ADDITIONAL REFERENCE MATERIALS FOR THE VE CONSOLE R2 MODULE

Agenda continued:

0	Preface: Learning Objectives & Target Audience
1	IBM VE Console Overview
2	**IBM VE Console Installation**
3	IBM VE Console Launch in Context
4	IBM VE Console Bridge Concepts
5	IBM VE Console Resource Topology
6	Wrap up - information sources and Q&A

Learning Objectives

At the conclusion of this chapter, you should be able to:

- Name the installable units of the console
- Understand the install prerequisites
- Understand common WebSphere profile and what products reside in it
- Know what the installation process and install panels in release 2

Installable units of the console

There are 6 components to a full installation of the VE Console:

1. Virtualization Engine console
2. Cluster Systems Management bridge to Virtualization Engine console
3. Enterprise Workload Manager bridge to Virtualization Engine console
4. IBM Director bridge to Virtualization Engine console
5. Management Central bridge to Virtualization Engine console
6. Resource Dependency Services

Installable prerequisites

There are five prerequisites for the VE Console:

1. Virtualization Engine environment
2. ITDS
3. WebSphere 6.0
4. WebSphere security
5. Common WebSphere profile (bridges)

Common WebSphere Application Server profile

- **A WebSphere profile is created and shared by six Virtualization Engine products**
  - Cluster Systems Management bridge to Virtualization Engine console
  - Enterprise Workload Manager bridge to Virtualization Engine console
  - IBM Director bridge to Virtualization Engine console
  - Management Central bridge to Virtualization Engine console
  - ODI:RM
  - Resource Dependency Services
- **Can be shared if these products are on the same machine**
  - Reduces RAM and disk space
  - Eases serviceability (less to service)

Simplified Installation process in release 2:

- **Virtualization Engine console**
  - Asks if you want the console to restart automatically on startup
- **Cluster Systems Management bridge to Virtualization Engine console**
  - No panels
- **Enterprise Workload Manager bridge to Virtualization Engine console**
  - No panels
- **IBM Director bridge to Virtualization Engine console**
  - Asks what platform and machine name Director is running on
  - Asks if you want install to verify connection to Director
- **Management Central bridge to Virtualization Engine console**
  - No panels
- **Common WebSphere profile**
  - Asks what port you want the profile's ports to start with
  - Asks if you want the common WebSphere profile to restart automatically on startup

Conclusion / Wrap-up

- **Name the installable units of the console**
- **Understand the install prerequisites**
- **Understand common WebSphere profile and what products reside in it**
- **Know what install panels are in release 2**

Agenda continued:

0	Preface: Learning Objectives & Target Audience
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Learning Objectives

At the conclusion of this material, you should be able to:

- Describe the Launch-in-Context functionality within VE console
- Launch tasks with context from VE console into client-based systems management consoles
- Utilize the R2 VE Launchpad enhancements

Agenda

Launch-in-Context Topics to be Covered:

- Introduction
- Overview
- Usage
- Prerequisites
- Task Launching
- Launch Points
- Launchpad
- SSO Support
- Conclusion/Wrap-up
- Additional Resources
- Questions

Introduction

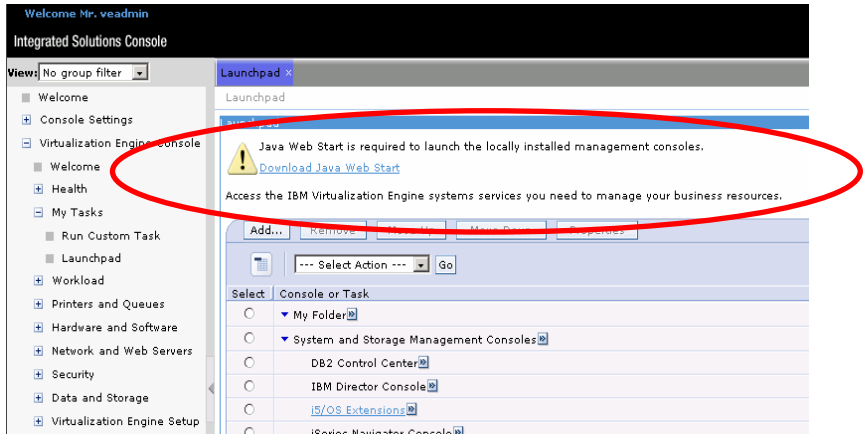
- **Goal**
  - To give the user an integrated console that they can use to manage their heterogeneous enterprise
- **Current Situation**
  - We have many consoles specific to the different eServer platforms (e.g. iSeries Navigator for iSeries, WebSM for pSeries/AIX, IBM Director for supported agent platforms, etc)
- **Strategic Interim Solution**
  - Leverage existing function within current series/platform specific consoles through our heterogeneous console (VEC) until this function exists natively within the VEC

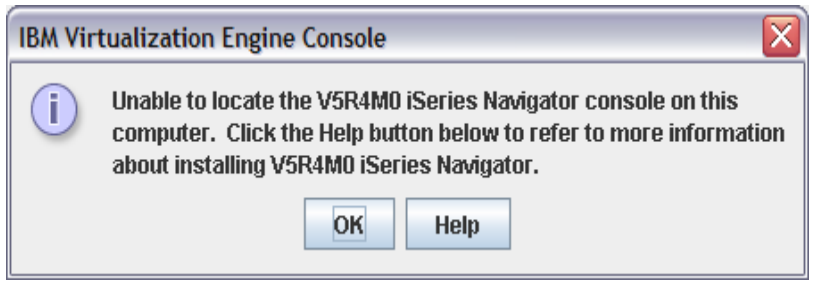
Overview

- **Next generation of client launch facility from R1 Launchpad**
  - Leverages Java Web Start for client Launch-in-Context function
- **Facility to exploit most popular tasks in current systems management console function**
  - Supported consoles include IBM Director, Web-based System Manager (WebSM), and iSeries Navigator
- **Automatic install capability**
  - Launch-in-Context provides support to automatically install the IBM Director console on a user's workstation if the console is not currently installed
- **Single Signon (SSO) support**
  - VE SSO support is used to alleviate multiple signons to the launched consoles provided that a valid mapping exists

Prerequisites

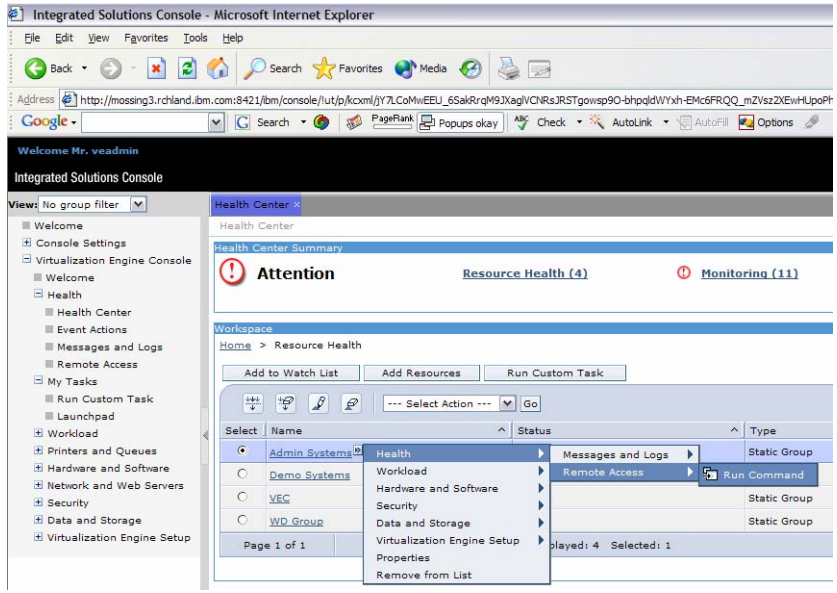
- **Java Web Start (JWS) must be installed on the client system**
  - User will see a warning within the VEC is JWS is not installed
  - JWS is included as part of the Java Runtime Environment (JRE) starting with version 1.4
- **In order to launch tasks "in context", the supported version of the client console must be installed on the client system**
  - IBM Director console 5.10 (auto-install support)
  - WebSM 5.3 (auto-install support)
  - iSeries Navigator V5R4

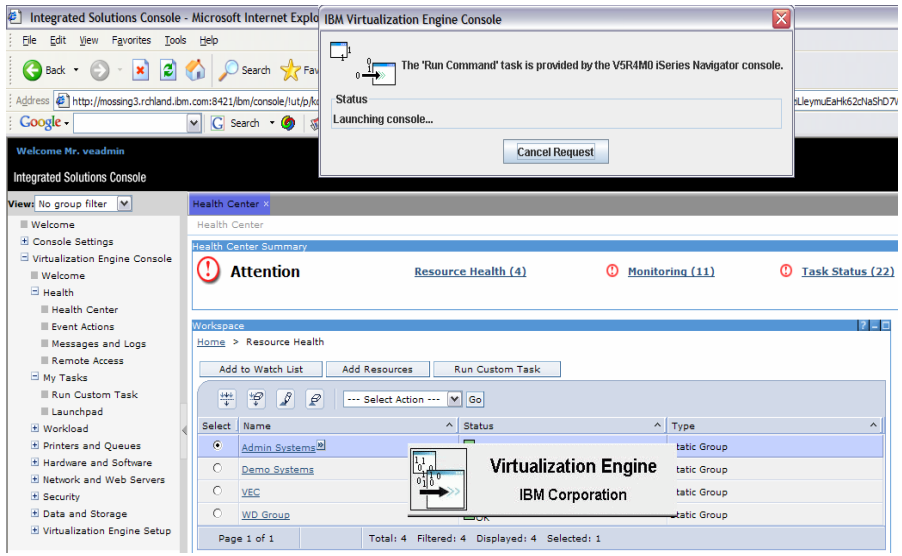




Task Launching

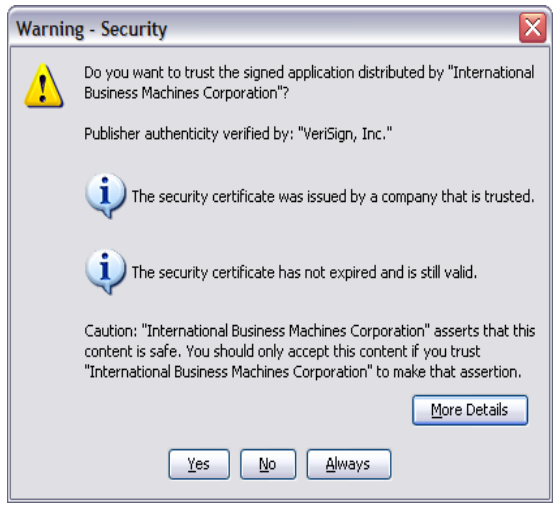
- **The majority of tasks available in VE 2.0 are Launch-in-Context tasks that exploit function within IBM Director, iSeries Navigator, or Web-based System Manager**
- **"Virtualization Engine" splash screen and status dialog are shown after a Launch-in-Context task is selected**
- **If the console needed to perform the task is already running, it will be reused**

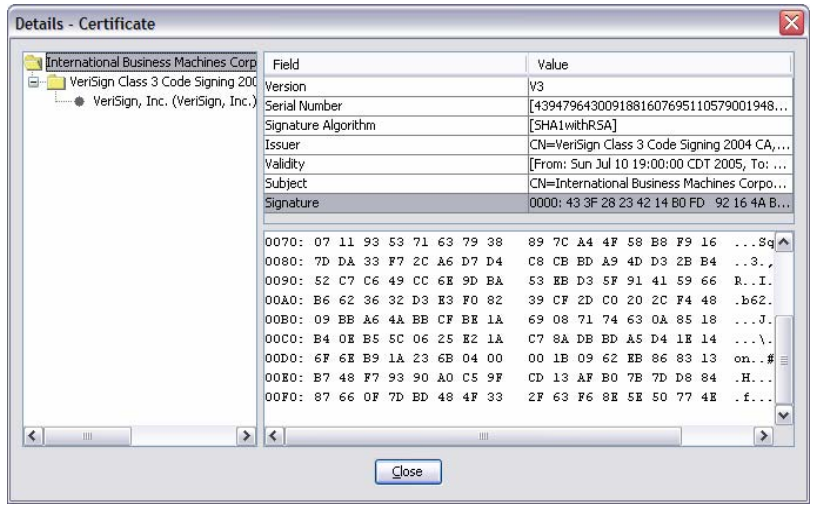




Task Launching - Security

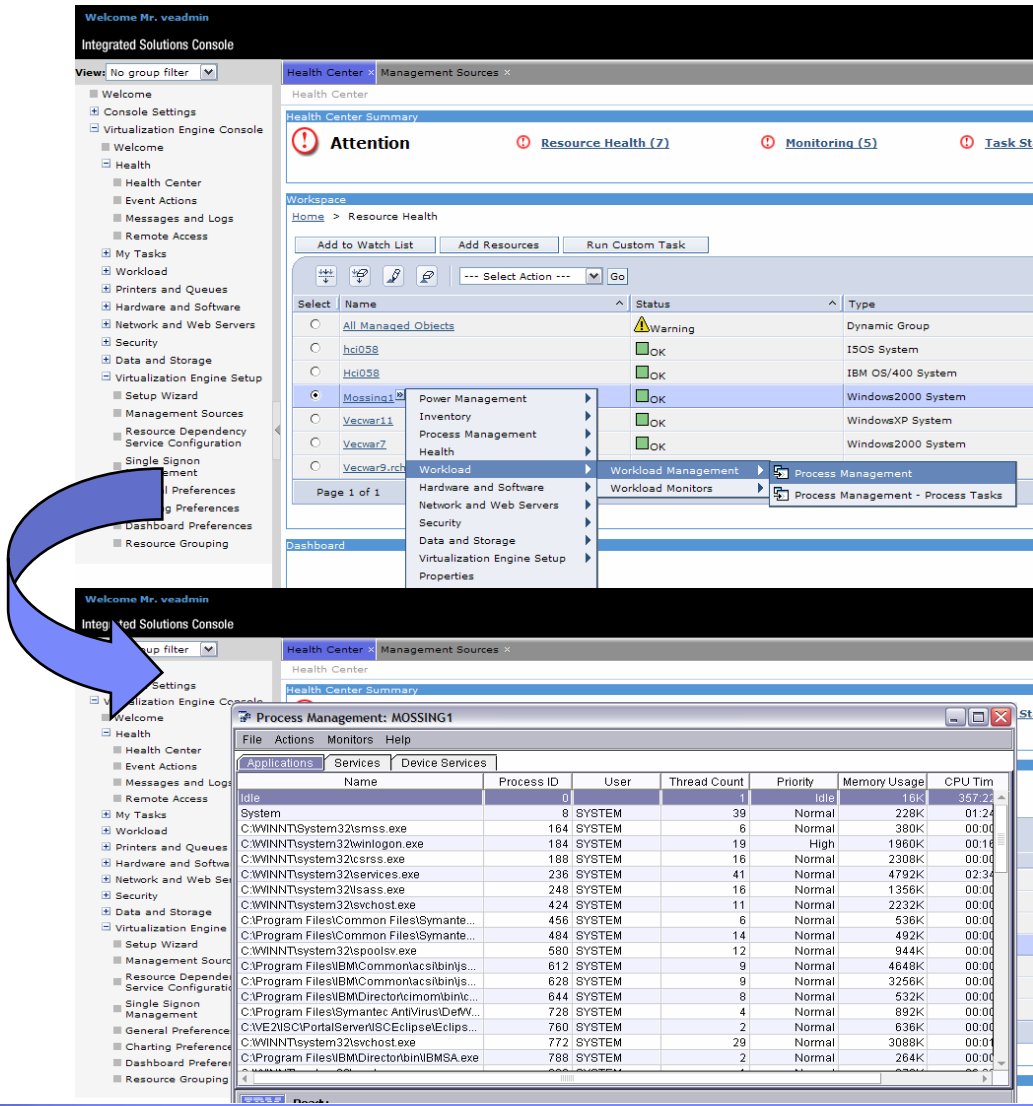
- **When a Launch-in-Context task is performed the user is alerted that a small program digitally signed by IBM will be run on the client system**
- **The user can agree to this alert each time a Launch-in-Context is performed by answering Yes**
- **An answer of Always will place the signing certificate in the trust store eliminating any future prompts**





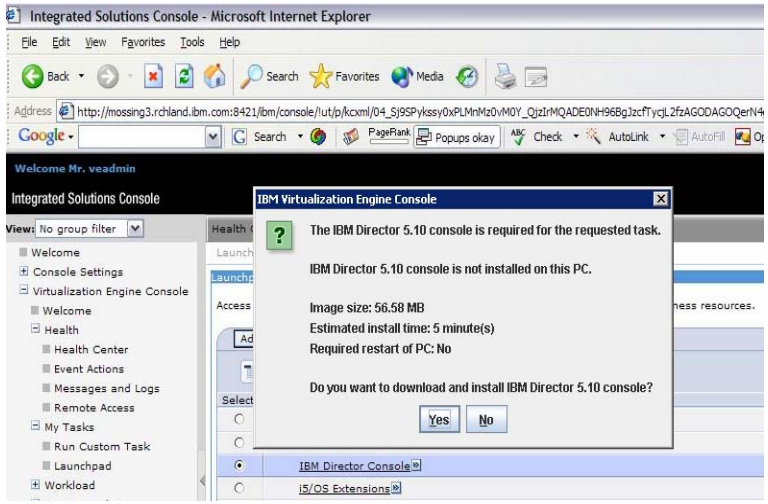
Task Launching – IBM Director

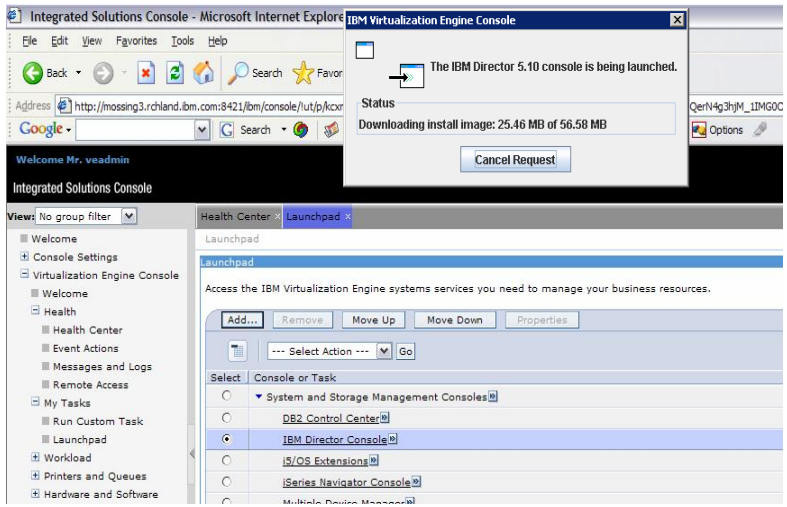
- **Launch-in-Context tasks are supported in IBM Director console 5.1**
- **Automatic installation/upgrade of the Director console is supported on the AIX/Linux/Windows platforms**



Task Launching - IBM Director Auto-installation

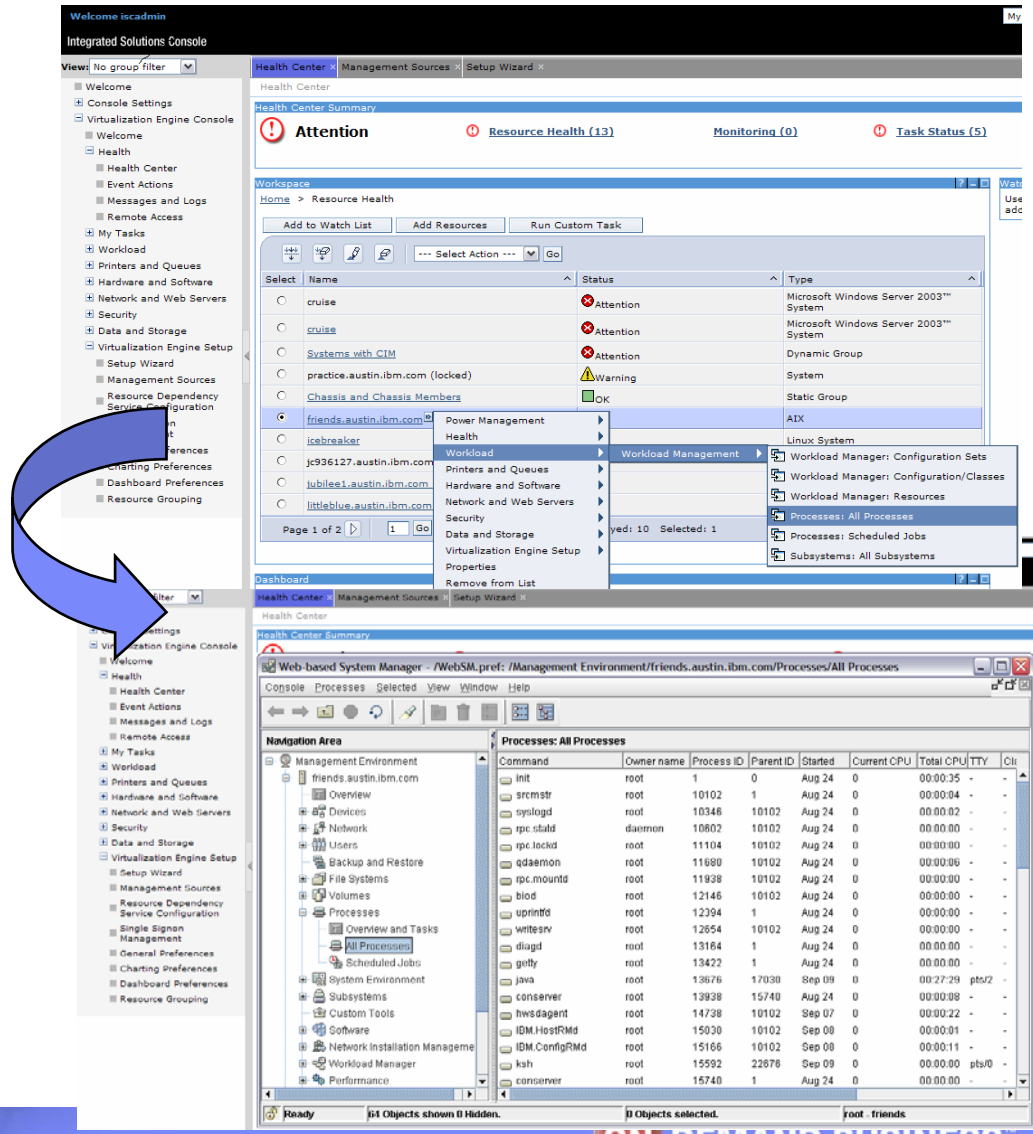
- **Director 5.1 console is downloaded from the VEC host machine, installed, and launched if the user agrees to the download and install dialog**
- **The user must be in the Administrators group on Windows and logged in as root for AIX/Linux**
- **If a down level Director console is installed on the system, the user will be given the opportunity to upgrade**
- **The specified task is carried out in the Director console following the installation**





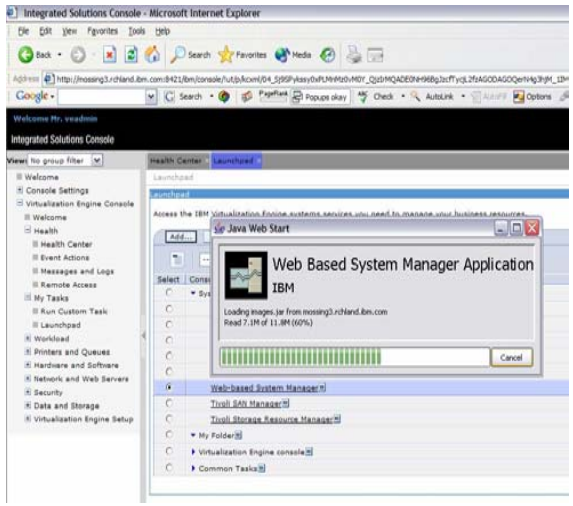
Task Launching – Web-based System Manager

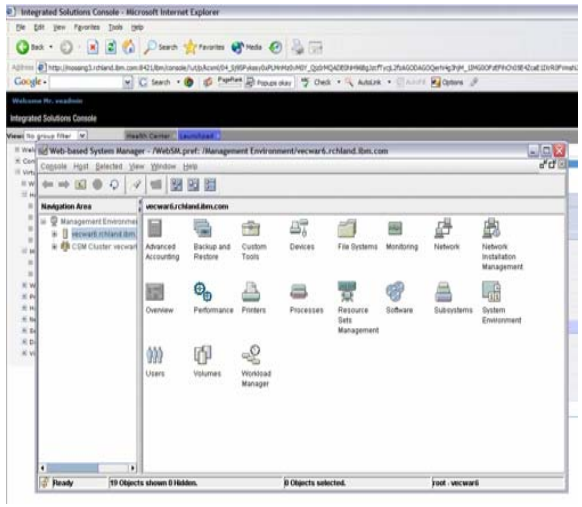
- **Launch-in-Context tasks are supported in Web-based System Manager 5.3**
- **Web-based System Manager 5.3 is included with VEC and will be downloaded and installed from the VEC host if necessary**



