



Retail Store Solutions

Using the JMX Browser

Neil Girard

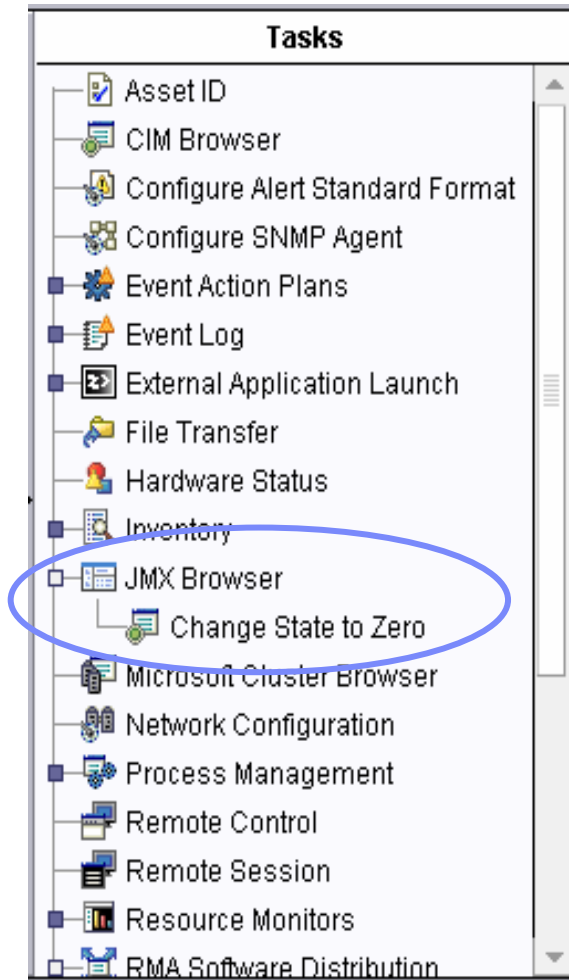
Topics

- JMX Browser
 - Overview
 - Running the task
 - Components
 - Property Modification
 - Method Execution
 - Method Subtasks
 - Plug-ins
 - Monitor Manager
 - Data Capture
 - RMA SW Package Distributor

JMX Browser - Overview

- Modeled after Director Browsers
- Same functionality as old V1 RMA Viewer
- Easy to navigate through active JMX instances
- Helps handle data not handled by a specific task
- Extendable for unique applications
 - Tree View Builders
 - Attribute Dialog Builders
 - Snap-in Architecture (Plug-ins)

JMX Browser – Starting the Task



- Drag JMX Browser Task to Retail Managed Object
- Drag JMX Browser Task to Managed Group
- Right-Click on Retail Managed Object and select JMX Browser
- Drag selected Retail Managed Objects over to the JMX Browser Task

JMX Browser

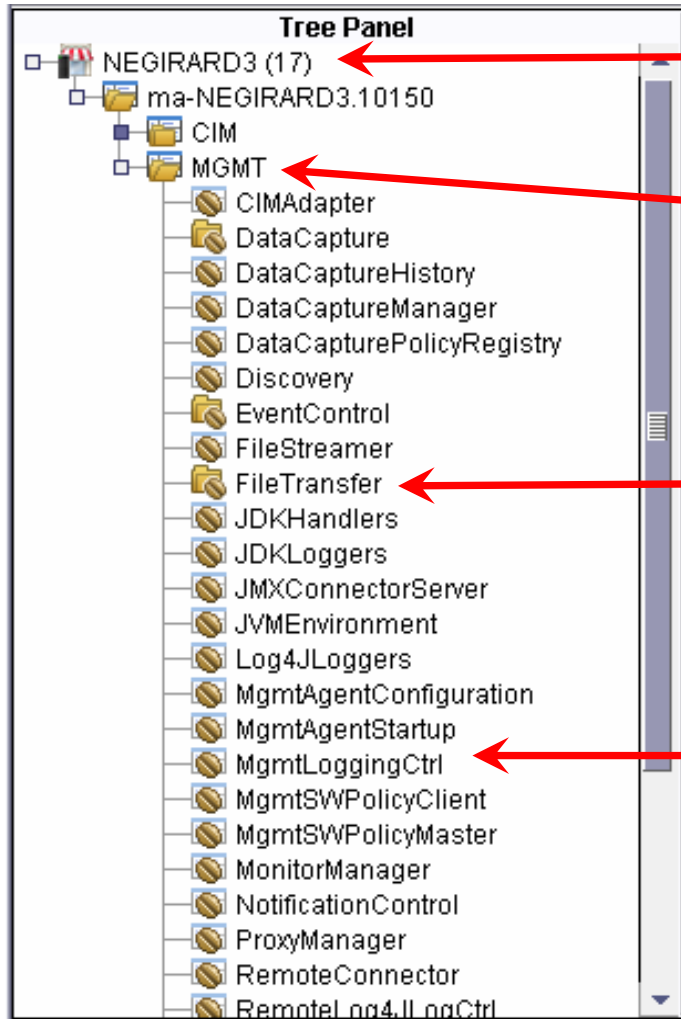
The screenshot shows the JMX Browser application window titled "JMX Browser: NEGIRARD3 (17)". The interface is divided into several sections:

- Tree Panel:** A hierarchical tree view on the left showing the MBean structure. The path is: NEGIRARD3 (17) > ma-NEGIRARD3.10150 > CIM > MGMT > JDKLoggers. The "JDKLoggers" folder is selected.
- JMX Class Name:** A text field at the top right of the main pane displays "com.ibm.retail.si.mgmt.logging.JDKLoggerMBean".
- Properties/Methods:** A tabbed interface below the class name. The "Properties" tab is active, showing a table of properties.

Modifiable	Name
<input type="checkbox"/>	.level
<input type="checkbox"/>	com.ibm.beeplite.ProfileRegistry.level
<input type="checkbox"/>	com.ibm.retail.si.mgmt.AbstractMgmtAgent.level
<input type="checkbox"/>	com.ibm.retail.si.mgmt.AgentEnvironment.level
<input type="checkbox"/>	com.ibm.retail.si.mgmt.capture.DataCaptureHistory.level
<input type="checkbox"/>	com.ibm.retail.si.mgmt.capture.DataCaptureHistoryParser.level
<input type="checkbox"/>	com.ibm.retail.si.mgmt.capture.DataCaptureManager.level
<input type="checkbox"/>	com.ibm.retail.si.mgmt.capture.DataCaptureMBeanSupport.level

The status bar at the bottom left shows "Ready".

JMX Browser – Navigation Tree



■ Managed Object

■ Category

A grouping of instances based some common attribute (SIFComponent)

■ Collection

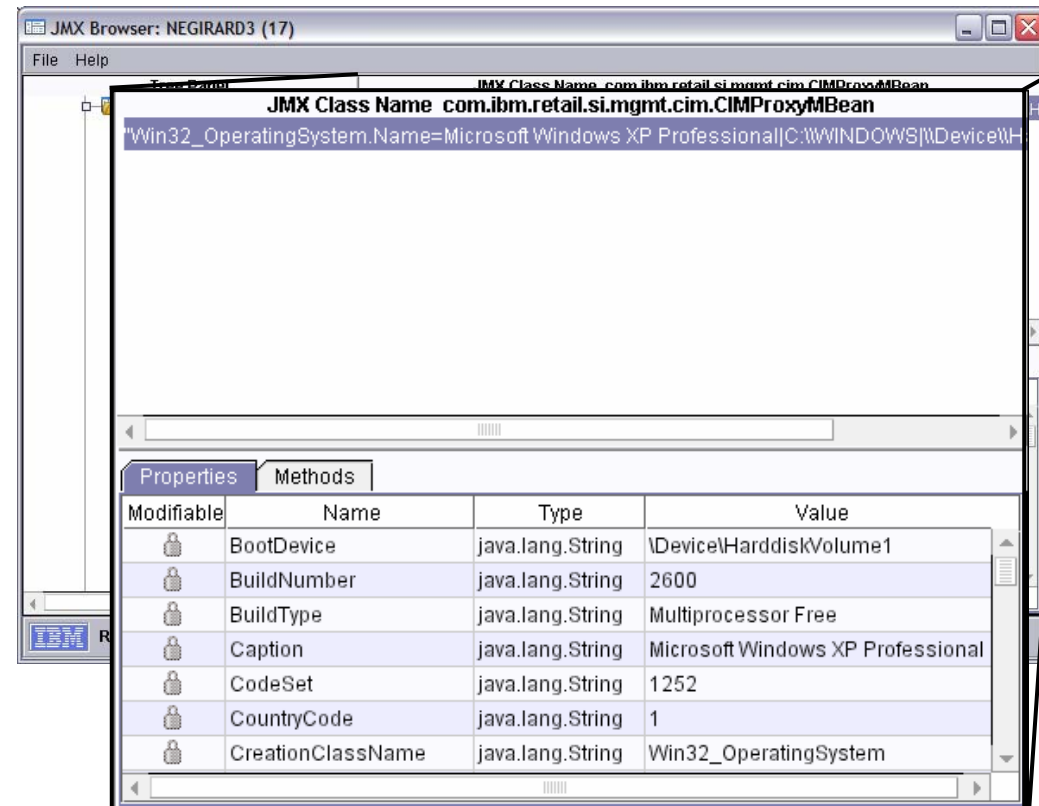
A group of instances that are of the same class type (SIFType)

