

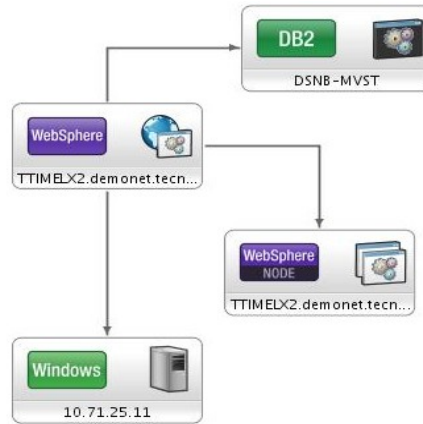
Tivoli Application Dependency Discovery Manager Overview



Tivoli Application Dependency Discovery Manager (TADDM)

Universal Discovery Engine

Discovers configuration items and their Actual State. Includes Topology Views and the ability to **discover relationships** between items. **Name Reconciliation** And Normalization of data

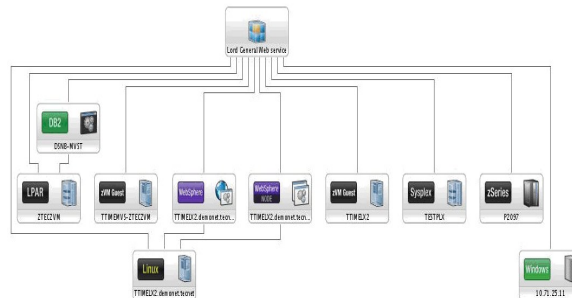


Application Mapping with Dependencies

Customer can understand what they have through agent-less **discovery of interdependencies** between applications, middleware, servers and network components and automated application maps

Configuration Auditing

Shows how configuration items are configured and changing over time by capturing the configuration of each CI, tracking changes to it and providing analytics to report on the **history of these configuration changes** over time



Type	Component	Change	Date	Attribute	Old	New
LPAR	ZTECZVM-P2097.ZTECZVM-P2097	Updated	Monday, June 9, 2011 9:18:09 PM EST	label	ZTECZVM	ZTECZVM-P2097
LPAR	ZTECZVM-P2097.ZTECZVM-P2097	Updated	Tuesday, June 7, 2011 12:42:20 AM EST	name	ZTECZVM	9-IBM-2097-000000000000
LPAR	ZTECZVM-P2097.ZTECZVM-P2097	Updated	Tuesday, June 7, 2011 12:42:20 AM EST	sourceToken	9-P2097-LPAR	9-P2097-VCSLPPAR
LPAR	ZTECZVM-P2097.ZTECZVM-P2097	Updated	Tuesday, June 7, 2011 12:42:20 AM EST	sourceToken	9-P2097-VCSLPPAR	9-P2097-LPAR
LPAR	ZTECZVM-P2097.ZTECZVM-P2097	Updated	Wednesday, June 8, 2011 10:06:24 PM EST	hostSystem	P2097	P2097
LPAR	ZTECZVM-P2097.ZTECZVM-P2097	Updated	Saturday, June 11, 2011 9:24:15 AM EST	label	ZTECZVM-P2097	ZTECZVM
LPAR	ZTECZVM-P2097.ZTECZVM-P2097	Updated	Saturday, June 11, 2011 9:24:15 AM EST	name	9-IBM-2097-000000000000BE1	ZTECZVM
LPAR	ZTECZVM-P2097.ZTECZVM-P2097	Updated	Saturday, June 11, 2011 8:41:18 PM EST	hostSystem	P2097	P2097
LPAR	ZTECZVM-P2097.ZTECZVM-P2097	Updated	Saturday, June 18, 2011 12:15:31 AM EST	hostSystem	P2097	P2097

Compliance

Determines if configuration items are **compliant** by using the capability to compare discovered configuration of CIs to a "reference configuration" and determine the variations that define violations to local policy

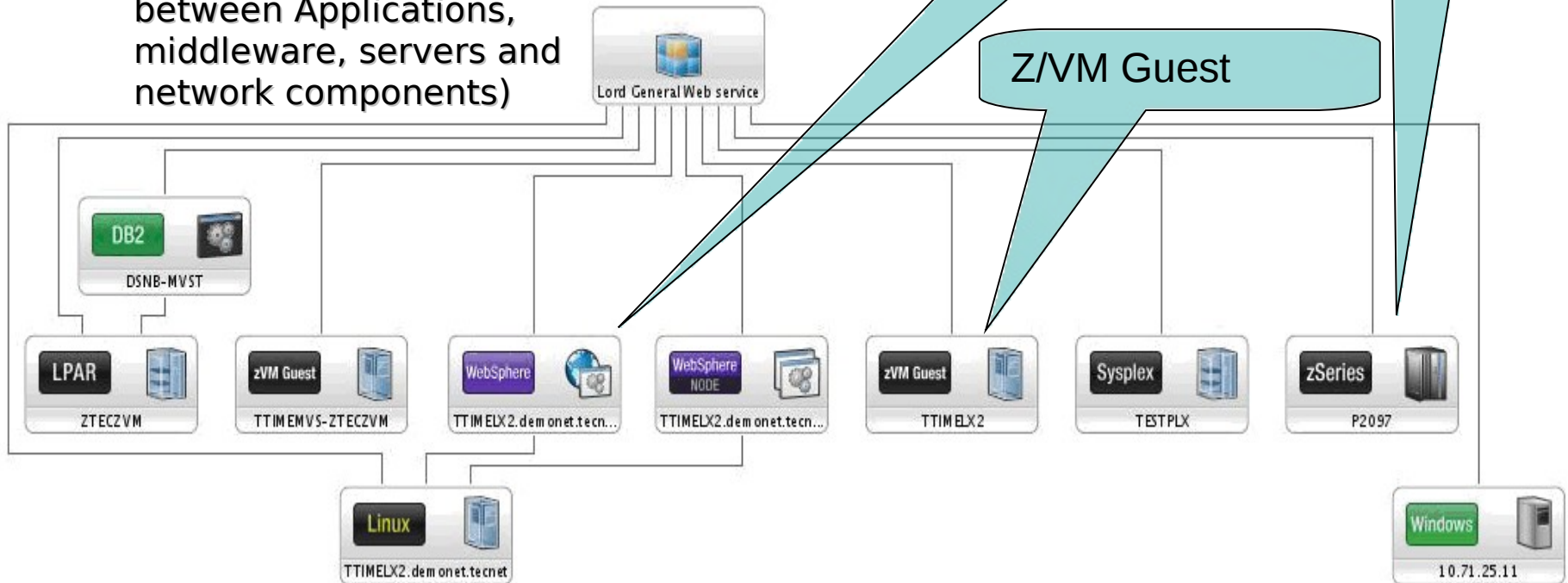
TADDM is Tivoli's strategic discovery tool and provides visibility to what a client has, how it is configured, and how it is changing over time.

Tivoli Application Dependency Discovery Manager

Provides 3 Key Benefits - Enabling the IT Service Mgmt user to:

➤ **Understand what they have**

- Application Mapping with Dependencies
 - Agent-less and Credential-free
 - Discover interdependencies between Applications, middleware, servers and network components)



Tivoli Application Dependency Discovery Manager Provides 3 Key Benefits - Enabling the IT Service Mgmt user to:

➤ **Learn how their CIs are configured (and changing over time)**

▪ **Configuration Auditing**

- Tracks changes in applications
- Depicts that information on the map
- Depicts that information thru reports

Automatically tracks changes on all CIs & attribute values over time...

Application

Type	Component	Change	Date	Attribute	Old	New
LPAR	ZTECZVM-P2097::ZTECZVM-P2097	Updated	Monday, June 6, 2011 9:18:09 PM EST	label	ZTECZVM	ZTECZVM-P2097
LPAR	ZTECZVM-P2097::ZTECZVM-P2097	Updated	Tuesday, June 7, 2011 12:42:20 AM EST	name	ZTECZVM	9-IBM-2097-000000000000
LPAR	ZTECZVM-P2097::ZTECZVM-P2097	Updated	Tuesday, June 7, 2011 12:42:20 AM EST	sourceToken	9-P2097-LPAR	9-P2097-VCSLPAR
LPAR	ZTECZVM-P2097::ZTECZVM-P2097	Updated	Tuesday, June 7, 2011 12:42:20 AM EST	sourceToken	9-P2097-VCSLPAR	9-P2097-LPAR
LPAR	ZTECZVM-P2097::ZTECZVM-P2097	Updated	Wednesday, June 8, 2011 10:06:24 PM EST	hostSystem	P2097	P2097
LPAR	ZTECZVM::ZTECZVM	Updated	Saturday, June 11, 2011 9:24:15 AM EST	label	ZTECZVM-P2097	ZTECZVM
LPAR	ZTECZVM::ZTECZVM	Updated	Saturday, June 11, 2011 9:24:15 AM EST	name	9-IBM-2097-000000000000BE1	ZTECZVM
LPAR	ZTECZVM::ZTECZVM	Updated	Saturday, June 11, 2011 8:41:18 PM EST	hostSystem	P2097	P2097
LPAR	ZTECZVM::ZTECZVM	Updated	Saturday, June 18, 2011 12:15:31 AM EST	hostSystem	P2097	P2097

