



IBM Software Group

OMEGAMON V4.1 - Installation and Update

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Tivoli software

ON DEMAND BUSINESS™

Agenda

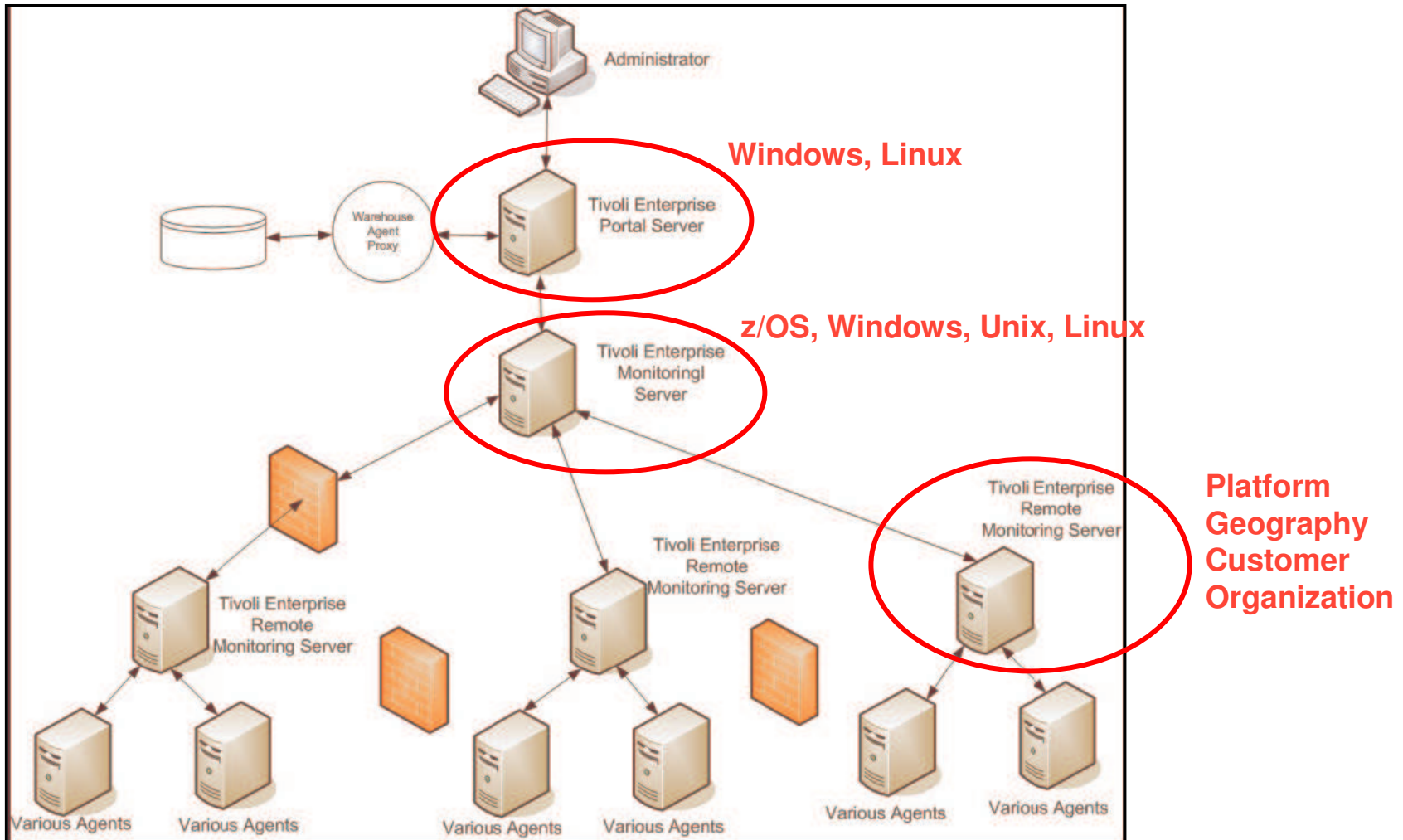
- ● **OMEGAMON Installation**
- ● **What have we learned !**

- ● **OMEGAMON XE Version 4**
- ● **Integration via TEP**
- ● **V 4.1 + SPE Update**

- ● **Summary**



OMEGAMON Infrastructure



OMEGAMON Installation Challenges

- Organization
- Planning
- Find a server
- Security
- Installation
- Customization
- Product Quality Issue ?
- Choice of Interfaces

Organization

- This is cross platform
 - Covering: z/OS, Windows, AIX ?, Linux ?
- This is cross discipline
 - Systems programmer, security specialist, CICS specialist, database administrator, etc.
- Get commitment for participation
 - You need a Windows specialist !
- Get commitment for resources when needed
 - It is very difficulty to create a project plan with fixed time schedules
- Who is responsible for the OMEGAMON solution ?
 - The z/OS systems programmer ? The Systems Management group ?

