

# Pulse2011



## Smarter Strategies for Discovery and Dependency Mapping

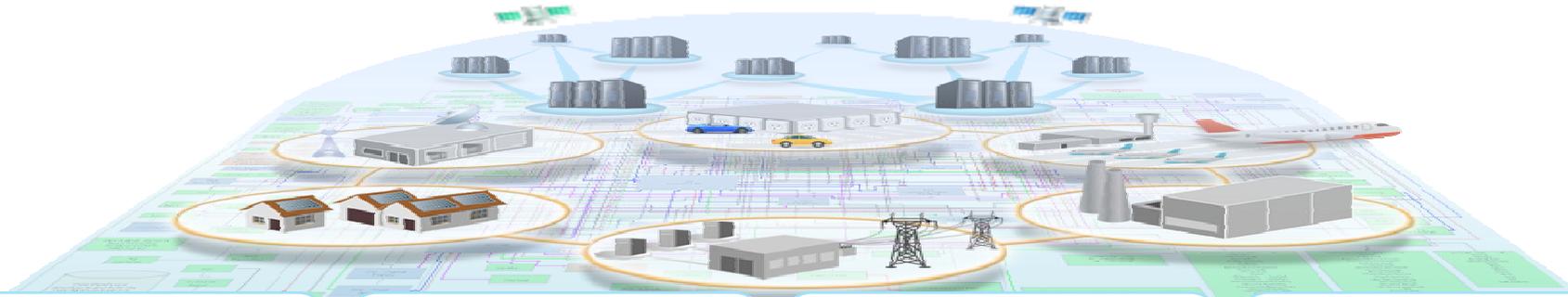
*How businesses are achieving successful business outcomes with Tivoli Application Dependency Discovery Manager (TADDM)*

Ed Rossi

Product Manager, Tivoli IT Asset  
Management Portfolio

# IBM Integrated Service Management

delivers visibility, control and automation™ across the end-to-end business infrastructure and the integrated service chain



<b>SERVICE QUALITY</b> <i>Ensuring performance against Service Level Agreements</i>	<b>SERVICE AGILITY</b> <i>Ensuring responsiveness to business needs</i>	<b>OPERATIONAL EFFICIENCY</b> <i>Reducing operating and capital costs of service excellence</i>	<b>RISK MITIGATION</b> <i>Providing visibility and control to reduce and manage risk &amp; uncertainty</i>
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 <i>See the service &amp; infrastructure</i>	 <i>Manage risk &amp; compliance</i>	 <i>Optimize service delivery</i>
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# An Integrated Service Management Platform Is Required

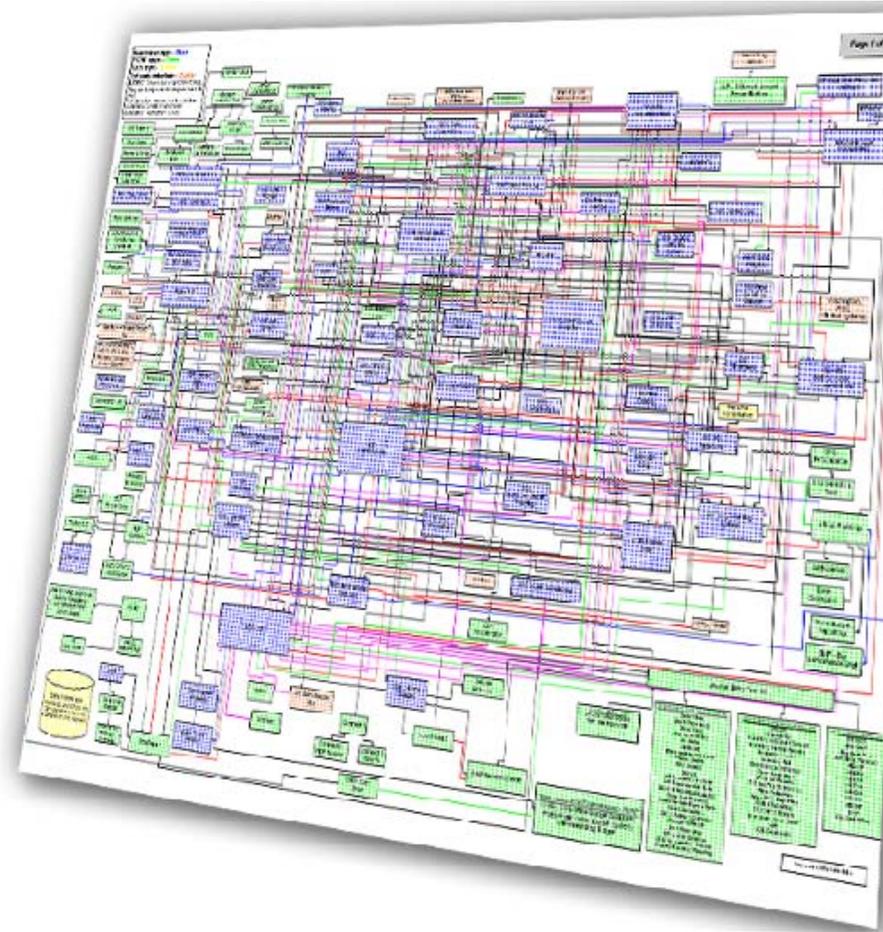
To optimize business infrastructures and deliver superior services & products



## How Companies Have Successfully Taken Control of the Chaos

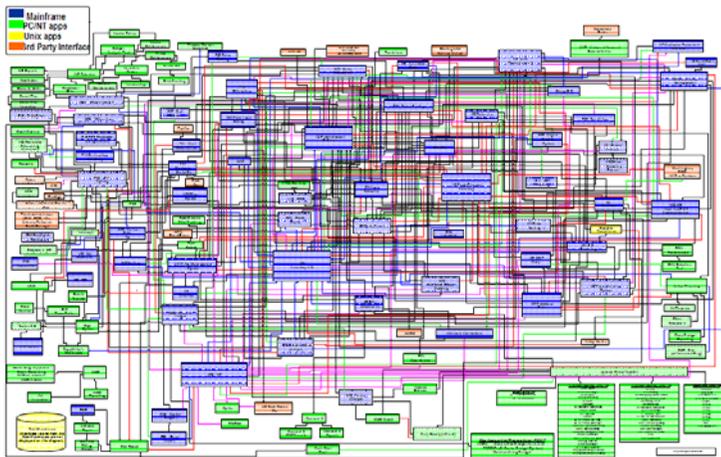
Too often, changes result in service disruption as relationships are not immediately understood.