Tivoli Application Dependency Discovery Manager

Provides 3 Key Benefits - Enabling the IT Service Mgmt user to:

➤ **Determine if it is compliant**

▪ Compliance

- Compare configuration to "reference master"
- Compare to your standard policy

Comparing several Linux servers under z/VM the reference master

Values in red and blue are policy violations

ZVM	ZTECZVM	-	[Not Set]	-
Name	TTIMELX1	TEC3LNX	TEC4LNX	TEC9LNX
Name	timelx2	tec3lnx.demonet.tecnet	tec4lnx.demonet.tecnet	tec09lnx
Config Contents				
file://tec9lnx.demonet.tecnet /UNIX/crontabListing/root	[Not Set]	-	-	file://tec9lnx.demonet.tecnet /UNIX/crontabListing/root
file://tec4lnx.demonet.tecnet /UNIX/crontabListing/root	[Not Set]	-	file://tec4lnx.demonet.tecnet /UNIX/crontabListing/root	-
file://tec3lnx.demonet.tecnet /UNIX/crontabListing/root	[Not Set]	file://tec3lnx.demonet.tecnet /UNIX/crontabListing/root	-	-
file://TTIMELX1.demonet.tecnet /UNIX/crontabListing/root	file://TTIMELX1.demonet.tecnet /UNIX/crontabListing/root	[Not Set]	[Not Set]	[Not Set]
Memory Size	3.91 GB	3.92 GB	3.92 GB	3.91 GB
Controllers				
DASD	DASD	-	[Not Set]	-
OS Running				
Fully Qualified Domain Name	TTIMELX1.demonet.tecnet	tec3lnx.demonet.tecnet	-	tec9lnx.demonet.tecnet
Kernel Version	2.6.27.42-0.1-default	2.6.18-128.2.1.el5	-	2.6.27.29-0.1-default

Tivoli Application Dependency Discovery Manager

Provides 3 Key Benefits - Enabling the IT Service Mgmt user to:

➤ **Determine if it is compliant**

▪ Compliance

- Compare configuration to “reference master”
- Compare to your standard policy

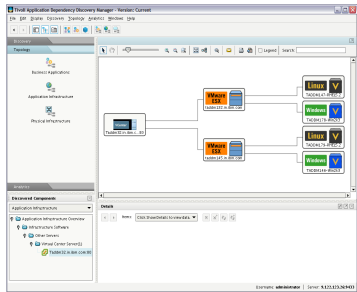
Comparing two instances of a DB2 Subsystem to the reference master

Values in red and blue are policy violations

#	DSNA-MVST - Version: 0	DB1S-MVST - Version: 0	DSNB-MVST - Version: 0
Database Maximum Altered Time Stamp	12/2/09 08:41 CDT	12/9/09 15:37 CDT	12/2/09 09:05 CDT
Config Contents			
Tablespaces			
Source Token	DSNA-MVST-DB2Subsystem-Tablespaces-AppConfig	DB1S-MVST-DB2Subsystem-Tablespaces-AppConfig	DSNB-MVST-DB2Subsystem-Tablespaces-AppConfig
Content			
Source Token	DSNA-MVST-DB2Subsystem-Tablespaces-ZReportFile	DB1S-MVST-DB2Subsystem-Tablespaces-ZReportFile	DSNB-MVST-DB2Subsystem-Tablespaces-ZReportFile
Checksum	867999802	738890175	840676648
Label	DSNA-MVST-DB2Subsystem-Tablespaces	DB1S-MVST-DB2Subsystem-Tablespaces	DSNB-MVST-DB2Subsystem-Tablespaces
Databases			
Source Token	DSNA-MVST-DB2Subsystem-Databases-AppConfig	DB1S-MVST-DB2Subsystem-Databases-AppConfig	DSNB-MVST-DB2Subsystem-Databases-AppConfig
Content			

TADDM supports top IT budget initiatives

Virtualization Discovery and Change Management



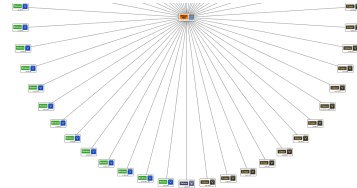
Typical total cost of ownership savings of 30 to 70 %

Hardware cost savings of 33 to 70 %

Maintenance cost savings of up to 50 %

Floor space and facility cost savings of 33 to 50 % and up to 80 % if consolidating to Linux® on IBM System z®.

Energy cost savings of over 40 %



Server Consolidation

Allows for quick view of server utilization for server consolidation

Visualize connectivity based on a set of systems for server consolidation and impact assessments

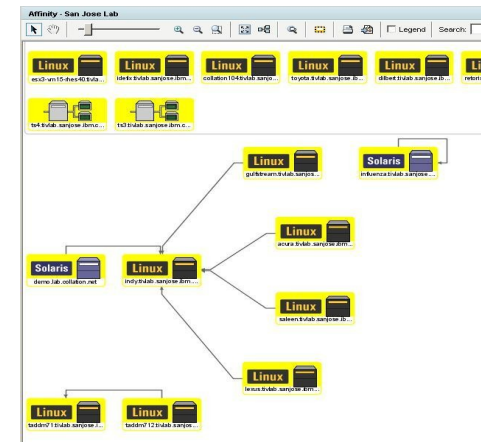
BIRT Report Viewer

Tivoli

System Utilization Report

Scope: Austin Lab
No Conditions

Host (# App Dependencies)	Metric	Value	Units	Samples	Sample Start	Sample End
area.tivlab.austin.ibm.com (0)	CPU Used	95.69	percent	13,446	09/23/08 14:01:00	09/25/08 23:46:01
	Disk Read	N/A				
	Disk Write	N/A				
	Disk Total	3.74	kilobytes/second	643	09/23/08 14:01:00	09/24/08 12:01:00
	Memory Used	198	megabytes	13,446	09/23/08 14:01:00	09/25/08 23:46:01
	Network In	39.38	kilobytes/second	132	09/23/08 14:31:00	09/24/08 12:01:00
buddy.tivlab.austin.ibm.com (0)	Network Out	64.19	kilobytes/second	132	09/23/08 14:31:00	09/24/08 12:01:00
	CPU Used	1.57	percent	10,467	09/23/08 13:31:01	09/25/08 23:46:01
	Disk Read	N/A				
	Disk Write	N/A				
	Disk Total	19.13	kilobytes/second	1,998	09/23/08 13:31:01	09/24/08 11:31:01
	Memory Used	490	megabytes	10,467	09/23/08 13:31:01	09/25/08 23:46:01
	Memory Used	97.62	percent	10,467	09/23/08 13:31:01	09/25/08 23:46:01
	Network In	488.29	kilobytes/second	136	09/23/08 13:16:01	09/24/08 11:31:01
	Network Out	22.16	kilobytes/second	136	09/23/08 13:16:01	09/24/08 11:31:01



Tivoli Application Dependency Discovery Manager v7.2.1 Highlights

- Performance and scalability:
 - New streaming architecture

- New discovery capabilities:
 - Script-based discovery
 - Asynchronous discovery
 - Concurrent targeted discovery

- New business application grouping composer:
 - Simplifies business application definition and discovery collection
 - Based on user-specified criteria

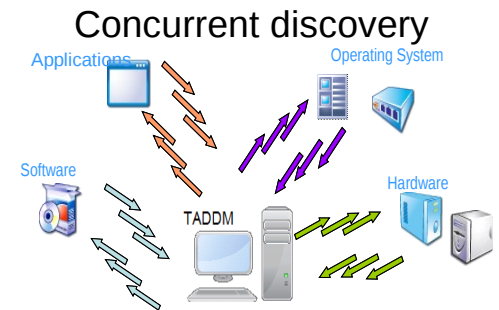
- Enhanced interoperability:
 - Improved TBSM Integration;
 - Proactive discovery
 - TWS discovery scheduling

- Enhanced UI and Reporting:
 - Quickly create custom reports

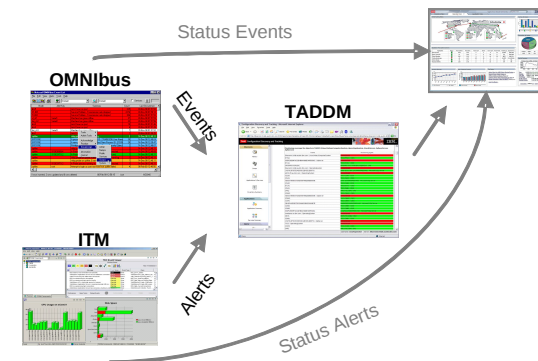
New streaming architecture

Credential-less discovery

Grouping Composer



Enhanced Interoperability



Tactical problems that can be solved with TADDM...

