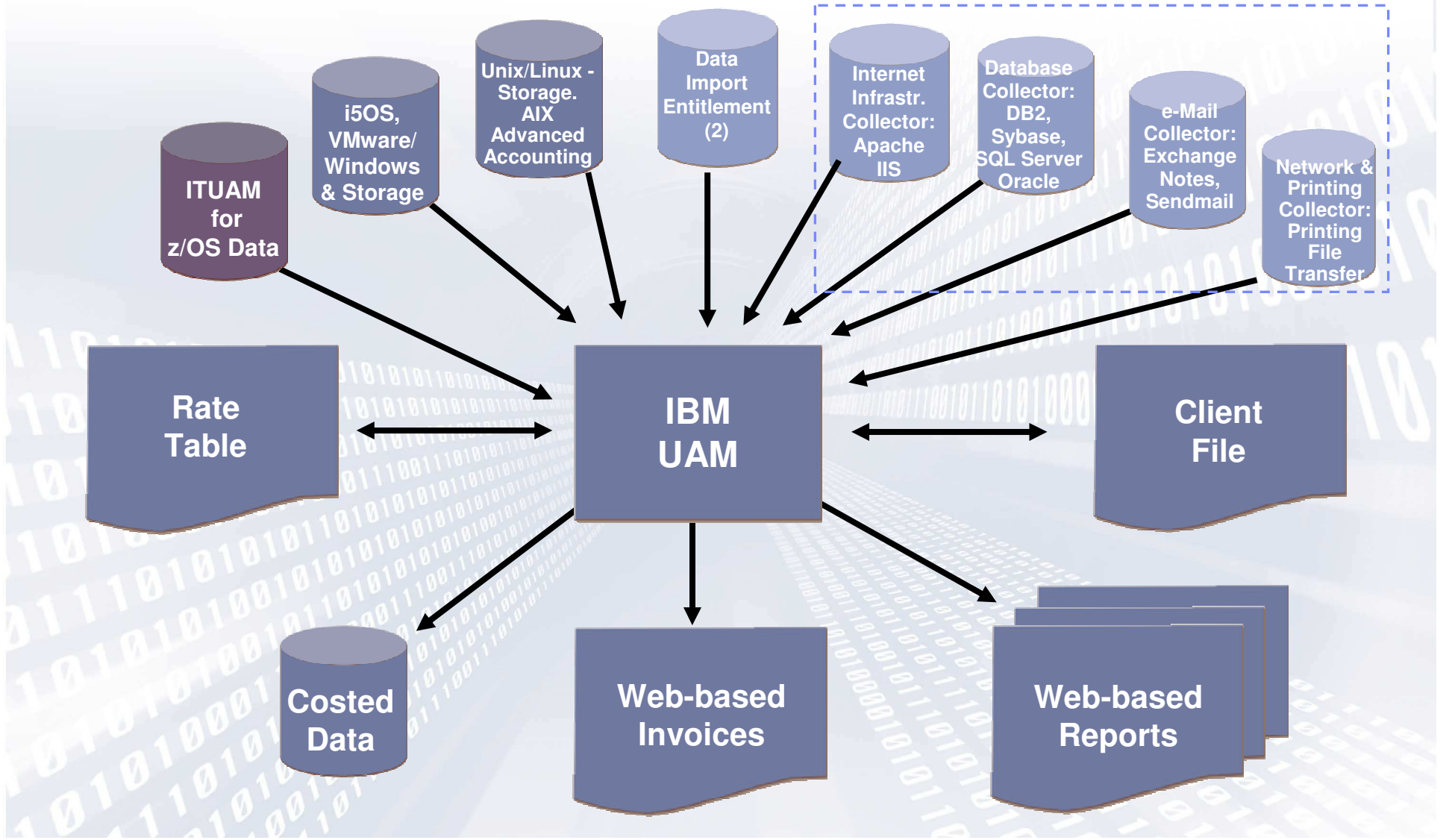
IBM IT Financial Management

A Differentiated, Flexible Approach



- **A cross-platform software system that determines the cost of providing information services.**
- **Helps manage IT costs by appropriating costs to an organization's products, services and business functions.**

IBM Usage and Accounting Manager V6.1



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Invoice by Account Level Publish Return Help

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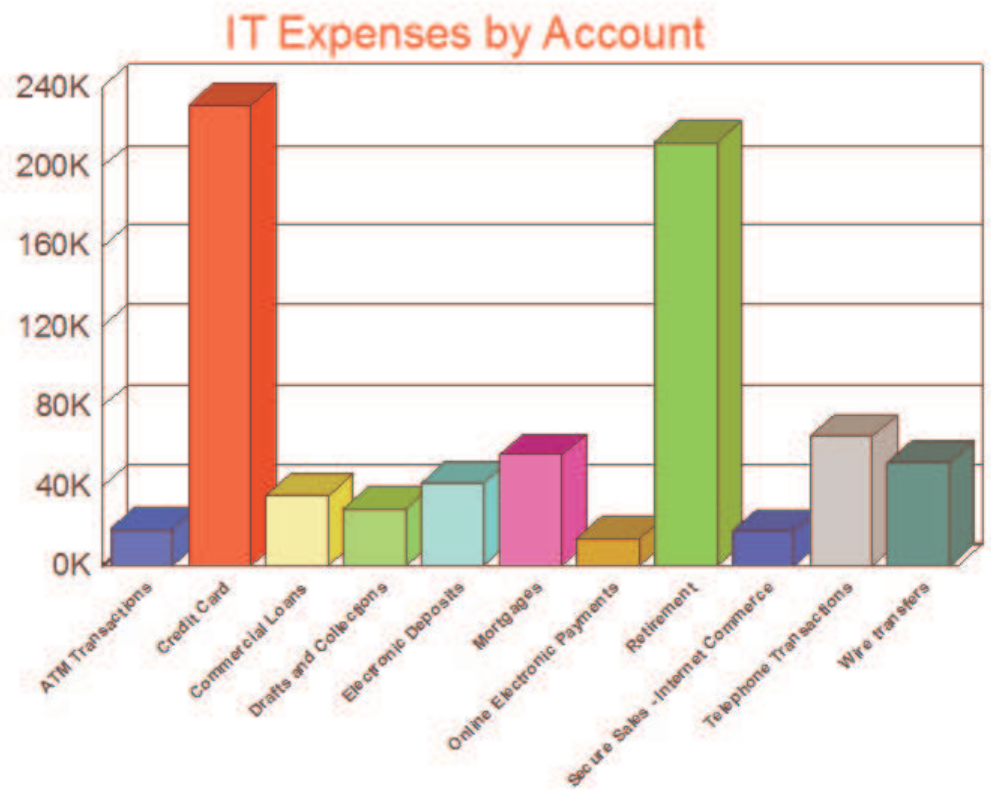
Preview

- ATM Transactions
  - Equipment/Shared Services
  - Unix Process Charges
  - Unix Filesystem
  - Unix Oracle Charges
  - MS Windows Storage Charges
  - MS Windows SQL Server
  - MS IIS
  - MS Exchange Sent and Receive
  - MS Windows Processes
  - MS Windows Print
  - Mainframe Printer/Reader Char
  - Mainframe Storage Charges
  - Mainframe Print Charges
  - Mainframe CICS Charges
  - Mainframe DB2 Charges
- Credit Card
  - Equipment/Shared Services
  - Unix DB2 Charges
  - Unix Process Charges
  - Unix Filesystem
  - Unix Oracle Charges
  - MS Windows Storage Charges
  - MS Windows SQL Server
  - MS IIS
  - MS Exchange Mailbox
  - MS Windows Processes
  - Mainframe Batch Charges
  - Mainframe TSO Charges
  - Mainframe Input/Output Charge
  - Mainframe Printer/Reader Char
  - Mainframe Storage Charges
  - Mainframe Print Charges
  - Mainframe CICS Charges
  - Mainframe DB2 Charges
- Commercial Loans
- Drafts and Collections
- Electronic Deposits
- Mortgages
- Online Electronic Payments
- Retirement
- Secure Sales - Internet Commerce
- Telephone Transactions

Usage and Accounting Manager IBM.

