

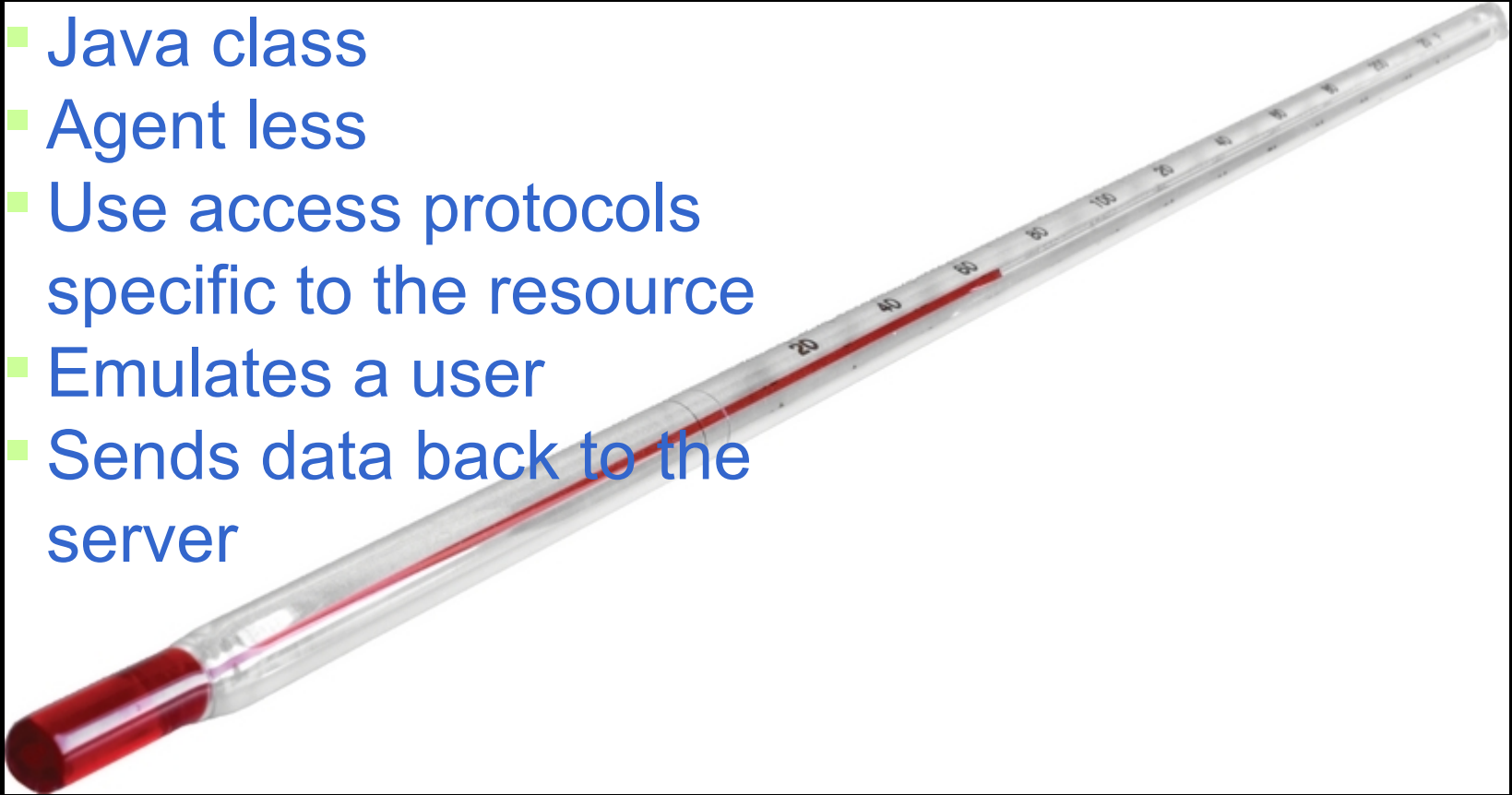
# Inside a TADDM Deployment

Nancy Whinham, TADDM Support  
Janet Taylor, TADDM Support



# Sensors

- Java class
- Agent less
- Use access protocols specific to the resource
- Emulates a user
- Sends data back to the server



# Profiles

- Three default profiles are shipped with the product
- Levels 1-3 discovery
  - Can't be modified
  - Can be cloned

Icon in the Discovery Drawer for Discovery Profiles

**Discovery Profiles**

Name	Description
Level 1 Discovery	Discovery performed with this profile is credential less. It can be used to discover active computer systems in the runtime environment.
Level 2 Discovery	
Level 3 Discovery	

**Sensor Configuration**

Enabled	Sensor Name	Type	Scope Restrictions	Description
<input type="checkbox"/>	HmcSensor	AgentConfigura...		
<input type="checkbox"/>	HostResources...	SnmpAgentCon...		
<input type="checkbox"/>	HpUxComputer...	AgentConfigura...		
<input type="checkbox"/>	IdmFileUDS	FileGrabberAge...		
<input type="checkbox"/>	IISWebServiceS...	AgentConfigura...		
<input type="checkbox"/>	IpDeviceSensor	AgentConfigura...		
<input type="checkbox"/>	IpInterfaceSensor	AgentConfigura...		
<input type="checkbox"/>	IPPlanetServerSe...	AgentConfigura...		
<input type="checkbox"/>	IPSOComputerS...	AgentConfigura...		