- Break down the silos between Application and Infrastructure teams (mainframe and distributed)
 - Discover / visualize application dependencies
 - Create business applications
- Improve Incident management
 - Review IT alerts, leverage TADDM Topology and change history
- Proactive Change Management
 - Component Comparison reports (test, user, QA, production) attributes for like systems
 - Impact analysis for planned changes (Business applications affected)

Business problems that can be solved with TADDM...

- Improve availability of business applications
- Prepare for Business Service Management
- Align IT with the Business

- IT industry acknowledges that 80% of all outages are caused by unplanned and unauthorized changes
- Average IT organizations spend 35% - 45% of their time on service restoration unplanned and unscheduled work and service restoration

Key Use Cases

Tactical

- Incident - Problem isolation and determination
 - What has changed recently?
- Planned changes - impact analysis
- Planned changes - verify changes were made
- Planned changes - establish baseline, track drift from baseline
- System Server Administration - view across multiple platforms (end to end view of application)
- Configuration parameter comparisons (test, user, QA, production)
- Education, understanding of the overall environment
 - Physical environment
 - Software environment

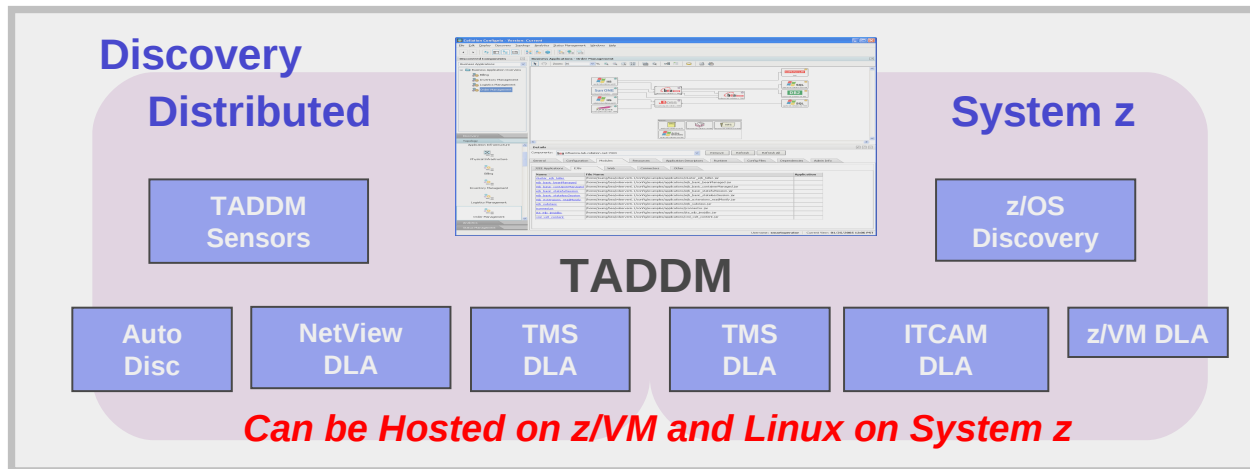
Strategic

- Leverage Business Applications
 - TADDM discovers application dependencies
- Define Business Services
 - Prepare for business service management
- Update business services components daily
 - Based on refreshed business application discovery

Automated Discovery of z and distributed resources

Tivoli Application Dependency and Discovery Manager

- Create / discover / visualize Business Applications and their dependencies between z/OS, z/VM and distributed resources
- Maintain and track configuration changes
- Baseline gold standard and measure configuration drift
- Comparison of configurations (test, user, QA, production)
- Improving IT awareness of Business applications (education)

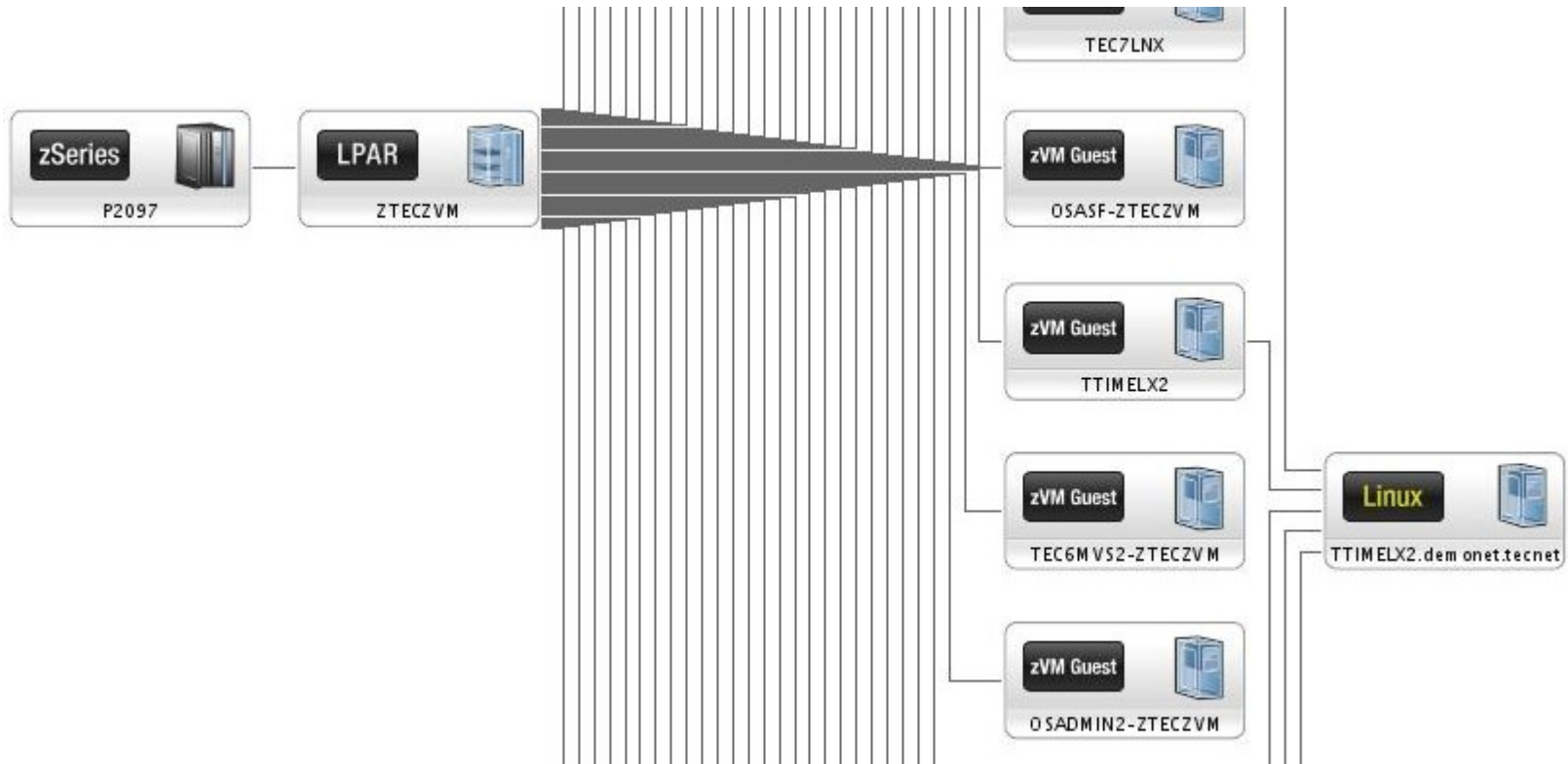


Tivoli Application Discovery and Dependency Manager dynamically gathers configuration information from both Distributed and z/OS Resources and map their relationships.



System z Applications in a TADDM Business Service View

The screenshot displays the TADDM Business Service View interface. On the left, a navigation pane shows 'Business Applications' and 'LG Web Service'. The main area shows a topology diagram with components like 'IP', 'LPAR', 'WebSphere', 'zVM Guest', and 'zSeries'. A context menu is open over the 'zSeries' component, listing actions such as 'Add to cart', 'Show Details', and 'Show Z Topology'. A callout bubble points to the 'zSeries' component with the text: 'Right click on System z Computer System to see z Topology'. The bottom status bar shows 'Username: administrator' and 'Server: ttimeaddm.pal.te'.



Z Topology for a z/OS shows all Sysplex related:

- z/OS
- Coupling Facility
- zVMGuest
- zVM
- LPAR
- zSeries

TADDM Change Management
Select z resources and time period

Change Management

The screenshot displays the Tivoli Application Dependency Discovery Manager (TADDM) interface. The main window shows a dependency graph for the 'LG Web Service'. The graph includes components such as 'WebSphere', 'zSeries', 'Linux', and 'Windows'. A context menu is open over the 'WebSphere' component, listing actions like 'Add to cart', 'Show Details', 'Create Business Application...', 'Change History...', and 'Show Dependencies'. The left sidebar shows a 'Discovered Components' list with 'LG Web Service' selected. The top menu bar includes 'File', 'Edit', 'Display', 'Discovery', 'Topology', 'Analytics', 'Administration', and 'Help'.