Planning

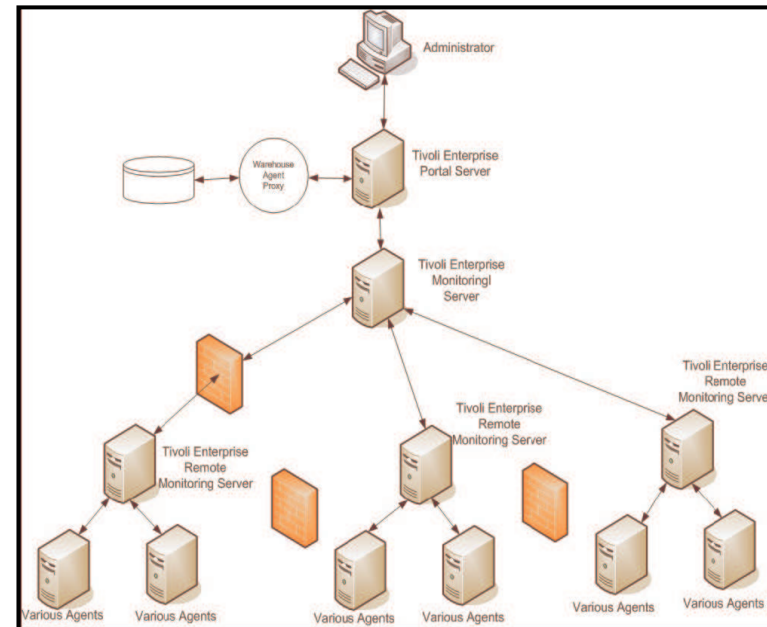
- Identify the OMEGAMON team
- Conduct a planning workshop with all participants
- Define activities, responsibilities, co-operation
- Define time frame (be realistic – things take time !)
- Define environments (sysprog. test, functional test, system test, production)
- Define test activities (what need to be tested ?)
- Plan installation (migration from test environments to production)
- Plan operation (education of operators, etc.)

Find a server ?

- How many and which servers are needed ?
 - Environments (sysprog. test, functional test, system test, production)
 - Geography, Customers, Etc.
 - TEPS, Hub TEMS, Remote TEMS, Database server
 - Backup server
 - Which platform

- Do you have a problem to get one server ?
- What about ten servers ?
 - It can take several weeks !

- Must be included in time plan



Security

- OMEGAMON users must be defined in TEPS Security Database
 - Define user authorities
 - Validate user access (not user rights) via TEPS server
 - Against RACF if TEMS on z/OS
 - Against LDAP if TEMS on Windows
 - No standard solution to synchronize RACF and TEPS Sec. Database
 - Administration of OMEGAMON users at TEPS must be aligned with normal user administration

- Commands is issued with OMEGAMON User against Started Task – not with individual operator userid
 - Is that an issue ?
 - Shouldn't be - same approach is accepted with System Automation

Installation

- OMEGAMON 4.1 improvements
- Check maintenance level/PTF's across platform
 - Not only z/OS PTF level !
- SMP/E installation
- ICAT customization

- No cloning tool today – ICAT customization on each LPAR/system
 - Time consuming at large installations
 - Disk consuming (several copies)
- This issue has been raised
 - IBM DK is working on a cloning solution (short-term)
 - A request to improve the ICAT process in OMEGAMON (long-term)

TEP Customization

- OMEGAMON is delivered with IBM defined workspaces and thresholds
- Not sufficient for most installations
- Customization is needed
 - Thresholds
 - Situations -> Alerts -> Take actions
 - Policies (cross systems events)
 - Integration with TSA, TWS etc.
- Must include experts (both z/OS, CICS, DB2, etc. and Windows GUI skills)
- Using OMEGAMON Classic will require additional customization

Product Quality Issue ?

- OMEGAMON 3.1 Agents is running without problems (but many PTF's has been delivered)
- OMEGAMON 4.1 Agents is running without problems
- OMEGAMON / ITM infrastructure (TEMS, TEPS) is running without problems from ITM 6.1 FP05
- Earlier ITM 6.1 could give problems
- With current releases and fix-levels there is no product quality issues !

OMEGAMON Installation Challenges

- Organization – Yes a challenge
- Planning – Is an absolute requirement
- Find a server – Can take some time
- Security – Must be carefully handled
- Installation – Additional improvements in process
- Customization – Will always be installation specific
- Product Quality Issue ? – Not with current releases
- Choice of Interfaces – Your choice