Task Launching - WebSM Auto-installation

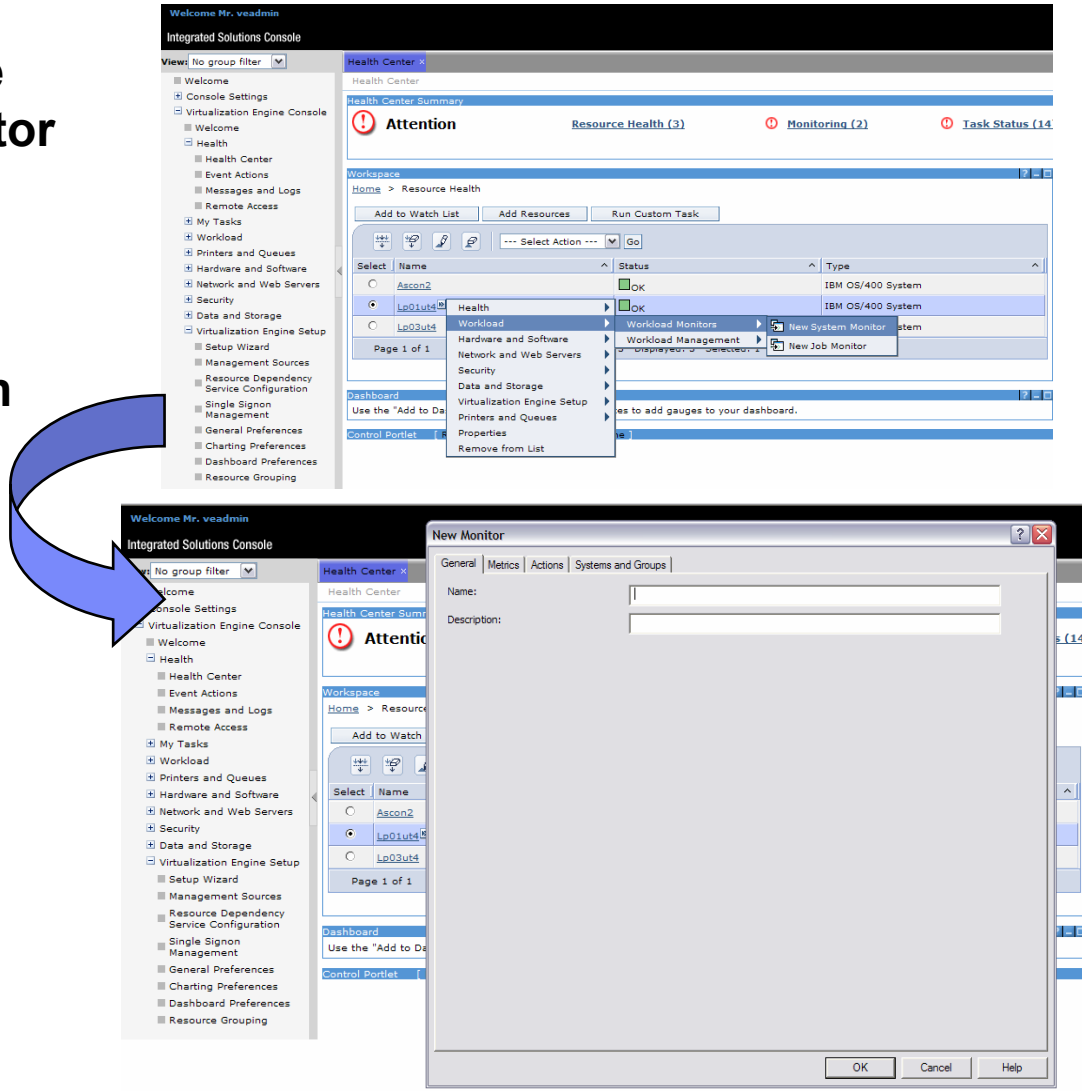
- **Web-based System Manager will be downloaded from the VEC host machine via Java Web Start and launched if not already installed**
- **The specified task will be carried out following the installation**





Task Launching – iSeries Navigator

- **Launch-in-Context tasks are supported in iSeries Navigator V5R4**
- **iSeries Navigator must be installed prior to task launch**

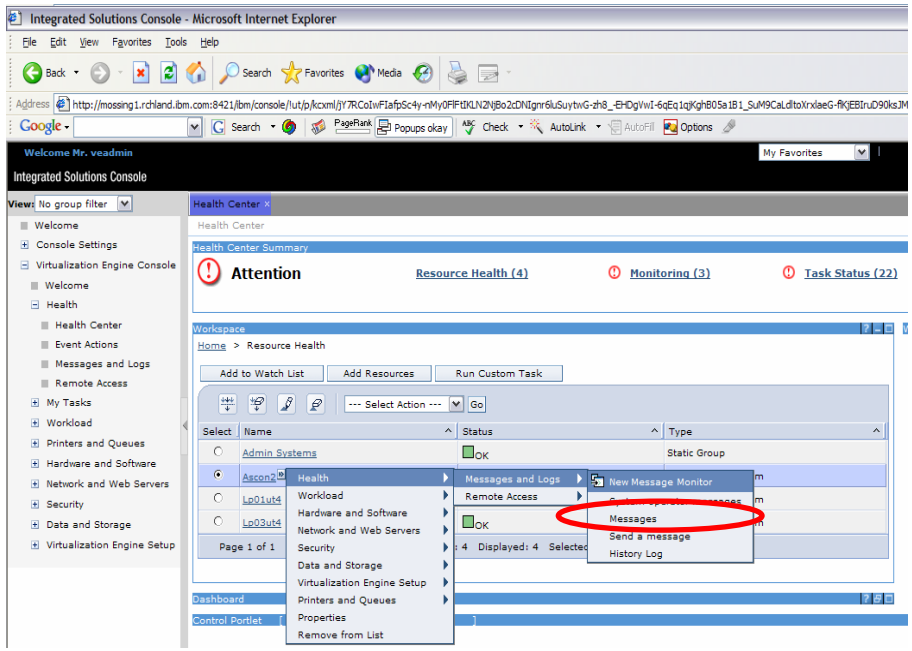


Launch Points

- **Tasks may be launched from Health Center resource context menus**
  - User selects target resource, brings up a context menu, and selects task
- **Tasks may be launched by drilling down into a functional category via the navigation task area folders**
  - User selects a functional task category in left hand navigation pane, chooses target, and selects task
- **Favorite tasks can be added to and launched from the Launchpad**
  - Any task surfaced via a task category can be added to the Launchpad

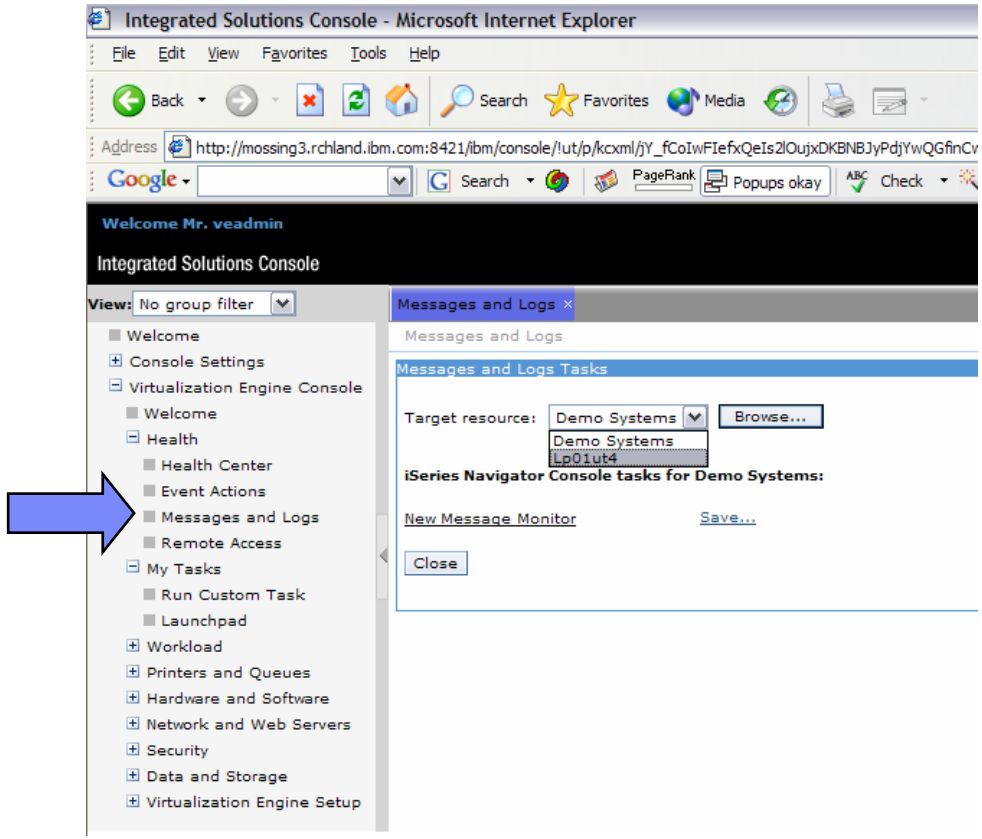
Launch Points – Resource-based

- **Launching from the Health Center**
  - User selects target resource, brings up a context menu, and selects task
  - The launch icon represents a client Launch-in-Context action
  - Notice the task categories in the resource context menu are mirrored in the left hand navigation area



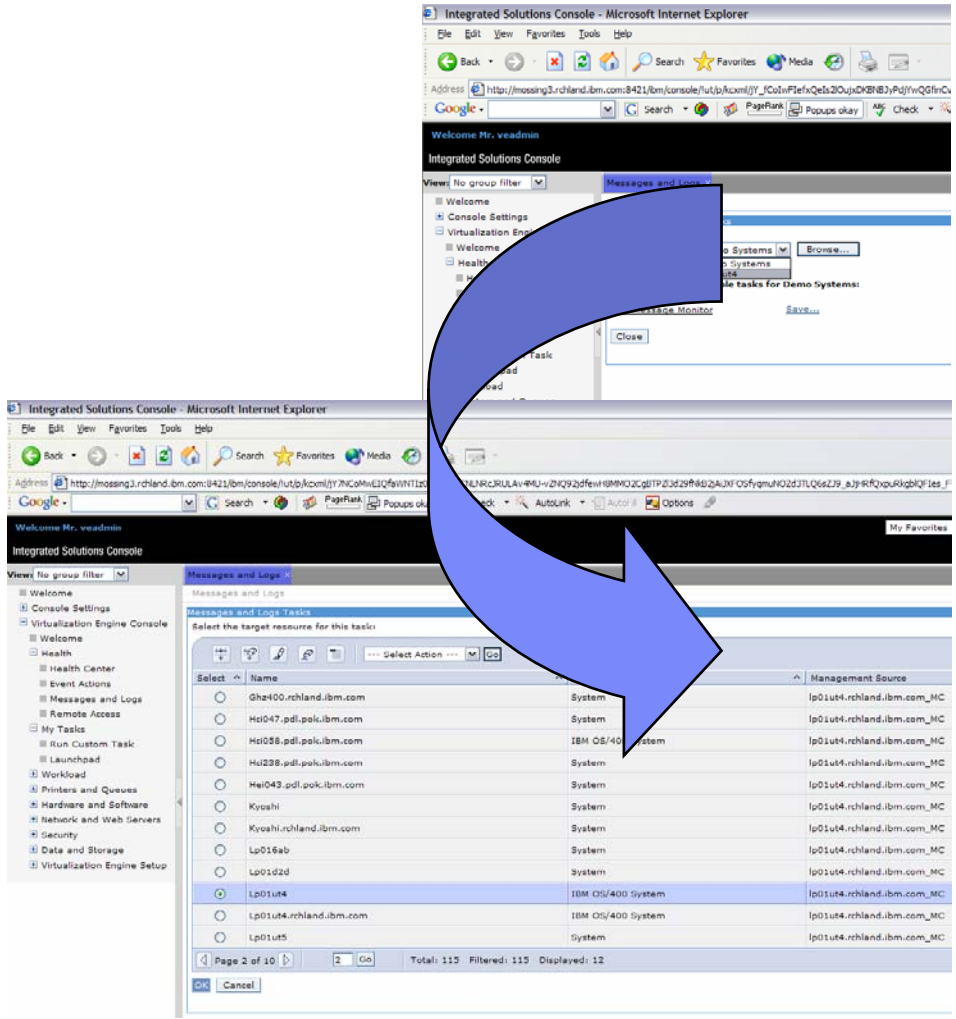
Launch Points – Category-based

- **Drill down into functional category via left hand navigation area**
- **Browse for the target with dropdown box or Browse dialog**
- **All applicable tasks for the selected target will be shown within the task launch portlet**
- **Task may be launched by selecting the respective link**



Launch Points – Category-based - Browse

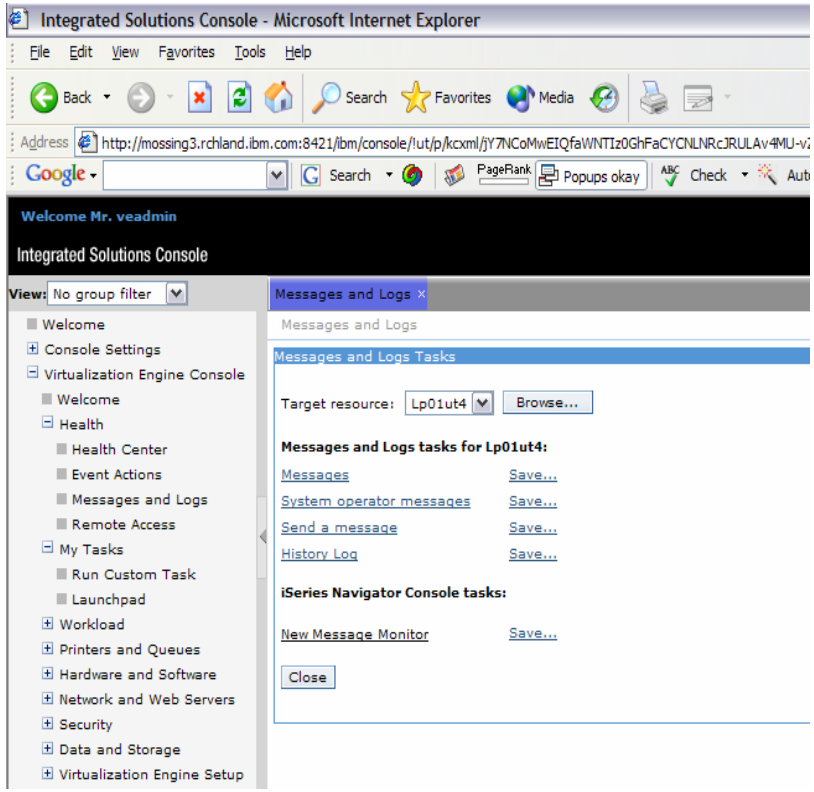
- **All resources known by the defined management sources that support tasks of the selected category**
- **Past targets that have been chosen for this category will persist in the dropdown box in the task portlet**



Launch Points – Category-based – Available Tasks

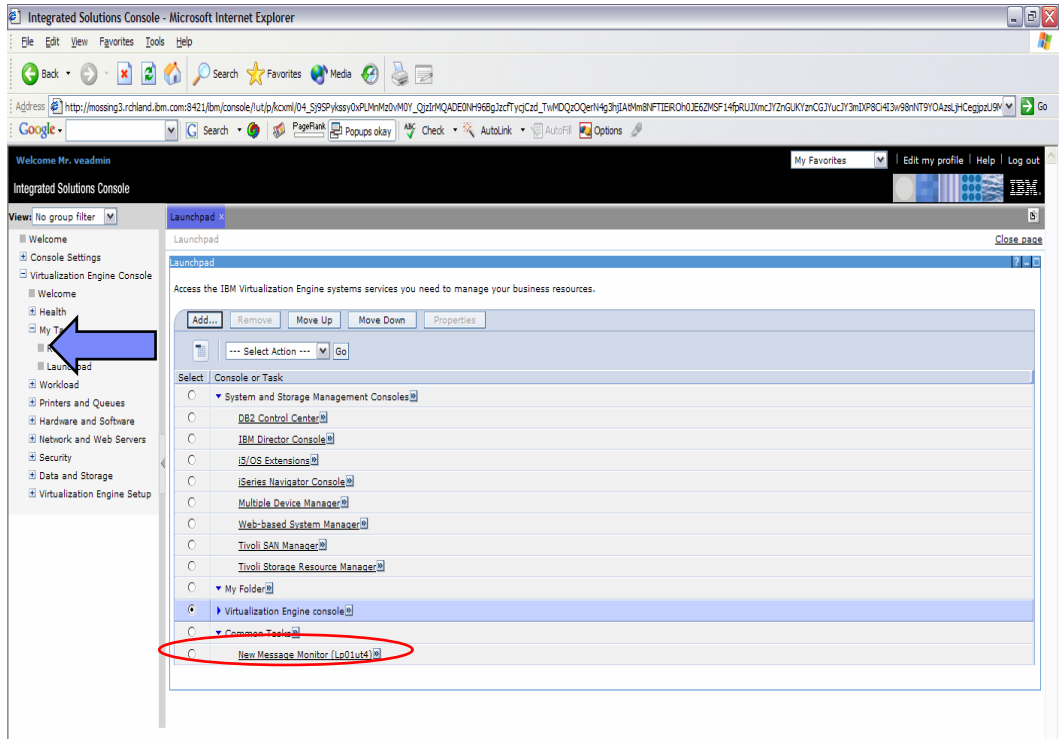
- **Supported tasks for the selected resource will be displayed after selection in the dropdown or Browse dialog**

- **Any of these links can be saved to the VEC Launchpad using the "Save…" link**



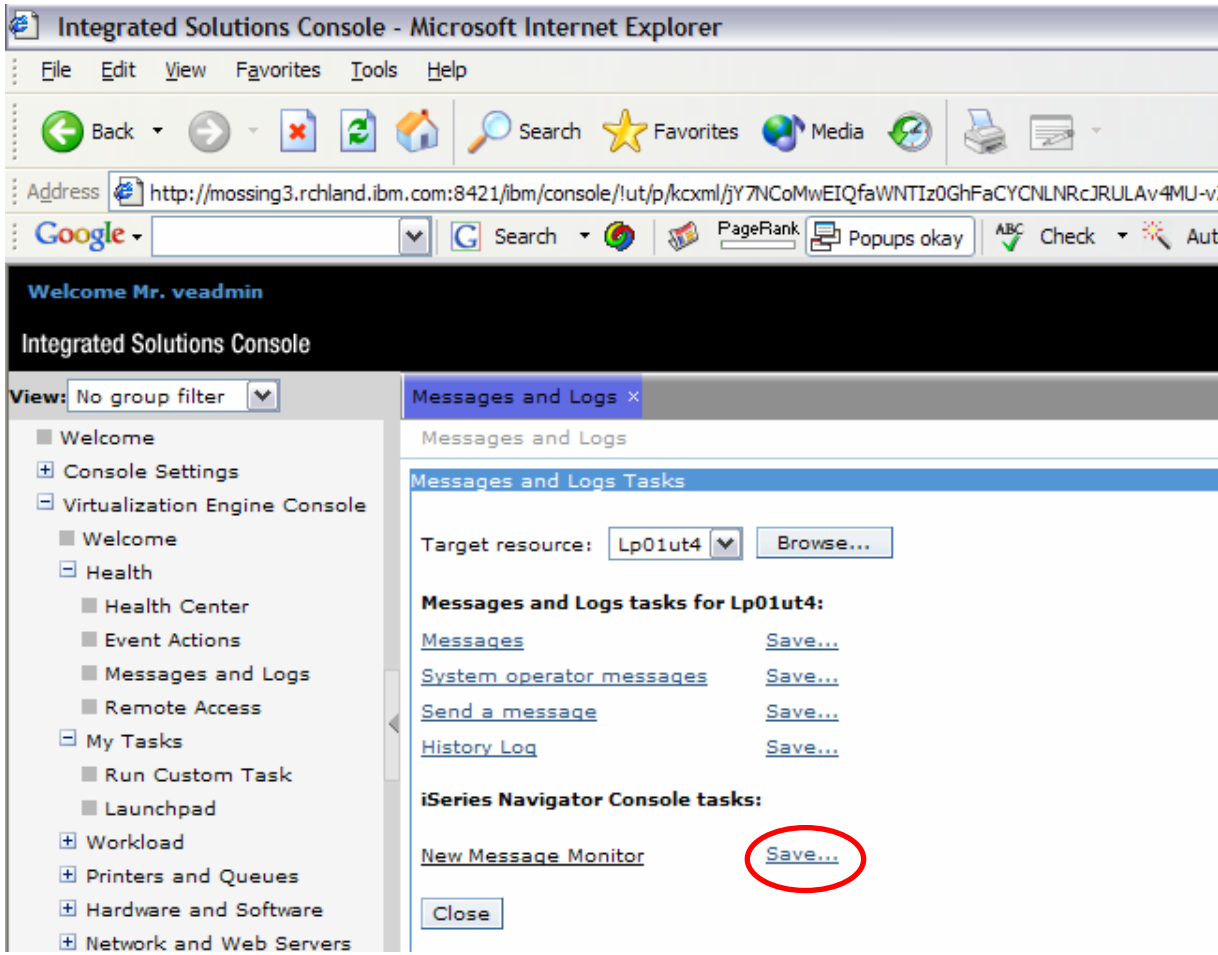
Launchpad

- **Launch VE and other related consoles including i5/OS extensions**
- **Launch user-defined customer applications and consoles**
- **Detects VE web consoles in the environment (e.g., EWLM Control Center) and automatically creates links for them**
- **Launchpad entries and categories can be arranged**



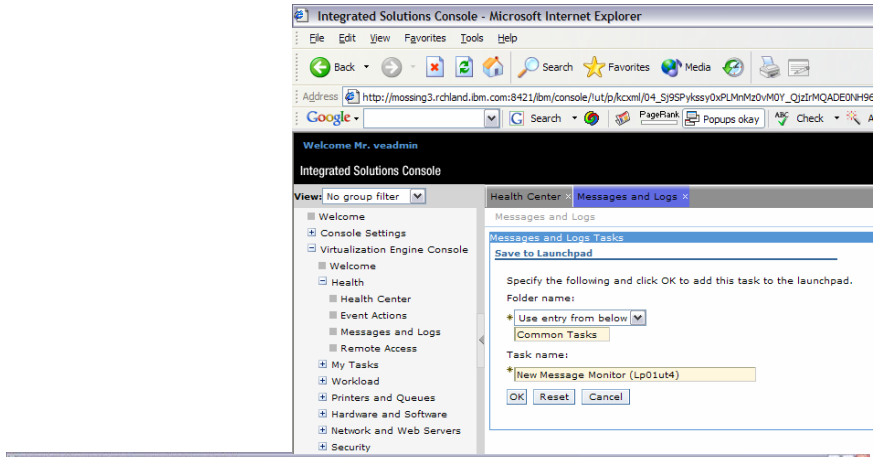
Launchpad - Task Integration

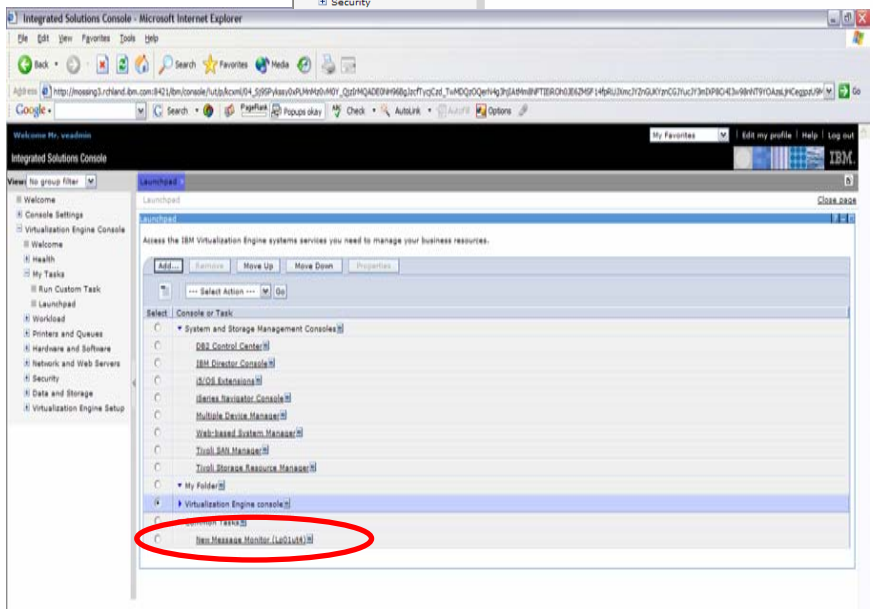
- **Create "Favorites with context" links with ability to group and organize**
  - One-click to run a task on desired system
  - Subset favorite tasks on favorite systems
  - Create custom task list for users integrating VE tasks and customer tasks



Launchpad - Task Integration (2)

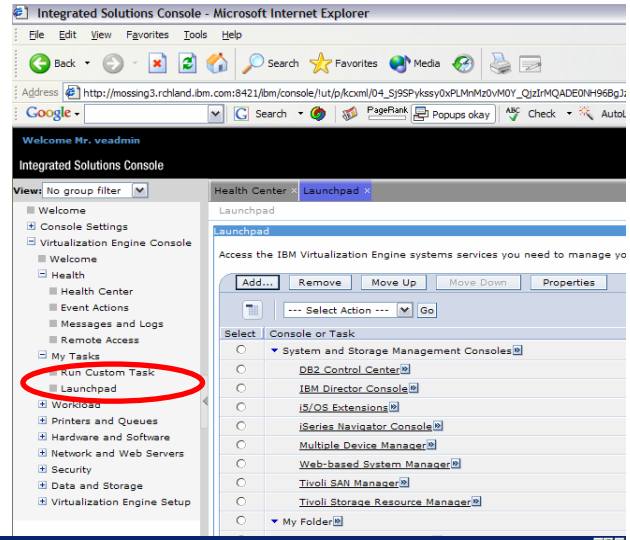
- **Choose from existing Launchpad folders or define a new one**
- **Option to edit the task name – default behavior is to use task link text**
- **Link is then saved into Launchpad folder for future use**
- **Task bookmarking system that is browser and PC independent**

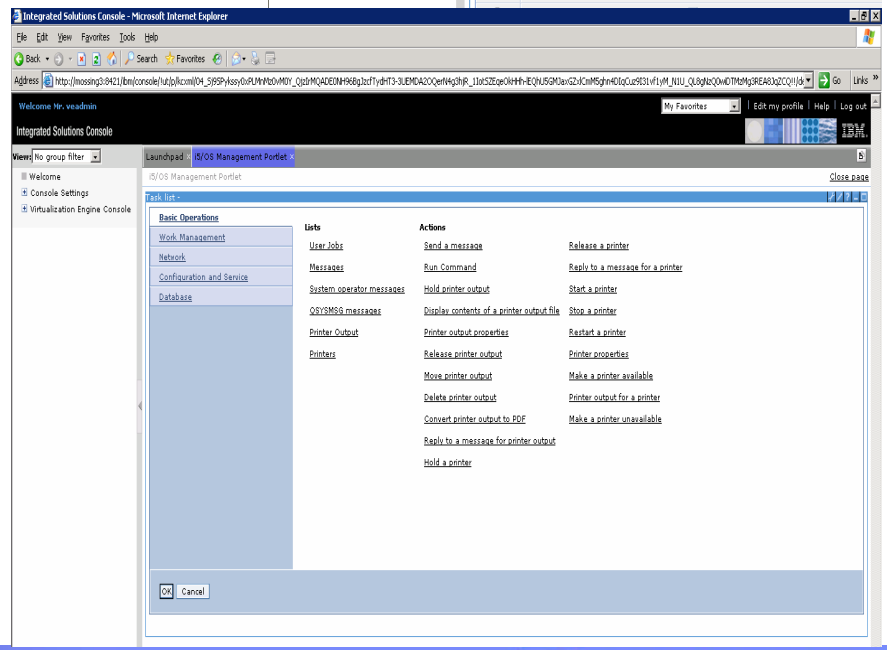




Launchpad - i5/OS Extensions

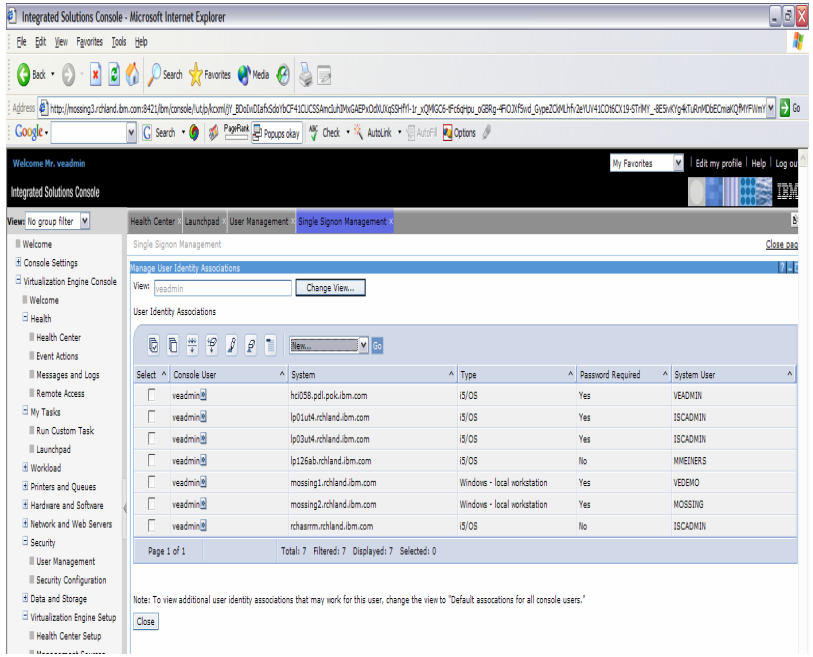
- **Integration of iSeries Navigator Tasks for the Web into VEC**
- **Approximately 90 integrated Web-based iSeries tasks**
- **Also visible on an individual basis through Health Center resource context menus and the category task portlet**





