

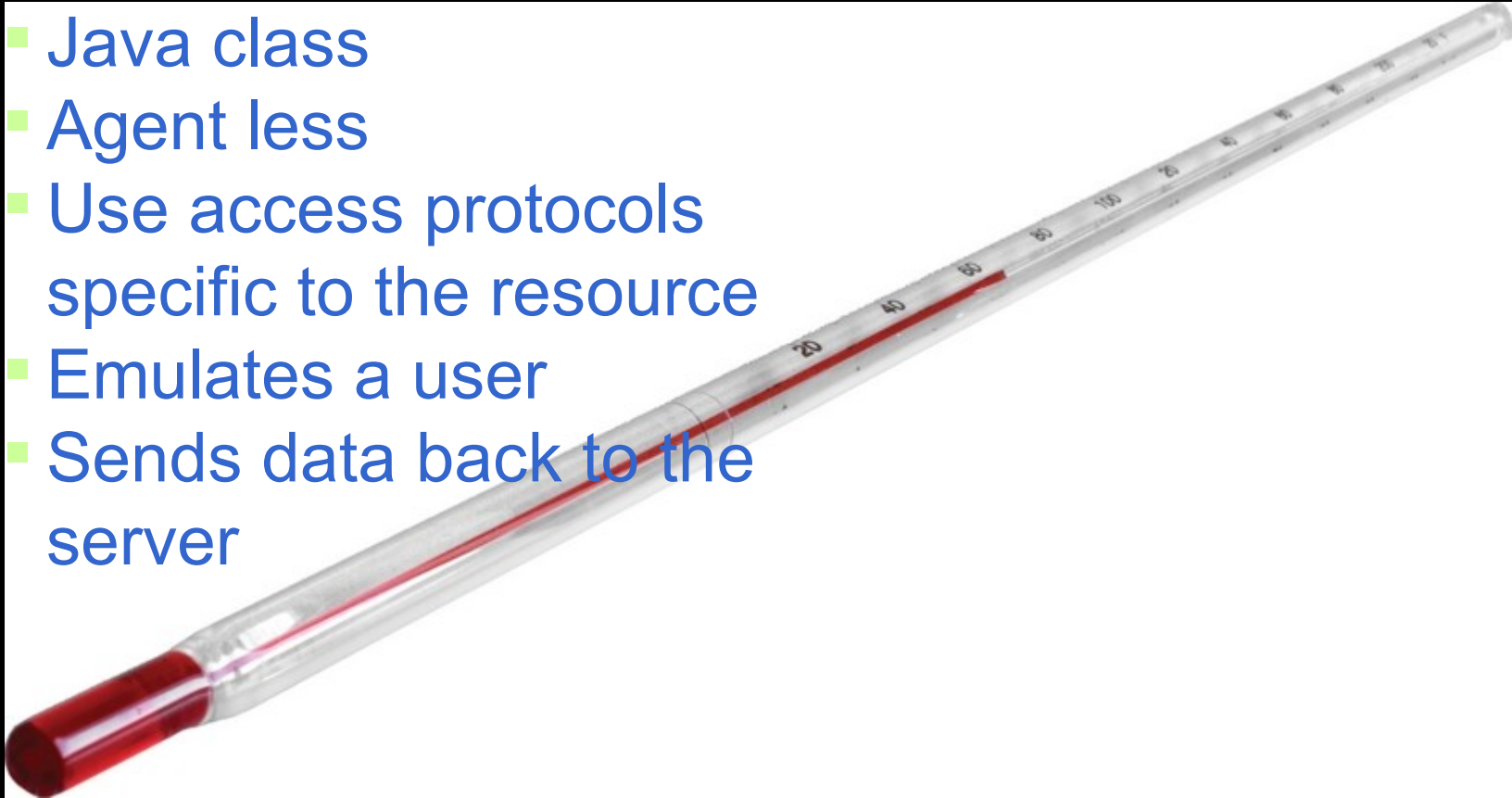
Inside a TADDM Deployment

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

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"/>	IlsWebServiceS...	AgentConfigura...		
<input type="checkbox"/>	IpDeviceSensor	AgentConfigura...		
<input type="checkbox"/>	IpInterfaceSensor	AgentConfigura...		
<input type="checkbox"/>	IPlanetServerSe...	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 Discovery Application Infrastructure interface. On the left, a navigation pane shows 'Discovery' with sub-sections for '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 name, type (Linux Computer System), and status (Normal). At the bottom, a 'Details' pane for the selected host (bermina.zurich.ibm.com) shows 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 menu for "IP Type" (with "Subnet" selected), a text input for "IP Address" (containing "24252627282930 (255.255.255.0)"), and an "Add Exclusion" button. The dialog also 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 (255.255.255.0)
Description: Specify the subnet value, and optionally a description

