IBM Software Group

Integrated Performance and Availability Management Using OMEGAMON XE for Mainframe Networks

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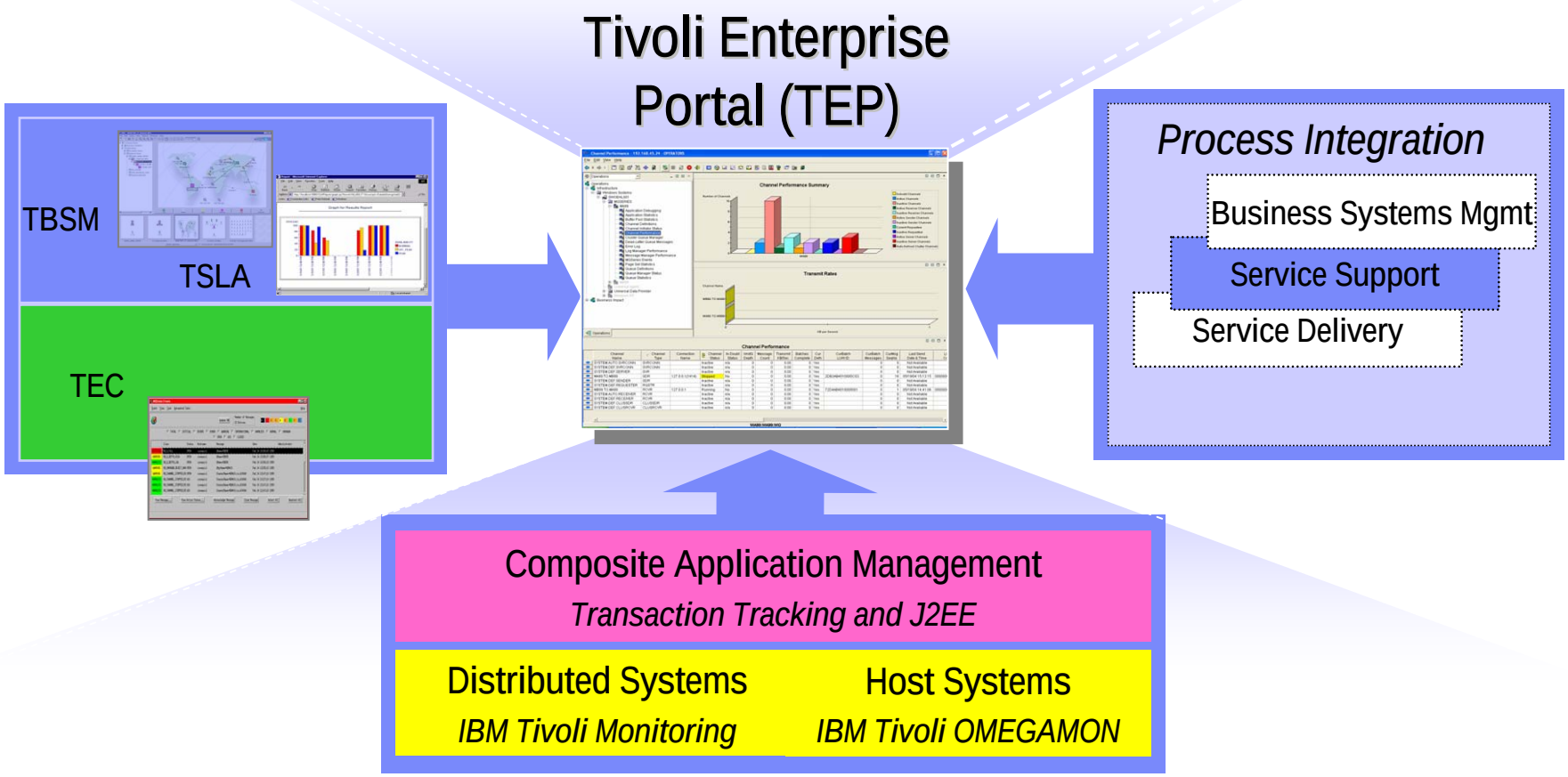
Tivoli software

e business on demand.

Agenda

- Introduction to OMEGAMON XE and OMEGAMON DE
- OMEGAMON and the Tivoli Enterprise Portal (TEP)
- How the TEP may be used to provide an integrated view of network performance
- Creating an integrated view
- How an integrated view improves performance and availability management
- Integration with NetView

Tivoli Enterprise Portal (TEP)
Tool, Data, and Process Integration



Summary Of IBM Performance And Availability Monitoring Solutions

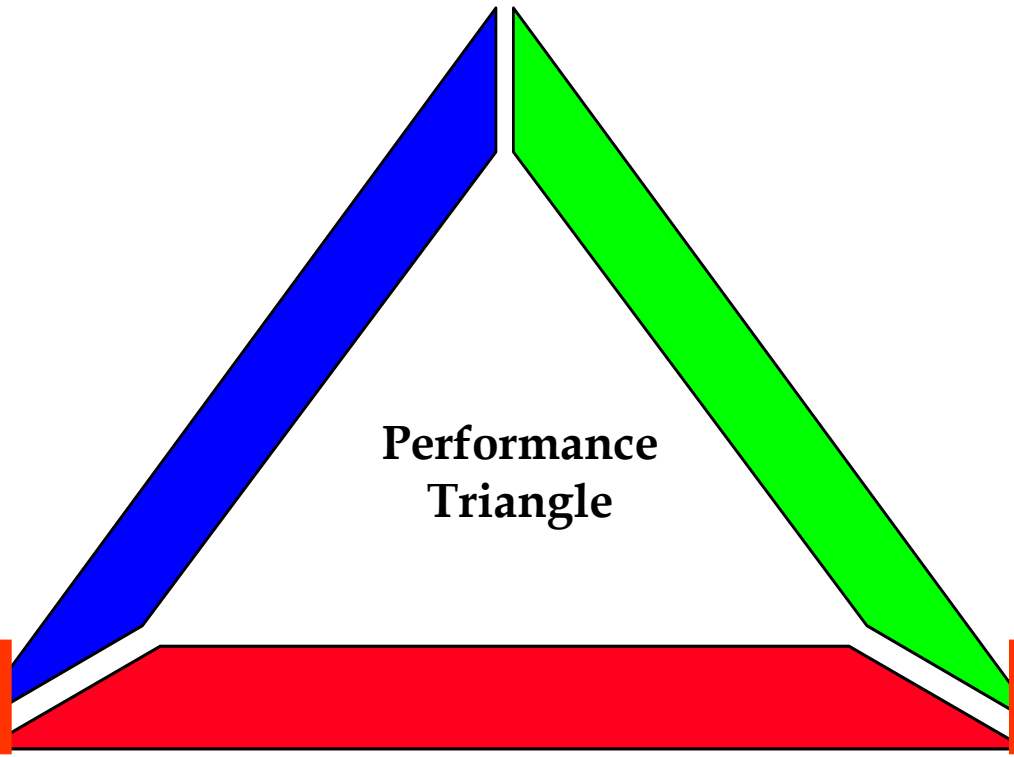
- z/OS & z/VM Monitoring
  - OMEGAMON XE on z/OS 3.1.0
  - OMEGAMON XE for CICS on z/OS 3.1.0
  - OMEGAMON XE for IMS on z/OS 3.1.0
  - OMEGAMON XE for DB2 PE/PM on z/OS 3.1.0
  - OMEGAMON XE for Mainframe Networks 3.1.0
  - OMEGAMON XE for Storage on z/OS 3.1.0
  - OMEGAMON XE for WBI 3.1.0
  - OMEGAMON for VM
- IBM Tivoli Monitoring 6.1 – Consolidated Candle & Tivoli Monitoring
  - Open systems monitoring (Linux, Unix, Windows, USS and more…)
  - Distributed Database Monitoring (DB2, Oracle, Sybase, SQL Server)
  - Middleware, MQ, WBI, WebSphere, DE and more….

Integrated performance and availability management through the TEP

OMEGAMON And Tivoli Enterprise Portal

Tivoli Enterprise Portal & OMEGAMON DE – Dashboard Edition

High level monitoring
Multi-system view
Cross Platform View



3270 Interface

Subsystem details
3270 Interface
Historical details

OMEGAMON XE

Subsystem level monitoring
Browser And GUI interface
Proactive Alerting & Automation

Considerations Of Integrated Network Management

- The network is an essential component of performance and availability analysis
- Network performance impacts application performance
- Network availability impacts application availability
- Where is the problem?
  - Network?
  - Database?
  - Operating system?
  - Transaction management or middleware?
  - Hardware?
- Problem isolation may be complex

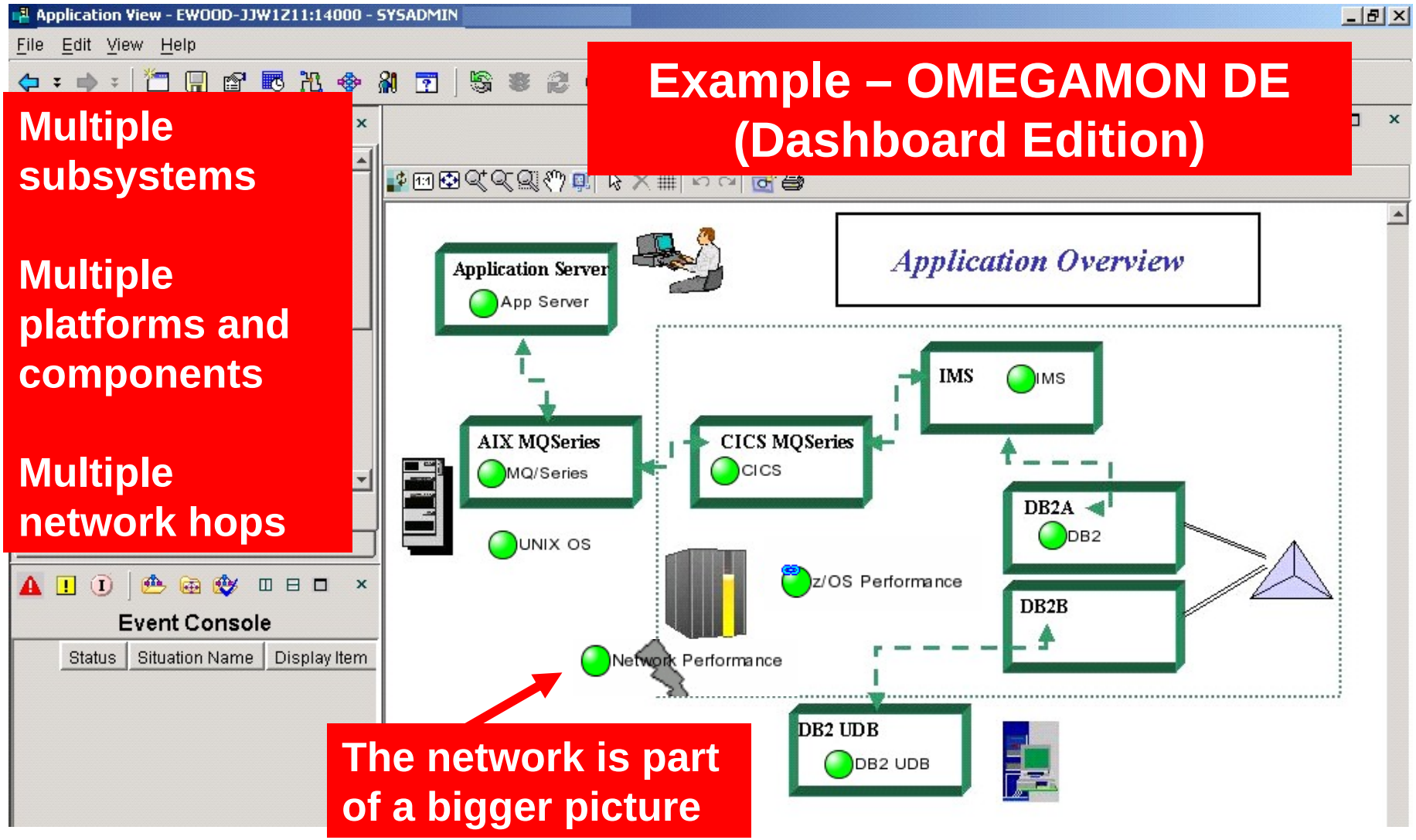
Most Applications Are Composite In Design

Example – OMEGAMON DE (Dashboard Edition)

Multiple subsystems

Multiple platforms and components

Multiple network hops



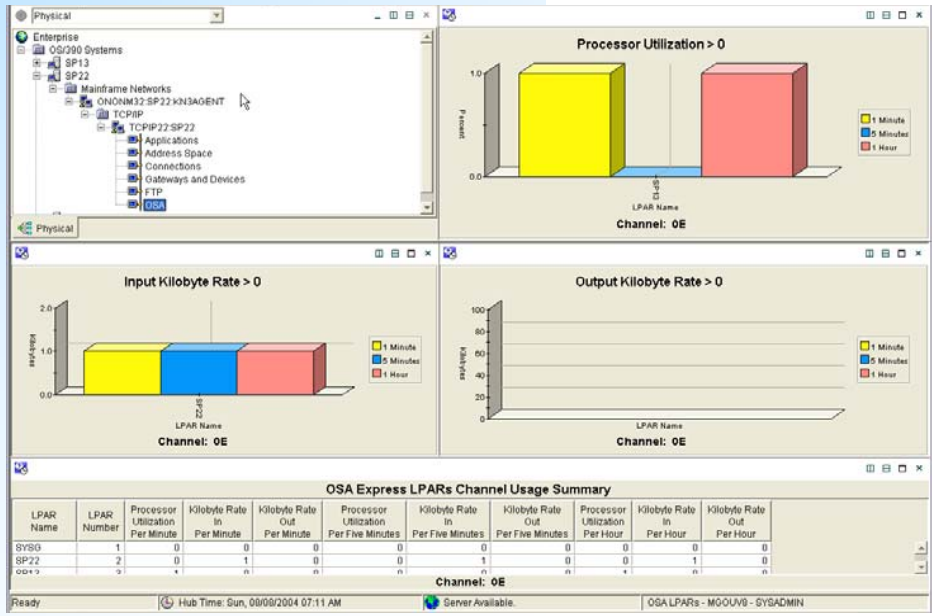
The network is part of a bigger picture

Benefits Of An Integrated Dashboard Approach

- **Reduce time to problem resolution**
  - **Identify and isolate issues more rapidly**
- **Improved event management and problem isolation**
  - **More meaningful and useful problem alerts**
- **Improved ability to manage composite applications**
  - **An integrated view of subsystems, platforms, and application components**
- **Superior performance analysis capabilities**

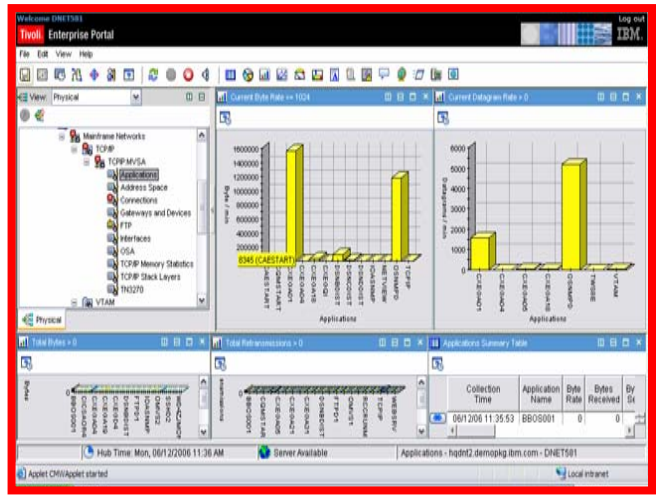
OMEGAMON XE for Mainframe Networks V3.1 Value Proposition