■ Instance

The actual JMX instance



JMX Browser – Instance Panel







- Instance Panel
 - Class Name
 - Instances
- Property Panel
 - Properties
 - Methods



JMX Browser – Property Panel

■ Properties Tab

- Name
- Type
- Value
- Modifiable
 - Yes 
 - No 

Properties		Methods	
Modifiable	Name	Type	Value
	AdapterType	java.lang.String	Ethernet 802.3
	AdapterTypeId	javax.wbem.cim.UnsignedInt16	0
	AutoSense	boolean	
	Availability	javax.wbem.cim.UnsignedInt16	3
	Caption	java.lang.String	[00000001] Intel(R) PRO/1
	ConfigManagerError	javax.wbem.cim.UnsignedInt32	0

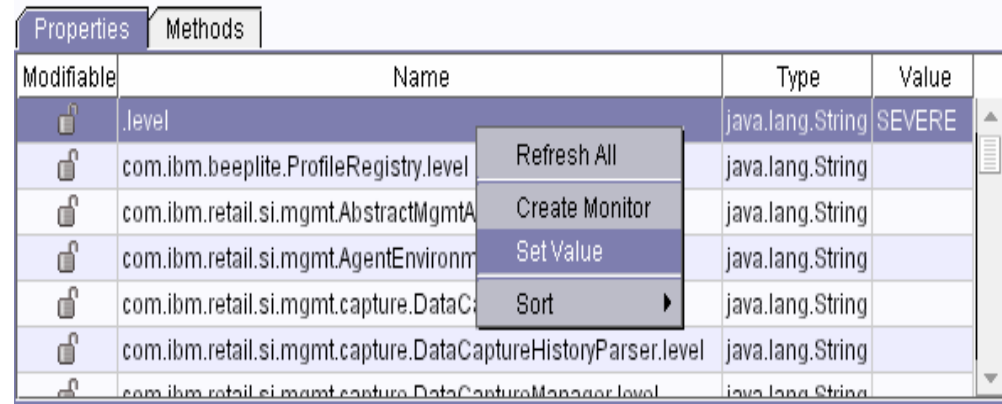
■ Methods Tab

- Name
- Inputs
- Return Value

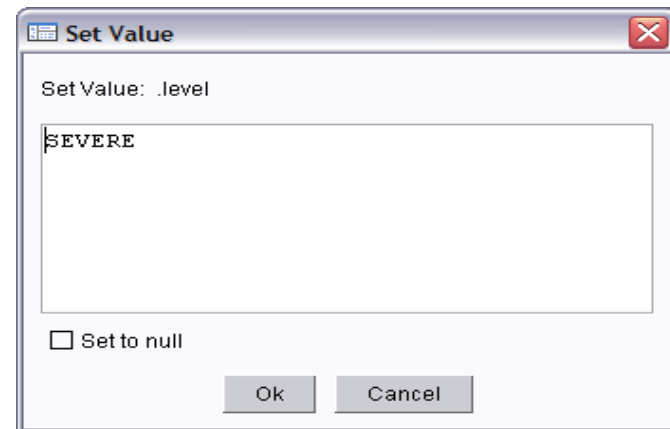
Properties		Methods	
Name	Inputs	Return Value	
abortCapture	captureId (java.lang.String)	void	
capture	captureType (java.lang.String) captureTimeout (long) captureArgs ([Ljava.lang.String)	java.lang.String	
capture	captureType (java.lang.String) captureTimeout (long)	java.lang.String	
captureExists	captureId (java.lang.String)	boolean	
deleteCapture	captureId (java.lang.String)	void	

JMX Browser – Property Modification

- Initiate Property Modification
 - Double-click on property
 - Right-click on property and select 'Set Value'
- Modification Dialog
 - Property Name
 - Value Field
 - Option to set value to null



Modifiable	Name	Type	Value
	.level	java.lang.String	SEVERE
	com.ibm.beeplite.ProfileRegistry.level	java.lang.String	
	com.ibm.retail.si.mgmt.AbstractMgmtA	java.lang.String	
	com.ibm.retail.si.mgmt.AgentEnvironm	java.lang.String	
	com.ibm.retail.si.mgmt.capture.DataC	java.lang.String	
	com.ibm.retail.si.mgmt.capture.DataCaptureHistoryParser.level	java.lang.String	
	com.ibm.retail.si.mgmt.capture.DataCaptureManager.level	java.lang.String	



Set Value: .level

SEVERE

Set to null

Ok Cancel

JMX Browser – Method Invocation

- **Initiate Method Execution**
 - Double-click on method
 - Right-click on method and select 'Execute'
- **Method Execution Dialog**
 - Class Name
 - Instance Description
 - Method Name
- **Inputs**
 - Parameter Name
 - Parameter Type
 - Current Value
 - Button to open edit dialog
- **Outputs**
 - Return Value Type
 - Return Value
 - Exception / Errors

Properties			Methods		
Name	Inputs	Return Value			
changeState	param1 (int)	int	<div style="border: 1px solid gray; padding: 2px;"> Execute Sort ▶ </div>		

Method Execution - NEGIRARD3 (17) [X]

File Help

Class Name: com.ibm.retail.si.mgmt.swdist.SystemStateManager
 Instance Description: masteragent.DeviceId=NEGIRARD3,Id=SystemStateManager,SIFComponent=M
 Method Name: changeState

Inputs

param1 int ...

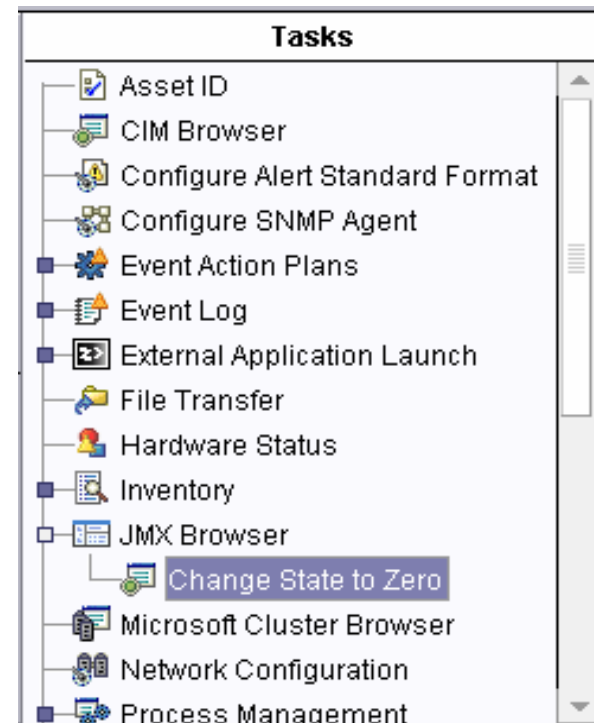
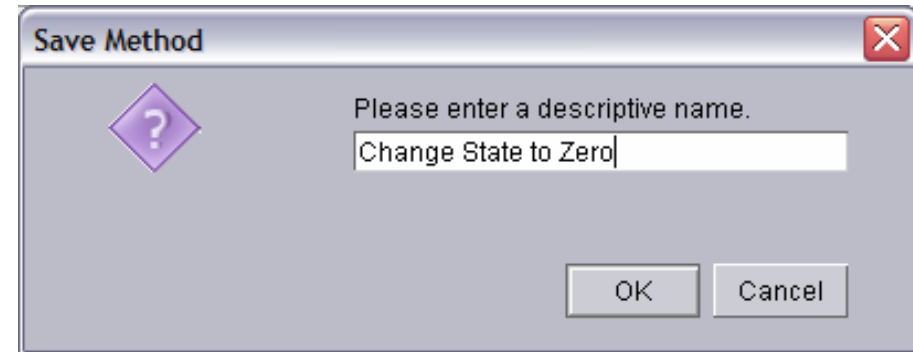
Output

java.lang.Integer 0

IBM Ready

JMX Browser – Method Invocation Subtask

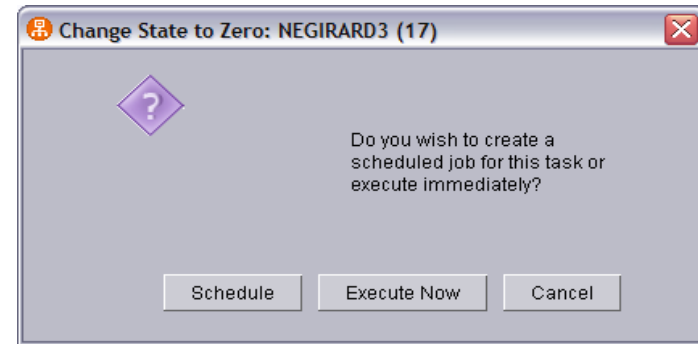
- Purpose of Subtask
 - To save reusable executions
 - Ability to perform same action on multiple agents at same time
- Saving Method
 - Press Save
 - Enter unique name
 - Press Ok