Configuration Discovery and Tracking - Version: Current

File Edit Display Discovery Topology Analytics Windows Help

Discovery
Topology

Business Applications
Application Infrastructure
Physical Infrastructure

Analytics

Discovered Components

Application Infrastructure

- CICS Regions(21)
 - DWEIANDZ-MVS
 - CIMM1-OMO1
 - CILB1-OMO3
 - CILB2-OMO7
 - C63D3ED1-TSD3
 - C64D3ED1-TSD3
 - CICSAOR5-MVSA
 - CICSTOR1-MVSA
 - CICSTIVX-MVSA
 - CPSMWUI-MVSA

Application Infrastructure

TADDM Change Management
Graphic display of z resources that changed

Context Menu:

- Show Details
- Edit...
- Delete
- Change History...**
- Component Dependencies...
- Show Dependencies
- Filter Dependency

Username: administrator | Server: emdb-943

TADDM Change Management
Text display of z resources that changed

Configuration Discovery and Tracking - Version: Current

File Edit Display Discovery Topology Analytics Windows Help

Discovery
Topology
Analytics

Change History
Dormant Components
Component Comparison

Discovered Components

Application Infrastructure

CICS Regions(21)

- CICS 2 DWEIANDZ-MV
- CICS 2 CIMM1-OMO1
- CICS 2 CILB1-OMO3
- CICS 2 CILB2-OMO7
- CICS 2 C63D3ED1-TSD3
- CICS 2 C64D3ED1-TSD3
- CICS 2 CICSAOR5-MVSA
- CICS 2 CICSTOR1-MVSA
- CICS 2 CICSTIVX-MVSA
- CICS 2 CPSMWUI-MVSA

Change History: Results

Component	Type	Change	Date	Attribute	Old Value	
demomvs.demopkg.ibm.com:6022	CICSRegion	Updated	14/06/07 12:26 WST			
demomvs.demopkg.ibm.com:8082	CICSRegion	Updated	14/06/07 12:24 WST			
demomvs.demopkg.ibm.com:8082	CICSRegion	Updated	14/06/07 12:35 WST			
MVSA:CICSAOR2	CICSRegion	Updated	14/06/07 12:35 WST	filesChecksum	724315437	32097
MVSA:CICSAOR2	CICSRegion	Updated	14/06/07 12:35 WST	transactionsChecksum	94707994	18573
MVSA:CICSAOR2	CICSRegion	Updated	14/06/07 12:35 WST	programsChecksum	395525002	54815
MVSA:CICSAOR2	CICSRegion	Updated	14/06/07 12:35 WST	lastModifiedTime	1181795728234	11817
demomvs.demopkg.ibm.com:6022	CICSRegion	Updated	14/06/07 12:36 WST			

Transactions

Items: CICS 2 demomvs.demopkg.ibm.com:8082

General Configuration Transactions Programs Files Related Dependencies

Label: CICSAOR2-MVSA
 Job Name: CICSAOR2
 Version: 3.1.0
 Net ID: USIBMNR
 Appl ID: CICSACB3
 Files Checksum: 320975369
 Transactions Checksum: 185733158
 Programs Checksum: 548151301
 GR Name:

Username: administrator Server: cmdh:9431

TADDM Comparison
Display of attributes that changed on a z resource

Configuration Discovery and Tracking - Version: Current

File Edit Display Discovery Topology Analytics Windows Help

Discovery

Topology

Analytics

Change history

Dormant Components

Component Comparison

Switch Topology

Discovered Components

Physical Infrastructure

Physical Infrastructure Overview

- Network Tier
- Systems Tier
 - Sysplexes
 - SYSPLEXO(5)
 - z/OS OMO2-SYSP
 - z/OS OMO1-SYSP
 - z/OS OMO4-SYSP
 - z/OS OMO3-SYSP
 - z/OS OMO7-SYSP
 - DEMOPLX(1)

Component Comparison: Results

	OMO2 - Version:0	OMO3 - Version:0	OMO4 - Version:0
● IPL Time	1180818033000	1180818258000	1180818473000
● FQDN	pthomo2.perthapc.au.ibm.com	pthomo3.perthapc.au.ibm.com	pthomo4.perthapc.au.ibm.com
● Fmid	HBB7709		HBB7720
● SSCP	OMO2CDRM	OMO3CDRM	OMO4CDRM
● SMFID	OMO2	OMO3	OMO4
● IPL Parm Device	E201		E63F
● Name	pthomo2.perthapc.au.ibm.com	pthomo3.perthapc.au.ibm.com	pthomo4.perthapc.au.ibm.com
➤ Storage Volume			
● IPL Parm Volume	\$\$\$SR6F		\$\$\$SR7D
● Version String	01.06.00		01.07.00
● Source Token	OMO2-ZOS	OMO3-ZOS	OMO4-ZOS
● OS Name	OMO2	OMO3	OMO4
● Label	OMO2-SYSPLEXO	OMO3-SYSPLEXO	OMO4-SYSPLEXO
● Sys Res Volume	\$\$\$SR6F		\$\$\$SR7D
● Netid SSCP	AUIBMQXP.OMO2CDRM	AUIBMQXP.OMO3CDRM	AUIBMQXP.OMO4CDRM

Details

Items: z/OS OMO2-SYSPLEXO

General
IP
Parmlib
Runtime
Storage
Subsystems
Address Spaces

Label:	OMO2-SYSPLEXO
Name	pthomo2.perthapc.au.ibm.com
OS Name	OMO2
SMF ID	OMO2
Net ID SSCP	AUIBMQXP.OMO2CDRM
SysRes Volume	\$\$\$SR6F
Version	01.06.00
Primary JES	JES2
JES Node	PTHAPO0
IPL Parm Dataset	SYS8.IPLPARM
IPL Parm Device	E201

Username: administrator | Server: cmdh-943

z/OS Address Spaces and Program Parameters

Tivoli Application Dependency Discovery Manager - Version: Current

File Edit Display Discovery Topology Analytics Windows Help

Discovery
Topology

Business Applications
Application Infrastructure
Physical Infrastructure
Analytics

Discovered Components
Physical Infrastructure

- 2 tv2003
- 2 tv2006
- 2 tv2011
- 2 tv2011
- 2 VM-TOKEN
- 2 VM-TOKEN
- 2 VM-TOKEN
- 2 VM-TOKEN

System p
System i

Topology Diagram:

```

    graph LR
      ZSeries[Z Series VM-TOKEN] --- LPAR[LPAR RALVMR-VM-TOKEN]
      LPAR --- ZVM[RALVMR]
      LPAR --- ZVMGuest[ZVM Guest NMP127-RALVMR]
      ZVMGuest --- zOS[z/OS 127-PLEX1]
      zOS --- Sysplex[Sysplex PLEX1]
    
```