- **Out of the box automation**
  - 67 Situations, 17 auto-started
  - Expert advice and reflex automation
- **Common user interface**
  - Tivoli Enterprise Portal (TEP)
  - Manage all z/OS resources from a single user interface.
  - Display data in graphs, charts and table format
- **Easy to configure**
  - Customize workspaces, reports, situations
  - Define thresholds, Filters, Sort
  - Generate Events
- **Integrated**
  - OMEGAMON products
  - NetView for z/OS V5.2
  - TEC
  - ITM 6.1
- **Effective**
  - Determine the actual service level
  - Easily automate responses to recurring performance problems

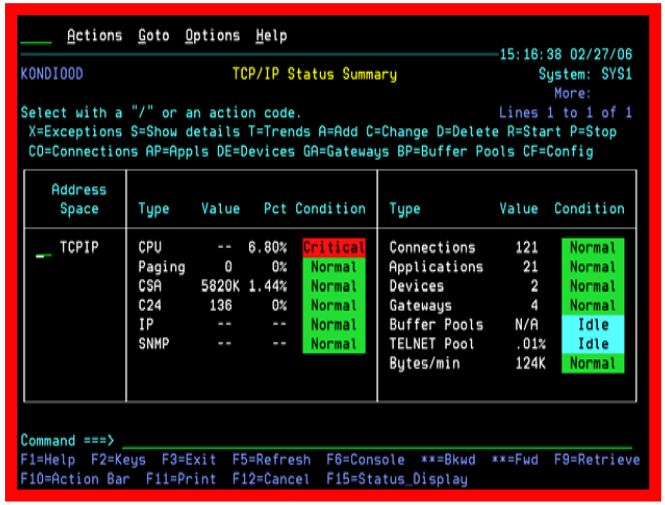


OMEGAMON XE For Mainframe Networks Options & Interfaces

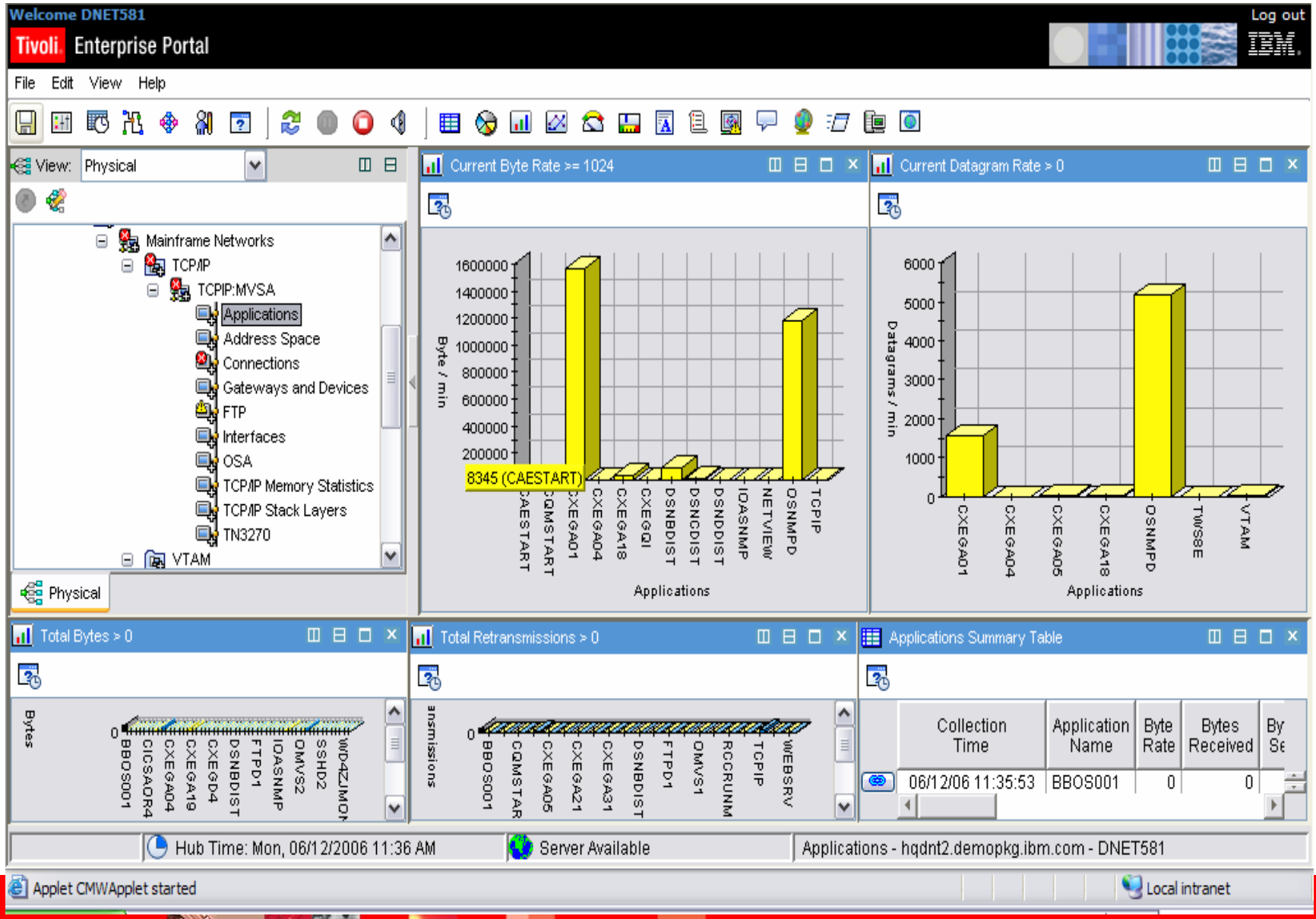
- **OMEGAMON XE GUI Interface**
  - **Real time and historical**
  - **Automation & alerts – Situations & Policies**
  - **OSA, EE, HPR Information and more…**



- **OMEGAMON CUA Interface**
  - **Monitor VTAM & TCP/IP**
  - **3270 interface**
  - **Real Time & Historical**
  - **Warning & Critical exception alerts**



OMEGAMON XE – Portal Interface



3270 TCP/IP Monitoring Interface

```
___  Actions  Goto  Options  Help
                                                          15:16:38 02/27/06
KONDI00D                  TCP/IP Status Summary              System: SYS1
                                                               More:
Select with a "/" or an action code.                    Lines 1 to 1 of 1
 X=Exceptions S=Show details T=Trends A=Add C=Change D=Delete R=Start P=Stop
 CO=Connections AP=Appls DE=Devices GA=Gateways BP=Buffer Pools CF=Config
```

Address Space	Type	Value	Pct	Condition	Type	Value	Condition
_ TCPIP	CPU	--	6.80%	Critical	Connections	121	Normal
	Paging	0	0%	Normal	Applications	21	Normal
	CSA	5820K	1.44%	Normal	Devices	2	Normal
	C24	136	0%	Normal	Gateways	4	Normal
	IP	--	--	Normal	Buffer Pools	N/A	Idle
	SNMP	--	--	Normal	TELNET Pool	.01%	Idle
					Bytes/min	124K	Normal

```
Command ===> _____________________________________________________________
F1=Help  F2=Keys  F3=Exit  F5=Refresh  F6=Console  **=Bkwd  **=Fwd  F9=Retrieve
F10=Action Bar  F11=Print  F12=Cancel  F15=Status_Display
```

Tivoli Enterprise Portal And OMEGAMON DE

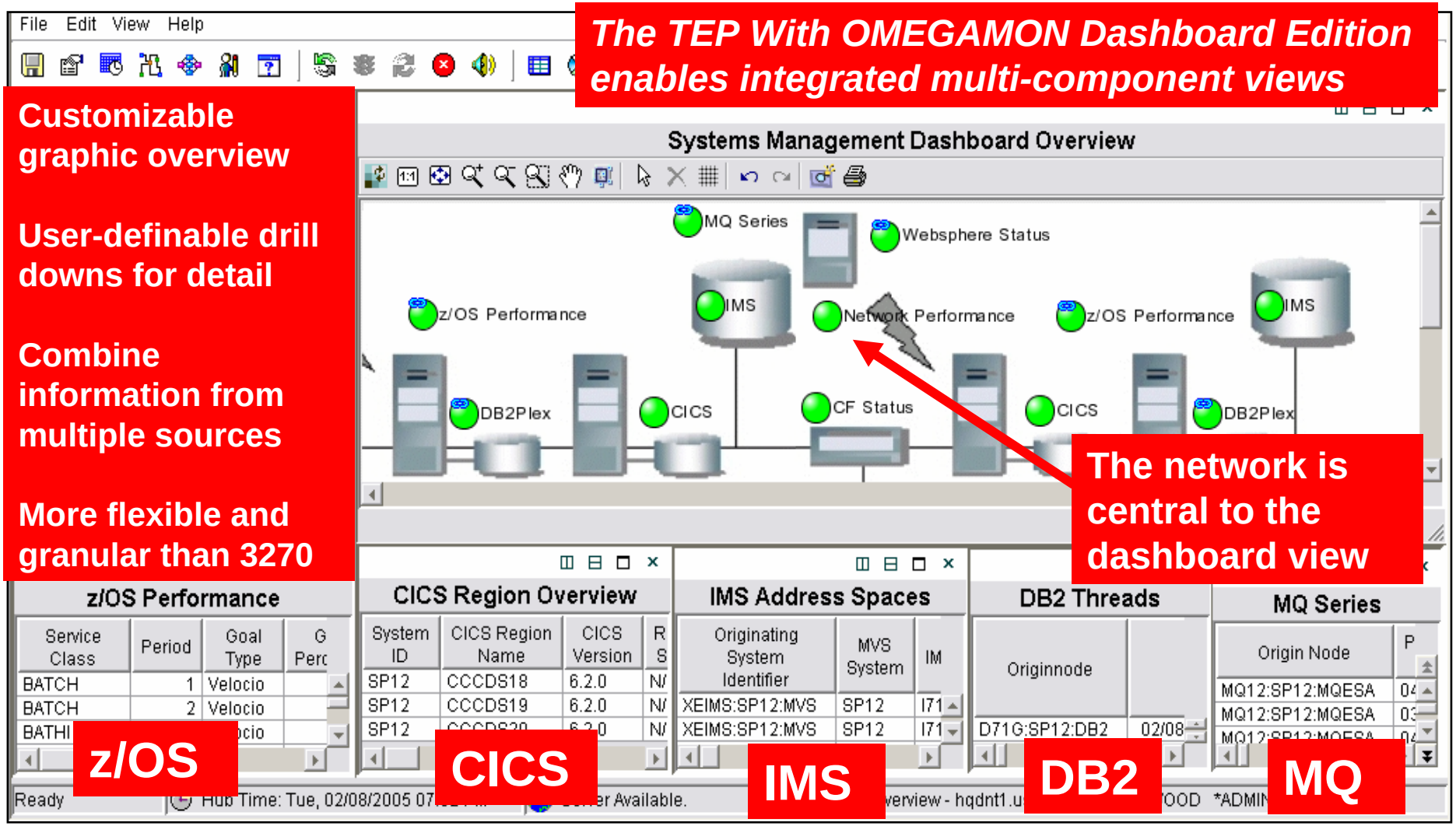
The TEP With OMEGAMON Dashboard Edition enables integrated multi-component views