SSO Support

- **Launch-in-Context uses user mappings (if available) for every task launch to eliminate a separate authentication to the client console**
- **These mappings exist in the Manage User Identity Associations portlet**



Conclusion / Wrap-up

- **Launch-in-Context provides a means to integrate key eServer systems management tasks into VEC**
- **Launch-in-Context keeps the systems management observation and corrective action duties within the same scenario**
- **This is an initial step towards the goal of complete task convergence and integration**

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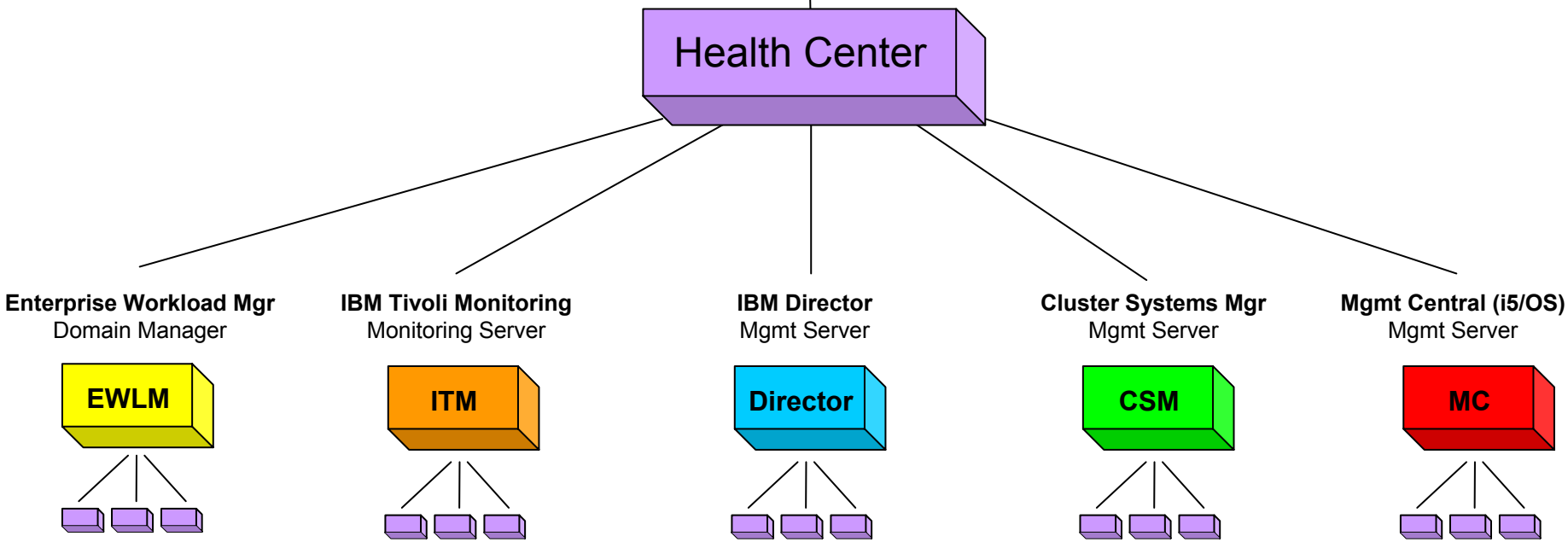
Learning Objectives

At the conclusion of this material, you should be able to:

- Understand what a bridge is
- Understand our four bridges and platform support
- Be able to name the main functions of each bridge
- Understand how to service each bridge

What is a bridge?

- **Communicates with existing servers and sends information in web services format to console (Health Center)**
- **Runs within a common WebSphere profile on WebSphere Application Server 6.0**



Our four bridges

- **Cluster Systems Management bridge to Virtualization Engine console**
  - AIX
- **Enterprise Workload Manager bridge to Virtualization Engine console**
  - Windows, xLinux, i/pLinux, zLinux, i5/OS, AIX (zOS post R2)
- **IBM Director bridge to Virtualization Engine console**
  - Windows, xLinux, i/pLinux, zLinux, i5/OS (AIX post R2)
- **Management Central bridge to Virtualization Engine console**
  - i5/OS

(AIX 5.3, i5/OS V5R3, Linux SLES 9 and RHAS 4.0, Windows 2003 Standard and Enterprise Editions)

Main function of bridges

- **Cluster Systems Management bridge to Virtualization Engine console**
  - Resource = an individual pSeries® node running the AIX® operating system or a node group of endpoint systems running the AIX operating system
  - Monitor = a Resource Monitoring and Control (RMC) condition that can be used to monitor one or more resources on one or more of the endpoint systems managed in the CSM cluster
  - Task = actions that result in Cluster Systems Management (CSM) tasks and Distributed Command Execution Manager (DCEM) tasks

- **IBM Director bridge to Virtualization Engine console**
  - Resource = a physical system, device, or a logical group managed by the IBM® Director Server
  - Monitor = an IBM® Director threshold that can be used to monitor an attribute of a resource managed by the Director Server
  - Task = actions that will result in task and high level custom tasks which will create an IBM Director Task Activation to track the history of the task

Main function of bridges (2)

- **Enterprise Workload Manager bridge to Virtualization Engine console**
  - New for R2
  - Resource = a collection of EWLM managed servers and a domain manager. The domain manager coordinates the activation of policies on managed server and the collection of performance data. A managed server is a server whose work requests are monitored and sends performance data to the domain manager.
  - Monitor = A “Workload” object represents a collection of service classes that have been grouped together by the administrator. The workloads are generally grouped to represent business objectives such as “Web Site”, “Banking”, and “Inventory and Shipping”. If all service class objects in the workload are meeting or exceeding their goals, the health of the workload will be set to “OK”. If at least one service class is not meeting its goals, the health of the workload will be set to “Attention”.

- **Management Central bridge to Virtualization Engine console**
  - Resource = Management Central Systems and System Groups
  - Monitor = Monitor system performance, jobs and servers, message queues, changes to selected files, and B2B transaction activity
  - Task = Delete custom tasks, view the status of the task on systems, run a custom task

Servicing bridges

- **Logs located at:**
  - <log_location_selected_at_install_time>/VEMS/logs/VEMS
    - Logs are VEBridge_out.log, VEBridge_err.log, SystemOut.log, SystemErr.log
  - For instance, on i5: /QIBM/ProdData/VE2/VEMS/logs/VEMS/

- **Administrative console located at:**
  - If customer takes default port choice during install (18551), WebSphere administrative console URL = http://<fully-qualified_machine_name>:18552/ibm/console
    - Use administrative console to change LDAP password, LTPA keys, etc.

Conclusion / Wrap-up

- **Understand what a bridge is**
- **Understand our four bridges and platform support**
- **Be able to name the main functions of each bridge**
- **Understand how to service each bridge**

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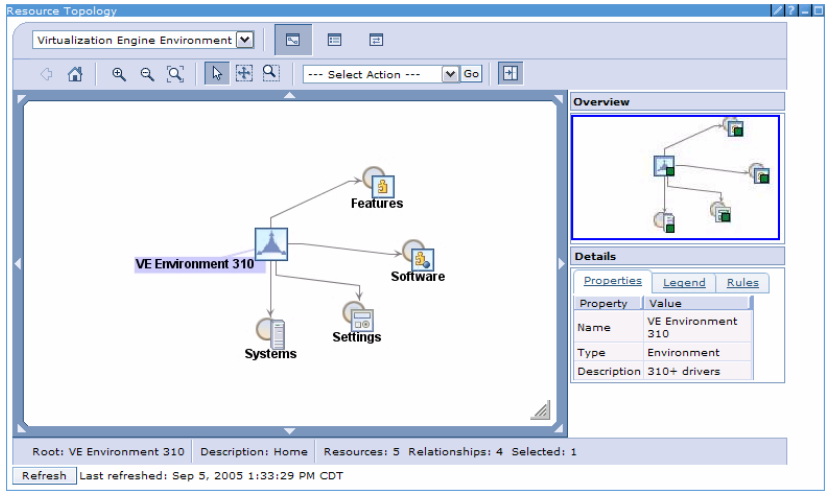
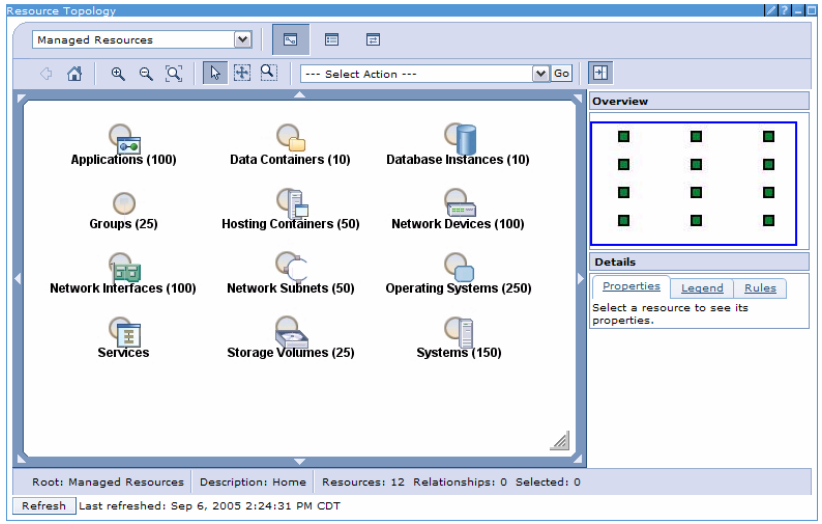
Agenda

Topics to be covered:

- Introduction
- Virtualization Engine Environment
- Managed Resources
  - Creating/deleting resources
  - Creating/deleting relationships
  - Editing properties
  - Logical groups
  - Launching RDS Configuration GUI
- Topology views
  - Graphical view
  - Resource table view
  - Relationship table view
- Topology Preferences
- Additional GUI Features
- Conclusion/questions





Resource Topology

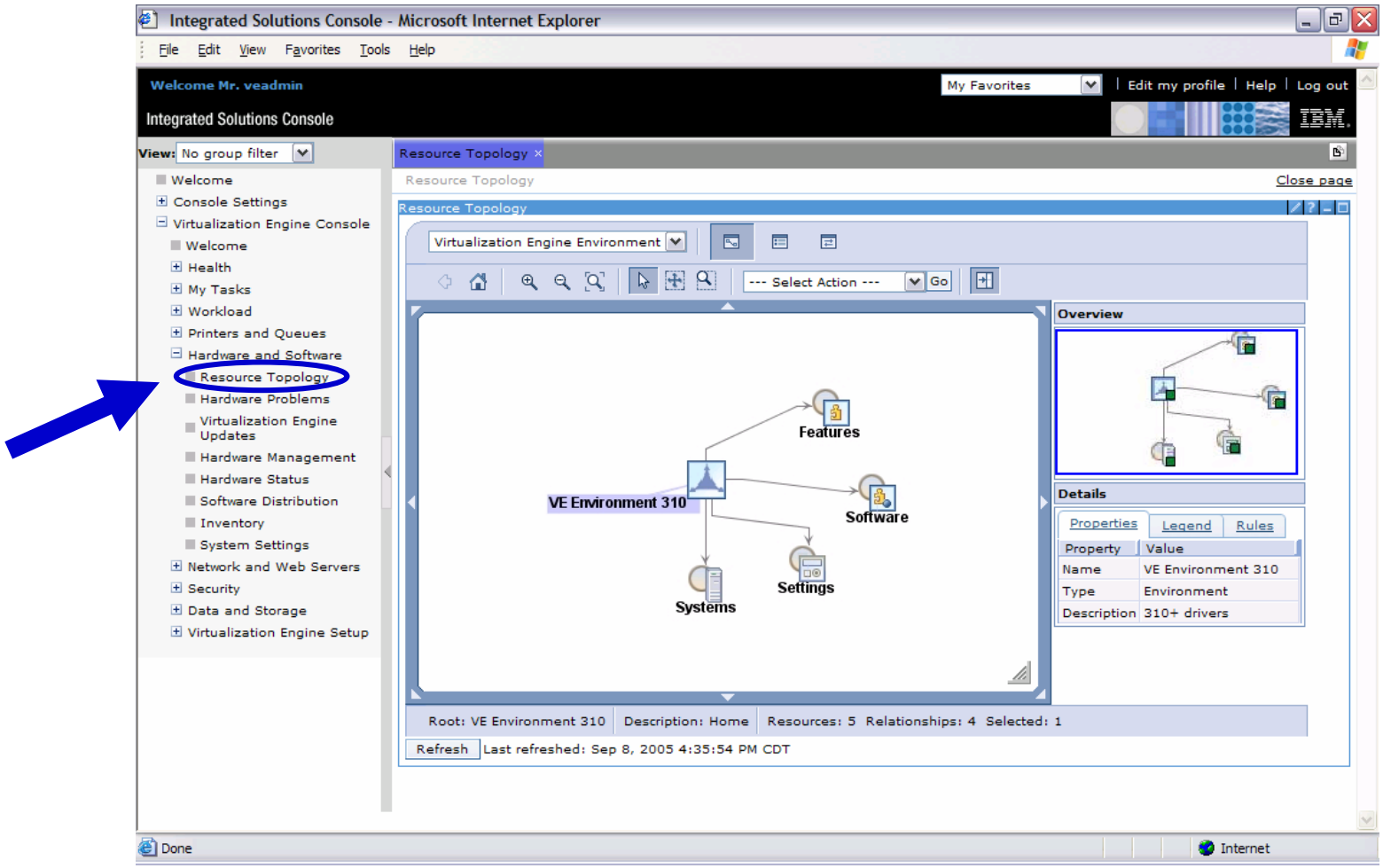
- **Introduction**
- Virtualization Engine Environment
- Managed Resources
- Topology Views
- Topology Preferences
- Additional GUI Features
- Conclusion/questions

Resource Topology Introduction

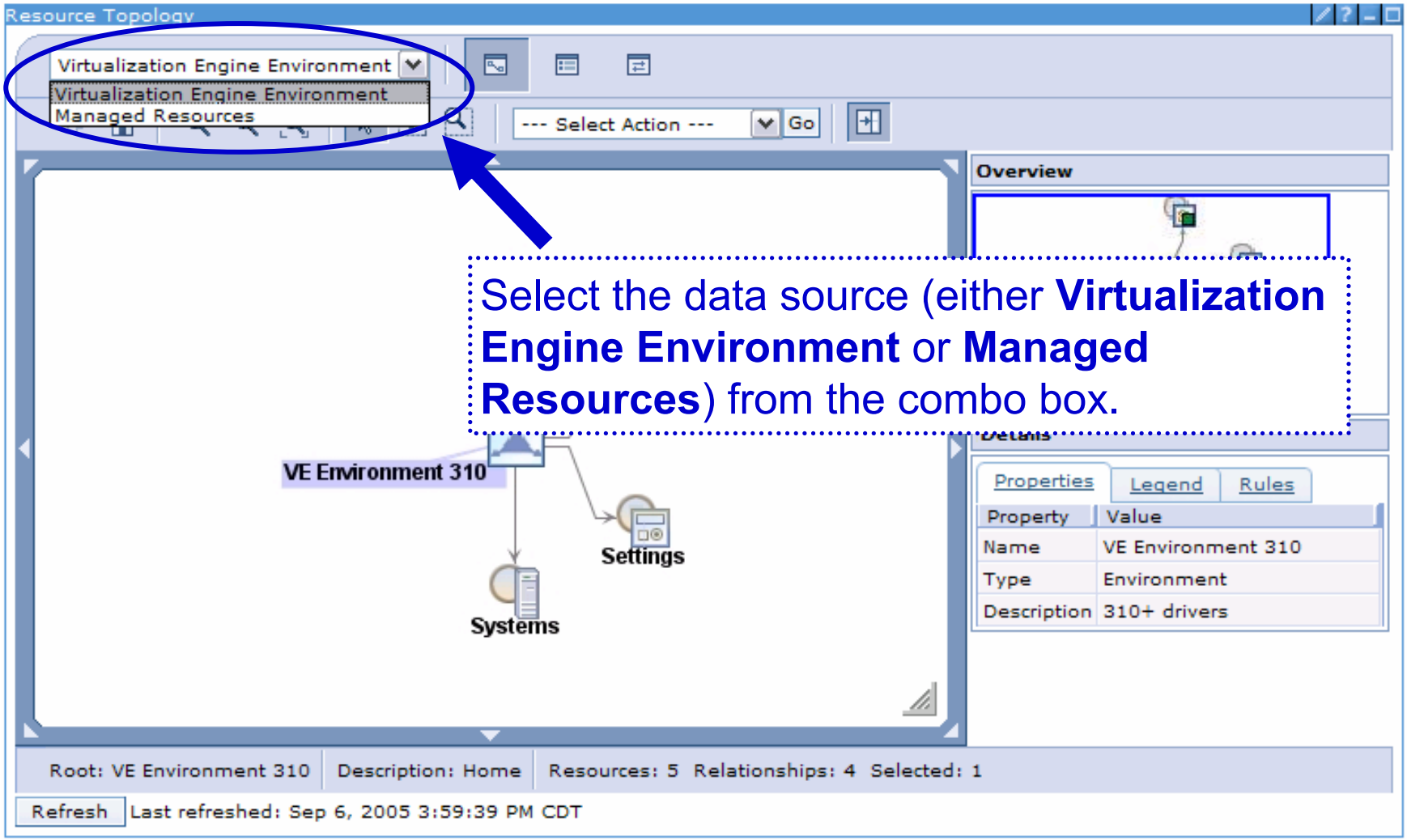
- **Component of the Virtualization Engine Console.**
- **Allows users to visualize, explore, and work with resources and relationships in a graphical topology viewer.**
- **Users can choose from two distinct data sources:**
  - Virtualization Engine Environment
    - Allows users to visualize the resources and the relationships between them which make up their Virtualization Engine environment.
  - Managed Resources
    - Allows uses to visualize the resources and relationships discovered by Resource Dependency Services (RDS). In addition, users can create/delete resources and relationships, edit resource properties, etc.

Resource Topology Introduction — Launching

- **Located at Virtualization Engine Console -> Hardware and Software -> Resource Topology**



Resource Topology Introduction – Selecting Data Source



Resource Topology

- Introduction
- **Virtualization Engine Environment**
- Managed Resources
- Topology Views
- Topology Preferences
- Additional GUI Features
- Conclusion/questions

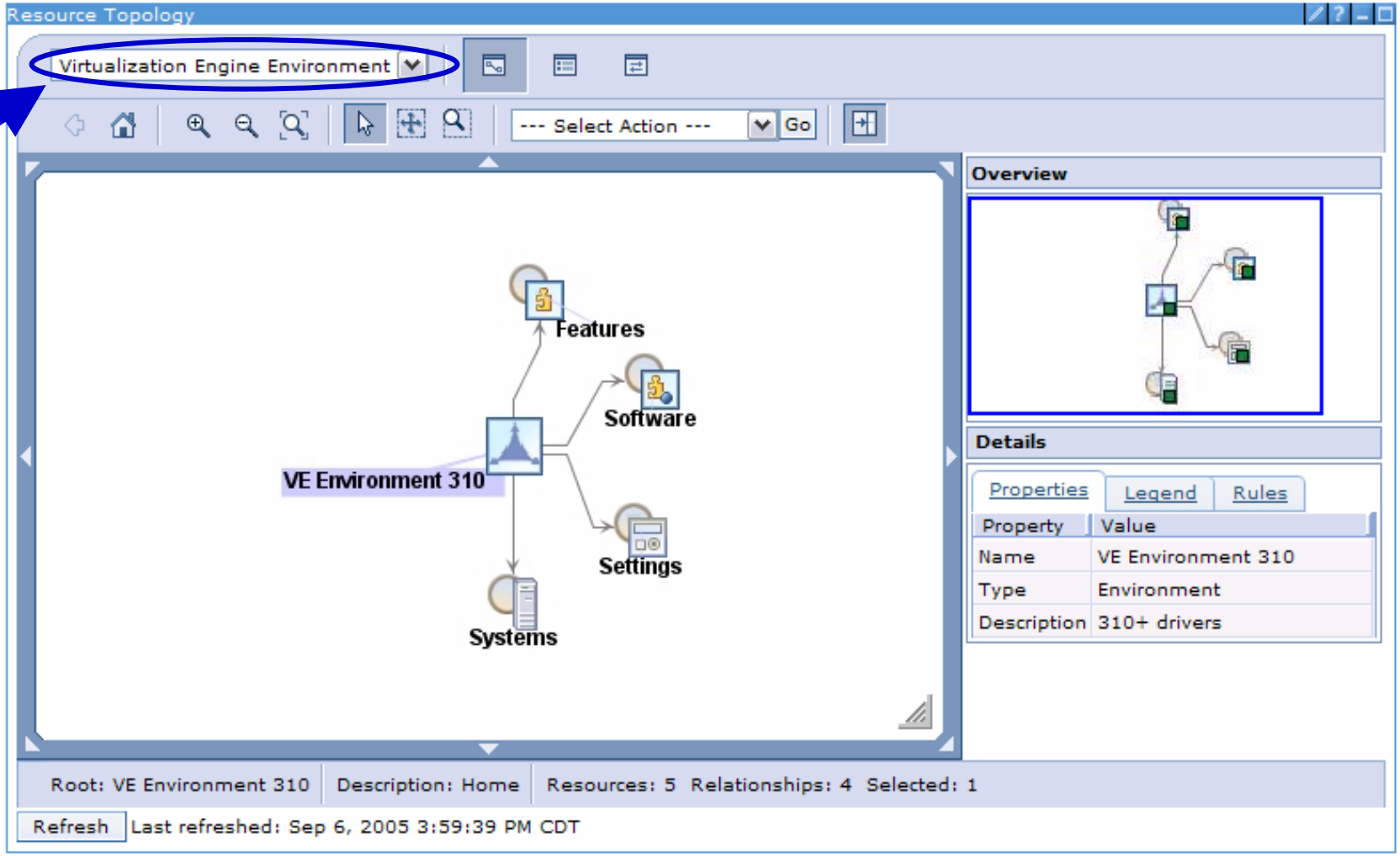
Virtualization Engine Environment Data Source

- **Allows users to visualize the following resource types making up their Virtualization Engine environment:**

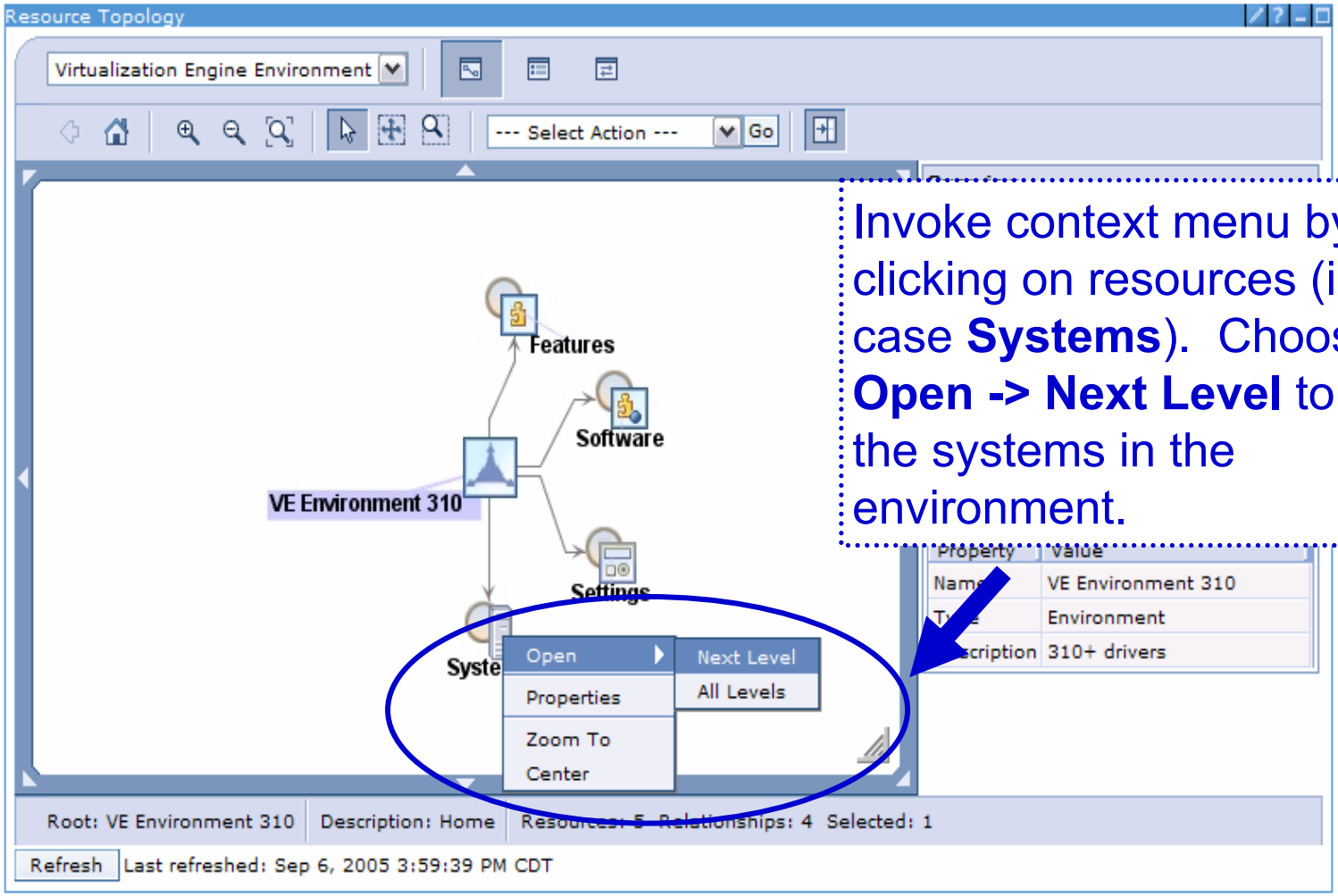
Systems	The computer systems where Virtualization Engine features and software have been installed.
Features	Virtualization Engine offerings (e.g. EWLM, VE Console, etc.) that are comprised of multiple software components.
Software	Pieces of software (e.g. ISC, WAS, etc.) that come together to form features.
Settings	Data shared by Virtualization Engine applications (e.g. security information, etc.).