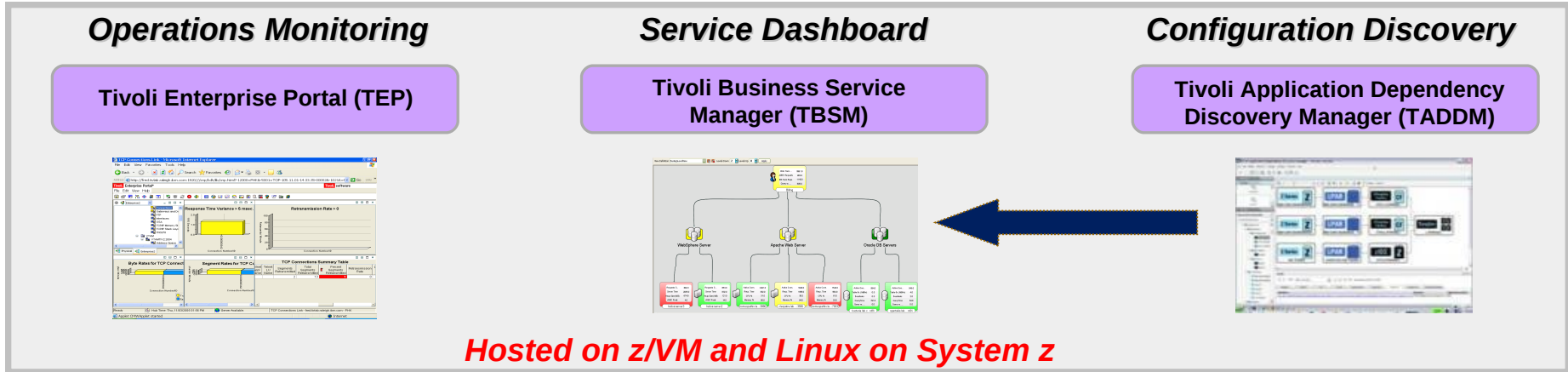
Details
Items: z/OS 127-PLEX1

General IP Reports Subsystems Address Spaces Admin Info MSS Info Artifact Info

Label	Job Name	Job Userid	Job Type	Job Function	Proc Step	Step Name	Pgm	Pgm Parm
FTPD1-127	FTPD1	OMVSKERN	Started Task	SYSTEM_UNIX_PROC	IEFPROC	BPXAS	BPXPRFC	
INETD4-127	INETD4	OMVSKERN	Started Task	SYSTEM_UNIX_PROC	IEFPROC	BPXAS	BPXPRFC	
OSNMPD-127	OSNMPD	IBMUSER	Started Task	TCPIP_SNMP	OSNMPD	OSNMPD	EZASNMPD	POSI(ON) ALL31(ON),ENVAR(
RACF-127	RACF	IBMUSER	Started Task	SYSTEM_RACF	RACF	RACF	IRRSSM00	
RXSERVE-127	RXSERVE	OMVSKERN	Started Task		RXSERVE	RXSERVE		EX=,TSO=IKJACCNT,MSG=R,TS
SYSLOGD8-127	SYSLOGD8	OMVSKERN	Started Task	SYSTEM_UNIX_PROC	IEFPROC	BPXAS	BPXPRFC	
T530EENV-127	T530EENV	IBMUSER	Started Task		NETVIEW	T530EENV	BNJLINTX	24K,200,NTVB9,*,NOARM,,
T530EESS-127	T530EESS	IBMUSER	Started Task	NETVIEW_SUBSYSTEM	NETVIEW	T530EESS	CNMINIT	4000,200,%,SSEXT,PI,*,NOARM
T530EGHS-127	T530EGHS	IBMUSER	Started Task	NETVIEW_GMFHS	NETVIEWG	C	DUIFT000	N,RESWS=NO,DOMAIN=NTVB9,
T530ERDM-127	T530ERDM	IBMUSER	Started Task	NETVIEW_RODM	START	X	EKGTC000	C,RODMNAME,EKGLISLM,NO,EM
TCPIP-127	TCPIP	OMVSKERN	Started Task	SYSTEM_TCPIP	TCPIP	TCPIP	EZBTCPIP	CTRACE(CTIEZB00),DS=00
TN3270-127	TN3270	IBMUSER	Started Task	TCPIP_TN3270	TN3270	TN3270	EZBTNINI	CTRACE(CTIEZBTN)
TSO-127	TSO	IBMUSER	Started Task	SYSTEM_TCAS	STEP	TSO	IKTCAS00	

Start | Infoprint Man... | SWG RTP B5... | Application D... | Login | Tivoli Applic... | Paint Shop Pro | Desktop | 11:08 AM

Industry Example: Centralized Business Service Management on System z



Event Consolidation & Correlation (Netcool/OMNibus)



**Server, Systems, & Application
Availability & Performance Management**

1000x events

**Network Availability and
Performance Management**

10000x events

Mainframe

Performance Monitoring
and Other Event Sources

Distributed

Performance Monitoring
and Other Event Sources

Network

NetCool
I

Other
Tools

Probes

Operating Systems

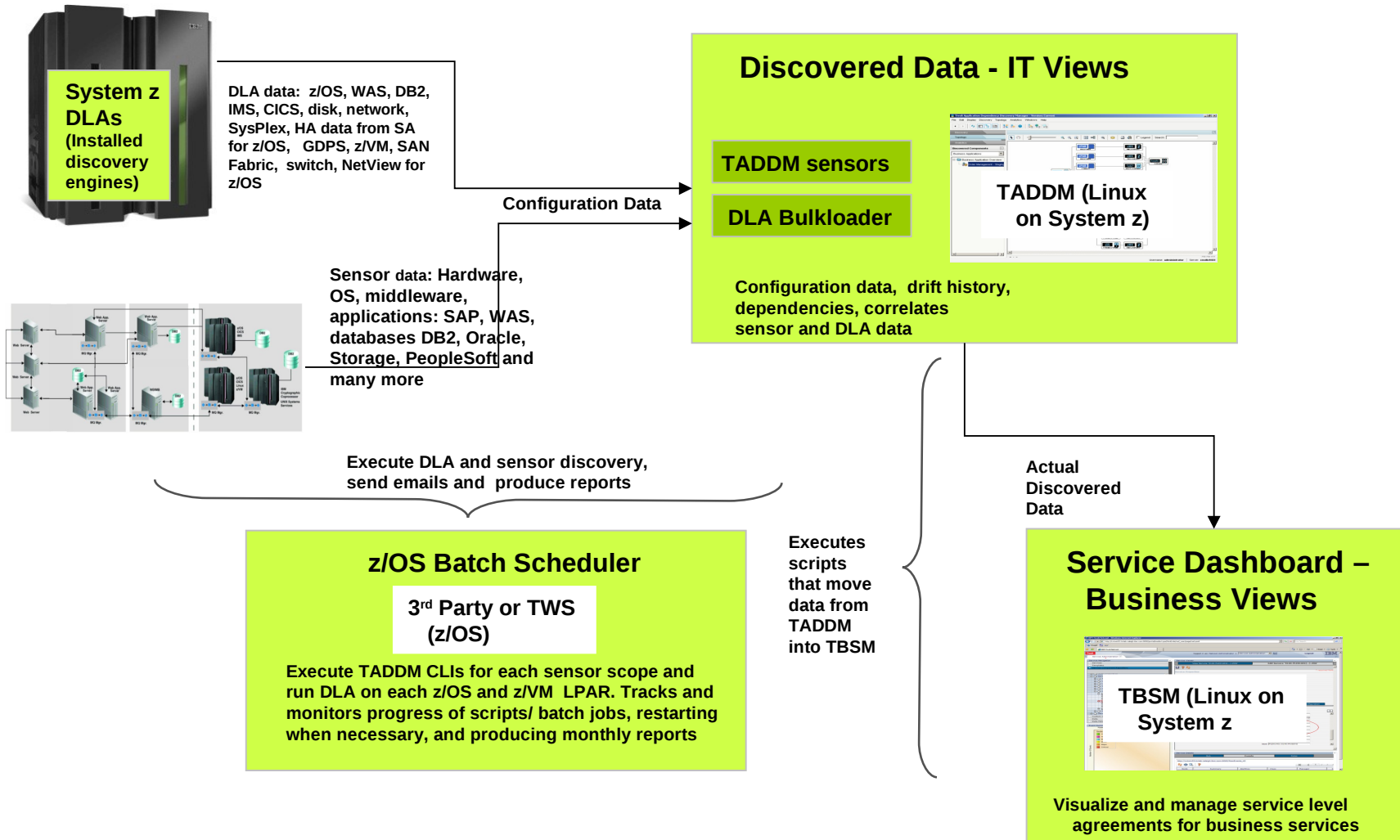
Applications

Middleware

Wire-line Networks

Wireless Networks

ISMz Industry Example: Operational Best Practices Discovery and Business Service Management Solution



IBM ISMz Discovery Solution Futures: Provide single view across the integrated zEnterprise platform

Visibility: Consolidates information to provide real-time visibility of critical services delivered using Business, Compliance, and Operational dashboards

Integrated Service Management



Single view across z, p, x platforms

zSeries Discovery – How it works

Z Series Discovery Library Adapters feed data to TADDM, CCMDB and TBSM

TADDM, CCMDB and TBSM understand CDM

DLA's describe resources and relationships in conformance to the Common Data Model (CDM).

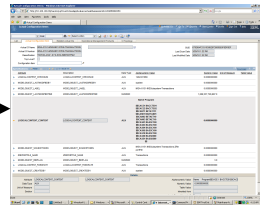
Discovery Library File Store (BulkLoader)

TADDM DB

TBSM DB



TADDM



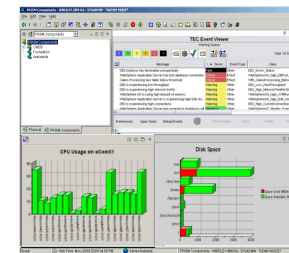
CCMDB



TBSM



OMNibus



ITM

ZSeries ComputerSystem

DLA Discovery

z/OS Event Pump

XML Files (Books)