Buttons: Add Exclusion, OK, Cancel

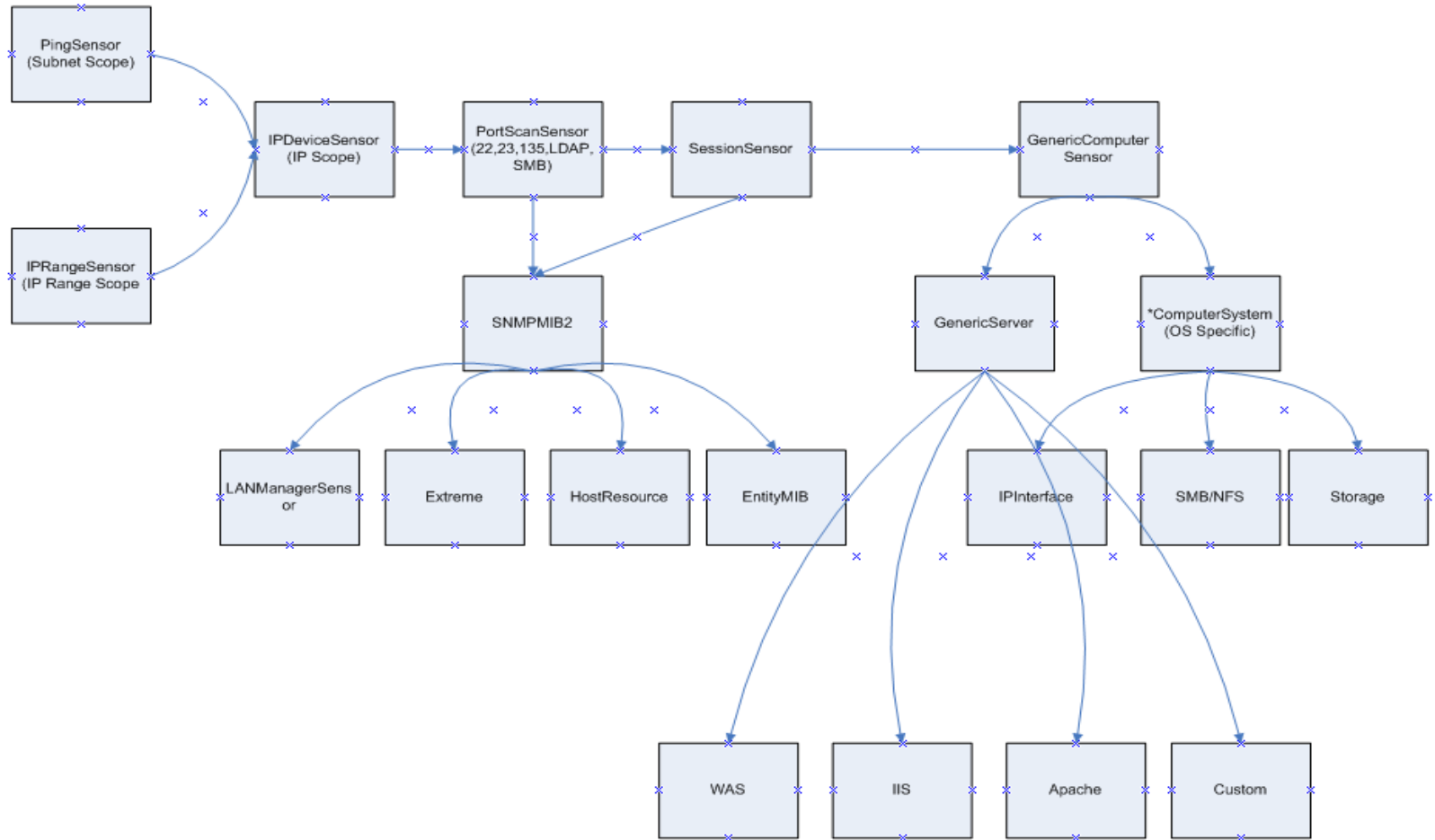
Bottom Bar: Add Set, Delete Set, Add, Edit, Delete