Agenda

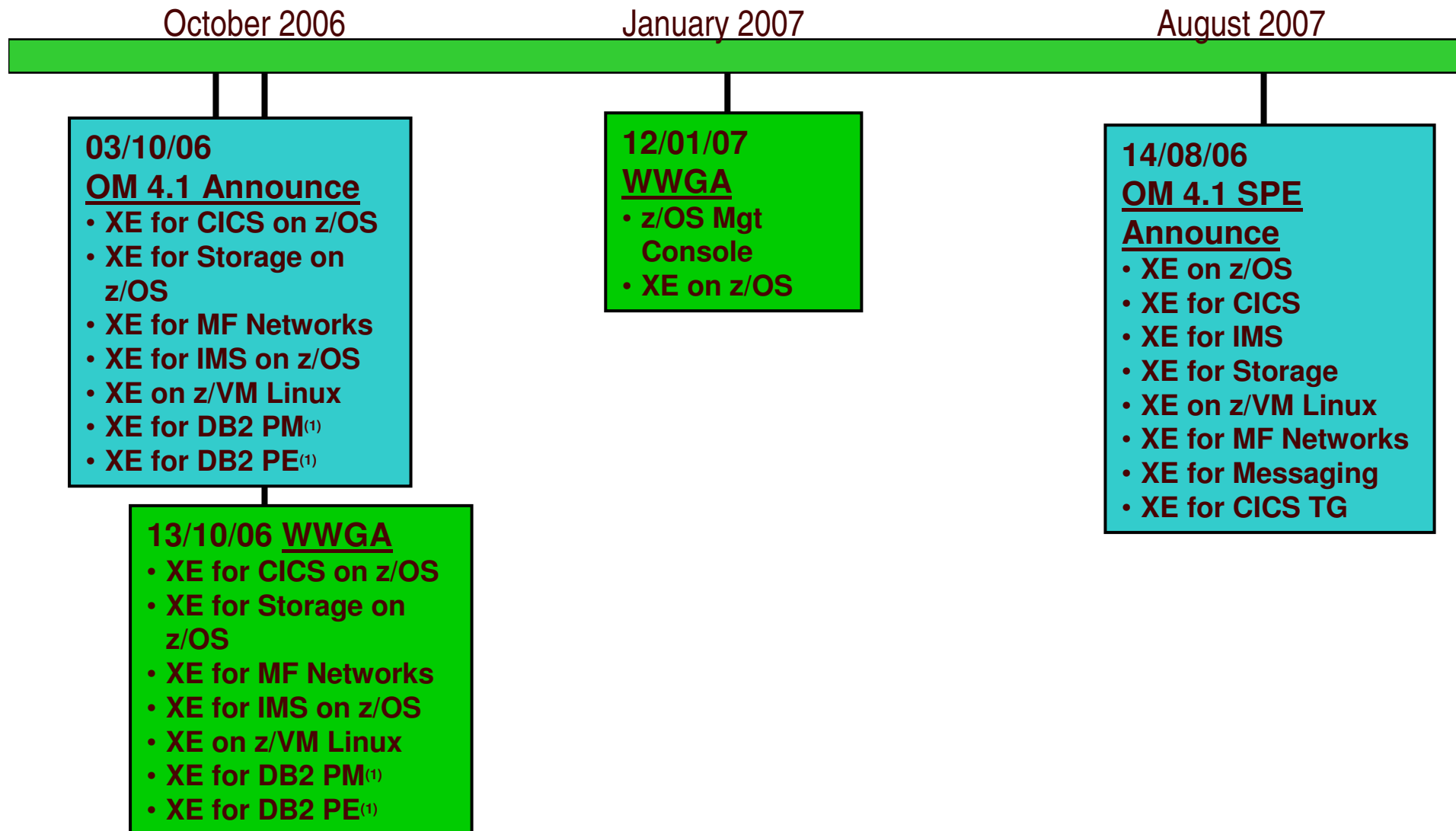
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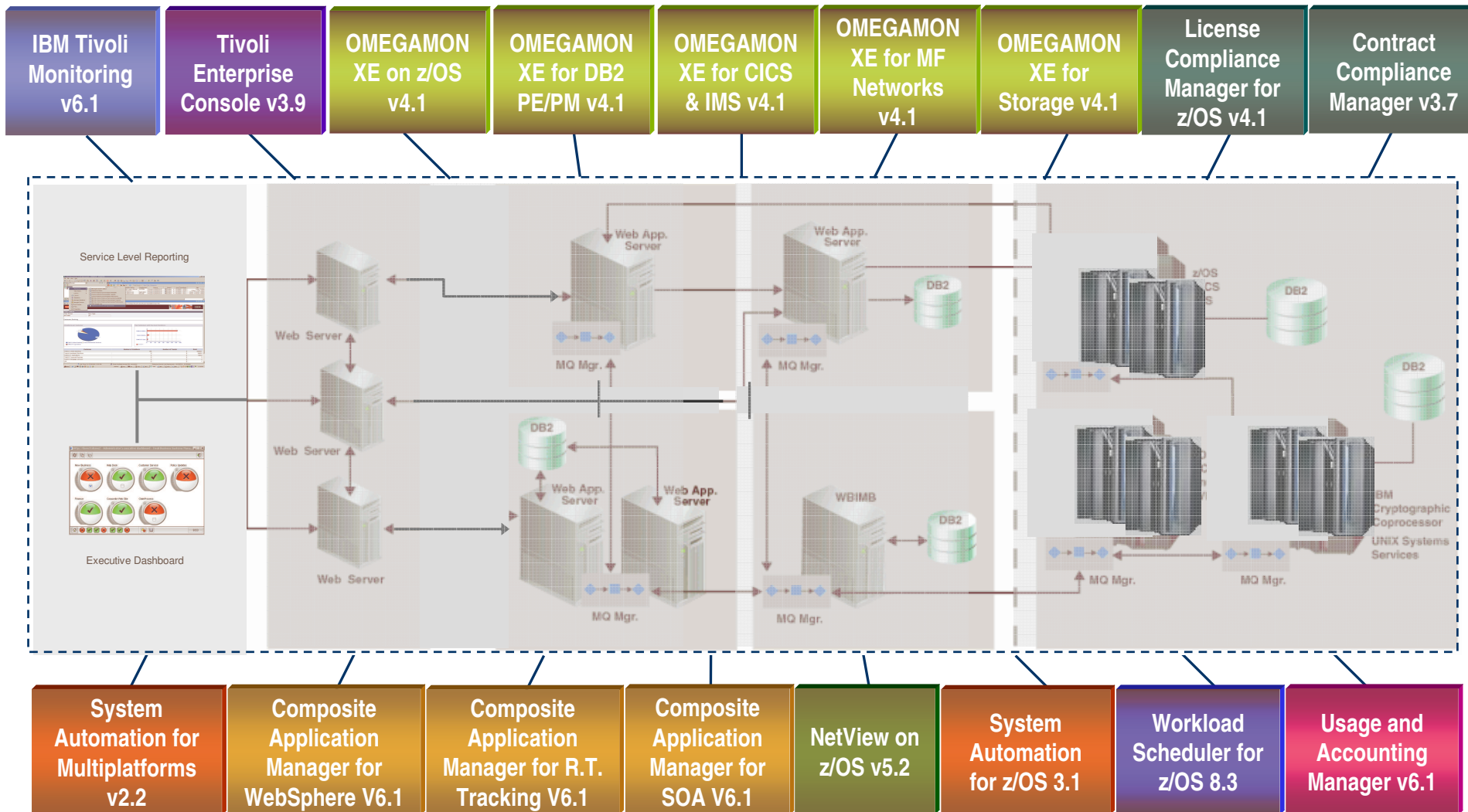
- ● Summary