Specifying which Sensors to include

# L1 Discovery

- Credential-free discovery
- Light-weight
- Fast
- Discovers computer systems and network devices



# L1 Discovery

- Why would I want to do this?
  - Inventory IT assets on your network
  - Start building your CMDB by identifying Computer Systems



# Profile for a Level 1 Discovery

Sensor Configuration		Access Con
Enabled	Sensor Name	
<input type="checkbox"/>	SMSFileSensor	
<input type="checkbox"/>	SMSFileUDS	
<input type="checkbox"/>	SMSServerSensor	
<input checked="" type="checkbox"/>	SnmpLightSensor	
<input type="checkbox"/>	SnmpMib2Sensor	
<input type="checkbox"/>	SqlServerSensor	
<input checked="" type="checkbox"/>	StackScanSensor	

- StackScanSensor uses nmap
- SnmpLiteSensor

# What's discovered?

- Hosts and network devices can be discovered using a Level 1 Discovery
- Scans hosts without using credentials

The screenshot displays the IBM Tivoli Software Application Infrastructure interface. The left sidebar shows a navigation menu with 'Discovery' selected, containing 'Topology', 'Business Applications', 'Application Infrastructure', and 'Physical Infrastructure'. Below this is an 'Analytics' section and a 'Discovered Components' list. The main area shows three discovered hosts: a Windows host (dhcp23-76.zurich.ibm.com), a Linux host (dhcp22-29.zurich.ibm.com), and another Linux host (mistral-02). A tooltip for the mistral-02 host shows its details: Name: mistral-02.zurich.ibm.com, Type: Linux Computer System, Status: Normal. The bottom section shows a 'Details' view for a selected host (bermina.zurich.ibm.com) with tabs for General, OS, Storage, IP, Interfaces, Packages, Patches, Kernel Modules, and Config Files. The General tab is active, showing fields for Name, Fully qualified domain name, Last Modified Time, Object Type, and Manufacturer.

- Light-weight discovery
- No dependencies
- Configuration is just name, IP and port



# Netting out Level 1 Discovery

## Advantages

- All you need is a TADDM server and a list of IPs
- You don't need to know any usernames or passwords

## Disadvantages

- Relies on nmap
- Only provides IP device and some OS level data

So should you use it? Only if you don't know what's in your environment or you can't get credentials.

## Level 2 Discovery

- **Computer system configurations**
- **Application Dependencies w/o credentials**



# Level 2 Discovery

- **Why would I want to do this?**
  - Inventory the processes running in your environment
  - Discover hardware and operating system details
  - Find light-weight relationships in to identify requirements for credentials



# Scope



- Specifies what is to be discovered

- Specific IPs
- Range of IPs
- Subnets
- Sets of the above

# Creating Scopes

The screenshot displays the Tivoli Application Dependency Discovery Manager interface. The main window title is "Tivoli Application Dependency Discovery Manager - Version: Current". The menu bar includes File, Edit, Display, Discovery, Topology, Analytics, Windows, and Help. The left sidebar shows a navigation tree with categories like Discovery, Topology, and Analytics, and a list of discovered components including Application Infrastructure, Clusters, and Web Servers. The main area is titled "Scope" and contains a table with columns for Scope Sets, Method, Type, Value, and Description/Host Name. A dialog box titled "Add Scope" is open, prompting the user to specify a subnet value and optionally a description. The dialog includes a dropdown for "IP Type" (set to Subnet), a text input for "IP Address" (containing 24252627282930), and a description field. A "Subnet" dropdown is also visible, with options for Subnet, Range, and Host. The dialog has "OK" and "Cancel" buttons at the bottom.

Scope Sets	Method	Type	Value	Description/Host Name
change th				
high5				
hmc				
OAS				
rtp				
scope set				

IP Type: Subnet | IP Address: 24252627282930 | Description: (255.255.255.0)