Invoice

Billing Period: 04/01/2006 to 04/30/2006



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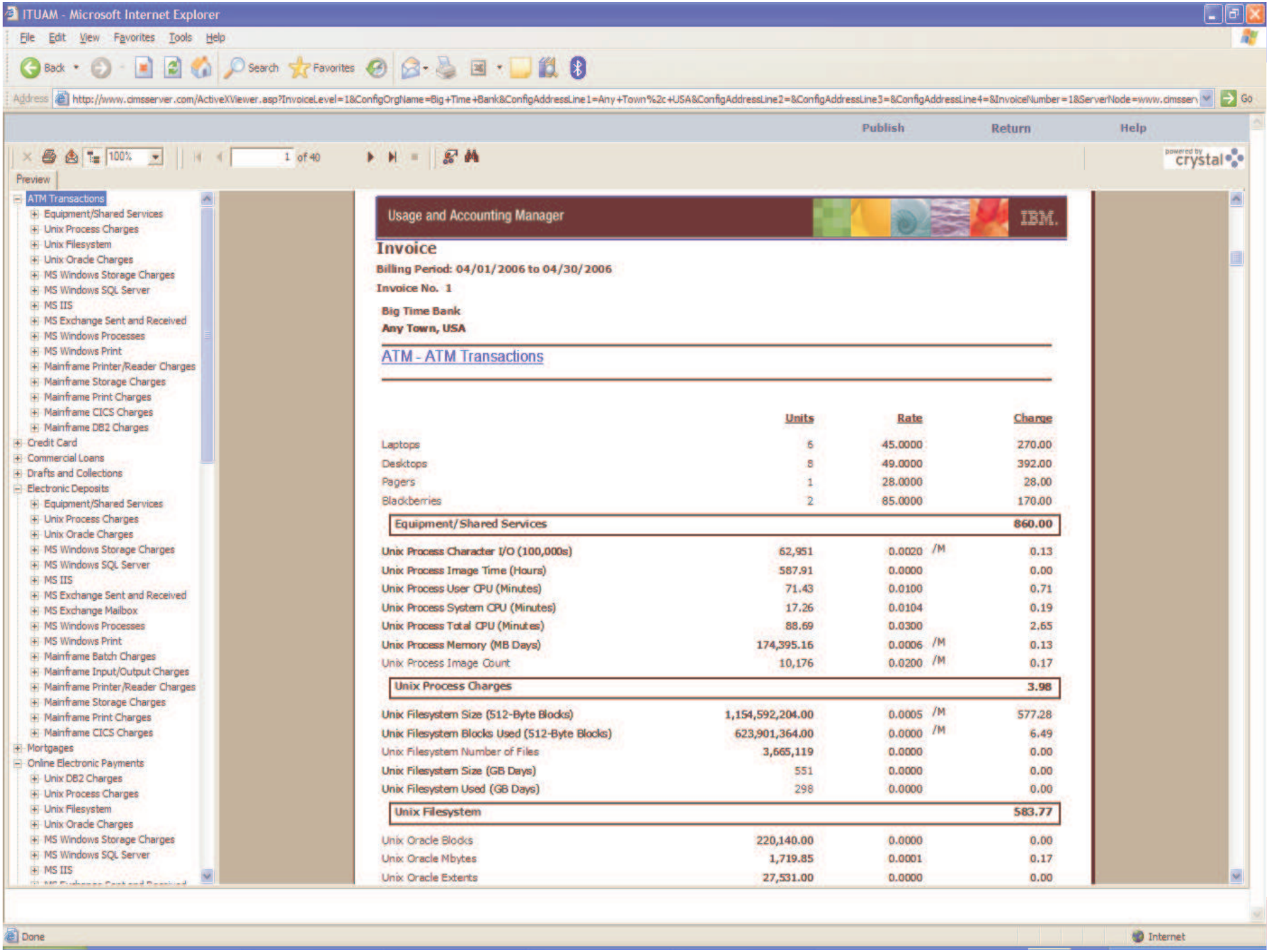
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Drafts and Collections
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Mortgages
Online Electronic Payments
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Unix Process Charges
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Unix Oracle Charges
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MS Windows SQL Server
MS IIS
Usage and Accounting Manager
IBM.
Invoice
Billing Period: 04/01/2006 to 04/30/2006
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Big Time Bank
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ATM - ATM Transactions
Units Rate Charge
Laptops 6 45.0000 270.00
Desktops 8 49.0000 392.00
Pagers 1 28.0000 28.00
Blackberries 2 85.0000 170.00
Equipment/Shared Services 860.00
Unix Process Character I/O (100,000s) 62,951 0.0020 /M 0.13
Unix Process Image Time (Hours) 587.91 0.0000 0.00
Unix Process User CPU (Minutes) 71.43 0.0100 0.71
Unix Process System CPU (Minutes) 17.26 0.0104 0.19
Unix Process Total CPU (Minutes) 88.69 0.0300 2.65
Unix Process Memory (MB Days) 174,395.16 0.0006 /M 0.13
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Unix Filesystem Used (GB Days) 298 0.0000 0.00
Unix Filesystem 583.77
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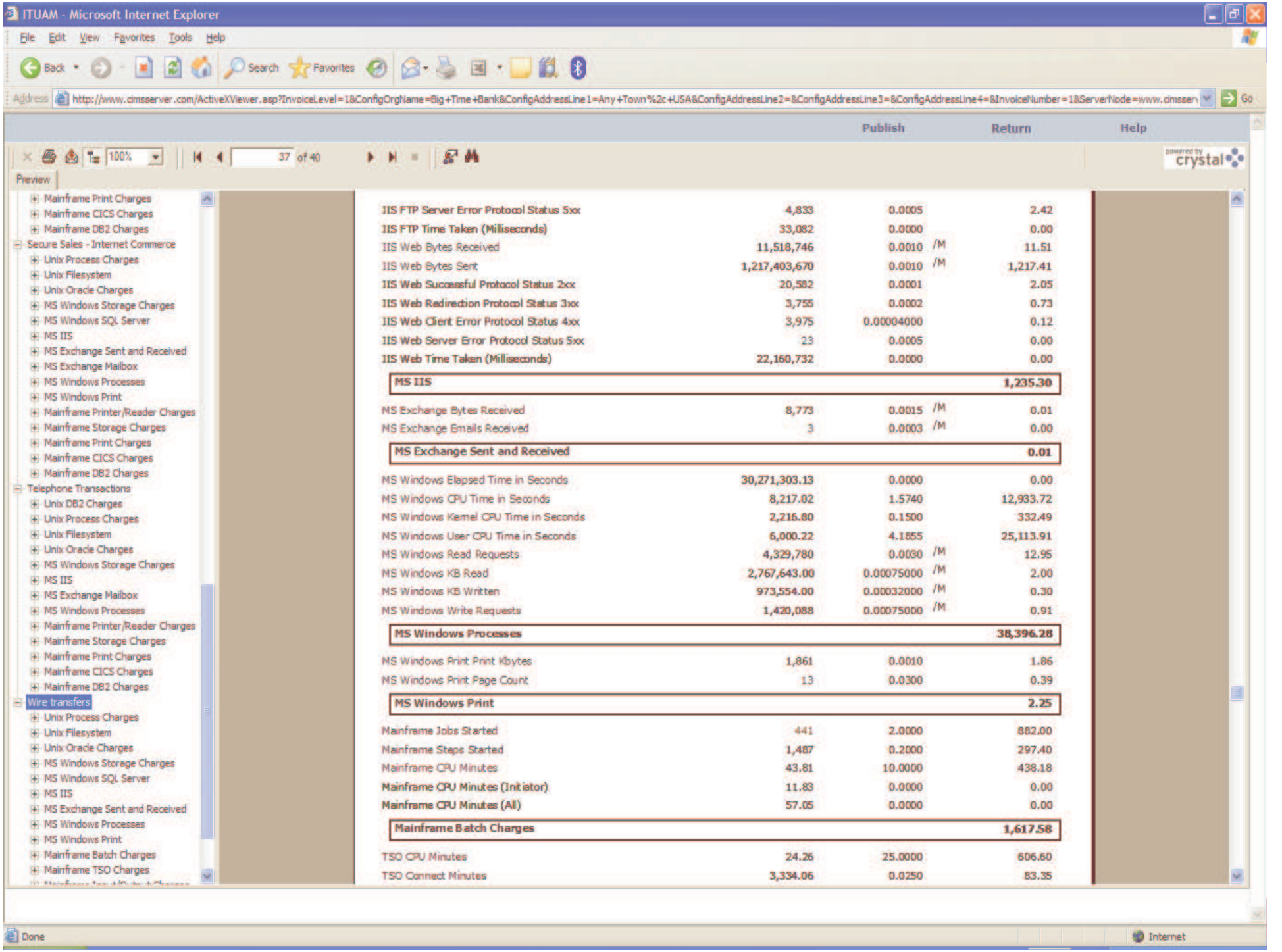
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MS Windows SQL Server
MS IIS
MS Exchange Sent and Received
MS Windows Processes
MS Windows Print
Mainframe Batch Charges
Mainframe TSO Charges
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IIS FTP Time Taken (Milliseconds) 33,082 0.0000 0.00
IIS Web Bytes Received 11,518,746 0.0010 /M 11.51
IIS Web Bytes Sent 1,217,403,670 0.0010 /M 1,217.41
IIS Web Successful Protocol Status 2xx 20,582 0.0001 2.05
IIS Web Redirection Protocol Status 3xx 3,755 0.0002 0.73
IIS Web Client Error Protocol Status 4xx 3,975 0.00004000 0.12
IIS Web Server Error Protocol Status 5xx 23 0.0005 0.00
IIS Web Time Taken (Milliseconds) 22,160,732 0.0000 0.00
MS IIS 1,235.30
MS Exchange Bytes Received 8,773 0.0015 /M 0.01
MS Exchange Emails Received 3 0.0003 /M 0.00
MS Exchange Sent and Received 0.01
MS Windows Elapsed Time in Seconds 30,271,303.13 0.0000 0.00
MS Windows CPU Time in Seconds 8,217.02 1.5740 12,933.72
MS Windows Kernel CPU Time in Seconds 2,216.80 0.1500 332.49
MS Windows User CPU Time in Seconds 6,000.22 4.1855 25,113.91
MS Windows Read Requests 4,329,780 0.0030 /M 12.95
MS Windows KB Read 2,767,643.00 0.00075000 /M 2.00
MS Windows KB Written 973,554.00 0.00032000 /M 0.30
MS Windows Write Requests 1,420,088 0.00075000 /M 0.91
MS Windows Processes 38,396.28
MS Windows Print Print Kbytes 1,861 0.0010 1.86
MS Windows Print Page Count 13 0.0300 0.39
MS Windows Print 2.25
Mainframe Jobs Started 441 2.0000 882.00
Mainframe Steps Started 1,487 0.2000 297.40
Mainframe CPU Minutes 43.81 10.0000 438.18
Mainframe CPU Minutes (Initiator) 11.83 0.0000 0.00
Mainframe CPU Minutes (All) 57.05 0.0000 0.00
Mainframe Batch Charges 1,617.58
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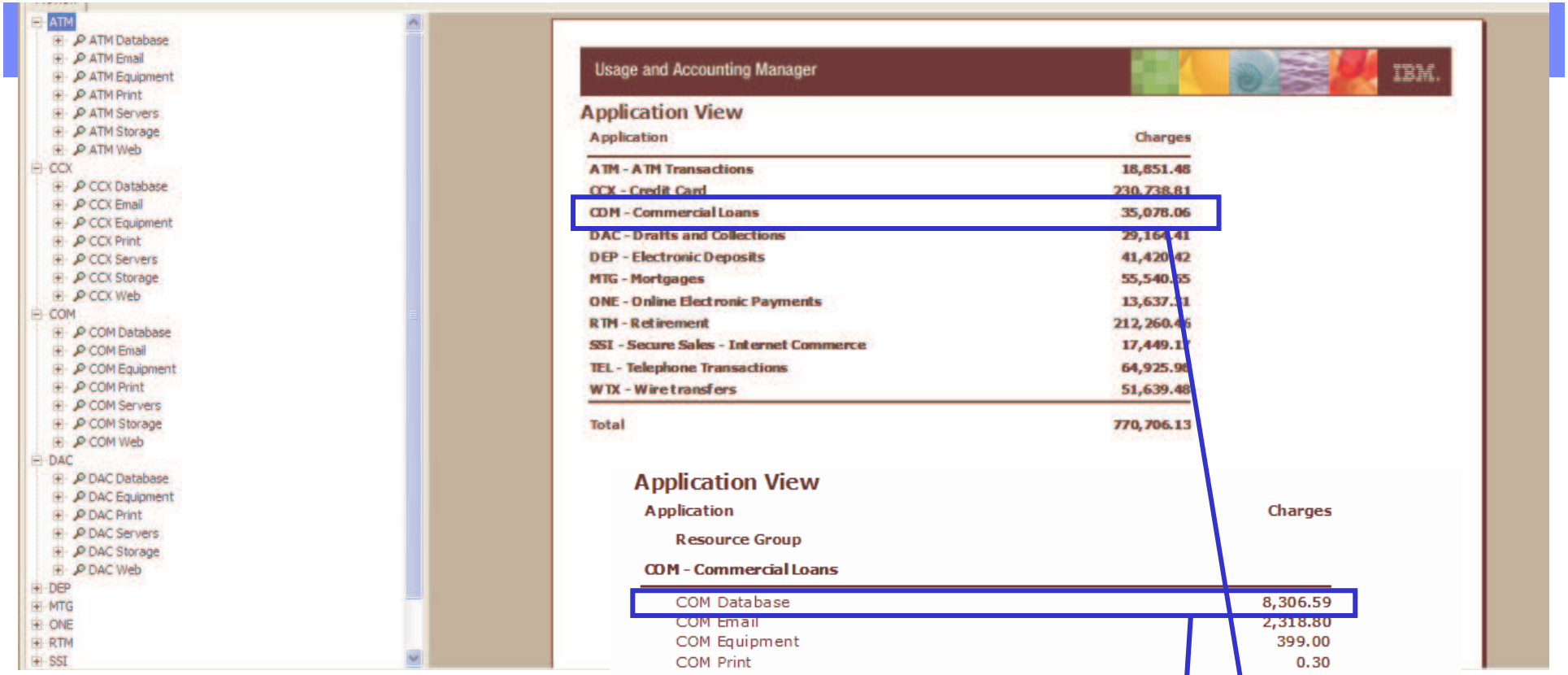
ATM
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ATM Storage
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MTG - Mortgages
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RTM - Retirement
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SSI - Secure Sales - Internet Commerce
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TEL - Telephone Transactions
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WTX - Wire transfers
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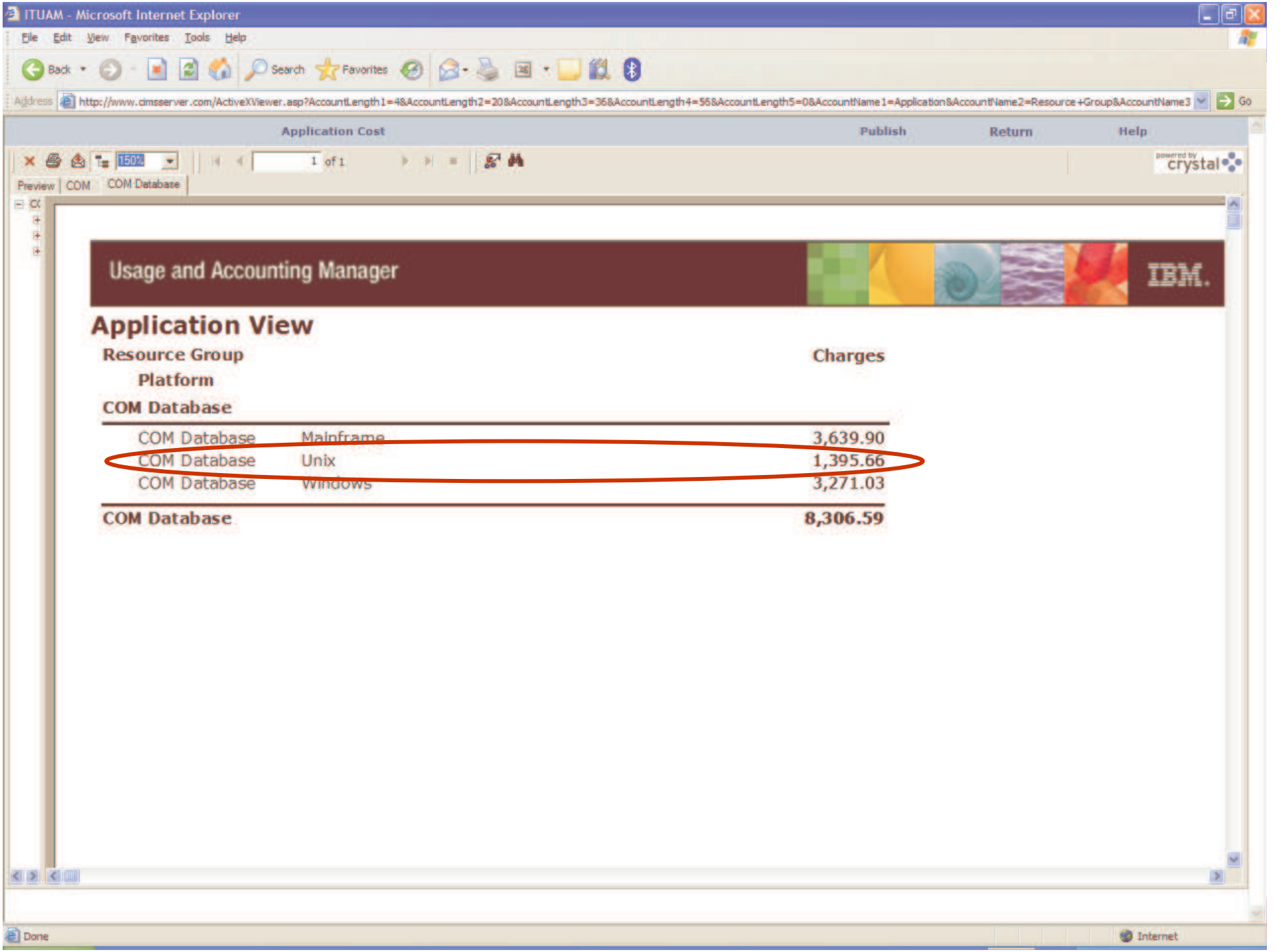
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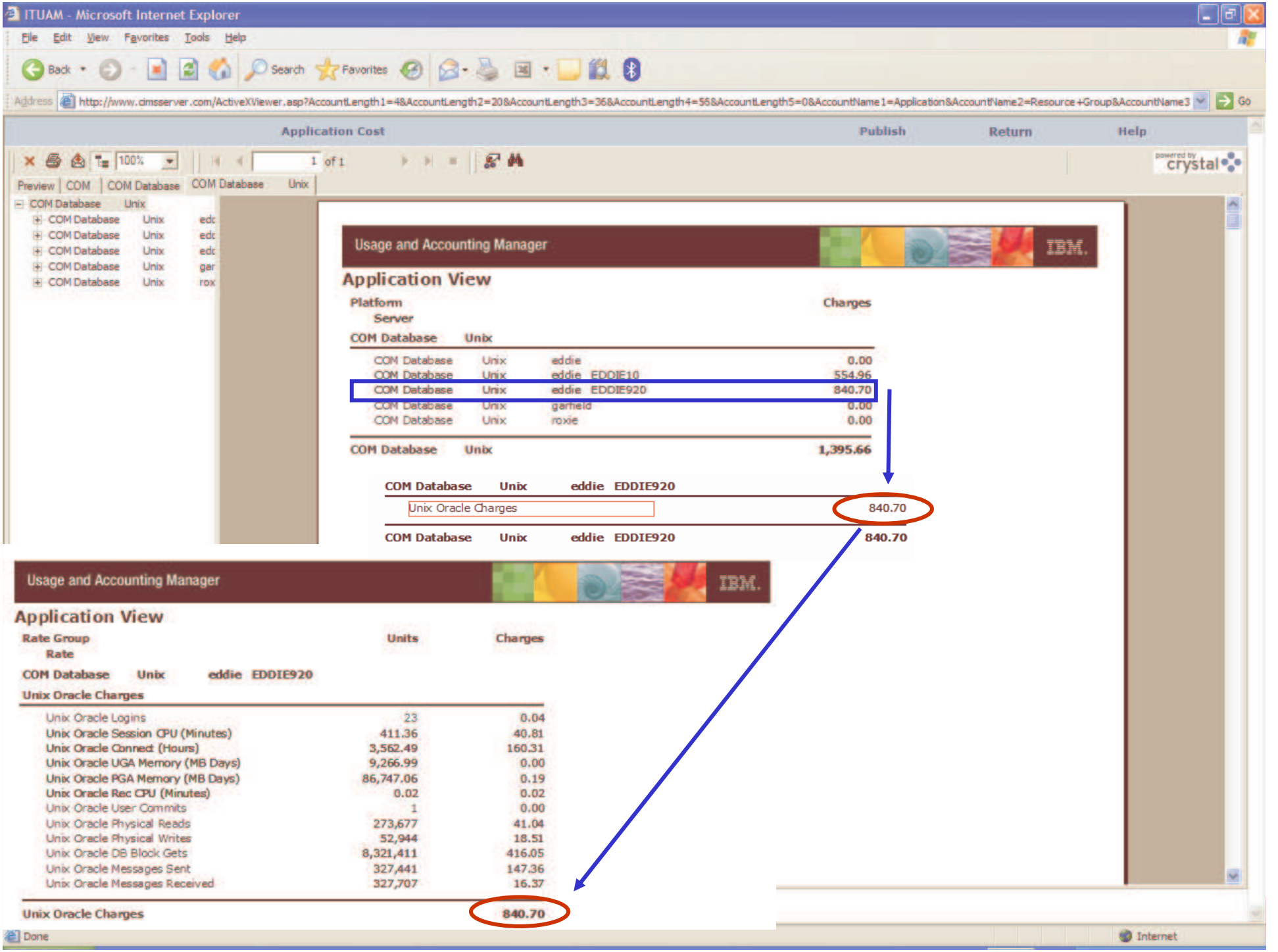
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Unix Oracle Charges
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Unix Oracle Connect (Hours) 3,562.49 160.31
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Unix Oracle PGA Memory (MB Days) 86,747.06 0.19
Unix Oracle Rec CPU (Minutes) 0.02 0.02
Unix Oracle User Commits 1 0.00
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Unix Oracle Physical Writes 52,944 18.51
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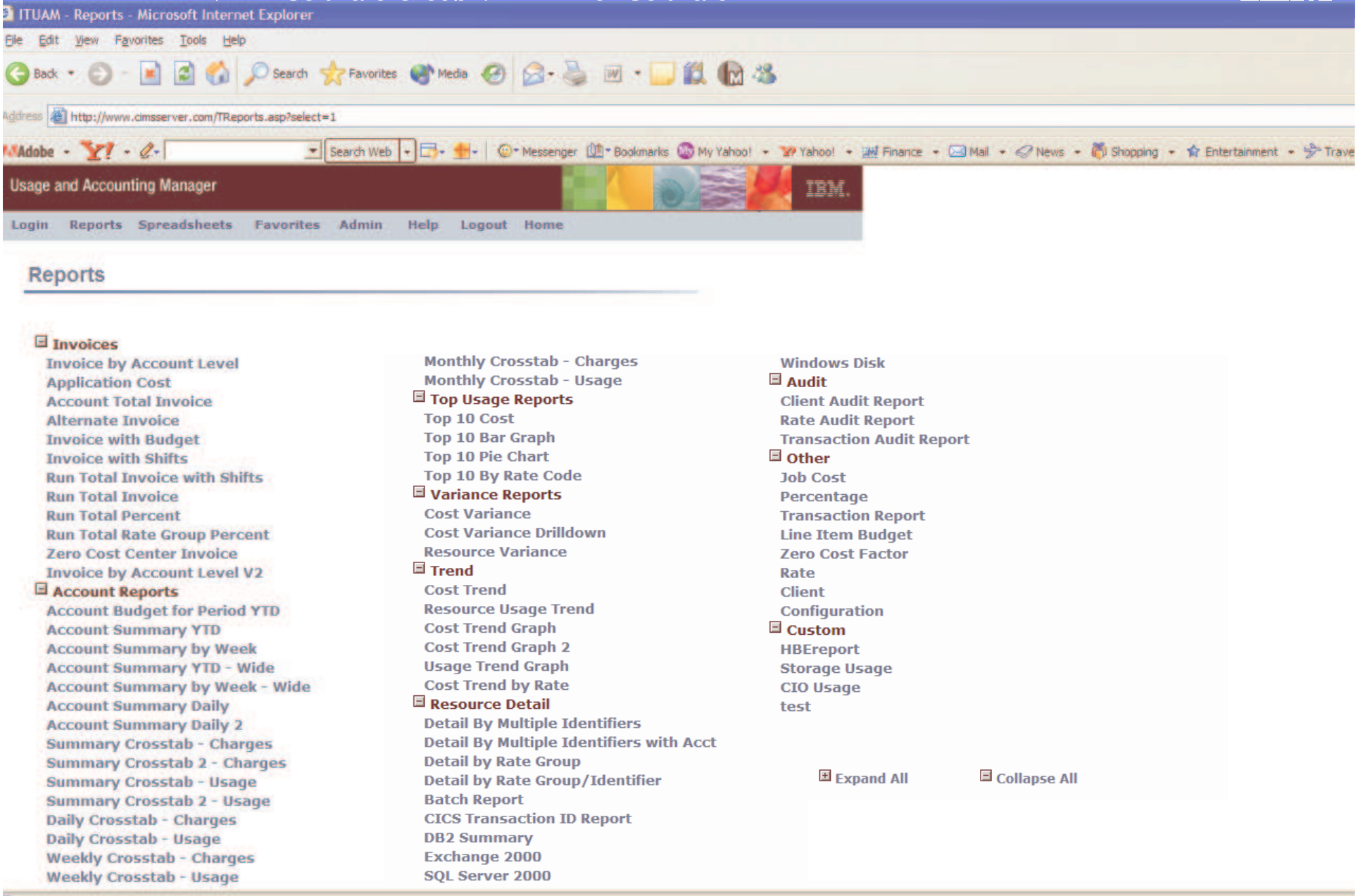
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Adobe Search Web Messenger Bookmarks My Yahoo! Yahoo! Finance Mail News Shopping Entertainment
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Reports
Invoices
Invoice by Account Level
Application Cost
Account Total Invoice
Alternate Invoice
Invoice with Budget
Invoice with Shifts
Run Total Invoice with Shifts
Run Total Invoice
Run Total Percent
Run Total Rate Group Percent
Zero Cost Center Invoice
Invoice by Account Level V2
Account Reports
Account Budget for Period YTD
Account Summary YTD
Account Summary by Week
Account Summary YTD - Wide
Account Summary by Week - Wide
Account Summary Daily
Account Summary Daily 2
Summary Crosstab - Charges
Summary Crosstab 2 - Charges
Summary Crosstab - Usage
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Detail By Multiple Identifiers
Detail By Multiple Identifiers with Acct
Detail by Rate Group
Detail by Rate Group/Identifier
Batch Report
CICS Transaction ID Report
DB2 Summary
Exchange 2000
SQL Server 2000
Windows Disk
Audit
Client Audit Report
Rate Audit Report
Transaction Audit Report
Other
Job Cost
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Transaction Report
Line Item Budget
Zero Cost Factor
Rate
Client
Configuration
Custom
HBEreport
Storage Usage
CIO Usage
test
Expand All
Collapse All
ITUAM is ready.