What's Coming When

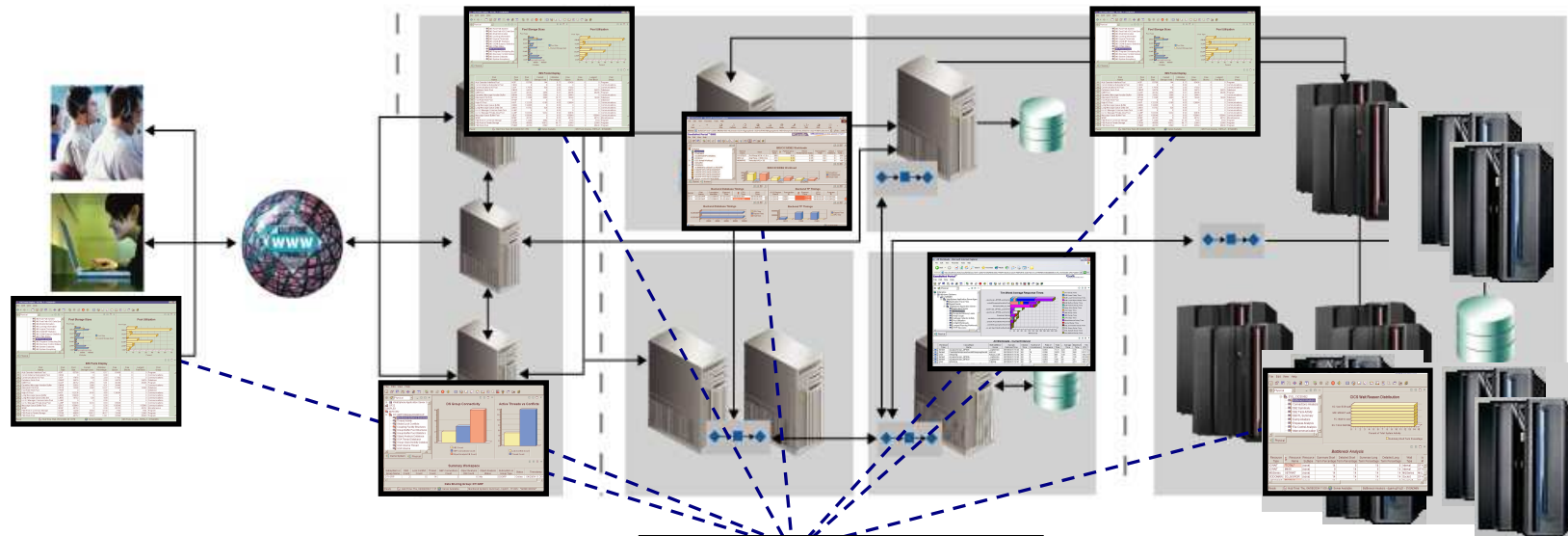


End to End Management from Tivoli *System z Portfolio*



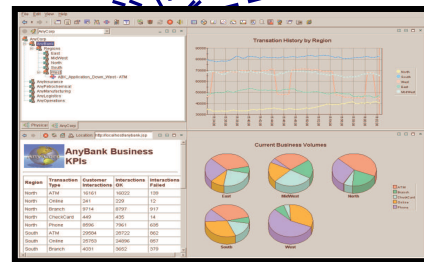
Complete View Of Application Performance

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 Service 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

New Interoperability/Integration Via TEP

- NetView z/OS V5.2
 - Consolidated TCP/IP workbench with both availability and performance data
 - Interoperability with OMEGAMON XE for MF Networks
 - Workspaces linked with other OMEGAMON XEs
- Tivoli Workload Scheduler
 - Launch-in-context via TEP
 - Monitoring of TWS jobs and OMEGAMON events on a single interface
- Tivoli System Automation
 - Integration via TEP with launch-in-context
 - Additional integration between TSA and TWS

NetView TCP/IP Connection Data Workspace

TCPIP Connection Data Summary Table

Local IP Address	Local Port	Remote IP Address	Remote Port	Start Time	End Time	Bytes In	Bytes Out	Total Bytes	Bytes Units	Maximum Send Win
9.42.45.133	1031	9.42.9.129	17510	11/03/05 09:28:03		0.00	0.00	0.00	B	
9.42.45.133	1920	9.42.45.133	1030	11/03/05 09:27:02		0.00	0.00	0.00	B	
			1920	11/03/05 09:27:02						
			4022	11/03/05 09:24:39						
			1028	11/03/05 09:24:33						
			1027	11/03/05 09:24:23						
			1025	11/03/05 09:22:09						
			1024	11/03/05 09:22:09						
			4086	09/30/05 16:56:01						
			4083	09/30/05 16:50:59						

Link to navigate to the OMEGAMON for Mainframe Networks Connection workspace to view the most recent collected performance data for the connection.