Footer: Username: administrator | Server: jmoody:9433

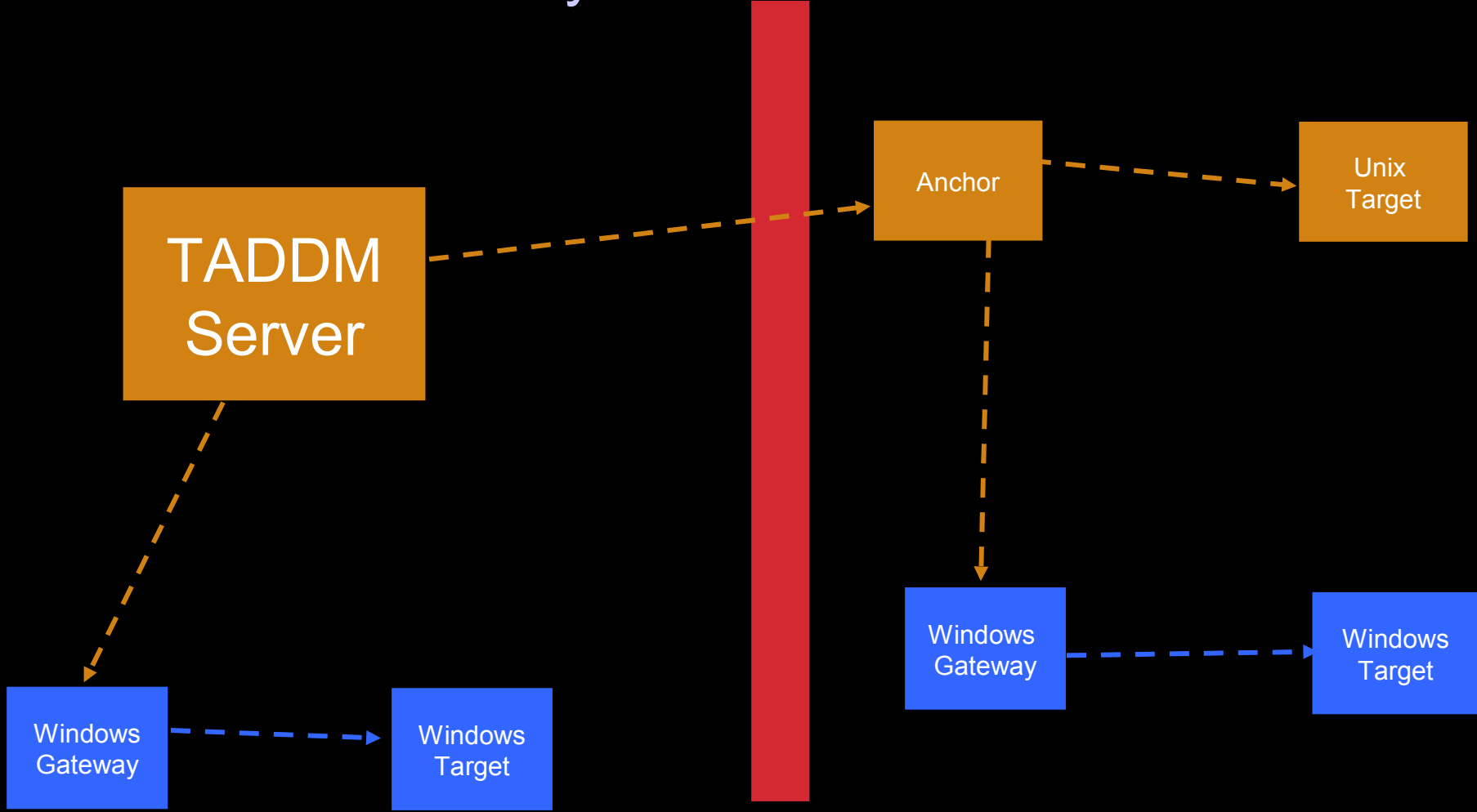
Access List

- 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, WebSphere, JBoss, OracleAppServer, mySAP, and Other J2EE Servers. A specific component, 'monosyllabix.tivlab.sanjose.ibm.com:2809', is highlighted with a red circle. On the right, the 'Overview' section shows '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'. The 'Details' section is open to the 'Application Descriptors' tab, showing the 'Command Line' and 'Environment' for the selected component. The command line is circled in red and contains the following text:

```
/opt/IBM/WebSphere/AppServer/java/bin/java -Xbootclasspath:/opt/IBM/WebSp  
/opt/IBM/WebSphere/AppServer/profiles/default/properties:/opt/IBM/WebSphere/  
-Dws_ext.dirs=/opt/IBM/WebSphere/AppServer/java/lib:/opt/IBM/WebSphere/App  
-Dcom.ibm.itp.location=/opt/IBM/WebSphere/AppServer/bin -Djava.util.logging.cor  
-Dserver.root=/opt/IBM/WebSphere/AppServer/profiles/default -Djava.awt.headl  
/opt/IBM/WebSphere/AppServer/profiles/default/config monosyllabixNode01 Cell r
```

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

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 Discovery interface. On the left, a navigation pane shows 'Business Applications', 'Application Infrastructure', and 'Physical Infrastructure'. The main area shows a graph of discovered components. A callout bubble points to the graph with the text 'App Map discovered via credential-less approach...'. The graph 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. Below the graph, a detailed view for 'bermina.zurich.ibm.com' is shown with the following information:

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: chapditlids03

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

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





Discovery

Topology

Analytics

Custom Query

Inventory

Change History

Dormant Components