JMX Browser – Method Invocation Subtask (2)

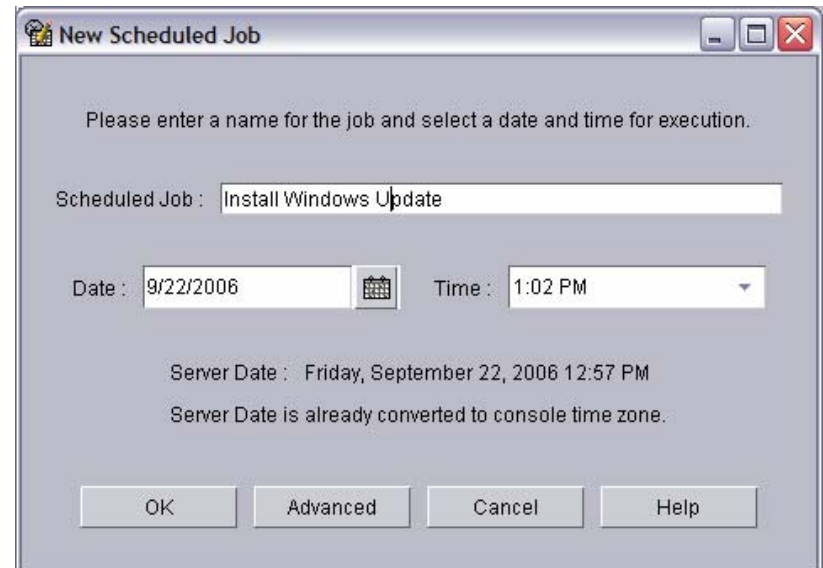
■ Using Saved Method

- Drag saved Method subtask to Managed Objects
- Execute now or schedule for later
- See results of execution



■ Scheduling

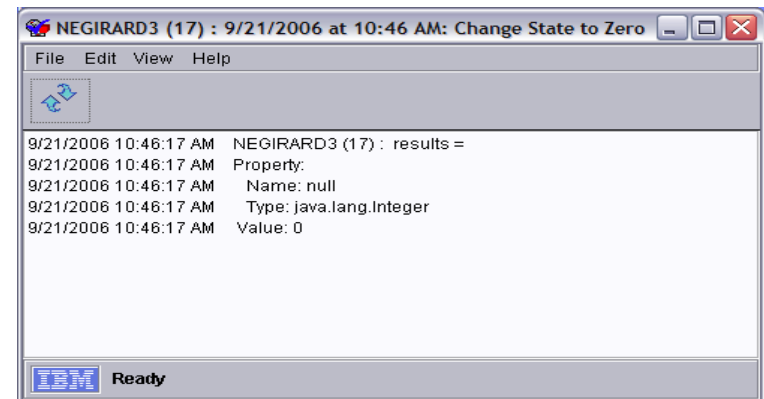
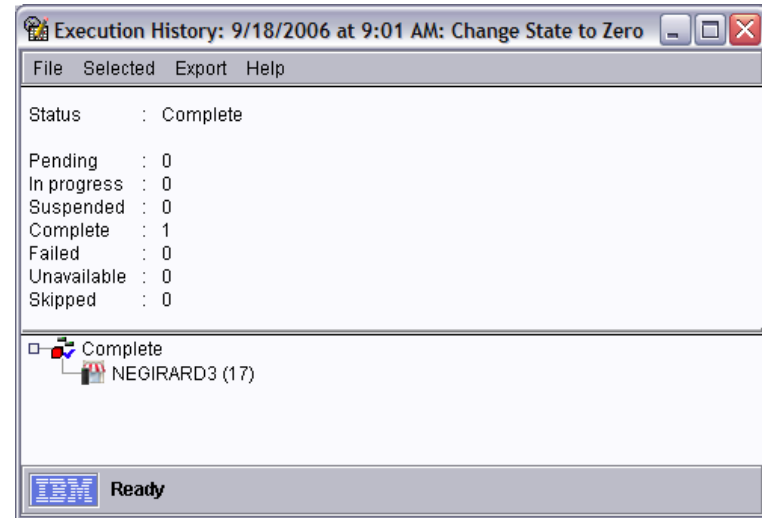
- Setup by the user
- Scheduled through Director's scheduler task



JMX Browser – Method Invocation Subtask (3)

■ Method Execution Results

- All results logged in scheduler task
- If executed immediately, results displays in real time
- Execution history
- Logs
 - Cumulative
 - Individual Managed Object

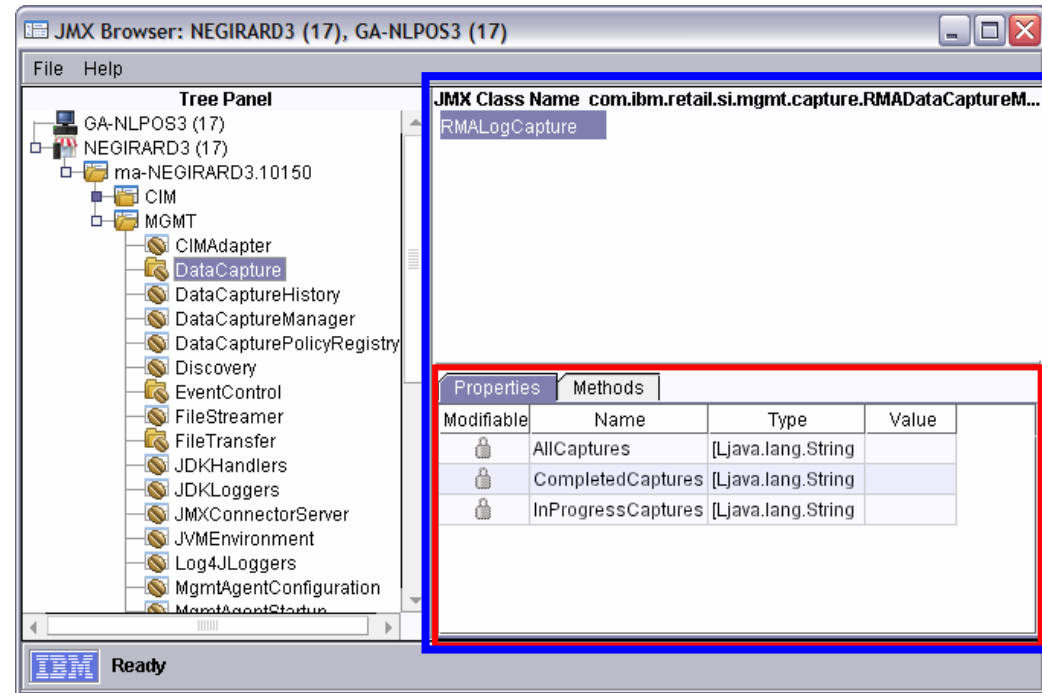


JMX Browser – Plug-ins

- Types of Plug-ins
 - Property Browser (Red)
 - Instance Browser (Blue)
 - Popup Menu

- Plug-in Purpose
 - Enhance JMX instance usability
 - Hide properties or methods
 - Add new functionality to JMX Browser