NetView TCP/IP connection data workspace

TWS on TEP: Details for a Job Description

The screenshot displays the TWS Job Detail window for 'TWS_Job_Detail (Prototype)'. It features a 3D bar chart titled 'Job Duration' showing execution times for jobs HOR50005, HOR50007, and HOR50001. A callout bubble points to the chart with the text 'Graph showing duration times for each job that has executed'. Below the chart is a table titled 'Tivoli Workload Scheduler Detailed Job Status' with columns for Timestamp, Job Description, Application Identifier, Job Name, Operation Number, WS Identifier, Descriptive Text, Actual Start Time, Actual End Time, Duration, Error Code, and Job Status. A callout bubble points to the 'Job Status' column with the text 'Thresholds on Status states'.

Timestamp	Job Description	Application Identifier	Job Name	Operation Number	WS Identifier	Descriptive Text	Actual Start Time	Actual End Time	Duration	Error Code	Job Status
02/10/06 16:33:39	HOR50DAY	HOR50DAY	HOR50005	005	CPU	Operation 005	08:39:30	08:45:15	00:05:45	-	Complete
02/10/06 16:33:39	HOR50DAY	HOR50DAY	HOR50007	007	CPU	Operation 007	08:45:15	08:45:20	00:00:05	MCP	Error
02/10/06 16:33:39	HOR50DAY	HOR50DAY	HOR50006	006	CPU	Operation 006	08:45:20	00:00:00	00:00:00	-	Started
02/10/06 16:33:39	HOR50DAY	HOR50DAY	HOR50030	030	CPU	Operation 030	00:00:00	00:00:00	00:00:00	-	Waiting
02/10/06 16:33:39	HOR50DAY	HOR50DAY	HOR50010	010	CPU	Operation 010	00:00:00	00:00:00	00:00:00	-	Ready
02/10/06 16:33:39	HOR50DAY	HOR50DAY	HOR50035	035	CPU	Operation 035	00:00:00	00:00:00	00:00:00	-	Waiting
02/10/06 16:33:39	HOR50DAY	HOR50DAY	HOR50020	020	CPU	Operation 020	00:00:00	00:00:00	00:00:00	-	Waiting
02/10/06 16:33:39	HOR50DAY	HOR50DAY	HOR50025	025	CPU	Operation 025	00:00:00	00:00:00	00:00:00	-	Waiting
02/10/06 16:33:39	HOR50DAY	HOR50DAY	HOR50015	015	CPU	Operation 015	00:00:00	00:00:00	00:00:00	-	Ready
02/10/06 16:33:39	HOR50DAY	HOR50DAY	HOR50011	011	CPU	Operation 011	00:00:00	00:00:00	00:00:00	-	Waiting
02/10/06 16:33:39	HOR50DAY	HOR50DAY	HOR50001	001	CPU	Operation 001	00:00:00	00:01:40	00:01:40	-	Complete
02/10/06 16:33:39	HOR50DAY	HOR50DAY	HOR50004	004	CPU	Operation 004	00:00:00	00:00:00	00:00:00	-	Active
02/10/06 16:33:39	HOR50DAY	HOR50DAY	HOR50021	021	CPU	Operation 021	00:00:00	00:00:00	00:00:00	-	Waiting
02/10/06 16:33:39	HOR50DAY	HOR50DAY	HOR50012	012	CPU	Operation 012	00:00:00	00:00:00	00:00:00	-	Waiting
02/10/06 16:33:39	HOR50DAY	HOR50DAY	HOR50031	031	CPU	Operation 031	00:00:00	00:00:00	00:00:00	-	Waiting
02/10/06 16:33:39	HOR50DAY	HOR50DAY	HOR50022	022	CPU	Operation 022	00:00:00	00:00:00	00:00:00	-	Waiting

TSA on TEP: INGLIST – Before and After

The screenshot displays the Tivoli Enterprise Portal (TEP) interface for monitoring system components. The main window is titled 'INGLIST Compound Status'. On the left, a tree view shows the system hierarchy under 'Enterprise', including 'System Images' and 'System Images' (LPAR1, LPAR2, LPAR3). The central area features a line graph showing the 'Number' of problems over 'Time' (from 06:00 to 13:00). A red dot indicates a problem at 09:00. Below the graph is a table listing system components with their status. The 'AOC1' component is highlighted in red, indicating a 'PROBLEM'.