Agenda

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  - CCMDB
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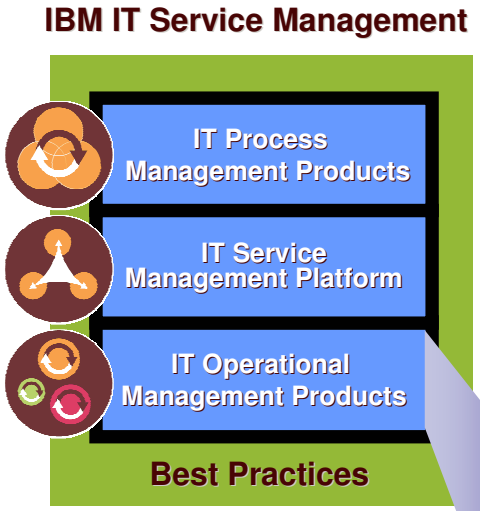
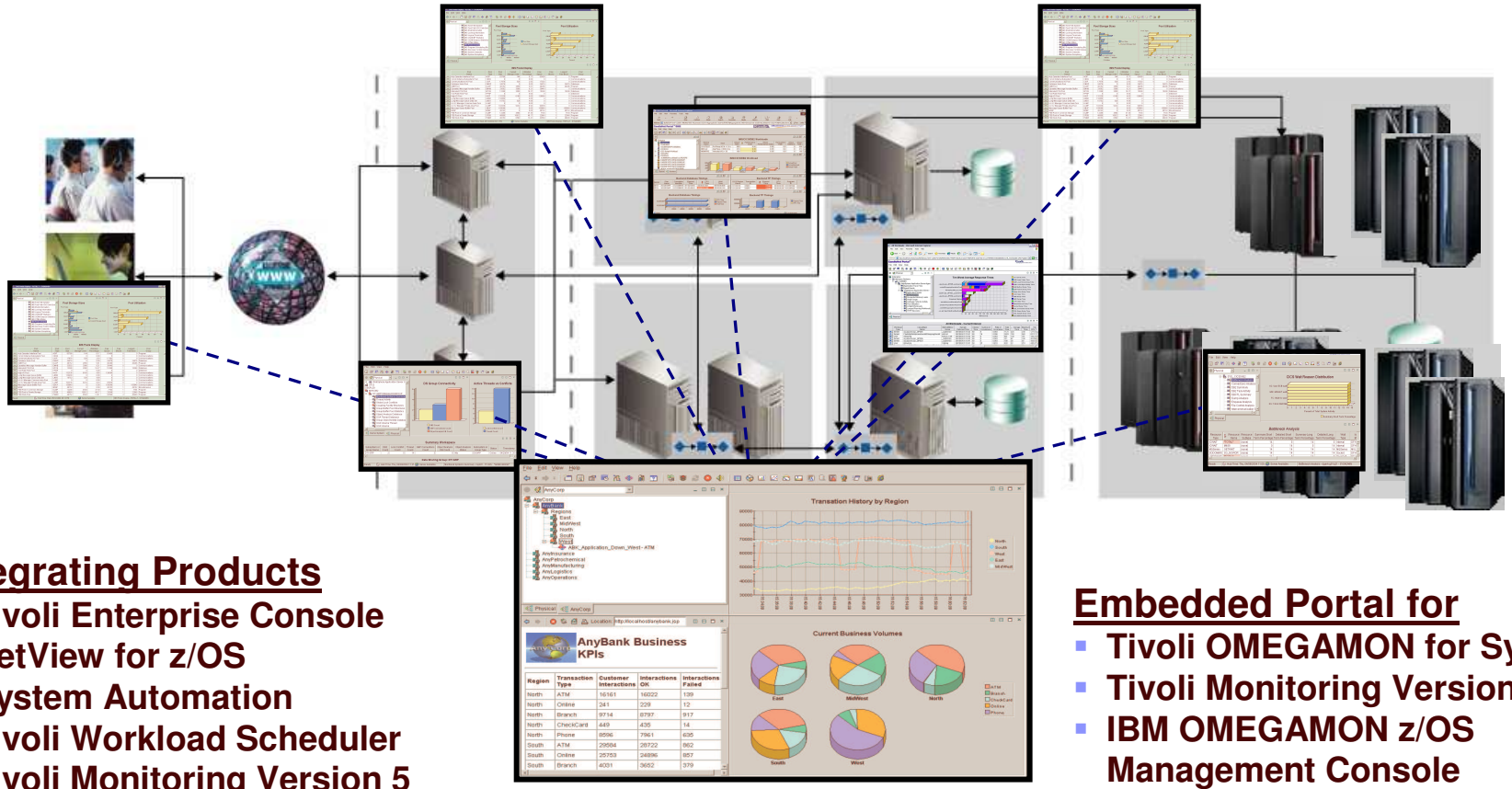


Business Application Management	Server, Network & Device Management	Storage Management	Security Management
Products include: ▪ Tivoli Composite Application Management ▪ Tivoli Business Systems Manager ▪ Tivoli Intelligent Orchestrator ▪ Tivoli Service Level Advisor ▪ Tivoli License Manager ▪ Tivoli License Compliance Manager ▪ Tivoli Decision Support	Products include: ▪ Tivoli Enterprise Console ▪ Tivoli Monitoring ▪ Tivoli OMEGAMON ▪ Tivoli NetView ▪ Tivoli Remote Control ▪ Tivoli Systems Automation ▪ Tivoli Workload Scheduler ▪ Tivoli Provisioning ▪ Tivoli Configuration Manager	Products include: ▪ Tivoli Storage Manager ▪ Tivoli Continuous Data Protection for Files ▪ Totalstorage Productivity Center	Products include: ▪ Tivoli Access Manager ▪ Tivoli Identity Manager ▪ Tivoli Federated Identity Manager ▪ Tivoli Directory Server ▪ Tivoli Directory Integrator ▪ Security Compliance Manager

Complete View Of Application Performance

A Dynamic Role-based Policy Workspace for Integrating IT Operations Silos



Integrating Products

- Tivoli Enterprise Console
- NetView for z/OS
- System Automation
- Tivoli Workload Scheduler
- Tivoli Monitoring Version 5
- Tivoli Service Level Advisor
- Tivoli Business Systems Manager
- *Netcool OMNIbus Active Event List*

Tivoli Enterprise Portal (TEP)

Embedded Portal for

- Tivoli OMEGAMON for System z
- Tivoli Monitoring Version 6
- IBM OMEGAMON z/OS Management Console
- Tivoli Composite Application Manager Family

Simplifying z/OS Operations Using OMEGAMON and Tivoli Enterprise Portal Technology - New management console

Value

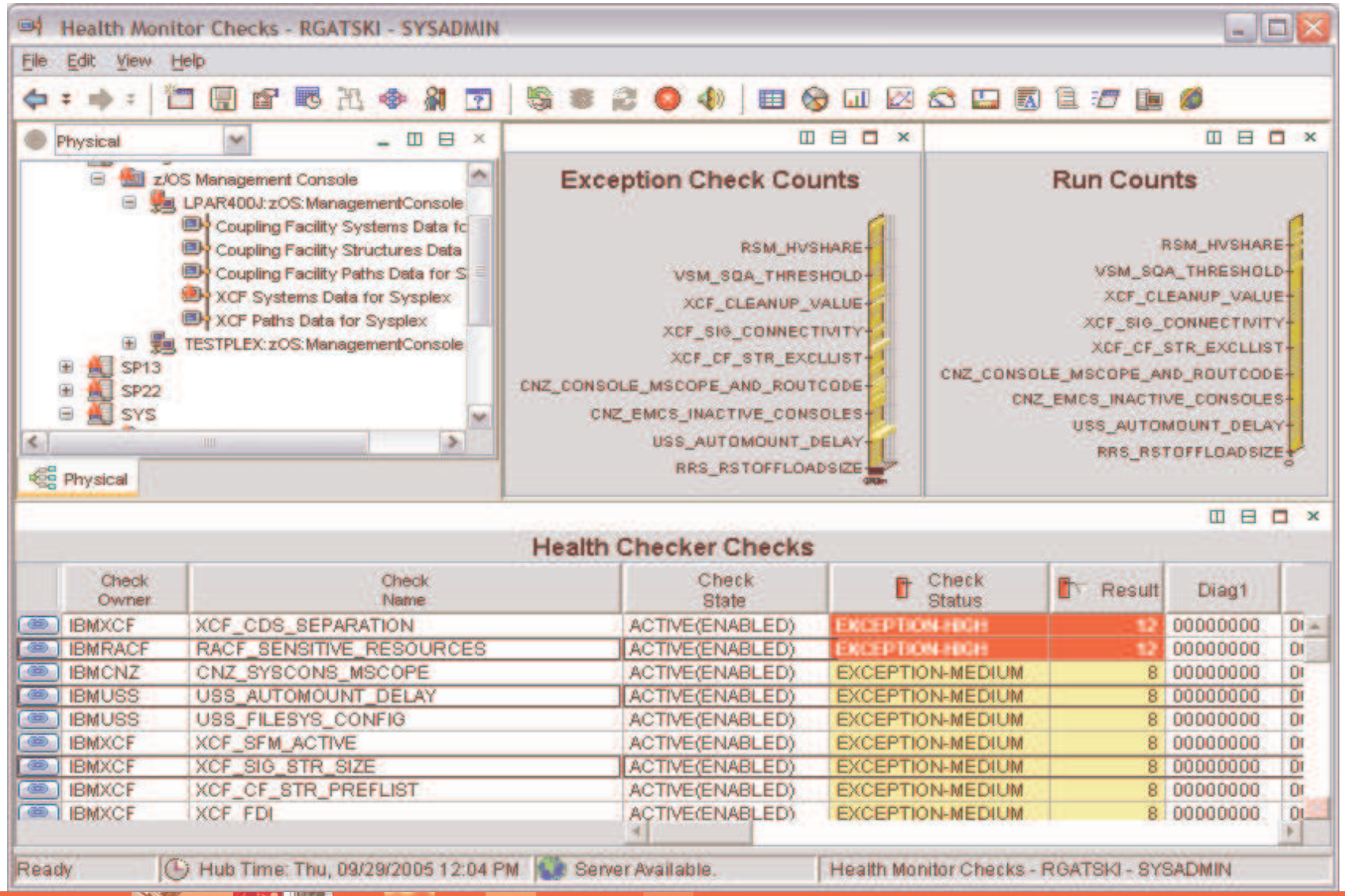
- Simplify z/OS management for the new generation of IT professionals
- Automating, eliminating, and streamlining tasks
- Easily upgradeable to full OMEGAMON solutions

Planned Capabilities

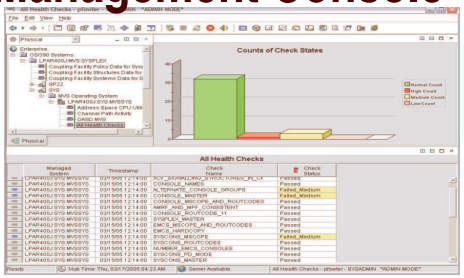
- Task oriented approach with GUI front end
- z/OS Health Checker data plus Tivoli Monitoring Services base capabilities
  - Expert Advice
  - Take Action
- Configuration status metrics for z/OS resources displayed using Tivoli Enterprise Portal
  - Improved ease-of-use of z/OS management
  - Value-add upgrades to comprehensive Tivoli Monitoring Services products

Intended to be available for no charge to z/OS customers

New z/OS Management Console



IBM OMEGAMON z/OS Management Console



Common Functions

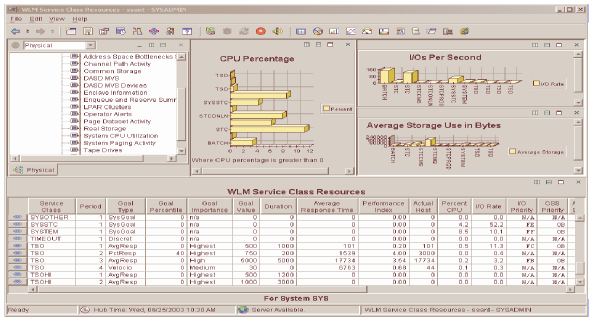
- Take action
- Expert advice
- Situations
- Thresholds
- Alerts
- Custom workspaces

Health Checker
- Health monitor status
- Health monitor checks
- Health monitor messages

Configuration Status
- Address space CPU utilization
- Operator alerts
- Paging dataset activity
- CF systems, structures, paths
- XCF systems & paths

Upgrade Purchase XE

IBM Tivoli OMEGAMON XE for z/OS



IBM OMEGAMON z/OS Management Console data plus:
- 100s of additional z/OS attributes
- Sysplex, IRD & WLM resources
- User response times
- Real time and historical performance information
- Policies
- Custom queries
- Bottleneck Analysis
- Impact analysis
- OMEGAMON DE integration & policies

Availability = 52 attributes

Performance = 490 attributes

Tivoli OMEGAMON XE on z/VM and Linux

Release Timeline

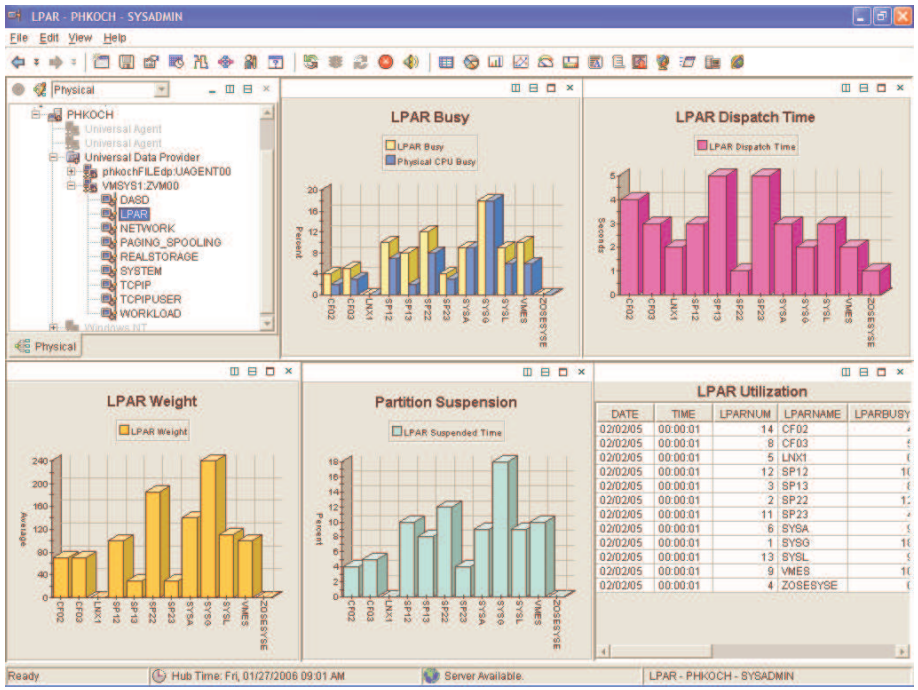
- OMEGAMON for VM v630 released 1Q04
- OMEGAMON XE for z/VM and Linux v4.1 released October 2006

Platform Support

- Old product: z/VM Versions 3.1.0, 4.3.0, 4.4.0 (in either 31-bit or 64-bit images), 5.1.0 or 5.2.0
- New release: z/VM v5.2, SLES 9 for S/390 and zSeries initially. Others as function is available.

New Features in Last Major Release

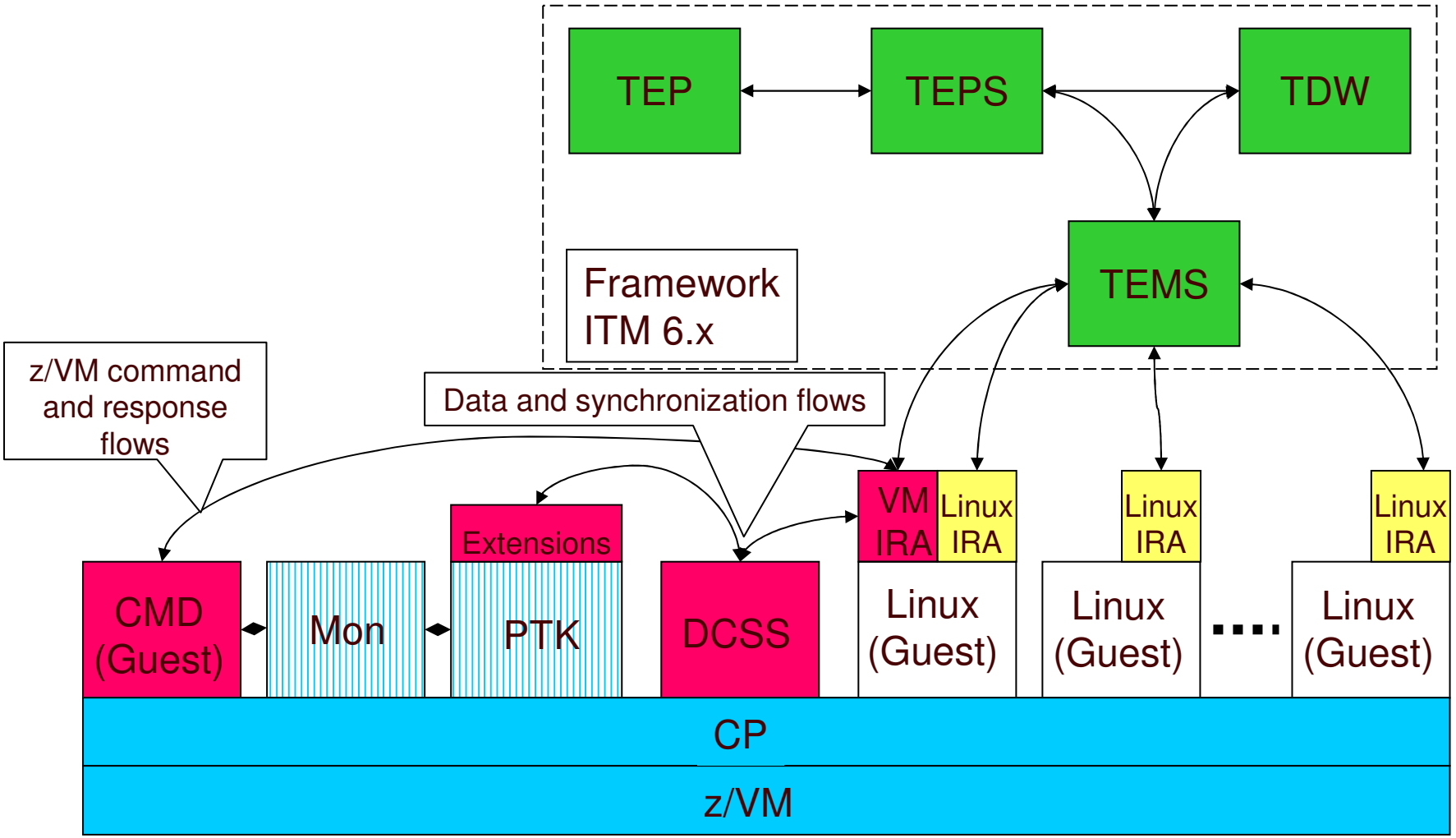
- Scan key metrics and compare results with baseline thresholds
- View workloads for virtual machines, groups, response times and LPAR reporting
- Historical reporting and trending analysis
- Bottleneck Analysis



