



JBoss Operations Network

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Agenda

- Overview of JON
- What's New in JON 3.0
 - Changes in Prerequisites
 - New GUI
 - New Alerting Features
 - RHQ Server Sync
 - New Plugin Packs
 - Deploying Bundles to Servers
 - Drift
 - CLI Script Alert Notifications
- Demo



JBoss Managed Solutions

- Deploy, manage and monitor JBoss middleware, applications and services with JBoss Operations Network
 - Simplify application release management with support for application provisioning and patching
 - Support IT governance objectives with enterprise-grade configuration management and run time SOA governance
 - Ensure application services levels with performance and availability monitoring



DEPLOY

Provisioning
Application Deployment
Patching



MANAGE

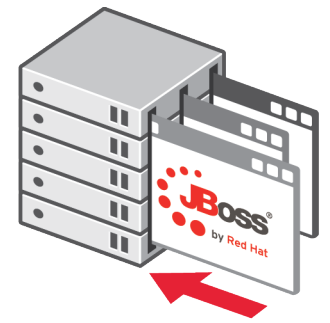
Discovery & Inventory
Configuration Management
SOA Governance



MONITOR

Performance
Availability
Alerts & Notifications

Provisioning & Deployment with JBoss Operations Network



DEPLOY

Customer Challenges

- Streamlining and standardizing middleware & application deployments and updates
- Assessing impact of deployments and updates on application performance
- Managing change and quickly addressing issues if they occur
- Keeping up with latest JBoss updates and patches across environments

How JBoss ON Can Help

- Quickly and consistently deploy JBoss middleware, applications & patches to groups of platforms or servers
- Correlate deployments and updates to application performance history
- Maintain history of all deployments and rollback to previous versions if necessary
- Maintain up-to-date inventory of JBoss middleware and bind servers to Red Hat Customer Portal to get patches & update notifications

Configuration Management with JBoss Operations Network



MANAGE

Customer Challenges

- Getting visibility into what is running across different environments
- Updating JBoss server configurations across a large number of servers, multiple domains and different versions
- Maintaining an audit trail of configuration changes and managing configuration drift
- Correlating configuration changes to application performance

How JBoss ON Can Help

- Get an up-to-date inventory of JBoss middleware, applications and services
- Store, manage and easily update application configurations
- Track configuration change history and rollback changes if needed
- Monitor and alert on configuration changes and configuration drift
- View impact of configuration changes on application performance
- Execute automated operations on remote servers and services

Monitoring Performance & Availability with JBoss Operations Network



MONITOR

Customer Challenges

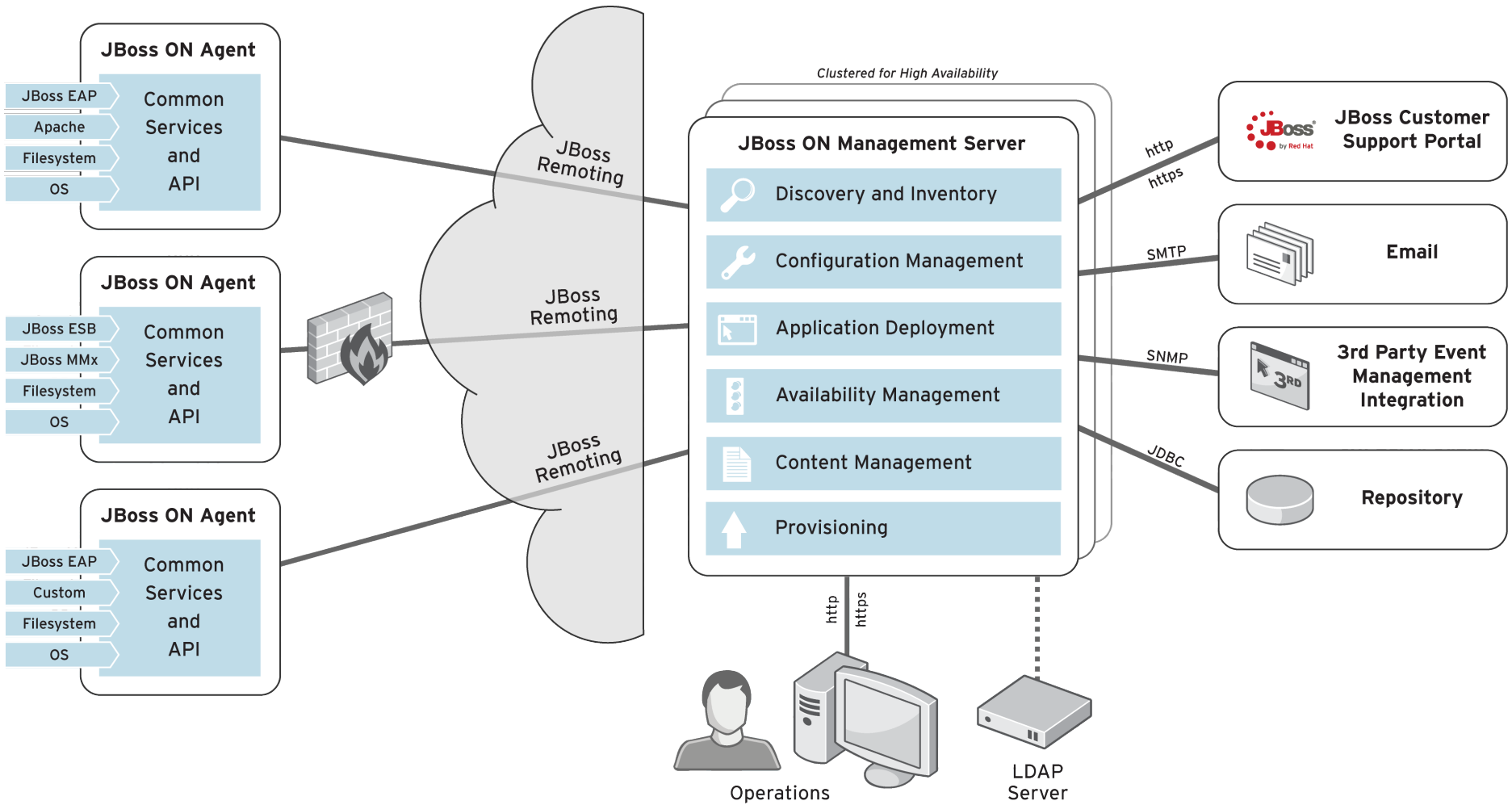
- Determining if applications are meeting service levels for performance & availability
- Receiving timely notifications when failures occur
- Getting adequate information to troubleshoot issues and reducing mean time to repair
- Addressing application issues before they impact end users