Customizable graphic overview

User-definable drill downs for detail

Combine information from multiple sources

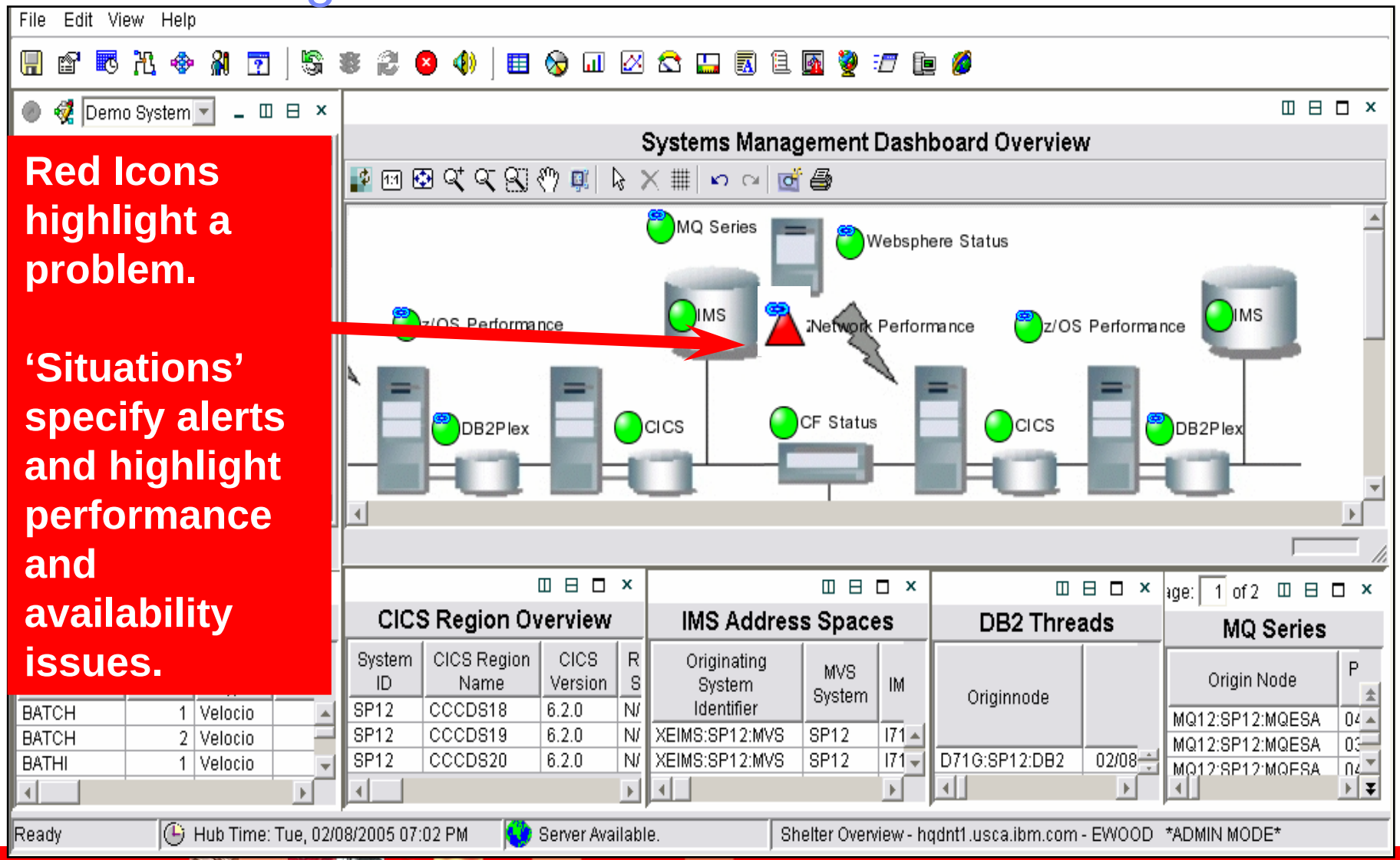
More flexible and granular than 3270



The network is central to the dashboard view

z/OS **CICS** **IMS** **DB2** **MQ**

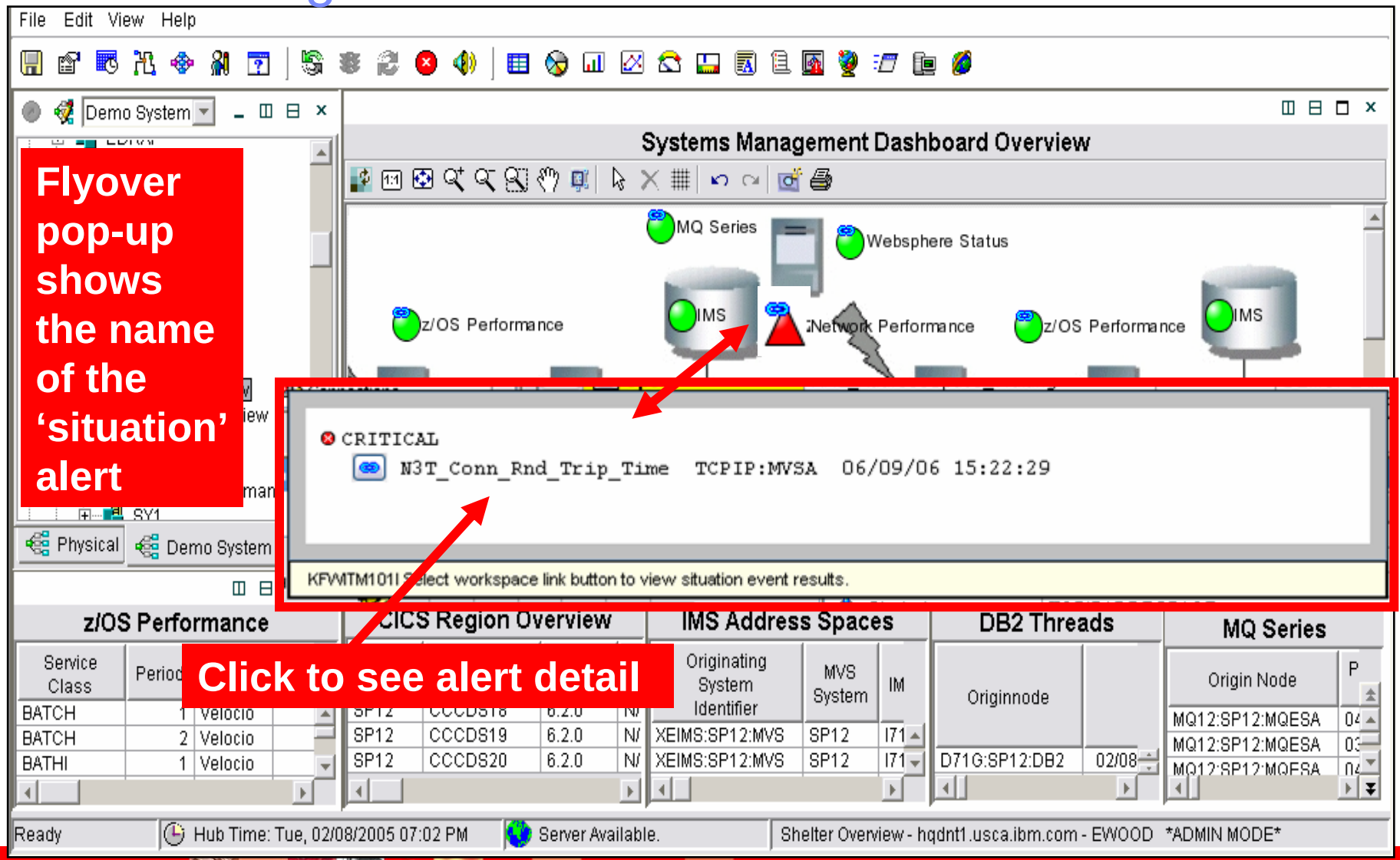
Event Management & Problem Isolation



Red Icons highlight a problem.

'Situations' specify alerts and highlight performance and availability issues.

Event Management & Problem Isolation

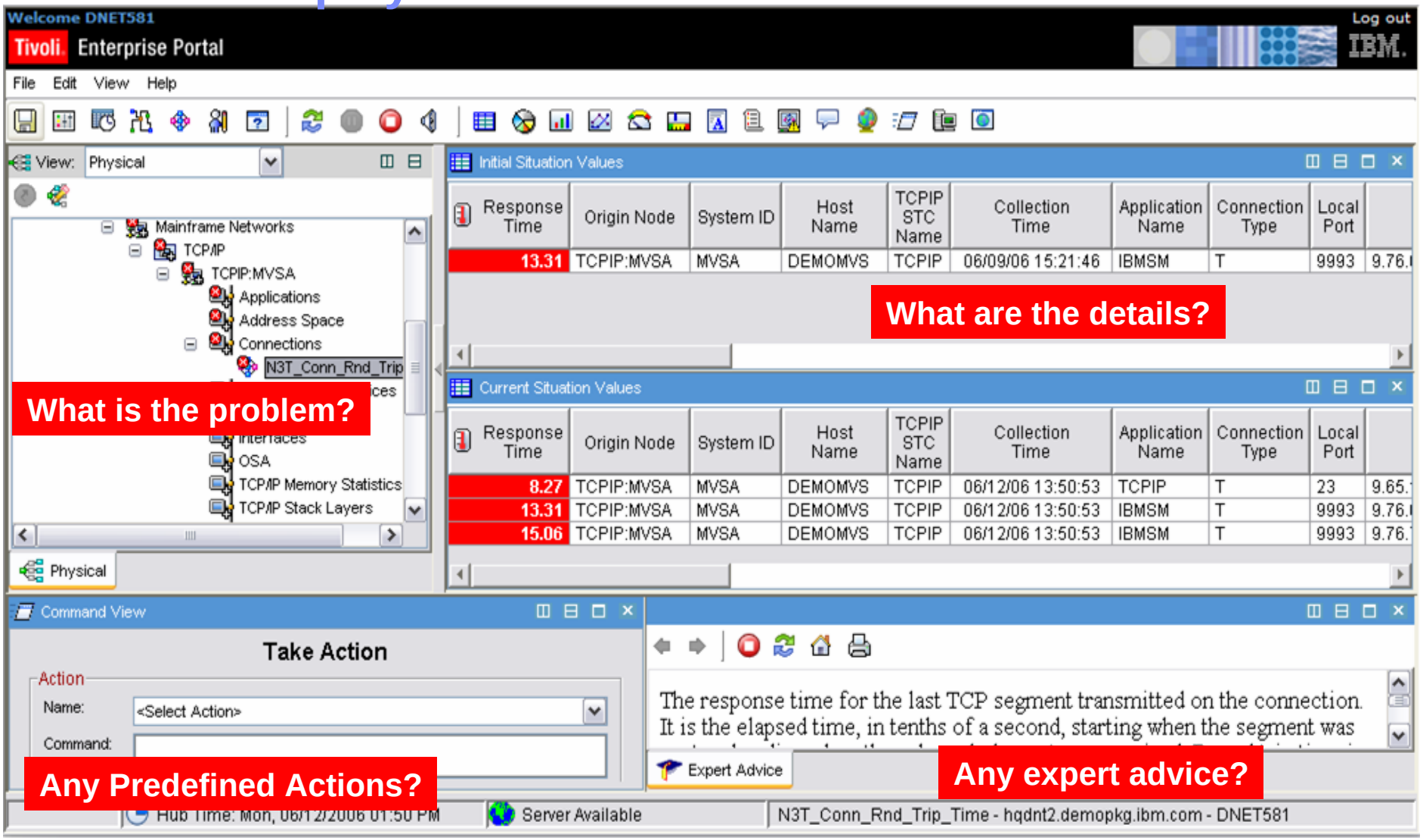


Flyover pop-up shows the name of the 'situation' alert

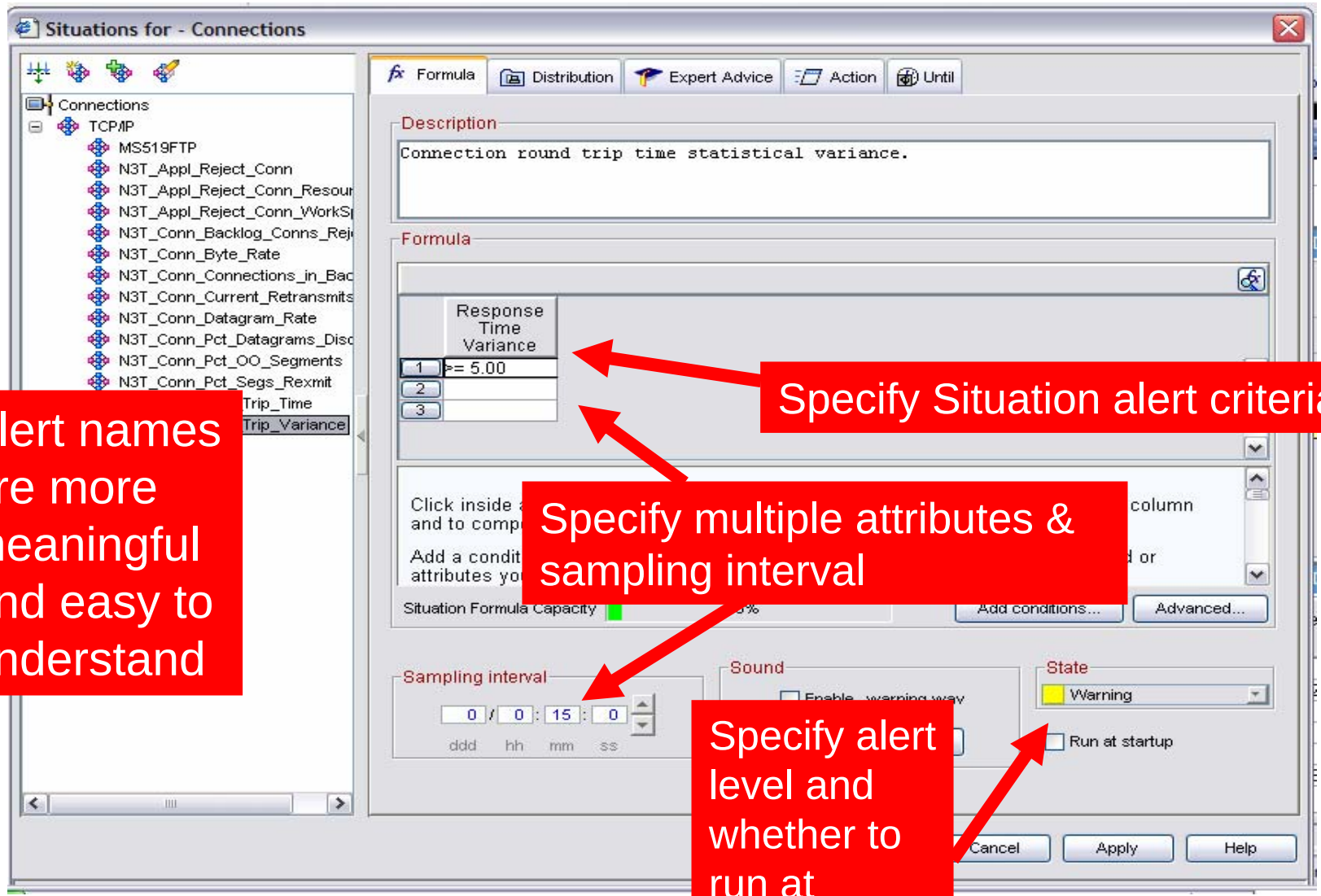
Click to see alert detail

Isolate The Problem

A Detail Display



Use Situations To Build Alerts



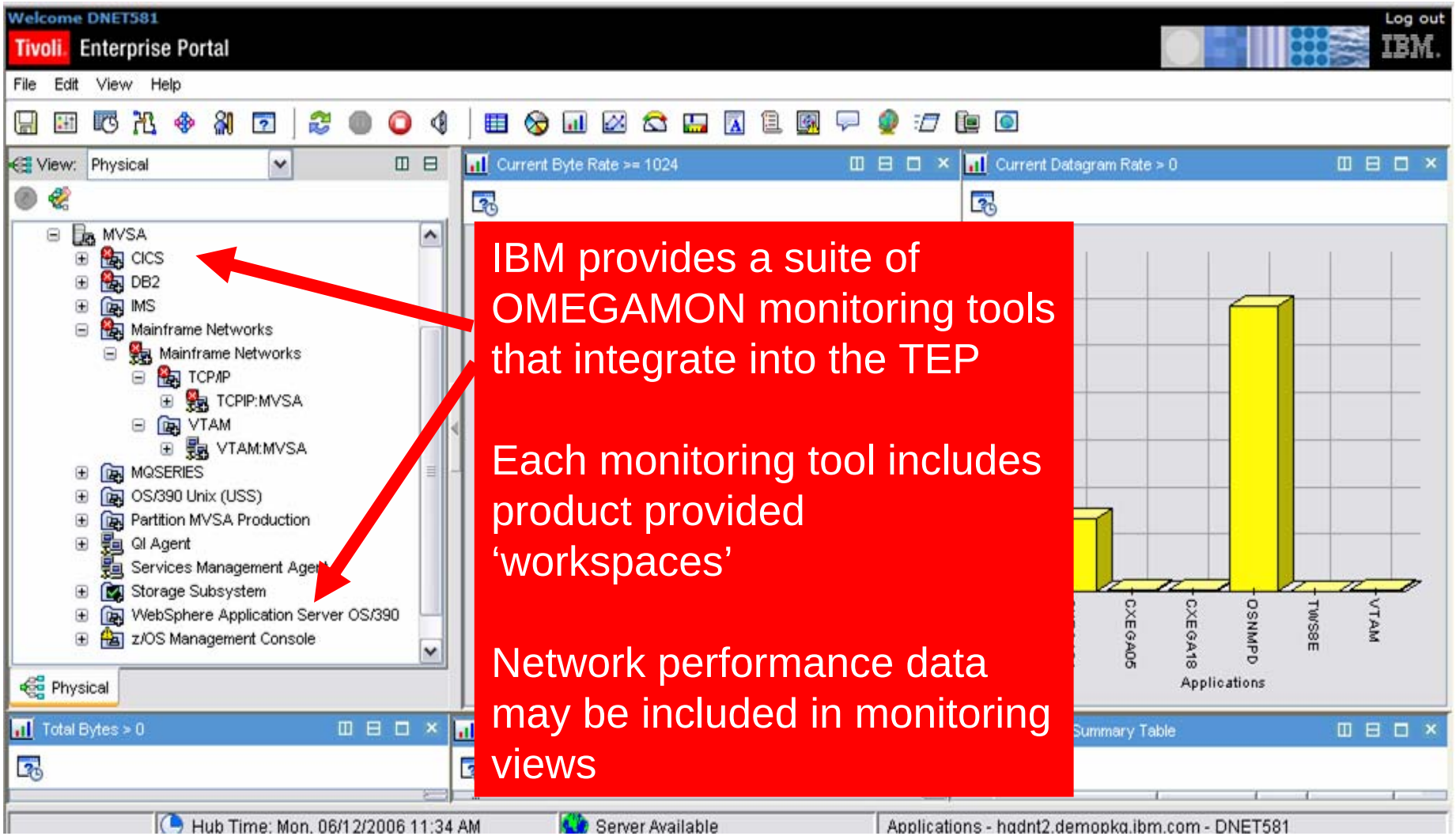
Alert names are more meaningful and easy to understand