- 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)

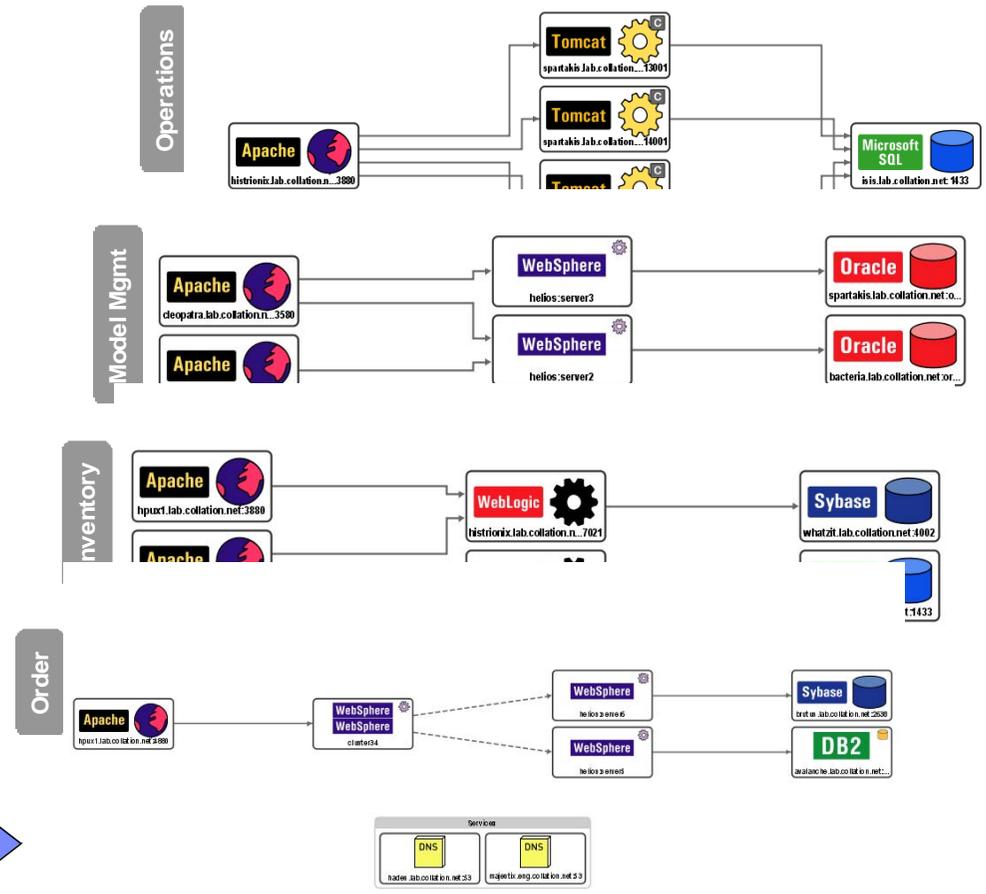


# How Companies Have Successfully Taken Control of the Chaos Automated Discovery and Automated Mapping

Turns this...



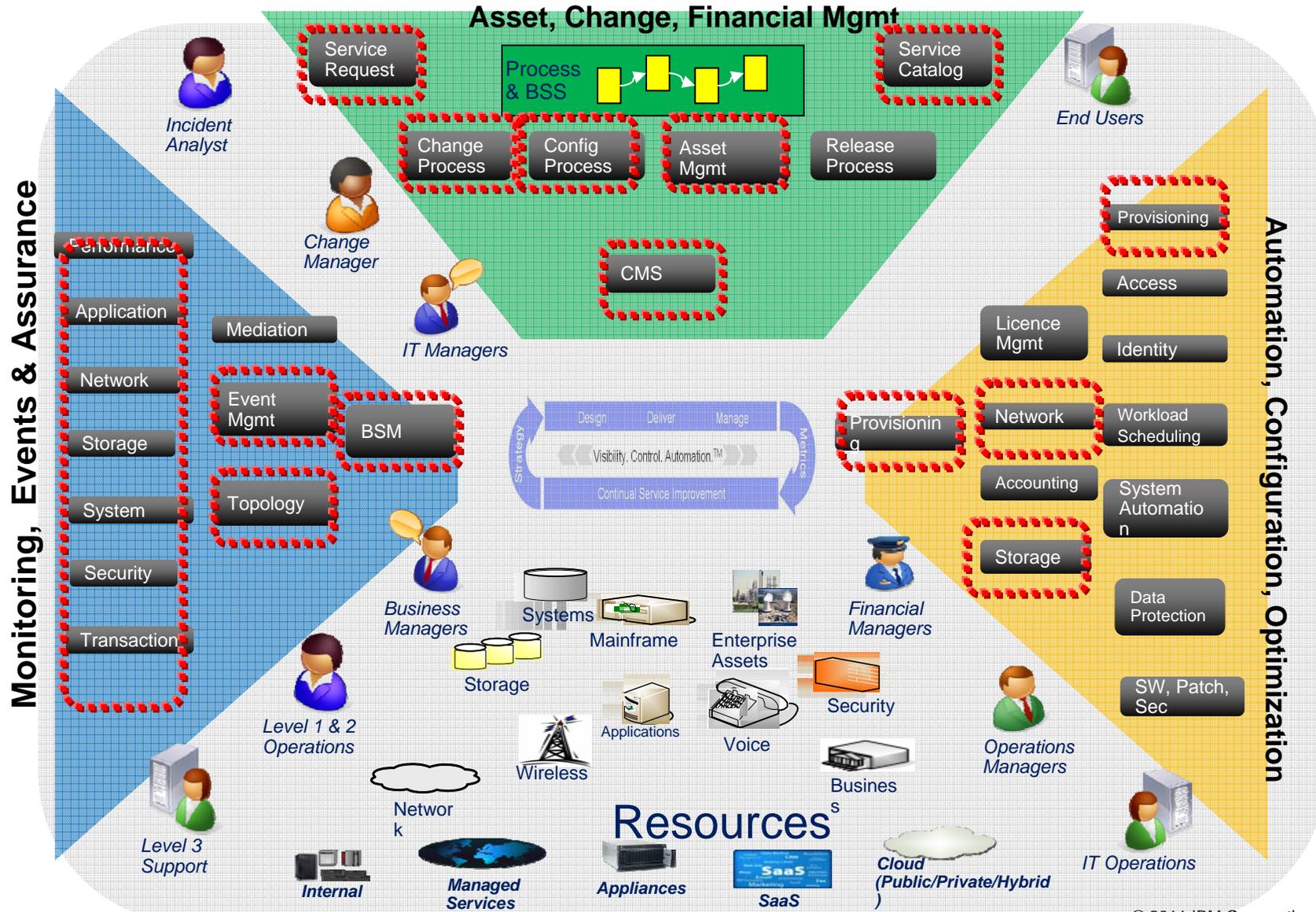
...into this!



and that means NO MORE SPREADSHEETS!!!