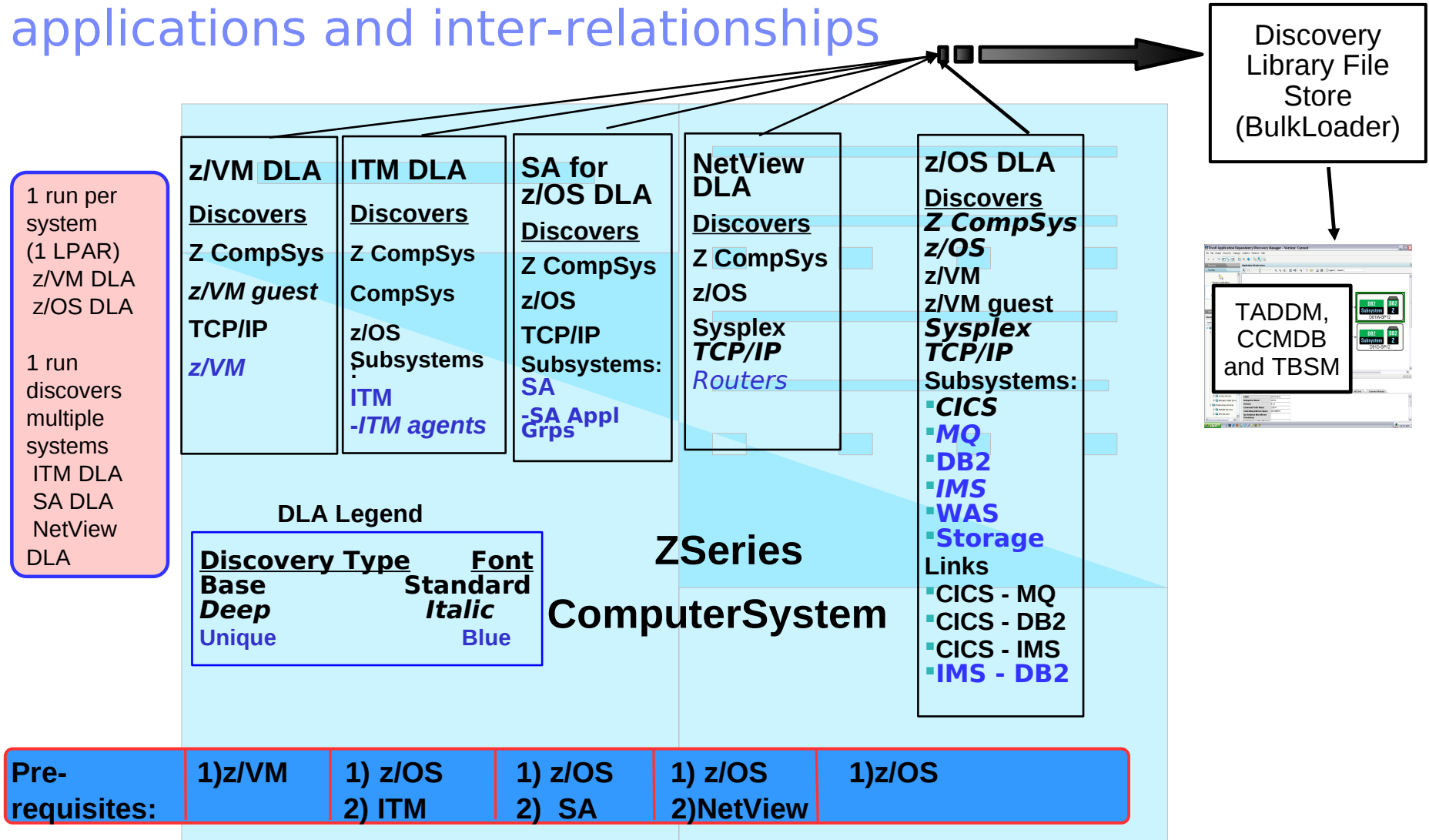
Events

Sensors

Distributed Systems

Configuration, Change Business Systems Event Availability Management Performance & Asset Mgmt.

Z Series DLAs discover hardware, operating Systems, applications and inter-relationships



z/VM DLA

▪ Why is discovery needed on z/VM?

- TADDM is already using a sensor to discover Linux systems, including virtualized hosts.
- Discovering a virtual Linux system yields an incomplete picture of the topology without discovering the hypervisor.
- Need to know where virtual hosts are running, especially when planning an outage.
- For example, if a z/VM system needs to be re-IPL'ed or updated, which Linux guests are impacted?
- How many Linux hosts are currently virtualized on z/VM, and in which LPARs do they reside?
- For installations with two levels of virtualization, discover hosts running on second-level z/VM.

▪ z/VM DLA V1.1.0 Features:

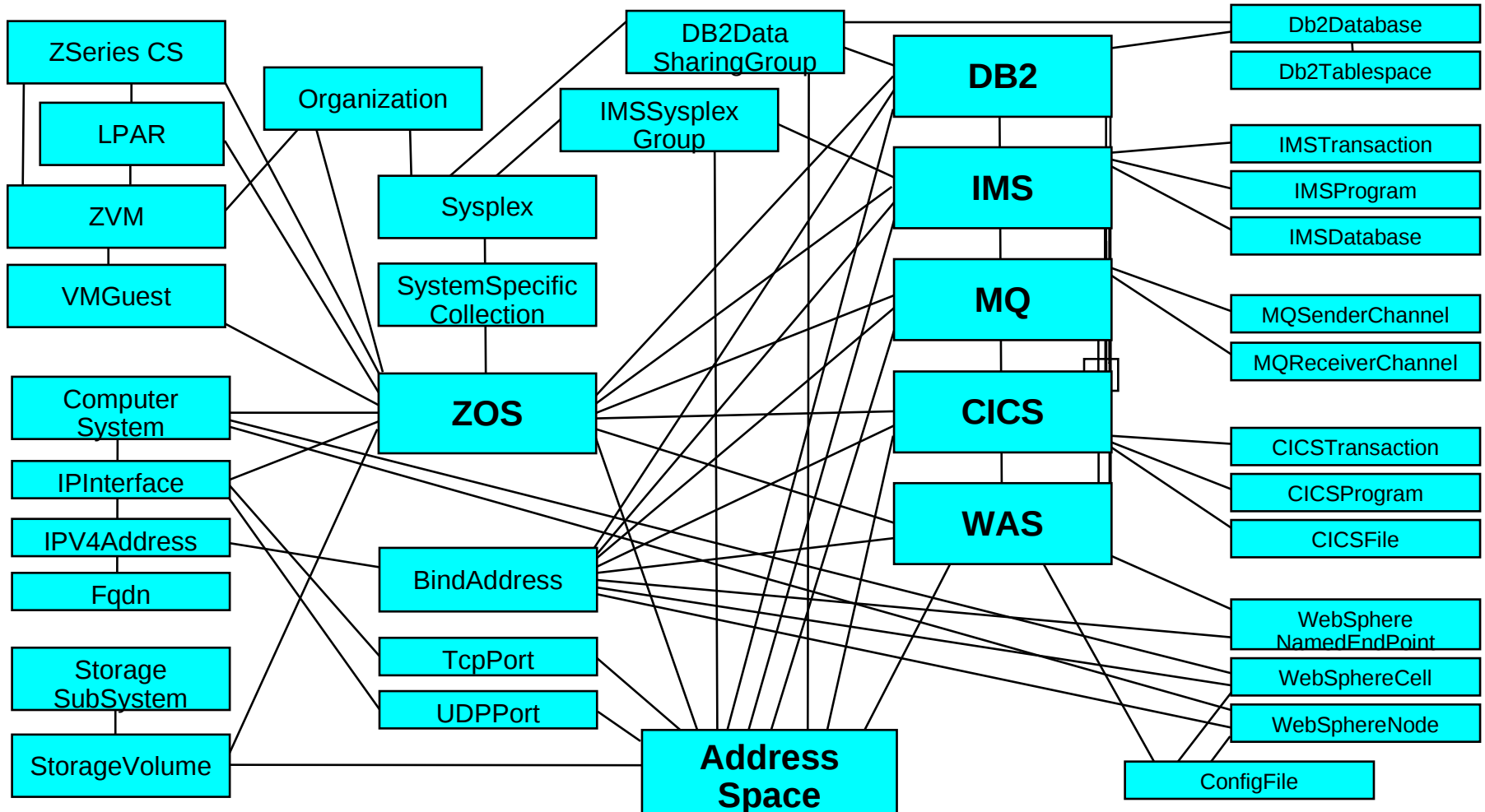
- Initial version of a z/VM DLA
- The z/VM DLA will run in a Linux on System z host and retrieve z/VM configuration information from the z/VM System Management API, and then constructs IdML books.
- Discovers:
 - LPARs running z/VM and attributes of the LPARs.
 - All Virtual Machines running in the z/VM image.
 - Primary IP Interface defined to the z/VM image.
 - Virtual Machines running as second-level guests under z/VM.

z/VM DLA (cont.)