Specify Situation alert criteria

Specify multiple attributes & sampling interval

Specify alert level and whether to run at startup

A Complete Suite Of OMEGAMON Monitoring Components

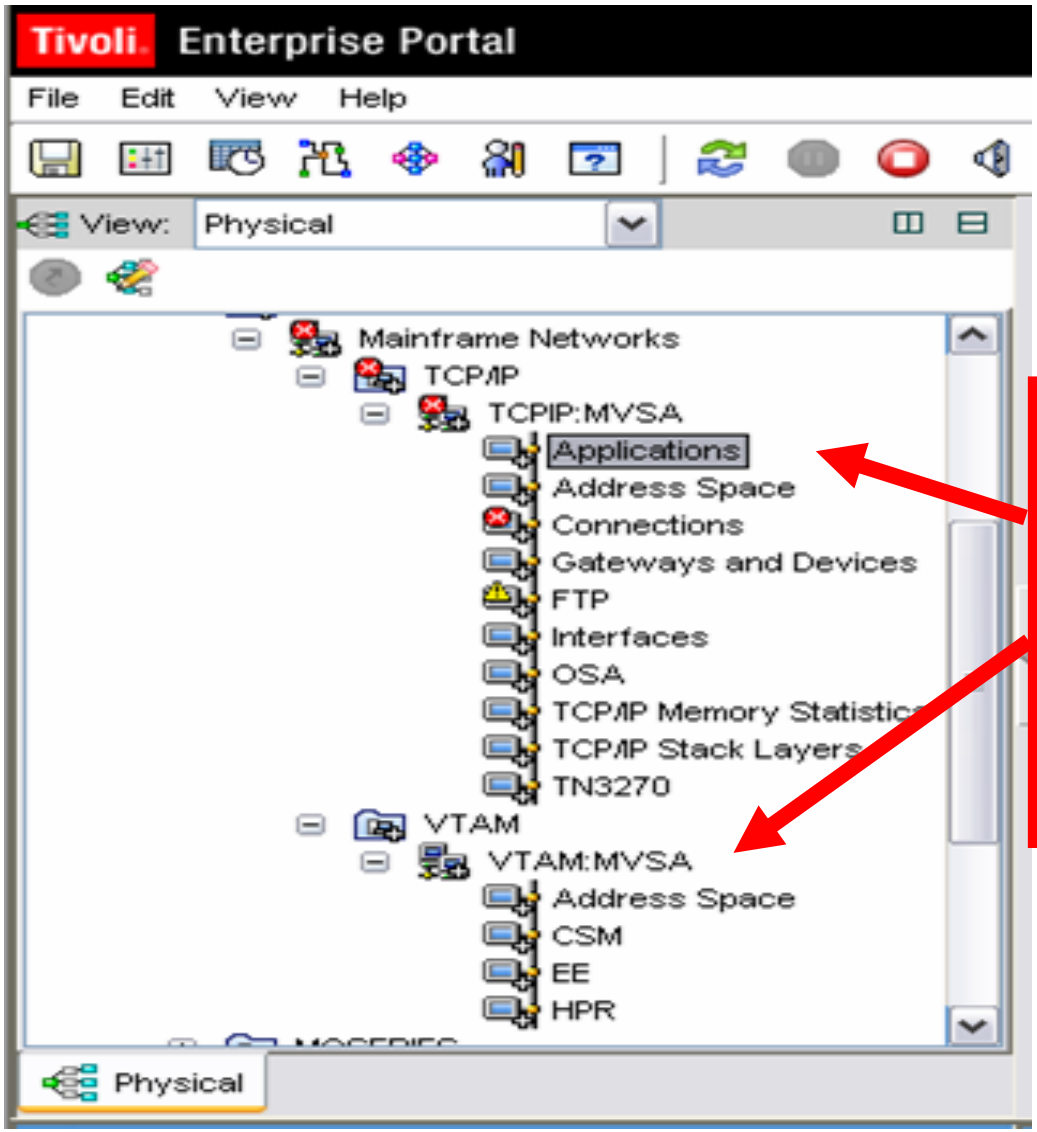


IBM provides a suite of OMEGAMON monitoring tools that integrate into the TEP

Each monitoring tool includes product provided 'workspaces'

Network performance data may be included in monitoring views

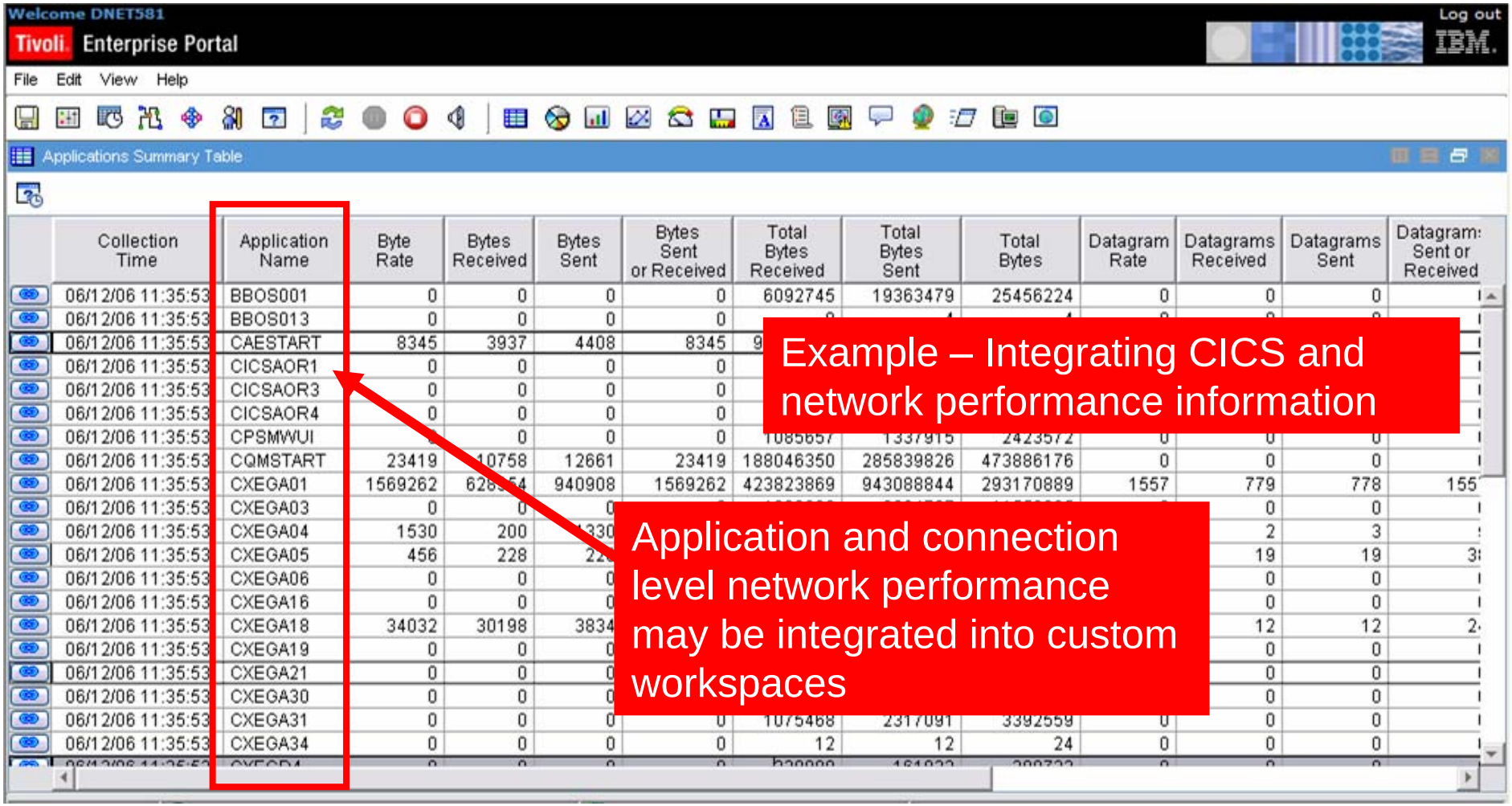
IBM Provided Workspaces In The 'Physical' View



Click to navigate to various workspaces

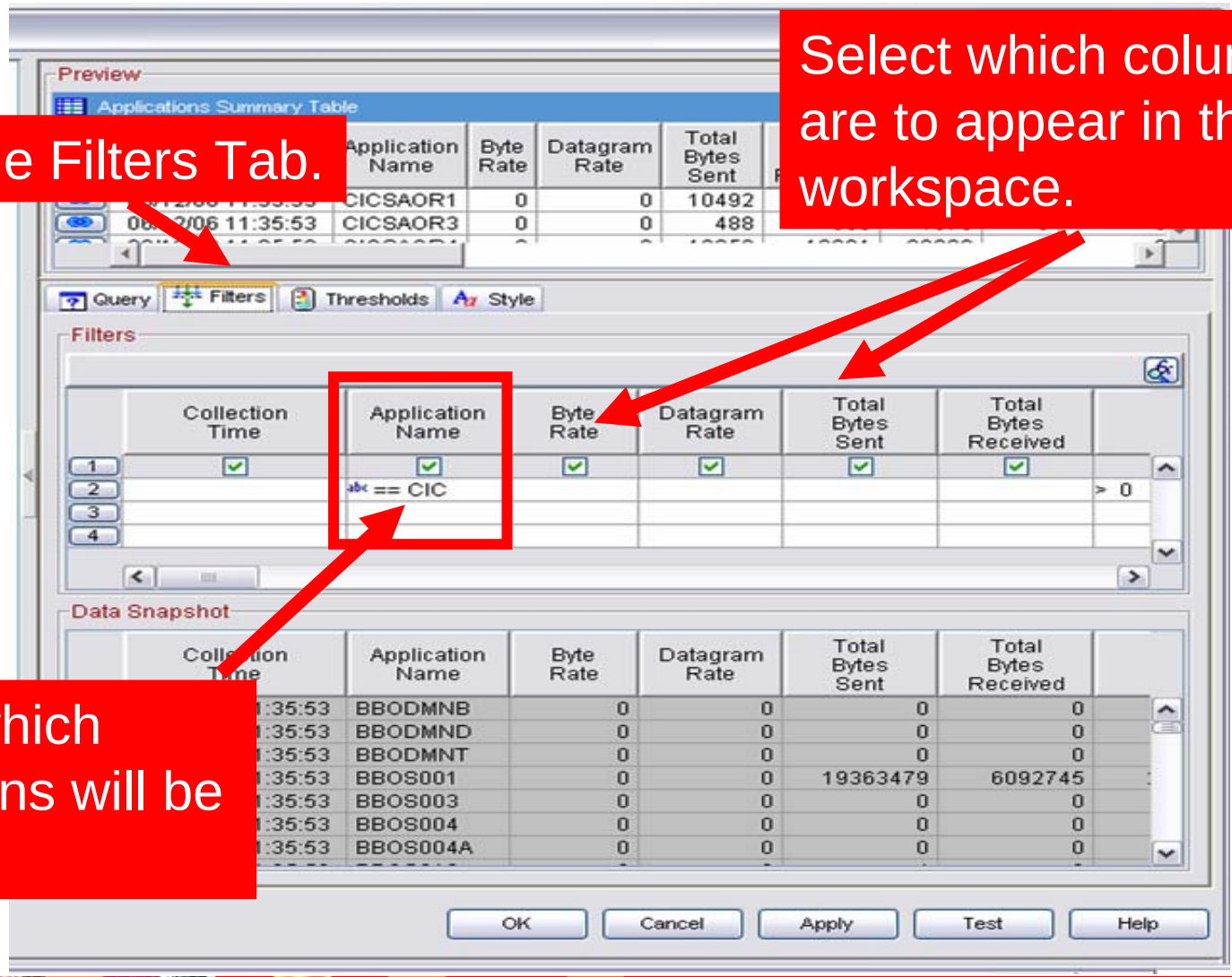
OMEGAMON XE for Mainframe Networks monitors both VTAM and TCP/IP

Integration Of Network Performance Information

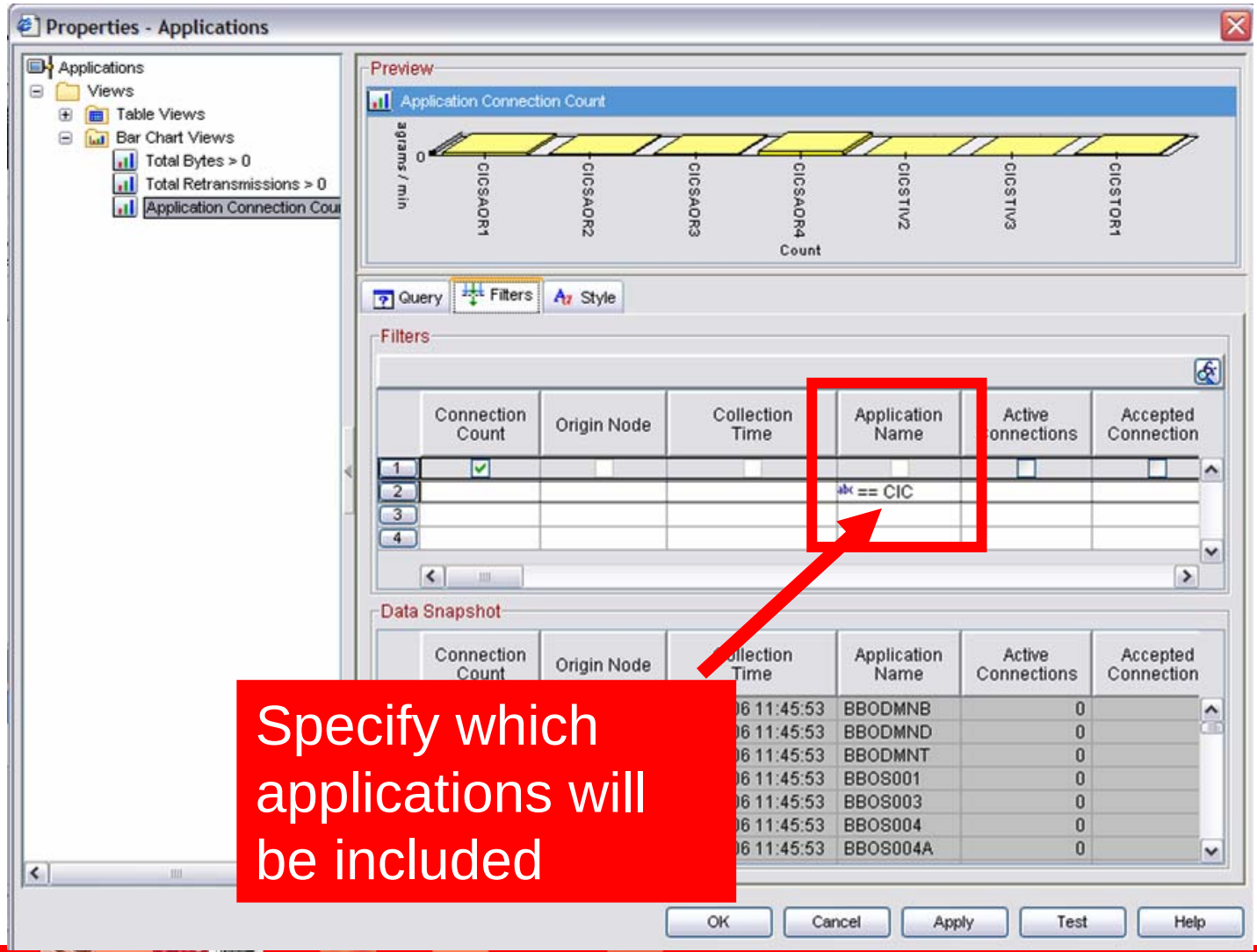


Collection Time	Application Name	Byte Rate	Bytes Received	Bytes Sent	Bytes Sent or Received	Total Bytes Received	Total Bytes Sent	Total Bytes	Datagram Rate	Datagrams Received	Datagrams Sent	Datagram: Sent or Received
06/12/06 11:35:53	BBOS001	0	0	0	0	6092745	19363479	25456224	0	0	0	
06/12/06 11:35:53	BBOS013	0	0	0	0							
06/12/06 11:35:53	CAESTART	8345	3937	4408	8345	9						
06/12/06 11:35:53	CICSAOR1	0	0	0	0							
06/12/06 11:35:53	CICSAOR3	0	0	0	0							
06/12/06 11:35:53	CICSAOR4	0	0	0	0							
06/12/06 11:35:53	CPSMWUI		0	0	0	1085657	1337915	2423572	0	0	0	
06/12/06 11:35:53	CQMSTART	23419	10758	12661	23419	188046350	285839826	473886176	0	0	0	
06/12/06 11:35:53	CXEGA01	1569262	628	940908	1569262	423823869	943088844	293170889	1557	779	778	155
06/12/06 11:35:53	CXEGA03	0	0	0						0	0	
06/12/06 11:35:53	CXEGA04	1530	200	1330						2	3	
06/12/06 11:35:53	CXEGA05	456	228	22						19	19	3
06/12/06 11:35:53	CXEGA06	0	0	0						0	0	
06/12/06 11:35:53	CXEGA16	0	0	0						0	0	
06/12/06 11:35:53	CXEGA18	34032	30198	3834						12	12	2
06/12/06 11:35:53	CXEGA19	0	0	0						0	0	
06/12/06 11:35:53	CXEGA21	0	0	0						0	0	
06/12/06 11:35:53	CXEGA30	0	0	0						0	0	
06/12/06 11:35:53	CXEGA31	0	0	0	0	1075468	2317091	3392559	0	0	0	
06/12/06 11:35:53	CXEGA34	0	0	0	0	12	12	24	0	0	0	