# Discovery and Dependency Mapping: Integral to Tivoli Solutions

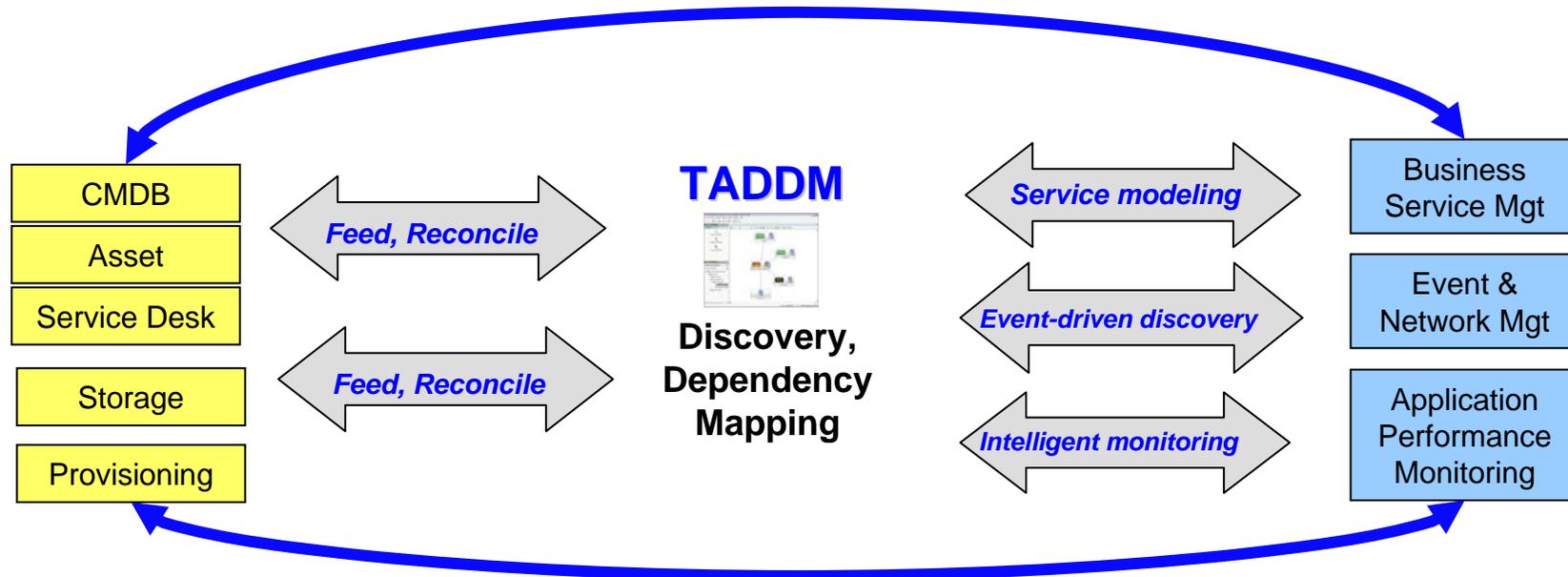


**Most common areas that leverage application and infrastructure configuration and dependency data**



# Most Common Approaches and Relational Value

Drives Key Automation Value



*TADDM: integral driver for asset and change management, provisioning*

*TADDM: integral driver for operational efficiency projects*

## Common customer approaches:

1. Configuration mgt, change mgt driven discovery

## Common customer approaches:

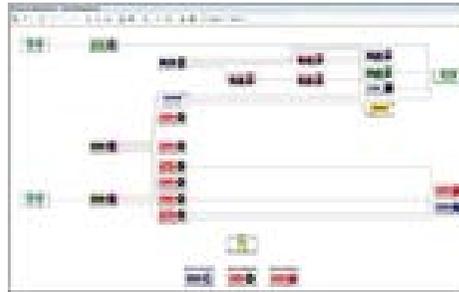
1. Prerequisite to Data Center Consolidation: bring order to chaos
2. Intelligent monitoring and management
3. Automating business service and application modeling

2. Asset mgt reconciliation

# Tivoli Application Dependency Discovery Manager (TADDM)

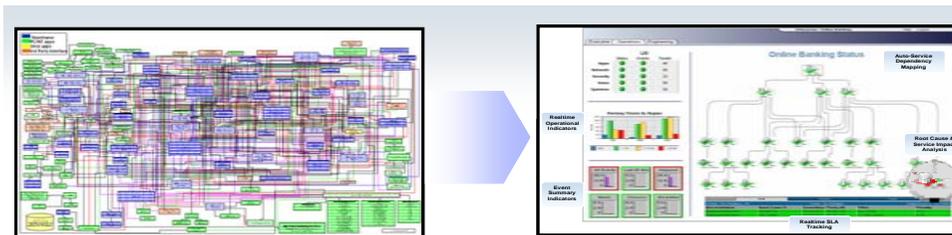
## Universal Discovery Engine

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 Dependency Mapping

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



## 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 provides visibility to what is in your infrastructure, how it is configured, and how it is changing over time.**



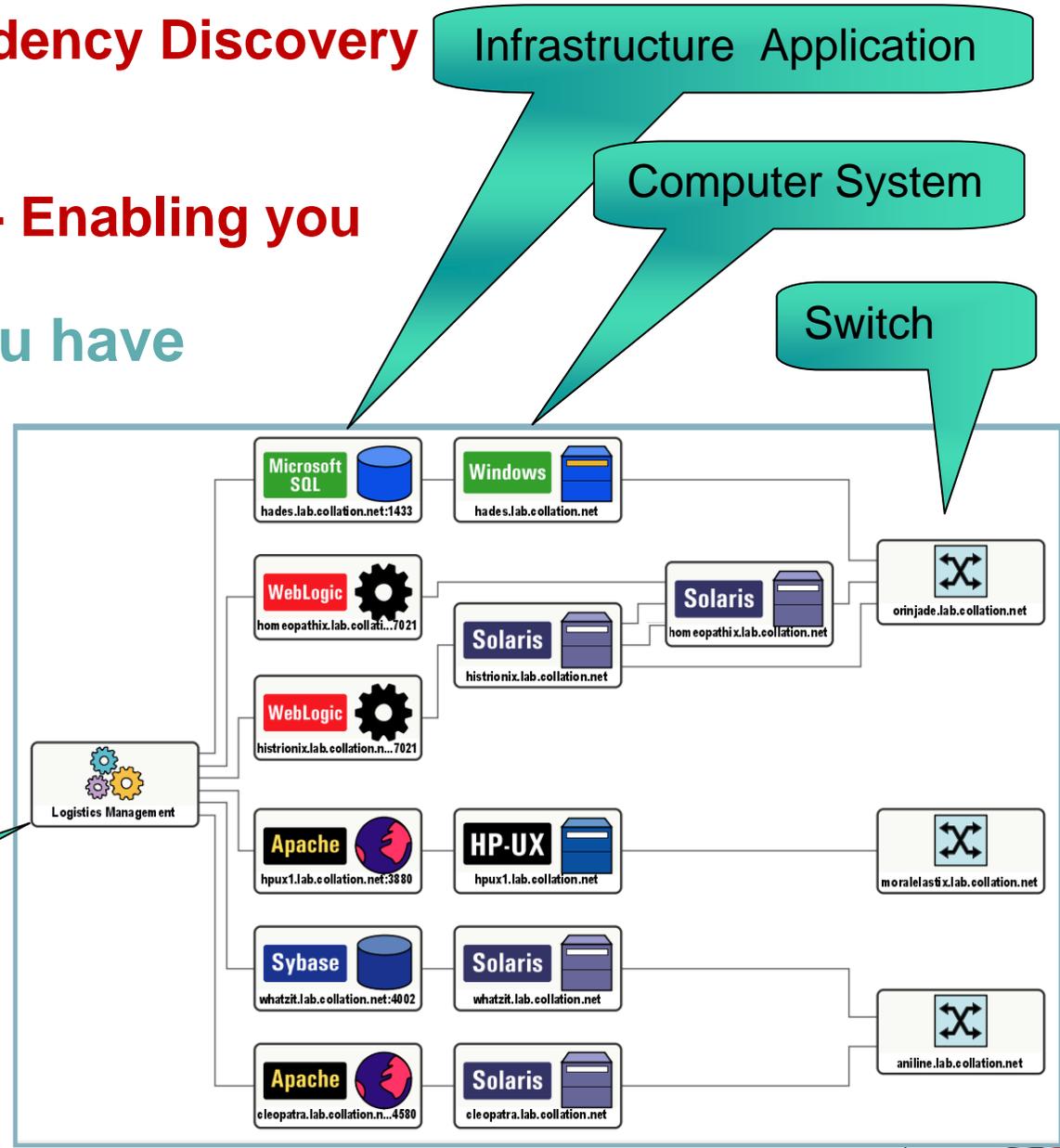
# Tivoli Application Dependency Discovery Manager

Provides 3 Key Benefits - Enabling you to:

➤ Understand what you have

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

Business Application



# Tivoli Application Dependency Discovery Manager

## Provides 3 Key Benefits - Enabling you to:

➤ Learn how their CIs and application infrastructure 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 Value	New Value
Apache	homeopathix.lab.collati	Updated	12/04/2004 15:01 PST	appDescriptors		/usr/local/apache/appd
Apache	homeopathix.lab.collati	Updated	12/04/2004 15:01 PST	appDescriptors		/usr/local/apache/app
ApacheWebContainer	homeopathix.lab.collati	Updated	12/04/2004 15:01 PST	ApacheWebContainer	/usr/local/apache/	/usr/local/apache
ApacheWebContainer	homeopathix.lab.collati	Updated	12/04/2004 15:01 PST	ApacheWebContainer	15	20
ApacheWebContainer	homeopathix.lab.collati	Updated	12/04/2004 15:01 PST	ApacheWebContainer	88	100
ProcessPool	homeopathix.lab.collati	Updated	12/04/2004 15:01 PST	homeopathix.lab.collati	/usr/local/apache/bin/	./httpd -d /usr/local/ap