Component Comparison

Switch Topology

Discovered Components

Physical Infrastructure

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

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:

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

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





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\sliebmsh...		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

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

Discovered Components

Physical Infrastructure

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

Username: administrator



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

Interfaces Packages Patches Kernel Modules Config Files





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.

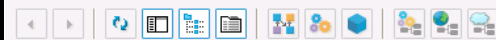
Business Services

There was no data for this table.

Components

Dependency Type	Participation	Other object Name	Created By	Contents	Type
Transactional	Dependent	chapdtildis03:9433	Discovered	chapdtildis03:9433	App Server
Transactional	Provider	chapdtildis03:9162	Discovered	chapdtildis03:9162	App Server
Transactional	Dependent	chapdtildis03:9540	Discovered	chapdtildis03:9540	App Server
Transactional	Provider	chapdtildis03:9433	Discovered	chapdtildis03:9433	App Server
Transactional	Provider	chapdtildis03:9162	Discovered	chapdtildis03:9162	App Server
Transactional	Provider	chapdtildis03:59759	Discovered	chapdtildis03:59759	App Server





Discovery

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

Topology
Analytics

Discovered Components

Business Applications

Business Application Overview



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	chapdtildis03:1098	
CollationProcesses	chapdtildis03:46946	
CollationProcesses	chapdtildis03:59759	
CollationProcesses	chapdtildis03:9162	
CollationProcesses	chapdtildis03:9433	
CollationProcesses	chapdtildis03:9540	
My APP Servers	chapdtildis03:5001	
Oracle Instance	chapdtildis03:up612	

