



IBM Software Group

B61 Monitoring IMS

IMS Technical Conference

Tivoli software

ON DEMAND BUSINESS™

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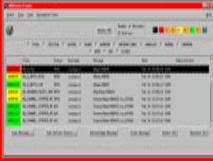
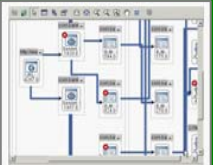




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Candle Product Headlines

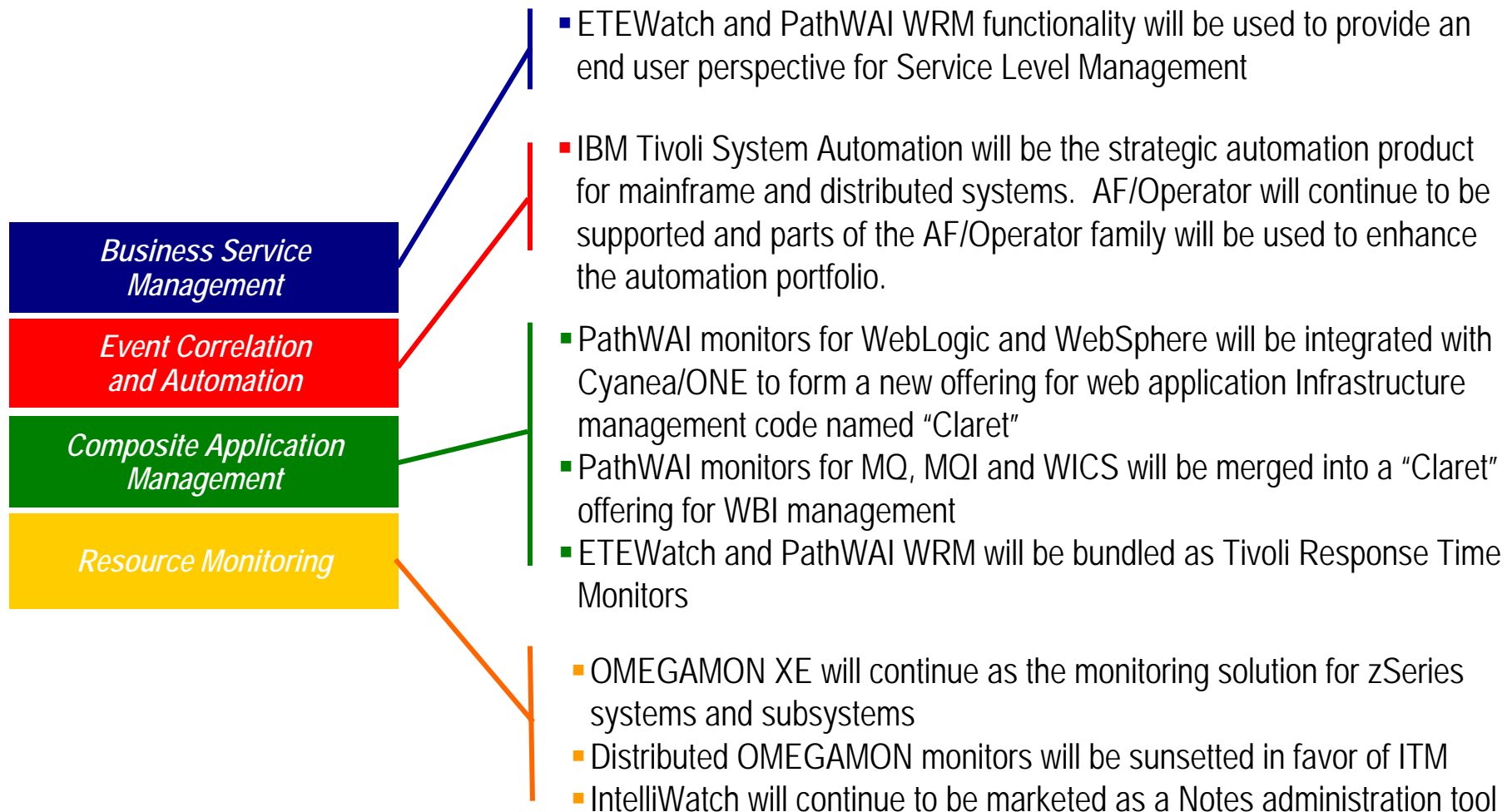
- **OMEGAMON products will be carried forward for zSeries and WebSphere MQ monitoring**
- **Tivoli Monitoring will be carried forward for distributed monitoring**
- **OMEGAMON XE and Cyanea/ONE will merge to create Composite Application Management to provide end-to-end IBM WebSphere and BEA WebLogic performance management**
- **TMTTP remains a separate product that isolates performance problems**
- **Multiple products in the same space will take a convergence path where applicable**
- **User Interface**
 - Leverage Candle technology (Candle NetPortal) across Tivoli to rapidly provide consistent Graphical User Interface via Tivoli Management Portal
 - Classic 3270 Interface will be maintained for zSeries
- **Event Integration will be via TEC and TBSM**
- **Data integration for real time display and recent (~24 hrs) historical reporting**
 - Converge to Tivoli Data Warehouse technology for historical reporting
 - OMEGAMON data integration with Tivoli Decision Support for OS/390 product

Major Product Groups Names In The Availability And Business Service Management Product Map

<p><i>Business Service Management</i></p>	<p>IBM Tivoli Business Systems Manager</p> 	<p>IBM Tivoli Service Level Advisor</p> 	
<p><i>Event Correlation and Automation</i></p>	<p>IBM Tivoli System Automation</p> 	<p>IBM Tivoli NetView family</p> 	<p>IBM Tivoli Enterprise Console</p> 
<p><i>Composite Application Management</i></p>	<p>IBM Tivoli Monitor for Transaction Performance</p> 	<p>"Claret" for Composite Application Monitoring</p> 	<p>IBM Tivoli Response Time Monitors</p> 
<p><i>Resource Monitoring</i></p>	<p><u>Distributed Systems</u></p> <p>IBM Tivoli Monitoring</p> 		<p><u>Host Systems</u></p> <p>IBM Tivoli OMEGAMON Monitoring</p> 

Significant Enhancement/Change Due To Acquired Candle Products

Candle Product Integration Highlights





IBM Software Group

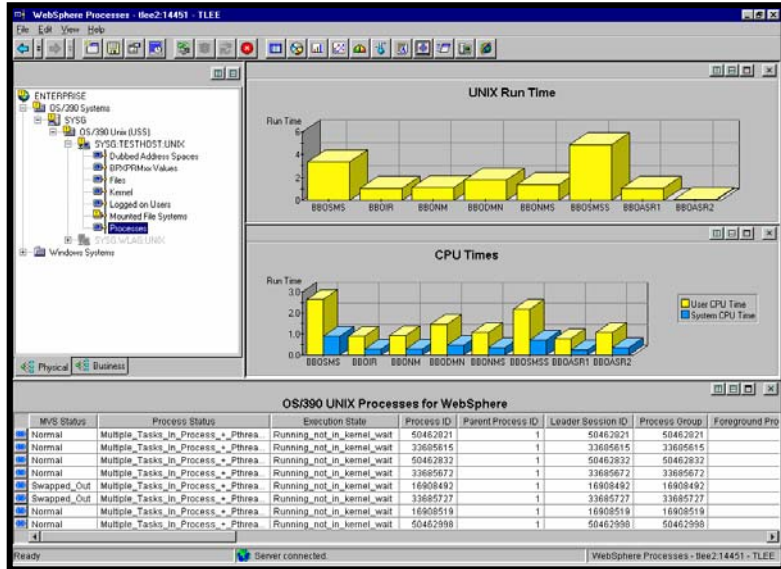
zSeries Monitoring: Fulfilling the Promise of Integrated zSeries Management

Tivoli software

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Fulfill Potential of Integrated zSeries Performance Monitoring



Business Service Management

- Tivoli Decision Support/390
- Tivoli Business System Manager
- Tivoli Performance Modeler
- Tivoli Service Level Advisor , InfoMan

Correlation and Automation

- Tivoli NetView for z/OS
- Tivoli Workload Scheduler
- Tivoli System Automation for z/OS, Tivoli System Automation Multiplatform

Automation And Event Adapters

Operating Systems	Middleware and Services					
<p>OMEGAMON XE for z/OS</p> <p>VM*</p> <p>USS</p> <p>Linux for zSeries</p>	<p>OMEGAMON XE for DB2, CICS, IMS</p> <p>CICS PM</p> <p>DB2 PE</p> <p>IMS PM</p>	<p>OMEGAMON XE For Mainframe Networks, ITMNP</p>	<p>OMEGAMON XE For Storage IT Storage Optimizer</p>	<p>OMEGAMON XE for WAS Cyanea/ONE (WebSphere Studio Application Manager)</p>	<p>OMEGAMON XE for MQ</p>	<p>OMEGAMON XE Domino**</p>

*VM classic product to have an XE version

** Future product

IBM reserves the right to change specifications or other product information at any time in order to meet the needs of the market.

zSeries Performance Management Roadmap Overview

- **OMEGAMON products will be carried forward**
- **Multiple products in the same space will take a convergence path where applicable**
- **Classic 3270 Interface will be maintained**
- **Consistent UI delivered via the Tivoli Management Portal**
 - Converge to portlet technology in the future
- **Data integration for real time display and recent (~24 hrs) historical reporting**
 - Converge to Tivoli Data Warehouse for historical reporting in the future
 - Exploring synergies with TDS 390



zSeries Monitoring for Operating Systems and Performance Dashboards

Current Product	Transition	Future Product	Value Proposition and <i>Notes</i>
OM XE for OS/390		OM XE for z/OS	Merges XE & Sysplex into single package. Tighter integration with RMF. Provides z/OS R1.6 support.
OM XE for Sysplex			
OM XE for USS		OM XE for USS	Understand and manage performance of USS, an enabler of many systems.
OM XE for zLinux		OM XE for VM and zLinux (products packaged together)	OM XE interface for VM. Red Hat Enterprise Server 3 support Linux under z/VM. Linux cluster support.
OM for VM			
OM XE for Crypto		OM XE for Crypto	Configuration and performance insight for Cryptographic Coprocessors.
OM DE for OS/390		OM DE for z/OS	Integrated performance dashboard for all zSeries systems and subsystems.