Subnet dropdown options: Subnet, Range, Host

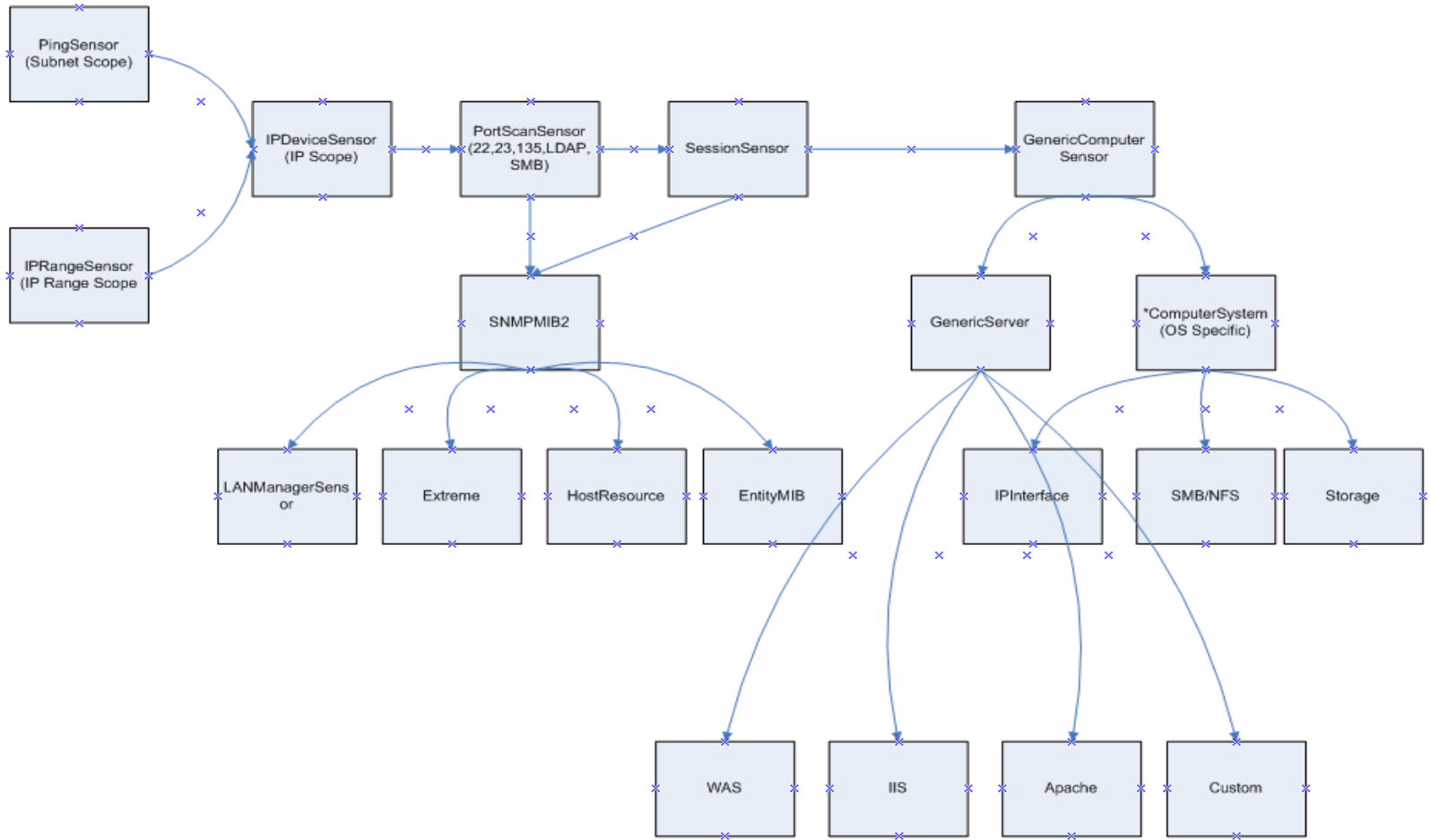
Buttons: Add Set, Delete Set, Add, Edit, Delete