Key Features in New Release

- Single product offering for z/VM and zLinux
- Integrated OMEGAMON XE operations console for z/VM and zLinux
- Impact of zLinux instances running on z/VM

Basic Architecture



Tivoli OMEGAMON for z/VM – a Scenario

Problem

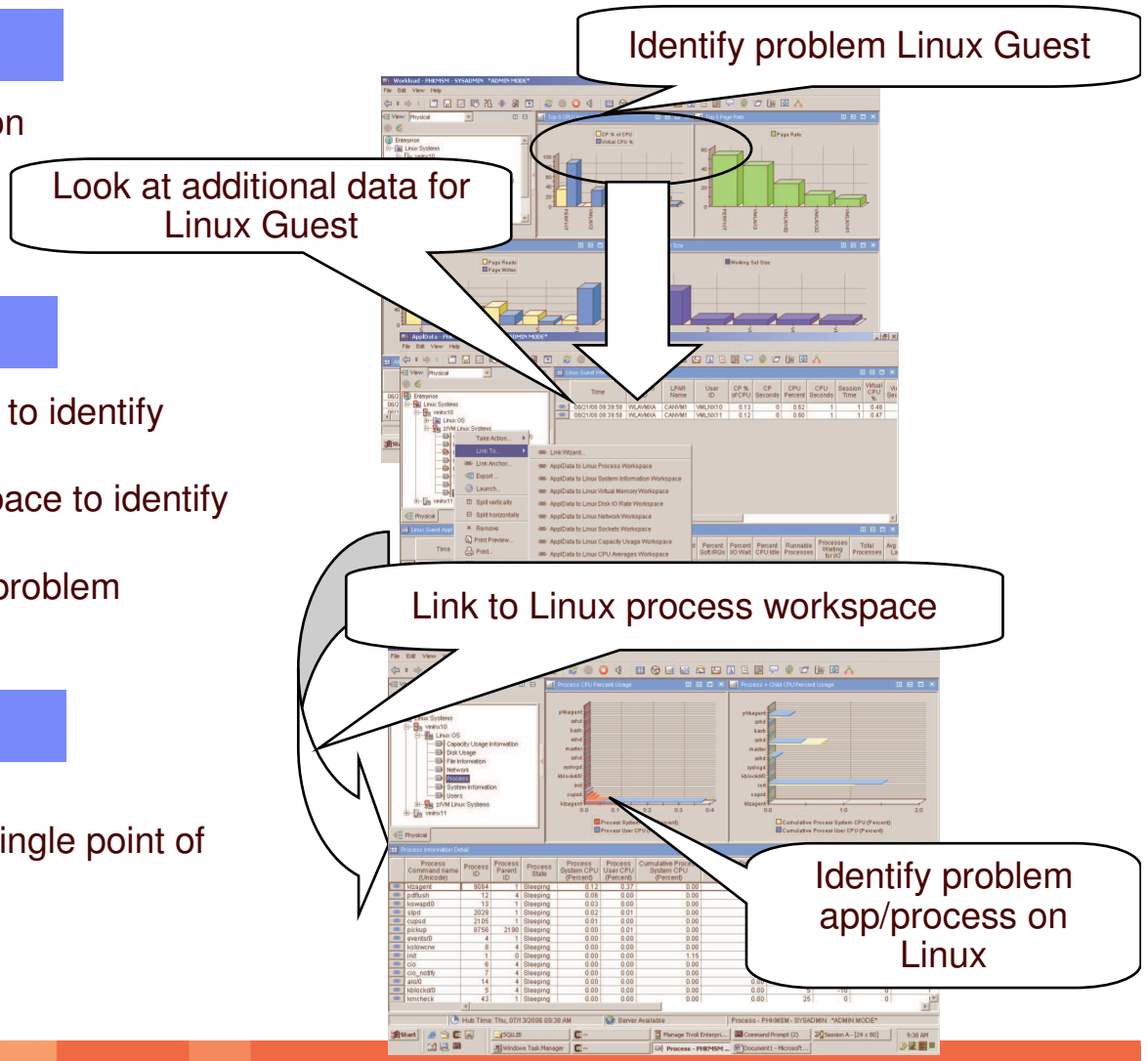
- Uneven Linux Guest CPU consumption

Solution

- Use Linux Guest Workload workspace to identify problem Linux guest
- Link to Linux workload/process workspace to identify problem app/process
- Notify app owner of app performance problem

Potential Benefits

- Quicker identification of base problem
- Can manage z/VM and Linux from a single point of control



Tivoli OMEGAMON for z/VM – a Scenario

Problem

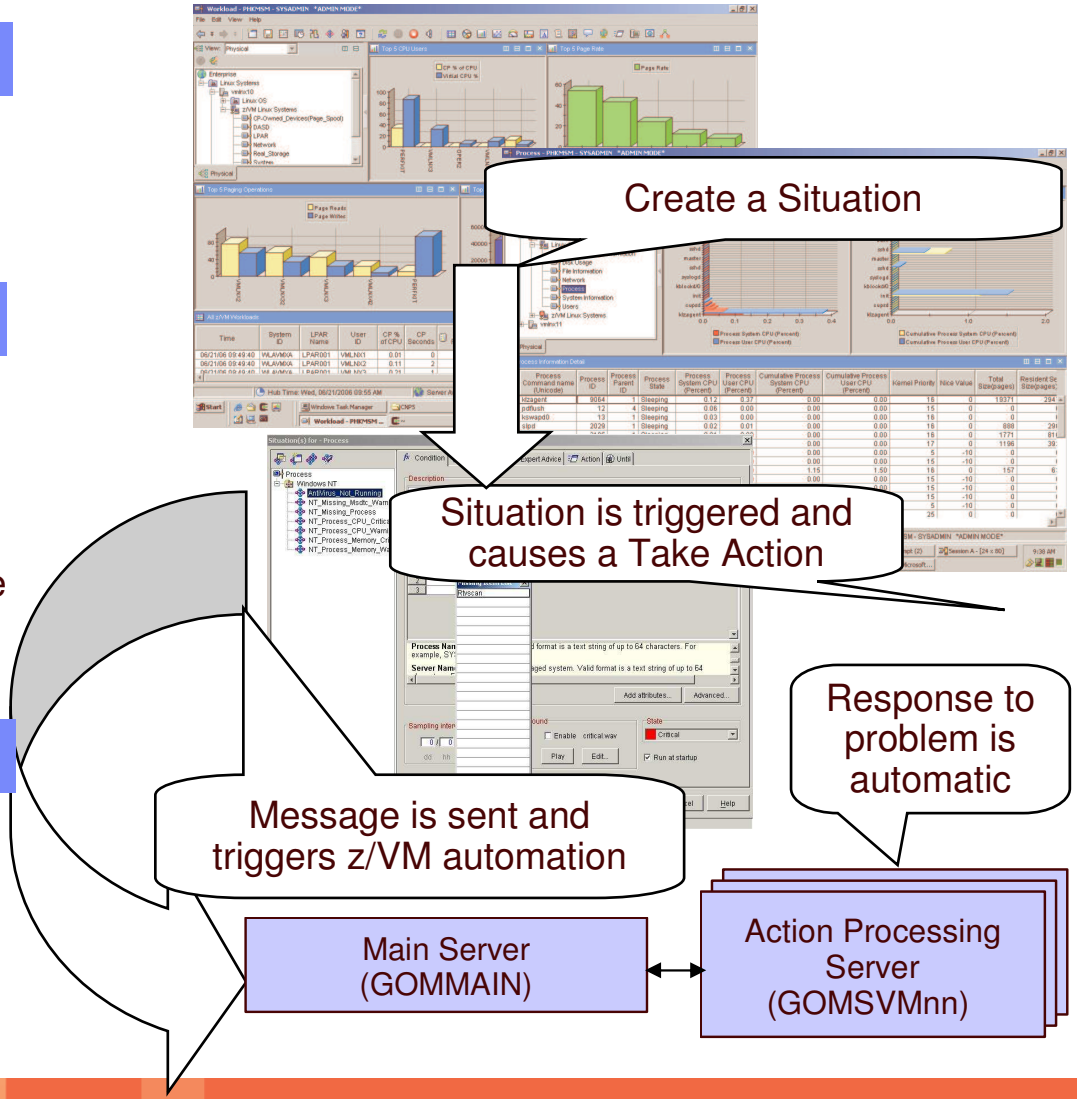
- High Linux Guest CPU consumption

Solution

- Use situation to recognize high swapping with high CPU and working set size
- Send message to Operations Manager
- Operations Manager invokes a rule to execute a CP tuning command to allocate more resource to the Linux Guest

Potential Benefits

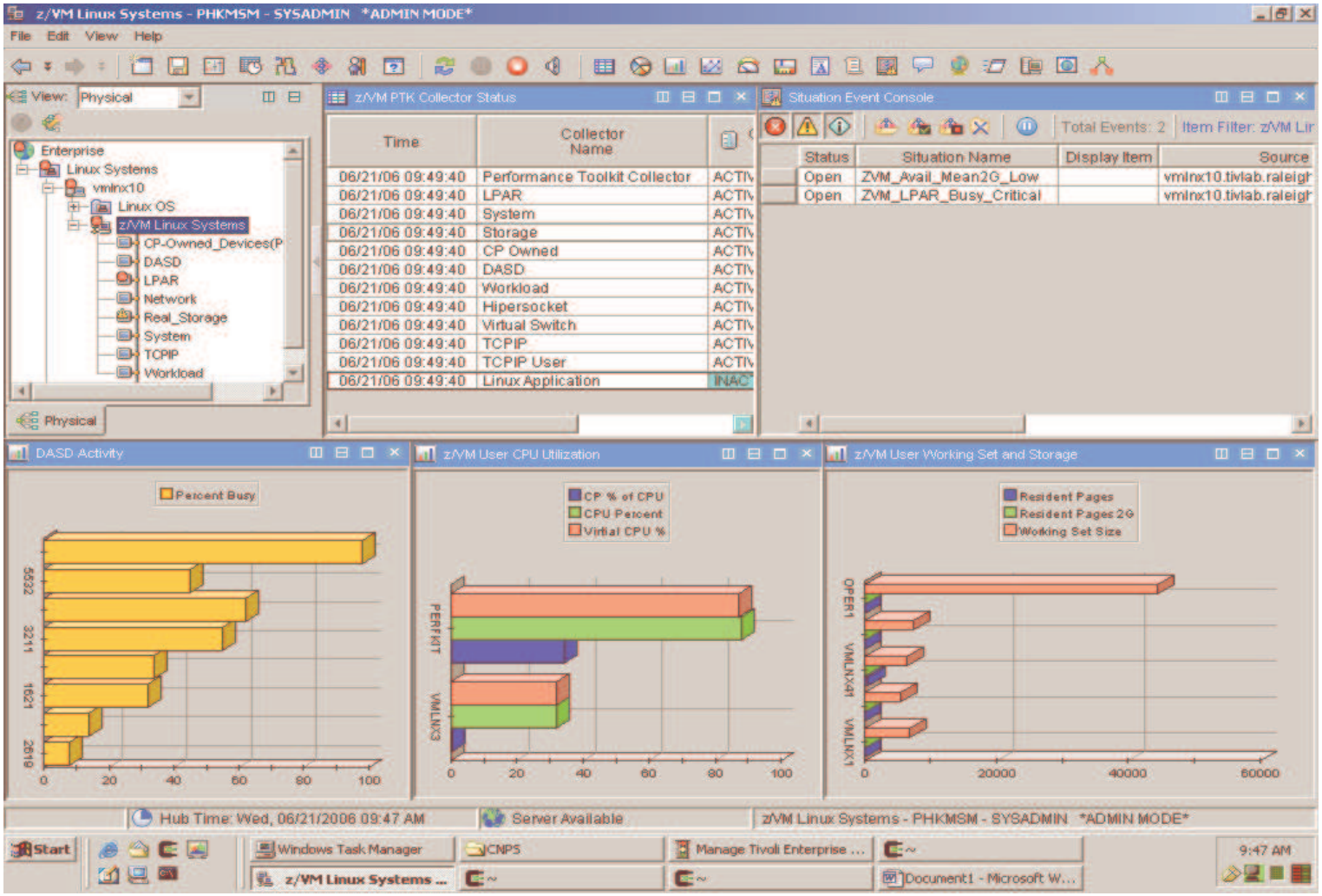
- Automated problem resolution
- Integrated solution



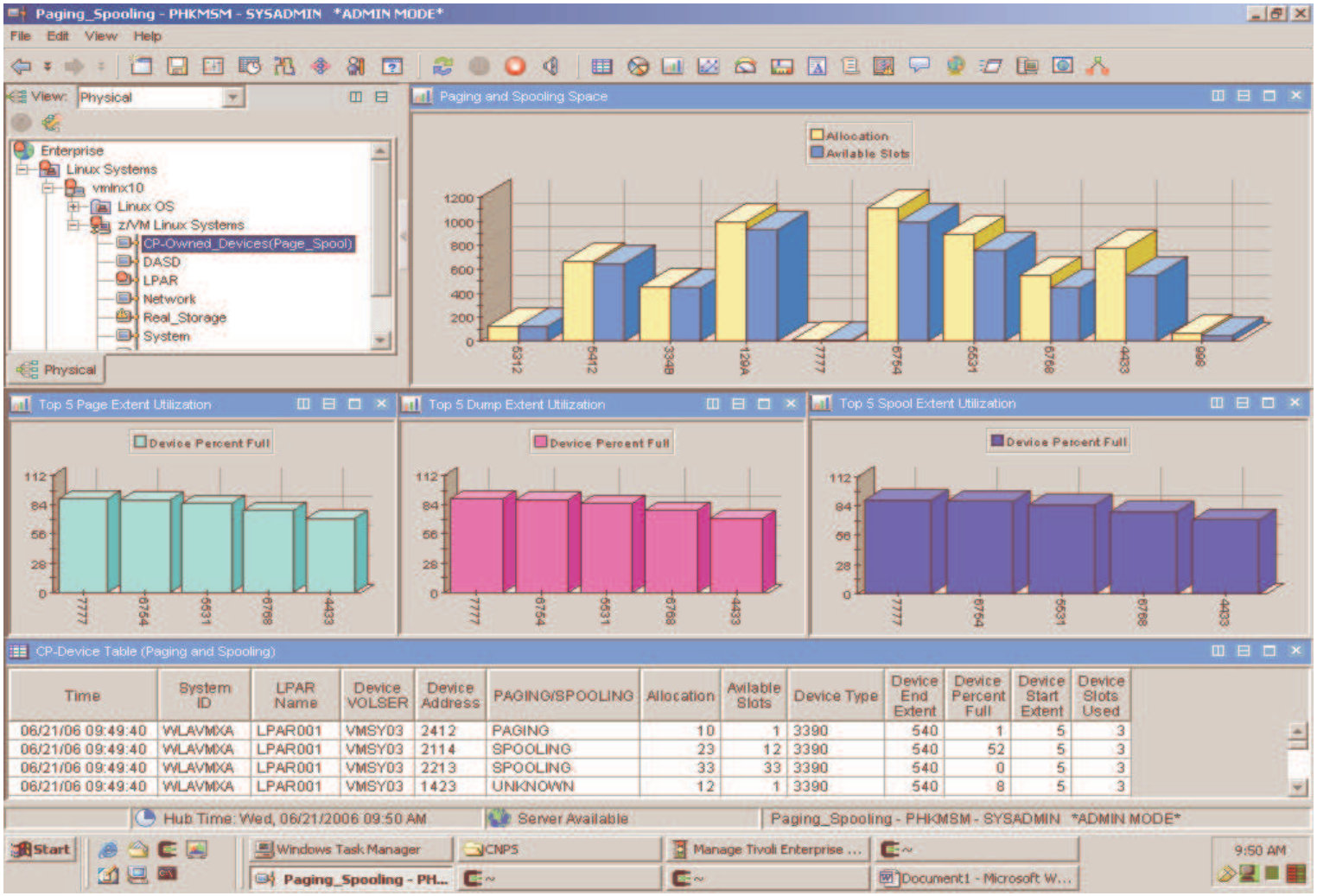
OMEGAMON XE for z/VM Workspaces

- z/VM Linux Default Workspace
- PAGING and SPOOLING Utilization
- DASD
- LPAR Utilization
- NETWORK Utilization (Hiper Socket and Virtual Switch)
- REAL STORAGE Utilization
- TCPIP Utilization – Server
- TCPIP Utilization - Users
- SYSTEM Utilization
- System Terminal Workspace
- Workload (z/VM User ID) Activity
- Linux Workload Workspace
- AppIData Workspace