Name	Type	System	Compound	Desired	Observed	Nature	Automation	Startable	Health	Auto	Hold	Description
ALWAYSUP	APL	AOC1	SATISFACTORY	AVAILABLE	AVAILABLE		IDLE	YES	N/A	YES	NO	Appl linked to always UP high pri SVP
AMSINGLE	APG	AOC1	SATISFACTORY	AVAILABLE	AVAILABLE	BASIC	INTERNAL	YES	N/A	YES	NO	Automation managers for single systems
AMSINGLE	APL	AOC1	SATISFACTORY	AVAILABLE	AVAILABLE		IDLE	YES	N/A	YES	NO	Real appl : Prim. AM for single systems
AMSINGL2	APL	AOC1	SATISFACTORY	AVAILABLE	AVAILABLE		IDLE	YES	N/A	YES	NO	Real appl : Secnd. AM for single systems
AOC1	SYG	AOC1	PROBLEM	AVAILABLE	PROBLEM	BASIC	INTERNAL	YES	NORMAL	YES	NO	
AOC1	SYS	AOC1	SATISFACTORY	AVAILABLE	AVAILABLE		IDLE	YES	N/A	YES	NO	
APLMTRA	APL	AOC1	SATISFACTORY	AVAILABLE	AVAILABLE		IDLE	YES	NORMAL	YES	NO	APL with monitor routine MTRA
APLMTRB	APL	AOC1	SATISFACTORY	AVAILABLE	AVAILABLE		IDLE	YES	NORMAL	YES	NO	APL with monitor MTRB1, MTRB2, MTRB3
ASSISTD	APL	AOC1	SATISFACTORY	AVAILABLE	AVAILABLE		IDLE	YES	N/A	YES	NO	Application with assist mode (Display)
ASSISTL	APL	AOC1	SATISFACTORY	AVAILABLE	AVAILABLE		IDLE	YES	N/A	YES	NO	Application with assist mode (Log)
BZOENEW	APL	AOC1	SATISFACTORY	AVAILABLE	AVAILABLE		IDLE	YES	N/A	YES	NO	Class for emulation apps
CAPMSBLA	APL	AOC1	SATISFACTORY	AVAILABLE	AVAILABLE		IDLE	YES	N/A	YES	NO	APL with Captured Messages Limit = 0
CAPMSBLB	APL	AOC1	SATISFACTORY	AVAILABLE	AVAILABLE		IDLE	YES	N/A	YES	NO	APL with Captured Messages Limit = 10
CAPMSBLC	APL	AOC1	SATISFACTORY	AVAILABLE	AVAILABLE		IDLE	YES	N/A	YES	NO	APL with Captured Messages Limit = 999
CAPMSBLD	APL	AOC1	SATISFACTORY	AVAILABLE	AVAILABLE		IDLE	YES	N/A	YES	NO	APL with default Cap. Messages Limit
CHILDLST	APL	AOC1	SATISFACTORY	UNAVAILABLE	SOFTDOWN		IDLE	YES	N/A	YES	NO	Parent/Child scenario - last child

OMEGAMON 4.1 Key Deliverables

■ Customer Satisfaction

- Globalization
- Currency Exploitation of new OS and middleware releases
- Customer Enhancements
- Tactical enhancements to 3270 interfaces

■ Portfolio Simplification

- Candle Management Workstation and OMEGAMON II continued movement to XE
- Merging of functionality in product suites where it makes sense

■ Integration

- Dynamic Workspace Linking
- Launch in Context
 - TSLA, TBSM, and more
- Tivoli Data Warehouse – pruning and aggregation

■ Serviceability

- Problem Determination Guides
- IBM Support Assistant plug-ins
- Agent Versioning support
- ICAT enhancements

Customer Satisfaction

- **Added Globalization to Group 1 languages**
 - French, German, Italian, Spanish, Portuguese, Chinese (simple & traditional), Japanese, Korean
- **Currency and Exploitation**
 - Day One z/OS Version 1.8 Support/Exploitation
 - Added zIIP monitoring by OMEGAMON XE on z/OS & XE on DB2 PE/PM on z/OS
 - Day 1 support via service for OMEGAMON XE z/OS and DB2 PE/PM V3.1 via PTF and enhanced support in 4.1
 - zIIP address spaces, service classes, LPAR data, DDF server thread data, workloads eligible for zIIP that are running on standard CPUs
 - CICS Transaction Server V3
- **Tactical Enhancements to 3270 interfaces**
 - Application Trace Facility for OMEGAMON XE for CICS now in “Classic”