Username: administrator | Server: jmoody:9433

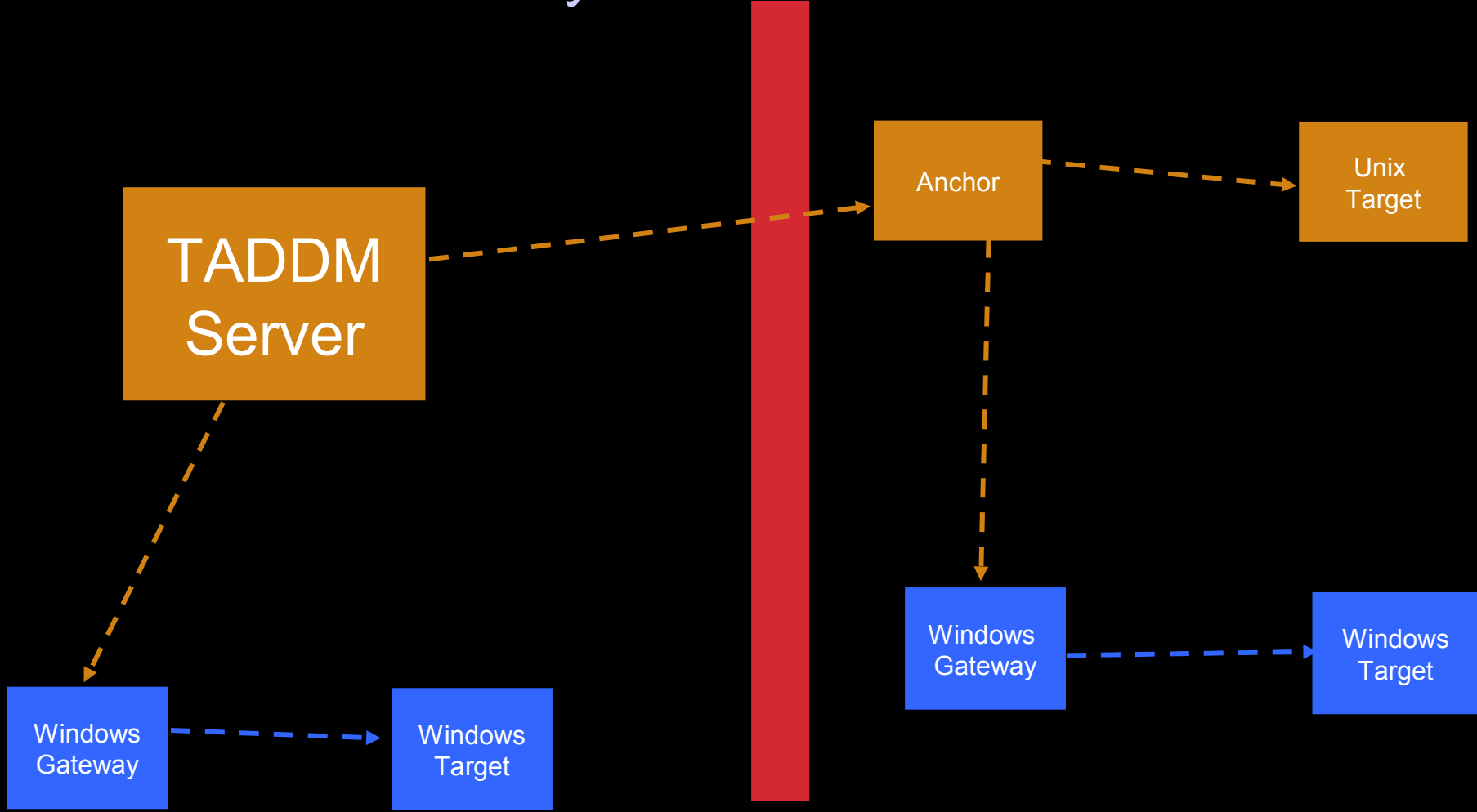
# Access List

- Contains credentials used by sensors during discovery
- Supports many different types: telnet, ssh-1, ssh-2, snmp community strings, SSL keys, application specific credentials
- Can be scope restricted.
- Order is important!





# Anchors and Gateways





# Level 2 Discovery

Captures command, args., environment and ports...

The screenshot displays the IBM Tivoli Discovery Level 2 interface. On the left, the 'Discovered Components' tree shows a hierarchy of application infrastructure, including J2EE Servers, Java Servers, OracleAppServer, Tomcat, and WebSphere. A red circle highlights the component 'monosyllabix.tivlab.sanjose.ibm.com:2809' under the 'WebSphere-Unix(1)' folder.

The right pane shows the 'Overview' and 'Details' for the selected component. The 'Overview' section includes 'Discovery Information' with status 'Idle', 'Components Found: 0', and 'Sensors Running: 0'. Below this is a table with columns for 'Sensor', 'Host Name/IP', and 'Date', which is currently empty.

The 'Details' section shows the 'Command Line' for the process, which is circled in red. The command line is: `/opt/IBM/WebSphere/AppServer/java/bin/java -Xbootclasspath:/opt/IBM/WebSphere/AppServer/profiles/default/properties:/opt/IBM/WebSphere/AppServer/profiles/default/lib:/opt/IBM/WebSphere/AppServer/profiles/default/bin:/opt/IBM/WebSphere/AppServer/bin -Djava.util.logging.config.location=/opt/IBM/WebSphere/AppServer/bin -Djava.util.logging.config.file=/opt/IBM/WebSphere/AppServer/profiles/default/config/monosyllabixNode01 Cell 1`

Below the command line, the 'Environment' section is empty, and the 'Ports' section shows a table with 'Process ID' and 'Listening Port'.

Process ID	Listening Port
17861	9443,9080,9043,9060,8880,9100,2809

Light-weight discovery of applications w/o credentials

# Level 2 Discovery

App Map discovered via credential-less approach...

The screenshot displays the IBM Tivoli Software Application Infrastructure tool interface. On the left, a navigation pane shows 'Discovery' with 'Topology' selected, containing 'Business Applications', 'Application Infrastructure', and 'Physical Infrastructure'. Below this is an 'Analytics' section with 'Discovered Components' and a list of hosts including 'bermina.zurich.ibm.com'. The main window shows a network diagram of discovered components. A callout bubble points to the diagram with the text 'App Map discovered via credential-less approach...'. The diagram includes nodes for 'adonis.tivlab.sanjose...139', 'isis.tivlab.sanjose.ibm.c...', 'monosyllabix.tivlab.sanj...', 'demo.lab.collation.net', 'mercedes.tivlab.sanjose...', 'global.tivlab.sanjos...9092', 'hpux1.tivlab.sanjos...1532', and 'ccmdb-oracle.tivlab...1521'. The 'ccmdb-oracle.tivlab...1521' node is highlighted with a green border. At the bottom, a detailed view for 'bermina.zurich.ibm.com' is shown with the following properties:

Name:	
Fully qualified domain name:	bermina.zurich.ibm.com
Last Modified Time:	9/28/06 10:42 CEST
Object Type:	IBM AIX Computer System
Manufacturer:	

# Level 3 Discovery



## ■ Discovering Business Applications

- Show impacts to Business for planned and unplanned outages
- How can I use the data I discover to bring value
- Link customer user's view to my IT view

# Level 3 Discovery



## ■ Where do I begin?

- I know my IT components but not my applications
- I know my applications but not my IT components



Discovery

- Topology
- Analytics

Discovered Components

Physical Infrastructure

- Network Tier
  - IP Subnets(26)
  - VLANs
  - Load Balancers
  - Routers
  - Switches
  - Firewalls
  - Other Network Devices
- Systems Tier
  - Sysplexes
  - Z-Series
  - System p
  - SunFire
  - Virtual Systems
  - ad
  - ops
  - red
  - cic
  - tiainv
  - Unknown Domain
    - Solaris
    - HP-UX
    - Tru64
    - AIX(1)
      - chapidtildis03
    - VMware ESX
    - FreeBSD
    - DOS
    - Darwin
    - Network
    - Linux
    - Windows

Overview

Discovery Information

Status: Idle  
 Components Found: 0  
 Sensors Running: 0  
 Progress:

Show only items of status: All status lev...