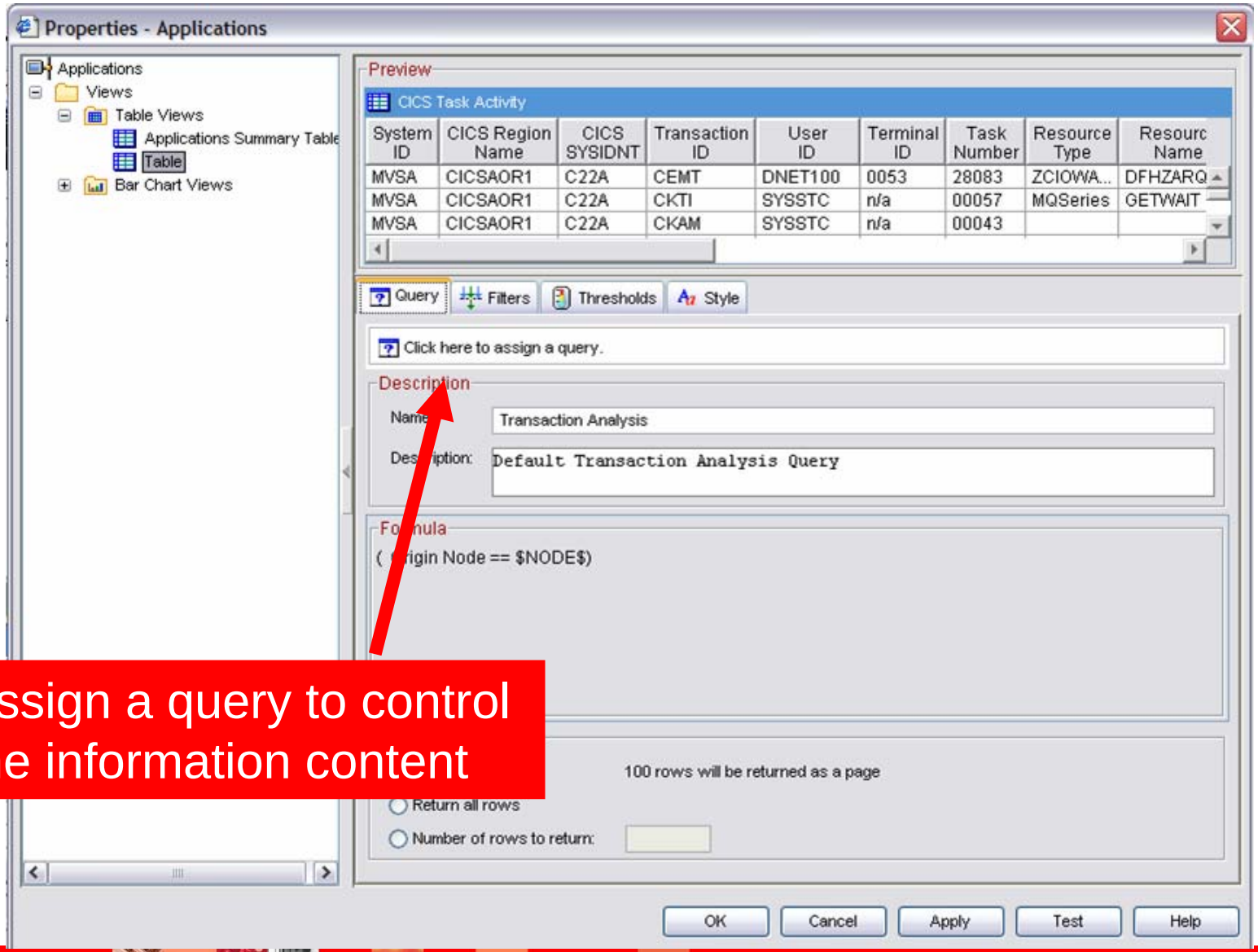
Use The Properties Options To Filter To The View And To Control Content



Graphics May Also Be Controlled Using Properties

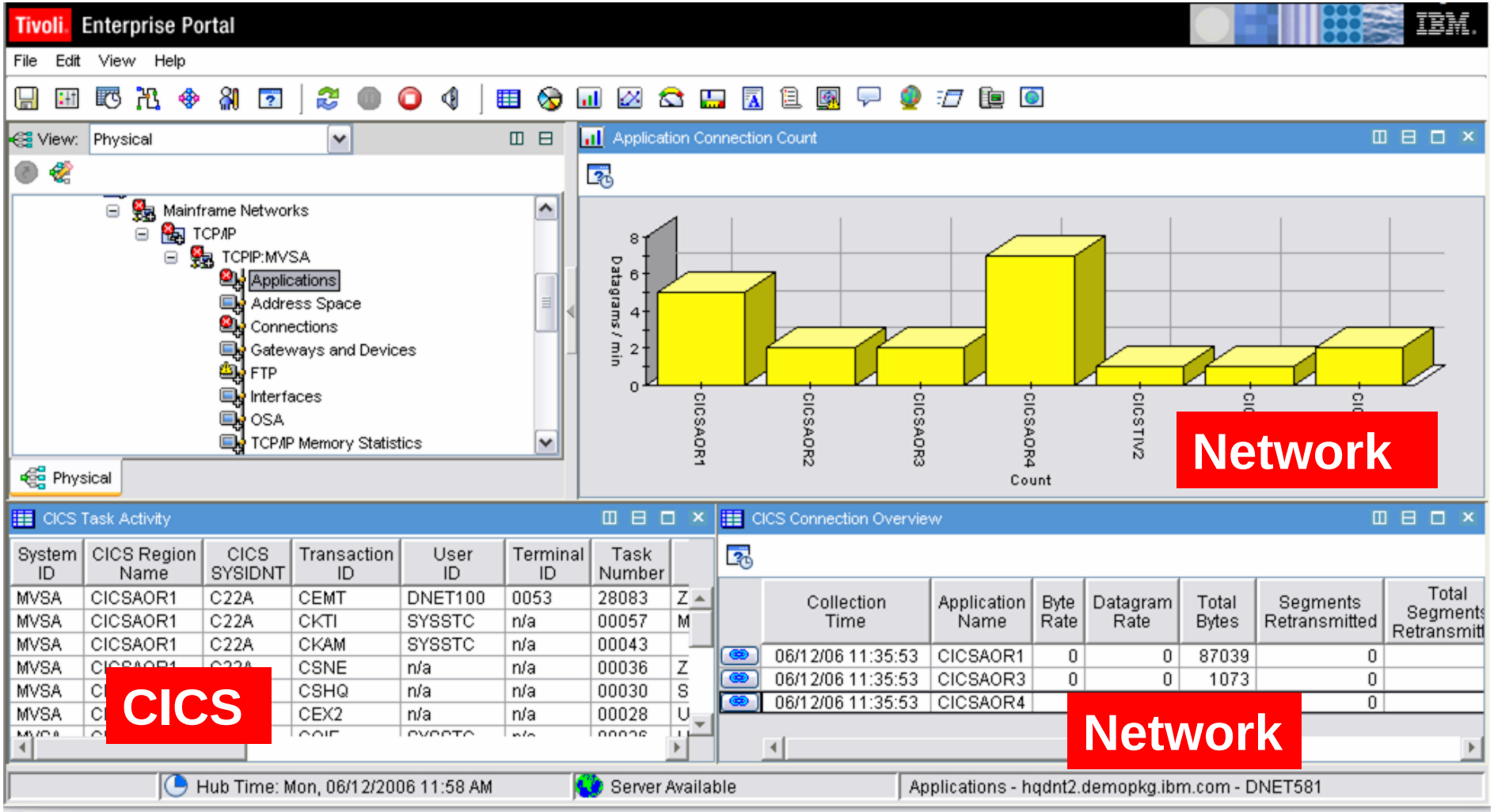


Add CICS Transaction Information To The Workspace

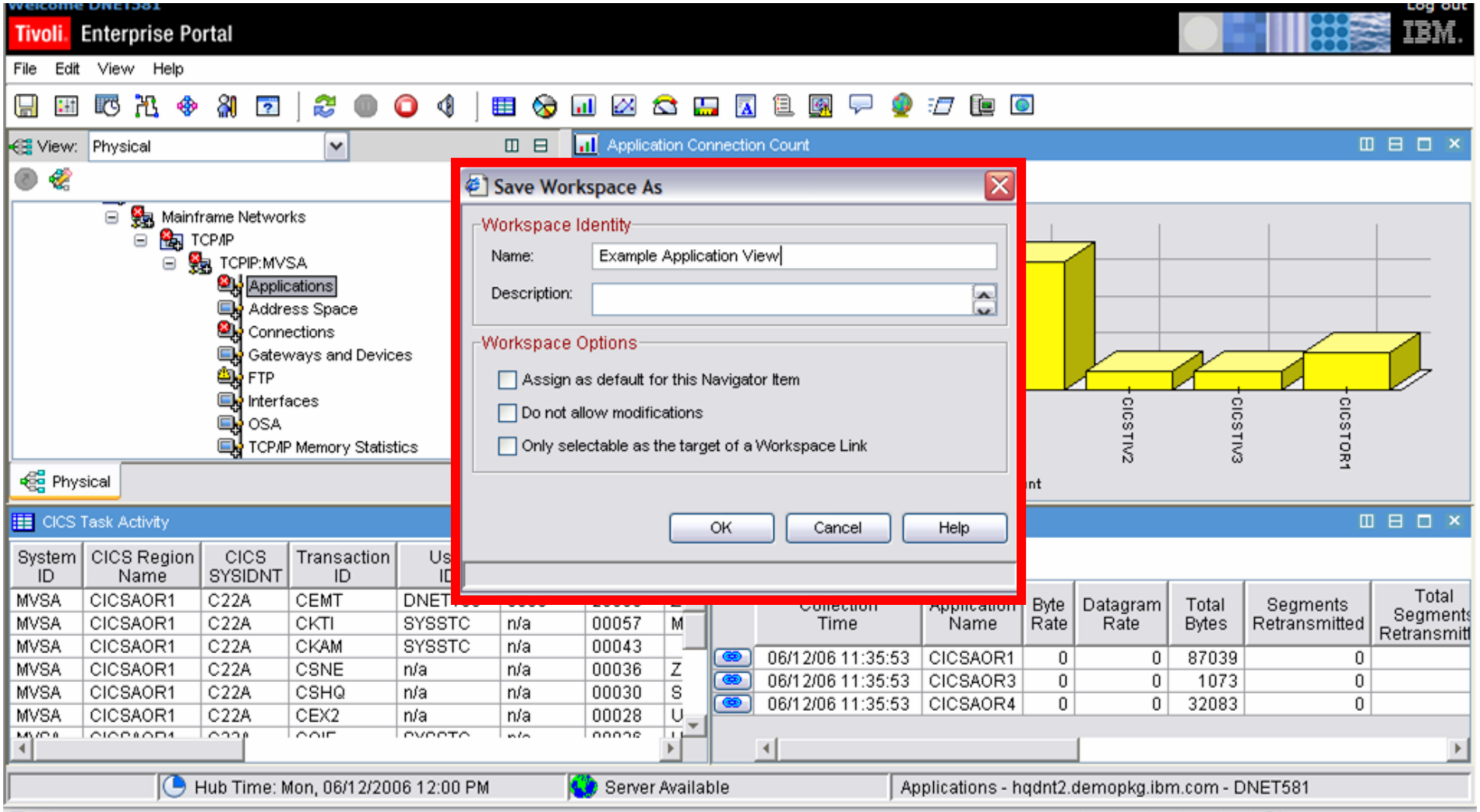


Assign a query to control the information content

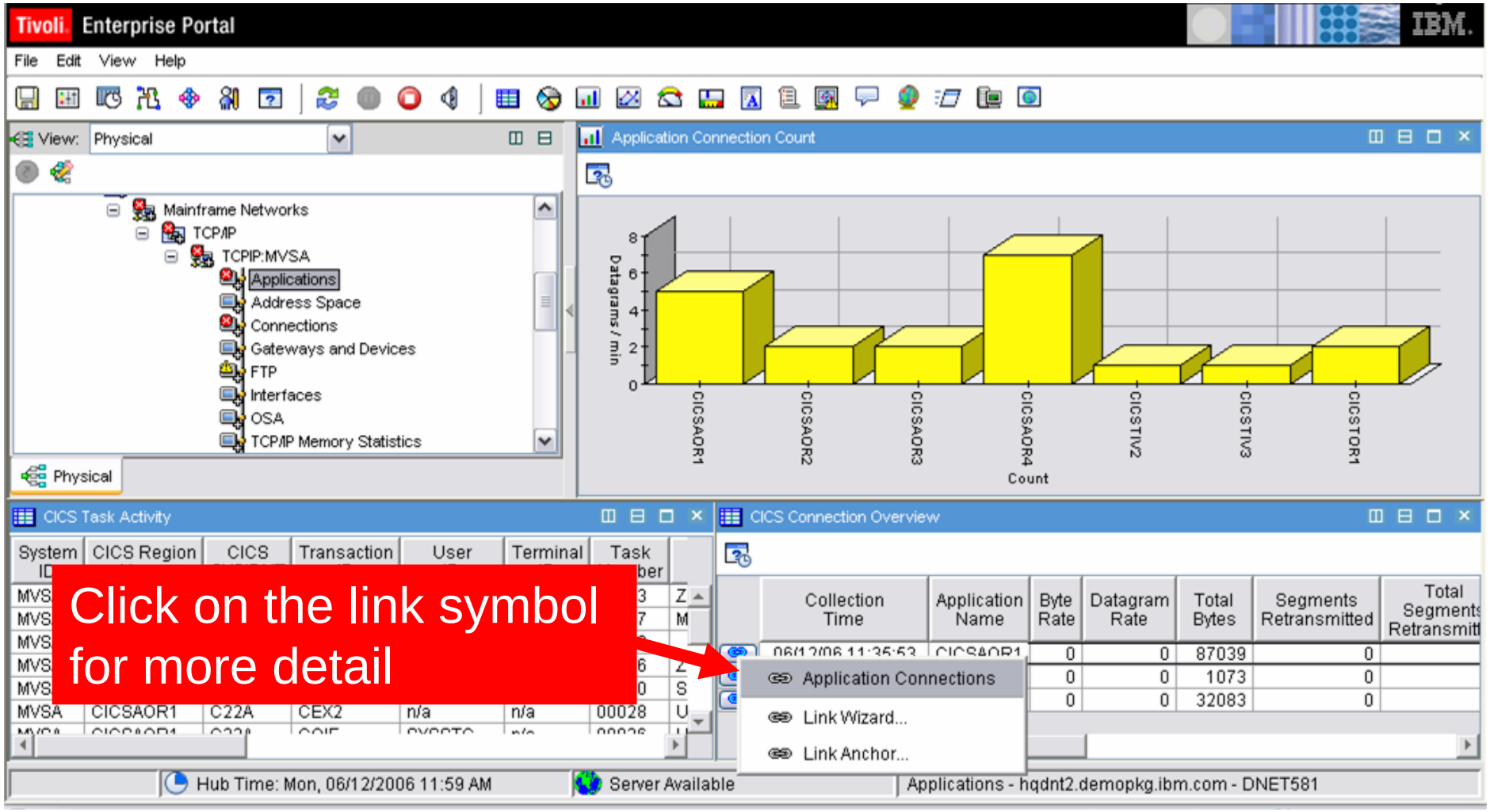
The Customized Workspace
Integrated CICS Transaction And Network Performance