# Tivoli Application Dependency Discovery Manager

## Provides 3 Key Benefits - Enabling you to:

- Determine if configuration and changes are compliant
- Compliance
  - Compare configuration to “reference master”
  - Compare to your standard policy

Comparing two instances of an Apache Web Server to the reference master

Values in red and blue are policy violations

	hpux1.lab.collation.net:4880 - Version:Current	utah.lab.collation.net:4880 - Version:Current	utah.lab.collation.net:3880 - Version:Current
Primary SAP			
Listening Port	4880		3880
Product Version	Apache/1.3.26 (Unix)	Apache/1.3.9 (Unix)	
Process Pools			
Hpx:1.lab.collation.net:4880			
Arguments	/opt/apache13/bin/httpd -d /opt/apache13 -R /opt/apache13/...	/home/jwang/apache/apache_1.3.9/bin/httpd -d /home/jwang...	/home/jwang/apache/testserver4/bin/httpd -d /home/jwang/a...
Product Name	Apache/1.3.26 (Unix)	Apache/1.3.9 (Unix)	
Config Contents			
Httpd.conf			
Permissions	<b>-rwxr-xr-x</b>	<b>-rwxr-xr-x</b>	<b>-rwxr-xr-x</b>
Last Modified	[Not Set]	04/15/2004 22:24 PDT	02/24/2005 16:33 PDT
Size	37404	31660	36609
Checksum	+8MD5CmmR57EaeNtX+npQ==	bKbFu12LwsAWsOkboI8sAq==	GVzu+7w4L+HvhaNxKuMMOw==
Containers			
Apache Web Container			
Keep Alive Timeout	15	55	
Max Spare Servers	10	20	
Virtual Hosts			
Hpx:1.lab.collation.net:4880	hpux1.lab.collation.net:4880	[Not Set]	[Not Set]
Spartakis.lab.collation.net:3880	[Not Set]	spartakis.lab.collation.net:4880	spartakis.lab.collation.net:3880
Spartakis.lab.collation.net:4880	[Not Set]		
Shannon.unixpeople.com:4880	[Not Set]	shannon.unixpeople.com:4880	
Server Root	/opt/apache13	/home/jwang/apache/apache_1.3.9	/home/jwang/apache/testserver4
Max Clients	150	50	
Timeout	300	500	
Max Keep Alive Requests	100	50	
Score Board File	/opt/apache13/logs/httpd.scoreboard	/home/jwang/apache/apache_1.3.9/logs/httpd.scoreboard	
PID file	/opt/apache13/logs/httpd.pid	/home/jwang/apache/apache_1.3.9/logs/httpd.pid	
Start Servers	5	8	
Min Spare Servers	5	10	
Name	hpux1.lab.collation.net	utah.lab.collation.net	utah.lab.collation.net



# Harley-Davidson Motor Company



*Harley-Davidson, Inc. is one of world's leading motorcycle manufacturers. Through innovation that spans the company's 100 year history, Harley-Davidson has created one of the strongest brands in the world. Harley-Davidson applies this same innovation to its business processes that enables the company to maintain its competitive edge in today's difficult economic climate*

## Business Challenge

Harley-Davidson has many different divisions that used dozens of various tools along with manual processes to manage service delivery. Because operational information was stored in multiple applications across each organization, the company's IT staff often wasn't aware of service outages until employees reported the outages.

## Solution

To achieve its goals, Harley-Davidson is working with IBM to create a cohesive, integrated model based on industry standard processes for availability management, service desk and IT asset management, and provisioning and discovery management.

**Key Offerings: TADDM, CCMDB, ITM, ITCAM, Impact, OMNibus, TBSM**

## Business Benefits

- Expects to cut IT costs by 24.9 million USD over five years.
- 201% return on investment with project payback expected in less than 14 months.
- Expected reduction in manufacturing costs
- A seamless, unified solution for all aspects of service request fulfillment and management

# Cineca



*Italy's largest high-performance-computing (HPC) research center limits cost, improves infrastructure efficiency and aligns ongoing management of its IT infrastructure with its business priorities when it implements Tivoli Automation*

## Business Challenge

Update its IT infrastructure while limiting cost and improving efficiency of the infrastructure, The organization needed a Configuration Management Database (CMDB), as the information base to support the processes of 'service delivery' and 'service support.'

## Solution

IBM implemented the project and populated the CMDB with the Configuration Items (CI) discovered in the Cineca Systems/Network and Application Infrastructure. The IBM Tivoli Application Dependency Discovery Manager helped CINECA understand configurations, map applications and changes and address compliance measures.

**Key Offerings: TADDM, CCMDB**

## Business Benefits

- Limit costs and improve efficiency of the infrastructure,
- Manage 93% of the infrastructure components better.
- Automatically track changes in the configuration of the infrastructure components,
- successfully conduct inventory reporting and topology mapping.



# CSX Corporation



*Headquartered in Jacksonville, Florida, CSX Corporation (CSX) owns companies providing rail, intermodal and rail-to-truck transload services. The company's businesses are among the nation's leading transportation companies and connect more than 70 river, ocean and lake ports, as well as more than 200 short-line railroads*

[Link to reference](#)

## Business Challenge

CSX Corporation wanted to move from a silo-based to services-based model. To achieve this, the company needed to develop incident, problem and configuration processes.

## Solution

CSX Corporation installed a solution based on IBM Tivoli software to discover their IT infrastructure including mainframe. Data is stored in the common data model on Tivoli's process automation engine where configuration items and asset support 70% of their change volume.

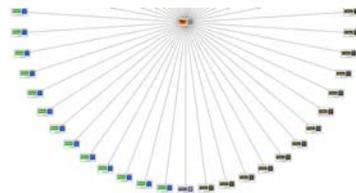
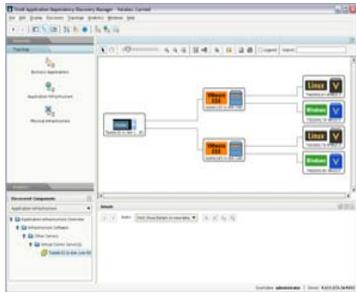
**Key Offerings: TSRM, TAMIT, CCMDB, TADDM**

## Business Benefits

- Cut the number of incidents that impact the business by 52 percent .
- Reduced the amount of manual effort required in its Sarbanes-Oxley (SOX) Act audit process.
- Quantified workloads for its IT operations teams and provided metrics to justify acquisition of additional resources in specific areas.