Host Name/IP	Date	Status	Description
Information: To view information about the sensor, select a row.			

Run Discovery Scope Details Discovery Log

Details

Items: chapditldis03

- General
- Router Details
- OS
- Storage
- IP
- Interfaces
- Packages
- Patches
- Kernel Modules
- Config Files

<b>Name:</b>	chapidtildis03
<b>Fully qualified domain name:</b>	chapidtildis03
<b>Last Modified Time:</b>	12/12/07 11:10 EDT
<b>Object Type:</b>	IBM AIX Computer System
<b>Manufacturer:</b>	IBM
<b>Model:</b>	9131-52A
<b>Serial Number:</b>	064701G
<b>Architecture:</b>	PowerPC_POWER5
<b>CPU Speed:</b>	1898 MHz
<b>CPU Type:</b>	PowerPC_POWER5
<b>Number of CPUs:</b>	2
<b>Memory Size:</b>	7.75 GB





Discovery

Topology

Analytics

Custom Query

Inventory

Change History

Dormant Components

Component Comparison

Switch Topology

**Inventory**

- DB2 for z/OS
- Sybase
- SQL Server
- Other Db
- SAP DB2
- SAP Oracle
- SAP Sql
- CICS Regions
- IMS Subsystems
- Other Servers
- Unknown Servers
- MySAP Servers
- U2EE Engines
- Java Central Systems

Run Report

**Details**

Items: chaptitidis03

General Router Details OS Storage IP Interfaces Packages Patches Kernel Modules Config Files

<b>Name:</b>	chaptitidis03
<b>Fully qualified domain name:</b>	chaptitidis03
<b>Last Modified Time:</b>	12/12/07 11:10 EDT
<b>Object Type:</b>	IBM AIX Computer System
<b>Manufacturer:</b>	IBM
<b>Model:</b>	9131-52A
<b>Serial Number:</b>	064701G
<b>Architecture:</b>	PowerPC_POWER5
<b>CPU Speed:</b>	1898 MHz
<b>CPU Type:</b>	PowerPC_POWER5
<b>Number of CPUs:</b>	2
<b>Memory Size:</b>	7.75 GB

**Discovered Components**

Physical Infrastructure

- Network Tier
  - IP Subnets(26)
  - VLANs
  - Load Balancers
  - Routers
  - Switches
  - Firewalls
  - Other Network Devices





Discovery

Topology

Analytics

Custom Query

Inventory

Change History

Dormant Components

Component Comparison

Switch Topology

**Inventory: Results**

Component Type: Unknown Servers

Name	Arguments	Environment	Port	Services	Host
/opt/cmdb/dist/external/jdk-1.5.0...		_=opt/cmdb/dist/external/jdk-1....	9902,60244,9580,9570,9162	HP ProLiant Remote Monitor Ser...	chapidtildis03
d:\SiebelAnalytics\Web\Bin\SA...	/service	COMSPEC=%SystemRoot%\sy...	9710	Siebel Analytics Web	CHAPDAPPANA01
C:\WSM\bin\caunisrv.exe		COMSPEC=%SystemRoot%\sy...	0	CA-Unicenter	CHAPDAPPANA01
C:\WINNT\system32\lsass.exe		COMSPEC=%SystemRoot%\sy...	1060	HTTP SSL,Net Logon,Protected ...	CHAPDAPPANA01
C:\WINNT\system32\inetrv\ineti...		COMSPEC=%SystemRoot%\sy...	0	IIS Admin Service	CHAPDAPPANA01
C:\WSM\bin\caschsrvr.EXE		COMSPEC=%SystemRoot%\sy...	0	CA-Workload Agents	CHAPDAPPANA01
C:\WINNT\system32\svchost.exe		COMSPEC=%SystemRoot%\sy...	0	Automatic Updates	CHAPDAPPCOR01
d:\sea78\sliebsrv\bin\sliebmtsh....		COMSPEC=%SystemRoot%\sy...	49162,49161		CHAPDAPPCOR01
C:\WINNT\system32\svchost.exe		COMSPEC=%SystemRoot%\sy...	0	COM+ Event System,Network C...	CHAPDAPPCOR01
C:\Program Files\Symantec_Clie...		COMSPEC=%SystemRoot%\sv...	0	DefWatch	CHAPDAPPCOR01

Criteria:

Items per page: 400 Go to page: 1 of 13 refresh << previous next >>

Create Custom Server Show Details

**Details**

Items: chapditildis03

General Router Details OS Storage IP Interfaces Packages Patches Kernel Modules Config Files