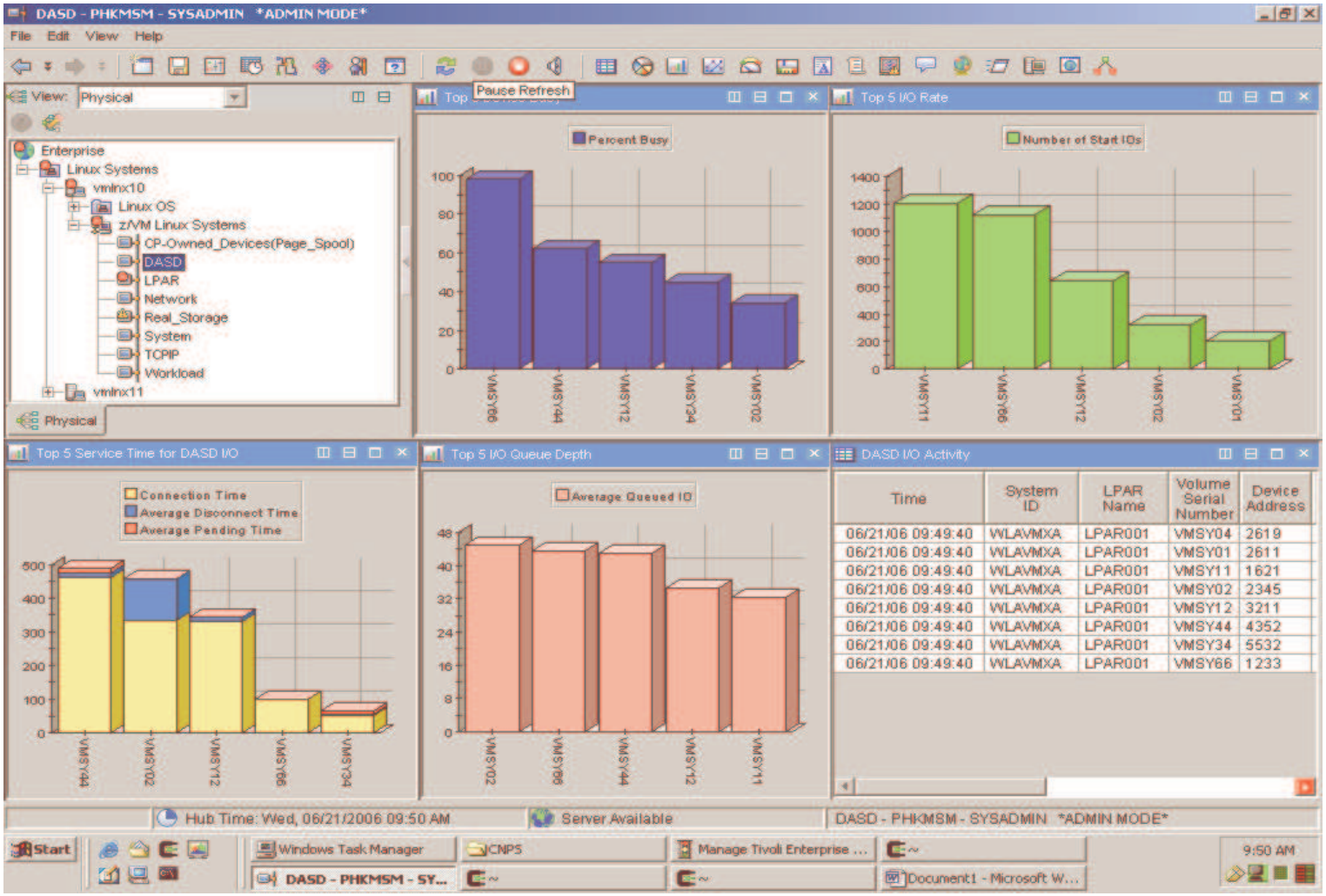
OMEGAMON XE for z/VM Linux Default Workspace



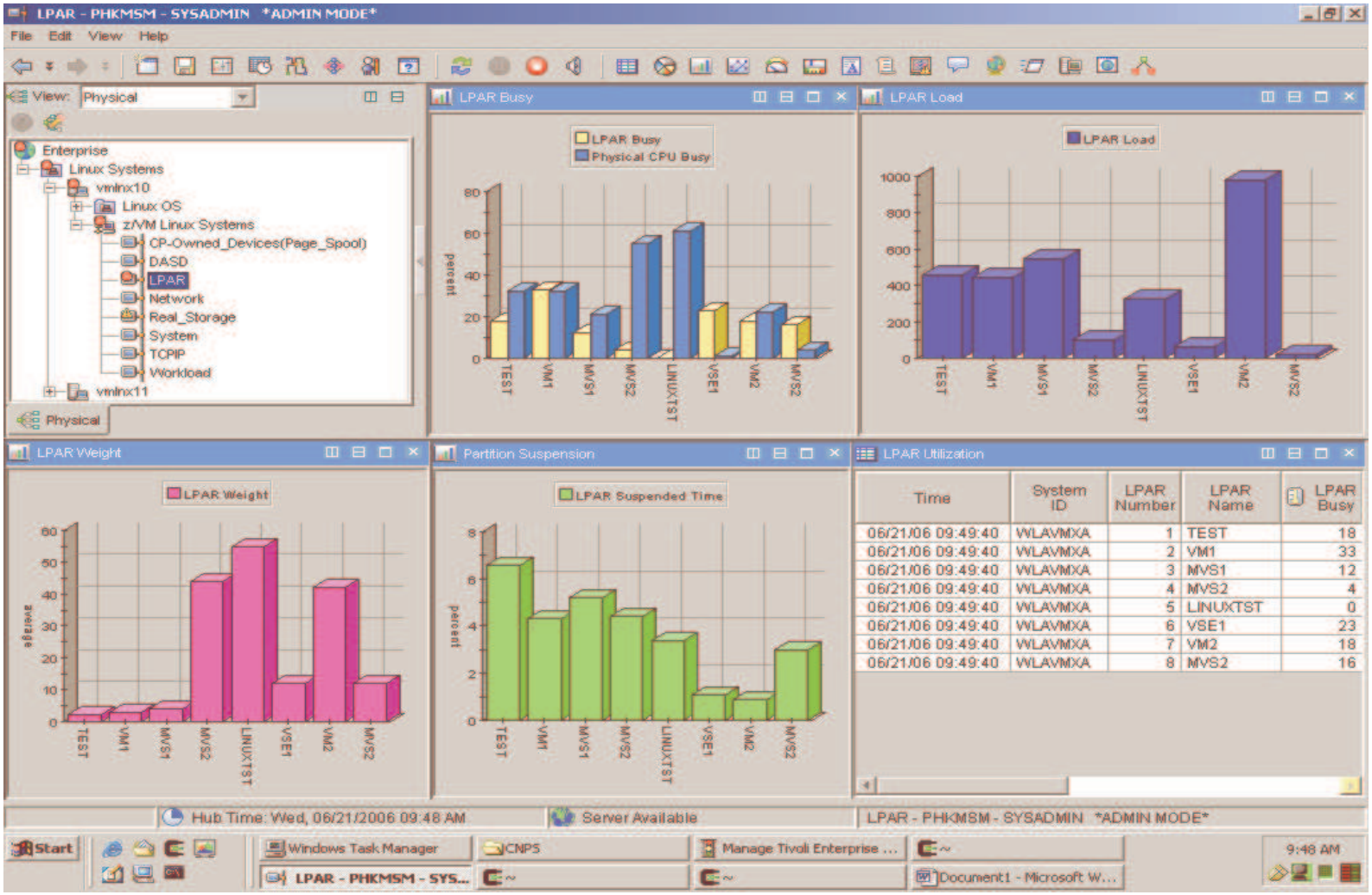
PAGING and SPOOLING Utilization



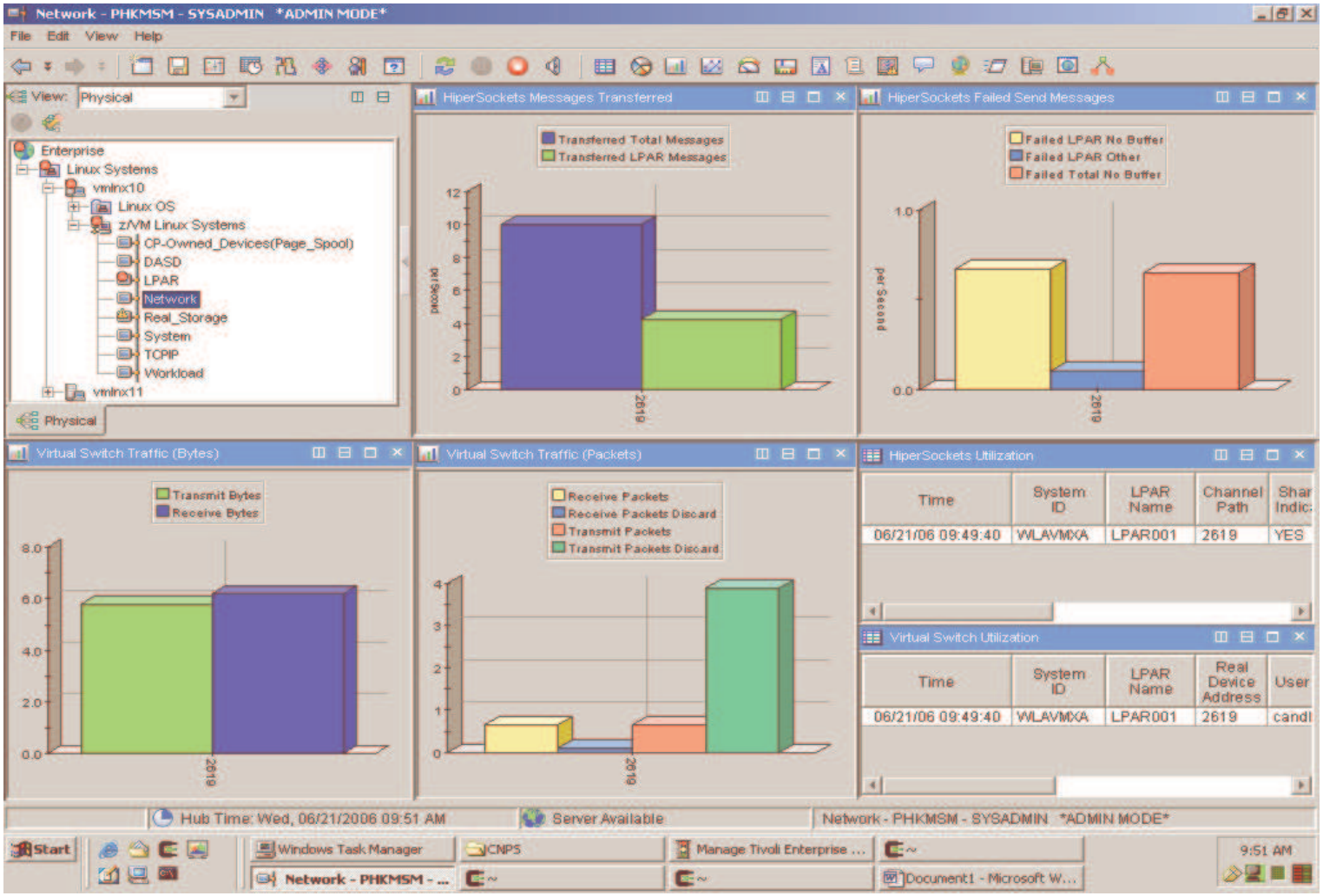
DASD Workspace



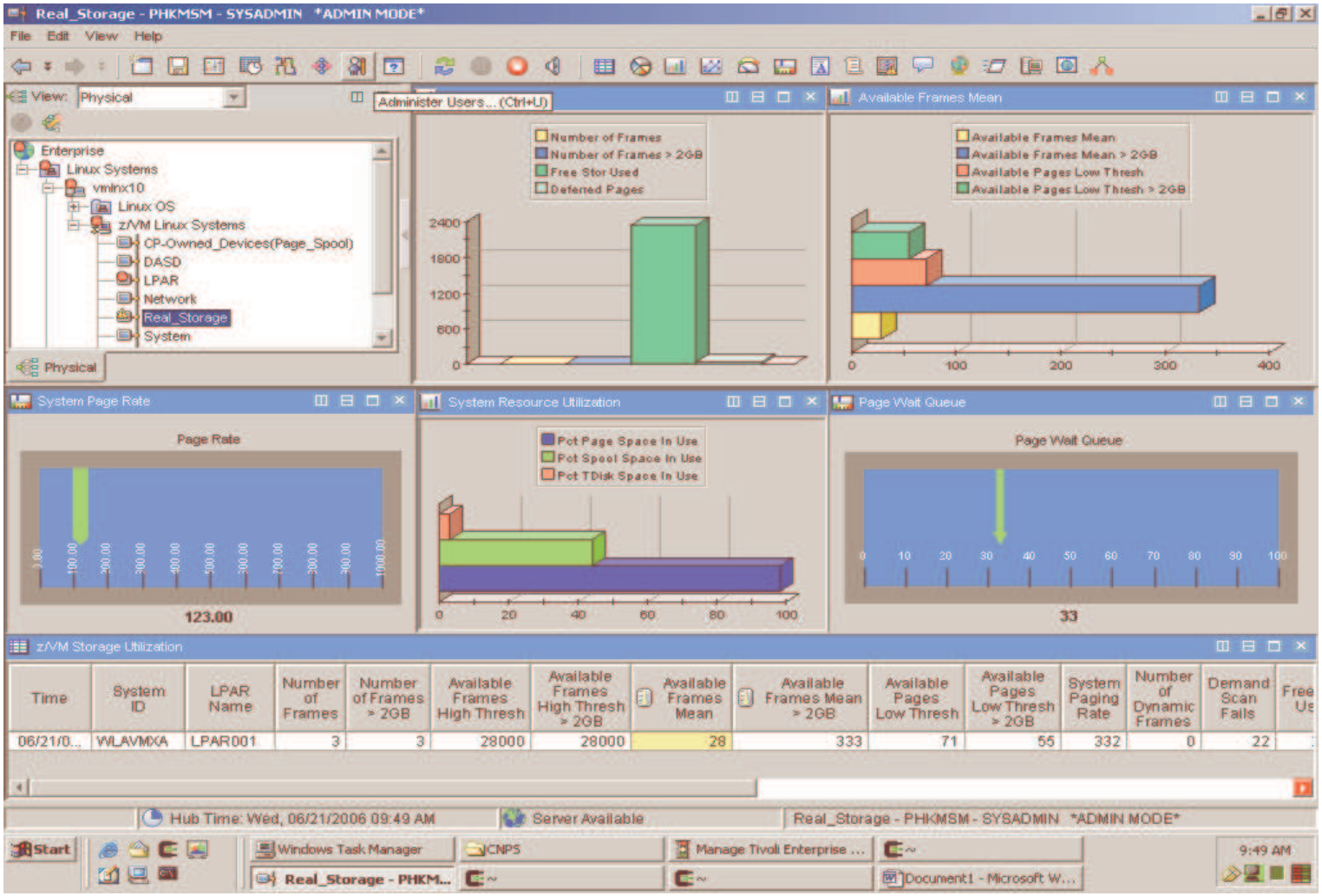
LPAR Utilization Workspace



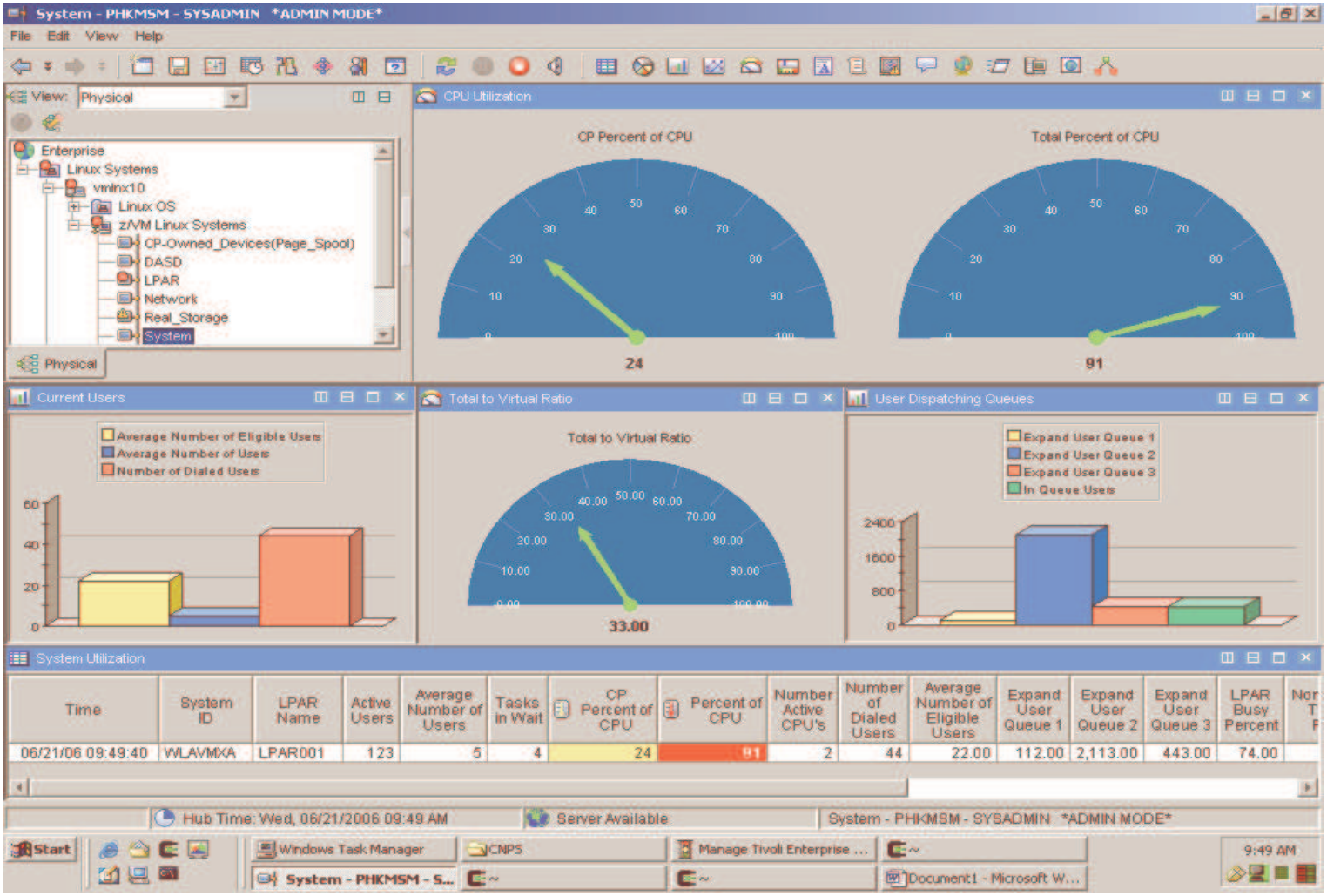
NETWORK Utilization (Hiper Socket and Virtual Switch)