- Current Plug-ins
 - Monitor Manager
 - Data Capture
 - RMA Package Distributor



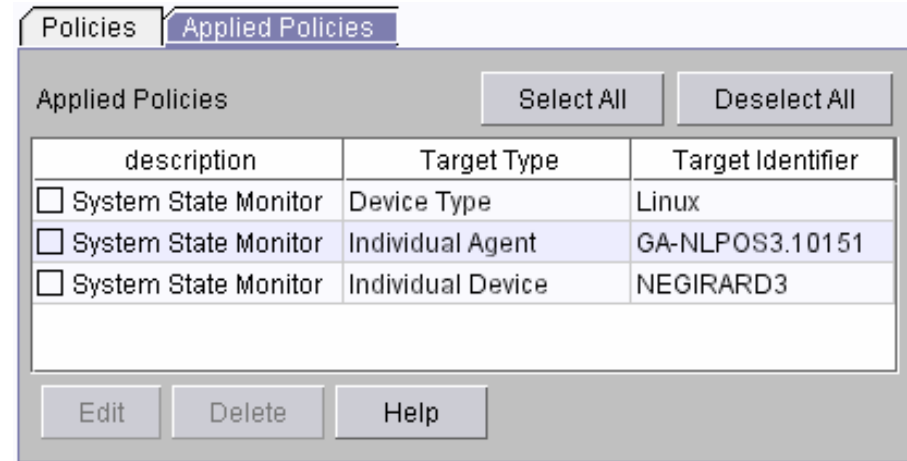
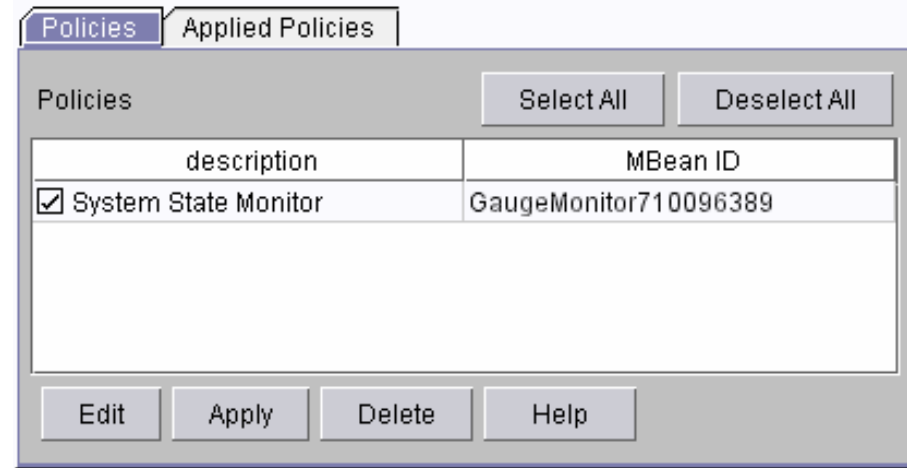
Monitor Manager

- Implemented Plug-in Types
 - Property Browser (MonitorManager)
 - Popup Menu

- MBean Locations
 - MGMTMonitorManager

- Policies Tab
 - Displays existing policies
 - Manages existing policies
 - Apply policies to various targets

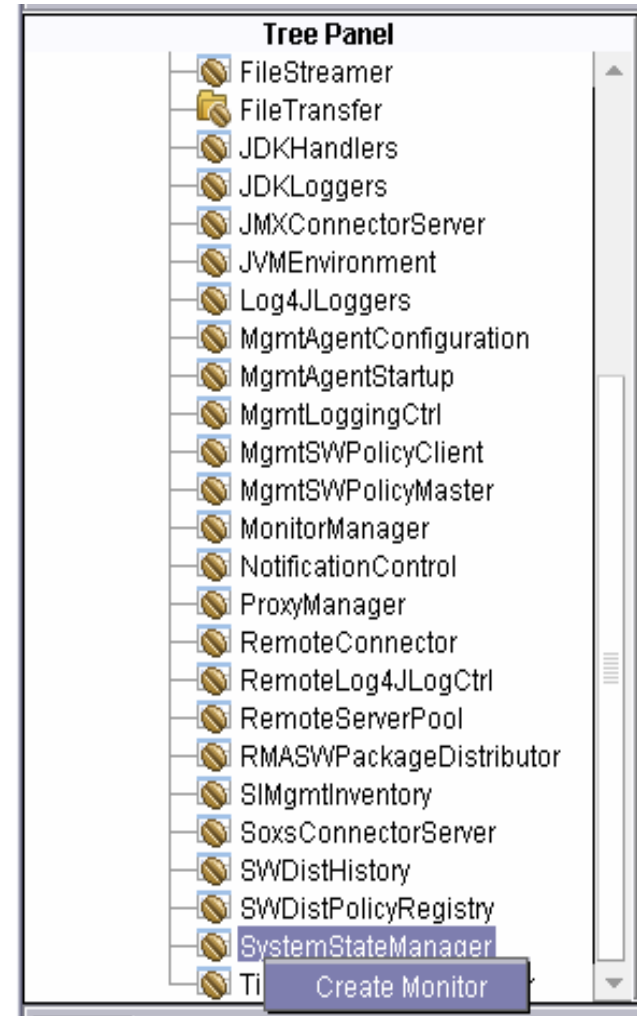
- Applied Policies Tab
 - Displays applied policies
 - Manages applied policies



Monitor Manager (2)

- **Monitor Policy Creation**
 - Uses Popup Plug-in
 - Multiple Levels of Filtering
 - Broad Search (Device)
 - Narrow Search (Specific instance/property)

- **Initiating Policy Wizard**
 - Right-click on object in tree panel
 - Right-click on property in property tab



Monitor Manager (3) – Policy Wizard

- Monitor Policy Wizard
 - Create/Edit Policies
 - Search Capabilities
 - Ability to apply policy at end
- General Options
 - Policy description
 - Shows available MBeans & Properties
 - Basic Monitor information

Policy Wizard - Add

General Options

Please select the options for the monitor policy. If you wish to set the advanced policy properties press Next, else press Finish to save the Policy.

Description: Monitor System State

MBean Class: SystemStateManager

MBean: SystemStateManager

Attribute: CurrentState

Type: javax.management.monitor.GaugeMonitor

High Threshold Number:

Low Threshold Number:

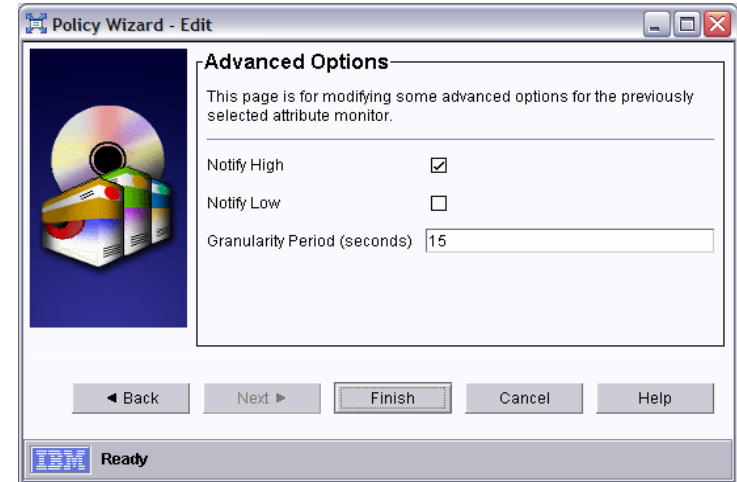
Apply policy when finished

◀ Back Next ▶ Finish Cancel Help

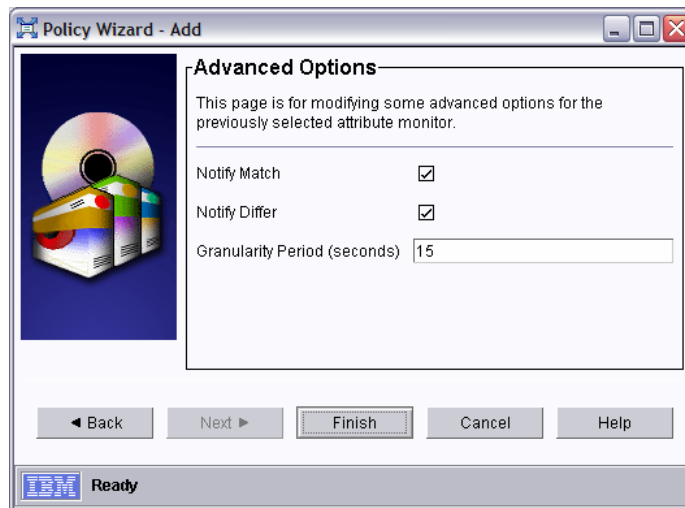
IBM Ready

Monitor Manager (4) – Policy Wizard

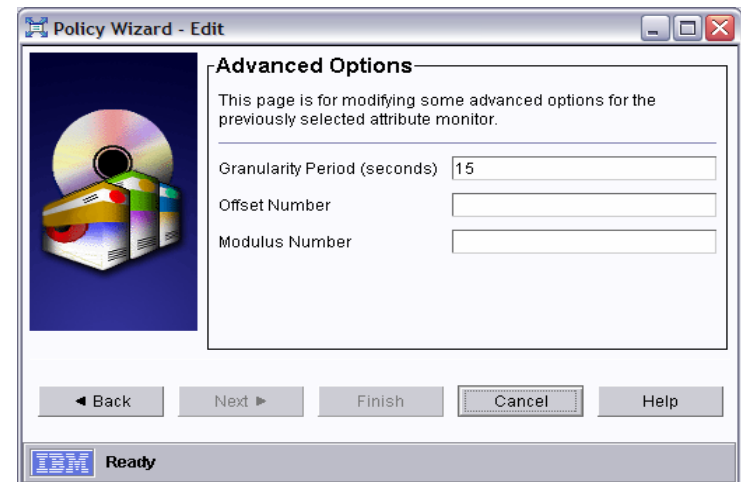
- **Advanced Options**
 - Allows user to tweak settings
 - Unique to each Monitor type
 - Optional due to defaults



GaugeMonitor



StringMonitor



CounterMonitor

Monitor Manager (5) – Applying Policy

- Locations
 - Policy Wizard
 - Monitor Manager Policy Tab

- Target Types
 - Device
 - Device type
 - Agent

- Target Identifier
 - Based on Target Type
 - One selection per apply

Apply Monitor Policy

Please selected the target type and the target identifier to which this policy is to be applied.