Integration

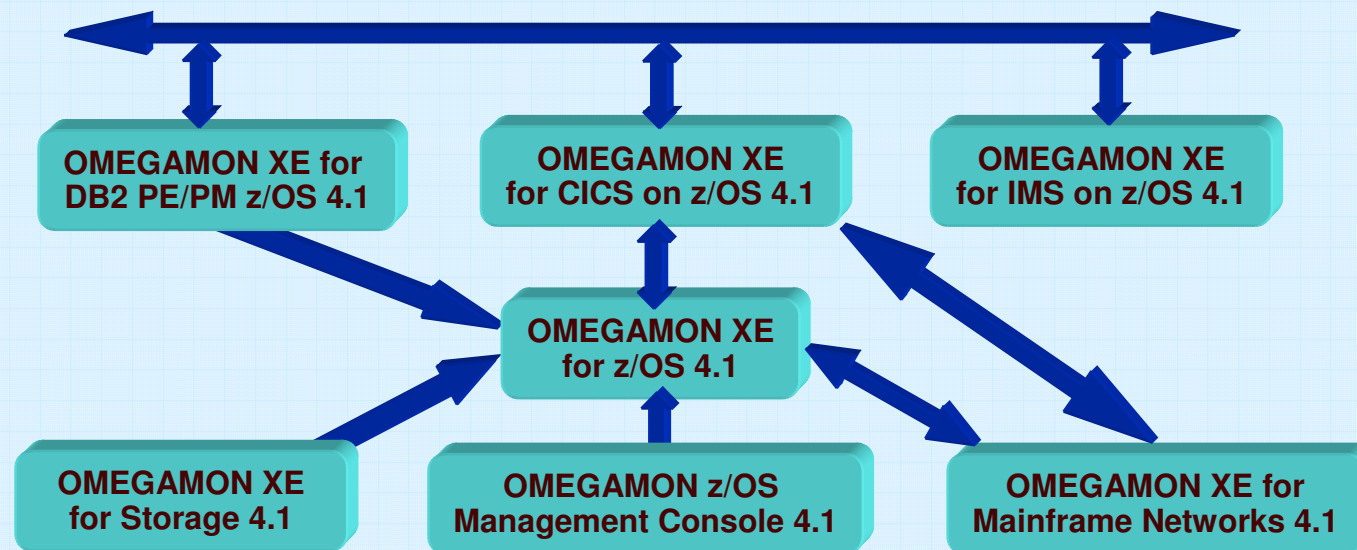
- **Dynamic Workspace Linking**
 - THIS IS A BIG ONE – see following slides
- **Launch in Context**
 - TSLA, TBSM, and more
- **Tivoli Data Warehouse – pruning and aggregation**
 - Automatic deletion of data and consolidated reporting by groups, dates, etc.
 - Better long-term historical
 - Reduces storage requirements
- **CCMDB TEP Discovery Library Adapter**

Dynamic Workspace Linking Functionality

Problem: How do I quickly find a potential problem that requires multiple monitoring products?

Scenario: Dynamically link in context from CICS transaction to the associated DB2 thread

Solution: Dynamic Workspace Linking
Product provided links & user customized



Dynamic Workspace Linking

The screenshot displays the 'Global Lock Conflicts Table View' window. On the left, a tree view shows the system hierarchy under 'z/OS Systems', including 'DB2plex', 'IMSplex', and 'IMS'. The 'Global Lock Conflicts' folder is selected. The main area shows a table of lock conflicts. A 'Global Lock Conflicts Detail View' window is overlaid on top, showing a detailed table of lock status, token, DB/Area Name, and IMS ID. A context menu is open over the table, listing actions such as 'Display IMS DBCTL Thread Detail', 'Display CICS Transaction Information', 'Link Wizard...', and 'Link Anchor...'. At the bottom, a 'Hub Time' indicator shows 'Fri, 05/19/2006 02:35 PM'.

Lock Status	Token	DB/Area Name	IMS ID	MVS ID	JOB
LockOwner	AF2392E7	DI21PART	I91P	SP22	IM
LockWaiter	AF2392E7	DI21PART	I91P	SP22	IM
LockWaiter	AF2392E7	DI21PART	I91P	SP22	CI
LockWaiter	AF2392E7	DI21PART	I91P	SP22	CI

Locks Held	Database Updates
83	289
1	0
1	0
1	0

Hub Time: Fri, 05/19/2006 02:35 PM

Node Identifier: _____

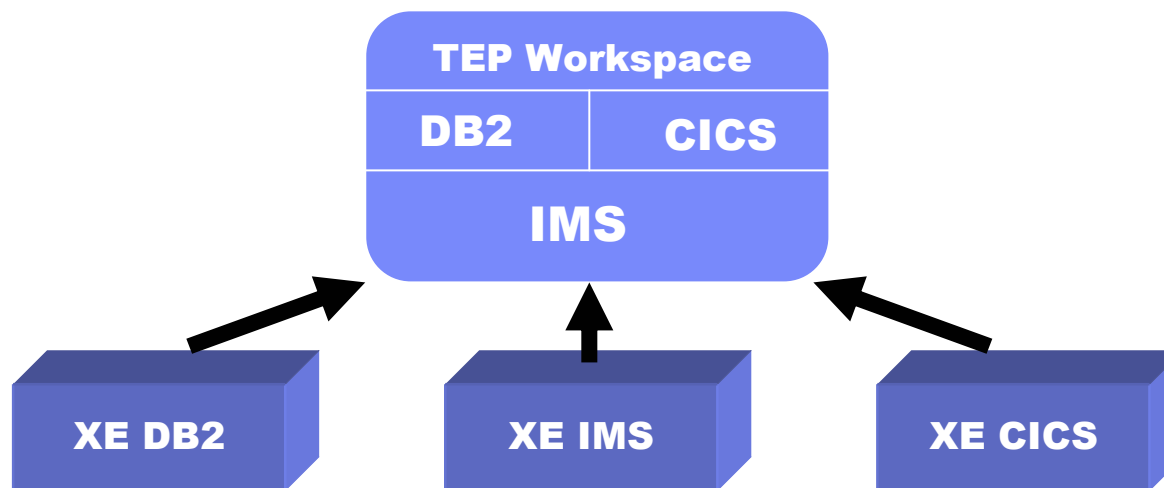
Hub Time: Fri, 05/19/2006 02:35 PM | Server Available | Global Lock Conflicts Table View - IBM-93CF507EC63 - SYSADMIN *ADMIN MODE*