<b>Name:</b>	chapditildis03
<b>Fully qualified domain name:</b>	chapditildis03
<b>Last Modified Time:</b>	12/12/07 11:10 EDT
<b>Object Type:</b>	IBM AIX Computer System
<b>Manufacturer:</b>	IBM
<b>Model:</b>	9131-52A
<b>Serial Number:</b>	064701G
<b>Architecture:</b>	PowerPC_POWER5
<b>CPU Speed:</b>	1898 MHz
<b>CPU Type:</b>	PowerPC_POWER5
<b>Number of CPUs:</b>	2
<b>Memory Size:</b>	7.75 GB

**Discovered Components**

Physical Infrastructure

- Network Tier
  - IP Subnets(26)
  - VLANs
  - Load Balancers
  - Routers
  - Switches
  - Firewalls
  - Other Network Devices





Discovery  
Topology  
Analytics

Custom Query

Inventory

Change History

Dormant Components

Component Comparison

Switch Topology

**Inventory: Results**

Component Type: Unknown Servers

Name	Arguments	Environment	Port	Services	Host
/opt/cmdb/dist/external/jdk-1.5.0...		_/opt/cmdb/dist/external/jdk-1...	9902,60244,9580,9570,9162	HP ProLiant Remote Monitor Ser...	chapditidis03:
d:\SiebelAnalytics\Web\Bin\SA...	/service	COMSPEC=%SystemRoot%\sy...	9710	Siebel Analytics Web	CHAPDAPPANA01
C:\WSM\bin\caurisrv.exe		COMSPEC=%SystemRoot%\sv...	0	CA-Unicenter	CHAPDAPPANA01
			1060	HTTP SSL,Net Logon,Protected ...	CHAPDAPPANA01
			0	IIS Admin Service	CHAPDAPPANA01
			0	CA-Workload Agents	CHAPDAPPANA01
			0	Automatic Updates	CHAPDAPPCOR01
			49162,49161		CHAPDAPPCOR01
			0	COM+ Event System,Network C...	CHAPDAPPCOR01
			0	DefWatch	CHAPDAPPCOR01

**Custom Server Details**

General Info & Criteria | Config Files

**General Server Information**

Name: CollationProcesses

Type: AppServer

Action:  Discover  Ignore

Enabled

Icon: Browse...

**Identifying Criteria**

All Criteria  Any Criteria

Argument contains COLLATION Remove

Add Criterion

OK Cancel

**Discovered Components**

Physical Infrastructure

- Network Tier
  - IP Subnets(26)
  - VLANs
  - Load Balancers
  - Routers
  - Switches
  - Firewalls
  - Other Network Devices

Memory size: 7.75 GB







Discovery

- Topology
- Analytics

Discovered Components

Application Infrastructure

Application Infrastructure Overview

- Infrastructure Software
  - Clusters
  - Web Servers
  - J2EE Servers
    - WebLogic
    - WebSphere
    - JBoss
    - OracleAppServer
    - mySAP
    - Other J2EE Servers
    - Manually Added J2EE Servers
  - SMS
  - Citrix
  - Databases
  - CICS Regions(131)
  - IMS Subsystems
  - Messaging Servers
  - Other Servers
  - Custom Servers
    - CollationProcesses(6)
      - chapdtildis03:1098
      - chapdtildis03:46946
      - chapdtildis03:59759
      - chapdtildis03:9162**
      - chapdtildis03:9433
      - chapdtildis03:9540
    - LongView Trading System Notification Se
    - Manually Added Servers
- Infrastructure Services

History

Start Time	Completion Time	Completion Code	Profile Used
4/3/08 13:35:37 EDT	4/3/08 13:43:21 EDT	Normal Completion	Level 3 no StackScan
4/3/08 13:08:52 EDT	4/3/08 13:13:25 EDT	Normal Completion	Level 2 no StackScan
4/3/08 13:02:07 EDT	4/3/08 13:06:28 EDT	Normal Completion	Level 2 no StackScan
4/2/08 16:14:24 EDT	4/2/08 16:32:22 EDT	Normal Completion	Level 3 no Stackscan - Weblogic 8
4/2/08 13:39:32 EDT	4/2/08 13:47:54 EDT	Normal Completion	Level 3 no Stackscan - Weblogic 9
4/2/08 13:36:24 EDT	4/2/08 13:37:47 EDT	Stopped	Level 3 Discovery

Scope Details

Sensor	Host Name/IP	Date	Status	Description
OracleSensor(10.65.248.20:1533)	chapdtildis03	4/3/08 13:39:32 EDT	error	An error occurred, unable to find the servers, An error occurred, there were
OracleSensor(10.65.248.20:1528)	chapdtildis03	4/3/08 13:39:32 EDT	error	An error occurred, unable to find the servers, An error occurred, there were
OracleAppSensor(10.65.248.21:6200)	chapdtildis03	4/3/08 13:39:32 EDT	error	One or more of these jar file directories : [opt/cmdb/dist/lib/oracleappj2ee/hc
GenericServerSensor(10.65.248.21)	chapdtildis03	4/7/08 11:26:39 EDT	done	stored - 16 Server Processes in the database

Information:

Details

Items: **chapdtildis03:9162**

- General
- Runtime
- Modules
- Application Descriptors
- Config Files
- Dependencies
- Admin Info
- MSS Info
- Artifact Info

**Business Applications**

There was no data for this table.

**Business Services**

There was no data for this table.