Selected Policy: System State Monitor

Device Type
 Individual Device
 Individual Agent

Target Type:

Target Identifier: All Device Types

Cancel Apply

Policies Applied Policies

Applied Policies Select All Deselect All

description	Target Type	Target Identifier
<input type="checkbox"/> System State Monitor	Device Type	Linux
<input type="checkbox"/> System State Monitor	Individual Agent	GA-NLPOS3.10151
<input type="checkbox"/> System State Monitor	Individual Device	NEGIRARD3

Edit Delete Help

Data Capture

- Implemented Plug-in Type
 - Property Browser
- MBean Locations
 - MGMT\DataCaptureHistory
 - MGMT\DataCaptureManager
 - MGMT\DataCapturePolicyRegistry
- Draft Policies Tab
 - Add/Edit/Delete/Copy draft policies
 - Activate draft policies
- Active Policies Tab
 - Terminate active policies
 - Execute active policies
 - Copy/Delete active policies
- Completed Policies Tab
 - Reactivate completed policies
 - Copy/Delete completed policies

Draft Policies Active Policies Completed Policies

Select All Deselect All

Policy
<input checked="" type="checkbox"/> Example Data Capture

Add Edit Copy Activate Delete

Draft Policies Active Policies Completed Policies

Select All Deselect All

Policy	Status	Capture History
<input type="checkbox"/> Example Data Capture	In Progress	com.ibm.retail.si.mgmt.itd.j</CaptureHistory>,verticalAI

Terminate Execute Copy Delete Help

Draft Policies Active Policies Completed Policies

Select All Deselect All

Policy	Status	Capture History
<input checked="" type="checkbox"/> Example Data Capture	Completed	com.ibm.retail.si.mgmt.itd.j</CaptureHistory>,verticalAI

Activate Copy Delete Help

Data Capture (2) – Capture Wizard

■ Purpose

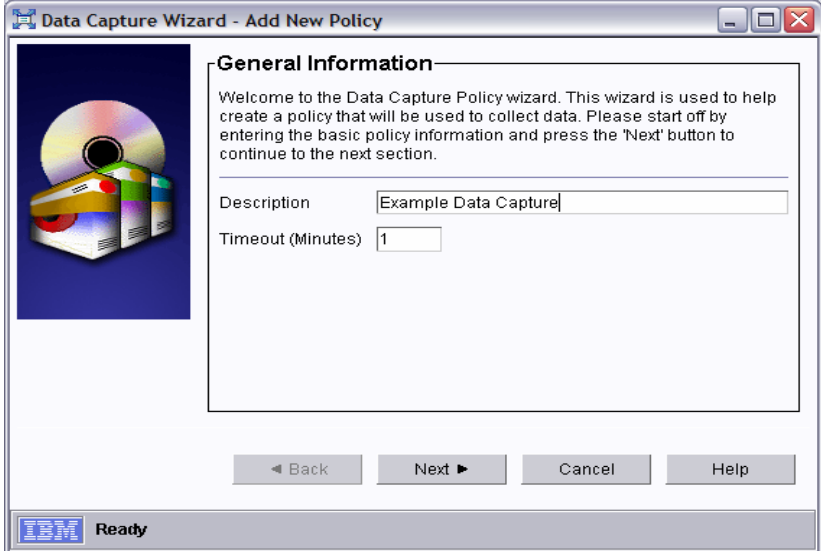
The purpose of the Data Capture Policy Wizard is to aid in the creation and modification of policies for the Data Capture Manager.

■ General Information Page

- Policy Description
- Timeout

■ FTP Information Page

- FTP server type
- FTP server settings



Data Capture Wizard - Add New Policy

General Information

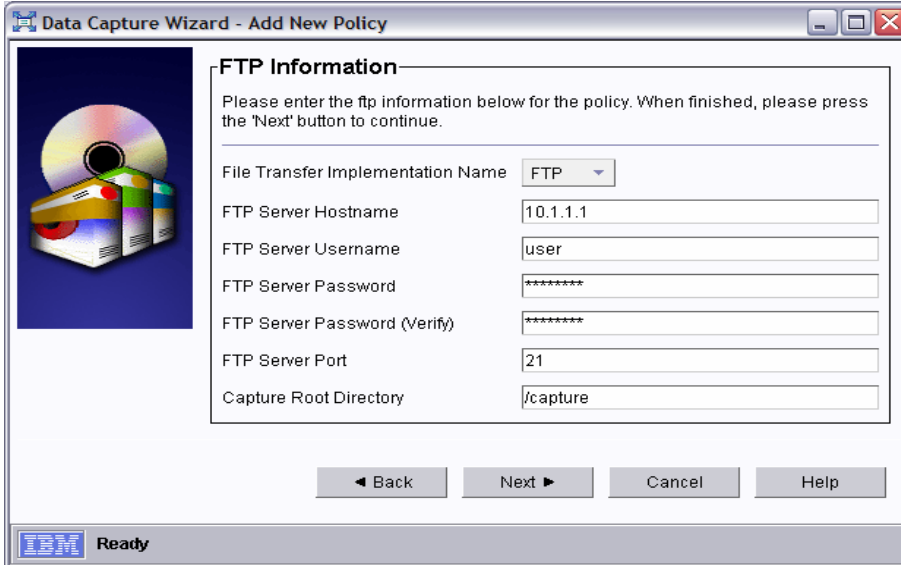
Welcome to the Data Capture Policy wizard. This wizard is used to help create a policy that will be used to collect data. Please start off by entering the basic policy information and press the 'Next' button to continue to the next section.

Description:

Timeout (Minutes):

◀ Back Next ▶ Cancel Help

IBM Ready



Data Capture Wizard - Add New Policy

FTP Information

Please enter the ftp information below for the policy. When finished, please press the 'Next' button to continue.

File Transfer Implementation Name:

FTP Server Hostname:

FTP Server Username:

FTP Server Password:

FTP Server Password (Verify):

FTP Server Port:

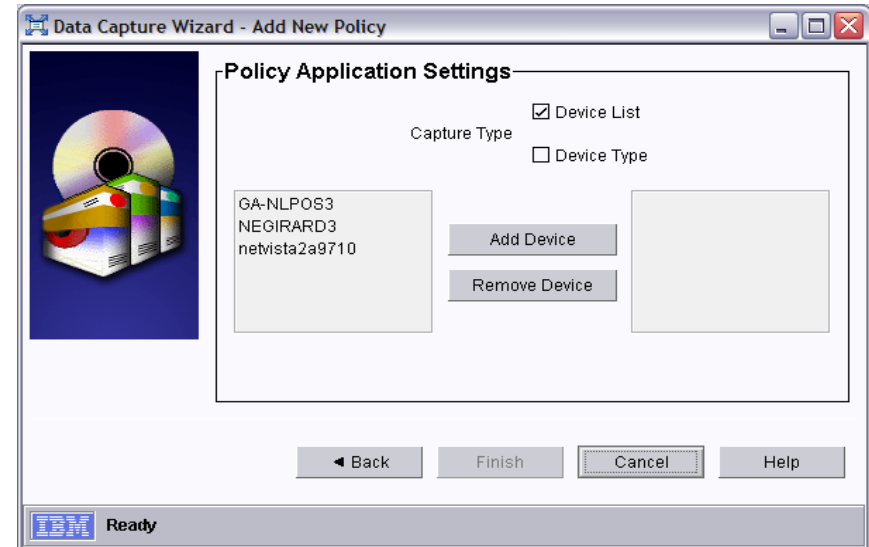
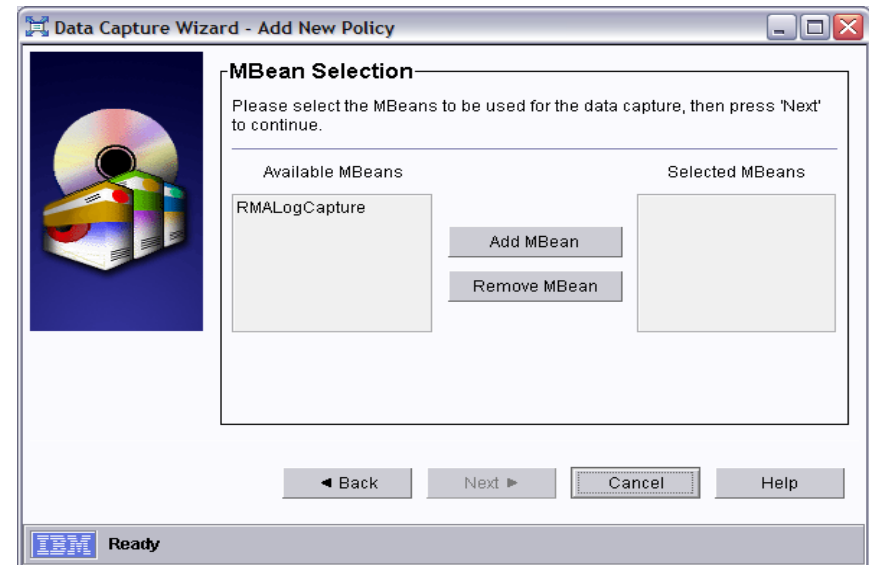
Capture Root Directory:

◀ Back Next ▶ Cancel Help

IBM Ready

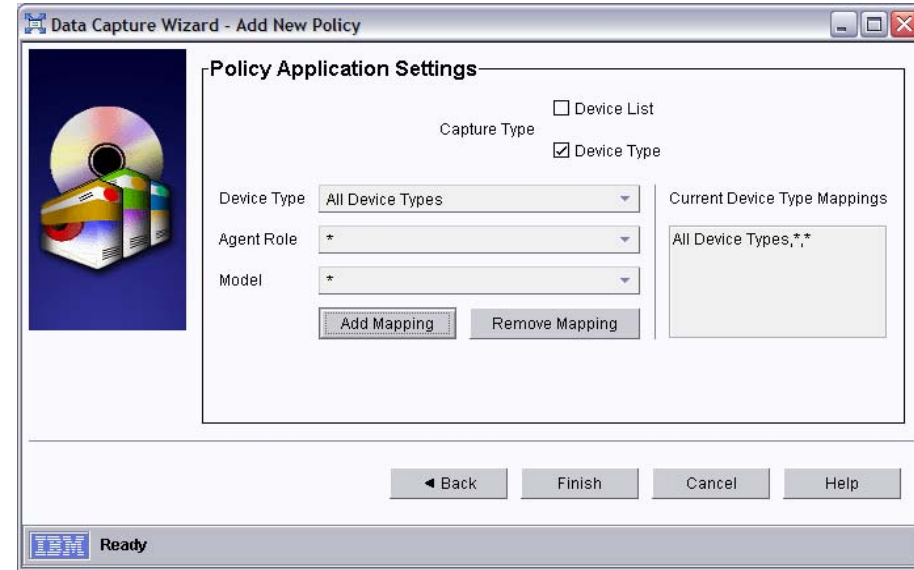
Data Capture (3) – Capture Wizard

- **MBean Selection**
 - Select beans to perform data capture
 - Displays current available beans
- **Policy Application Settings**
 - Defines capture type
 - Device List
 - Device Type
 - Displays options for each type
- **Device List Capture Type**
 - Display list of connected devices
 - Add/Remove devices from policy



Data Capture (4) – Capture Wizard

- Device Type Capture Type
 - All device types
 - Current agent roles
 - Agent role models
 - Current device type mappings





Retail Store Solutions

RMA Software Distribution

Neil Girard

Topic

- Software Distribution
 - Overview
 - Setup
 - Components
 - Package Wizard
 - Package Subtasks

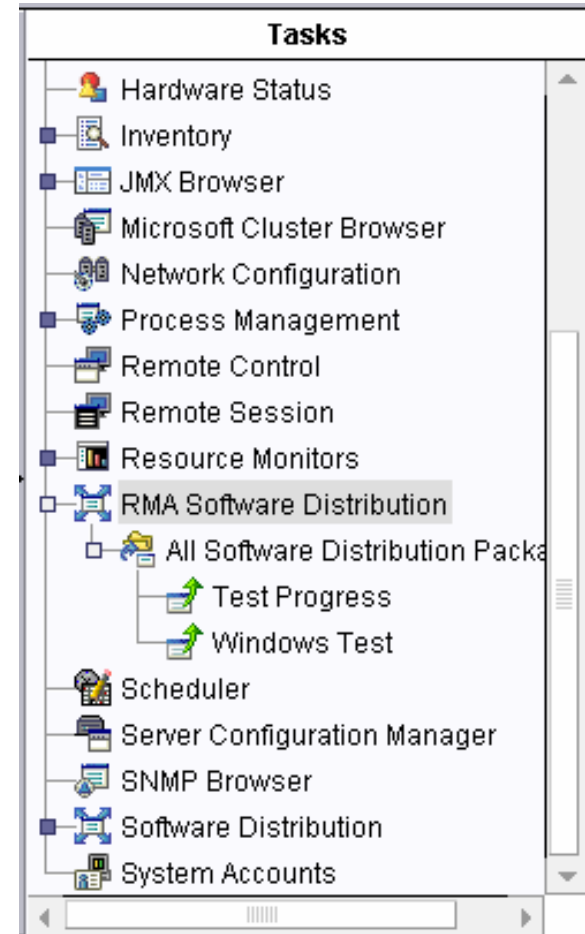
RMA Software Distribution Task

■ Functionality

- Wizard for package creation
- Package management
- Provides the ability to deploy package

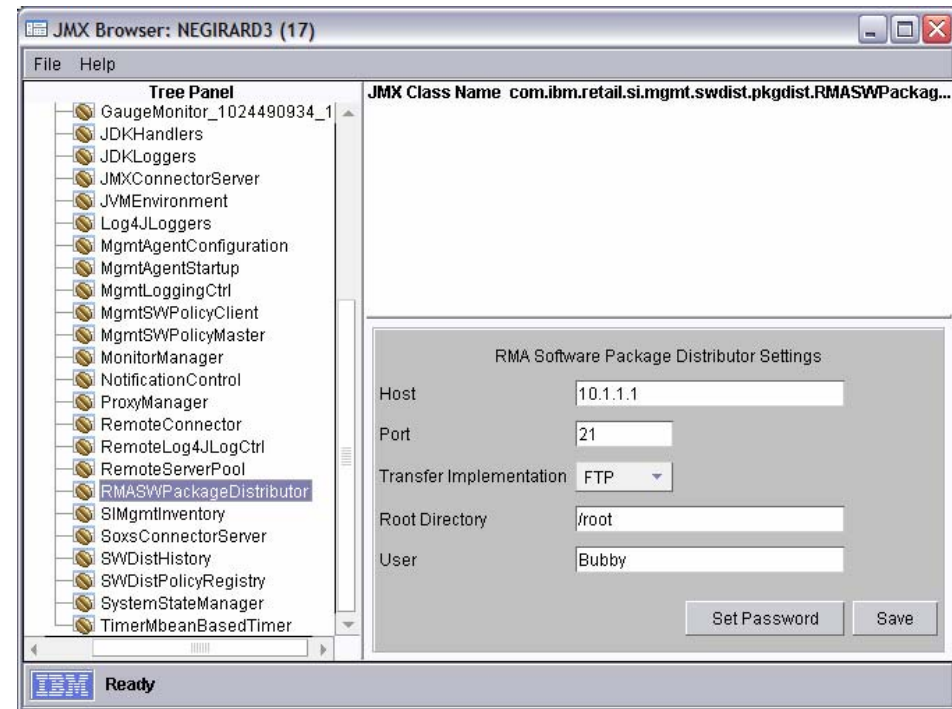
■ IBM Director Friendly

- Mimics Director's Software Distribution
 - Has software distribution task
 - Contains package objects
- Currently not part of Director's Software Distribution task
 - Director does not allow extensions
 - RMA has unique package information
- Uses Director's deployment framework
 - Uses Software Distribution Server task
 - Added RMA Distributor



RMA Software Package Distributor

- Implemented Plug-in Type
 - Property Browser
- MBean Location
 - MGMT\RMASWPpackageDistributor
- Purpose
 - Edit RMA package distributor settings
 - Protect password value when setting
 - Hide complex methods