▪ Key Features

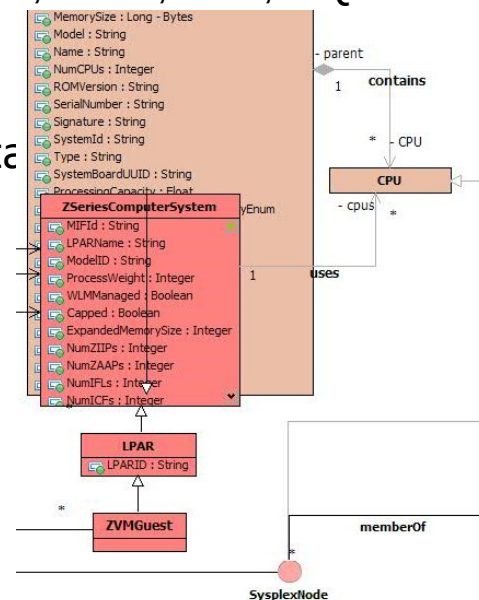
- TADDM Topology maps of z/VM, including:
 - All Virtual Machines
 - Linux on System z guests (with Linux sensor)
 - z/OS guests (with z/OS DLA)
 - Other virtual machines, like those that support z/VM networking.
 - Second-level z/VM systems, and Linux on System z guests on second-level.
 - SMAPI server must be running on second-level z/VM to discover.
- Shows the discovered Linux hosts that are virtualized, and those that are not (possible candidates for virtualization).
- z/VM SMAPI provides the mechanism for authenticating client requests for configuration data over IP sockets.
- One instance of the z/VM DLA application:
 - can retrieve data and create IdML books for more than one SMAPI server
 - For example, when discovering first- and second-level z/VM systems, each level will have its own SMAPI server. One instance of the z/VM DLA application can create books for both z/VM systems. (Uses a TCPIP Sockets interface to SMAPI server.)

z/OS DLA discovers z/OS, z/VM (basic), z/OS subsystems and relationships



Where does z/OS DLA get the data?

- Runs as a batch job on z/OS
 - Manually submitted, via a job scheduler, or via an automation product.
 - Starts by examining Address Spaces; Can dig deeper where it recognizes the Address Space
 - Includes support to FTP all output books to a Discovery Library File Server
 - Discovers zSeries hardware, OpSys, Applications and Relationships, including:
 - z/OS, CEC, Storage, Sysplex, z/VM Guest, CouplingFacility, IMS, CICS, DB2, MQ and WebSphere
- Produces XML files that comply with the IBM Common Data Model (CDM)
 - 39 different classes
 - 91 different relationship pairs
 - 228 different class attributes
 - Possibly thousands of instances depending on the environment



How does z/OS DLA gets the data

- Strong design focus to be SIMPLE, efficient and accurate
 - Anyone with basic access to the z/OS can perform the discovery
 - Does not require a live agent environment to be installed.
 - Does not require z/OS, IMS, CICS etc expertise.
 - Does not require site knowledge e.g. no naming conventions needed
 - Respects SAF authorizations (RACF or OEM) and Application authorization (ex. DB2)
 - Runs “out of the box”, but has also various configuration options for greater control.
 - Minimal prerequisites
-
- The z/OS DLA uses various z/OS System Services and inspects memory control blocks.
-
- The z/OS DLA does **NOT** issue z/OS commands in order to avoid possible performance overhead, syslog flooding and security prerequisites.

z/OS DLA provides configuration for z/OS LPARs and CEC information

Tivoli Application Dependency Discovery Manager - Version: Current

File Edit Display Discovery Topology Analytics Windows Help

Discovery

Topology

Application Infrastructure

Physical Infrastructure

9.42.46.0/24

SYS-LPAR400J

Analytics

Discovered Components

Physical Infrastructure

Physical Infrastructure Overview

- Network Tier
 - IP Subnets(1)
 - 9.42.46.0/24
- Systems Tier
 - Sysplexes
 - LPAR400.(3)
 - SYS-LPAR400J
 - CF04-LPAR400J
 - CF01-LPAR400J
 - Z-Series(3)
 - IBM.2084.000000000007D90D
 - IBM.2084.00000000000FD77D
 - VM-TOKEN
 - Virtual Systems
 - LPAR
- Storage Tier
 - Storage Subsystem(5)
 - IBM-2105F20-000000020284
 - IBM-2107921-000000087181
 - IBM-2107922-000000016941
 - IBM-2107923-000000034444

Node Centered Topology - CANSYSG-VM-TOKEN

Legend Search:

Items: CICSRBG1-SYS Last refresh: 4/25/10 21:27 EDT

General Reports Related Application Descriptors Dependencies Admin Info MSS Info

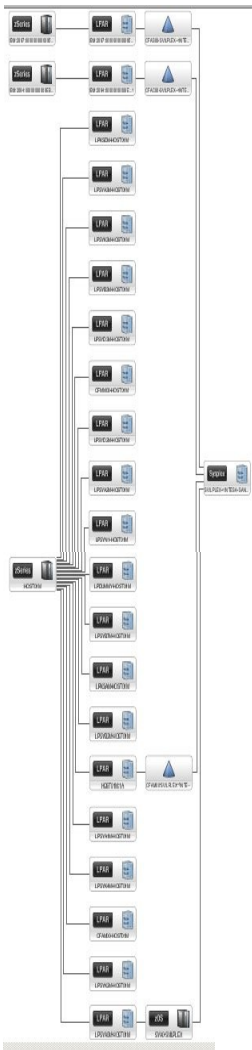
Label: CICSRBG1-SYS
Job Name: CICSRBG1

Username: administrator Server: omegacdww.tivlab.raleigh.ibm.com:9433

Q: How do I get a copy of z/OS DLA?

A: z/OS DLA is included in TADDM 7.2, CCMDB 7.2 and TBSM 4.1 for z/OS

z/OS DLA V3.1 – GA 3Q 2010



All PR/SM LPARs on a zSeries CEC

- Enhanced zSeries hardware and LPAR discovery through Processor Resource Systems Management (PR/SM)
- Enhanced MQ Series discovery equivalent to the TADDM distributed MQ sensor
- Discover Security Packages other than RACF
- Enhanced CICS support – CICS 4.1 and additional filters
- Additional WebSphere Servers
- Sample customization file that includes ALL default and optional discovery filters
- All z/OS DLA V2.3 APAR fixes
- Users Guide updates

IDML View C:\PROGRA~

IDML Directory or File: C:\PROGRA~

Submit < Back Forw

Class Summary

Class	Count
AppConfig	2
BindAddress	1
ComputerSystem	1
Fqdn	1
IpAddress	5
Interface	5
MQAliasQueue	4
MQClientConnectionChannel	1
MQClusterReceiverChannel	1
MQClusterSenderChannel	1
MQLocalQueue	349
MQModelQueue	4
MQReceiverChannel	2
MQRemoteQueue	2
MQSenderChannel	2
MQServerConnectionChannel	3
MQSubsystem	1
Organization	1
Sysplex	1
SystemSpecificCollection	1
ZOS	1
ZReportFile	2
Total Class Instances	391

Enhanced MQ Discovery

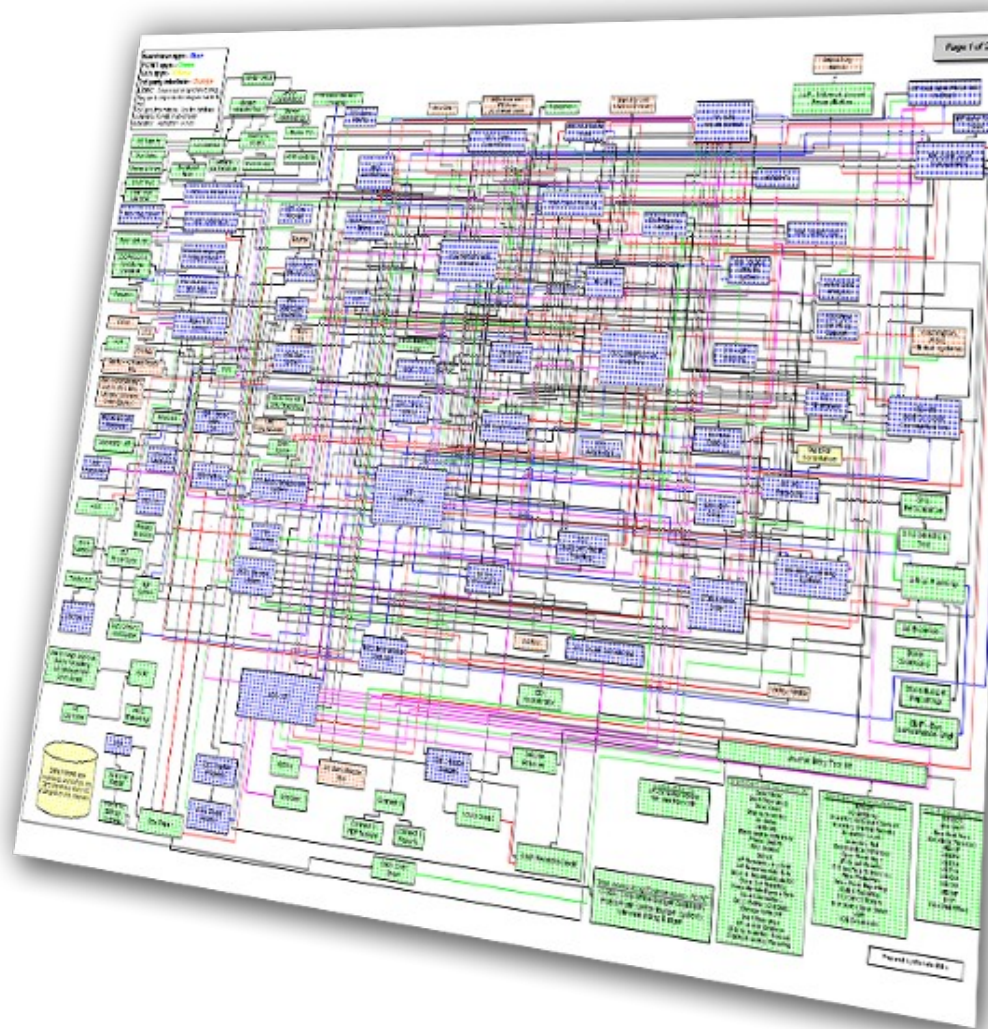
When Building a Systems Management Foundation

Too often, changes result in service disruption as relationships are not immediately understood.