- **Users can navigate topologies showing relationships between these resource types (e.g. a system contains installations which in turn contain pieces of software).**
- **This information is mined from data accumulated in an LDAP repository as Virtualization Engine applications are installed and uninstalled.**
- **For visualization only — data cannot be modified.**
- **Always available (that is, nothing else needs to be installed or configured for it to work).**

Virtualization Engine Environment Data Source

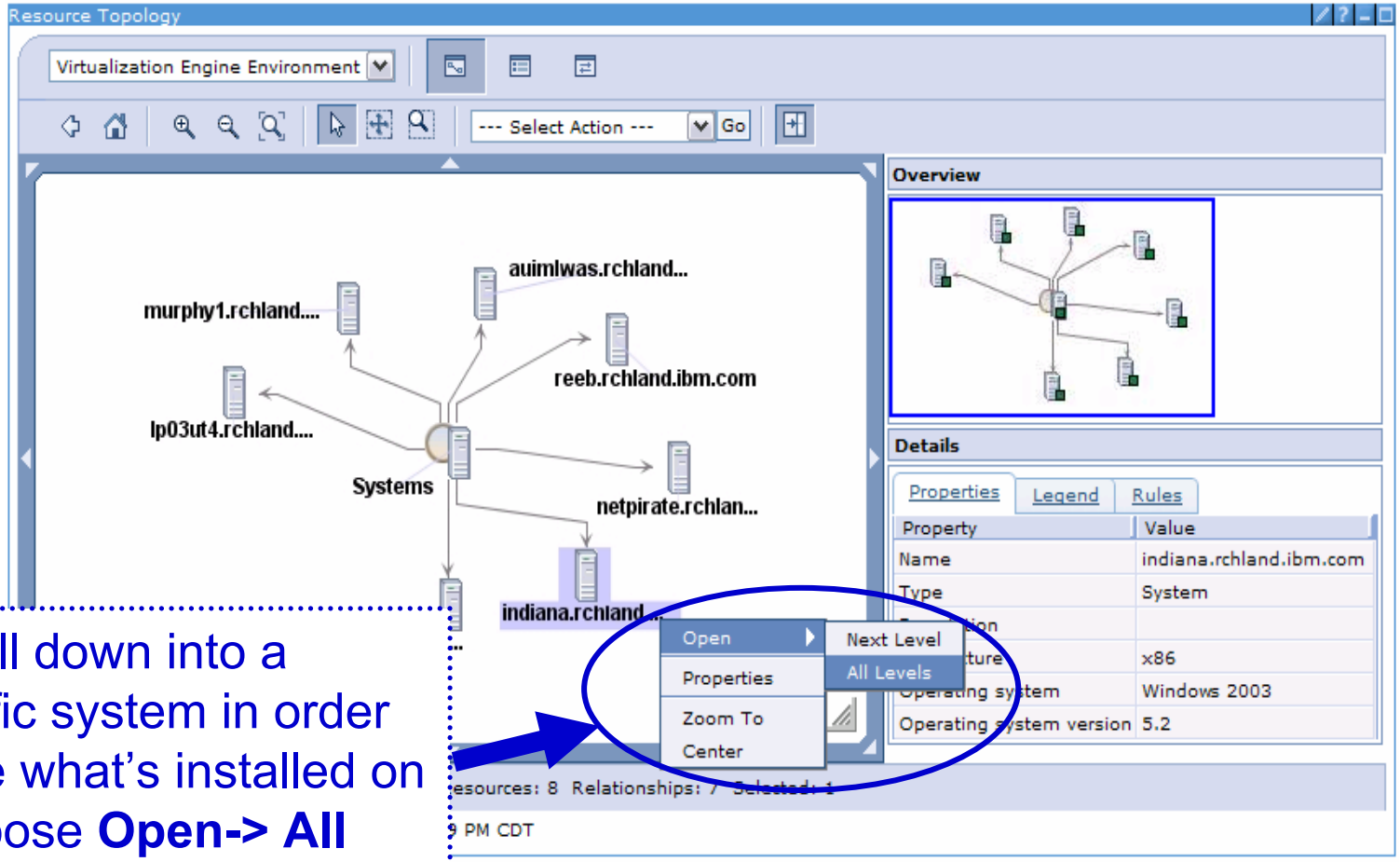


Virtualization Engine Environment Example



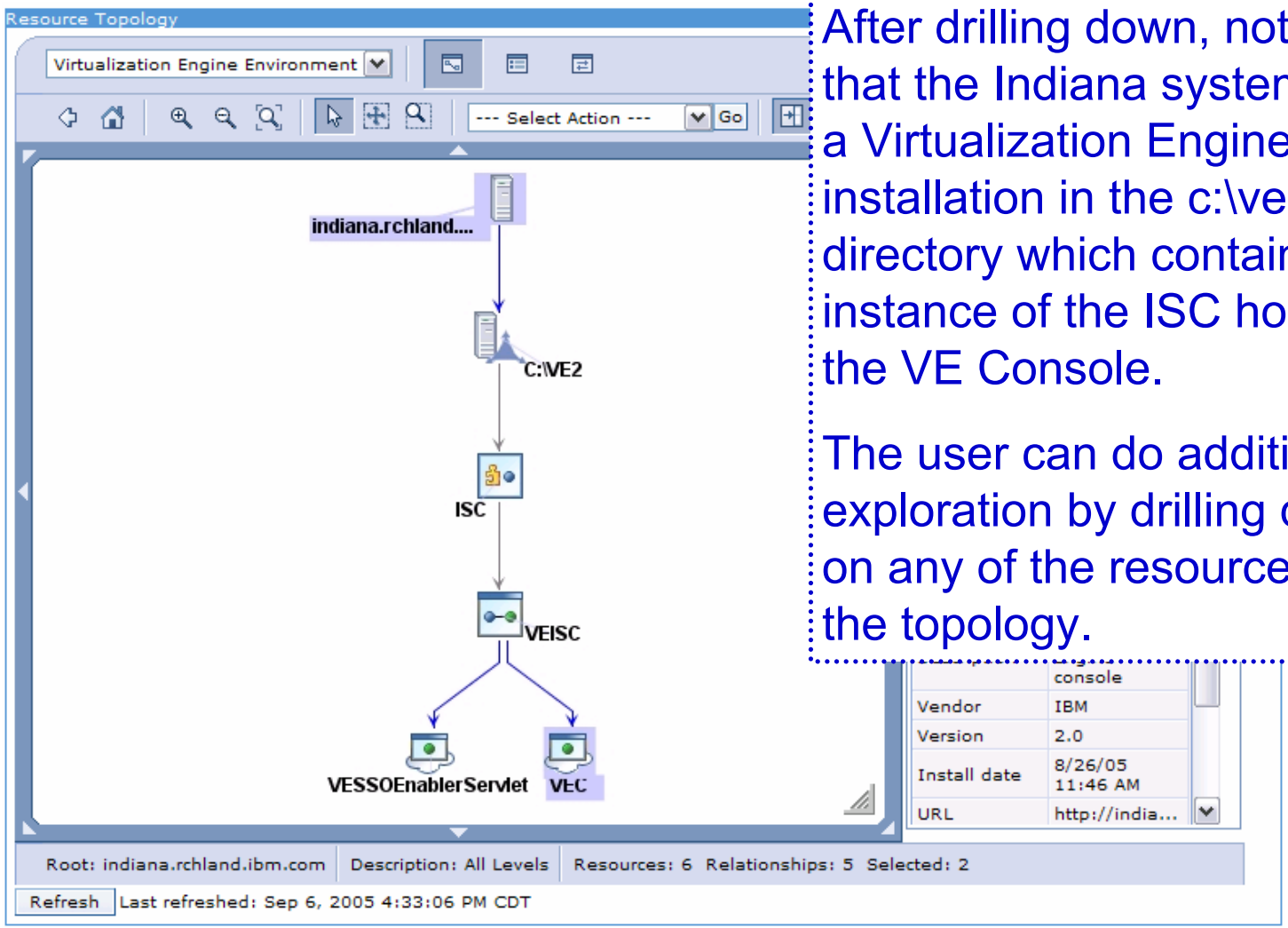
Invoke context menu by right-clicking on resources (in this case **Systems**). Choose **Open -> Next Level** to see the systems in the environment.

Virtualization Engine Environment Example



To drill down into a specific system in order to see what's installed on it, choose **Open-> All Levels**.

Virtualization Engine Environment Example



After drilling down, notice that the Indiana system has a Virtualization Engine installation in the c:\ve2 directory which contains an instance of the ISC hosting the VE Console.

The user can do additional exploration by drilling down on any of the resources in the topology.

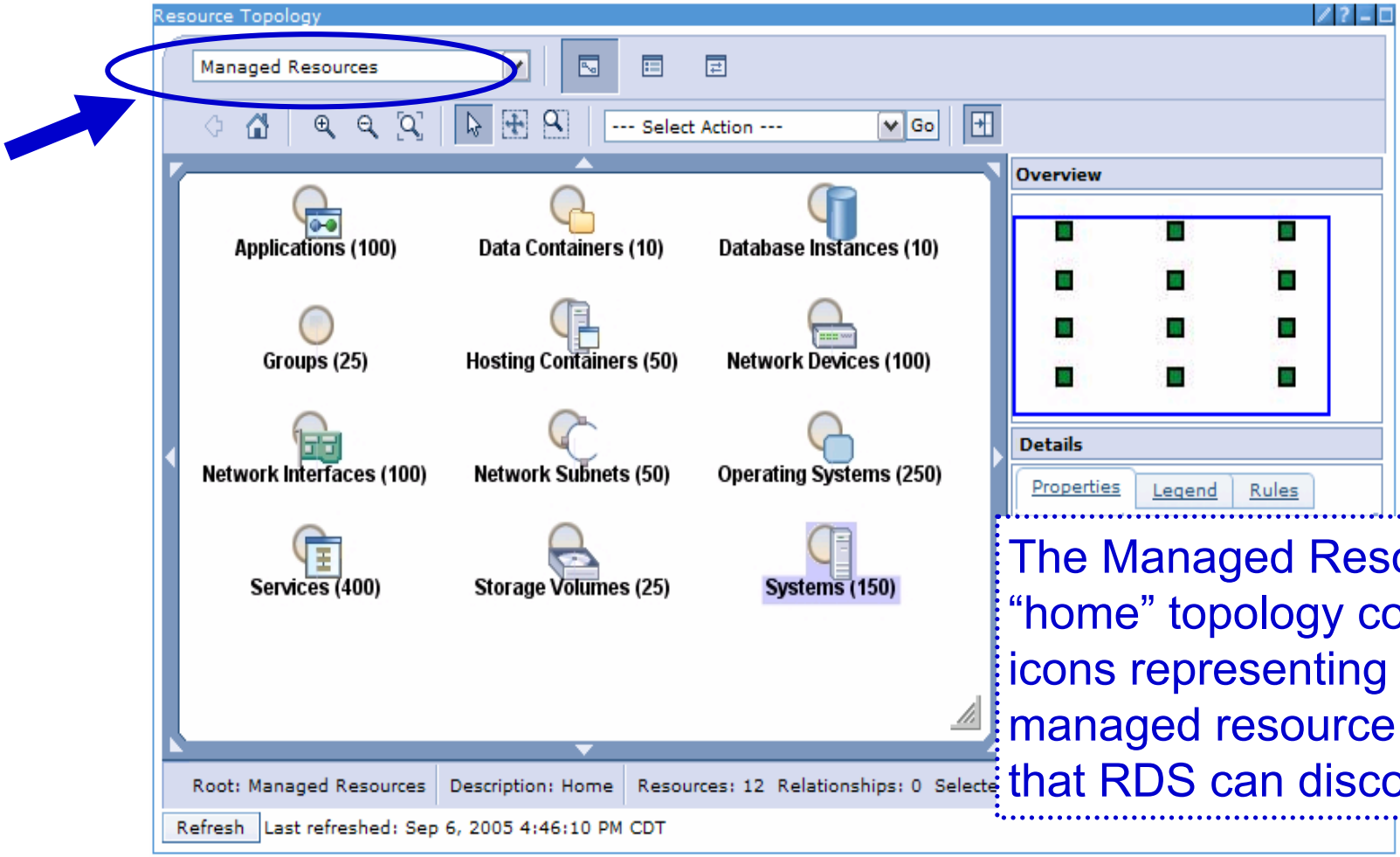
Resource Topology

- Introduction
- Virtualization Engine Environment
- **Managed Resources**
- Topology Views
- Topology Preferences
- Additional GUI Features
- Conclusion/questions

Managed Resources Data Source

- **Allows users to visualize the managed resources and relationships discovered by Resource Dependency Services (RDS).**
- **RDS must be installed in the user's Virtualization Engine environment for this data source to work within the VE Console.**
- **When working within the managed resources data source, the following operations are available:**
  - Creating/deleting resources
  - Creating/deleting relationships
  - Editing resource properties
  - Creating logical groups of resources
  - Launching the RDS Admin and Configuration GUI for fine tuning RDS

Managed Resources Home Page

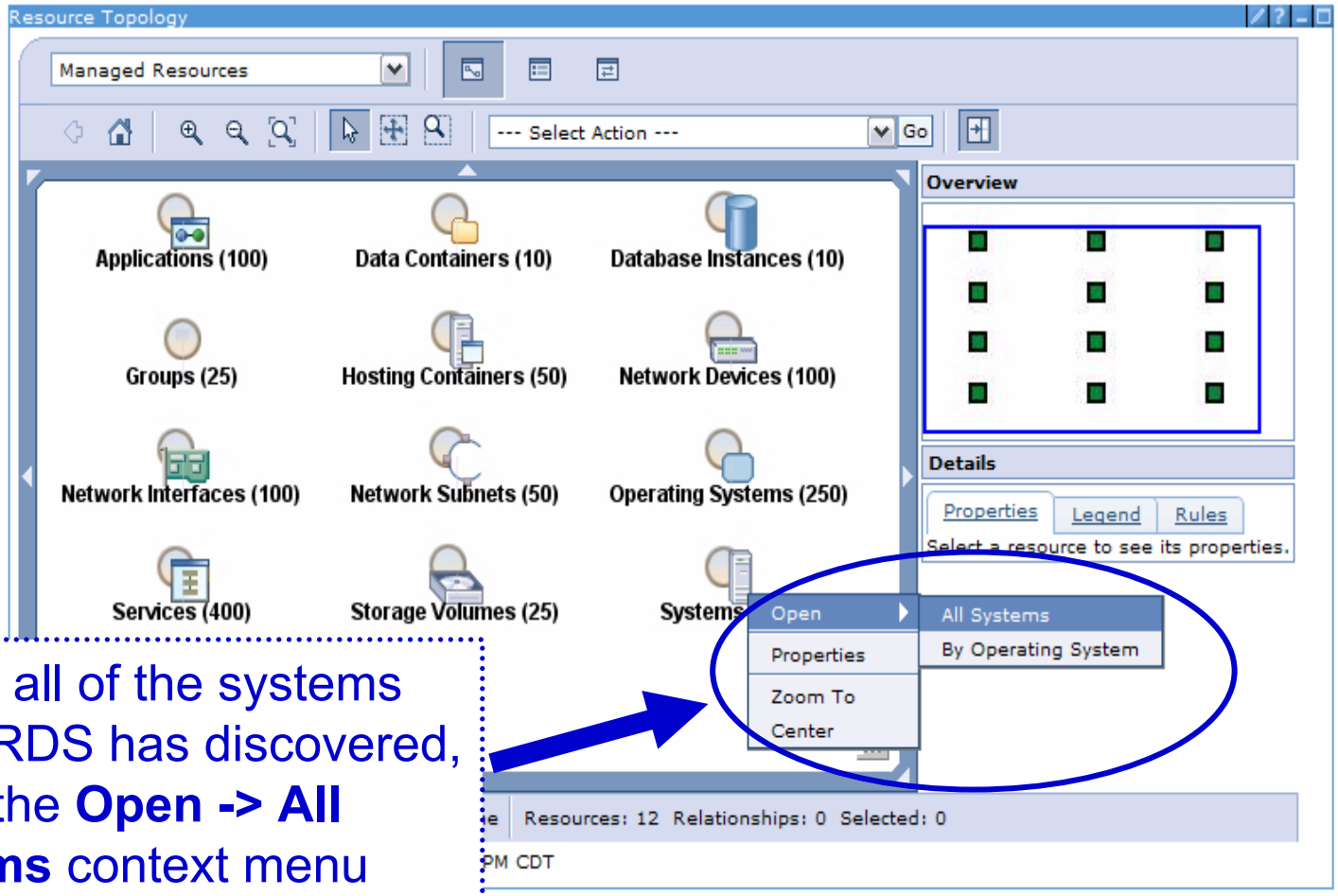


The Managed Resources "home" topology contains icons representing all of the managed resource types that RDS can discover.

Managed Resources — Resource Types

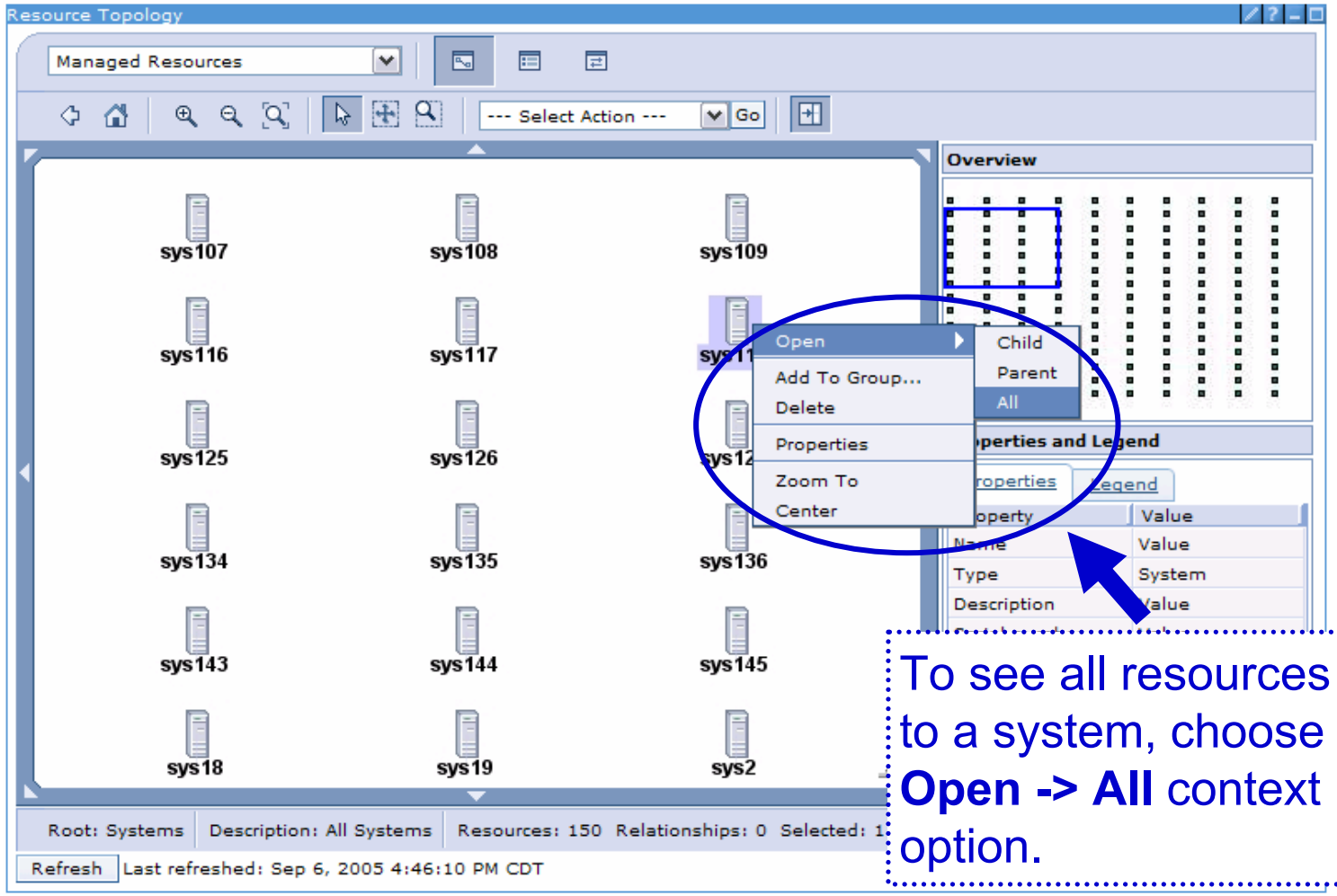
Applications	An application is a program that runs within a hosting container or an operating system instance.
Data Containers	Data containers are like file systems, containing collections of files and attributes associated with those files.
Database Instances	A database instance is a collection of interrelated or independent data items stored together to serve one or more applications.
Groups	Use groups to organize unrelated resources, creating personal views of specific resources from your environment.
Hosting Containers	Hosting containers are programs or applications that host other applications (e.g. WAS).
Network Devices	Network devices are special purpose, dedicated computers like routers and load balancers that help manage network traffic.
Network Interfaces	A network interface (also known as a network interface controller or NIC) provides the interface control between a system and an external high-speed network.
Network Subnets	A subnet is an interconnected, but independent segment of an entire network that is identified by its Internet Protocol (IP) address.
Operating Systems	An operating system is a collection of system programs that control the overall operation of a computer system.
Services	A service is a process or sub-process used to automate common tasks such as verifying security credentials or calibrating system clocks.
Storage Volumes	A storage volume represents a medium used for storage of data on a computer. A storage volume can be an entire physical hard disk, or portions of a hard disk.
Systems	A system represents physical computers or virtual computers, such as logical or physical partitions.

Managed Resources — Drilldown Example



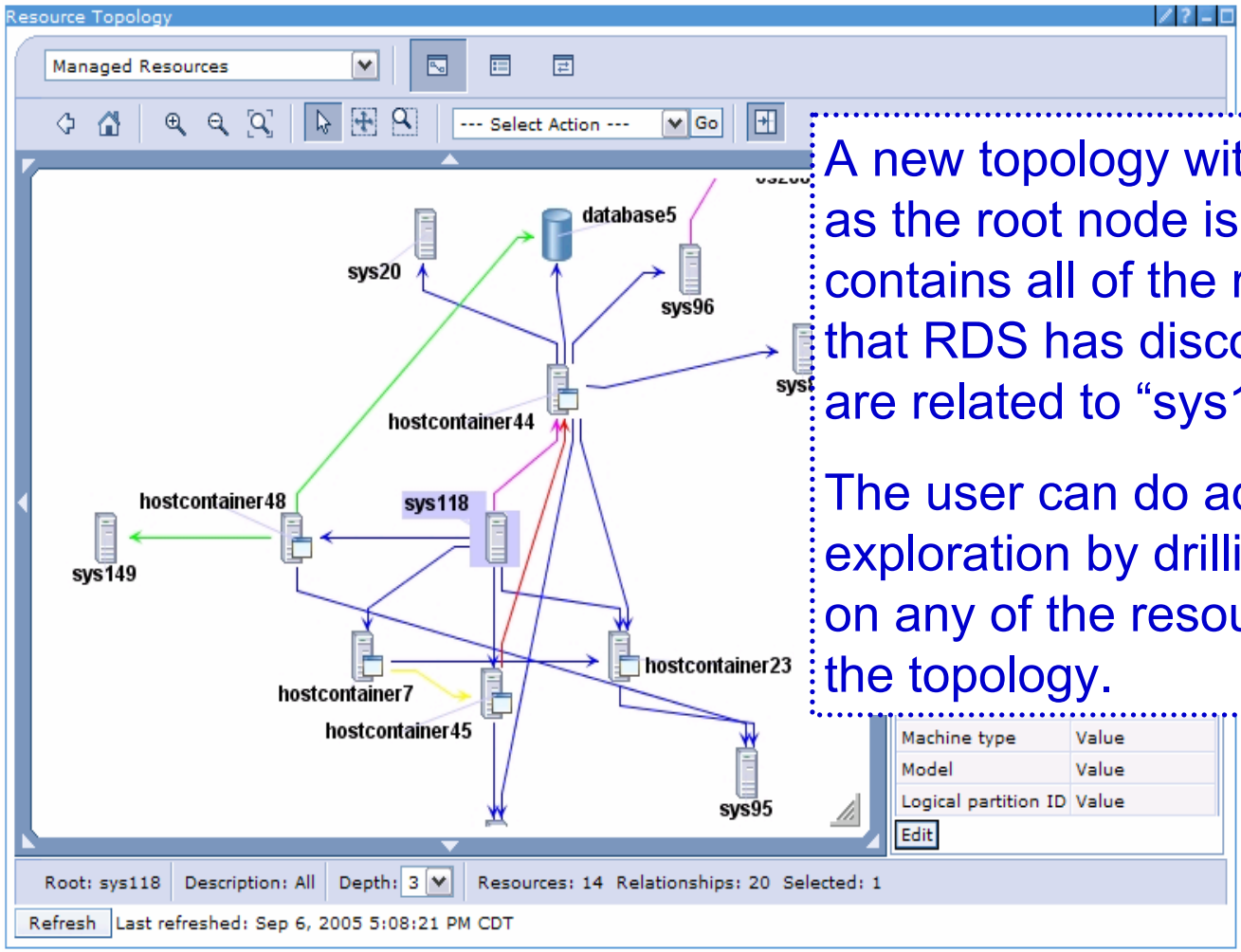
To see all of the systems which RDS has discovered, select the **Open -> All Systems** context menu option.

Managed Resources — Drilldown Example



To see all resources related to a system, choose the **Open -> All** context menu option.