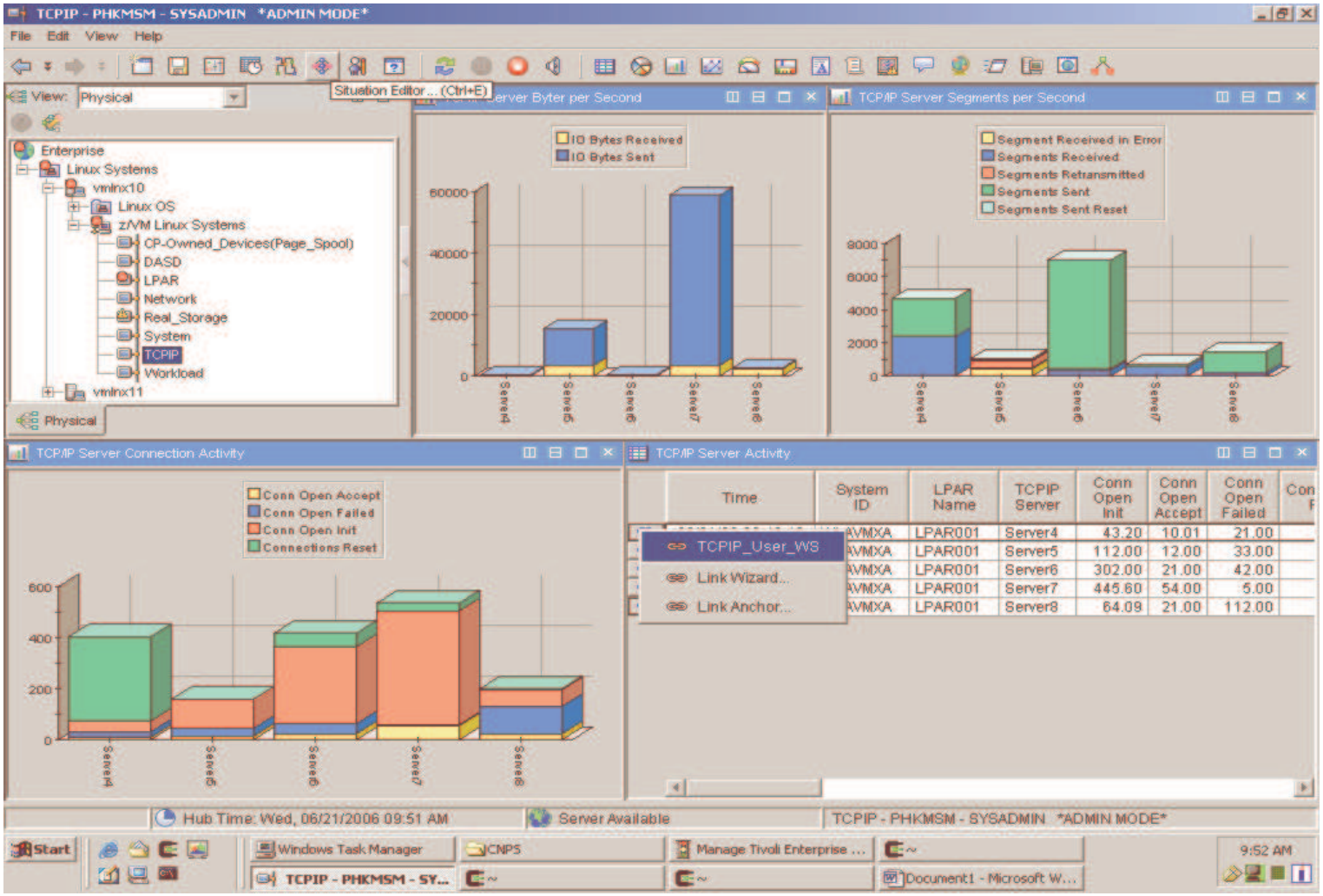
REAL STORAGE Utilization Workspace



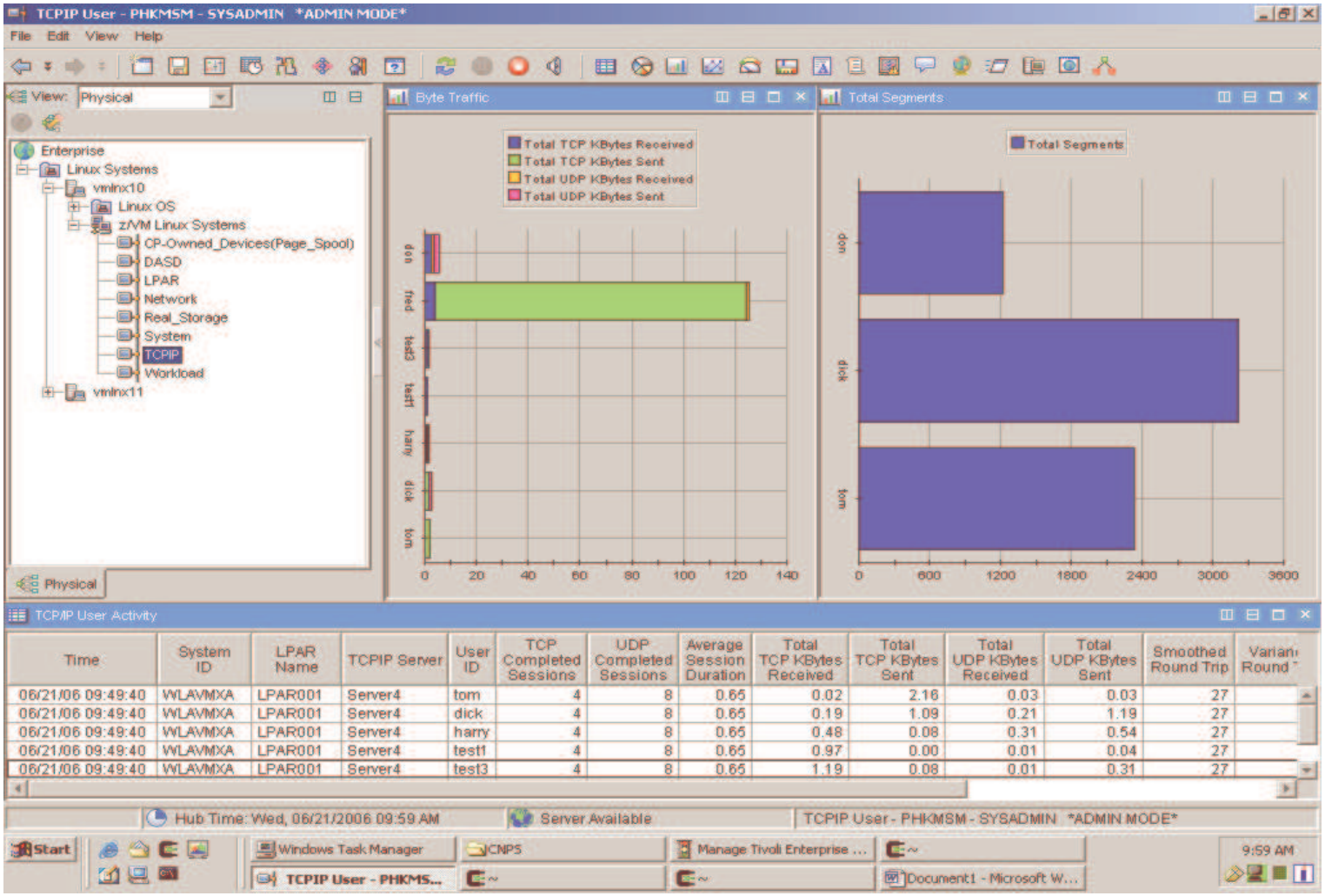
SYSTEM Utilization Workspace



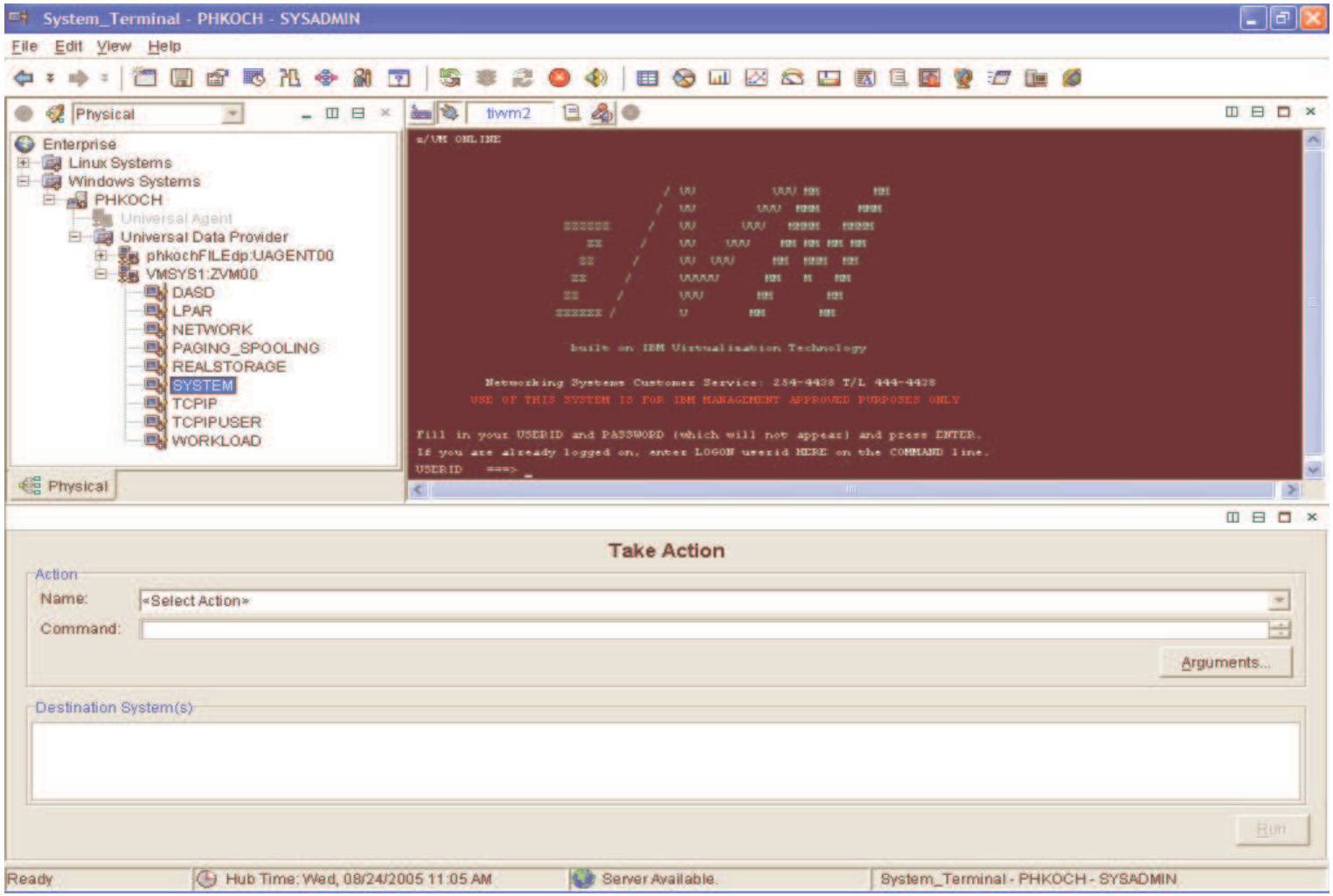
TCPIP Utilization – Server Workspace



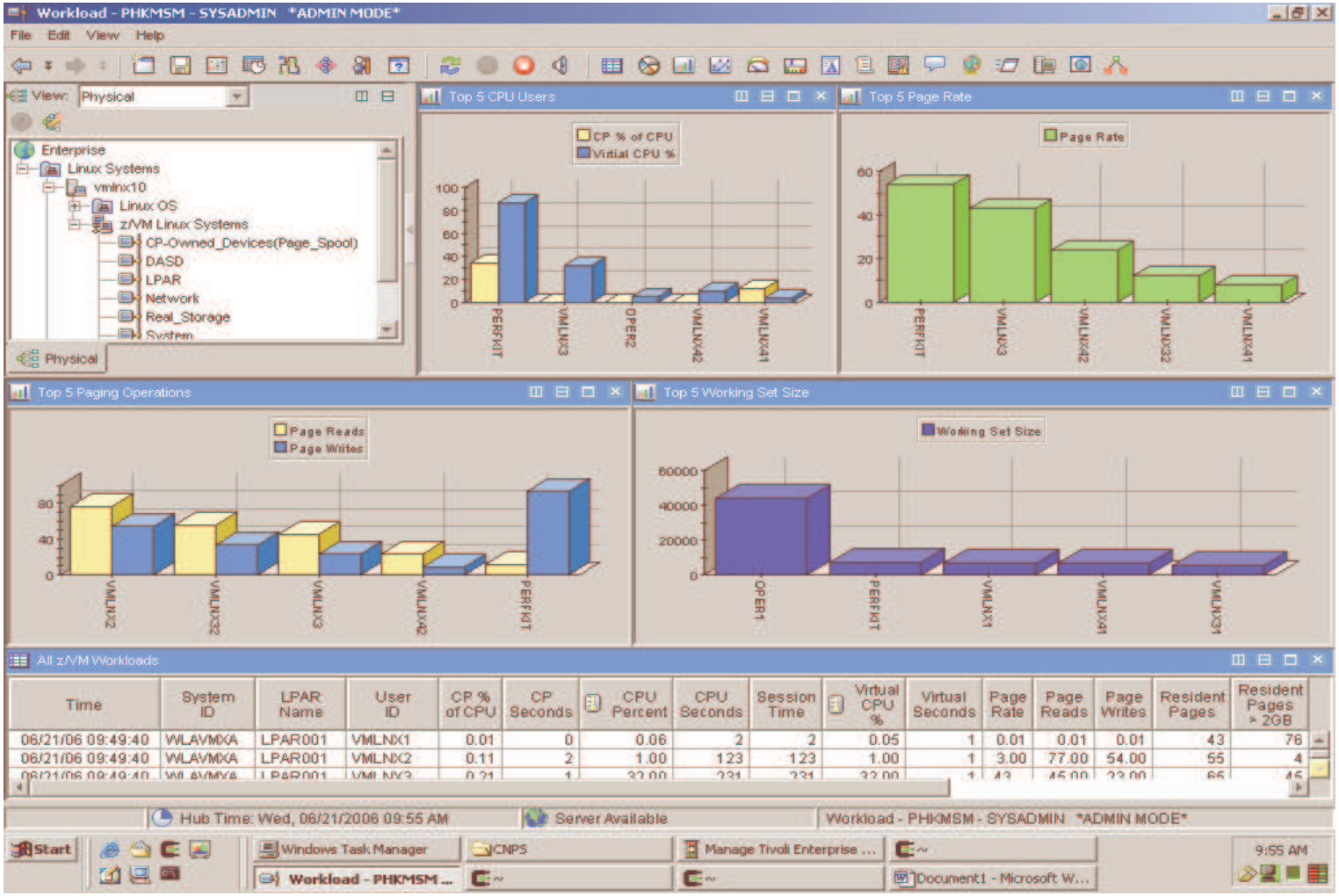
TCPIP Utilization – Users Workspace



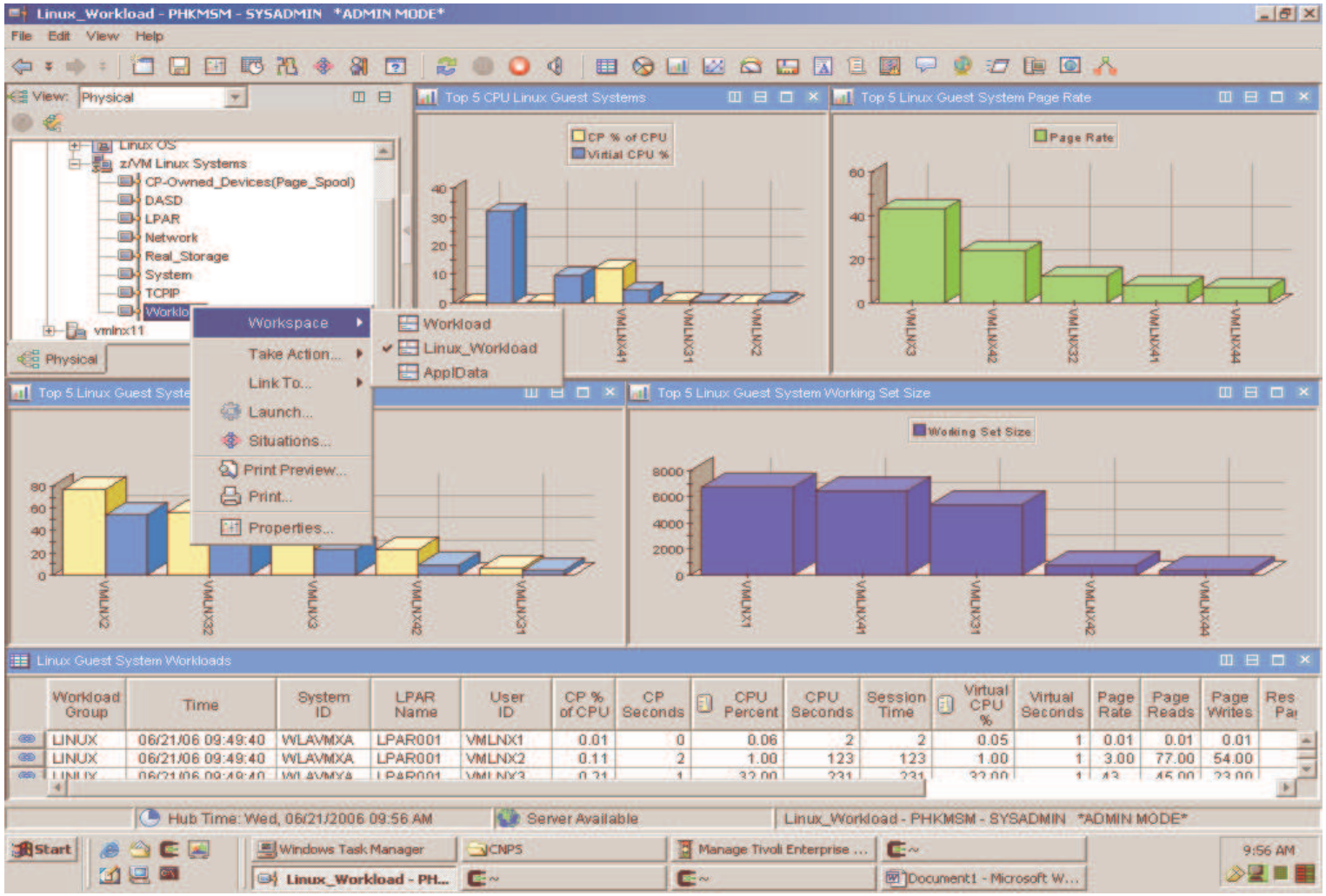
System Terminal Workspace