Monitoring For Storage And M/F Networks

Current Product	Transition	Future Product	Value Proposition and Notes
OM XE for Storage		OM XE for Storage	Provides discovery, monitoring and management of z/OS attached storage devices and files across the enterprise. Tracks capacity and usage changes over time enabling capacity management.
Tivoli Storage Optimizer			
OM XE for M/F Networks		OM XE for M/F Networks	Comprehensive M/F TCP/IP and SNA network monitoring helps users understand and manage network performance throughout the entire datacenter.
ITM for Network Performance			

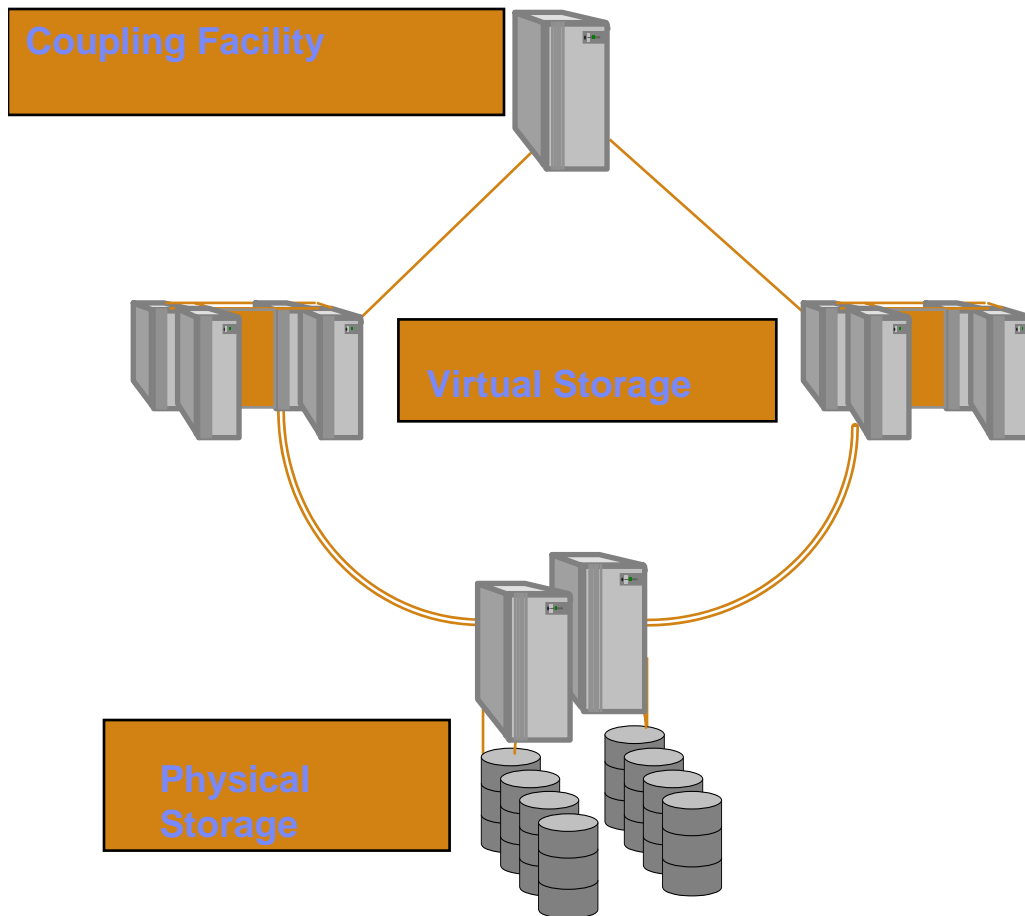
zSeries Monitoring For Middleware And Databases

Current Product	Transition	Future Product	Value Proposition and Notes
OM XE for DB2		OM XE for DB2	Best-of-breed DB2 monitor from combination of OM XE and DB2 PE. Extended DB2 v8 support. DB2 and DB2plex monitors in a single package.
OM XE for DB2plex			
DB2 PE, DB2 PM, BPA			
OM XE for CICS		OM XE for CICS	Exploitation of CICS Transaction Server V2.3 and the upcoming V3 CICS Dispatcher. CICS and CICSplex monitors in a single package.
OM XE for CICSplex			
CICS PM			
OM XE for IMS		OM XE for IMS	Integration with IMS Tools. IMS and IMSplex monitors in a single package. Provides shared Queues support. IMS V9 exploitation.
OM XE for IMSplex			
IMS PM			
CICS Performance Analyzer		CICS Performance Analyzer	Insight for performance tuning and planning and managing capacity.
IMS Performance Analyzer		IMS Performance Analyzer	Comprehensive performance analysis and tuning help for IMS TM and DB.

What Is The Value Of Perspective?



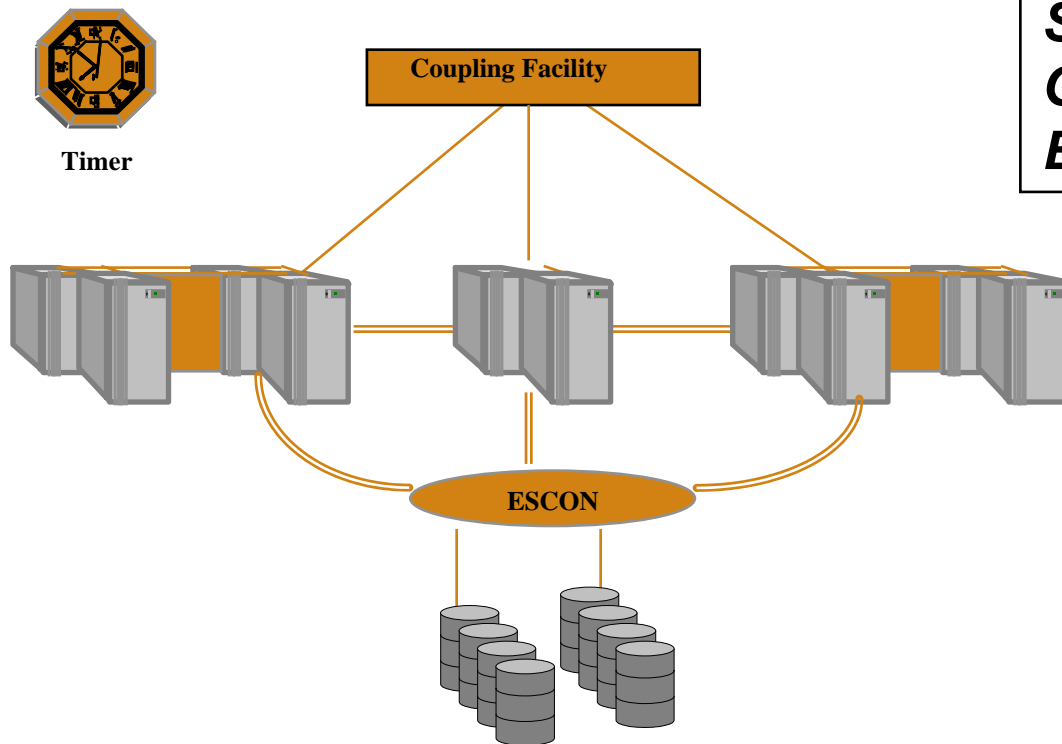
In a Sysplex, Data Transitions Between...



- Coupling Facility
 - CF cache structures for IMS buffers
 - CF list/lock structures for IMS locks
- Virtual storage
 - IMS Buffer Pools
- Physical Storage
 - Cache structures for IMSplex buffers use a store-through methodology, whereby buffers are:
 - read from cache or DASD if not in the local buffer pool
 - written to cache and DASD when the local copy changes

Expanding The View

OMEGAMON XE And OMEGAMON DE



***Sysplex Management
Omegamon Integration
Build a 'Global' view***

- Omegamon XE™ for OS/390**
- Omegamon XE™ for CICS**
- Omegamon XE™ for DB2**
- Omegamon XE™ for USS**
- Omegamon XE™ for Linux/390**
- Omegamon XE™ for SYSplex**
- Omegamon XE™ for CICSplex**
- Omegamon XE™ for IMSplex**
- Omegamon XE™ for DB2plex**

Building A Global View OMEGAMON XE For IMSplex

The screenshot displays the SysAdmin interface for OMEGAMON XE For IMSplex. The main window is titled "I61D:SP22:IMS - 10.6.4.174:4212 - SYSADMIN". The interface is divided into several sections:

- Left Panel:** A tree view showing the system hierarchy, including XCF Systems Data for Sysplex, SP12, CICS, DB2, IMSPLEX, and various IMS instances (I51G, I61G, IRLM, MQSERIES).
- Global Locks:** A bar chart showing locks held over time (0 to 112 seconds). Legend: Locks Held (yellow), Database Updates (blue).
- Shared Queues:** A bar chart showing the number of transactions and message lengths over time (0 to 112 seconds). Legend: Number of Transactions (yellow), Message Length (blue).
- Response Time Analysis:** A horizontal bar chart showing response times for CLASS1, PARTS, and SYSTEM. Legend: Input Queue Time (yellow), Program Input Queue Time (blue), Processing Time (red), Output Queue Time (green).
- Transaction Response Facility:** A horizontal bar chart showing call counts for DLI, DB2, and TRAN calls. Legend: DLI Calls (yellow), DB2 Calls (blue), TRAN Calls (red).
- Tables:** Two data tables are visible at the bottom.

Table 1: Response Time Analysis Data

IMSID	RTA Group Name	RTA Group Number	Input Queue Time (Secs.)	Program Input Queue Time (Secs.)	Processing Time (Secs.)	C Que (€)
I61G	SYSTEM	0	0.0	0.0	0.1	
I61G	PARTS	1	0.0	0.0	0.1	
I61G	CLASS1	3	0.0	0.0	0.1	

Table 2: Transaction Response Facility Data

IMS Class	Transaction Count	DLI Time	DB2 Time	Input Q Time	TRAN Time	R0 Average Time	R0 Time MAX	CPU Time	IMSID	SP
1	11	0.02	0.00	0.00	0.02	0.08	0.30	0.00	I61G	SP

IMS Performance

- **Tuning IMS DC requires an understanding of the workload**
 - Workload distribution and arrival rates
 - Workload execution
 - Workload queuing and contention

- **A bottleneck at any point may result in elongated response times**
 - MSG queues & Scheduling classes
 - MSC links
 - Shared MSG queues
 - Locking and DB contention