**Components**

Dependency Type	Participation	Other object Name	Created By	Contents	Type
Transactional	Dependent	chapdtildis03:9433	Discovered	<a href="#">chapdtildis03:9433</a>	App Server
Transactional	Provider	chapdtildis03:9162	Discovered	<a href="#">chapdtildis03:9162</a>	App Server
Transactional	Dependent	chapdtildis03:9540	Discovered	<a href="#">chapdtildis03:9540</a>	App Server
Transactional	Provider	chapdtildis03:9433	Discovered	<a href="#">chapdtildis03:9433</a>	App Server
Transactional	Provider	chapdtildis03:9162	Discovered	<a href="#">chapdtildis03:9162</a>	App Server
Transactional	Provider	chapdtildis03:59759	Discovered	<a href="#">chapdtildis03:59759</a>	App Server





**Discovery**

- Overview
- Scope
- Access List
- Custom Servers
- Computer Systems

Topology  
Analytics

**Discovered Components**

Business Applications

Business Application Overview

- TADDM CDT

**Overview**

**Discovery Information**

Status: Idle  
 Components Found: 0  
 Sensors Running: 0

**Edit Business Application Wizard**

**Create Business Application Components**  
 Select the components that comprise this application

**Available**

- Clusters
- Web Servers
- J2EE Servers
- SMS
- Citrix
- Databases
- CICS Regions
- IMS Subsystems
- Messaging Servers
- Other Servers
- Custom Servers
- Manually Added Servers
- Computer Systems

Add >>

<< Remove

**Included**

- My APP Servers
  - chaptitidis03:5001
- CollationProcesses
  - chaptitidis03:9162
  - chaptitidis03:1098
  - chaptitidis03:46946
  - chaptitidis03:9433
  - chaptitidis03:59759
  - chaptitidis03:9540
- Oracle Instance
  - chaptitidis03:up612

Status	Description





**Discovery**

- Overview
- Scope
- Access List
- Custom Servers
- Computer Systems

Topology  
Analytics

**Discovered Components**

Business Applications

Business Application Overview

- TADDM CDT

**Overview**

**Discovery Information**

Status: Idle  
 Components Found: 0  
 Sensors Running: 0  
 Progress:

Show only items of status: All status lev... ▾

Sensor	Host Name/IP	Date	Status	Description
Information: To view information about the sensor, select a row.				

Run Discovery Scope Details Discovery Log

**Details**

Items: TADDM CDT

General Components Application Descriptors Dependencies Admin Info MSS Info Artifact Info Extended Attributes

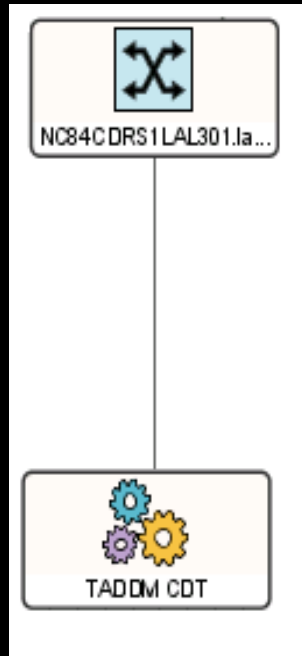
Functional Group	Component Server	Component Module
CollationProcesses	<a href="#">chapdttldis03:1098</a>	
CollationProcesses	<a href="#">chapdttldis03:46946</a>	
CollationProcesses	<a href="#">chapdttldis03:59759</a>	
CollationProcesses	<a href="#">chapdttldis03:9162</a>	
CollationProcesses	<a href="#">chapdttldis03:9433</a>	
CollationProcesses	<a href="#">chapdttldis03:9540</a>	
My APP Servers	<a href="#">chapdttldis03:5001</a>	
Oracle Instance	<a href="#">chapdttldis03:up612</a>	

# Business Applications



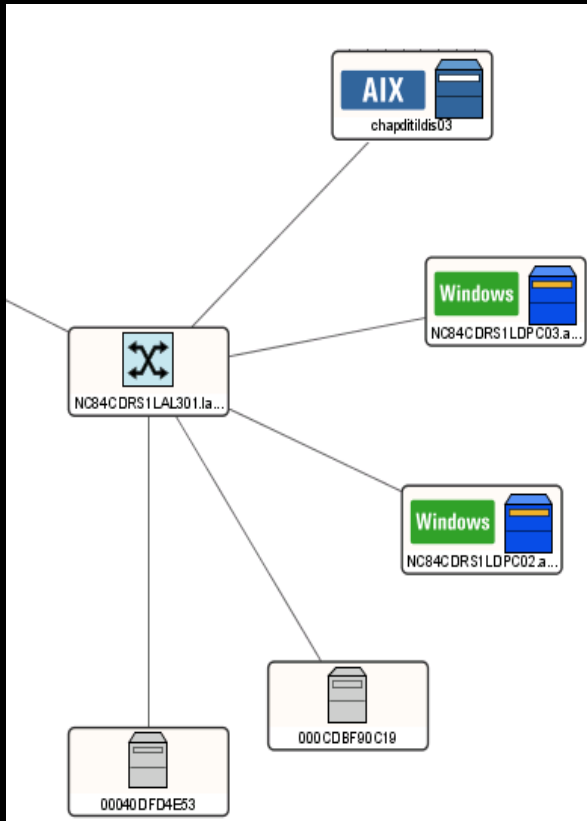
- How can I use the data I discover to bring value?