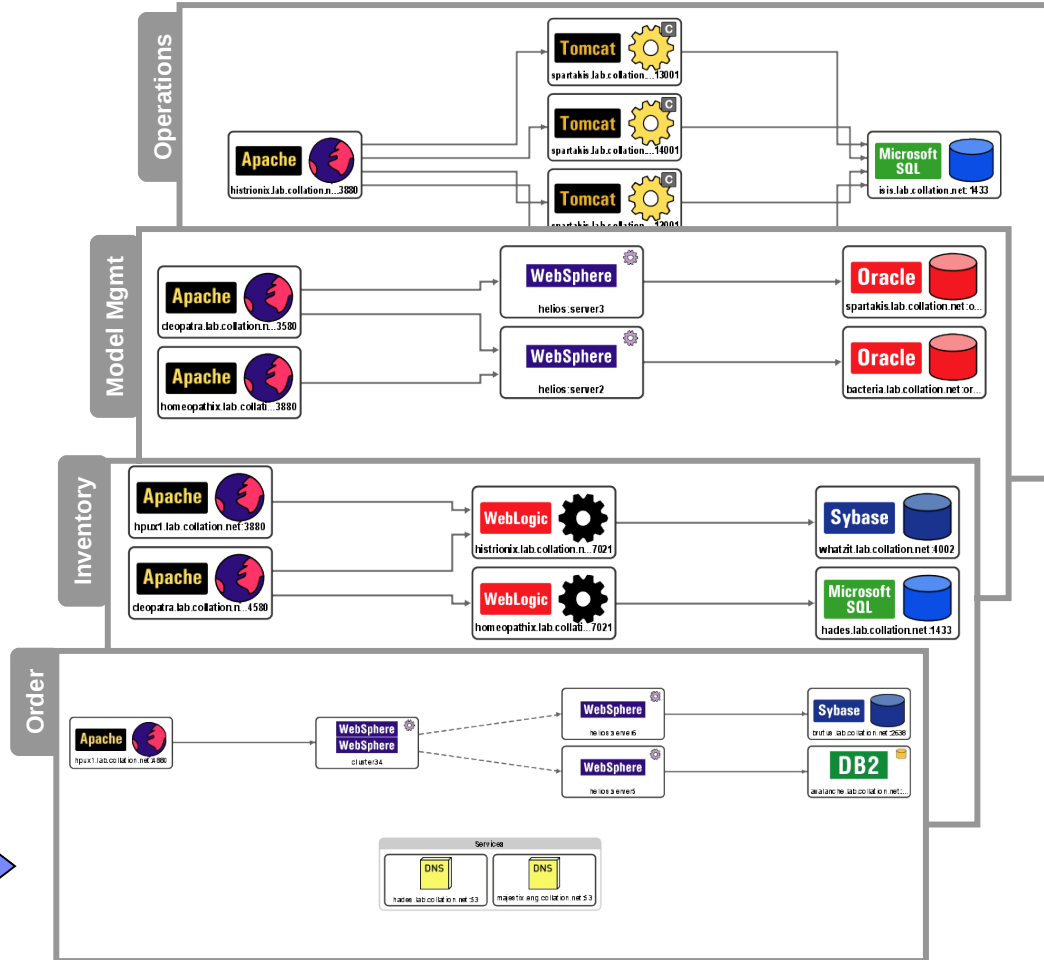
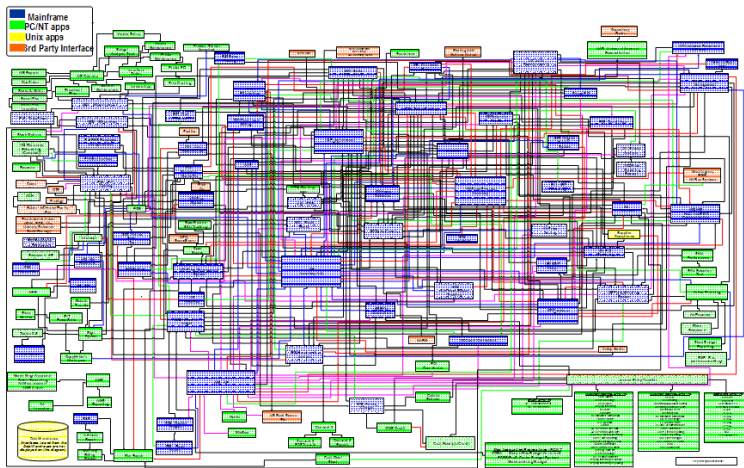
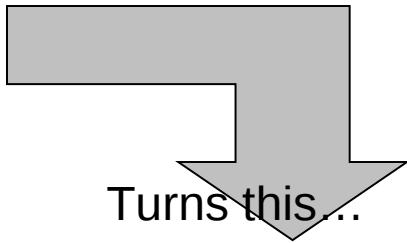
- Infrastructure changes = production outages (estimated at 10 per month)

As **Visibility** is key to success, Large Enterprises need:

- Real Time Event Management and quick reaction to change.
- Automated Enterprise Mapping & Discovery
 - Typically this is a manual exercise by IT personnel
- True End-to-End Business Systems Management including System z (zOS, z/VM, Linux on z)

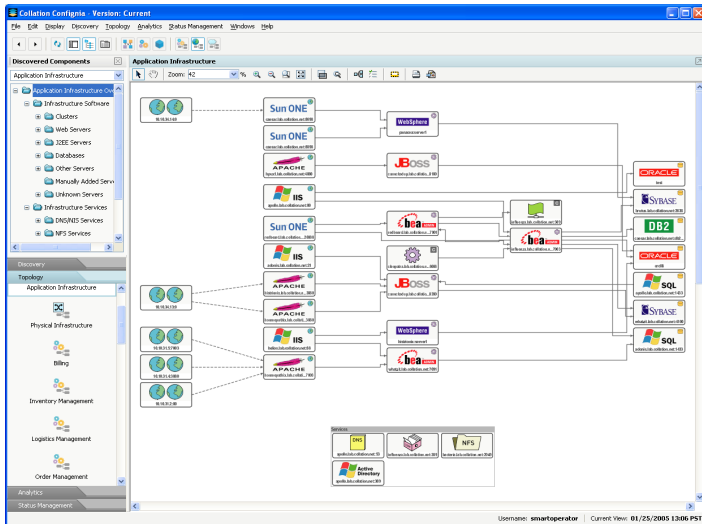


Automated Discovery and Automated Mapping



TADDM helps to provide the core for a Business Service Management foundation

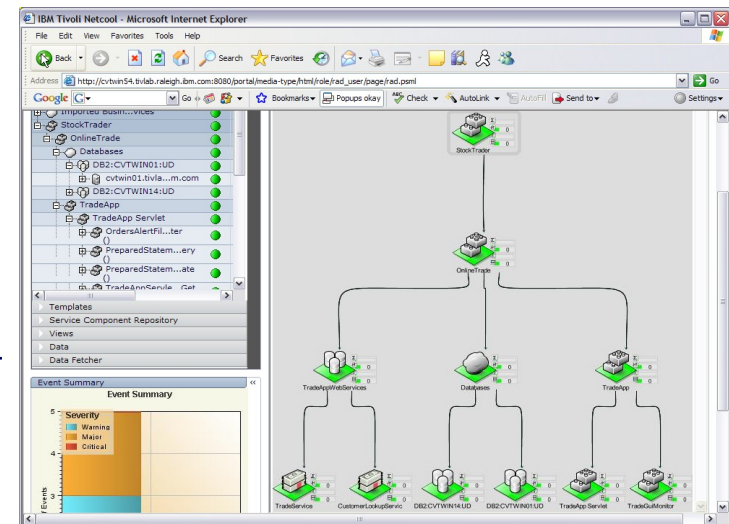
TADDM



Cross tier application maps
Configuration changes

Launch in context to
configuration details panels

TBSM



Business Value: Increased Service Availability

- Align IT infrastructure with the business through discovery automation
- Reduce mean time to repair (MTTR)
- Accurate and comprehensive cross-tier service visibility
- Deep configuration details and interdependencies
- Change history data to identify and isolate application changes

Questions?