# 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

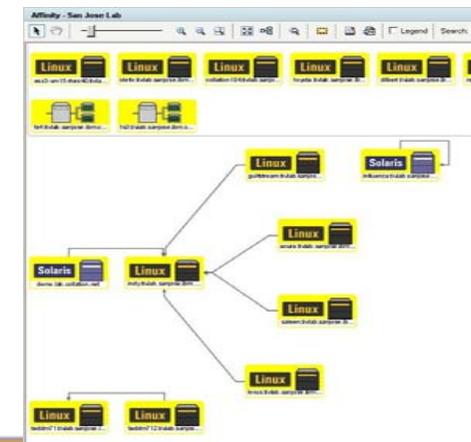
Showing page 1 of 1

Tivoli

System Utilization Report

Scope: Austin Lab  
No Conditions

Host (# App Dependencies)	Metric	Value	Units	Samples	Sample Start	Sample End
ares.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	374	kilobytes/second	643	09/23/08 14:01:00	09/24/08 12:01:00
	Memory Used	190	megabytes	13,446	09/23/08 14:01:00	09/25/08 23:46:01
	Network In	19.38	percent	13,446	09/23/08 14:01:00	09/25/08 23:46:01
	Network Out	330.38	kilobits/second	132	09/23/08 14:31:00	09/24/08 12:01:00
buddy.tivlab.austin.ibm.com (0)	CPU Used	64.19	percent	132	09/23/08 14:31:00	09/24/08 12:01:00
	Disk Read	1.57	percent	10,467	09/23/08 13:31:01	09/25/08 23:46:01
	Disk Write	N/A				
	Disk Total	19.13	kilobytes/second	1,988	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
	Network In	97.62	percent	10,467	09/23/08 13:31:01	09/25/08 23:46:01
	Network Out	486.29	kilobits/second	136	09/23/08 13:16:01	09/24/08 11:31:01
		22.16	kilobits/second	136	09/23/08 13:16:01	09/24/08 11:31:01



# Most Valuable New TADDM v7.2.1 Features Cited in 2011 Deployments

## ➤ Performance and scalability:

- New streaming architecture

## ➤ New discovery capabilities:

- Script-based discovery
- Asynchronous discovery
- Concurrent targeted discovery

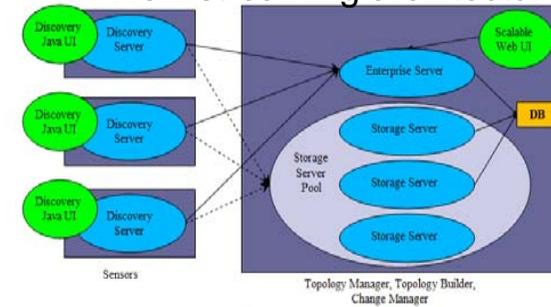
## ➤ New business application grouping composer:

- Simplifies business application definition and discovery collection
- Based on user-specified criteria

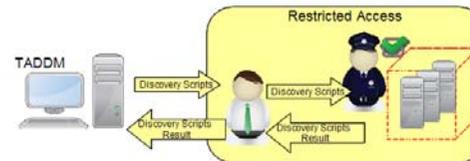
## ➤ Enhanced interoperability:

- Improved TBSM Integration:

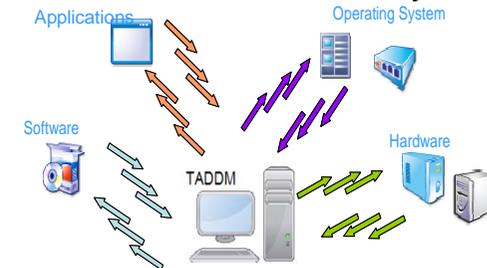
New streaming architecture



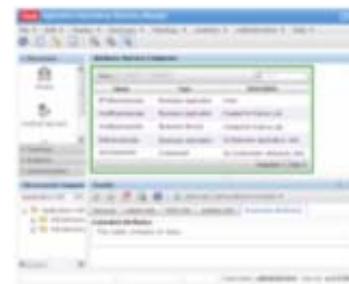
Credential-leverage discovery



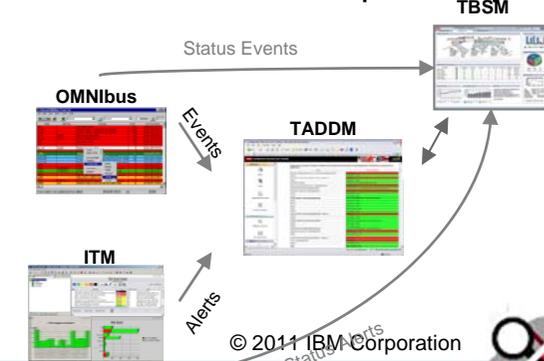
Concurrent discovery



Grouping Composer



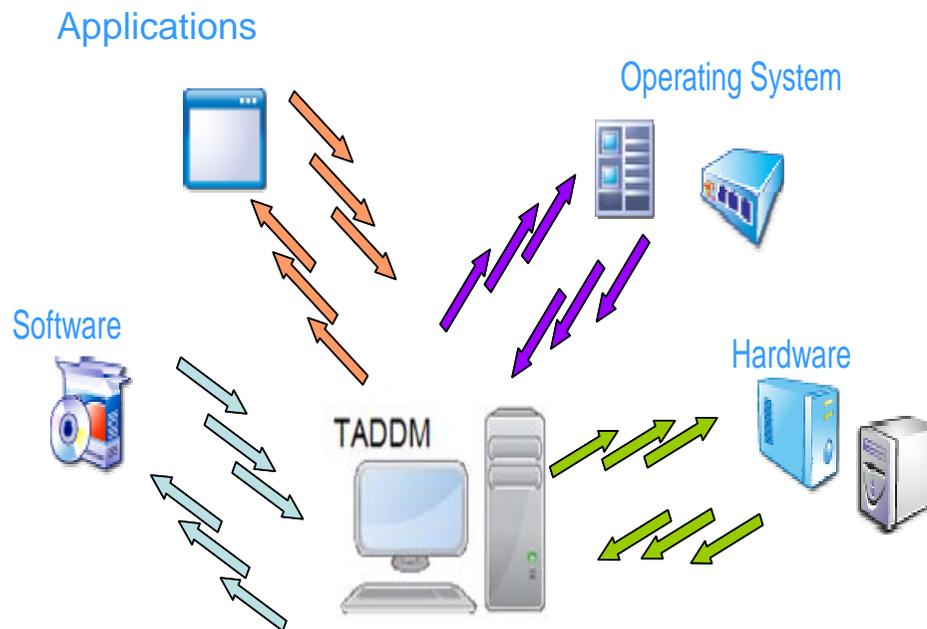
Enhanced Interoperability



## Most Valuable New TADDM v7.2.1 Features Cited in 2011 Deployments

### ➤ Concurrent Discovery:

- Run multiple discovery jobs supported on a single discovery server.
  - allows for targeted small scope refreshes in parallel to scheduled long running discoveries.

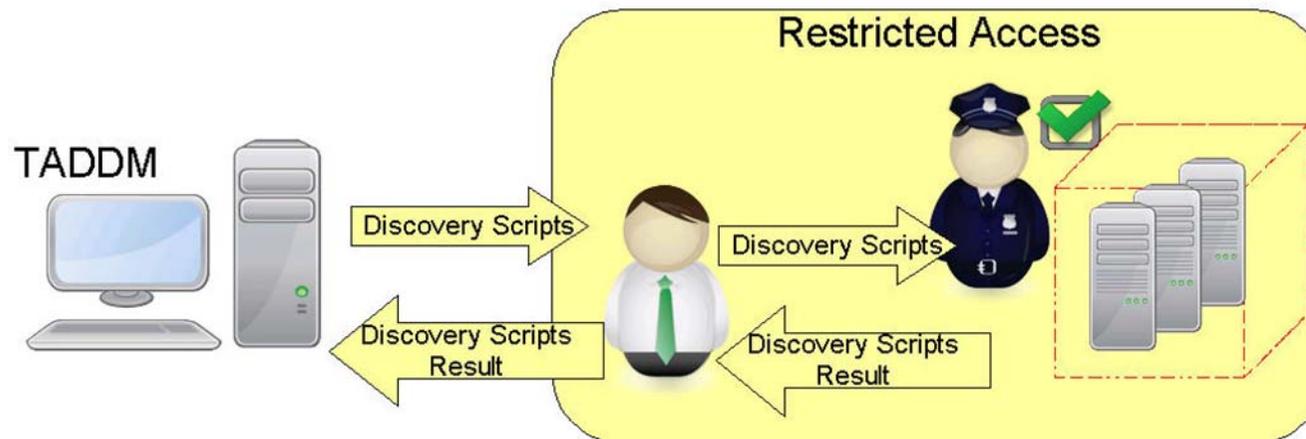


*Benefits: Improved discovery efficiency and scalability  
Added flexibility to run targeted discovery runs as needed*