- **A global view of workload is valuable**

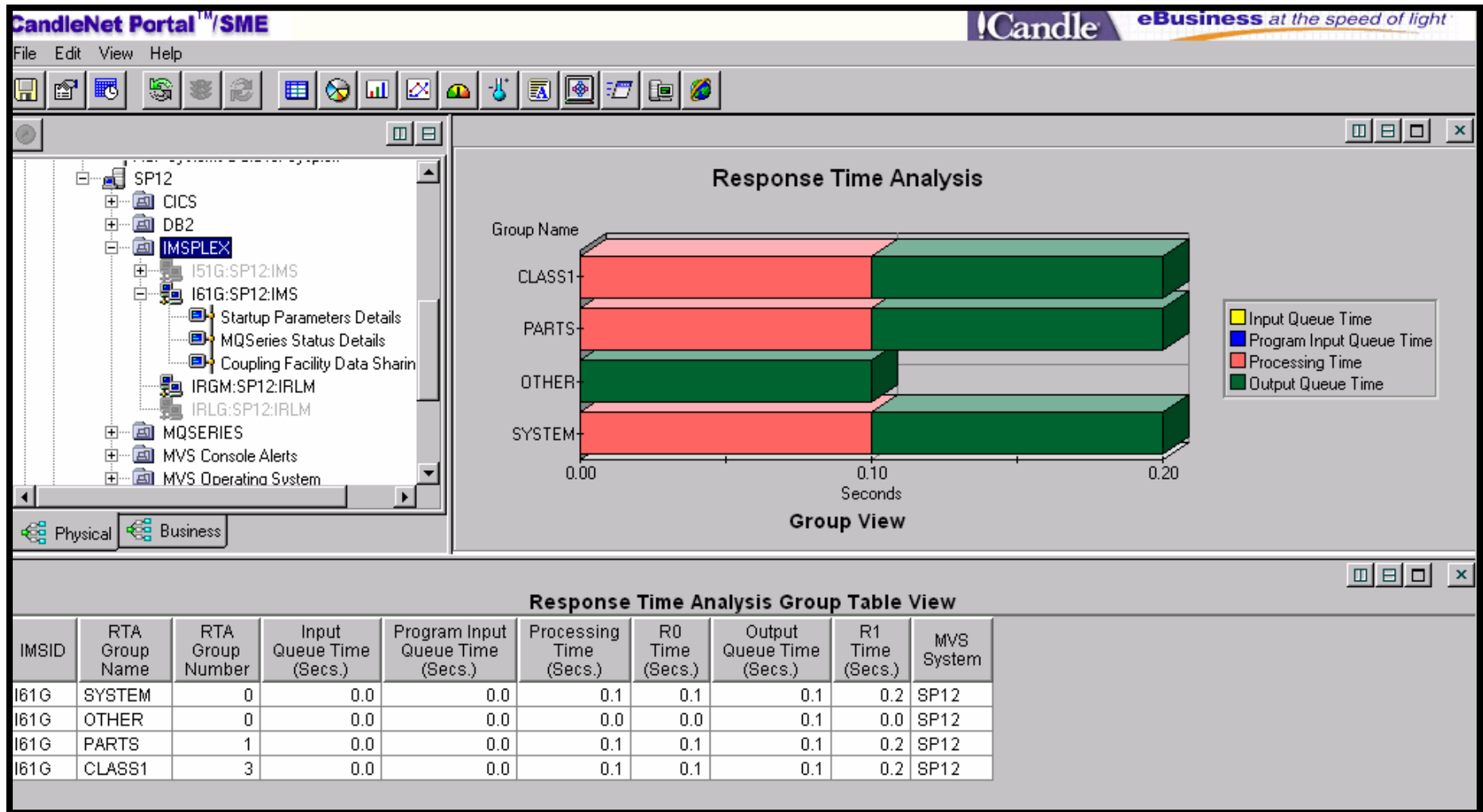
Candle IMS Plex Support

- **Support for N-way data sharing**
 - Global lock analysis - resolve lock conflicts
- **Multiple Systems Coupling (MSC) status**
 - Analyze performance and availability of MSC links
 - No information on MSC in Omegamon II for IMS
- **IMS Coupling Facility Information**
 - Provide coupling facility data relevant to IMS and N-way data sharing
- **Online TRF Transaction View**
- **Display Shared Msg Queues**
- **All the above not in Omegamon II For IMS**

Global Response Time Analysis

- **Provides a global view of transaction response time across the IMSplex**
 - IMS member name, total elapsed time, decomposed response time by each IMS
 - Transaction Name, Input Queue Time
 - Program Input Queue Time, Processing Time
 - R0 Time, Output Queue Time, R1 Time
- **Display existing OMEGAMON II for IMS Response Time Analyzer (RTA) groups**

Global IMS Response Time Analysis



Transaction Reporting Facility-TRF

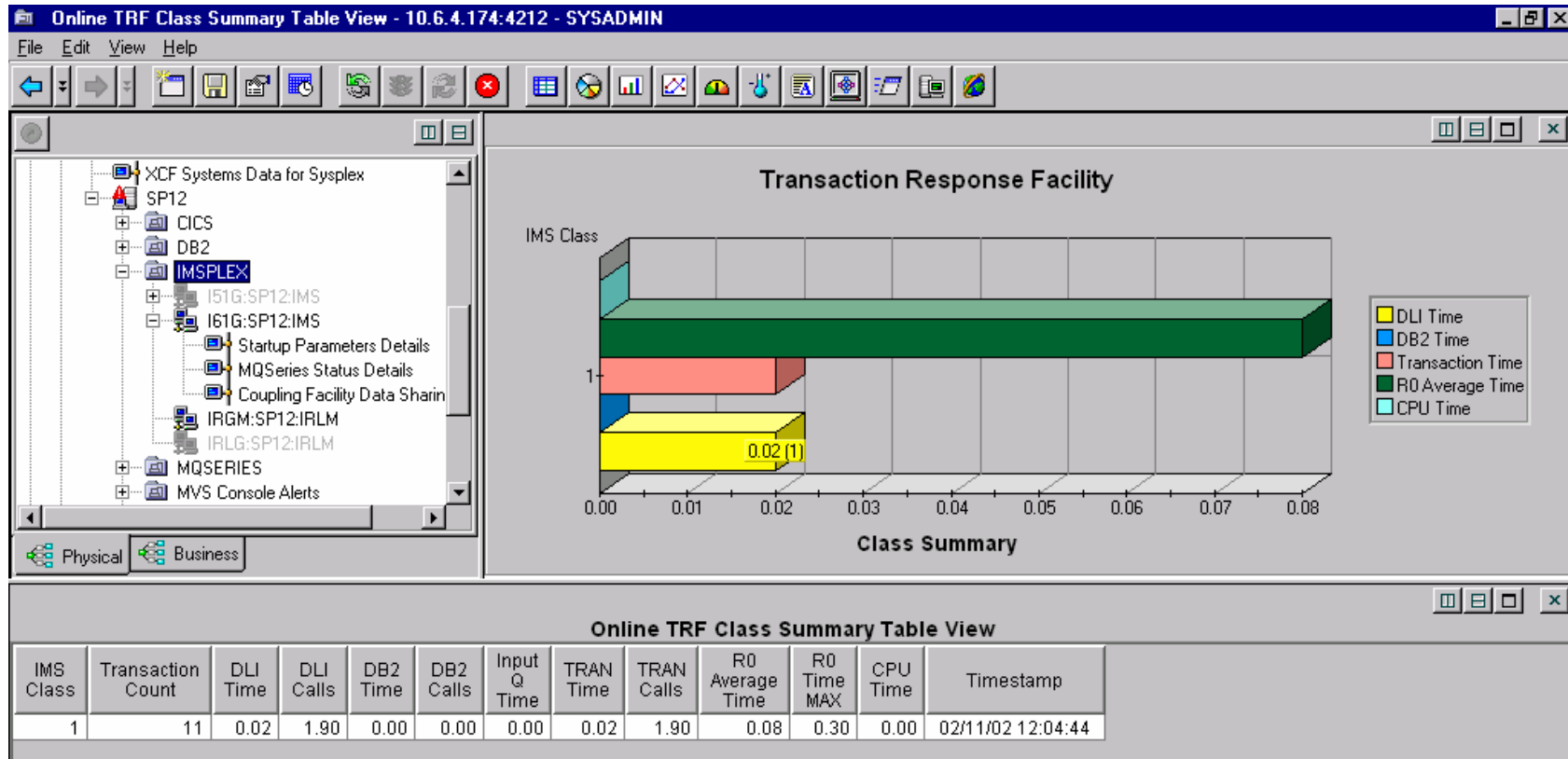
- **In an IMS/DC system TRF gathers**
 - CPU Time
 - Virtual Storage Usage
 - Elapsed time of DL/I, Fast Path, and DB2 database calls
 - Message length
 - Response Time
- **TRF provides granularity of information**
 - Individual transaction level statistics
 - Individual call DB call level data
 - Most granular statistics provided by Omegamon and Candle Command Center

Online TRF

- **Ability to analyze transaction activity by Transaction or Class**
- **Ability to analyze DB delays and DB call activity impacting Transaction performance**
- **Much more granular than Omegamon II for IMS**
 - Omegamon limited to group level detail (only 30 groups)
- **Data more accessible than Batch TRF**
 - Batch requires IMS log extract
- **Excellent way to analyze scheduling class effectiveness**

On-line TRF

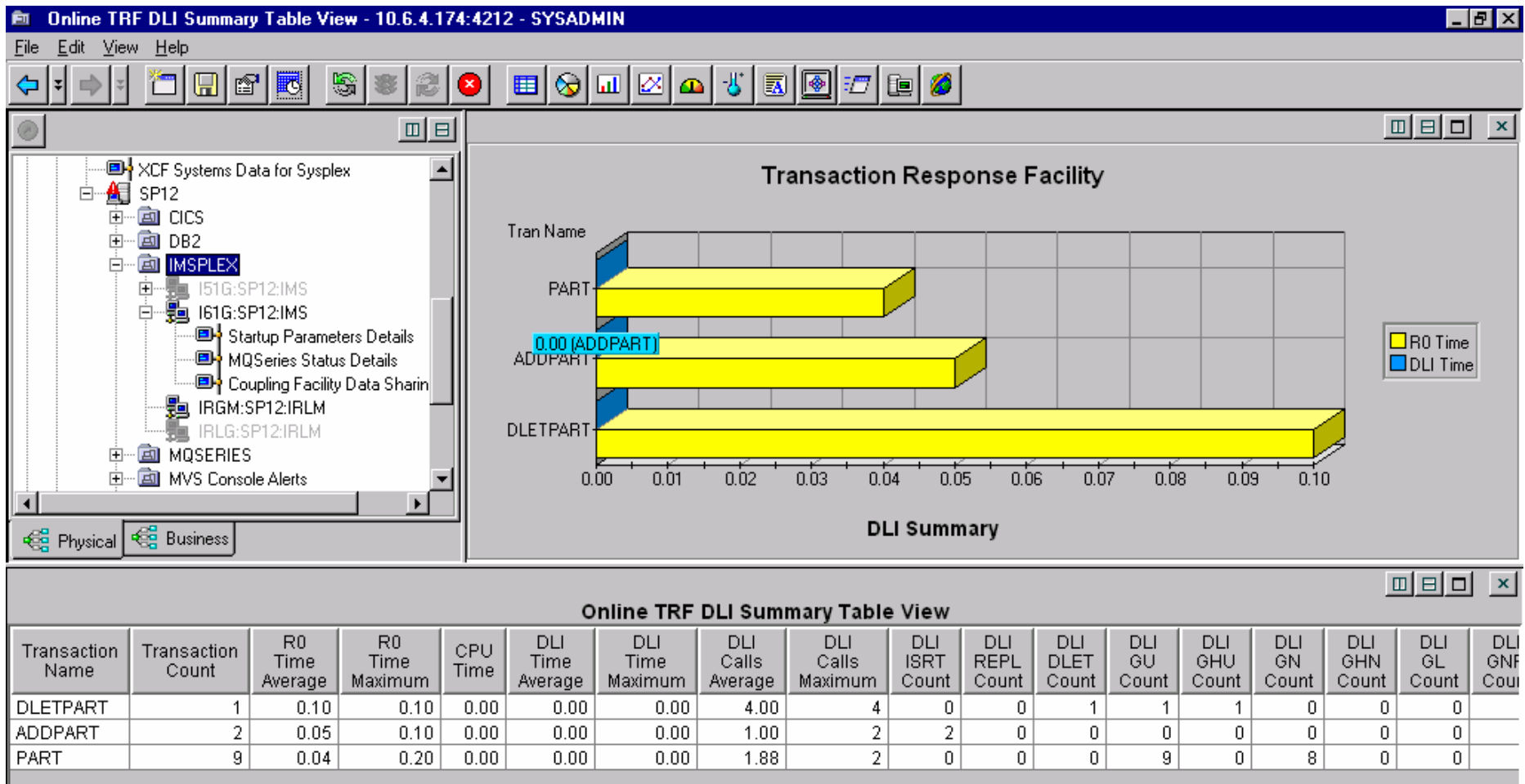
View TRF Performance Data On-line



- **Data can be seen for all IMS's in the PLEX**
- **Class display to show IMS classes represented in the queues with counts of transactions in each class**