Customized Workspaces Are Saved In The TEP

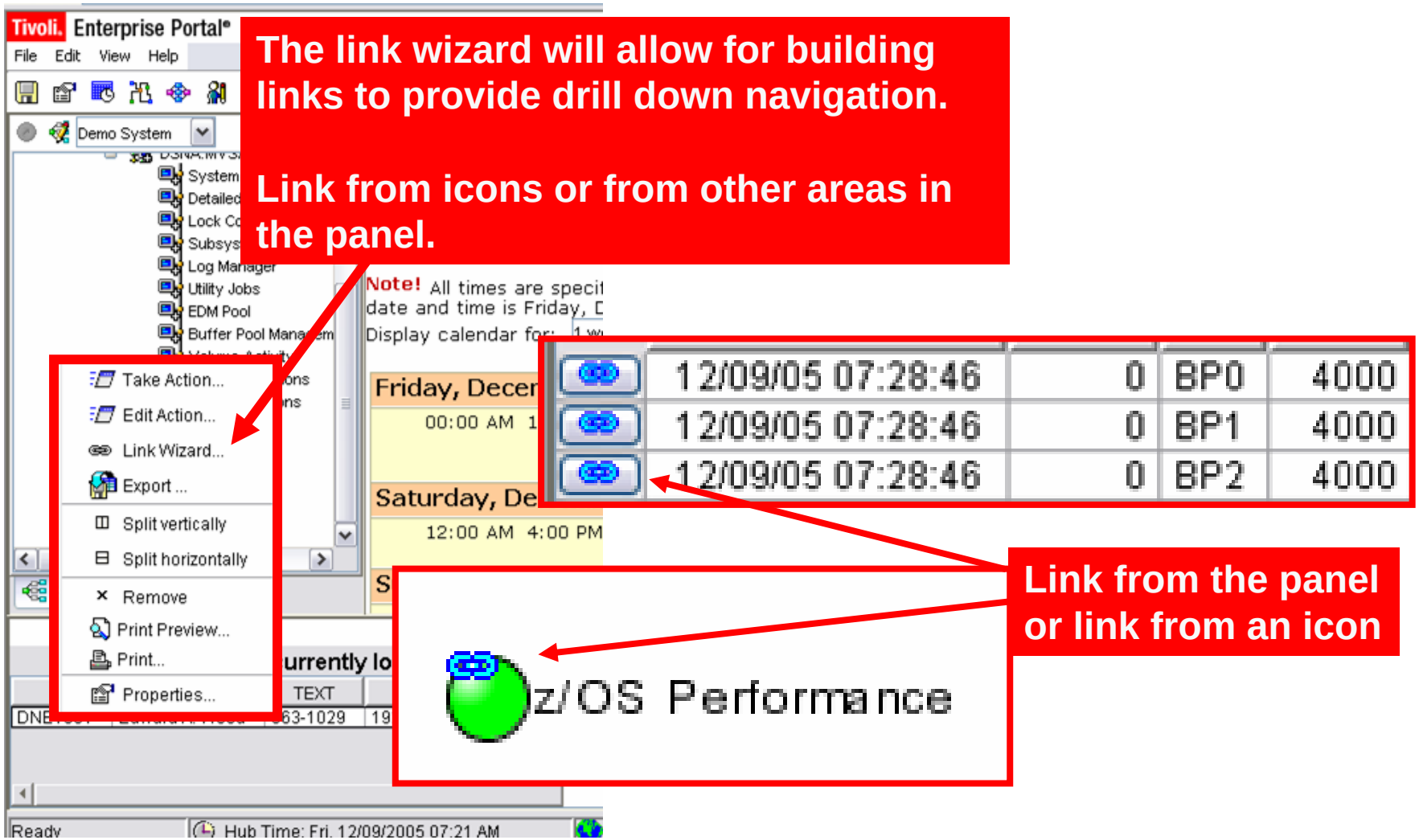


Link Drill Down For Additional Detail

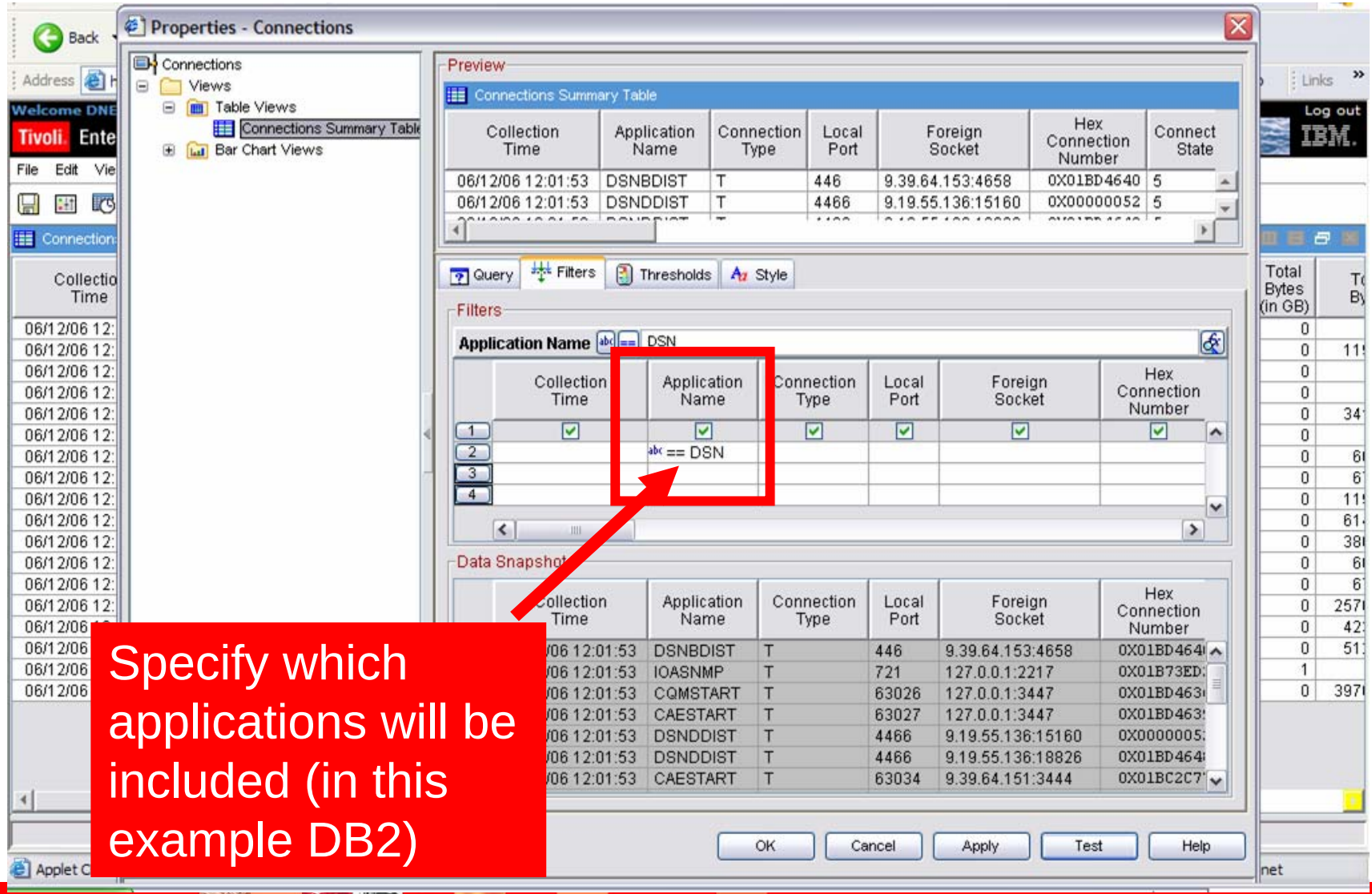


Click on the link symbol for more detail

Use Link Wizard To Build Custom Links And Drill Downs

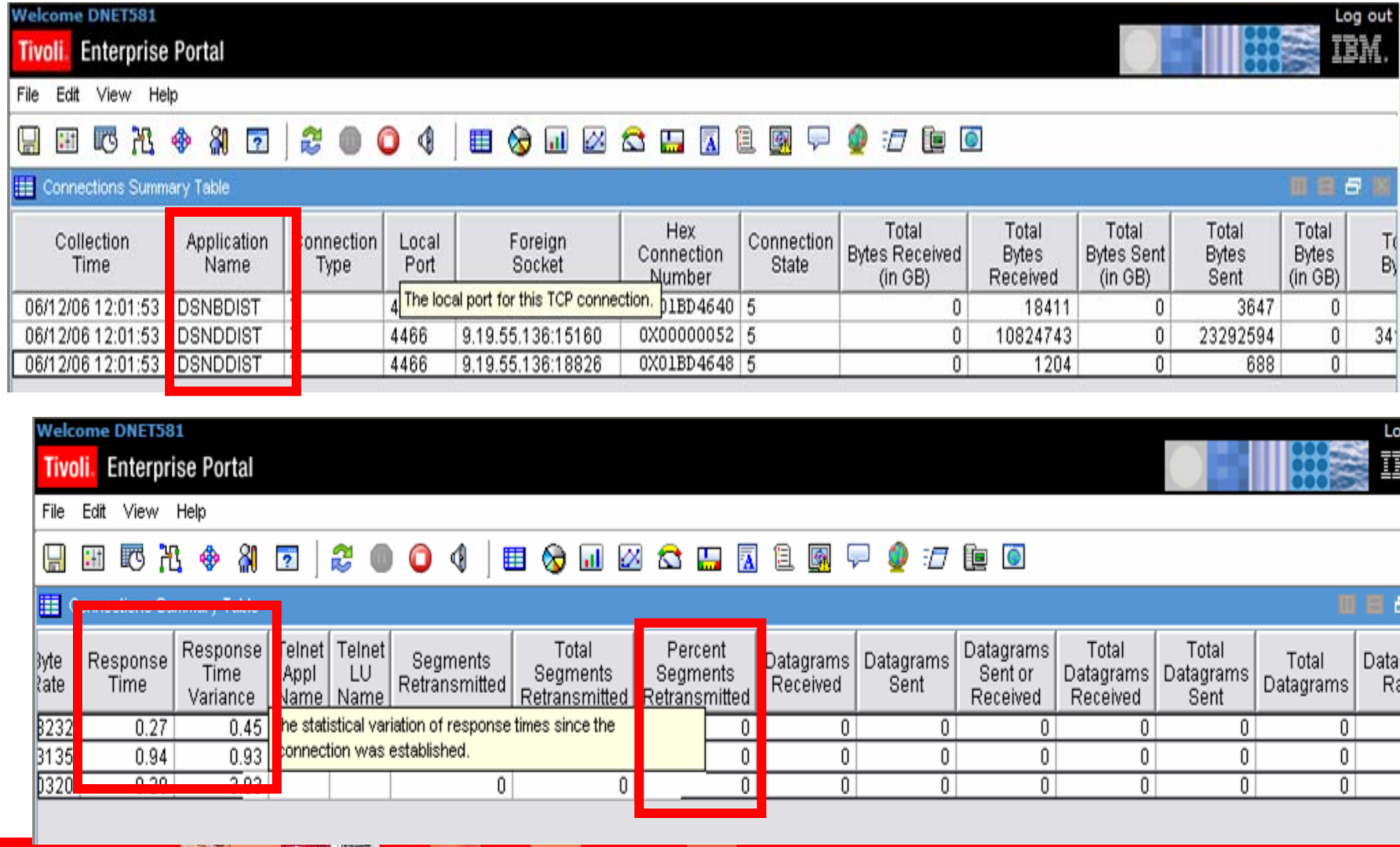


Another Example – Monitoring DB2 Connections

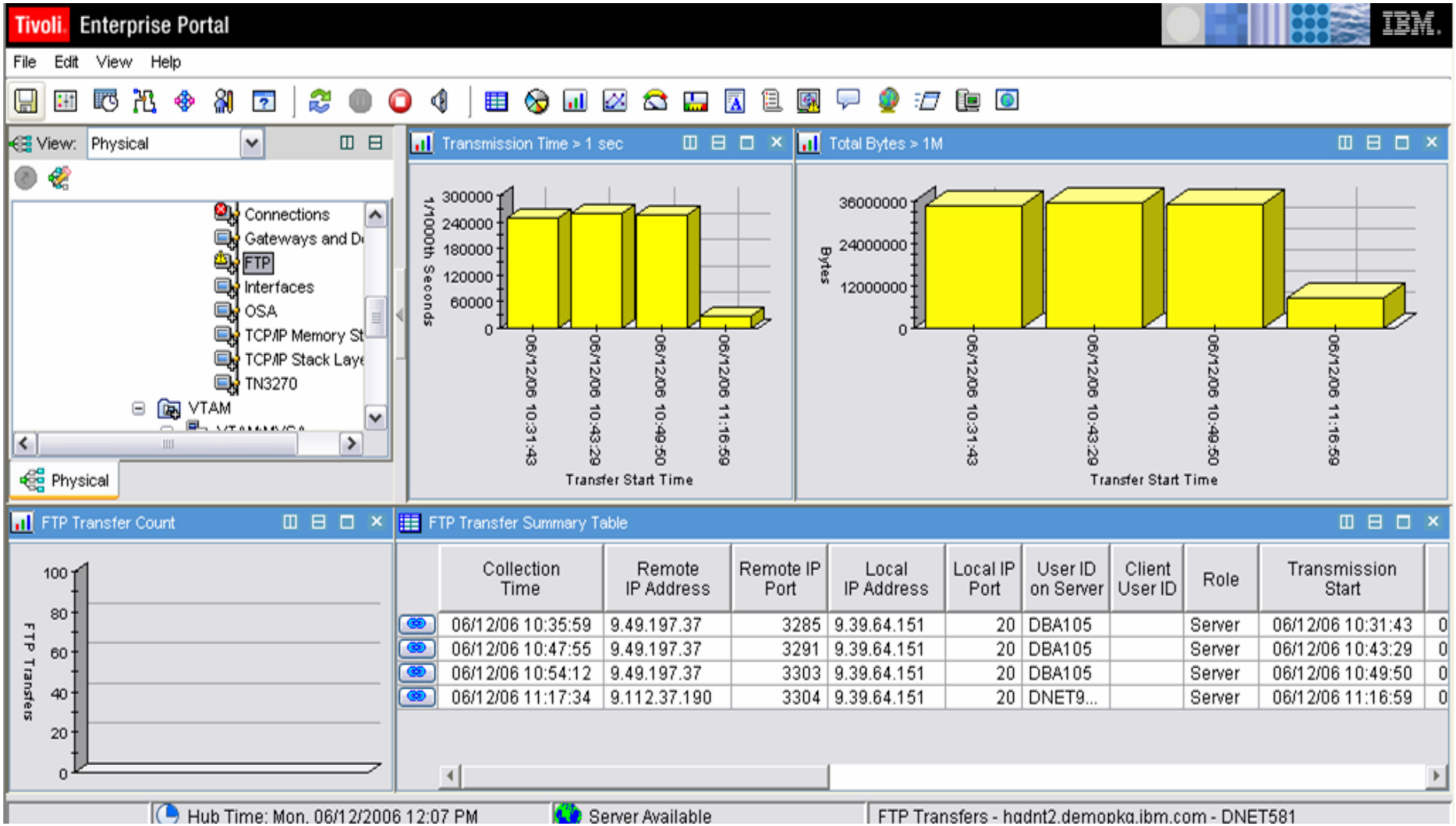


Specify which applications will be included (in this example DB2)