## Most Valuable New TADDM v7.2.1 Features Cited in 2011 Deployments

### Asynchronous Discovery

- Manual script discovery for systems that TADDM cannot access.
- Automatic script deployment and results retrieval with L2 credentials leveraged for L3 sensors
  - Retrieve the script(s) to run from TADDM server
  - Put results in TADDM server

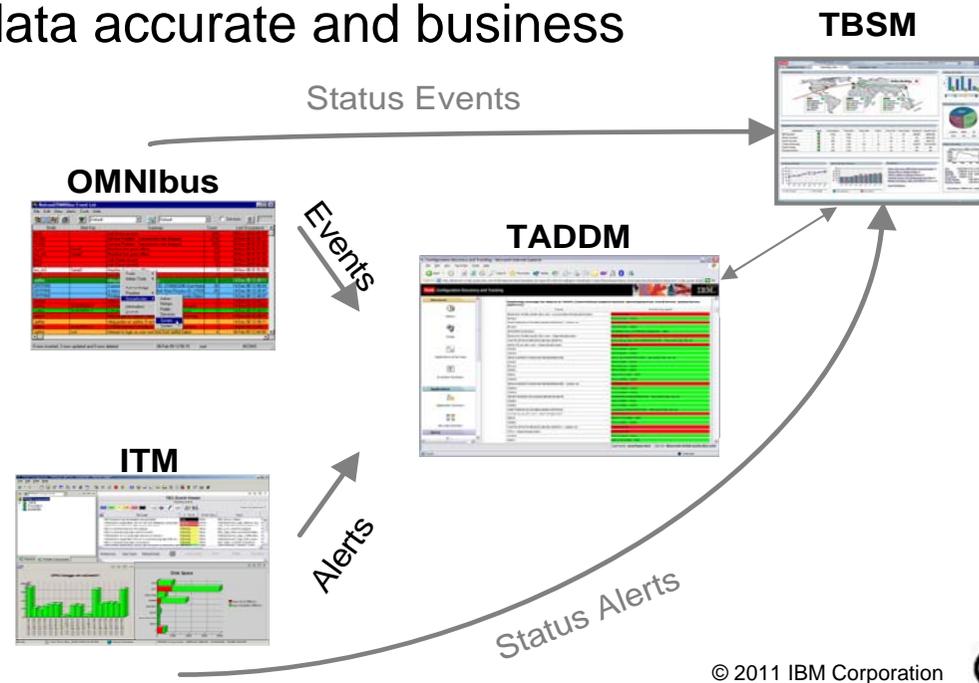


Provides flexibility to run discovery scans leveraging existing middleware credentials and access control parameters

## Most Valuable New TADDM v7.2.1 Features Cited in 2011 Deployments

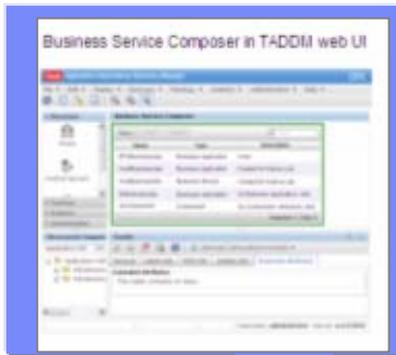
- Added ability to implement queuing and improved performance
- Proactive, immediate TADDM repository updates
  - Allows monitoring and management systems to notify TADDM of configuration changes
  - TADDM can update its repository to reflect the current state of the environment without performing a discovery.
  - Leverages existing monitoring solutions, including ITM and ITCAM, to keep discovered data accurate and business service views current.

*Leverages existing monitoring solutions to keep discovered data accurate and business service views current*

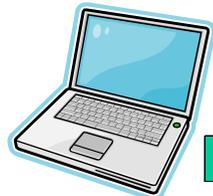


# Most Valuable New TADDM v7.2.1 Features Cited in 2011 Deployments

## Grouping Composer



- Business Applications or Collections based on user specified criteria.
- All rules will exist on the TADDM Server. No files will need to be deployed to the Target Server.
- Ability to manage Business Applications in the TADDM Data Management Portal

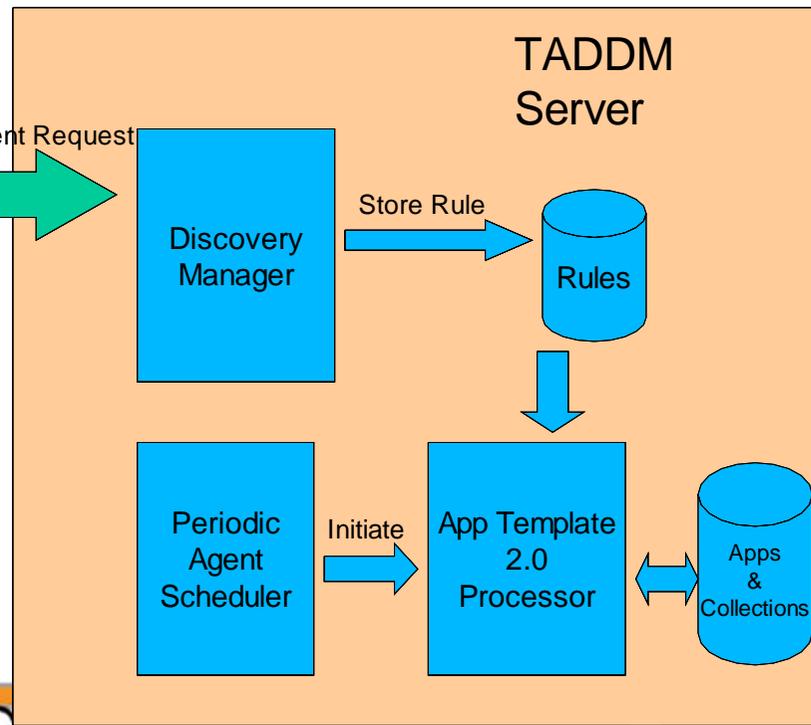


TADDM Web Console

Steps:

- Rule is created
- Processor is started periodically
- Apps/Collections created based on rules