Online TRF

Transaction Level Data



- View transaction response time and DLI detail

Multi Systems Coupling

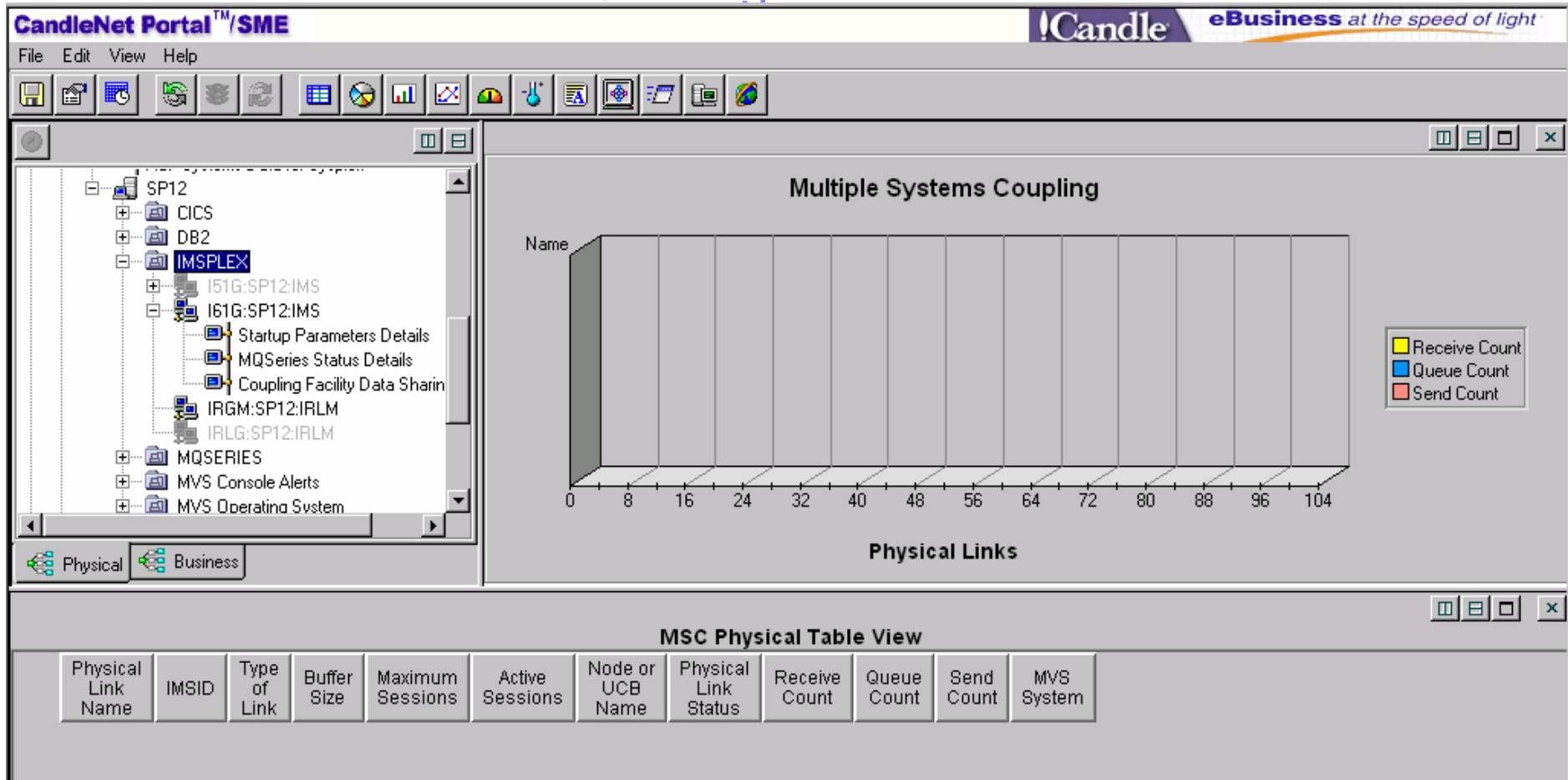
- **MSC enables you to link multiple IMS systems and to distribute processing loads among them**
- **Transactions entered in one IMS may be passed to another for processing**
- **Responses can be returned to terminals that entered the transactions or to other terminals**
- **IMS uses MSC to route and control message traffic between connected systems**

OMEGAMON XE For IMSPLEX

Multiple Systems Coupling Support

- **Shows configuration information and status of physical & logical links**
- **Displays transactions defined as MSC participants and their status**
- **Provides queuing information**
 - By logical destination
 - By physical link

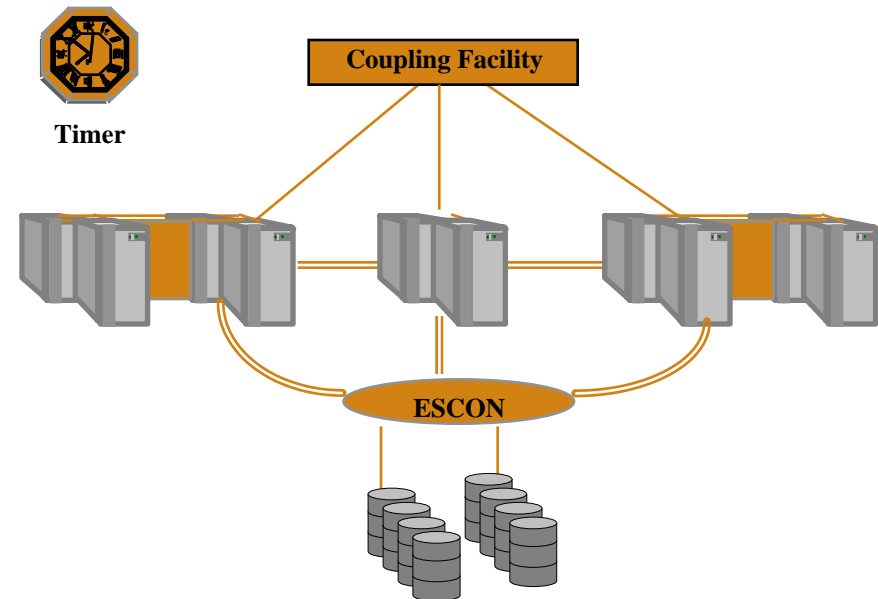
Monitor Multiple Systems Coupling Global View Of Queuing & Status



Adds MSC support not found in OMEGAMON II for IMS

Data Sharing within an IMSplex

- **Data sharing is the ability to share IMS buffers among disparate IMS subsystems while maintaining buffer integrity and coherency**
- **Data sharing is enabled through the coupling facility (shared storage amongst MVS systems within the sysplex)**
 - IMS exploits the coupling facility for:
 - lock data
 - buffer invalidation
 - application data
 - shared queues



Information On The Coupling Facility Considerations

- **If the structures are over allocated storage in the Coupling Facility will be wasted.**
- **If the structures are under allocated CPU resources may be wasted as data is paged in and back out.**
- **Under allocation may also lead to false lock contention, which in turn leads to application response time degradation**

IMSplex Database Locking

- **Database locking guarantees data integrity**
- **In a data sharing environment a lock request must be verified by the IRLMs to ensure data integrity across the connected IMS partners.**
- **A transaction that is holding a lock may cause others to wait, this might cause response time problems for the waiting transactions.**

A Global View Of The Coupling Facility And Structures

The screenshot displays the CandleNet Portal interface with several key components:

- Monitored IMS Systems Table:** A table listing subsystems and their statuses.

Subsystem or Group Name	Subsystem or Group Type	Status
IRGM	IRLM	ON
I61G	IMS	ON
- Global Locks:** A 3D bar chart showing token counts across various subsystems.
- Shared Queues:** A 3D bar chart showing transaction counts for different queue types.
- MQSeries Quick View:** A table for monitoring MQSeries integration.

MSID	Subsystem Name	Subsystem Status
- Response Time Analysis:** A 3D bar chart showing R0 and R1 times for different subsystems.
- Transaction Response Facility:** A 3D bar chart showing CPU time for various transactions.
- Coupling Facility Structures:** A 3D bar chart showing record entries allocated and used across subpools.
- Coupling Facility Data Sharing:** A 3D bar chart showing global buffer counts for different types.