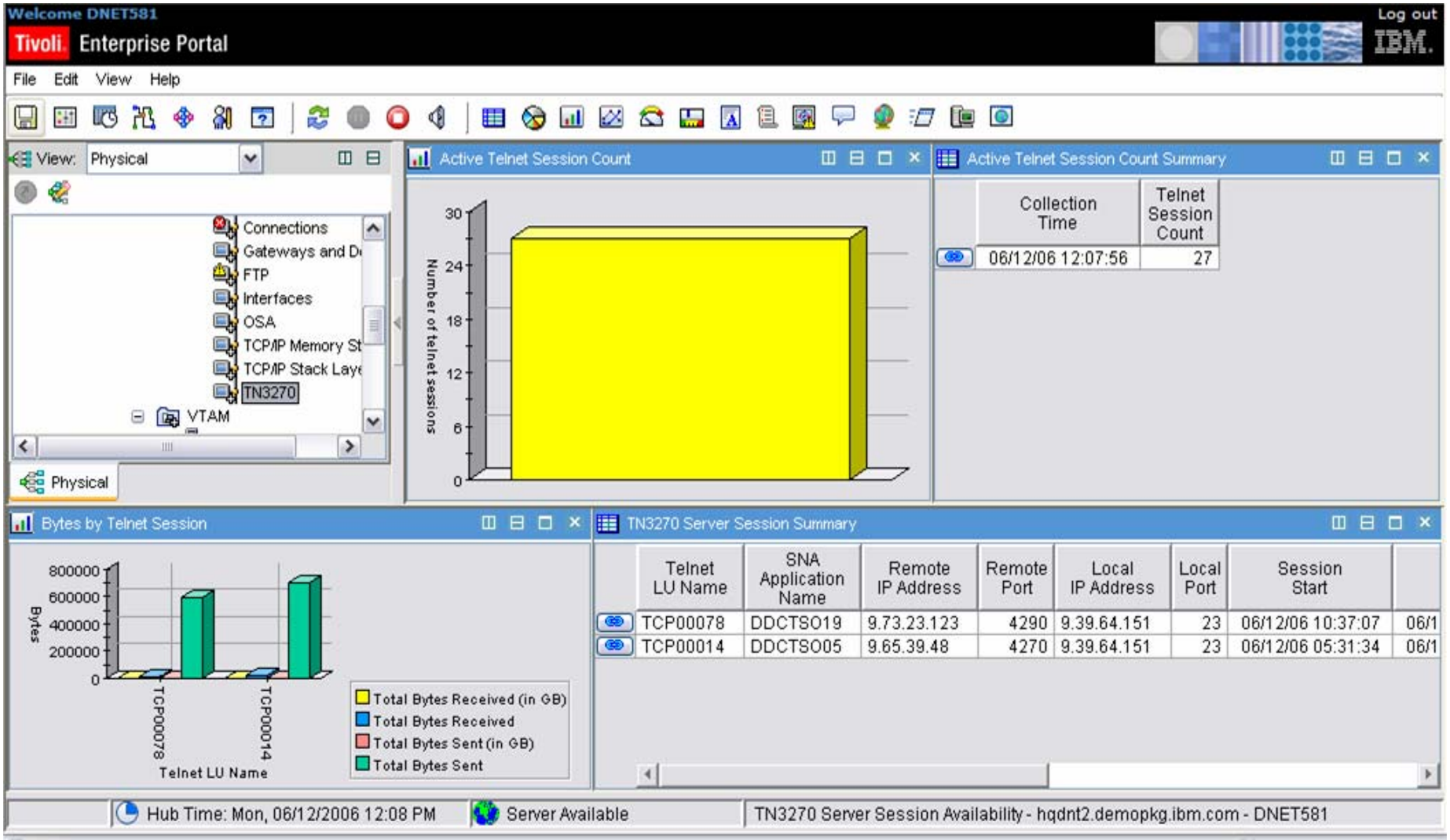
Detail Available For Connection Level Monitoring



Monitor FTP Activity



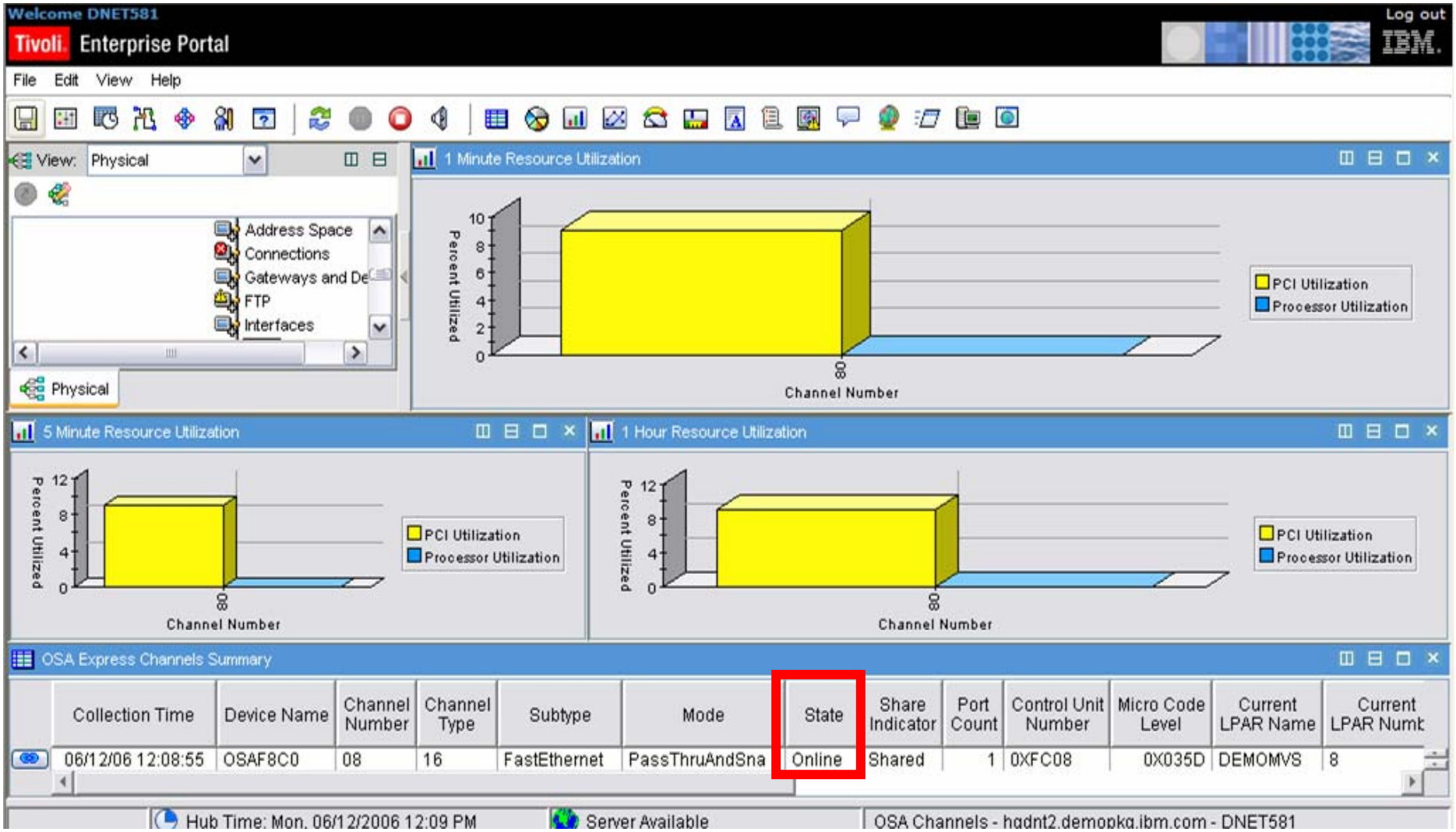
Monitor TN3270



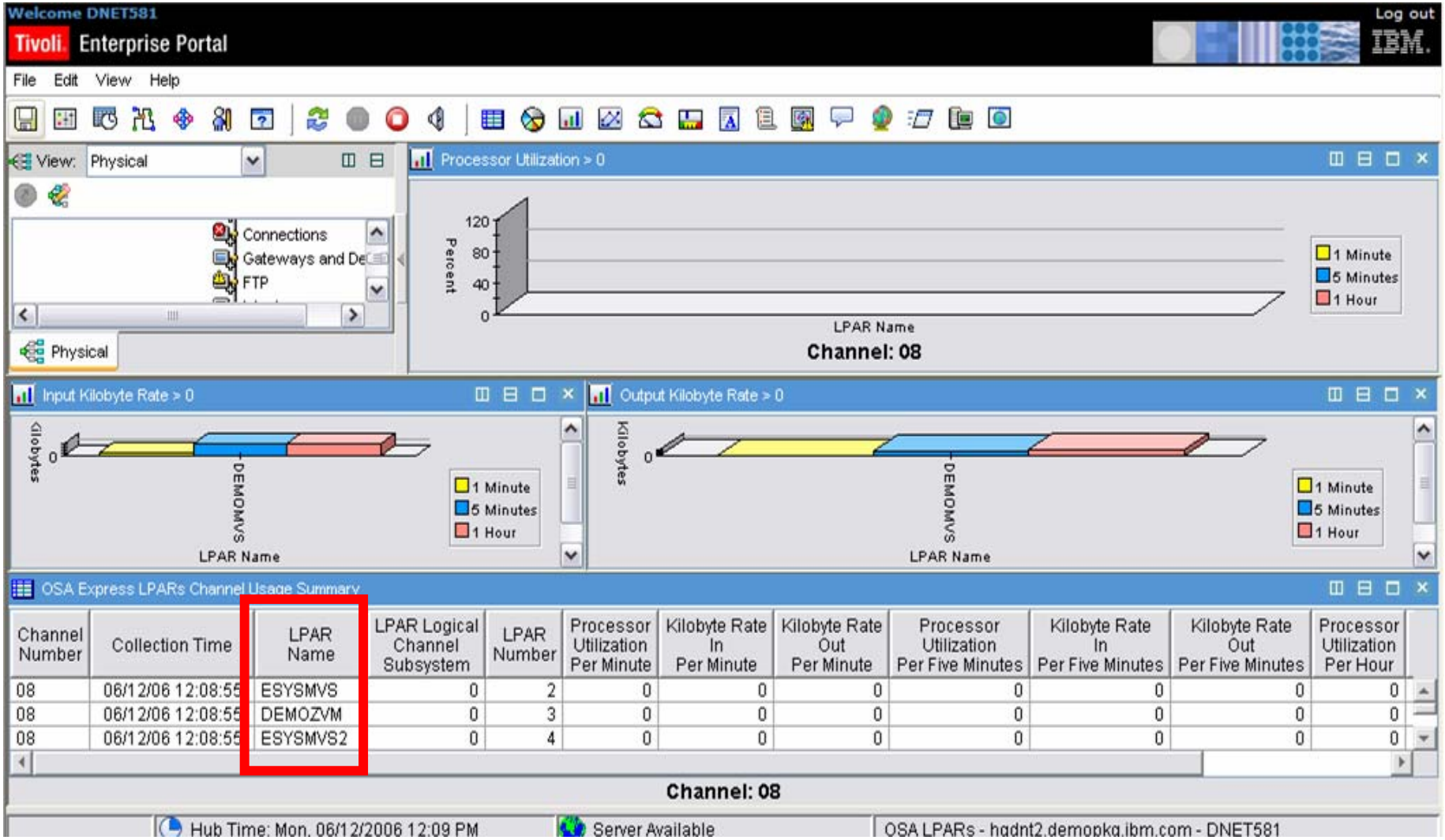
Availability Monitoring

- Monitor the status as well as the performance of key network resources
  - OSA adapters
  - EE
  - HPR
  - Gateways
- Use situations to generate alerts and corrective actions