Rule Management Request



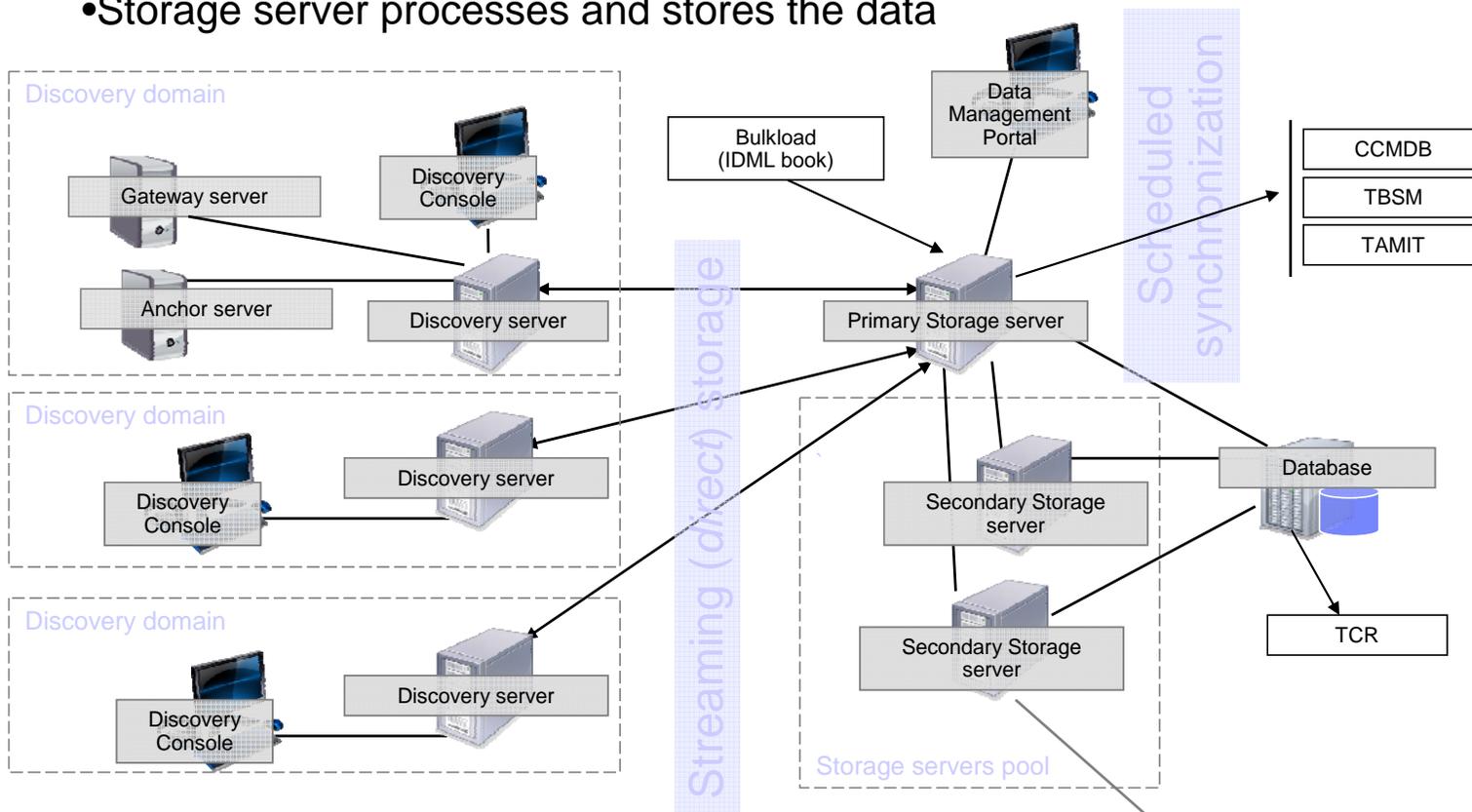
*More flexibility, ease of use and less maintenance when creating application definitions*

# Most Valuable New TADDM v7.2.1 Features Cited in 2011 Deployments

## Streaming mode – Redesigned Architecture

Efficient many-to-one, streamlined data flow

- Multiple discovery domains feed into single primary storage server
  - Only the primary storage server has a database
- Discovery server sends data to the storage server
- Storage server processes and stores the data



- *Eliminates sync time (latency)*
- *Data available as soon as it is discovered*
- *Eliminates domain databases for lower TCO (reduced hardware, DBAs, support)*



## Most Valuable New TADDM v7.2.1 Features Cited in 2011 Deployments

### Visualization and UI Enhancements



- New Discovery Browser (Navigation)
  - Replacement for Navigation Tree
- Custom Query Builder
- Secure connections to domains
- Enterprise Server – status
- Ported from product console
  - Component Management
  - Add, Edit, Delete CI
  - Merge Components
  - Logical Topology
  - Unknown servers
  - Dormant Components

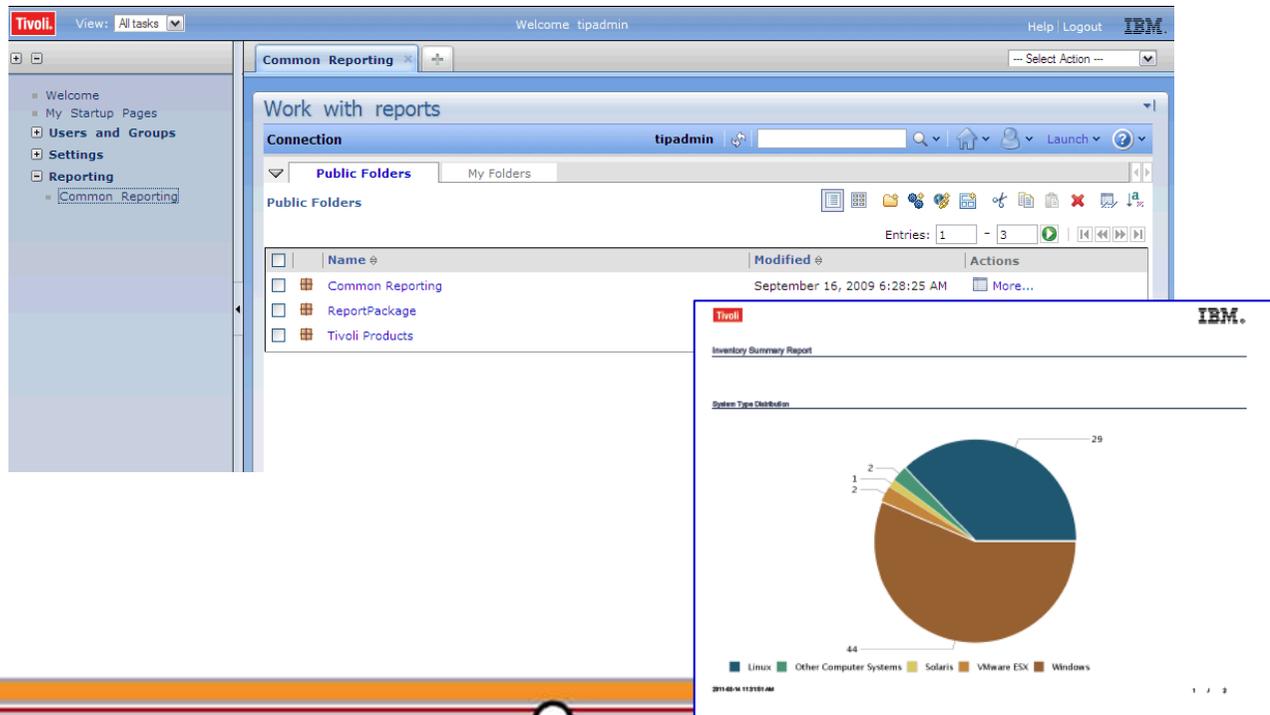
*Robust and extendable way to manage business entities from a single point in the UI*

*Ease of use to view custom queries and their results in the discovery browser*



## Enhanced Out-of-the-box and Custom Reporting

- Expanded library of out-of-the-box reports
- Quickly and easily create custom reports
- Support for Tivoli Common Reporting/Cognos:
  - provides a centralized approach to viewing and administering reports with a consistent look and feel across multiple products
  - includes a data store for storing and organizing reports, and interfaces for managing, running, scheduling, and viewing reports. Tivoli Common Reporting uses the BIRT runtime engine
- Generate Cognos® 8 Business Intelligence Reports
  - Intelligence reports, including inventory reports, WebSphere-specific reports, and reports that show business applications and their members
- Data Dictionary describing what data is available in TADDM.