Global Lock Analysis

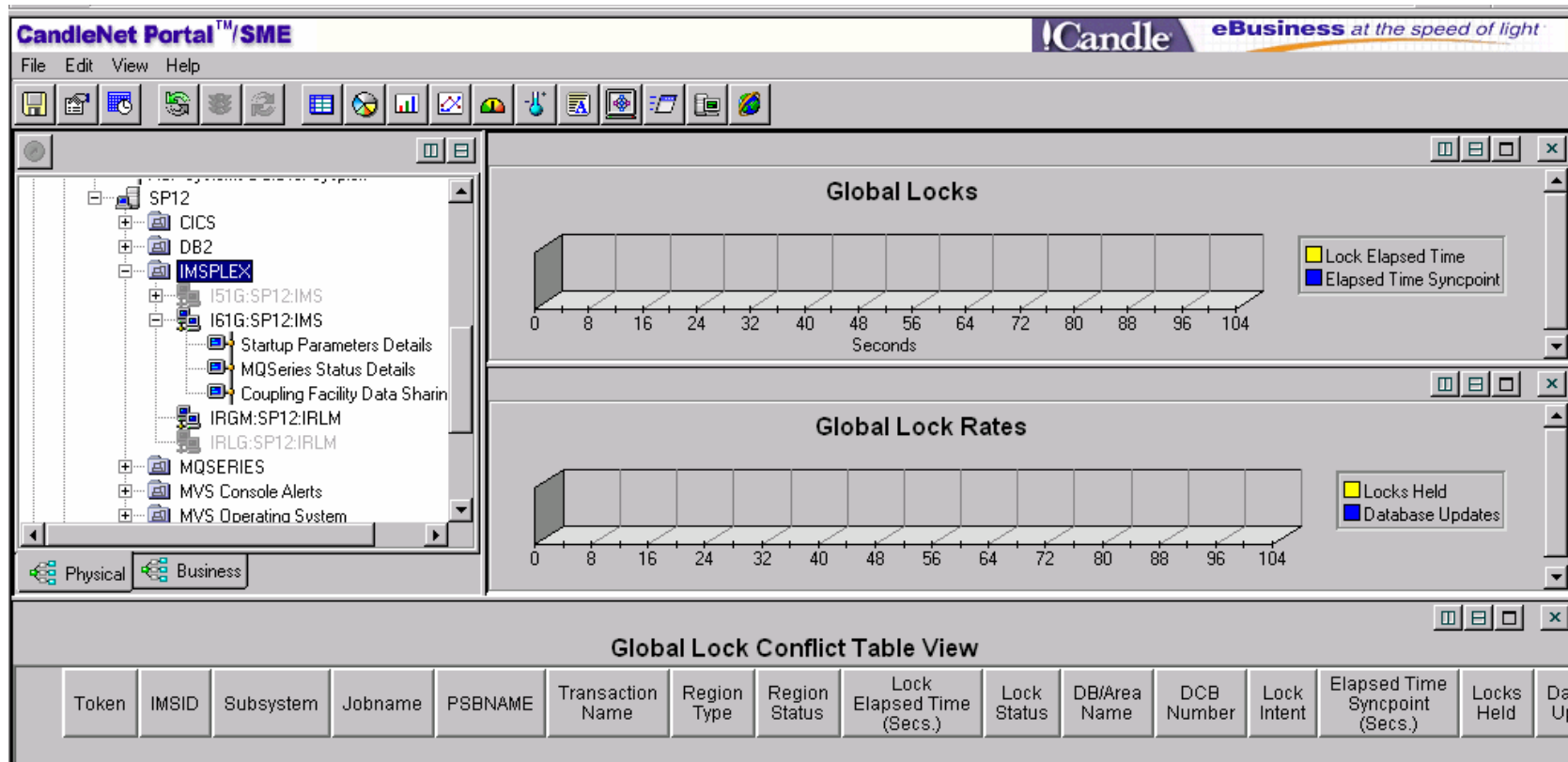
Shared Msg Queues

MQ/series Integration

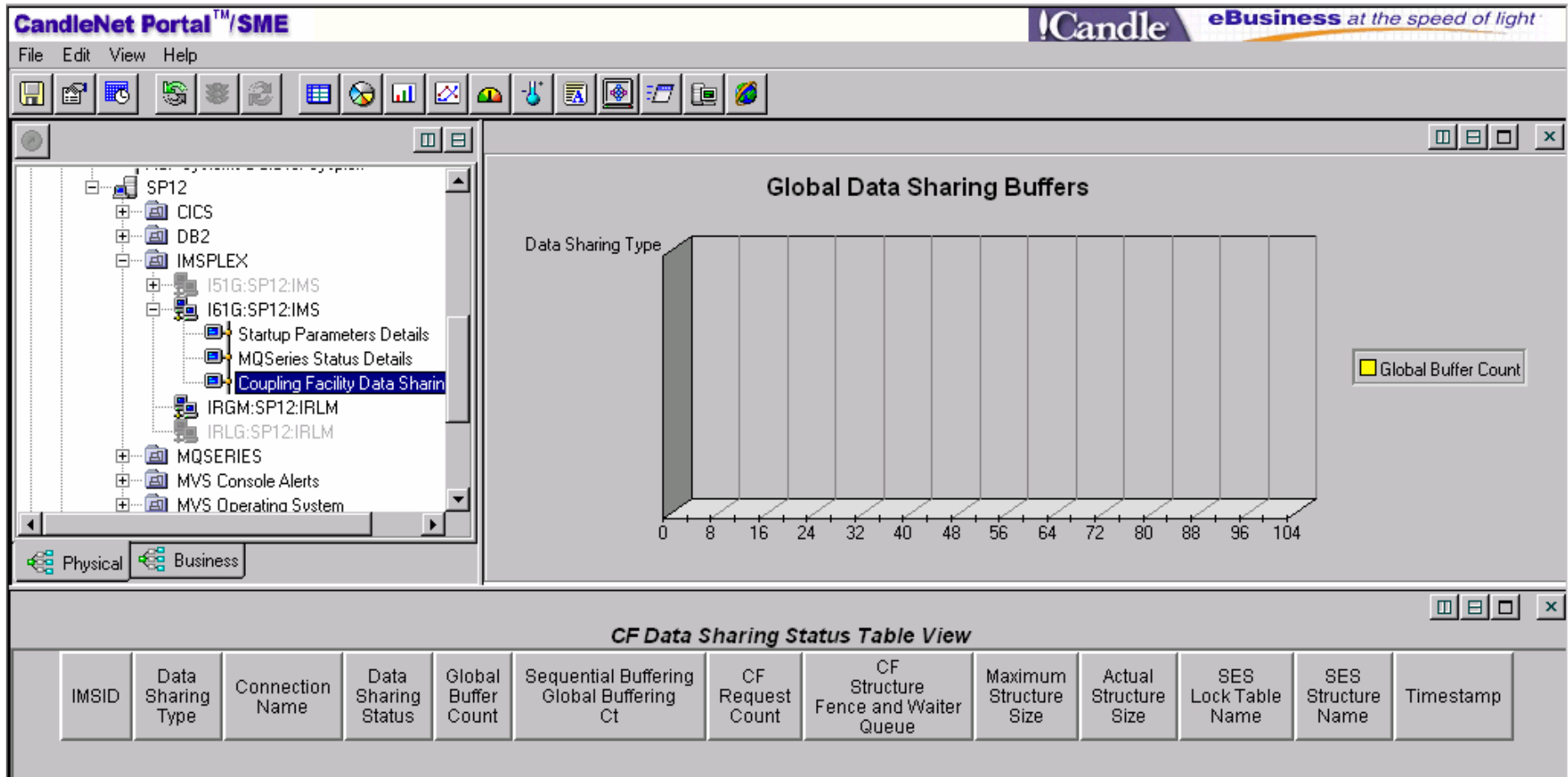
Coupling Facility

IMSpdex Lock Performance Issues

- **Lock and buffer invalidation information**
 - Lock Contention is a potential performance problem
 - See lock conflict holders and waiters



IMS Data Sharing Buffer Statistics







IMS Shared Message Queues

Supported By Candle Command Center

- **A shared queue is a collection of messages that are associated by queue name. Shared Queues are managed by the Common Queue Server, and can be shared by multiple IMS TM partners. The CQS maintains the shared queue as a CF list structure.**
- **IMS Shared Queues offer:**
 - incremental growth
 - automatic workload balancing
 - increased reliability
- **Message Queues and EMH queues may be shared.**
- **Offers a single image view of multiple IMS subsystems.**

Shared Queues Information

- **The component IMS partners in a shared queue environment are viewed as one entity. If response time problems are reported it may be difficult to ascertain which of the individual IMS partners is causing the problem.**
- **Shared Queue support in Candle Command Center for IMSPLEX**

IMSplex CF Shared Queues Detail Report for ALL								
Report Edit View Help								
Include filtering: 4 of 4 selected								
MVS System	IMSID	RACF IDs	Transaction Code	Routing Code	Input Lterm	Input Node	Message DRRN	Message Length
 SP22	I61D	DMANK	IVTCX		DMANK	WE66530	8000023	16
 SP22	I61C	NGRIF	ADDPART		NGRIF	ATERM370	8000192	21
 SP22	I61C	NGRIF	PART		NGRIF	ATERM370	8000199	10
 SP22	I61C	NGRIF	PART		NGRIF	ATERM390	8000198	10

IMS Startup Parameters

CandleNet Portal™/SME **Candle** eBusiness at the speed of light

File Edit View Help

SP12

- [-] CICS
- [-] DB2
- [-] IMSPLEX
 - [-] I51G:SP12:IMS
 - [-] I61G:SP12:IMS
 - [+] Startup Parameters Details
 - [-] MQSeries Status Details
 - [-] Coupling Facility Data Sharin
 - [-] IRGM:SP12:IRLM
 - [-] IRLG:SP12:IRLM
- [-] MQSERIES
- [-] MVS Console Alerts
- [-] MVS Operating System

Physical Business

Startup Parameters Quick View

IMSID	LgMsg Recsize	ShMsg Recsize	SQ High Threshold	SQ Low Threshold
I61G	3360	336	0	0

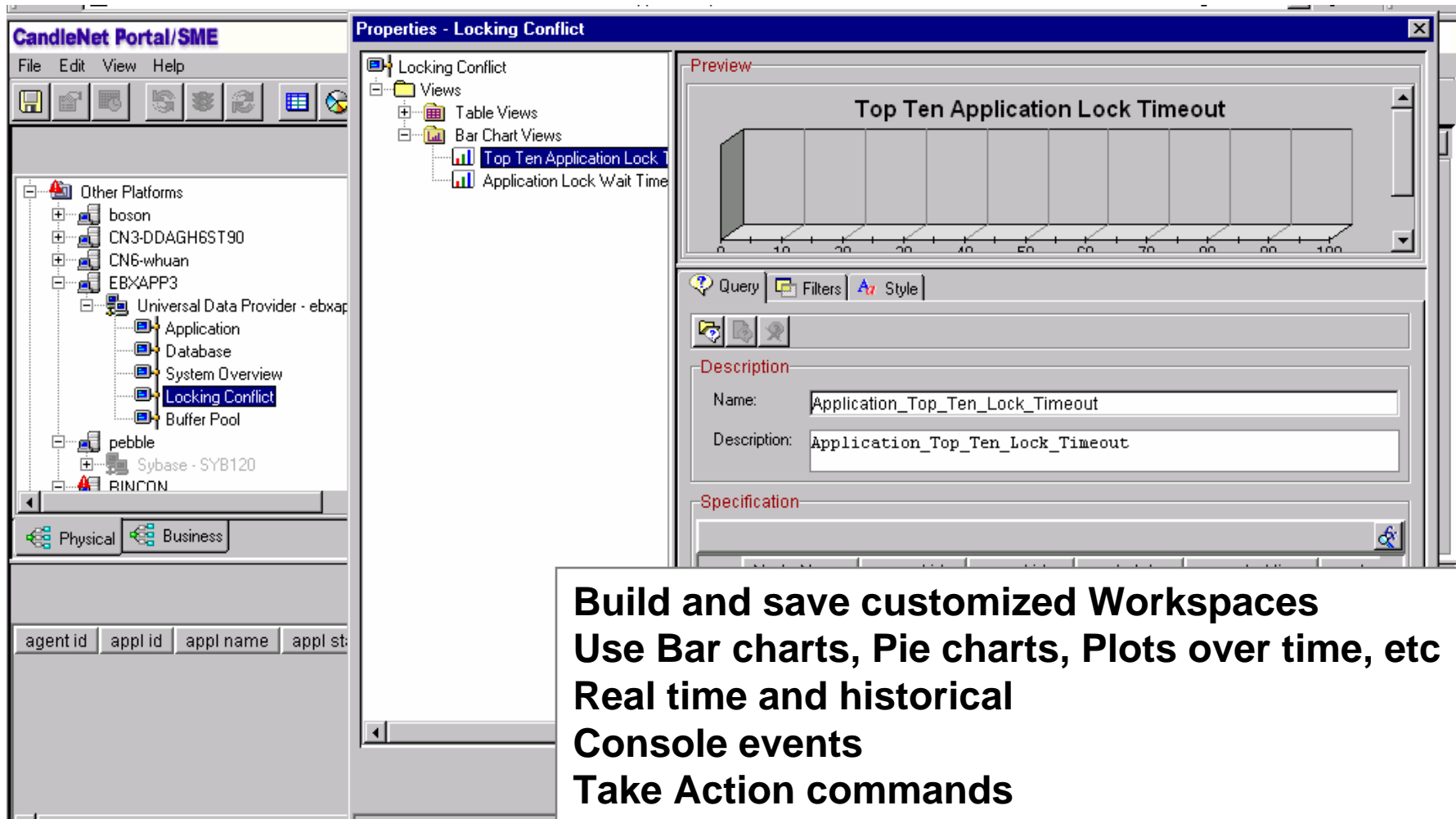
SQ Threshold's

Startup Parameters Detail Table View

MVS System	IMSID	Generic Resource Name	Generic Resource Name Status	LgMsg Recsize	LgMsg Recsize Status	ShMsg Recsize	ShMsg Recsize Status	QBUFF Max	QBUFF Max Status	QBUFF Size	QBUFF Size Status	RACF TCBS	RACF TCBS Status	SQ High Threshold	SQ High Threshold Sta
SP12	I61G		SYSGEN	3360	SYSGEN	336	SYSGEN	0	STARTUP	6720	SYSGEN	1	STARTUP	0	SYSGEN

OMEGAMON XE

Highly Flexible And Customizable



The screenshot shows the OMEGAMON XE interface. On the left is the 'CandleNet Portal/SME' window with a tree view of system components. The main window is titled 'Properties - Locking Conflict' and shows a tree view of views, including 'Top Ten Application Lock Timeout'. A preview window displays a bar chart with the title 'Top Ten Application Lock Timeout'. Below the chart are fields for 'Name' and 'Description', both containing the text 'Application_Top_Ten_Lock_Timeout'.