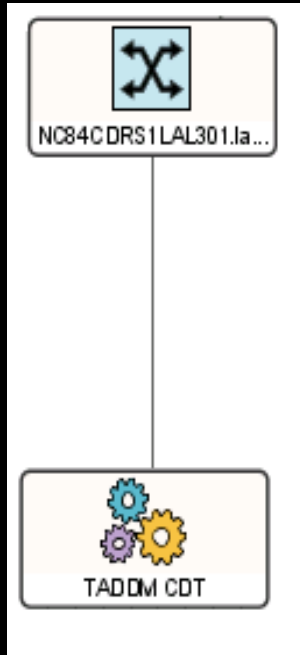


Business Applications



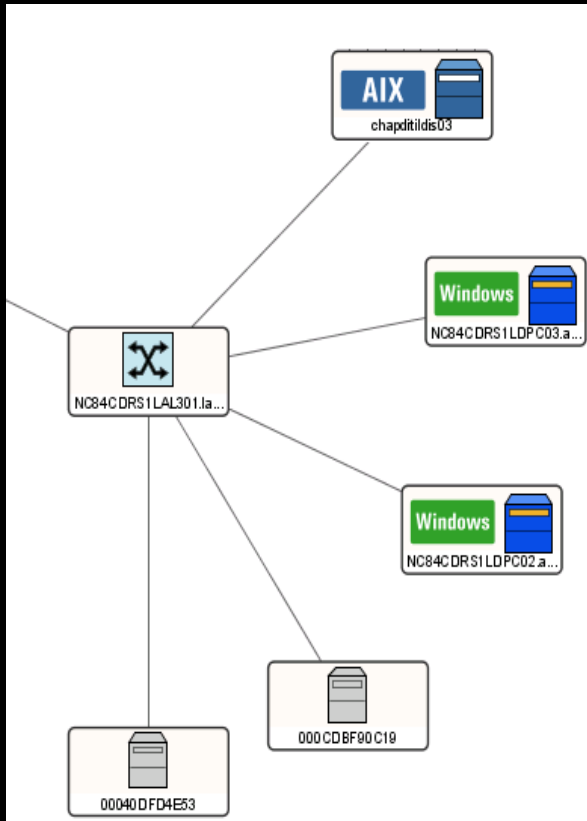
- How can I use the data I discover to bring value?

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 ❌

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

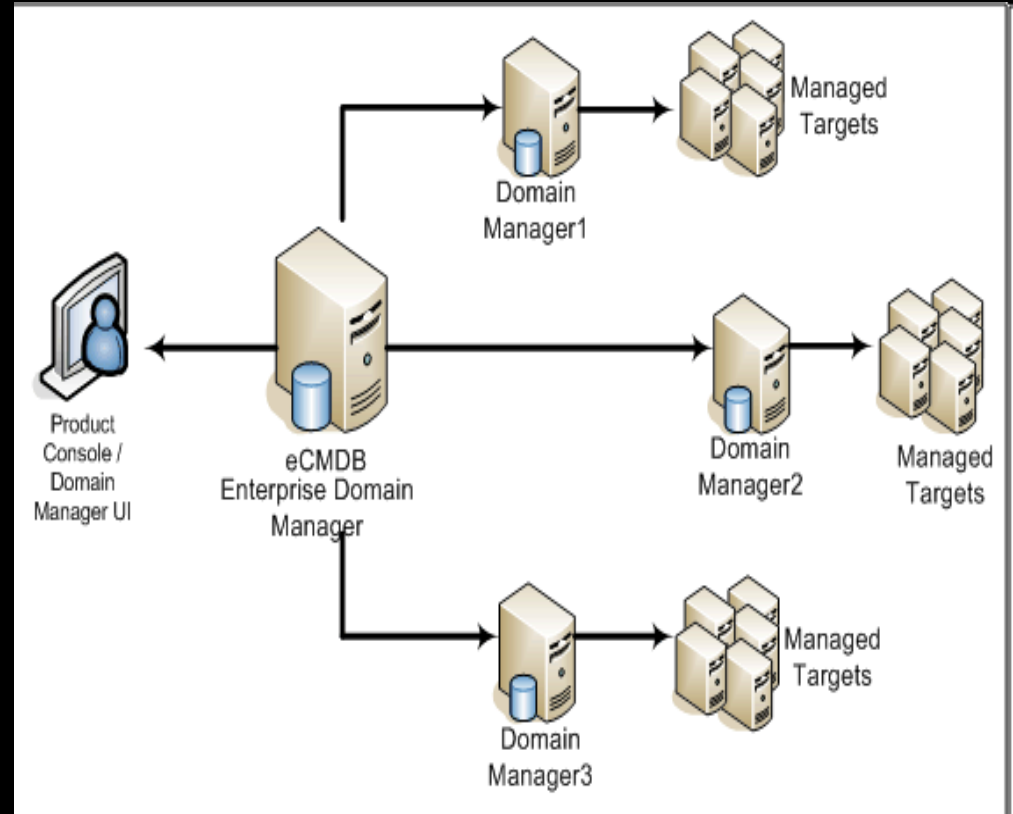
Data can be loaded via xml books from other products, i.e. TBSM, ITM, z/OS DLA, z/VM DLA, TCM

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