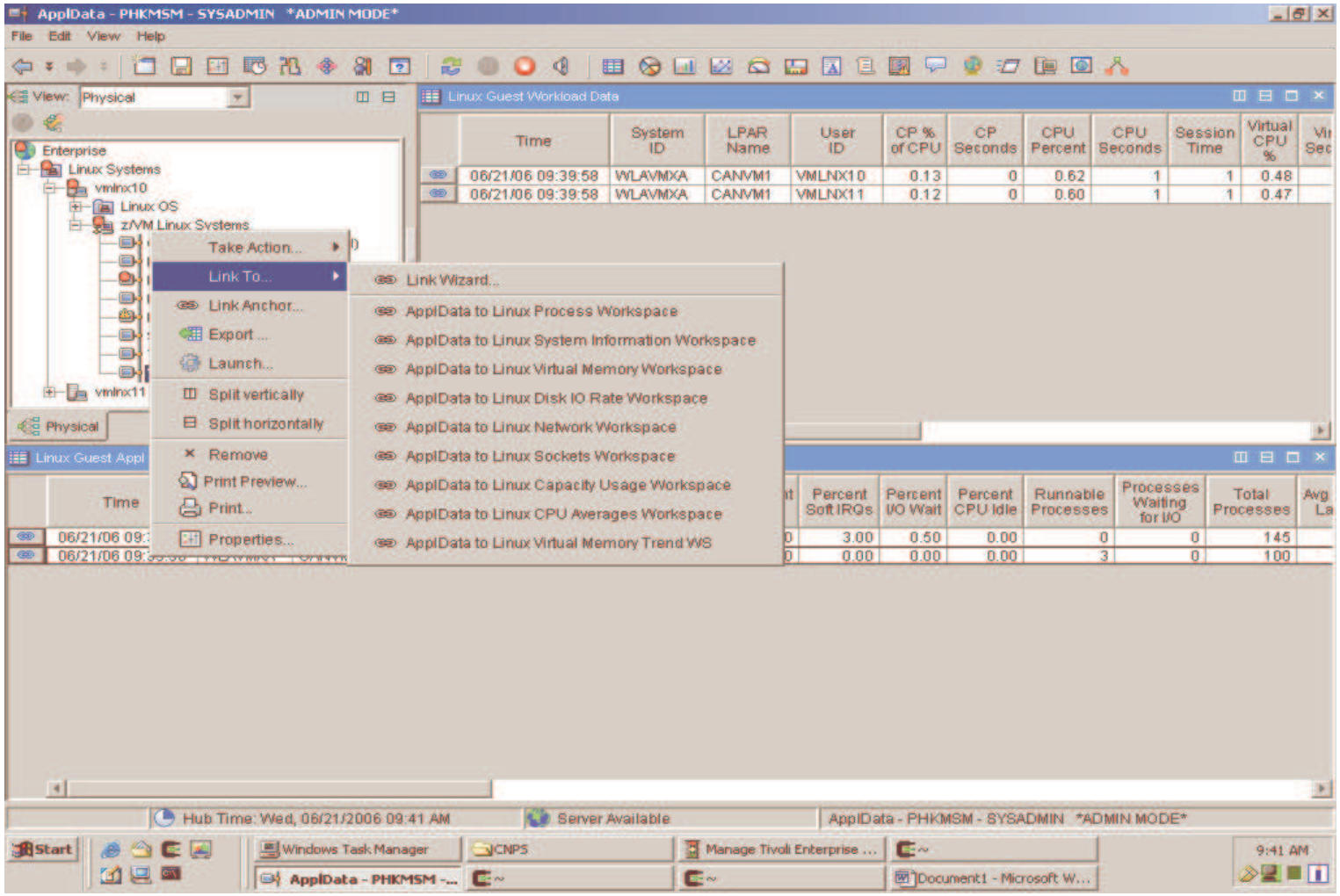
WORKLOAD (z/VM User ID) Activity Workspace



Linux Workload Workspace



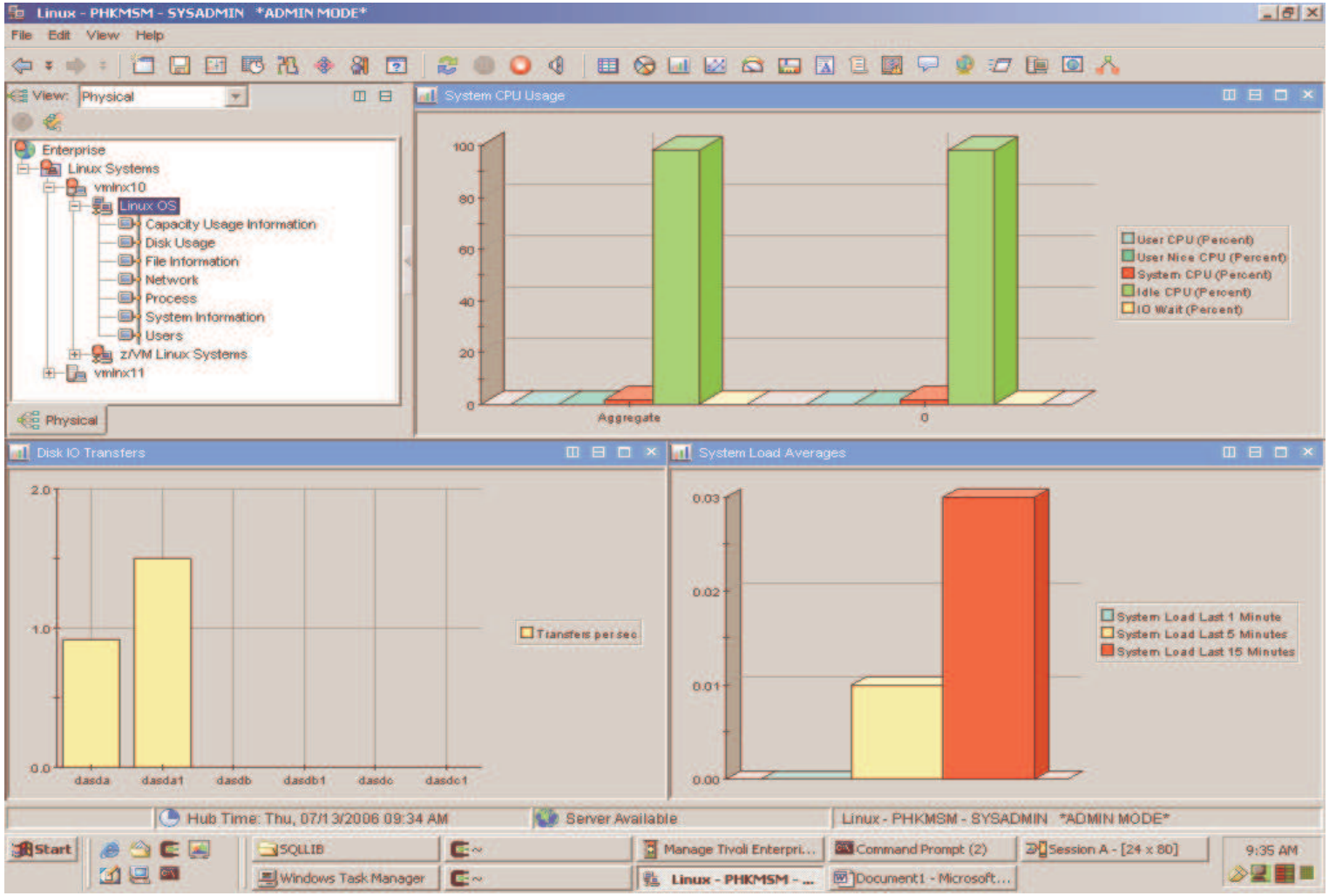
Application Data Workspace



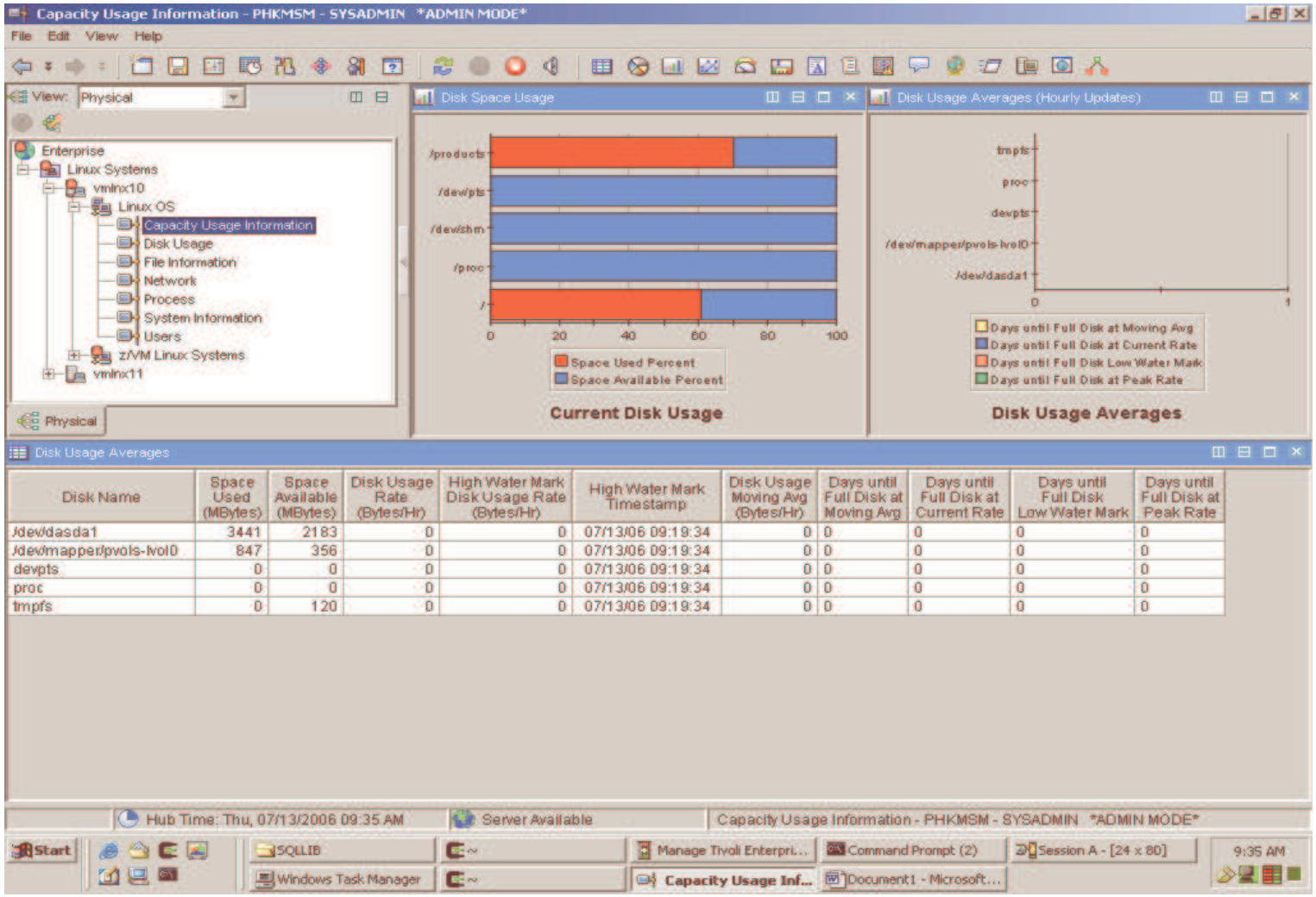
Linux on zSeries Primary Workspaces

- Linux OS
- Capacity Usage
- Disk Usage
- File Information
- Network
- Process
- System Information
- Users