Build and save customized Workspaces
Use Bar charts, Pie charts, Plots over time, etc
Real time and historical
Console events
Take Action commands
Telnet support (including TN3270)

OMEGAMON XE

Flexible And Customizable

EW - IMS/DB2 Overview - 10.6.4.174:4212 - SYSADMIN

File Edit View Help

ENTERPRISE

- OS/390 Systems
 - LPAR400J:MVS:SYSPLEX
 - Coupling Facility Policy Data for Sysplex
 - Coupling Facility Structures Data for Sysplex
 - Coupling Facility Systems Data for Sysplex
 - Global Enqueue Data for Sysplex
 - GRS Ring Systems Data for Sysplex
 - Report Classes Data for Sysplex
 - Resource Groups Data for Sysplex
 - Service Classes Data for Sysplex
 - Service Definition Data for Sysplex
 - Shared DASD Groups Data For Sysplex

DB2 Threads

DB2ID	Plan Name	Correlation Identifier	Thread Status	Thr
D71G	TRANSPLX	POOLDB210001	Not_In_DB2	Alli
D71G	KO2520HP	CMGDS03	Not_In_DB2	Alli
D61G	KO2510HP	CCCDEM15	Not_In_DB2	Alli
D51G	DSNTEP51	FRANJ2	In_DB2	Alli
D51G	KO2510HP	CCCDEM15	Not_In_DB2	Alli

DB2

Help PF1 Back PF3 Up PF7 Down PF8

T.A

THREAD ACTIVITY: Enter a selection le

*-ALL B-TSO C-CICS D-IMS E-BACKGR

H-UTIL I-INACT J-FILTER K-FUNCTIONS L-STO

ALL THREADS CONNECTED TO

THDA

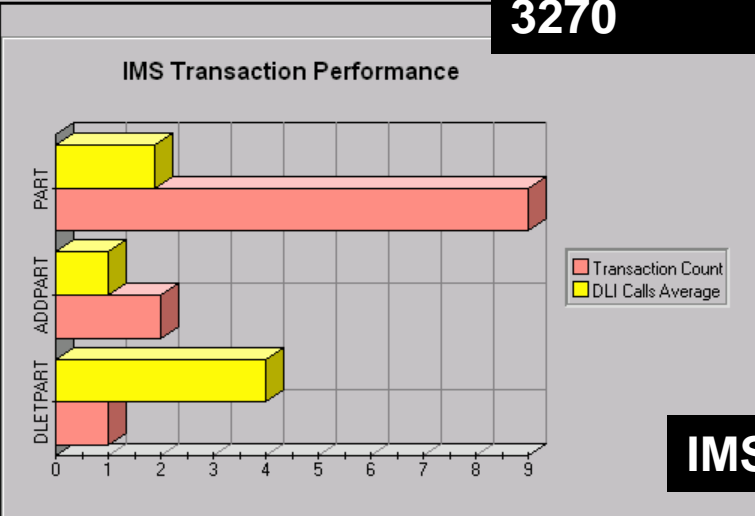
Elapsed	Planname	CPU	Status	Get
02:13:15.2	KO2520HP	00.0%	NOT-IN-DB2	
00:35:04.3	TRANSPLX			

Combine Information On A Single Screen

OMEGAMON 3270

IMS Transaction Performance

Transaction Name	Transaction Count	R0 Time Average	R0 Time Maximum	CPU Time	DLI Time Average	DLI Time Maximum	I C Ave
DLETPART	1	0.10	0.10	0.00	0.00	0.00	
ADDPART	2	0.05	0.10	0.00	0.00	0.00	
PART	0	0.04	0.20	0.00	0.00	0.00	



Take Action

Action

Name:

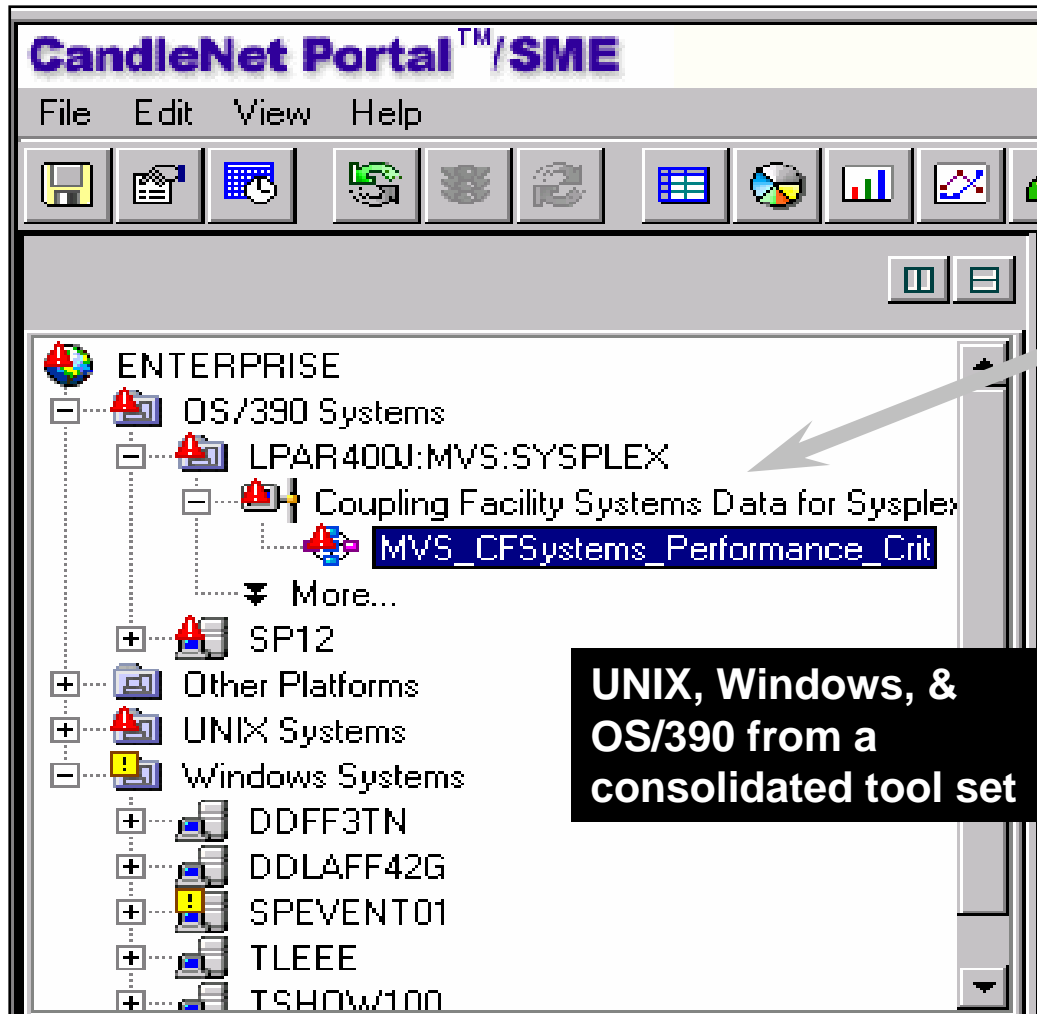
Command:

Take Actions

Run

IMS

Superior Navigation And Problem Isolation



Click to select different platforms and workspaces to display

UNIX, Windows, & OS/390 from a consolidated tool set

Alerts And Analysis

Enterprise Event Con

Status	Situation Name	Display Item	Origin Node	Global Timestamp
Raised	CICSplex_Service_Report		KTRANS	08/22/01 07:30:39
Raised	Neil_McLeod_S1		A1:pebble.candle.com:KGIA	08/21/01 22:38:07
Raised	CICSplex_CPU_Usage		CP12.CC6000	08/21/01 14:10:38
				08/21/01 08:57:25
				08/20/01 14:51:07
				08/20/01 14:26:39
			01:NT	08/20/01 12:40:45
			SPLEX	08/20/01 10:30:38
				08/20/01 10:25:37
				08/20/01 10:25:37

Monitoring Agent Status

Status	Name	PI
OFFLINE	#10.6.202.2.:RCACFG	MC
OFFLINE	db2inst_goodguy02.DB2UDB00	DE
OFFLINE	pebble.candle.com:KGIA	QI
OFFLINE	Big3Server:TLEEE:KWEB	YVE
OFFLINE	Broker01.on.Pebble.:KQIB	QI
OFFLINE	CONFIG_MGR_QM:MQ	MC

MVS_CFSystems_Performance_Crit - Microsoft Internet Explorer

Initial Situation Values

CPU Percent	I/Os Per Second	Status	CF Name	Connected MVS System Count	Structure Count In Policy	Structure Count Out Policy	Allocated Storage	Percent Utilized Storage
41.9	80.6	Okay	CF02	8	28	0	64384	62.3
19.3	7.6	Okay	CF03	8	16	0	57536	68.9

Current Situation Values

CPU Percent	I/Os Per Second	Status	CF Name	Connected MVS System Count	Structure Count In Policy	Structure Count Out Policy	Allocated Storage	Percent Utilized Storage
33.2	44.1	Okay	CF02	8	26	0	64384	58.3
17.4	7.5	Okay	CF03	8	15	0	57536	67.4

Take Action

Action Name: <Select Action>
 Command:
 Arguments:

'Flyover' highlights the problem

Reduce Time To Problem Resolution

'Situations' Speed Problem Resolution

Situation(s) for - D71GRP:SP12.D71G:DSGROUP

Description: Structure used percentage has exceeded the critical threshold.

Condition:

Structure Used Percent
1
2
3

Click inside a cell of the tabular editor above to see a description of the attribute for that column.

When you add a second attribute or more to the condition expression in the same row as the other to create an AND condition, or a separate row to create an OR condition.

In the representation of the tabular editor below, the OR condition has been placed in the first cell of row 2 if the user was editing the condition.

Sampling interval: 0 / 0 : 10 : 30 (dd hh mm ss)

State: Critical

Situations isolate problems

Situations may also drive corrective actions

Automated Actions

The screenshot shows the 'Enterprise Monitoring Status' application window. The main window title is 'Enterprise Monitoring Status - 10.6.4.174:4212 - SYSADMIN'. The interface includes a menu bar (File, Edit, View, Help), a toolbar, and a tree view on the left showing a hierarchy of system components under 'ENTERPRISE'. The central pane displays a list of monitored items, with 'DB2_CF_Structure_Use_Critical' selected. A dialog box titled 'Situation(s) for - D71GRP.SP12.D71G.DSGROUP' is open, showing configuration options for an automated action. The 'System Command' field contains 'EXAMPLE CONSOLE CMD'. Below this, there are radio buttons for 'Only take action on first item' (selected) and 'Take action on each item'. Further down, there are radio buttons for 'Execute the Action at the Managed System (by Agent)' (selected) and 'Execute the Action at the Managed System (by Server)'. At the bottom of the dialog are 'OK', 'Apply', 'Cancel', and 'Help' buttons. A black callout box with white text and a black arrow points to the 'System Command' field.