Monitor OSA Adapter Status And Performance

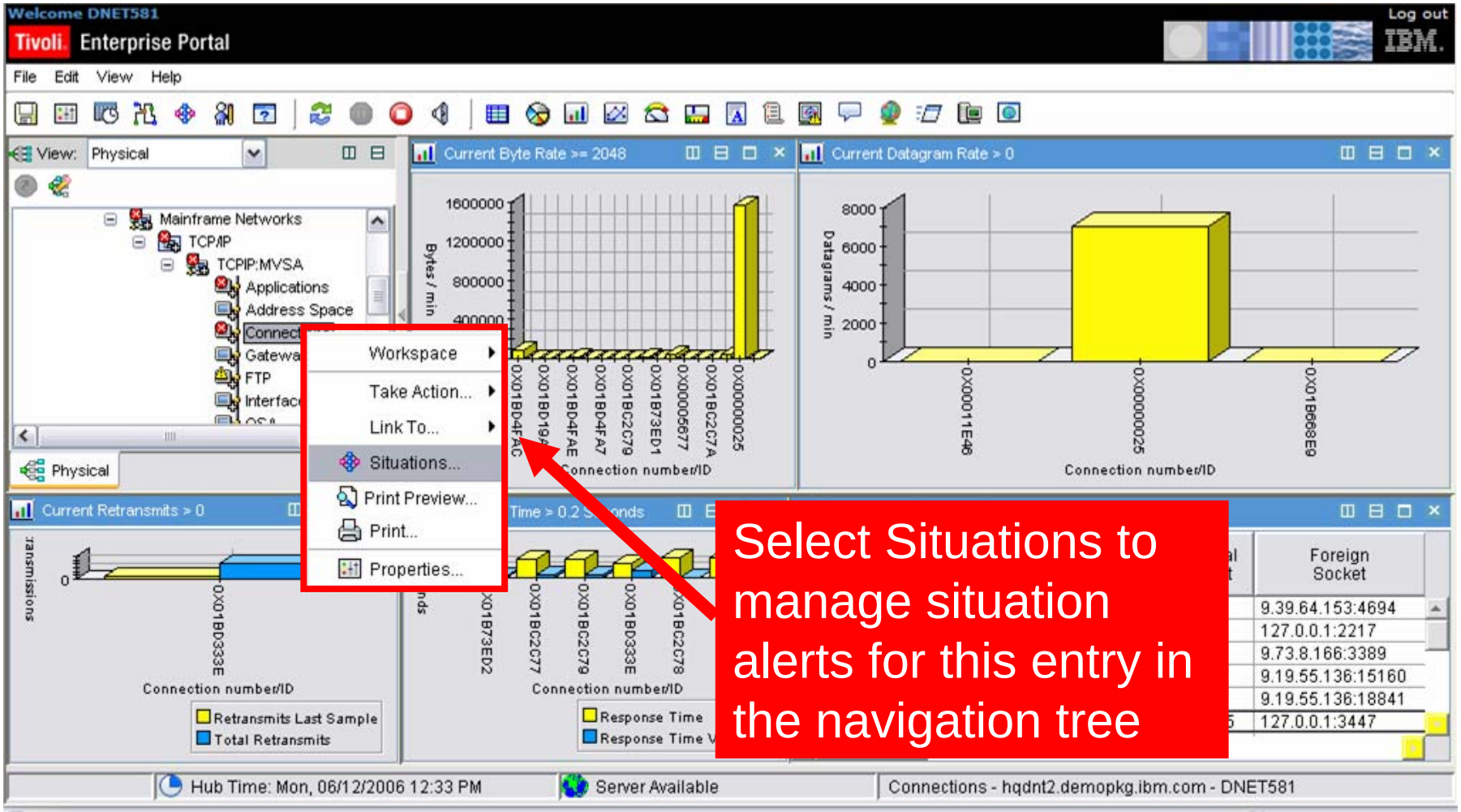


Monitor OSA Status Across LPARs

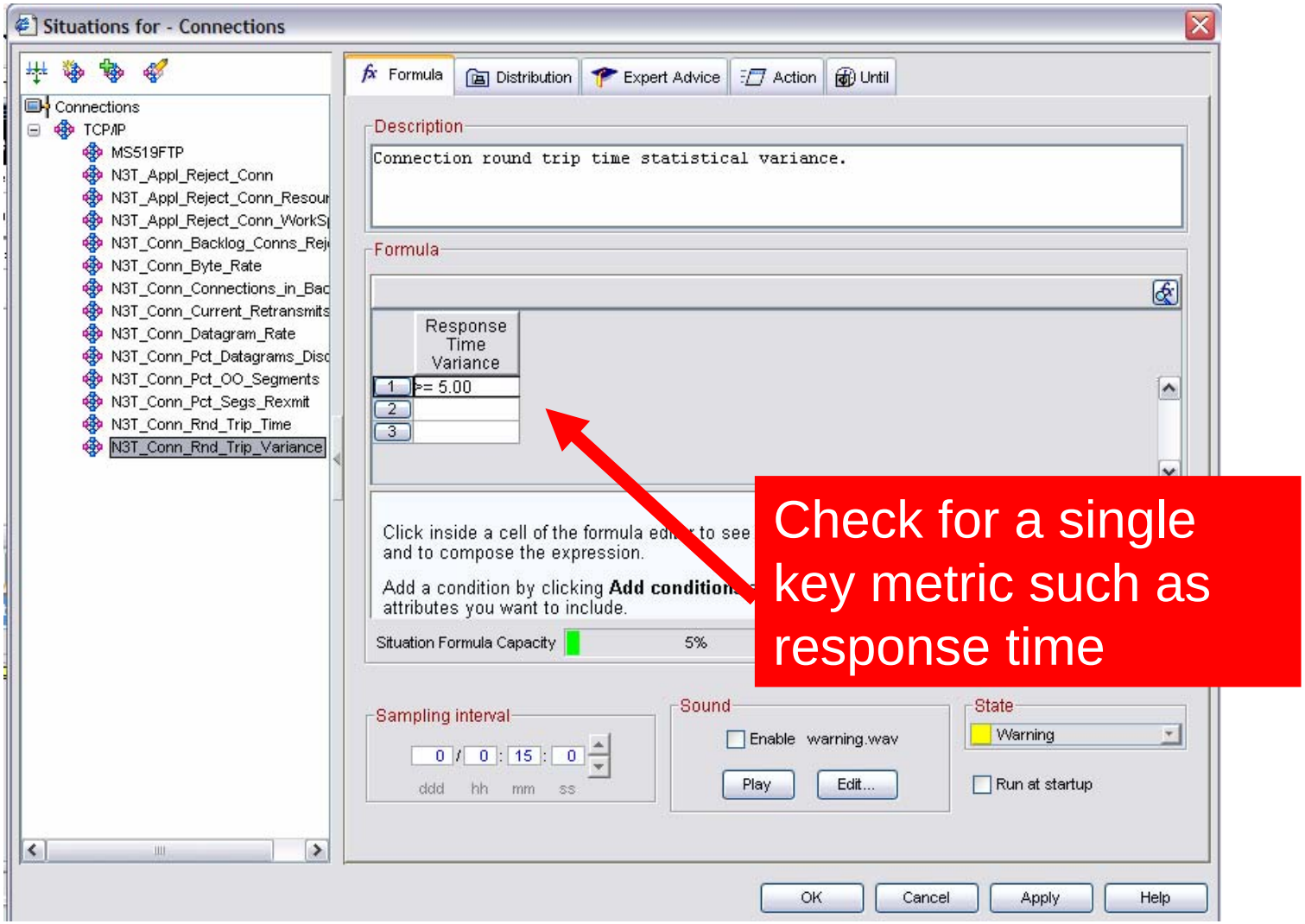


Channel Number	Collection Time	LPAR Name	LPAR Logical Channel Subsystem	LPAR Number	Processor Utilization Per Minute	Kilobyte Rate In Per Minute	Kilobyte Rate Out Per Minute	Processor Utilization Per Five Minutes	Kilobyte Rate In Per Five Minutes	Kilobyte Rate Out Per Five Minutes	Processor Utilization Per Hour
08	06/12/06 12:08:55	ESYSMVS	0	2	0	0	0	0	0	0	0
08	06/12/06 12:08:55	DEMOZVM	0	3	0	0	0	0	0	0	0
08	06/12/06 12:08:55	ESYSMVS2	0	4	0	0	0	0	0	0	0

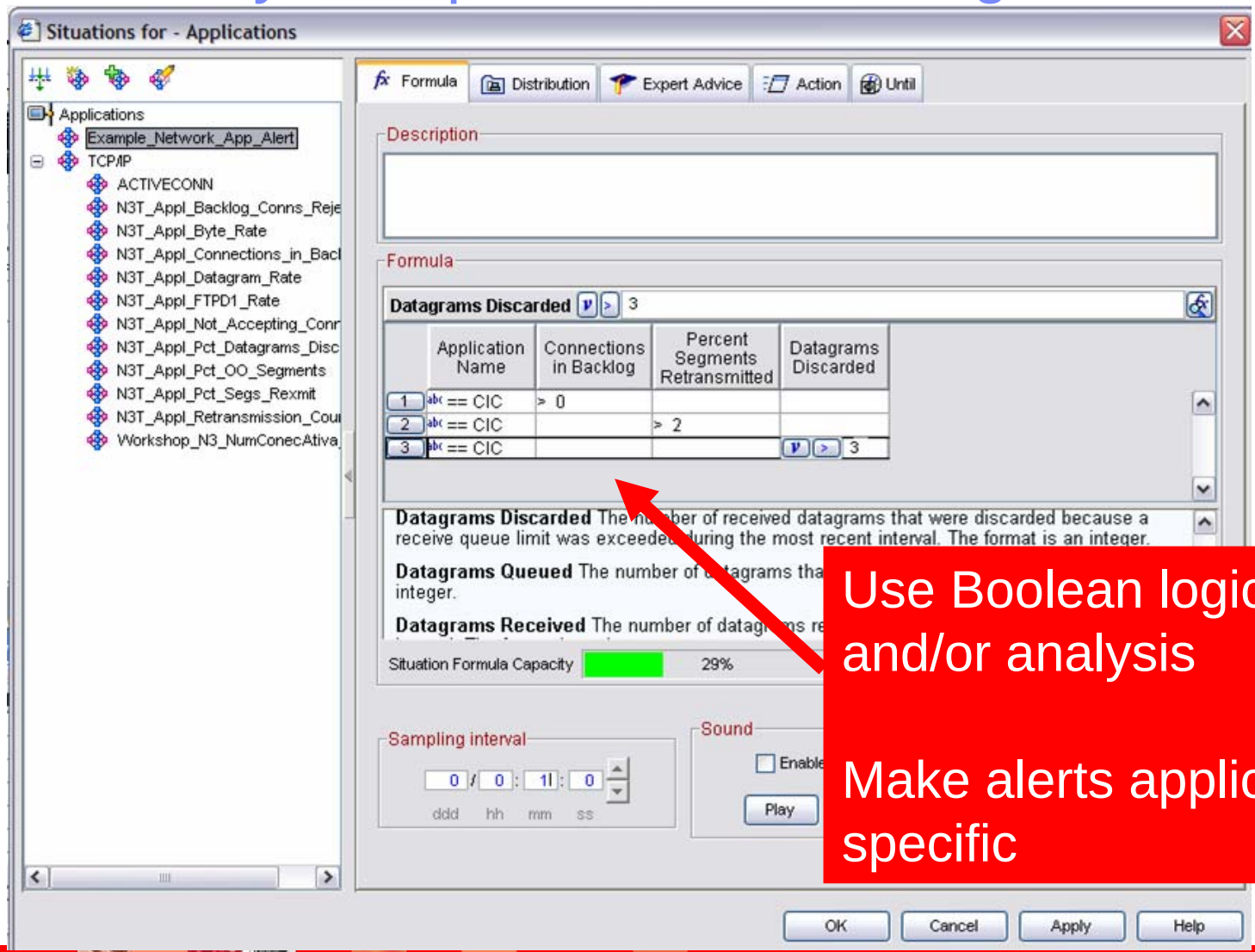
Alert Correlation And Integration



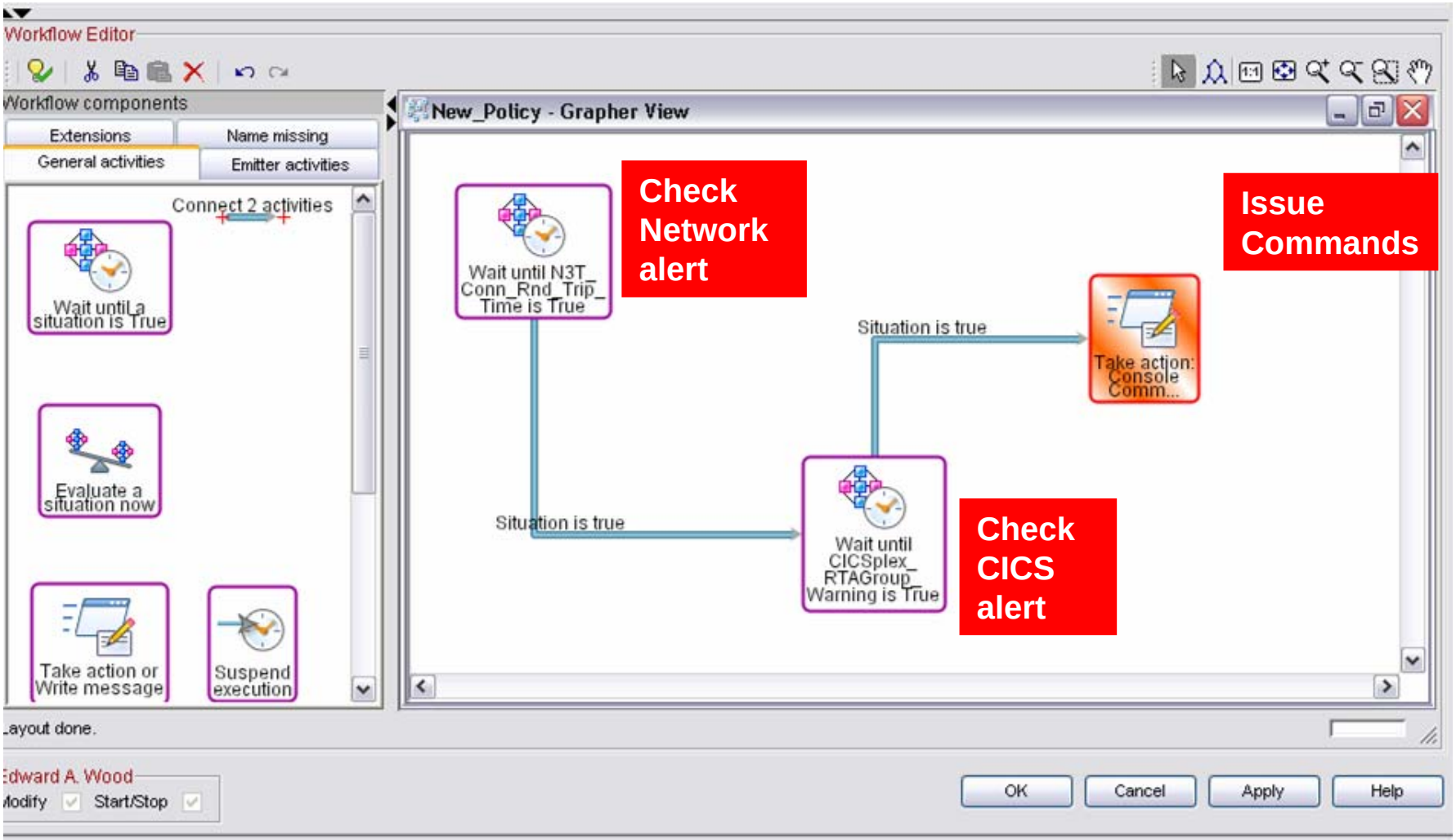
Situations May Be Relatively Simple



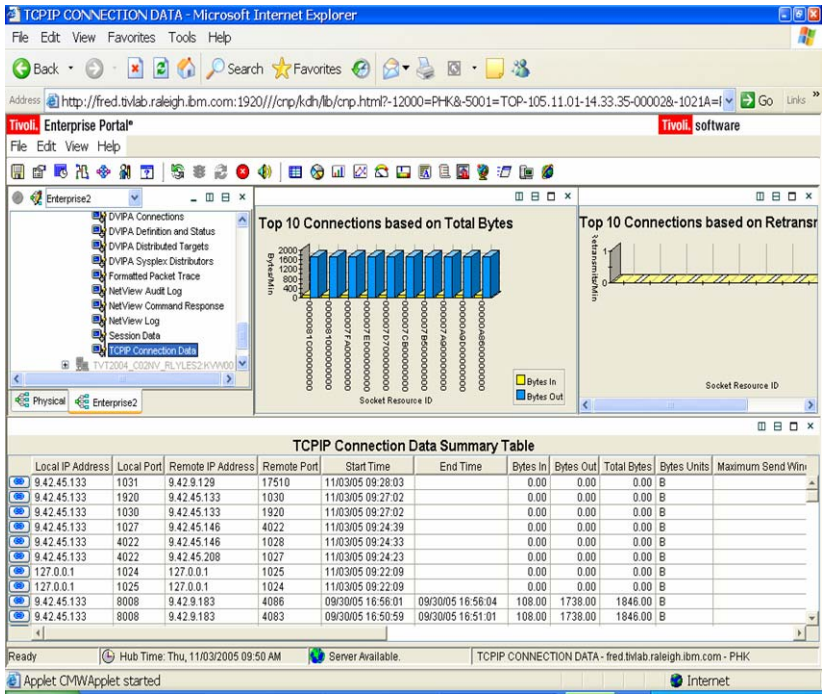
Situations May Incorporate Boolean Logic



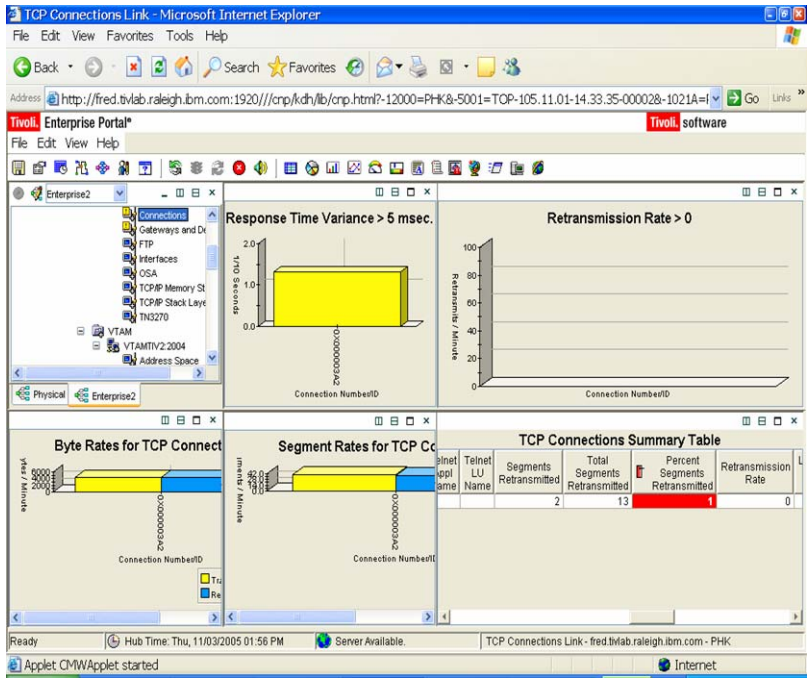
Use Policies To Correlate Issues



OMEGAMON And NetView Integration



NetView for z/OS Workspace



OMEGAMON XE for Mainframe Networks Workspace

- Cross link from the NetView TCP/IP connection availability data to the OMEGAMON XE for Mainframe Networks TCP/IP connection performance data
- Requires V5.2 of NetView

Summary

- Tivoli Enterprise Portal provides a means and mechanism to integrate many aspects of systems, performance, and availability management
  - A consistent tool set, ease of use and deployment
- Most applications are composite in nature and require a more integrated management approach
  - Multiple platforms and component technologies
- Alerts and automation speed problem identification and isolation
- Integrated automation allows for correction of issues at machine speed

Thank You!