Linux OS Workspace



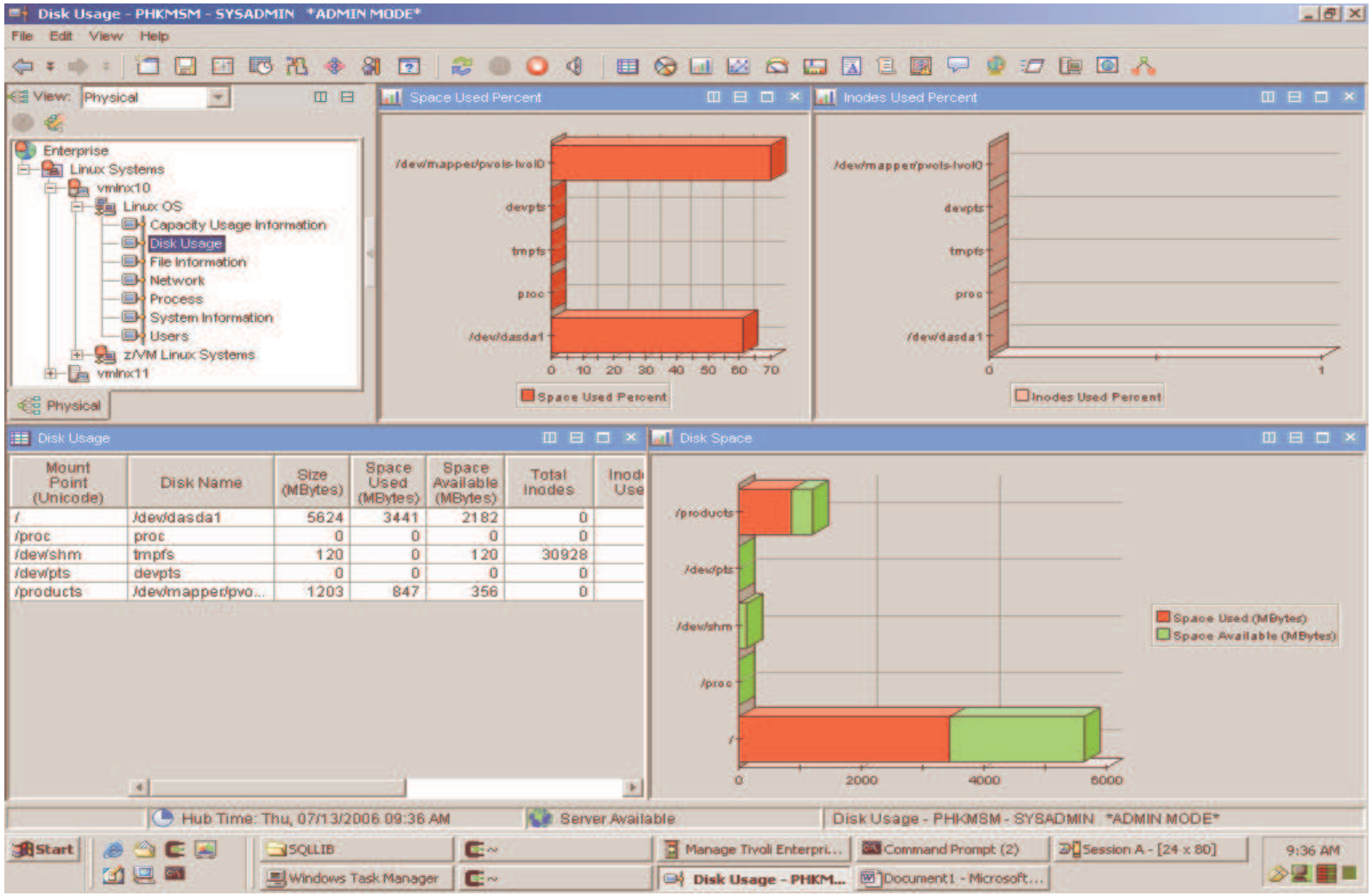
Capacity Usage Workspace



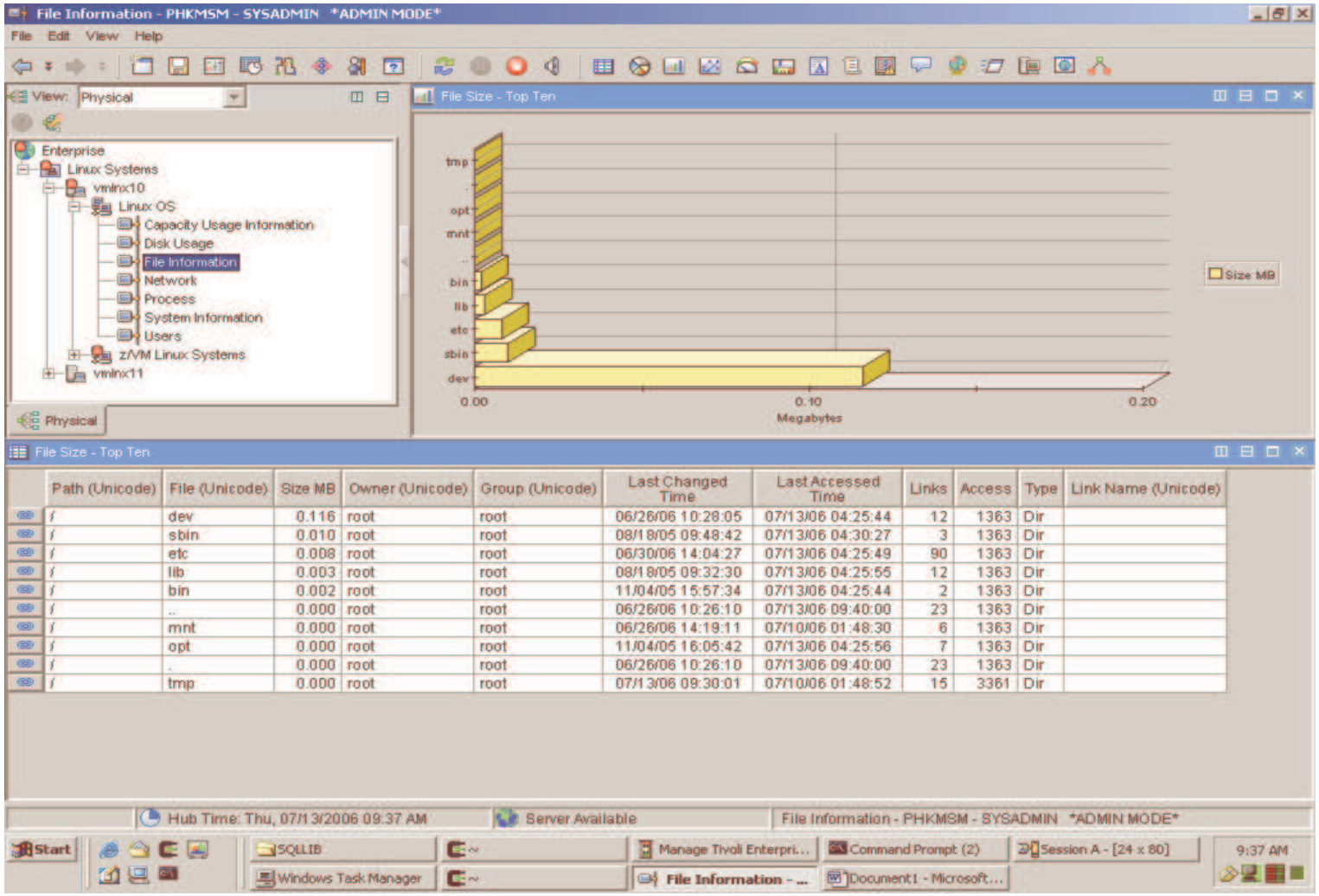
Disk Usage Averages

Disk Name	Space Used (MBytes)	Space Available (MBytes)	Disk Usage Rate (Bytes/Hr)	High Water Mark Disk Usage Rate (Bytes/Hr)	High Water Mark Timestamp	Disk Usage Moving Avg (Bytes/Hr)	Days until Full Disk at Moving Avg	Days until Full Disk at Current Rate	Days until Full Disk Low Water Mark	Days until Full Disk at Peak Rate
/dev/dasda1	3441	2183	0	0	07/13/06 09:19:34	0	0	0	0	0
/dev/mapper/pvols-lvol0	847	356	0	0	07/13/06 09:19:34	0	0	0	0	0
devpts	0	0	0	0	07/13/06 09:19:34	0	0	0	0	0
proc	0	0	0	0	07/13/06 09:19:34	0	0	0	0	0
tmpfs	0	120	0	0	07/13/06 09:19:34	0	0	0	0	0

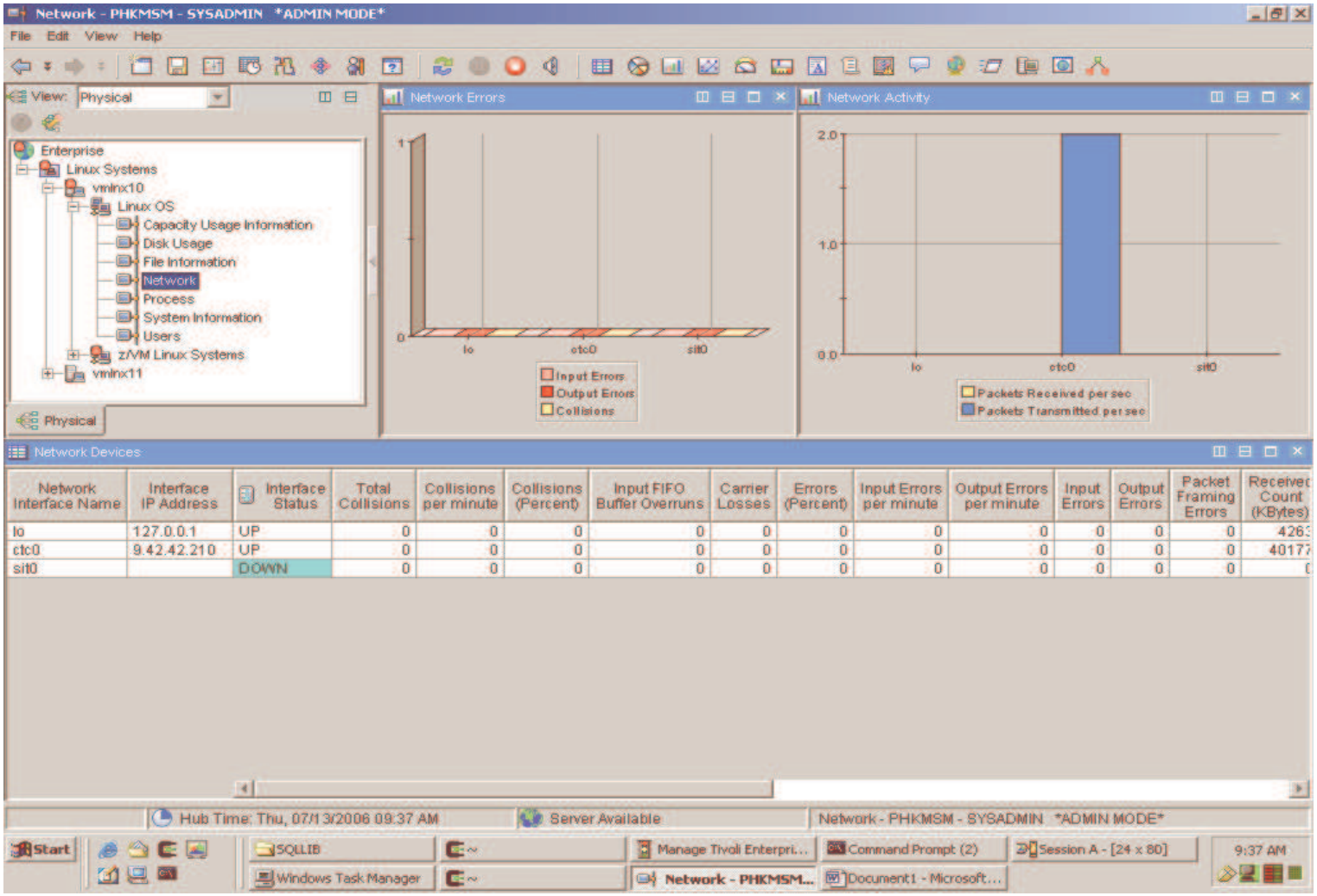
Disk Usage Workspace



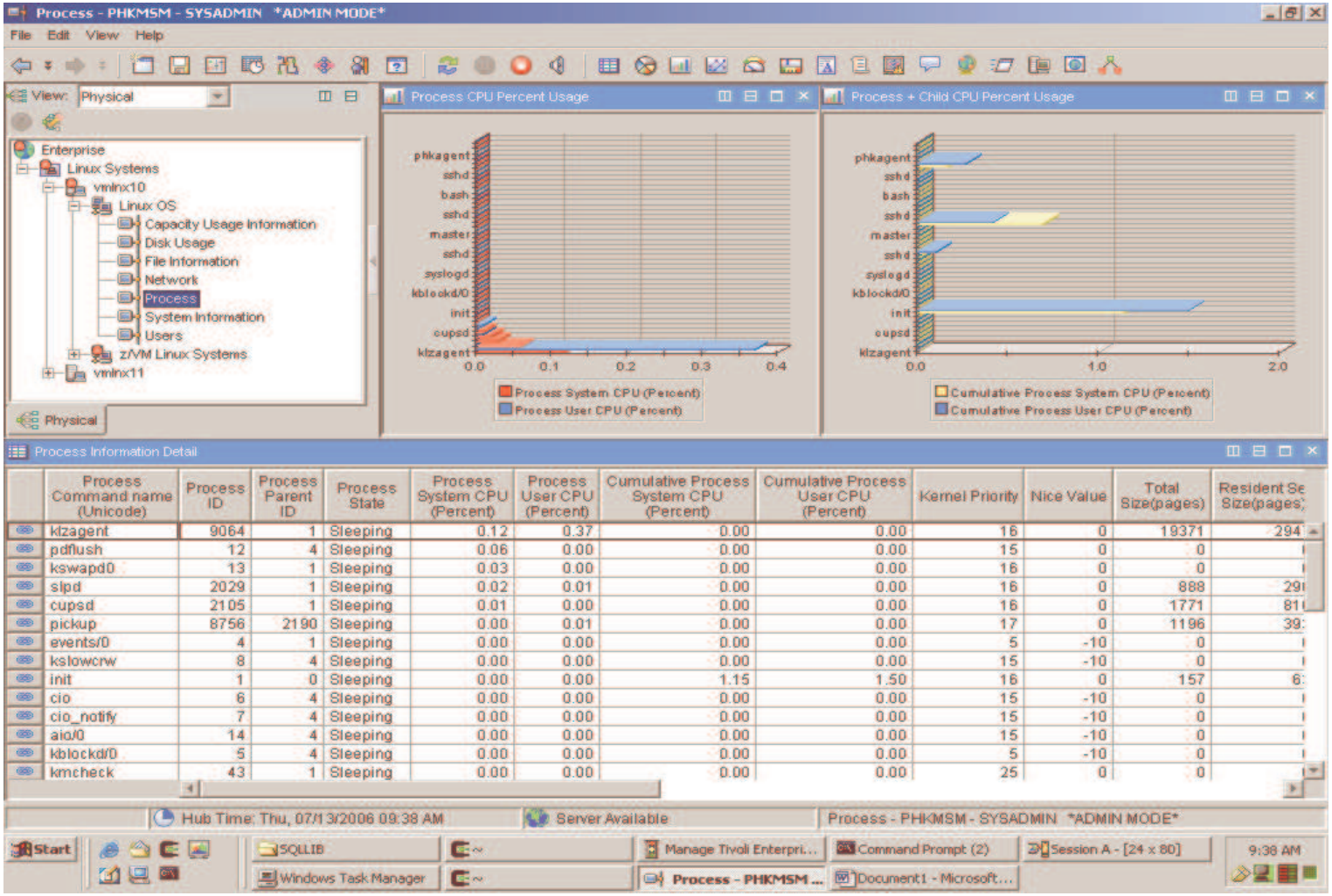
File Information Workspace



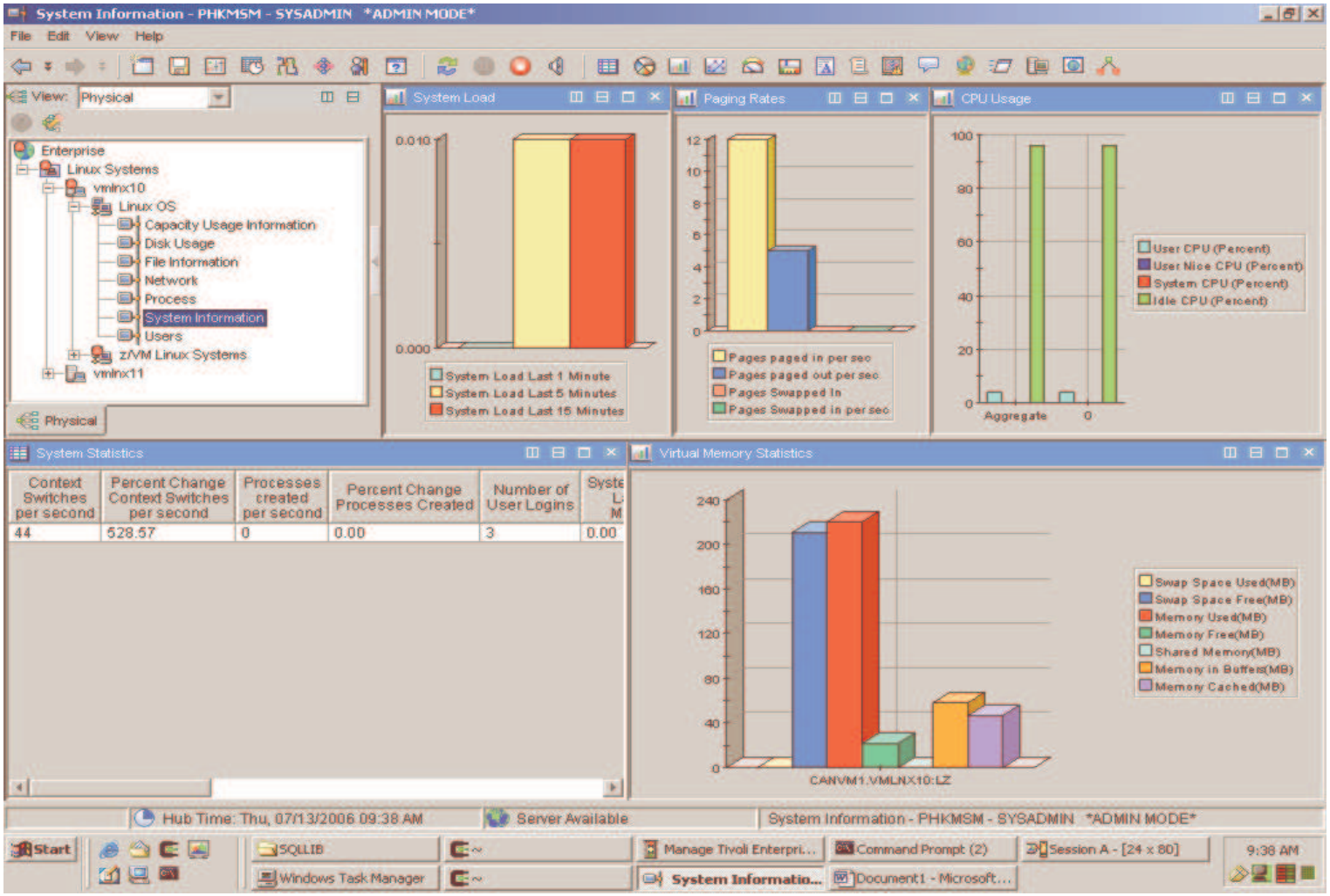
Network Workspace



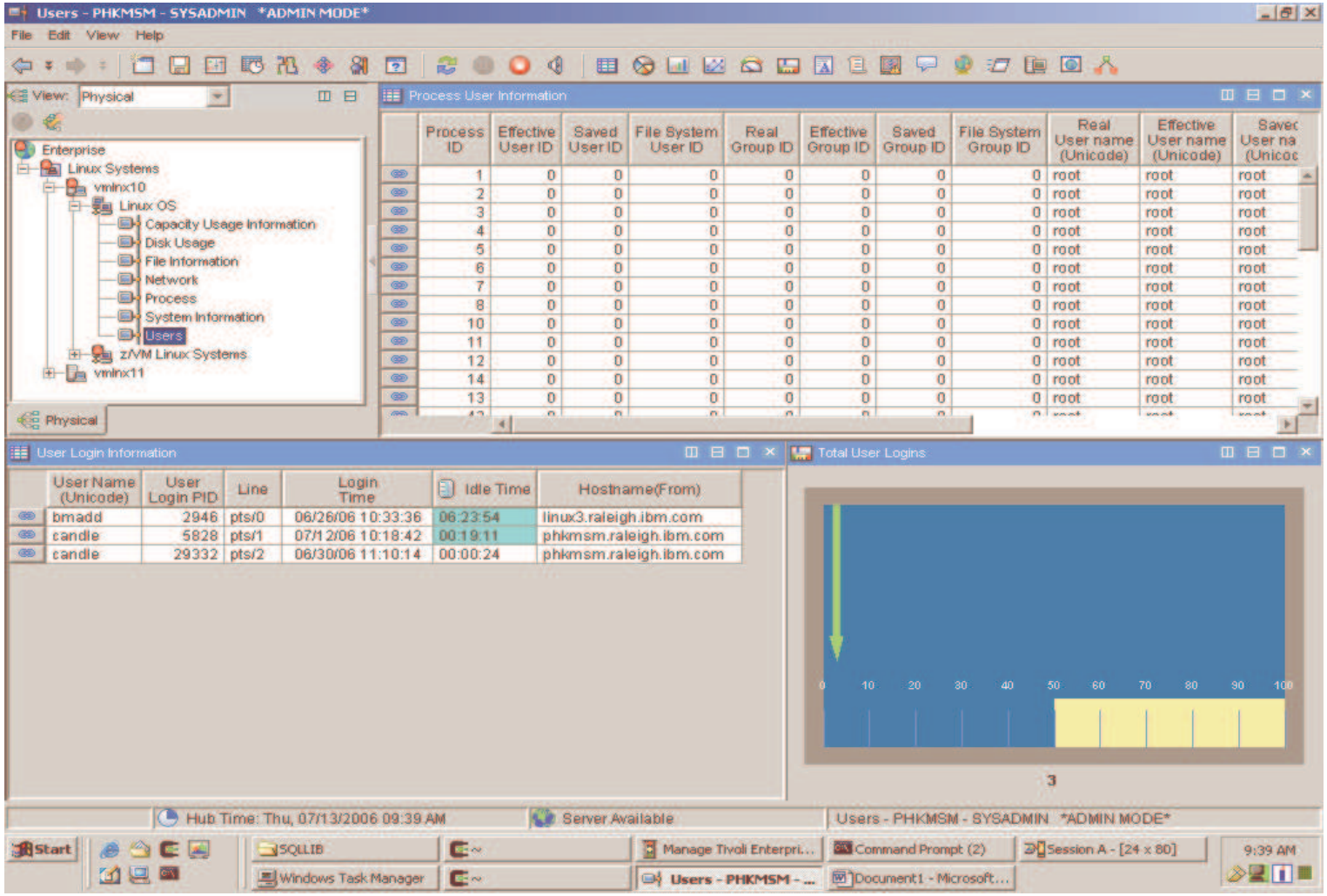
Process Workspace



System Information Workspace



Users Workspace



Så er min tid gået for i dag !