Correct problems at machine speed

OMEGAMON An Evolution Of Technology

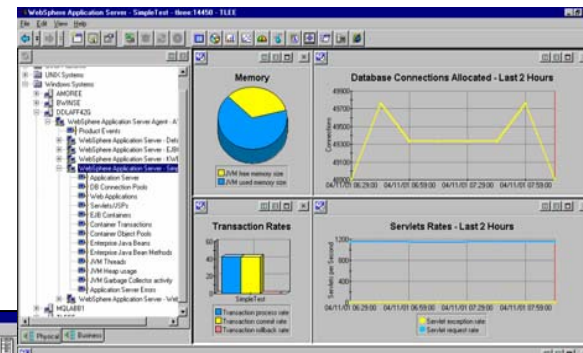
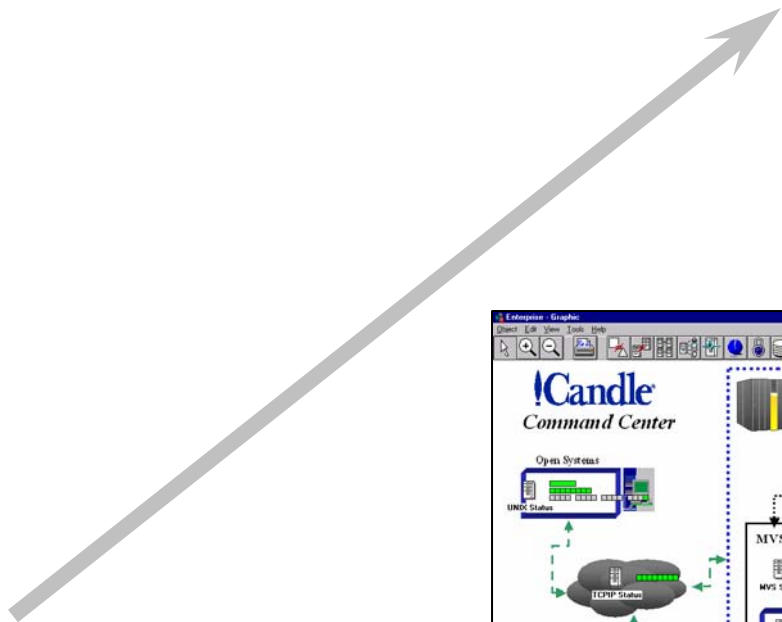
- **OMEGAMON XE**

- Extended Edition
- Browser based monitoring and systems management

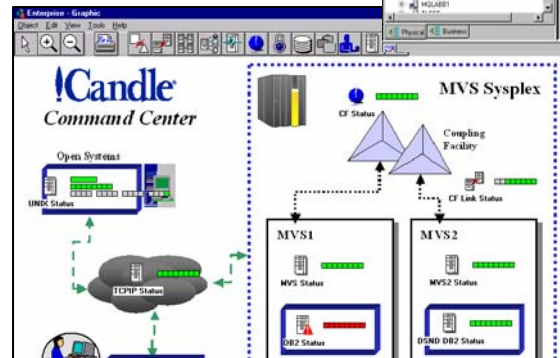
- **OMEGAMON DE**

- Dashboard Edition
- Integrated monitoring of platforms and business applications

OMEGAMON An Evolution Of Technology



OMEGAMON XE
 Browser-based
 Highly Flexible
 Easy To Use



CandleNet Command Center
 (Tivoli Management Portal)
 GUI Fat Client
 Multi-platform Integration
 Visual Programming Alerts

System Status			
Batch	CPU	Key Task	Enqueue
STC/APPC	DASD	MTO Buffer	RMF
TSO: RTA	Tape	MTOR:	QTF
TSO Host	Paging	OLTEP	SHF
Perl TSO	Storage	DDR Swap	Syslog
Workload	CSA	Max. Tasks	GRS
	Channels	HSM	Key DASD

OMEGAMON II - 3270
 Omegaview Integration
 Automation Integration

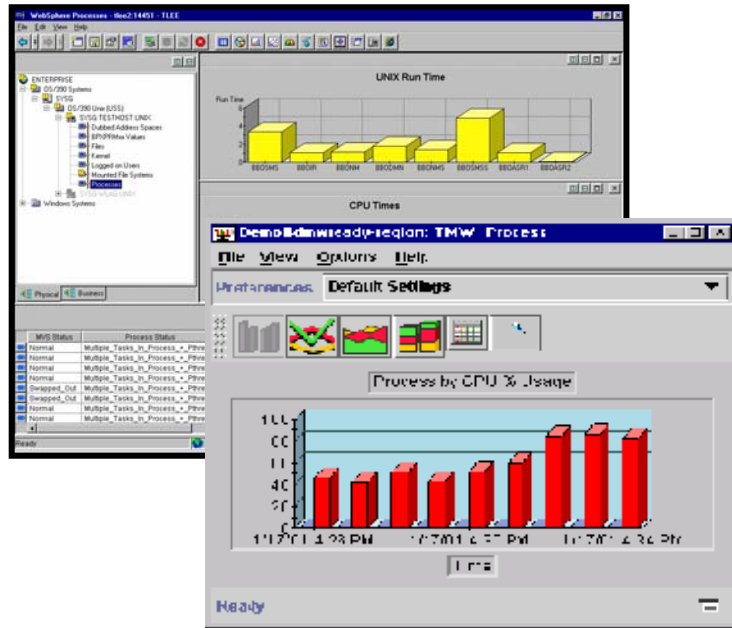


Distributed Applications And Systems: Consolidating Offerings On The Strongest Solution For The Managed Environment

Tivoli software

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Fulfill Potential of Integrated Distributed Performance Monitoring



Business Service Management

- Tivoli Business System Manager
- Tivoli Service Level Advisor
- Tivoli Data Warehouse

Correlation and Automation

- Tivoli Event Console
- Tivoli NetView
- Tivoli Workload Scheduler
- Tivoli System Automation Multiplatform
- AF/REMOTE and AF/Advanced Notification

Automation And Event Adapters

Operating Systems	Middleware and Services			
<p><u>Tivoli Monitoring</u></p> <p>Windows UNIX Linux OS/400</p>	<p><u>Applications</u></p> <p>mySAP Siebel eBusiness</p>	<p><u>Databases</u></p> <p>DB2 & Informix Oracle MS SQL Server Sybase*</p>	<p><u>Composite App Mgt</u></p> <p>WebSphere, OMEGAMON XE for WAS and BEA WebLogic Cyanea/ONE WebSphere BI, OMEGAMON XE for MQ, MQI, WIB and BEA WebLogic</p>	<p><u>Messaging & Collaboration</u></p> <p>Domino Analyzer for Domino IntelliWatch</p>
			<p>IIS, Apache</p>	

* Future product

IBM reserves the right to change specifications or other product information at any time in order to meet the needs of the market.

Distributed Monitoring For Systems, Databases, And Applications

Current Product	Transition	Future Product	Value Proposition and <i>Notes</i>
OM XE for Windows Servers	End of marketing, migrate to	IT Monitoring	IBM Tivoli Monitoring provides monitoring for essential system resources to detect bottlenecks and potential problems, and to automatically recover from critical situations. Provides automated out-of-the-box best practices. ITM
OM XE for UNIX	End of marketing, migrate to	IT Monitoring	
OM XE for Linux on Intel	End of marketing, migrate to	IT Monitoring	
OM XE for OS/400	End of marketing, migrate to	IT Monitoring	
OM XE for Distributed Databases	End of marketing, migrate to	IT Monitoring for Databases	
OM XE for Tuxedo	End of marketing, migrate to	IT Monitoring	
OM XE for SAP R/3	End of marketing, migrate to	IT Monitoring for Applications (mySAP)	
IT Monitoring for Domino		IT Monitoring for Domino	Automates critical Notes activities that consume a Notes administrator's time: system profiling, configuration and deployment, network management, and error recovery.
IntelliWatch for Unix and Windows		IntelliWatch for Unix and Windows	
OM Universal Agent	End of marketing, migrate to	IT Autonomic Monitoring Engine	Provides foundation for creating autonomic monitors



System Automation

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System Automation

Current Product	Transition	Future Product	Value Proposition and <i>Notes</i>
IT System Automation			
AF/Operator	Continue to support, market with restrictions, offer migration	IT Systems Automation	Automates system operations, increasing availability and operating efficiency through policy-based management and self-healing. Includes out-of-the-box automation for IMS, CICS, Tivoli Workload Scheduler, IBM DB2, mySAP and WebSphere.
Omegacenter Gateway	Continue to support, market with restrictions, offer migration		
AF/Advanced Notification			
AF/Remote		AF/Remote	Manage data centers and receive alert notifications remotely
AF/IRM (Service)	Continue to support, market with restrictions, offer migration	AF/IRM (Service)	Provides a full suite of pre-coded automation applications to extend automation capabilities and provide support for custom REXX automation scripts

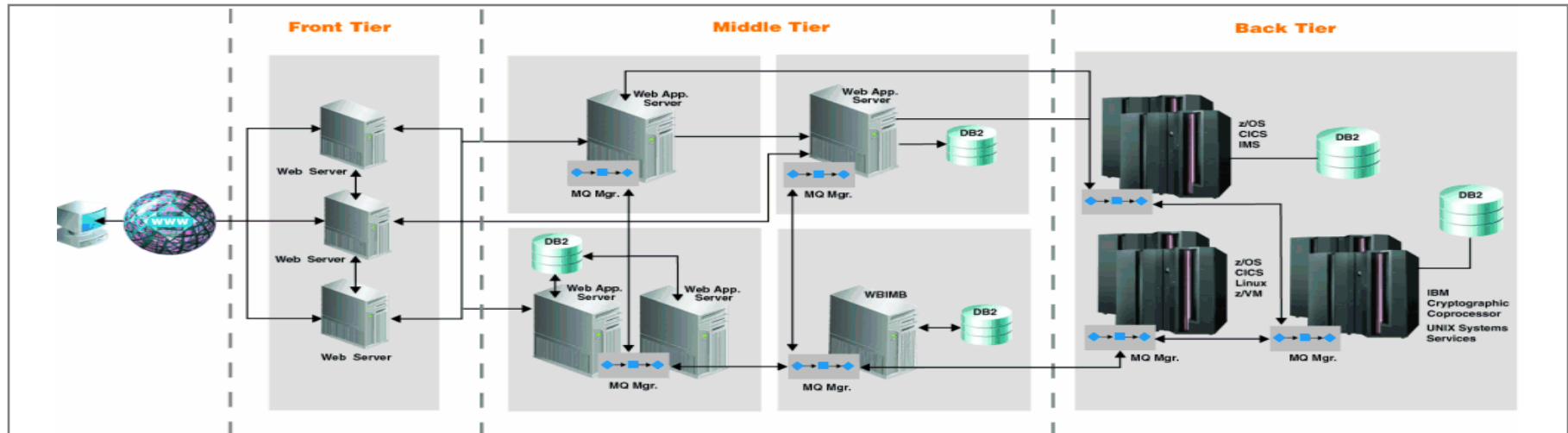


Composite Application Management: Monitoring and Managing Business Transactions That Span Systems and Organizational Boundaries

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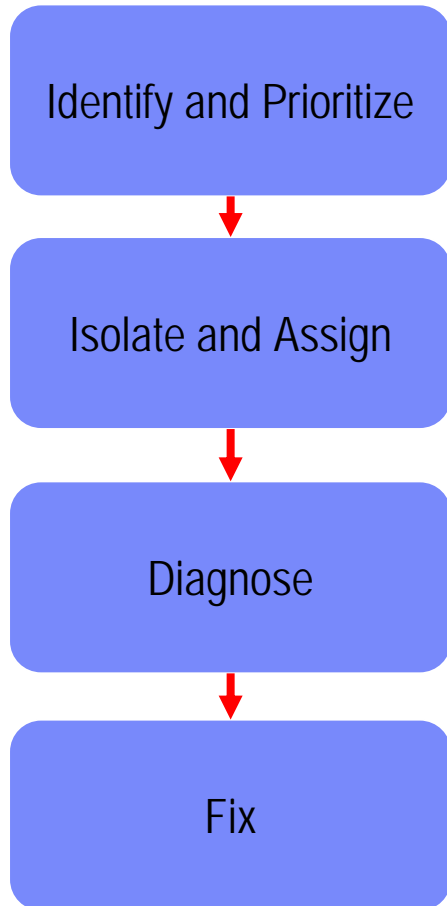
The New World of Application Management