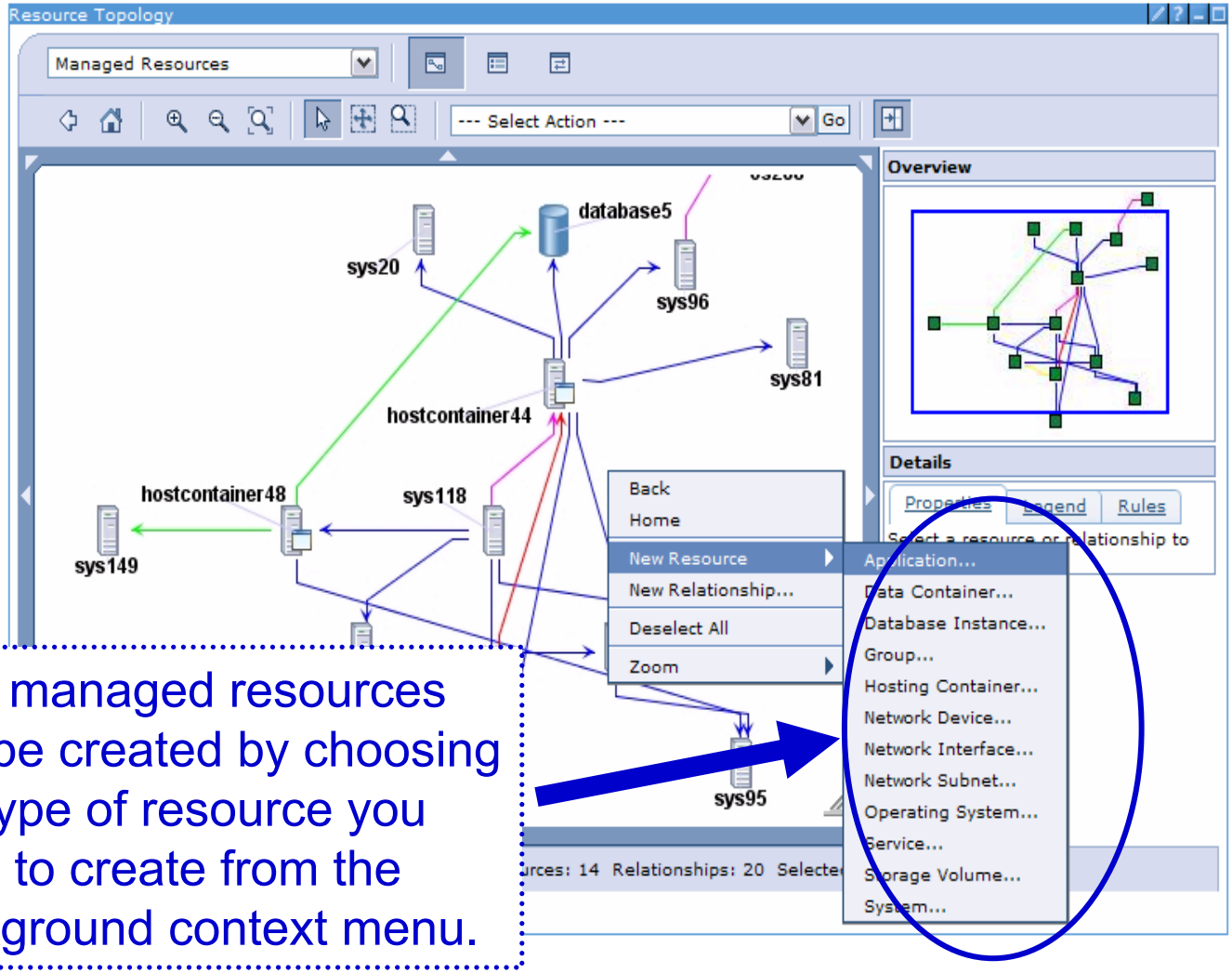
Managed Resources — Drilldown Example



A new topology with “sys118” as the root node is shown. It contains all of the resources that RDS has discovered that are related to “sys118.”

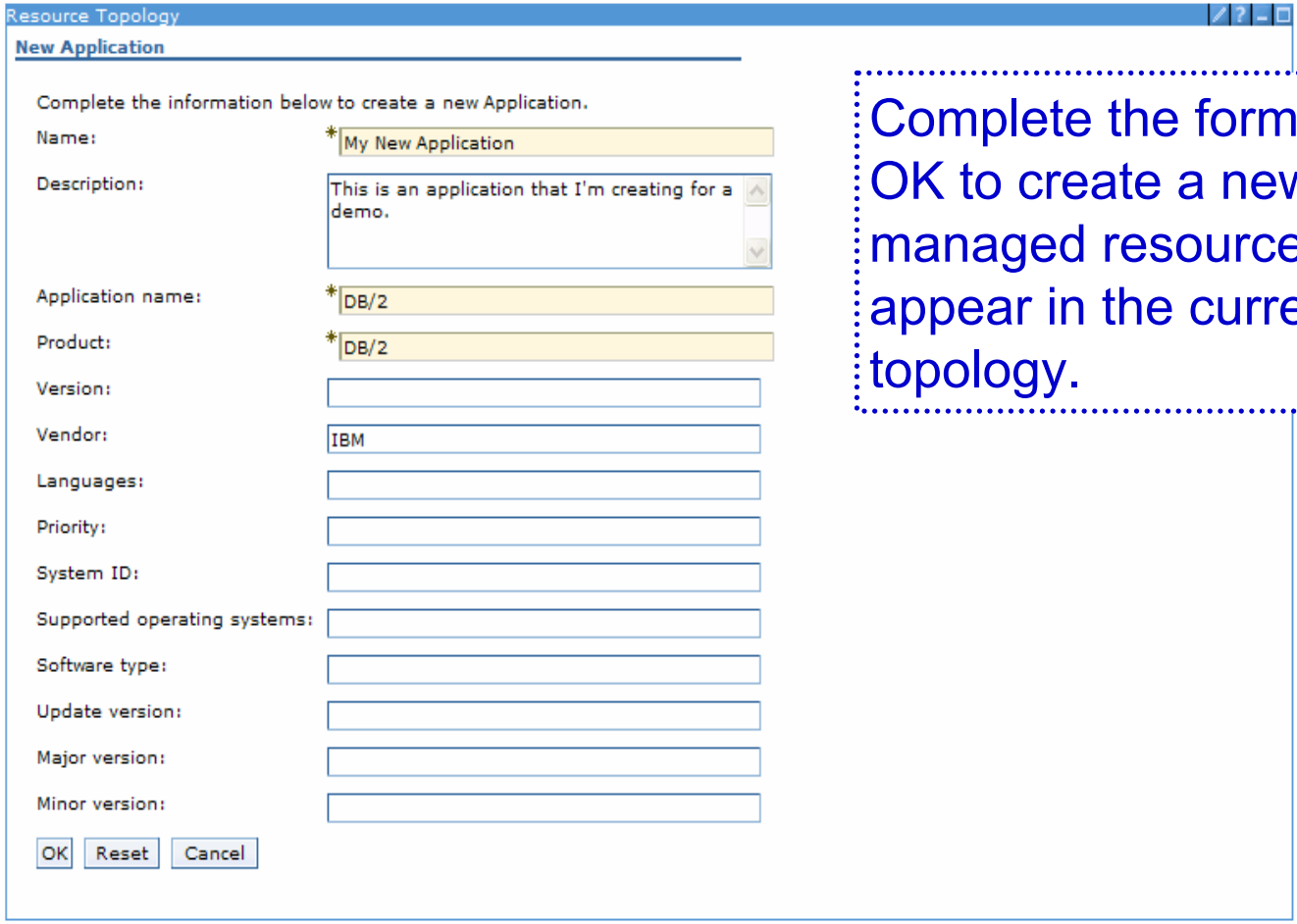
The user can do additional exploration by drilling down on any of the resources in the topology.

Managed Resources — Creating Resources



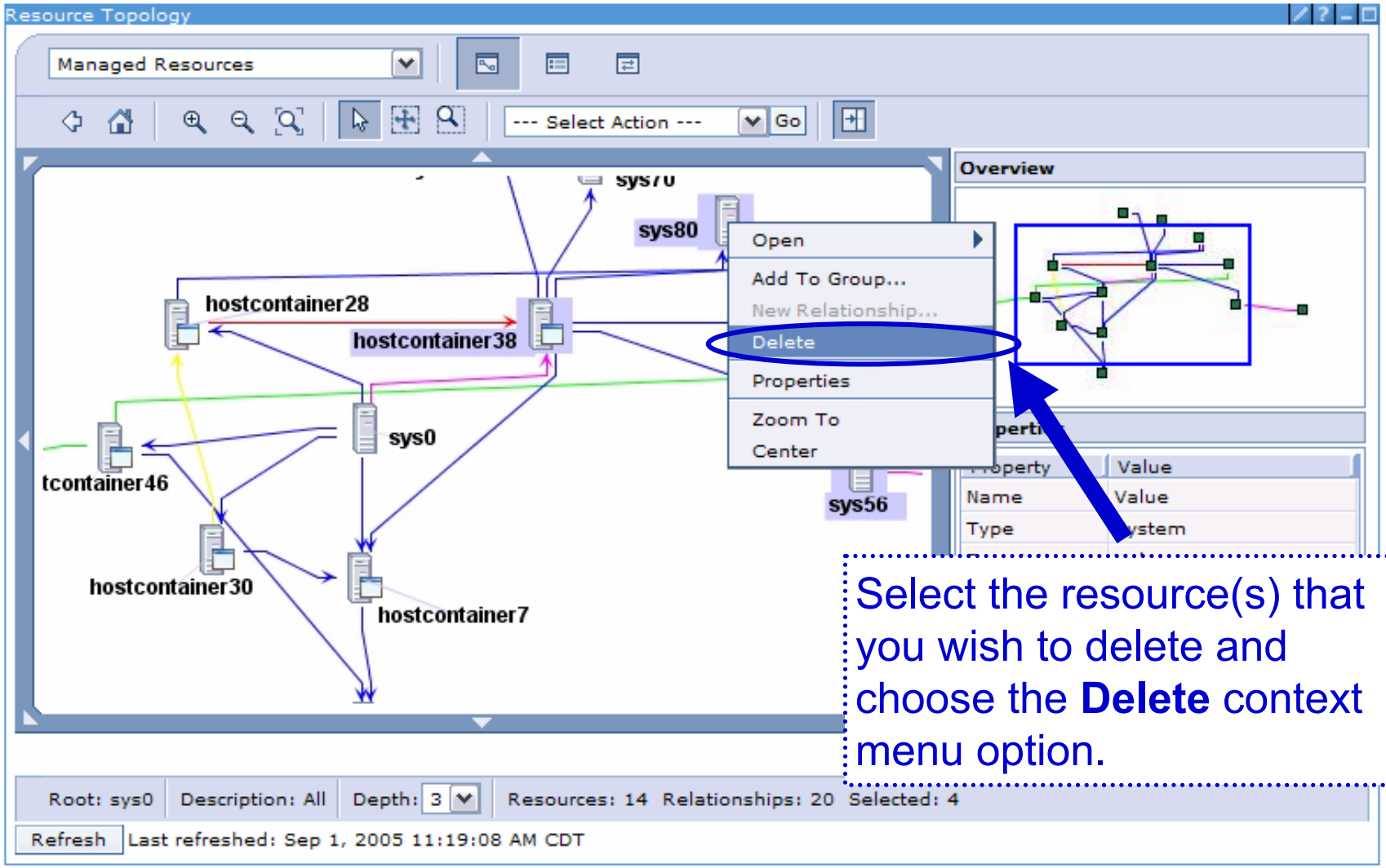
New managed resources can be created by choosing the type of resource you want to create from the background context menu.

Managed Resources — Creating Resources



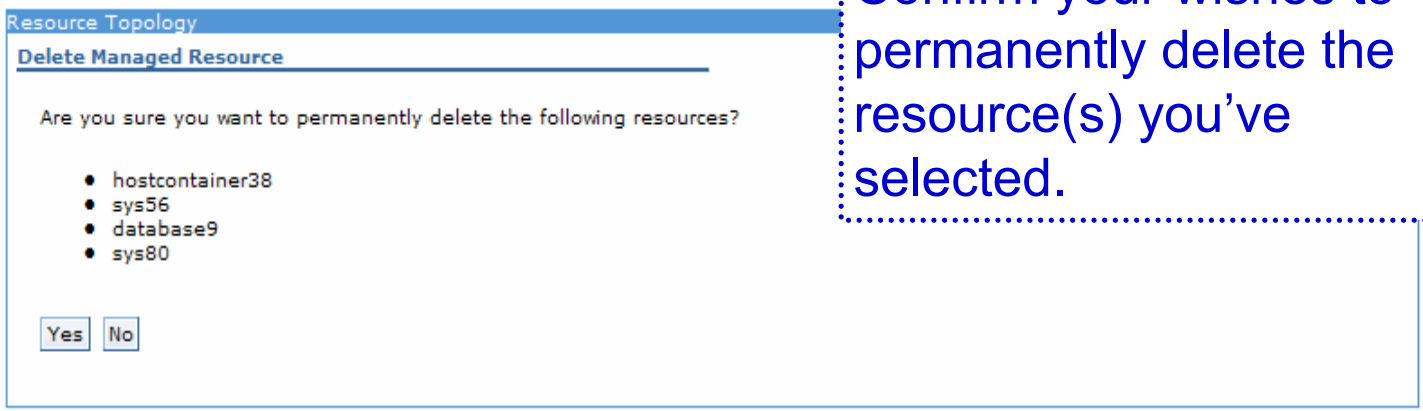
Complete the form and click OK to create a new managed resource that will appear in the current topology.

Managed Resources — Deleting Resources



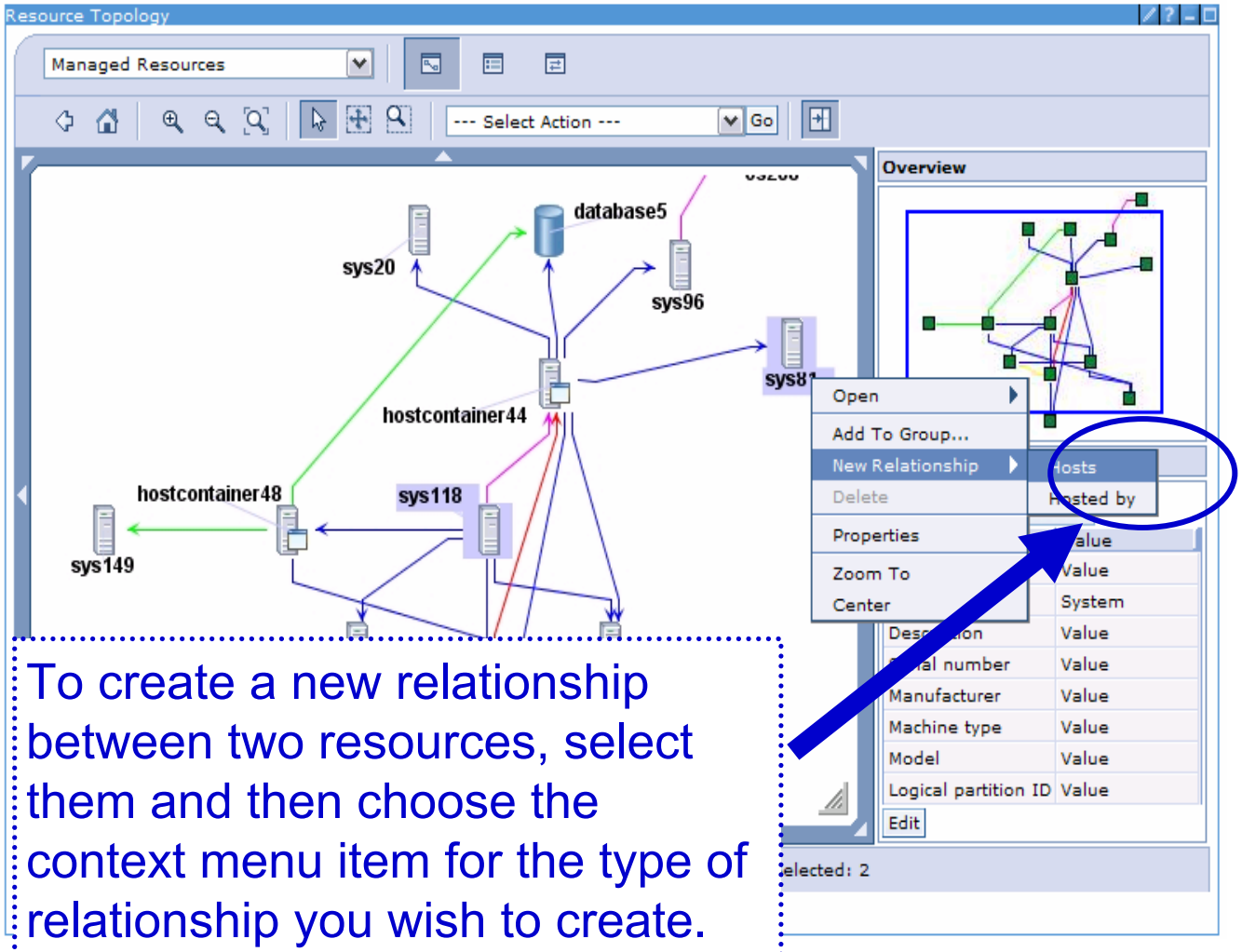
Select the resource(s) that you wish to delete and choose the **Delete** context menu option.

Managed Resources — Deleting Resources

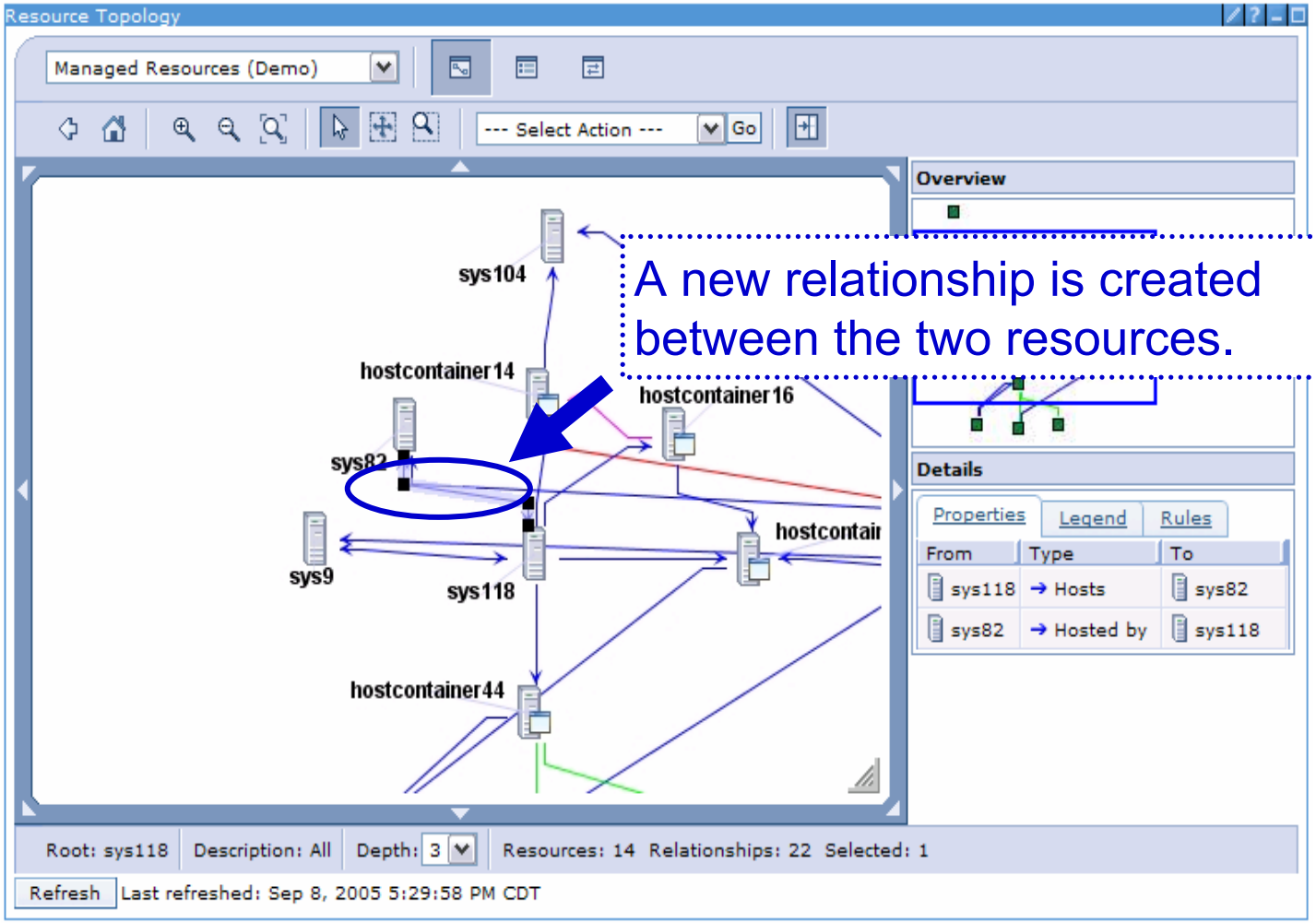


Confirm your wishes to permanently delete the resource(s) you've selected.

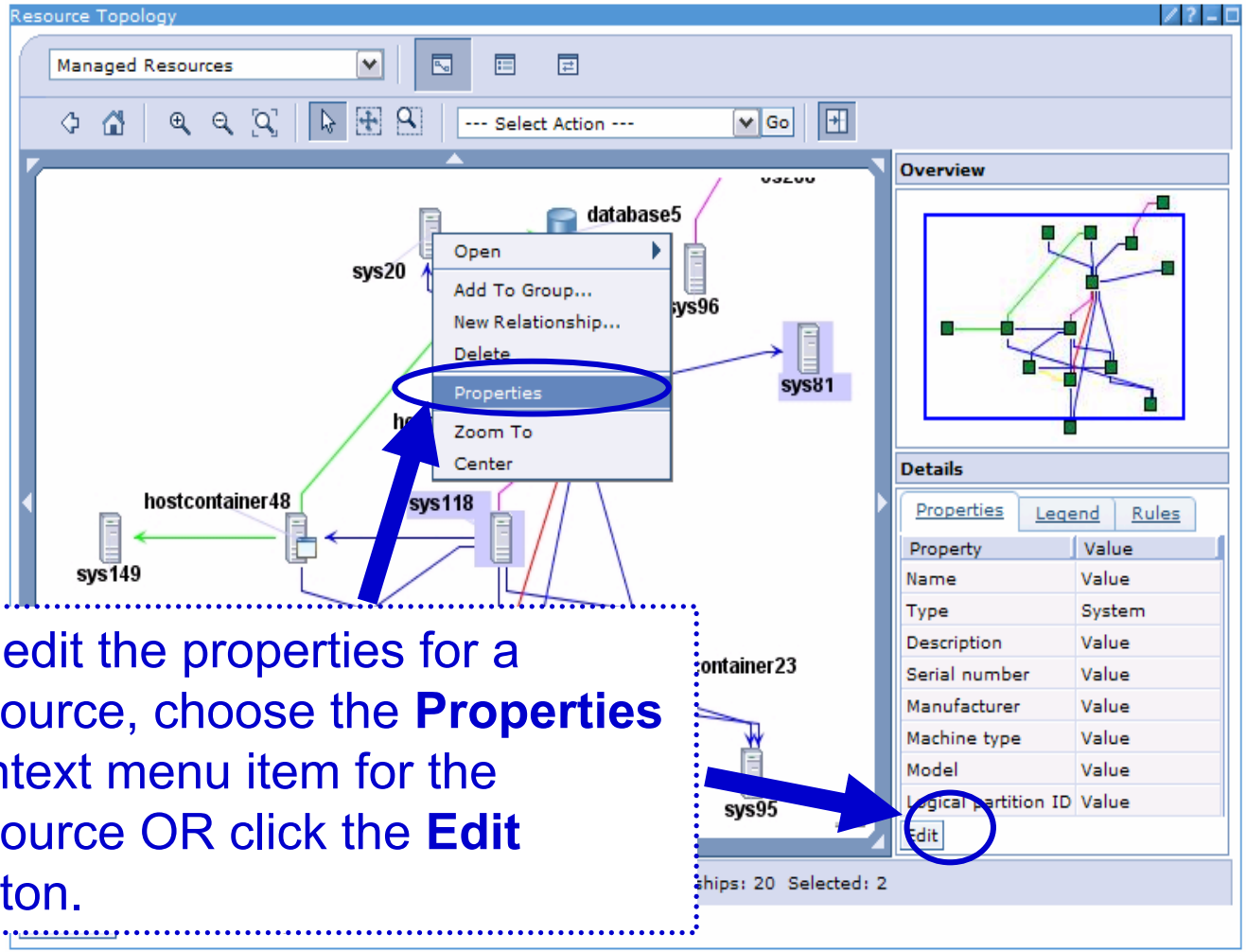
Managed Resources — Creating Relationships