Dynamic Workspace Linking and OMEGAMON DE

- Dynamic Workload Linking (DWL) is linear



- DWL cannot combine attributes from multiple products on a single workspace on z/OS without DE
- DWL cannot provide policies or workflow automation without DE



Serviceability

- **IBM Support Assistant**
 - Plug-ins to improve product support
- **Problem Determination Guides**
 - Help customers diagnose and solve operational problems
- **Agent Versioning added**
 - Multi-product version support enable incremental deployment of OMEGAMON 4.1 products
 - Customers can run 3.1 and 4.1 versions on different boxes/LPARs
 - Makes migration to full ITM 6.1 underlying infrastructure easier
- **IBM Customization Assist Tool (ICAT) enhancements**
 - Simplify SMP/E and Run Time Environment (RTE) installation and deployment (no need to run RTE Load job)
 - Simplify configuration with the installation of service
 - No need to stop all monitors to activate service on one monitor

OMEGAMON XE Version 4.1

■ **OMEGAMON XE on z/OS V4.1**

- zAAP and zIIP processor usage and reporting
- I/O rate by address space and Real Storage information from CUA
- z/OS Exploitation - CF structure duplexing reporting
- Enclave DB2 and z/OS transplex,
- Basic RMF III launch, optional RMF collection for CF data
 - Better integration with RMF data
 - Higher frequency collection
 - Trade-off: No detail path information

■ **OMEGAMON XE for CICS V4.1**

- CICS TS 3.1 Exploitation
 - Web Service analysis reports for Web Service Details, Virtual Host Detail, Pipeline Detail, Document Template Detail
 - Business Transaction Services (BTS) support for long running processes, type, name, container, activity
 - Enqueue pool details for recovery
- Data moved from CUA/Classic to XE
 - CICS Service Level Analysis
 - Application Trace Facility

OMEGAMON XE Version 4.1 (Continued)

■ **OMEGAMON XE for IMS V4.1**

- New Reporting
 - TRF reporting capability has increased precision expanding transactions to the millisecond
 - HALDB – high availability database summaries, partition details, etc.
 - DBCTL Detail Thread reporting for monitoring activities
- Data from CUA/Classic to XE

■ **OMEGAMON XE for DB2 PM/PE V4.1**

- Support for zIIP processor usage that is being introduced on the System z9 platform from a DB2 perspective Top ten volume reports
- DB2 version 9 day one support
- Enhanced Thread Overview: Show additional LOCK information and Changed Pages in all Group Buffer Pools.
- Migration from ROBOHELP to Eclipse for added diagnostic help capabilities.

OMEGAMON XE Version 4.1 (Continued)

- **OMEGAMON XE for MF Networks V4.1**
 - New performance reports for VTAM buffer pool and address space workspaces
 - New TN3270 server session workspaces
 - Enhanced FTP records resulting in performance improvement.
 - Enhancements to Enterprise Extender (EE) reporting

- **OMEGAMON XE for Storage V4.1**
 - New dataset attribute database allows versatile and granular reporting capabilities at the dataset level
 - New problem solving workspaces adding to your problem determination capabilities
 - New storage toolkit for DFHSM and DFDSS functions for database administrators

- **OMEGAMON XE for z/VM and z/Linux V4.1**
 - Single solution for managing both z/VM and z/Linux from TEP
 - Leverages value of z/VM Performance Toolkit
 - Highest list of z/Linux Workspaces

OMEGAMON XEs v4.1 – SPE

- **OMEGAMON XE on z/OS**
 - Support for z/OS V1.9
 - OMEGAMON Classic enhancements

- **OMEGAMON XE for CICS**
 - Support for CICS TS V3.2 and z/OS V1.9
 - OMEGAMON Classic enhancements
 - DWL to support new MQ workspace

- **OMEGAMON XE for IMS**
 - Support for IMS V10 and z/OS V1.9
 - Create situation and send alert for IMS transaction in status STOP,TRA
 - Enhancements to TRF monitoring and reporting

OMEGAMON XEs v4.1 – SPE (continued)

- **OMEGAMON XE for Storage**
 - Provide a DWL for cross system volume report
 - Provide an DFSMSHsm cancel command for active tasks

- **OMEGAMON XE for DB2 PE/PM**
 - Improved scalability post-processing large amounts of DB2 data
 - OMEGAMON Classic enhancements
 - DWL with OMEGAMON XE for MF Networks and NetView for z/OS

- **OMEGAMON XE for z/VM and Linux**
 - Support for z/VM V5.3, RHEL 5 and SLES 9, 10
 - Additional integrated monitoring of Channels and Cache

- **OMEGAMON XE for Mainframe Networks**
 - Monitoring of IPSec secure data transmission – effectiveness of IP filters, performance of IPSec tunnels, identification of potential network attacks

Summary

- ● OMEGAMON Installation
- ● Yes we have learned a lot !

- ● OMEGAMON XE Version 4
- ● Integration via TEP and DWL
- ● Many functional enhancements

- ● Thank you for your attention