- **Business processes increasingly depend on multi-tier composite applications**
 - Composite apps use business logic and data from sources spanning multiple systems and transactional environments
- **Composite applications are difficult to design, build, test, and manage for high performance and availability**
 - Less than 20% of new web applications perform as planned in production
 - The average J2EE application is down nearly one day per week
- **Traditional stovepiped management processes and tools exacerbate problem**
 - Application Lifecycle processes and tools too siloed
 - Problem resolution processes and tools too siloed around technology and functional domains

Traditional Application Management Not Up To Task

Problem Resolution Process

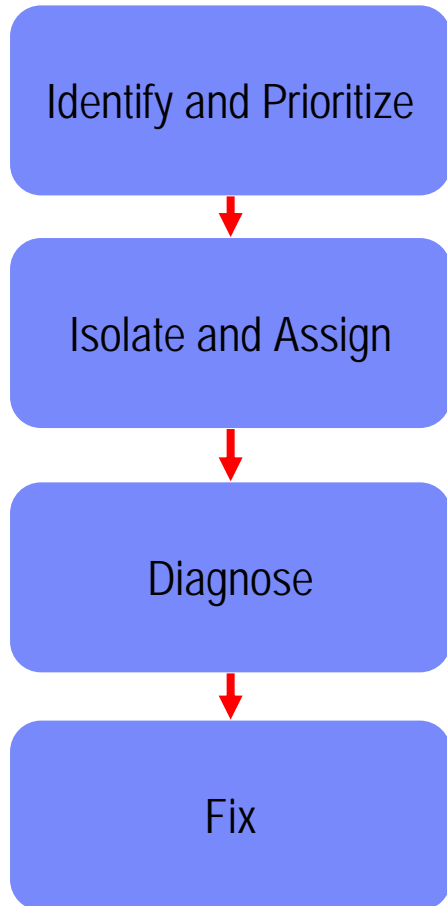


Process Breakdowns

<ul style="list-style-type: none"> ▪ Nearly 75% of problems are identified only after user or business manager complaints 	<p>“We have different tools to get to different components, but it’s hard to correlate sometimes where the failure is because you can’t truly track the transaction end-to-end.”</p> <p><i>--Mark Schlesinger, ADP</i></p>
<ul style="list-style-type: none"> ▪ Most problems take over 4 hours <u>just to isolate</u> ▪ Many companies assign 10+ specialists to solve an end user problem 	
<ul style="list-style-type: none"> ▪ Diagnostic tools cannot link transaction slowdowns to underlying resources ▪ Unable to recreate production problems 	
<ul style="list-style-type: none"> ▪ Over 1/3rd of problems not fixed on first pass ▪ Few problems are fixed automatically 	

Tivoli Offerings for J2EE Composite Applications

Problem Resolution Process



Tivoli Offerings

Tivoli Monitoring for Transaction Performance (TMTP)

Capabilities

- End-to-end transaction performance monitoring
- Transaction response time decomposition

Audience

- 1st Level Support
- Operators
- Application Help Desk

"Claret" for J2EE Applications (OMEGAMON XE + Cyanea/ONE)

Capabilities

- Transaction/sub-transaction based resource analysis: memory, resource usage, bottleneck analysis, lock contention analysis, etc.
- Automation and expert advice
- Command and control capability
- Visual and data integration; console integration

Audience

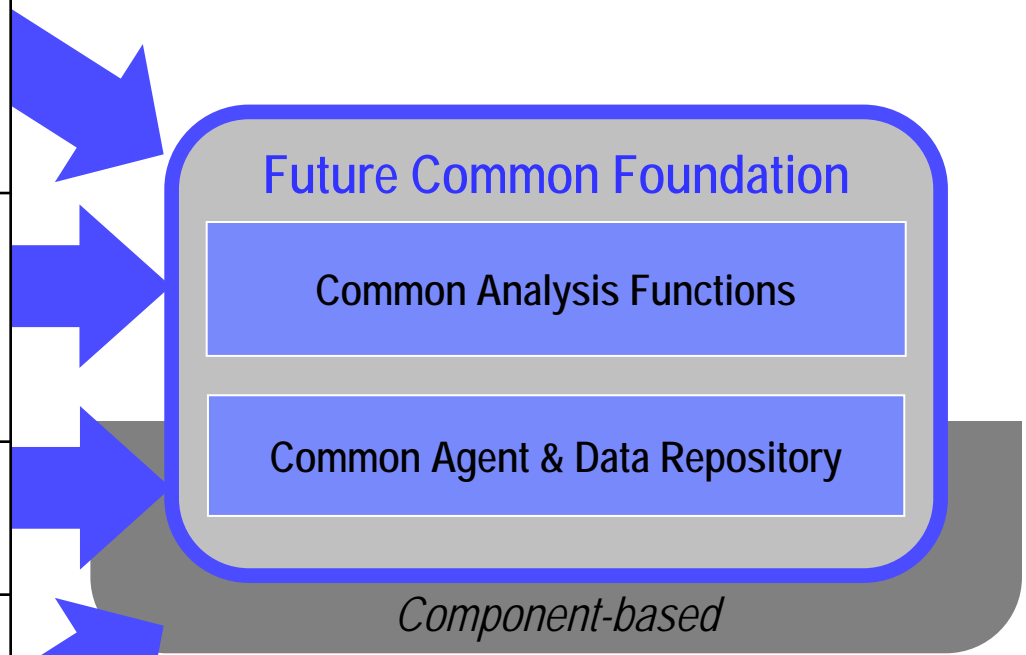
- 2nd & 3rd Level Support
- Application Support
- WebSphere/WebLogic tech support
- WebSphere/WebLogic administrators

Solutions for Composite Application Management

Current Product	Transition	Future Product	Value Proposition And Notes
ITMTP	} →	ITMTP	Empowers 1 st level support to quickly identify, isolate and properly assign performance problems through transaction decomposition in both ARM and Non-ARM environments
PW Web Segment Analyzer			
OM XE for WIB	} →	"Claret" for WBI	Enables quick diagnosis of problems within the WebSphere Business Integration infrastructure.
OM XE for WebSphere MQ			
OM XE WICS			
OM XE for WebSphere	} →	"Claret" for J2EE Application Infrastructure	Enables 2 nd and 3 rd level technical support staff to quickly analyze and diagnose the root cause of problems. Combines Cyanea's transaction tracking and management capabilities with OM XE's sub-transaction based resource consumption analysis to identify resources affecting performance. Also provides visual and data integration, command and control, console integration, and expert advice capabilities
Cyanea/ONE for WebSphere			
OM XE for WebLogic			
Cyanea/ONE for WebLogic			

Converging Technologies On A Common Foundation

Current Technologies	
Source	Unique Value
Cyanea/One	<ul style="list-style-type: none"> ▪ Designed for composite application management ▪ Transaction tracking for CICS and IMS transactions ▪ Non-intrusive detailed application analysis ▪ Intuitive, web-based interface
Candle PathWAI XE	<ul style="list-style-type: none"> ▪ Bottleneck and impact analysis ▪ Runs in Tivoli management portal ▪ Data and visual integration with system-level and transactional performance metrics
TMTF	<ul style="list-style-type: none"> ▪ Transaction decomposition (J2EE and ARM instrumented applications) ▪ Automatic performance baselining
Rational	<ul style="list-style-type: none"> ▪ Code profiling ▪ Generic instrumentation technology ▪ UML transaction & topology views ▪ Eclipse-based UI ▪ .Net





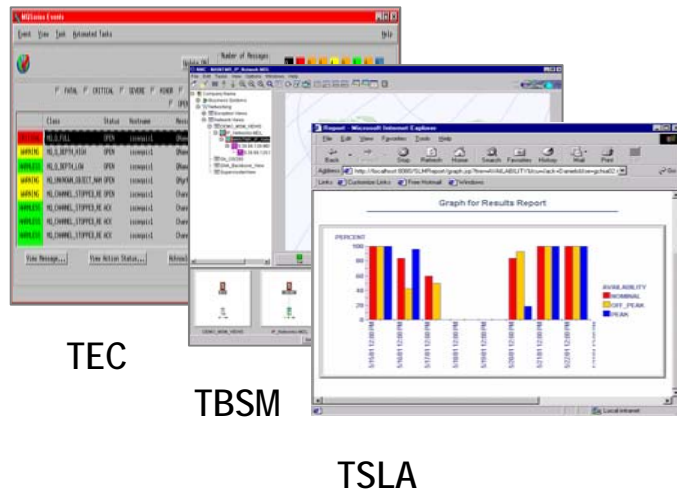
Integration In The Broader Context: Moving Beyond Individual Products

Tivoli software

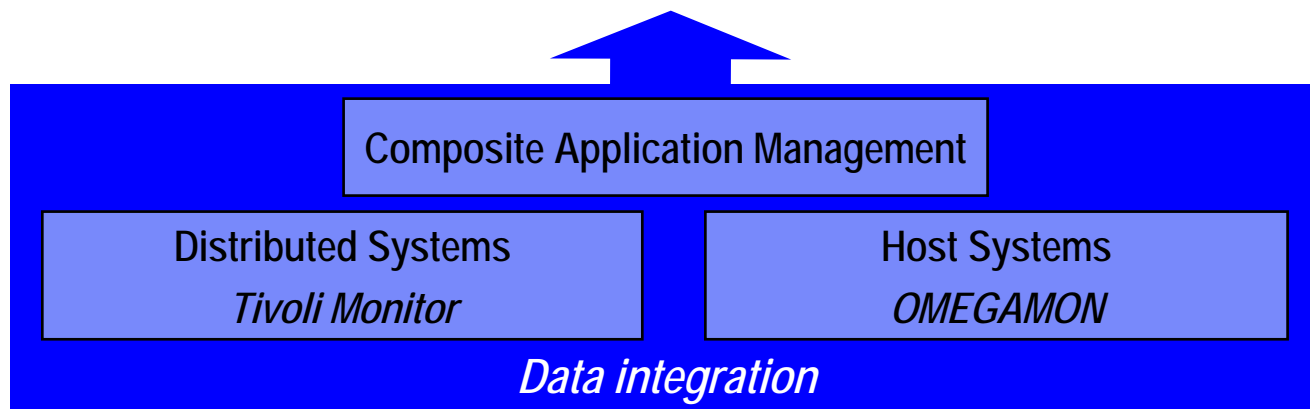
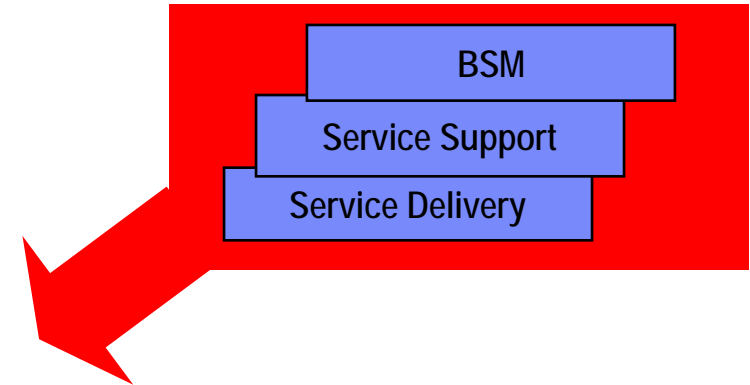
ON DEMAND BUSINESS™

The Tivoli Management Portal Will Be A Focal Point For Tool, Data, And Process Integration

Tool Integration



Process Integration



Summary: Tivoli and Candle

- **Further strengthens IBM's On-Demand automation capabilities by significantly augmenting customer capability**
- **Comprehensive performance management of z/OS and all major subsystems**
- **End-to-end transaction and application monitoring**
- **Delivering integration of data, tool and process automation via common portal**