Managed Resources — Creating Relationships

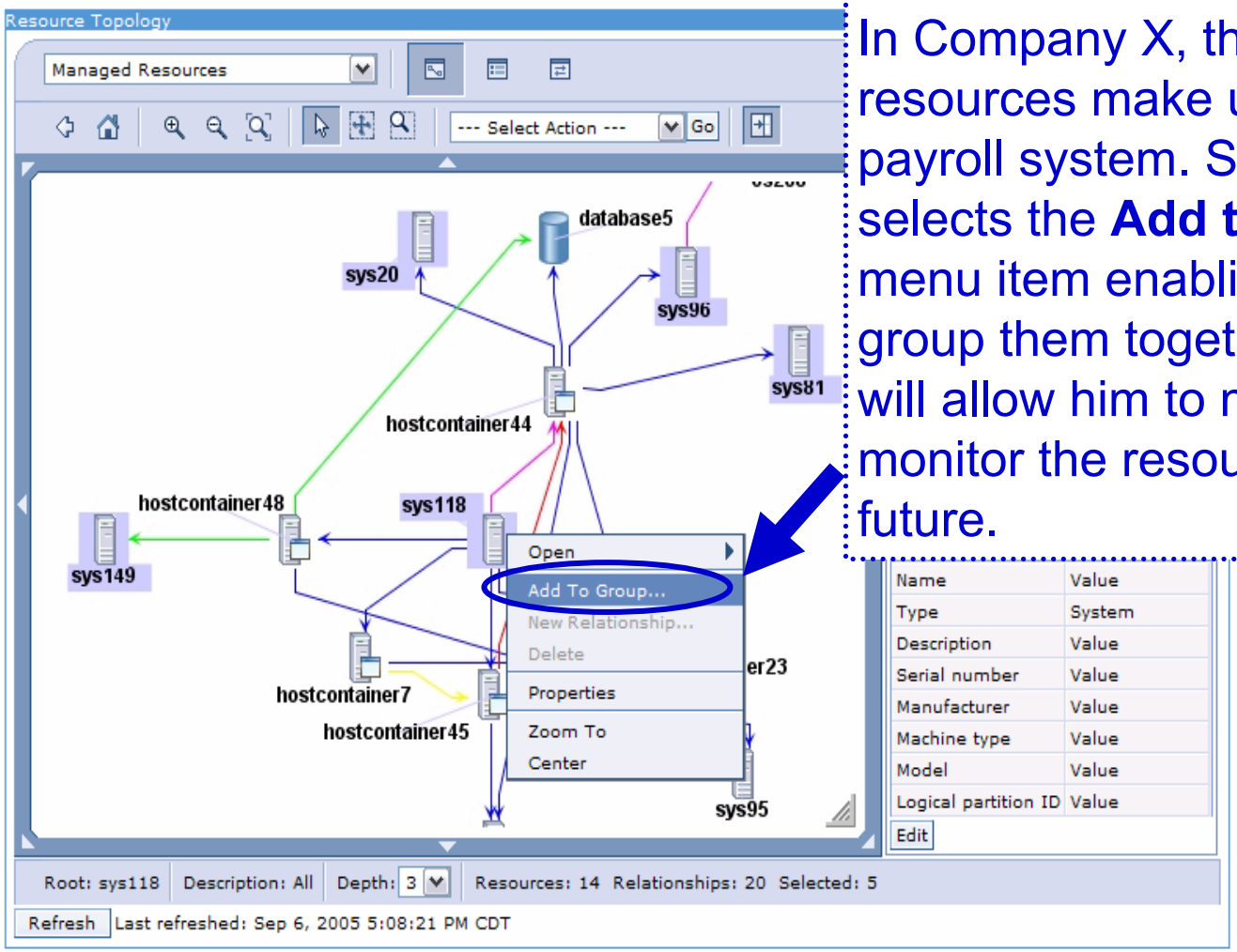


Managed Resources — Editing Properties



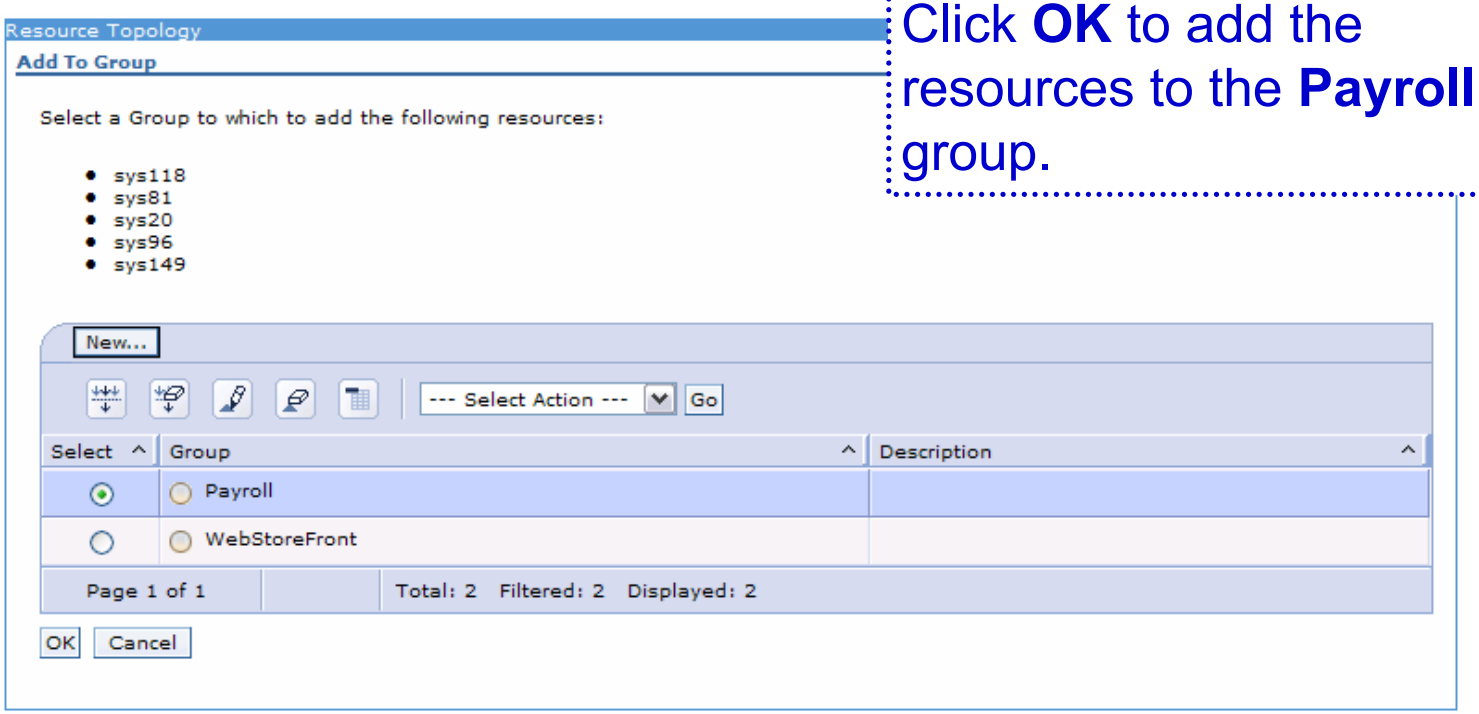
To edit the properties for a resource, choose the **Properties** context menu item for the resource OR click the **Edit** button.

Managed Resources — Defining a Logical Group



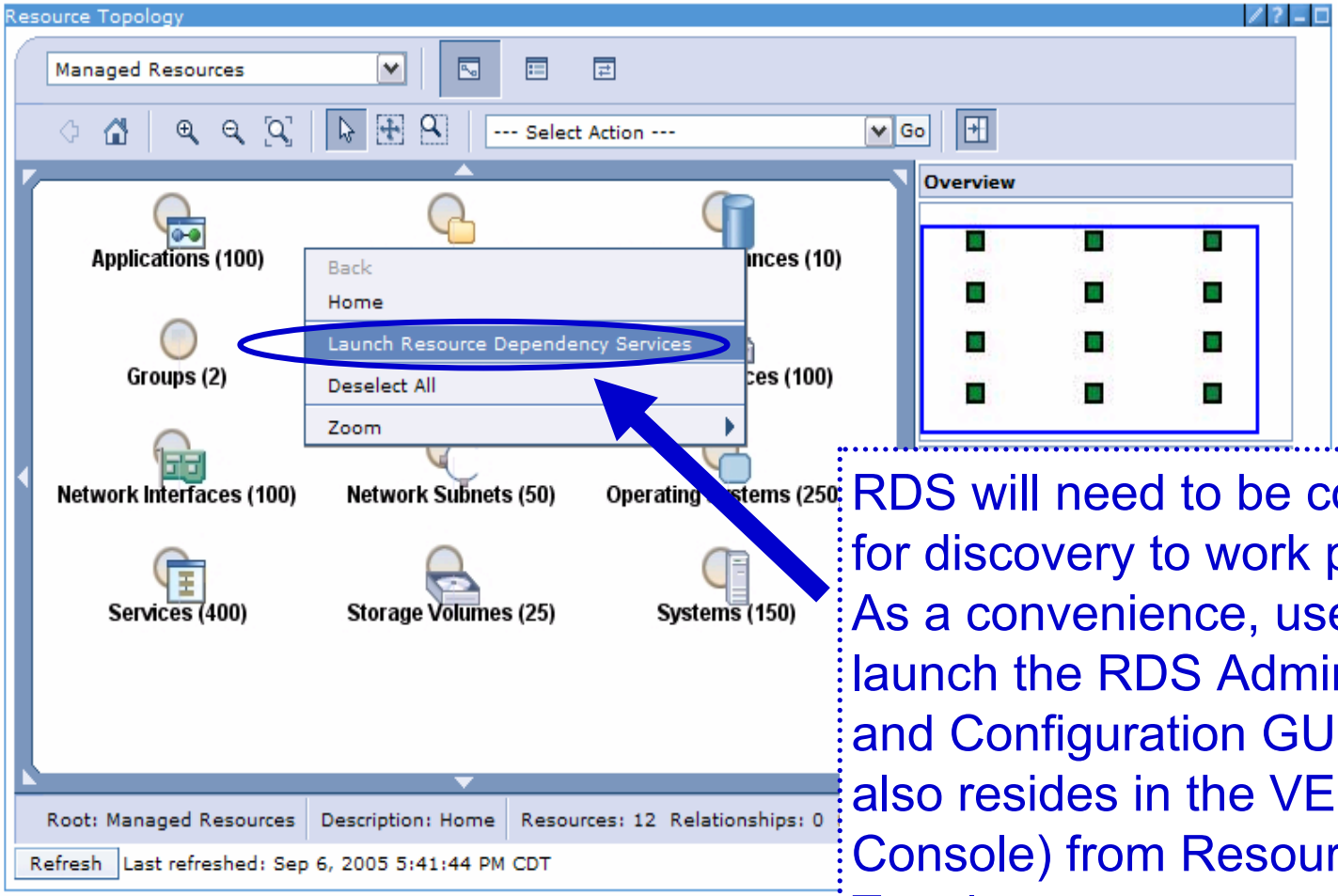
In Company X, the selected resources make up the payroll system. So, the user selects the **Add to Group…** menu item enabling him to group them together. This will allow him to more easily monitor the resources in the future.

Managed Resources — Defining a Logical Group



Click **OK** to add the resources to the **Payroll** group.

Managed Resources — Launching RDS GUI

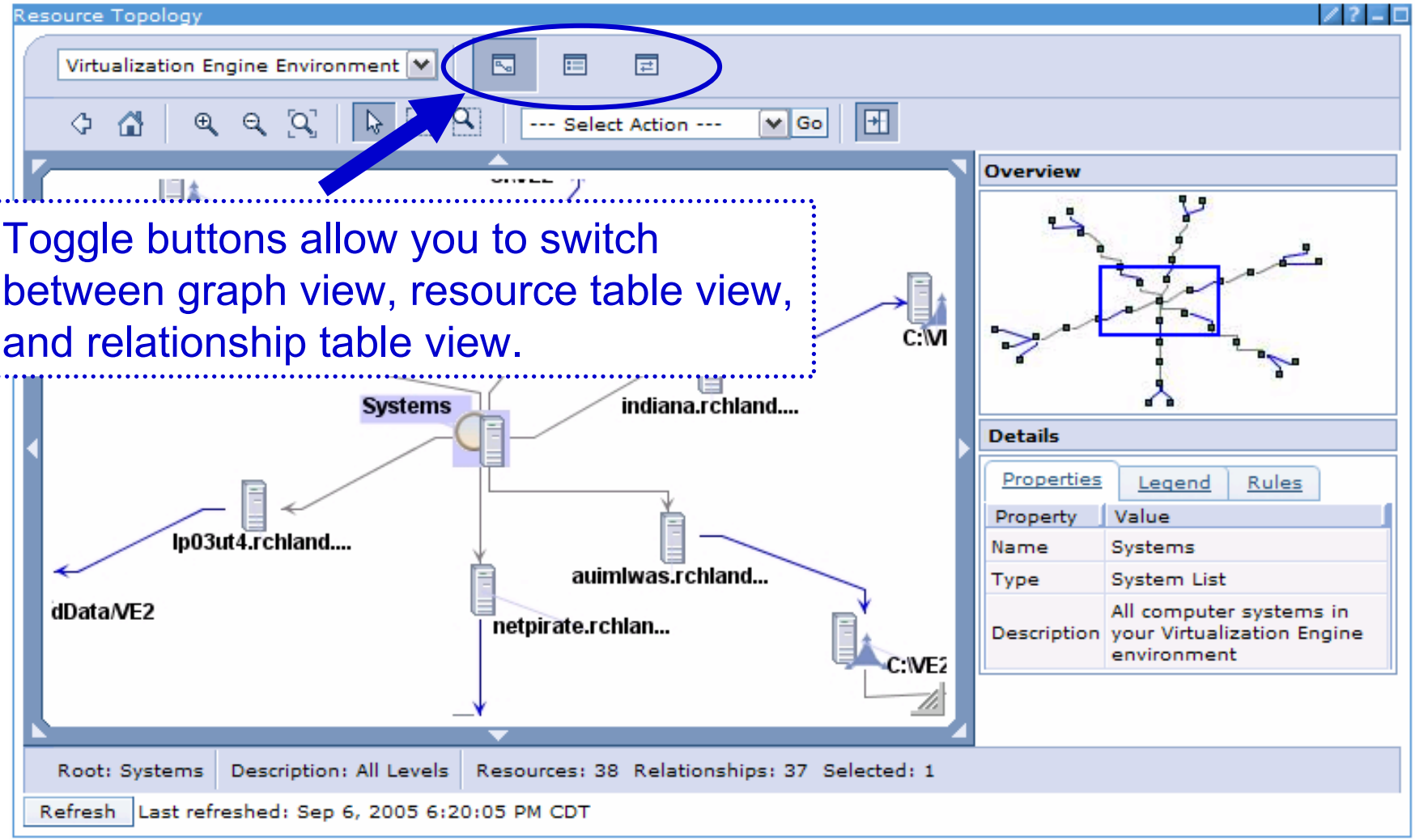


RDS will need to be configured for discovery to work properly. As a convenience, users can launch the RDS Administration and Configuration GUI (which also resides in the VE Console) from Resource Topology.

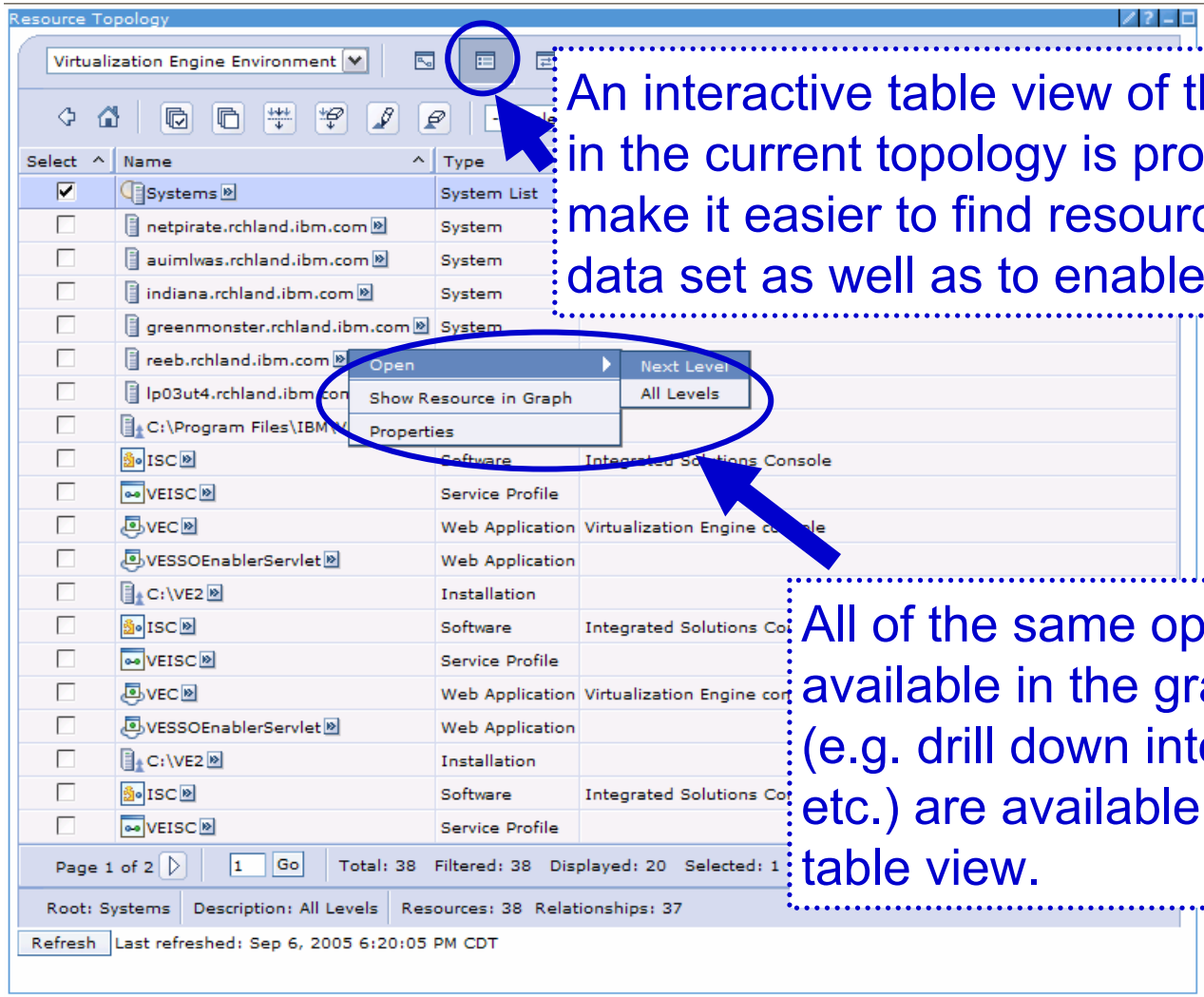
Resource Topology

- Introduction
- Virtualization Engine Environment
- Managed Resources
- **Topology Views**
- Topology Preferences
- Additional GUI Features
- Conclusion/questions

Topology Views



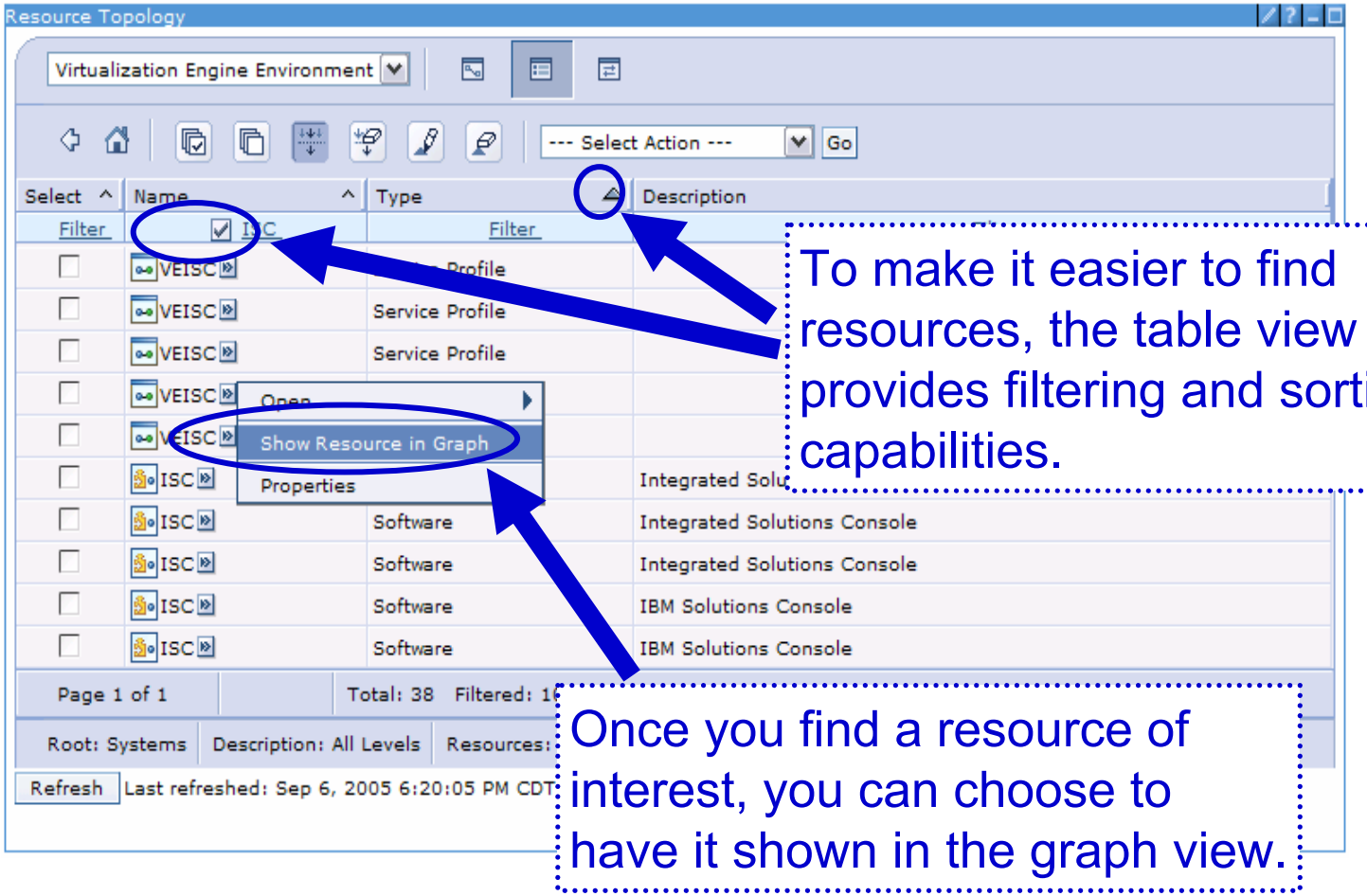
Topology Views — Resource Table



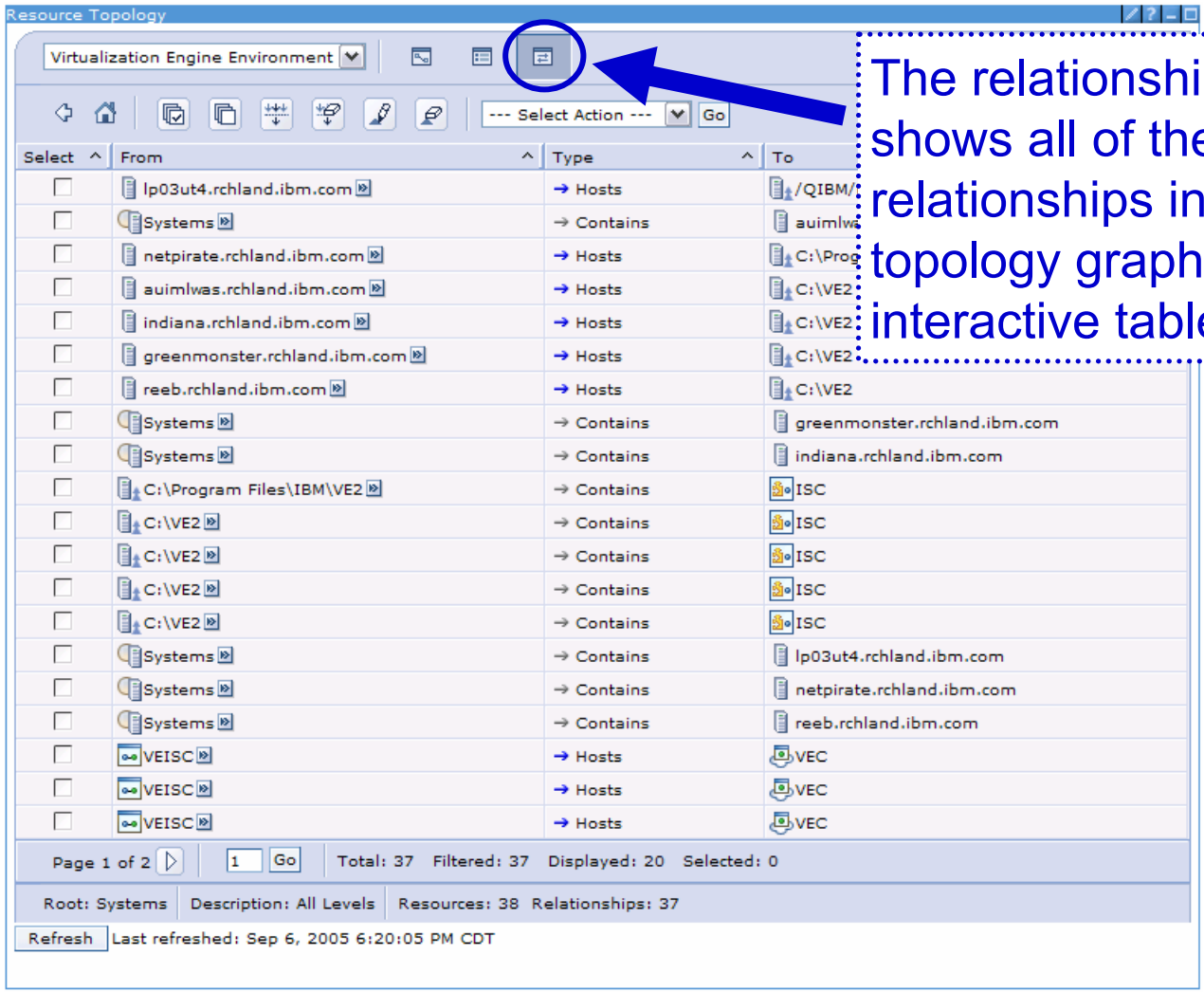
An interactive table view of the resources in the current topology is provided to make it easier to find resources in a large data set as well as to enable accessibility.

All of the same operations available in the graph view (e.g. drill down into a node, etc.) are available in the table view.

Topology Views — Resource Table Filter/Sort



Topology Views — Relationship Table



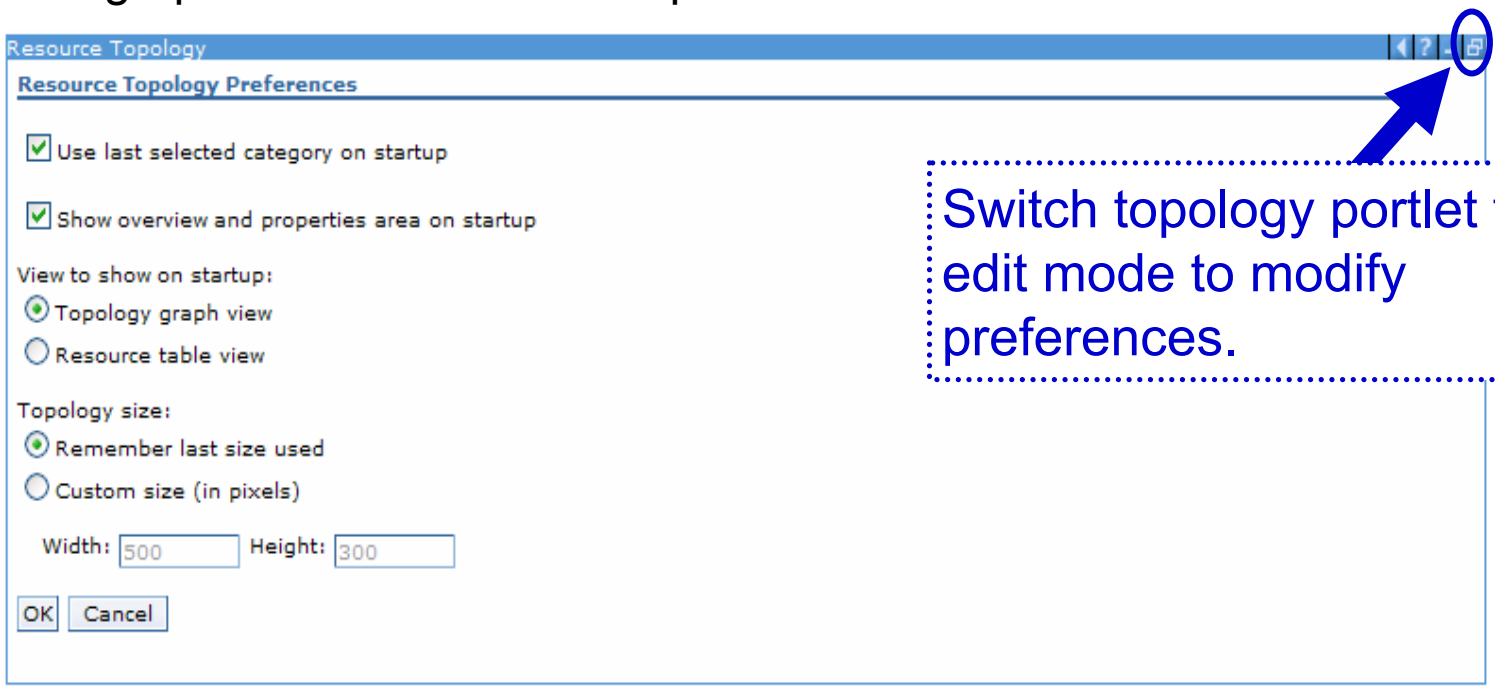
The relationship table view shows all of the relationships in the topology graph in an interactive table view.