# Level 3 Business Application



- How can I use the data I discover to bring value?
  - What Business Application will be affected if I upgrade my network switch

# Level 3 Business Application



## ■ How can I use the data I discover to bring value?

- What Business Application will be affected if I upgrade my network switch
- My applications software is having connectivity problems

# What Changed in My Environment

**Change History: Results**

◀ 📄 🖨

Component	Type	Change	Date	Attribute	Old Value	New Value	Id
+ chapditildis03:9162	AppServer	Created	12/12/07 11:10 EST				0E376685A...
+ 📁 chapditildis03:9162	AppServer	Updated	4/11/08 10:55 EDT				0E376685A...
- 📁 chapditildis03:9162	AppServer	Updated	4/11/08 11:13 EDT				0E376685A...
- 📁 /opt/cmdb/dist/etc/collation.properties	ConfigFile	Updated	4/11/08 11:13 EDT				9B74CE6BF...
🔄 /opt/cmdb/dist/etc/collation.properties	ConfigFile	Updated	4/11/08 11:13 EDT	checksum	:3031338729	:698738826	9B74CE6BF...
🔄 /opt/cmdb/dist/etc/collation.properties	ConfigFile	Updated	4/11/08 11:13 EDT	content	##### B...	##### B...	9B74CE6BF...
🔄 /opt/cmdb/dist/etc/collation.properties	ConfigFile	Updated	4/11/08 11:13 EDT	lastModified	1207862299000	1207926652000	9B74CE6BF...

**/opt/cmdb/dist/etc/collation.properties** [X]

File

Line Number	Change	Old Value	New Value
62	Changed	com.collation.log.filecount=5	com.collation.log.filecount=6

# In Conclusion

- **Level 1**
  - Inventory you IP addressable assets
- **Level 2**
  - Inventory processes running on your servers
  - Discover hardware and operating system details
- **Level 3**
  - Discover you application environment
  - Build relationships between applications
  - Discover/Build Business Application views



# Integrations

## Bulkload

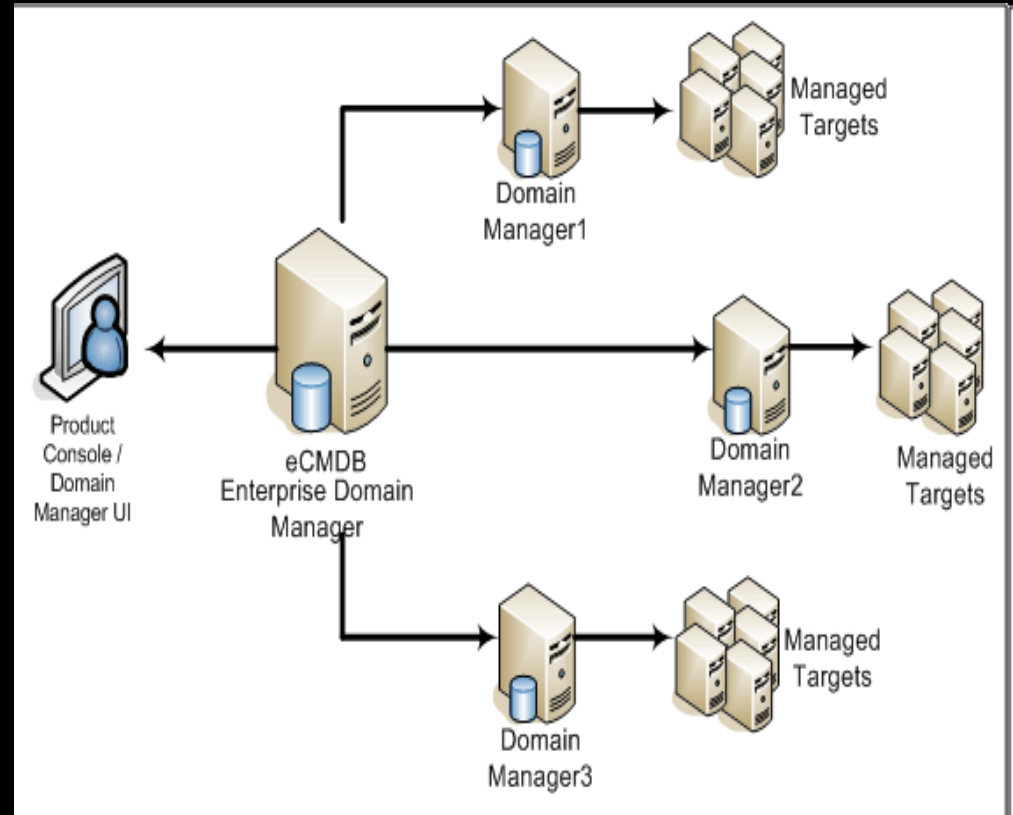
Data can be loaded via xml books from other products, i.e. TBSM, ITM, z/OS DLA, z/VM DLA, TCM

Built in TADDM discovery (in 7.2) for TPC, ITM Scope Sensor

Data can be exported *out* of TADDM for use by TBSM, CCMDB, Remedy and Peregrine

# Enterprise Domain Manger (eCMDB)

Used for scaling  
data from multiple  
Domains into a  
single enterprise



# Q & A