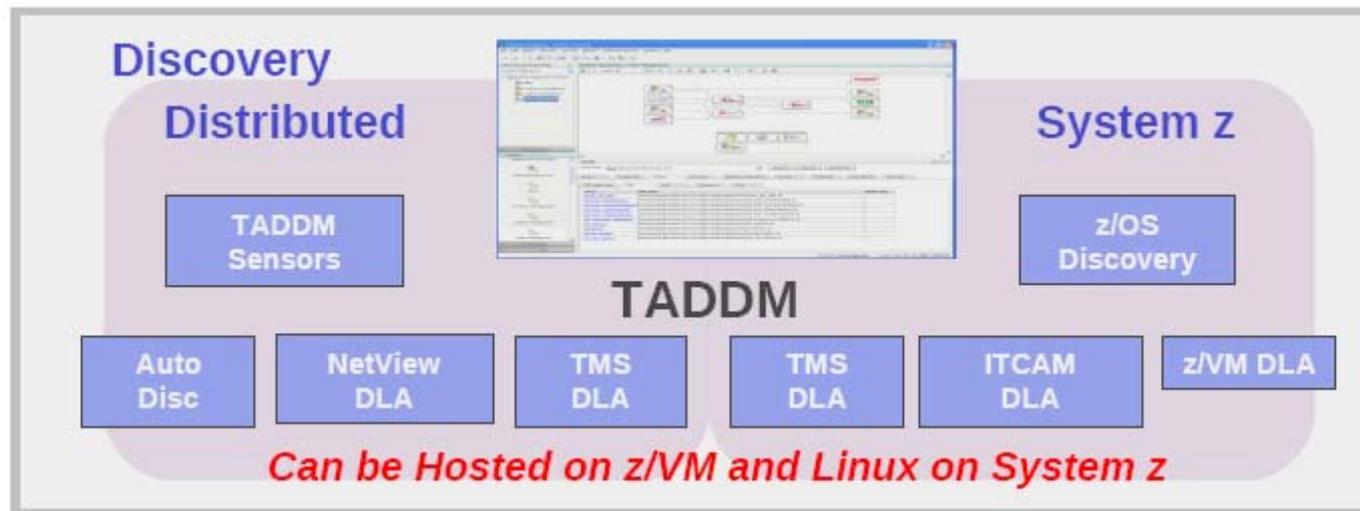
The screenshot displays the Tivoli Common Reporting web interface. The main window shows a 'Work with reports' section with a 'Public Folders' view. A report titled 'Inventory Summary Report' is displayed, featuring a pie chart titled 'System Type Distribution'. The pie chart shows the following data:

System Type	Count
Linux	2
Other Computer Systems	1
Solaris	2
VMware ESX	2
Windows	44
Unlabeled	29

*Report writers can quickly create custom reports without knowing underlying database structure.*

## Enhanced Automated Discovery of z and Distributed Resources

- 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)

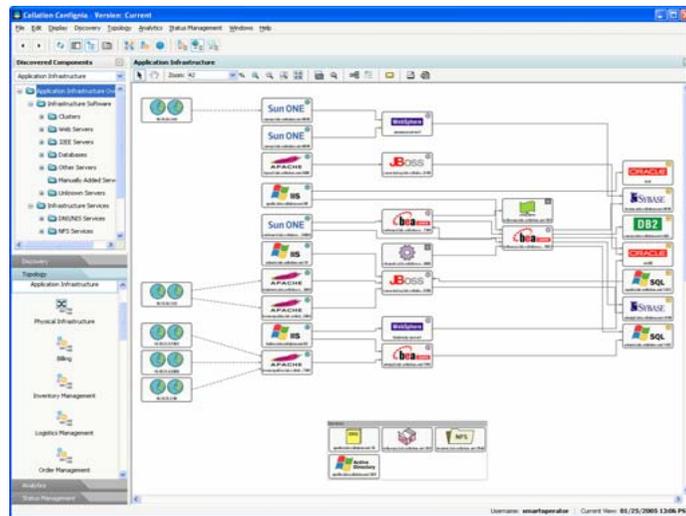


**Tivoli Application Dependency Discovery Manager dynamically gathers configuration information from both Distributed and z/OS Resources and map their relationships.**

## Enhanced TBSM Integration

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

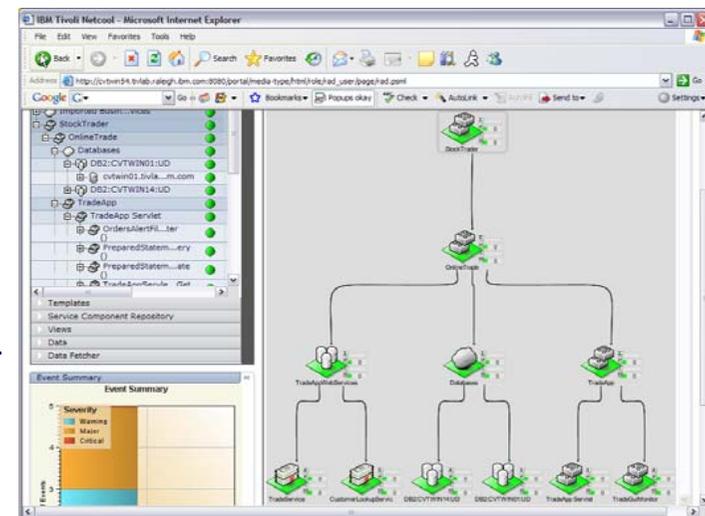
### TADDM



Cross tier application maps  
Configuration changes

Launch in context to  
configuration details panels

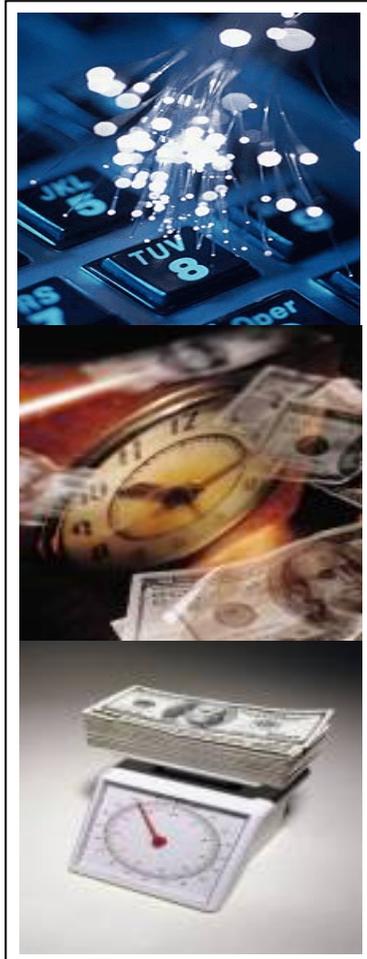
### TBSM



- Automate business service modeling and updates
- Prepare for Business Service Management
- Align IT with the Business



## TADDM Helps Solve Key Problems



- Reduce MTTR
  - Discover and visualize application dependencies
  - Create application business models
  - Accurate and comprehensive cross-tier service visibility
  - Deep configuration details and interdependencies
  - Change history data to identify and isolate application changes.
- Improve Operational Efficiency
  - Make decisions based on accurate operational data
- Proactive Change Management
  - Component comparison reports (tes, user, like systems)
  - Change impact analysis for planned changes (e.g. business apps effected)
- Enhance business availability
  - Align IT infrastructure with the business through discovery automation

# New Intelligence for a Smarter Planet .....

Pulse 2011 – Australia/New Zealand



Relevant  
Information



Actionable Insights



Smarter  
Decisions



Better  
Outcomes





[www.ibm/software/tivoli](http://www.ibm/software/tivoli)

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