Resource Topology

- Introduction
- Virtualization Engine Environment
- Managed Resources
- Topology Views
- **Topology Preferences**
- Additional GUI Features
- Conclusion/questions

Resource Topology – Preferences

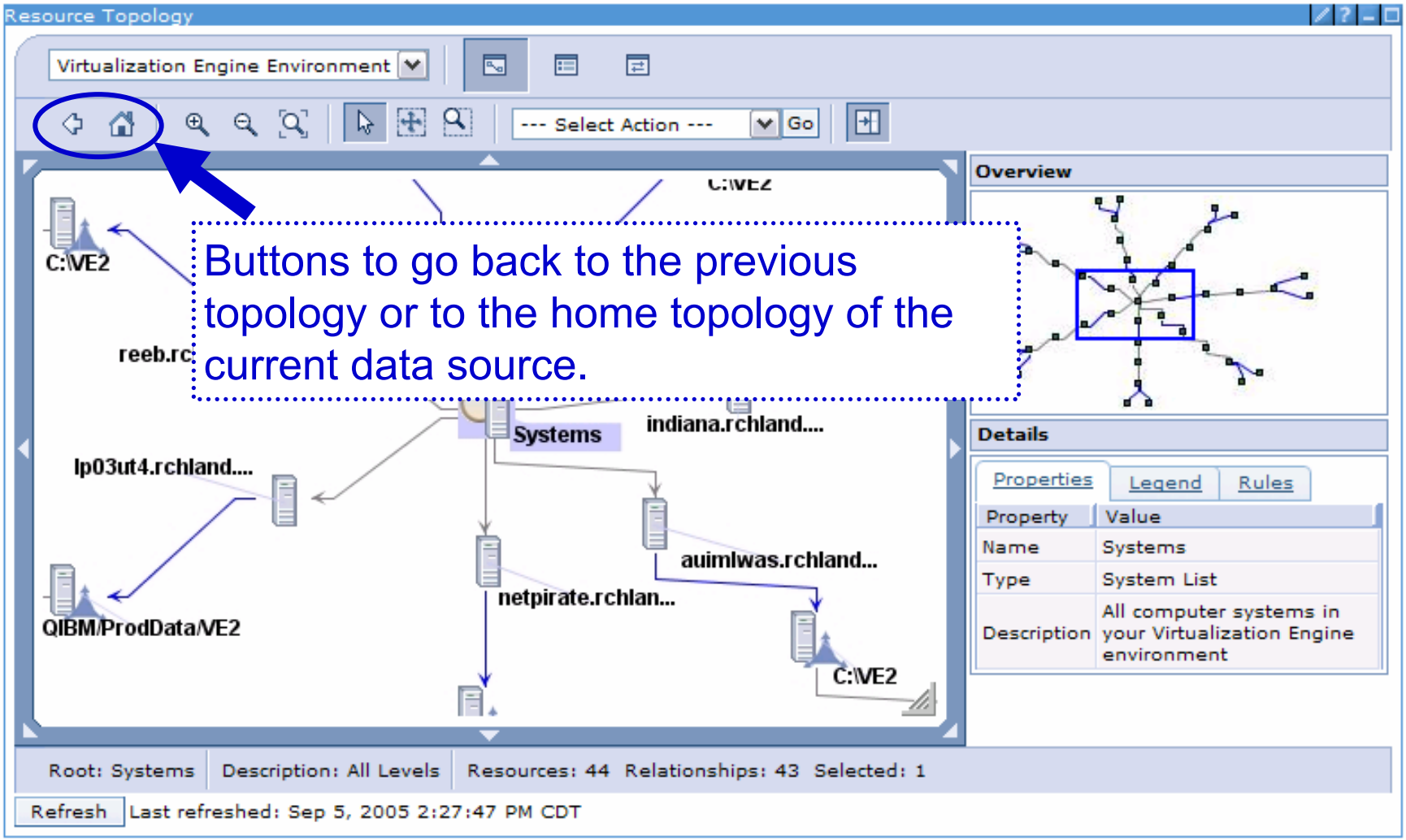
- Various topology settings are customizable for use across sessions:
  - Which data source to use on startup
  - Whether or not to show the support area on startup
  - Which view to show on startup (graph or table)
  - What graph size to use on startup



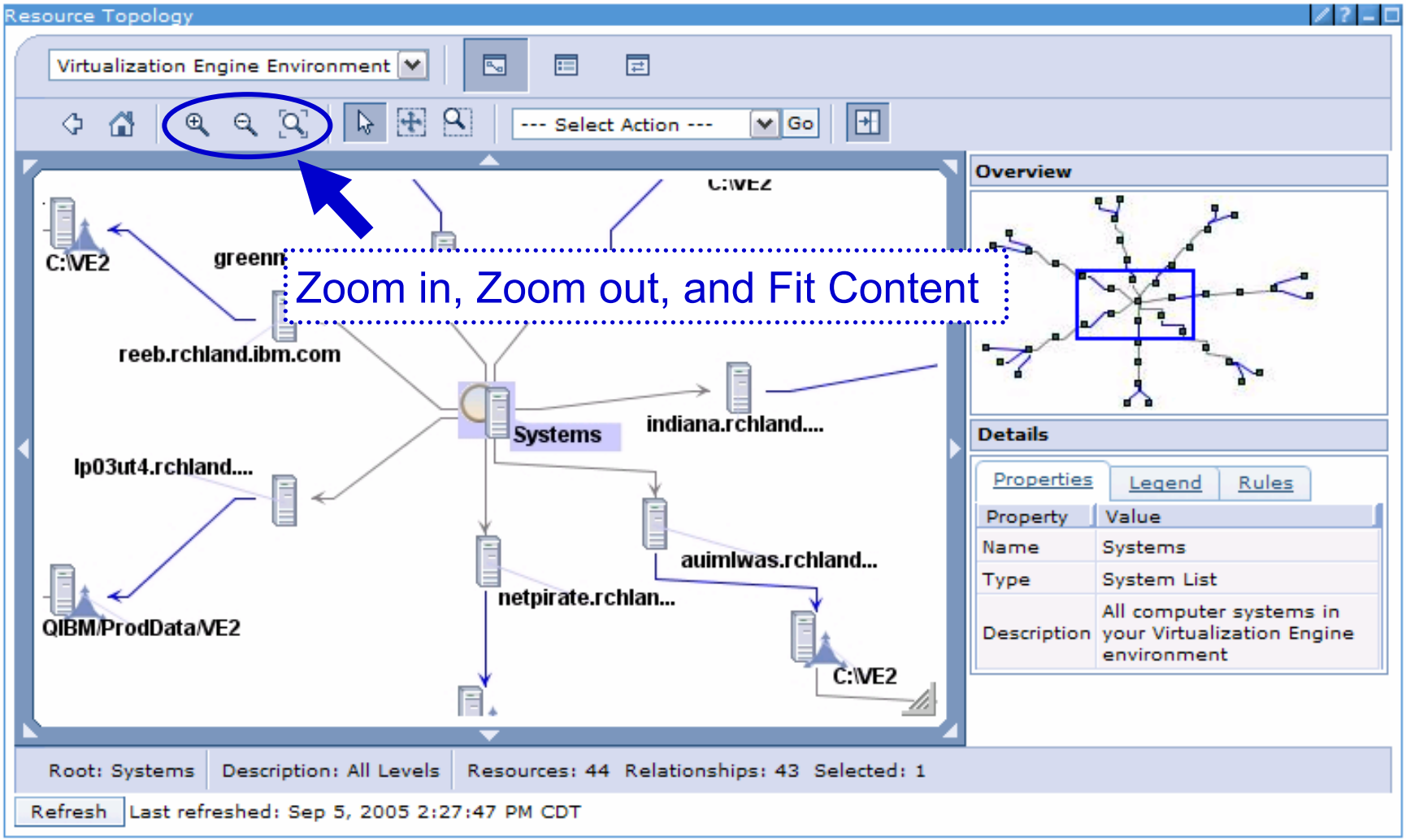
Resource Topology

- Introduction
- Virtualization Engine Environment
- Managed Resources
- Topology Views
- Topology Preferences
- **Additional GUI Features**
- Conclusion/questions

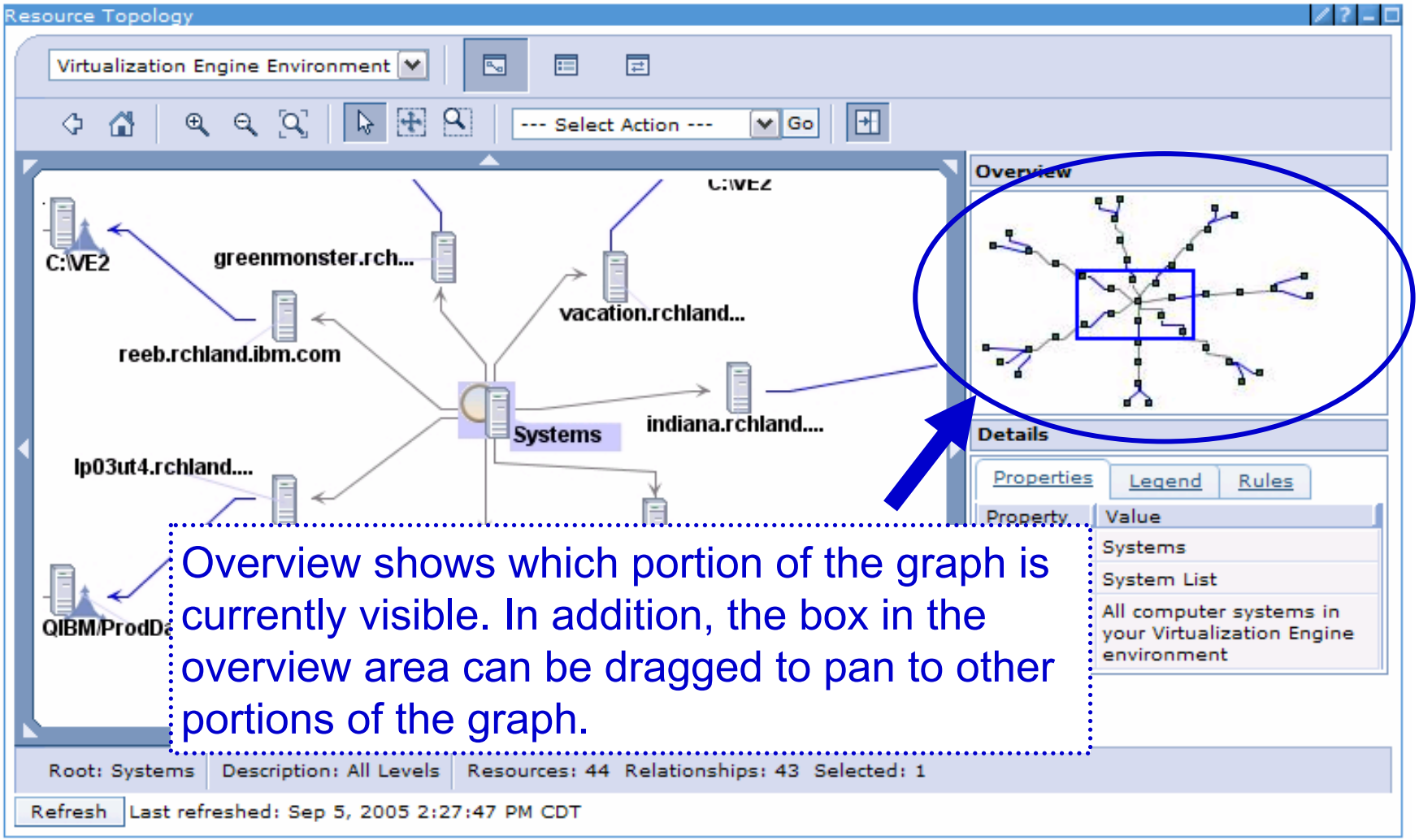
Resource Topology – Going Back and Home



Resource Topology – Zooming

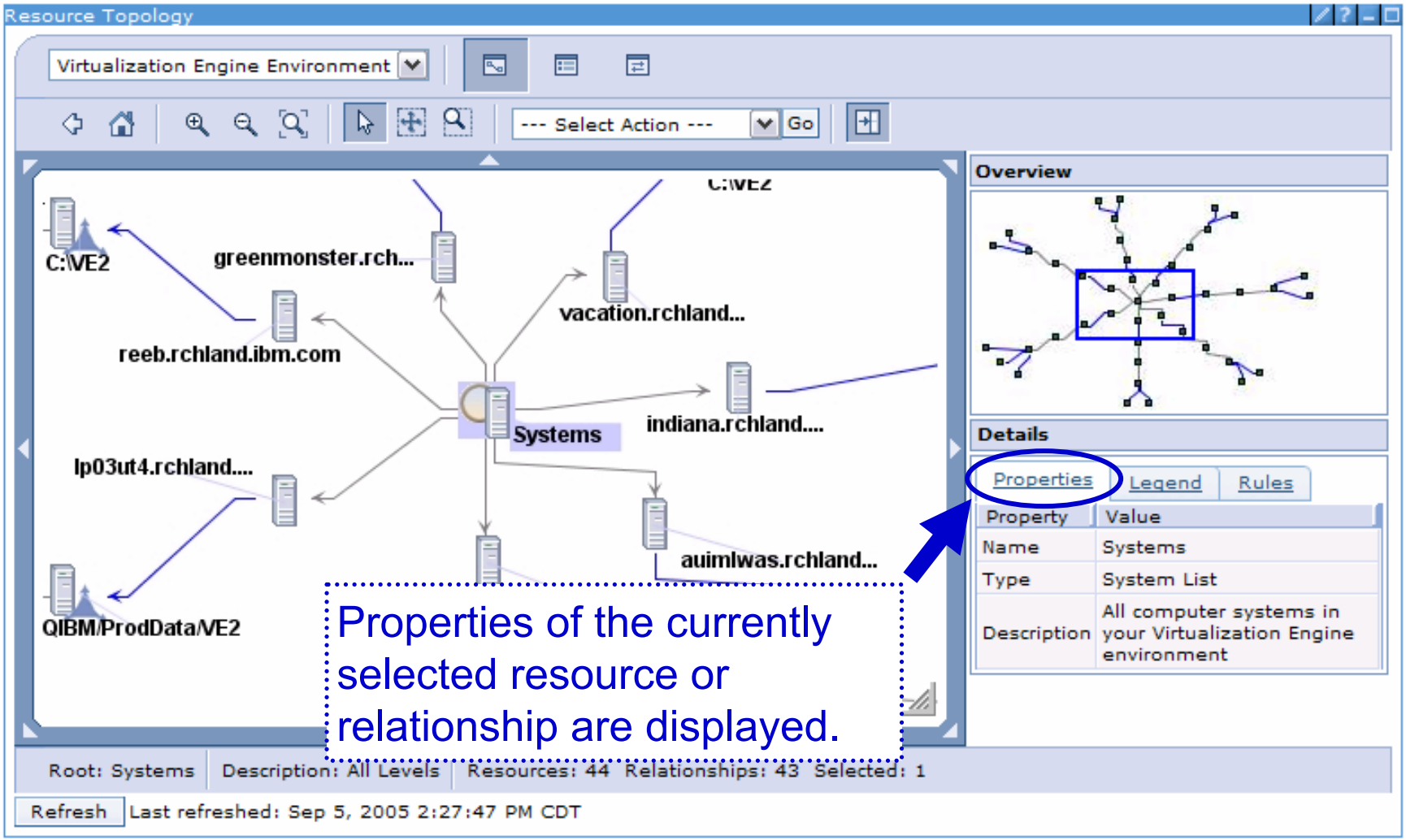


Resource Topology – Overview Area

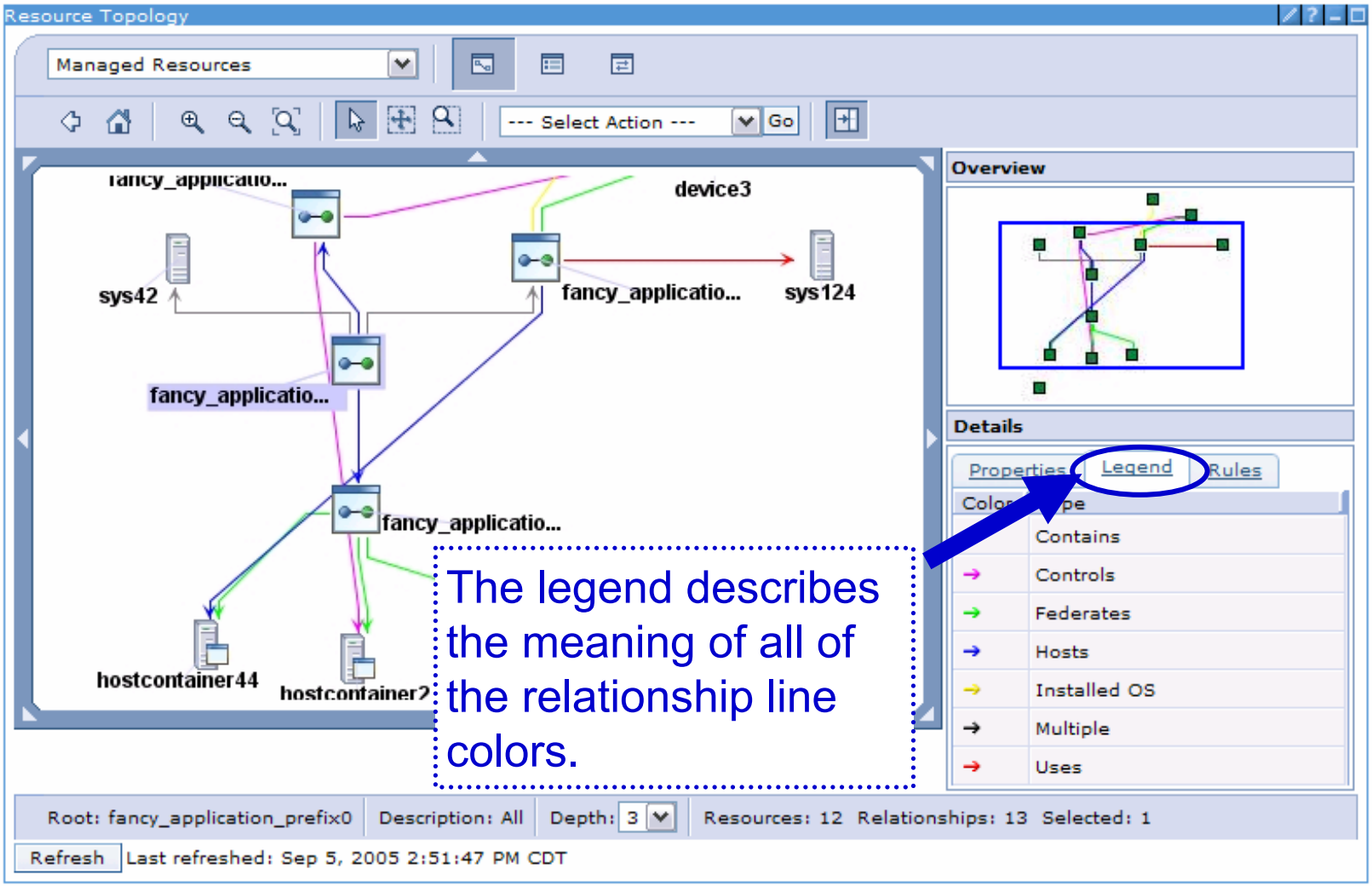


Overview shows which portion of the graph is currently visible. In addition, the box in the overview area can be dragged to pan to other portions of the graph.