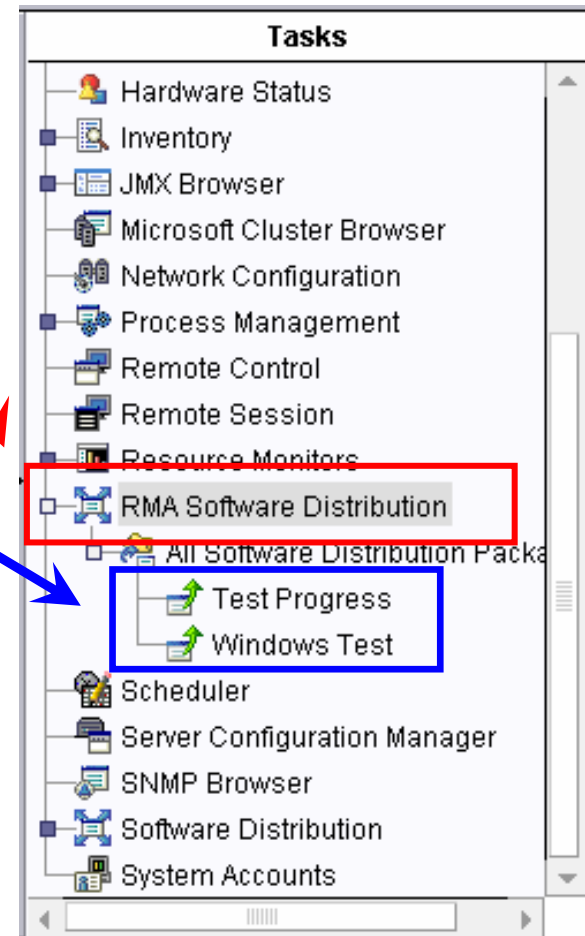
RMA Software Distribution Task (2)

- RMA Software Distribution task

- Create Install Packages
- Create Uninstall Packages

- RMA Software Packages

- Edit Package
- Delete Package
- Rename Package
- Deploy Package



RMA Package Wizard

■ Wizard

- Creates install/uninstall packages
- Edits existing packages
- Handles all the setting up of package information for RMA
- Two different entry pages
 - General information
 - OS specific information

■ General Information

- Package Name
- Package Description
- Target OS
- Target State

Build - Retail Store Install Package

General Information:

This Wizard helps you create RMA packages.

Package Name:
[]

Package Description:
[]

Target OS: Windows Linux 4690
 General PSA

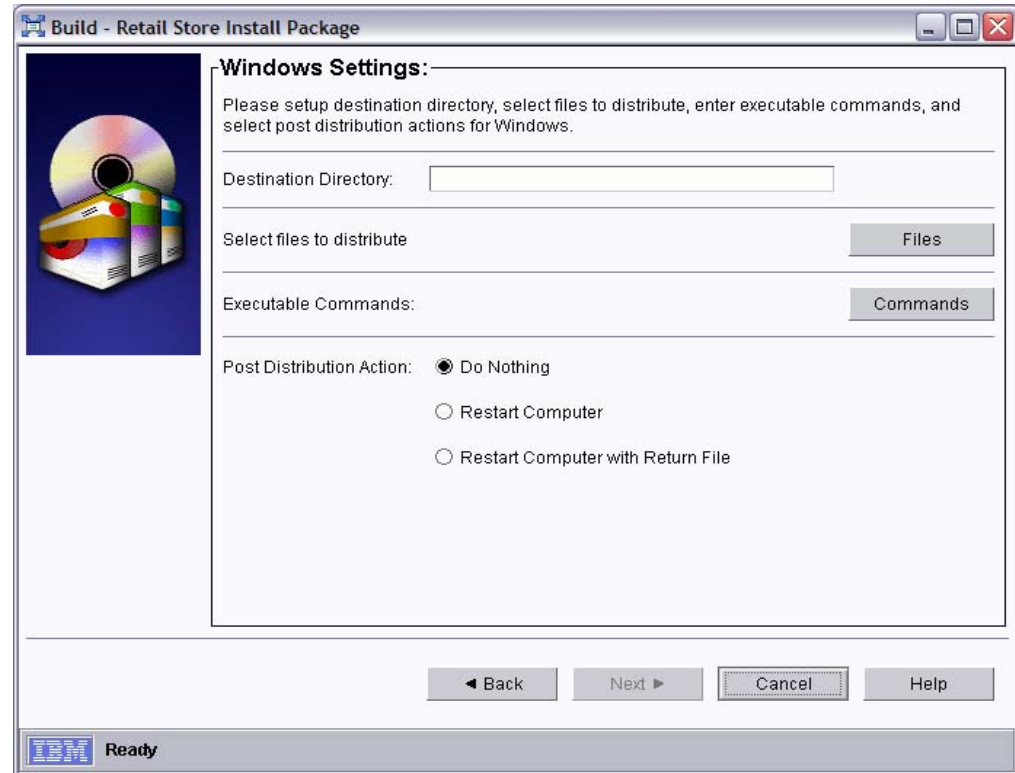
Target State: NOOP

< Back Next > Cancel Help

IBM Ready

RMA Package Wizard (2)

- Target OS Settings
 - One page per OS
 - Destination Directory
 - Files (optional)
 - Exec. Commands (optional)
 - Post Distribution



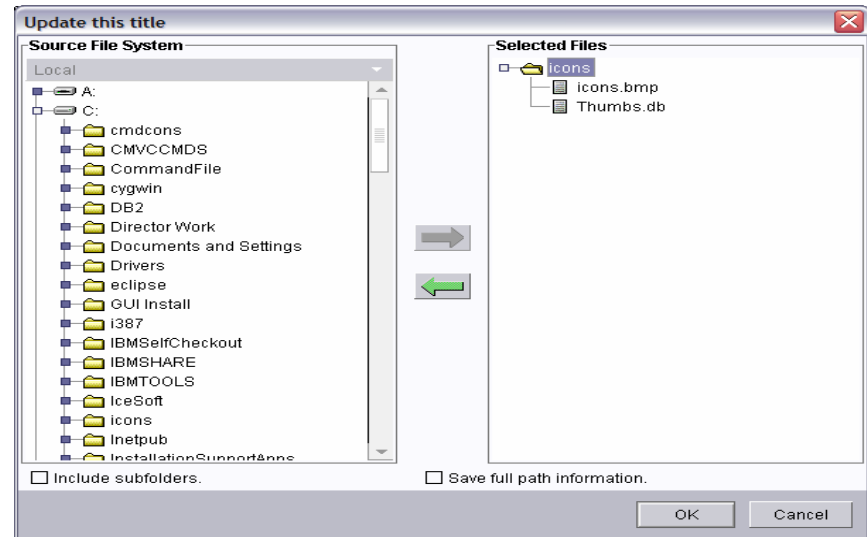
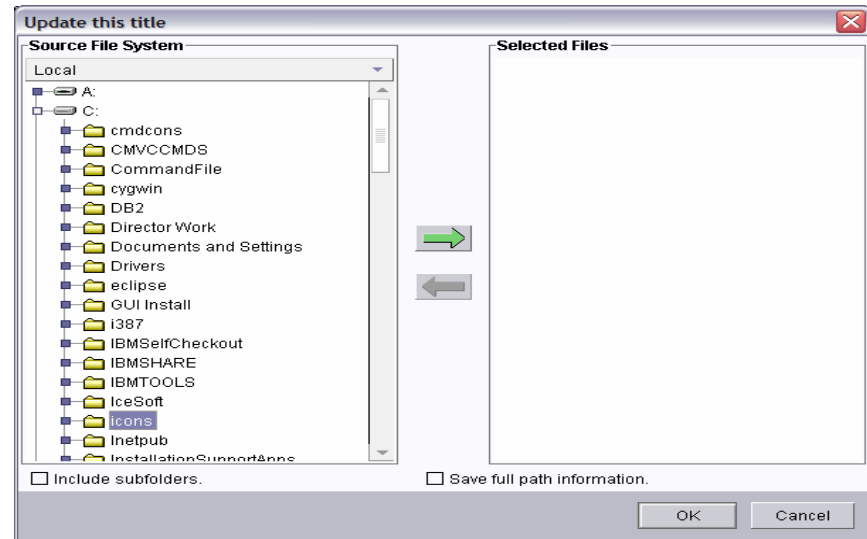
RMA Package Wizard (3) – Adding Files

■ File Source

- Local or Server
- Each Target OS must use same file location

■ Selected Files

- Placed in destination directory
- Organized exactly as shown in tree
- Can include subfolders
- Can save full path information

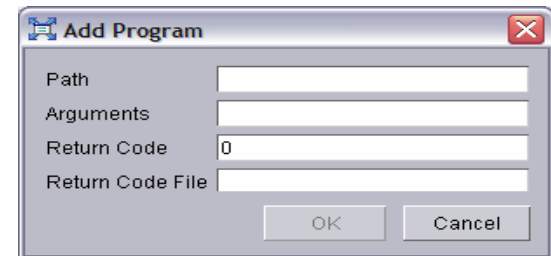
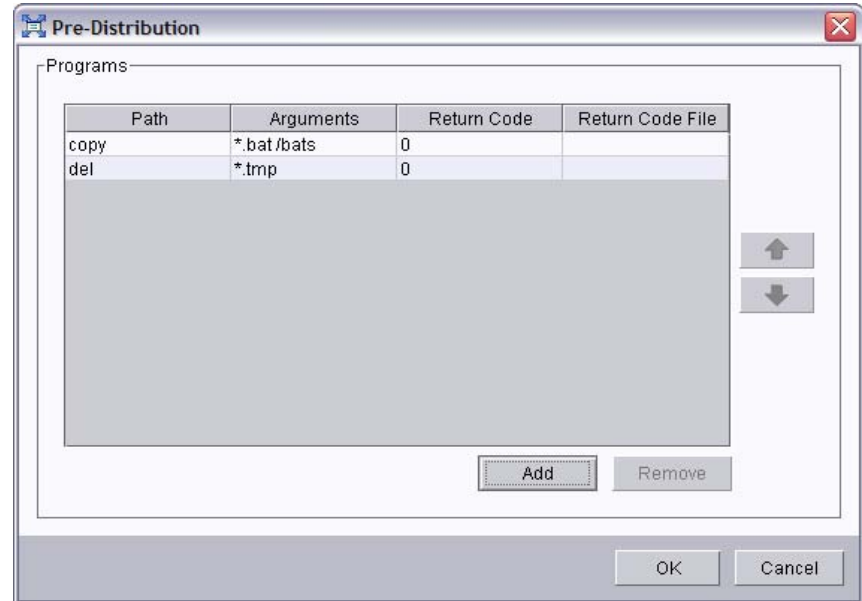