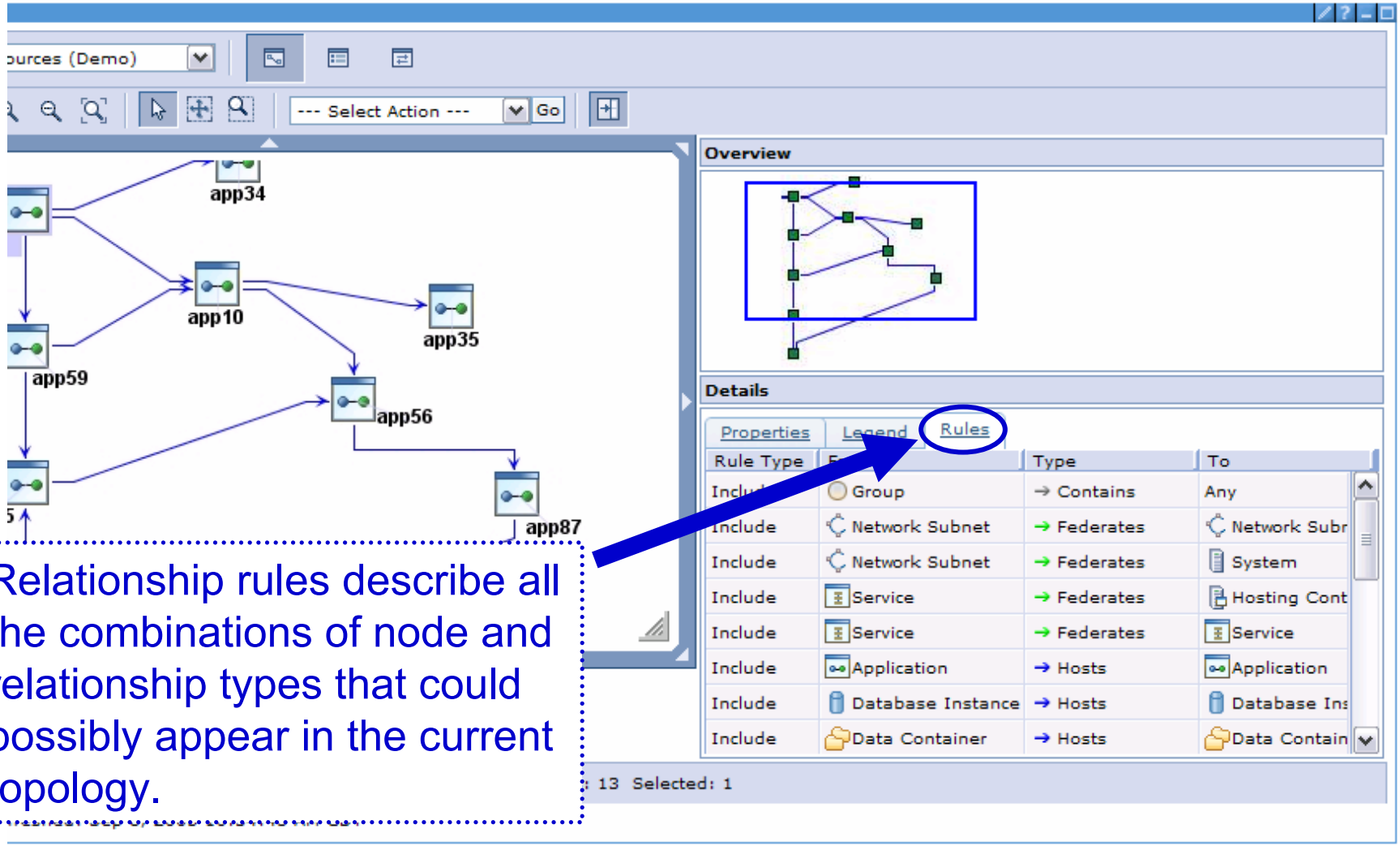
Resource Topology – Properties Area



Resource Topology – Relationship Legend

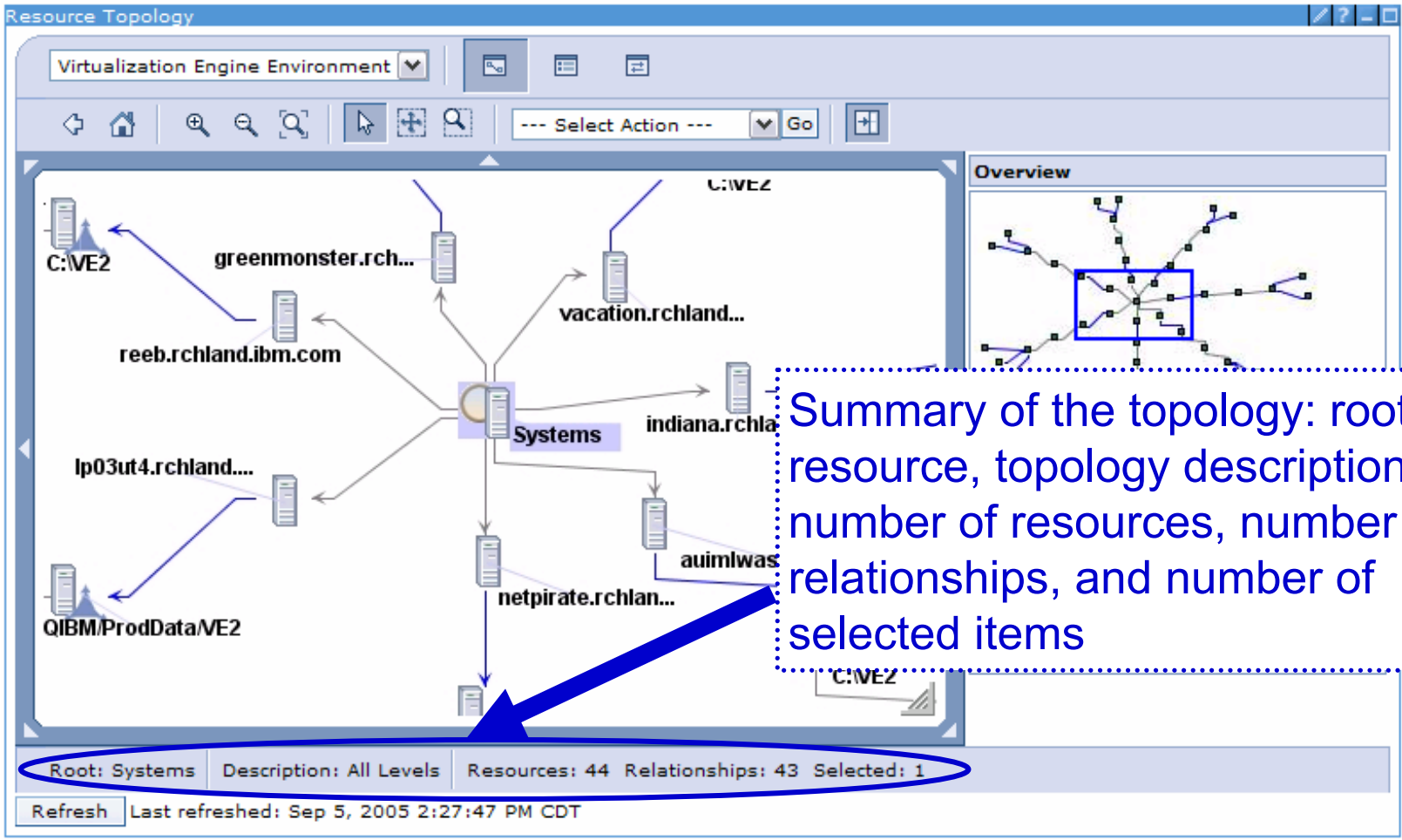


Resource Topology – Relationship Rules



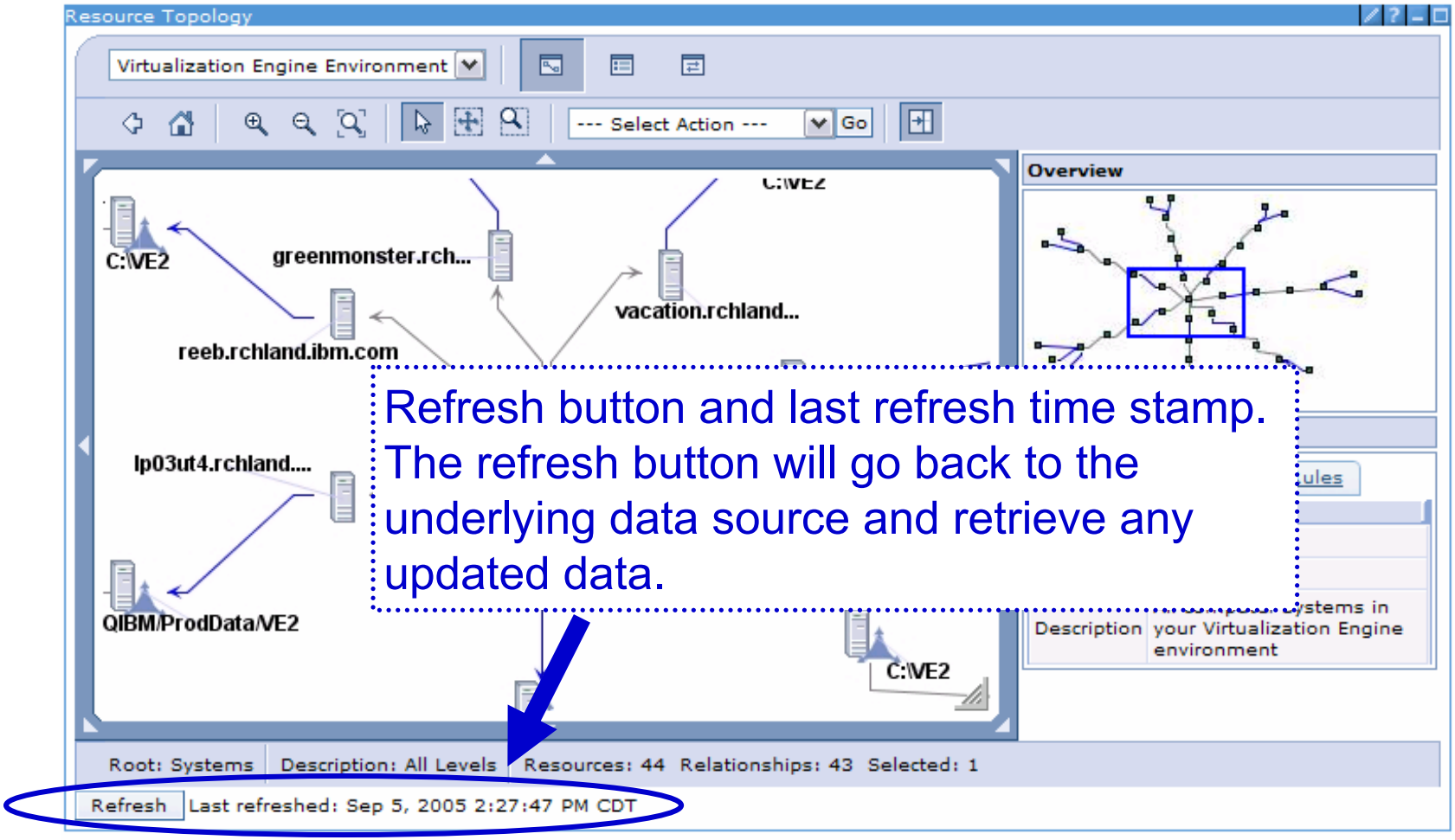
Relationship rules describe all the combinations of node and relationship types that could possibly appear in the current topology.

Resource Topology – Status Line

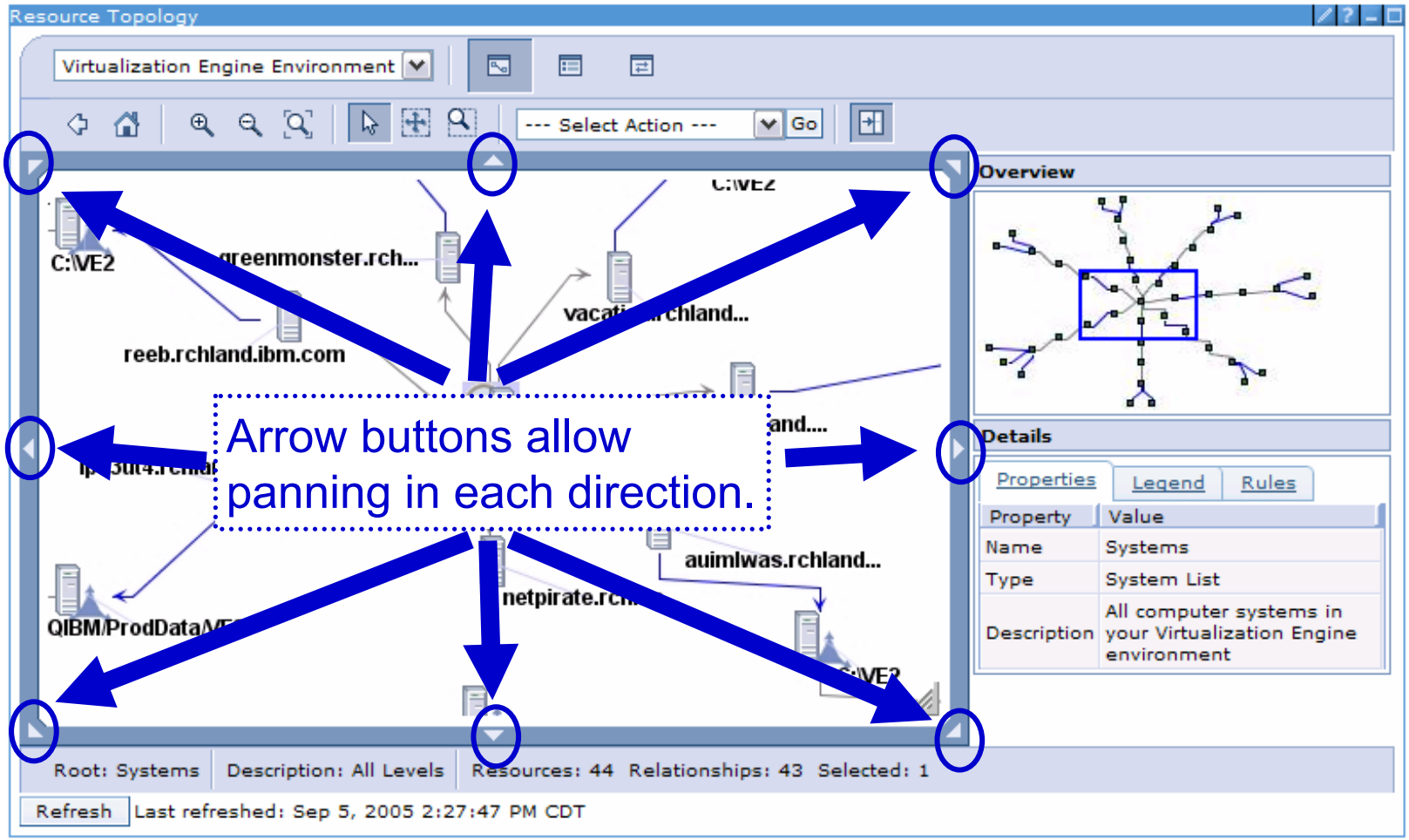


Summary of the topology: root resource, topology description, number of resources, number of relationships, and number of selected items

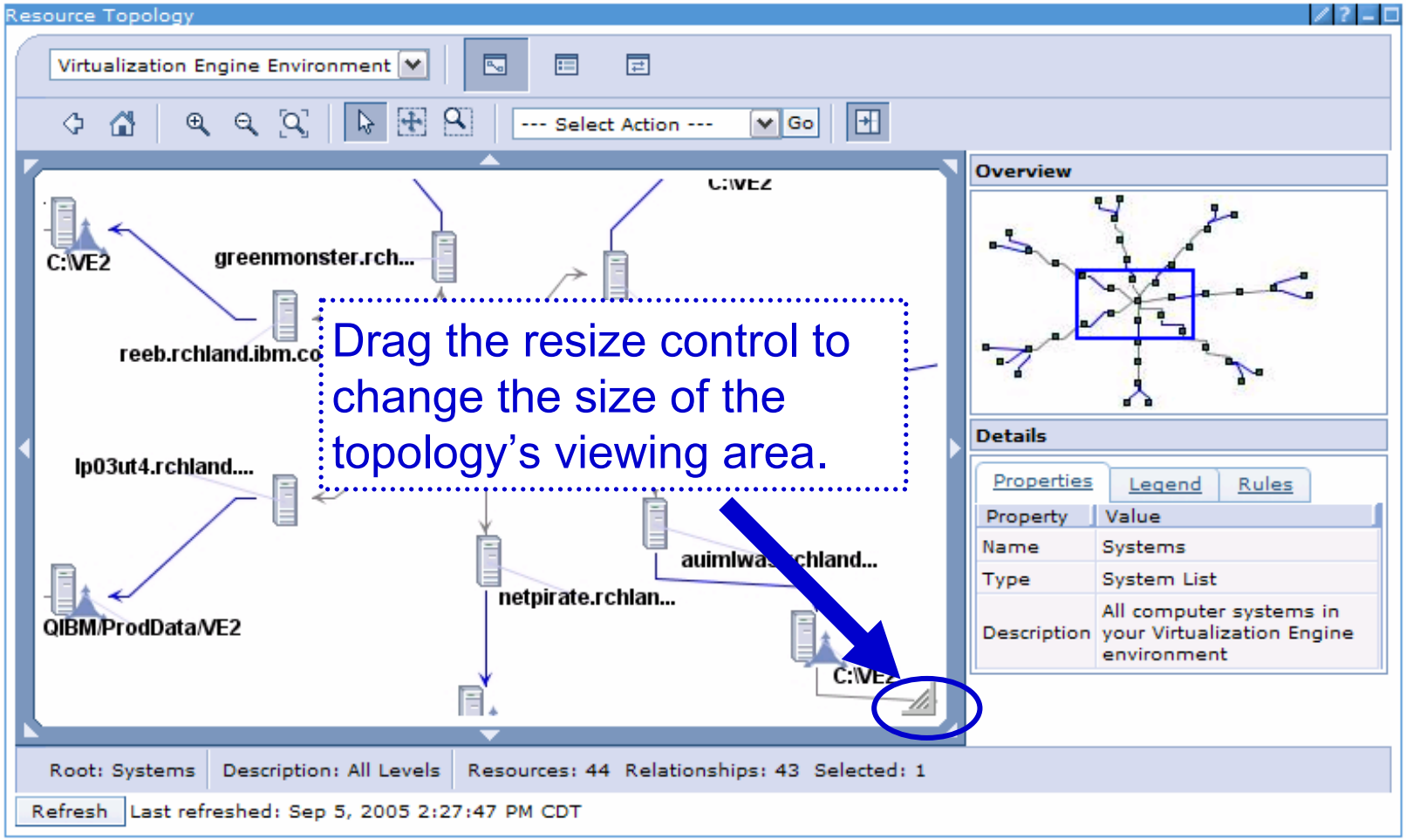
Resource Topology – Refresh Button



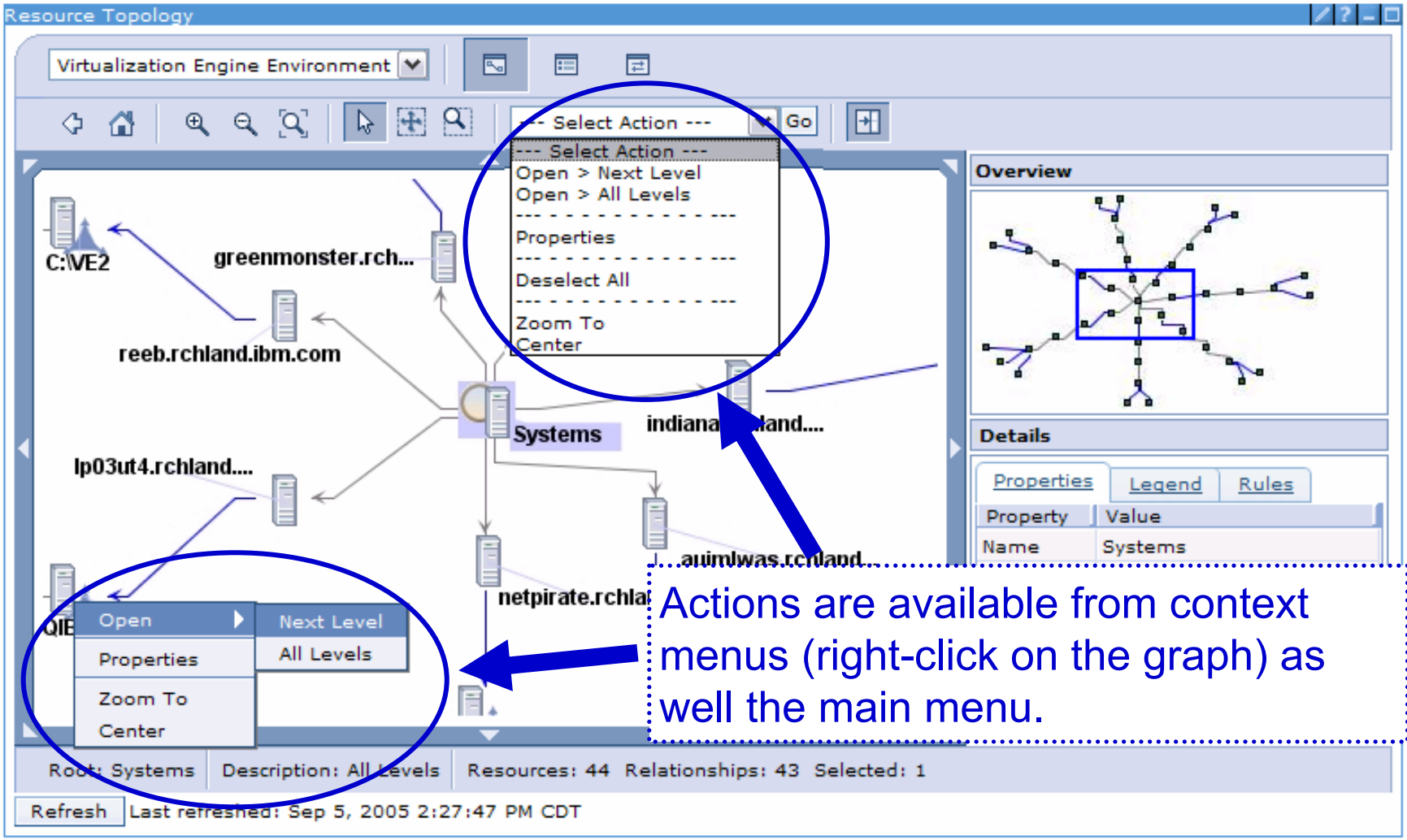
Resource Topology – Panning



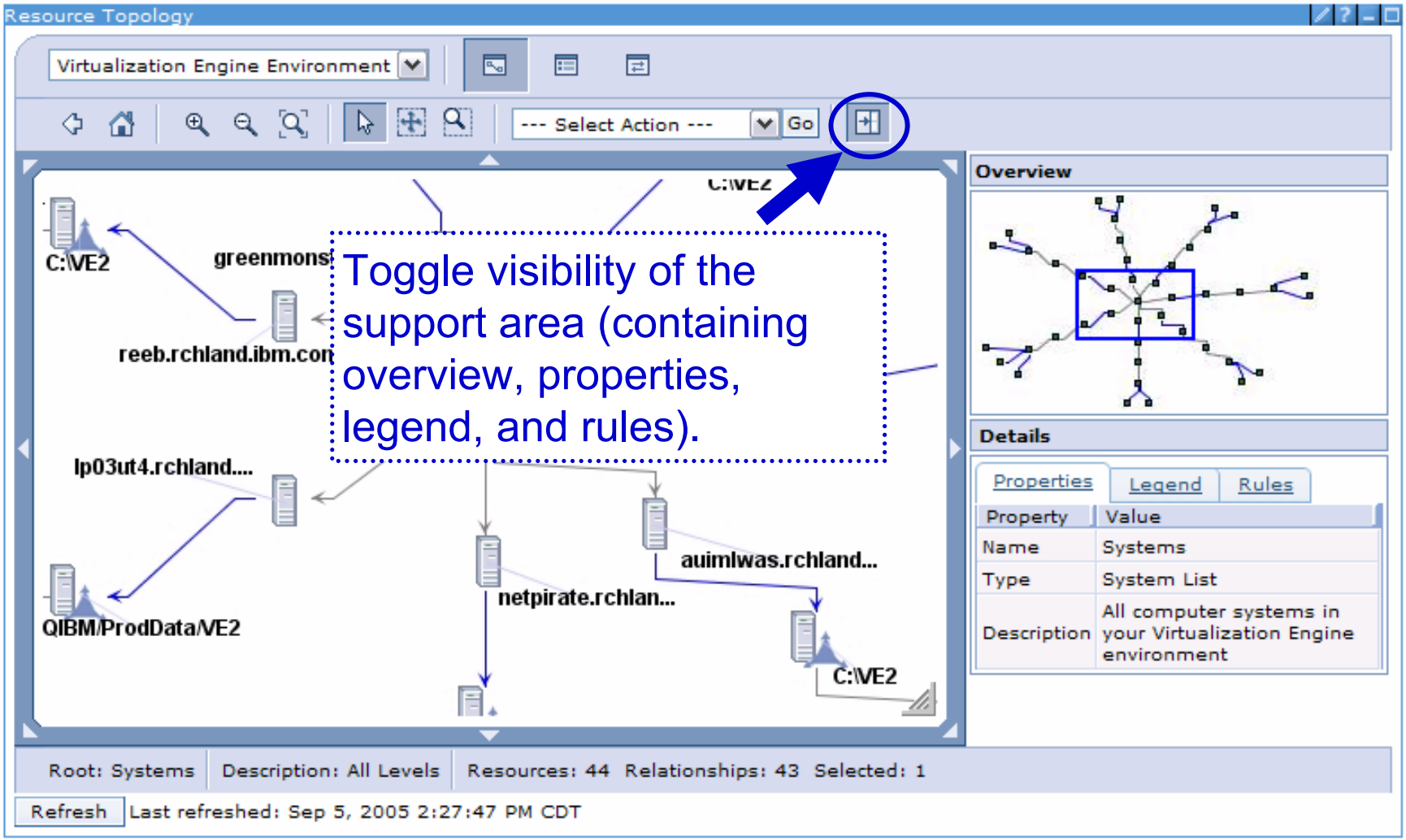
Resource Topology – Resizing



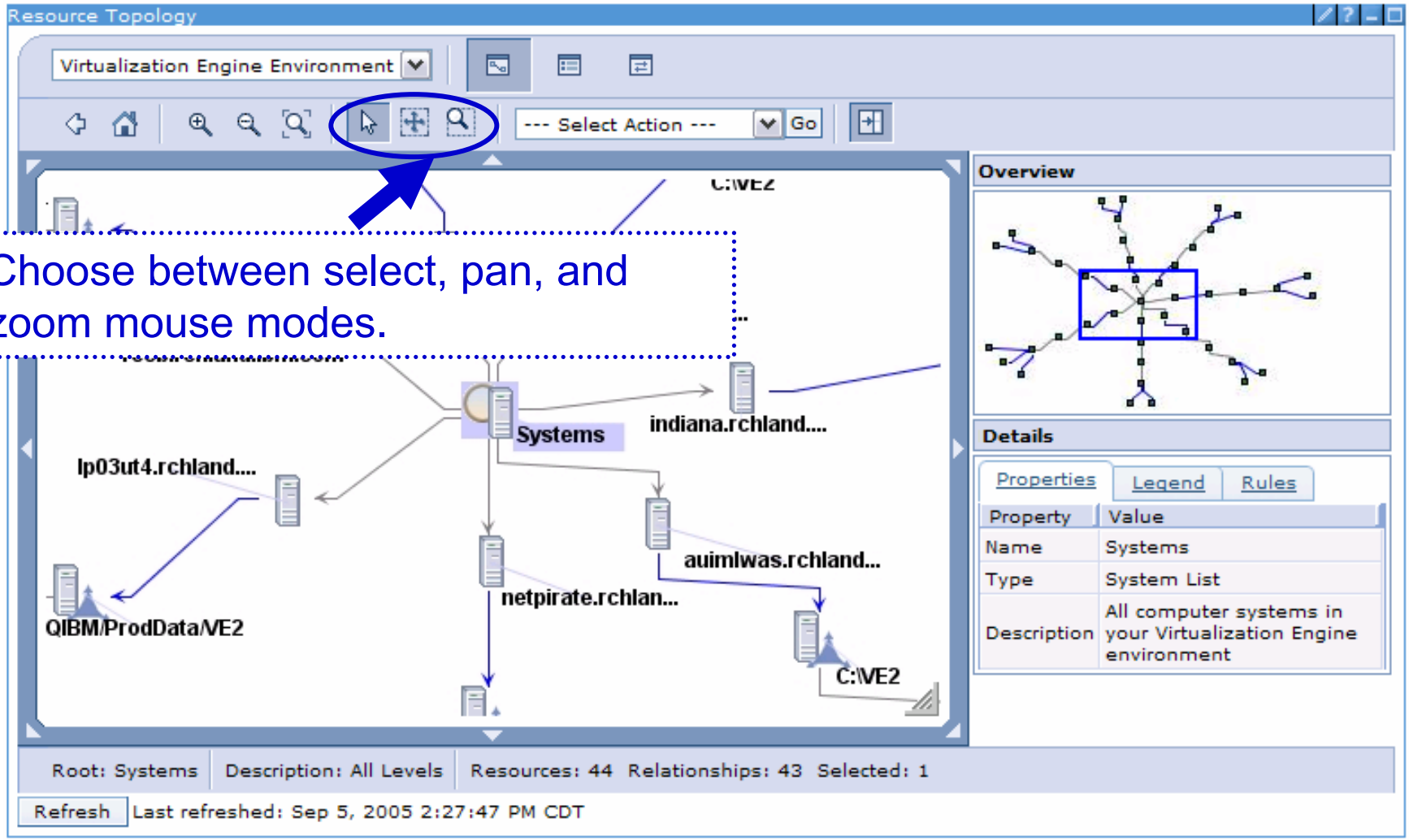
Resource Topology – Menu Actions



Resource Topology – Support Area



Resource Topology – Mouse Modes



Conclusion / Wrap-up

- **Allows users to visualize, explore, and work with resources and relationships in a graphical topology viewer.**

- **Users can choose from two distinct data sources:**
  - Virtualization Engine Environment
  - Managed Resources (driven by RDS)

Agenda continued:

0	Preface: Learning Objectives & Target Audience
1	IBM VE Console Overview
2	IBM VE Console Installation
3	IBM VE Console Launch in Context
4	IBM VE Console Bridge Concepts
5	IBM VE Console Resource Topology
6	**Wrap up - information sources and Q&A**

Bibliography

- **System Sales**
  - IBM Virtualization Engine Resource Kit
- **IBM eServer Software Information Center**
  - IBM VE Console > Topic Overview > VE Console
- **IBM links**
  - IBM Virtualization Engine
    - Virtual management and Access
- **pSeries Cluster System Management**

  http://www-1.ibm.com/servers/aix/wsm/csm_cluster.html
- **iSeries Navigator - Management Central**

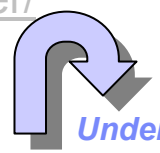
  http://publib.boulder.ibm.com/infocenter/iseries/v5r3/ic2924/index.htm (Systems Management topic)
- **Lightweight Directory Access Protocol (LDAP)**

  http://publib-b.boulder.ibm.com/Redbooks.nsf/RedbookAbstracts/sg244986.html?Open
- **Enterprise Identity Mapping (EIM)**

  http://publib.boulder.ibm.com/infocenter/iseries/v5r3/ic2924/index.htm (eBusiness and Web Serving ➔Security and Directory Server Topic)
- **IBM Directory Server**

  http://www-306.ibm.com/software/tivoli/products/directory-server/
- **WebSphere Application Server**

  http://www-306.ibm.com/software/webservers/appserv/was/



Underlined text is hyperlinked

Questions

Notices

Notices – cont'd

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Performance is in Internal Throughput Rate (ITR) ratio based on measurements and projections using standard IBM benchmarks in a controlled environment. The actual throughput that any user will experience will vary depending upon considerations such as the amount of multiprogramming in the user's job stream, the I/O configuration, the storage configuration, and the workload processed. Therefore, no assurance can be given that an individual user will achieve throughput improvements equivalent to the performance ratios

End Of Presentation