RMA Package Wizard (4) – Executable Commands

- **Commands**
 - Path
 - Arguments
 - Return Code
 - Return Code File

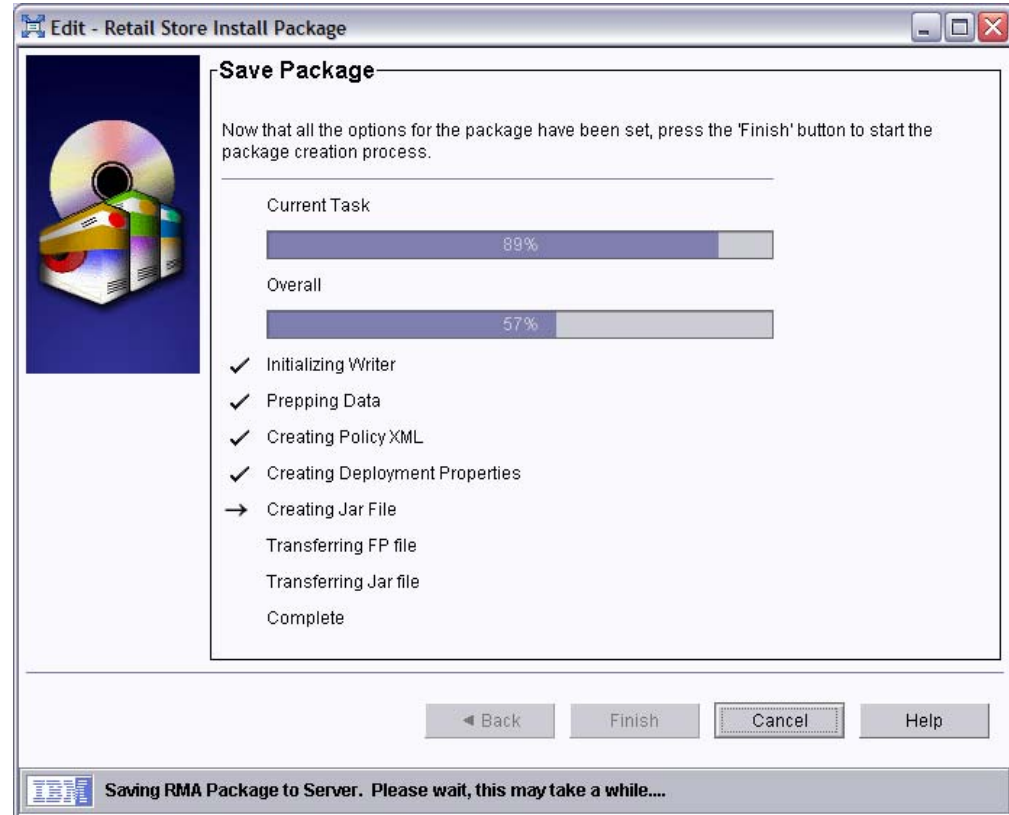
- **Add/Edit Command**
 - Press Add button to add
 - Double-click on command in table to edit
 - Fill in fields in the dialog
 - Press OK to save

- **Remove Command**
 - Highlight command
 - Press Remove button to delete



RMA Package Wizard (5) – Saving the Package

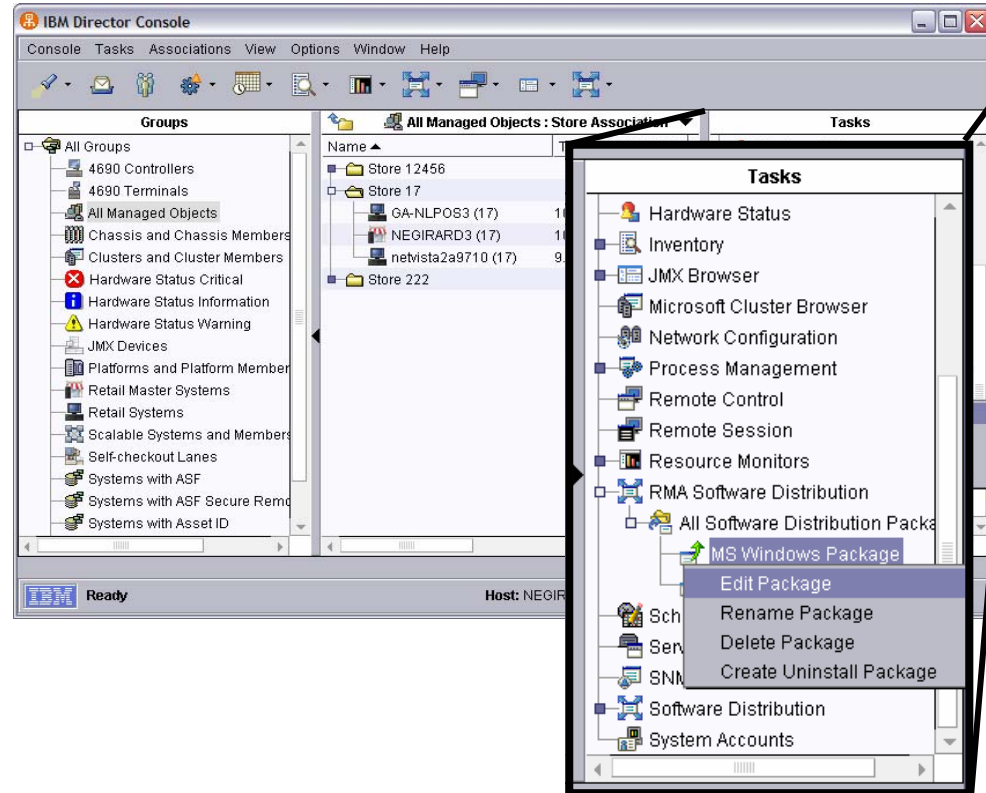
- Save Package page
 - Length of process varies
 - Displays progress of saving the package
 - Local vs. Server files
 - Package creation time
 - Network usage



RMA Software Package Management

■ Package Subtasks

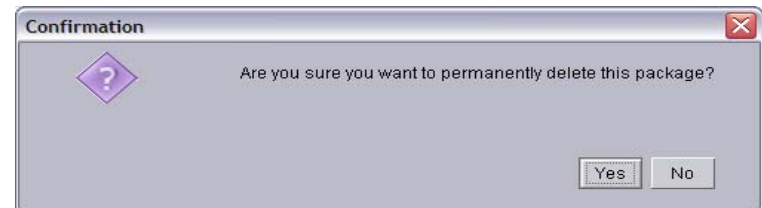
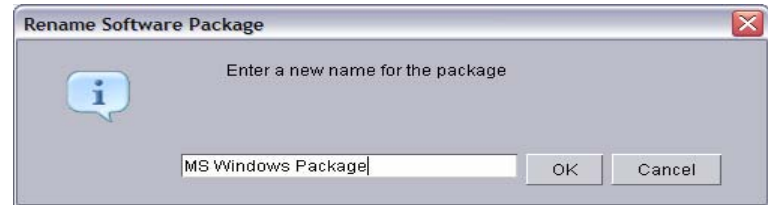
- Double-click
 - Launch Edit Wizard
- Right-click
 - Edit
 - Rename
 - Delete
 - Create Uninstall
- Drag & Drop
 - Start Deployment process



RMA Software Package Management (2)

- **Renaming a Package**
 - Any package can be renamed
 - Changes take effect immediately
 - Simple prompt to change name

- **Deleting a Package**
 - Deletion is permanent
 - Removes package from Director Server
 - Uses Dialog to confirm delete



RMA Software Package Management (3)

- Deploying a Package
 - Verify Package Distributor settings
 - Drag package to targets
 - Targets can be either Managed Object or Groups
 - Each selected device must be of the select Target OS types defined in the package
 - Choose execution time
 - View Progress / Review Results