How JBoss ON Can Help

- Collect key metrics on application performance & availability
- Determine if service levels are being met and analyze historical performance trends
- Generate alerts when issues occur and notify users or groups
- Execute operations or scripts in response to an alert to address issues
- Integrate alert events/notifications with existing management consoles

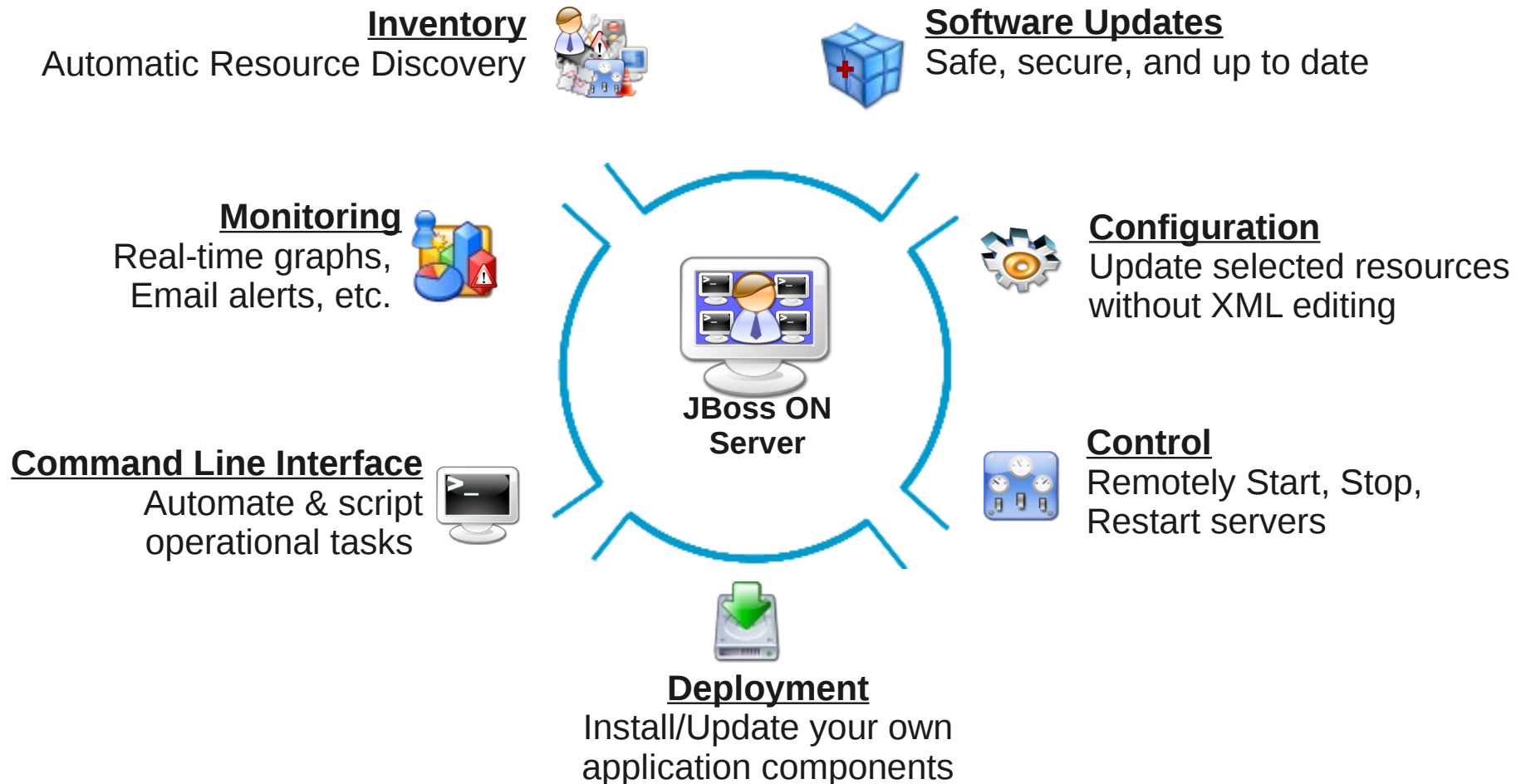
JBoss Operations Network

Architecture Overview



JBoss Operations Network for EAP

Solution Overview





What's New in JON 3.0?

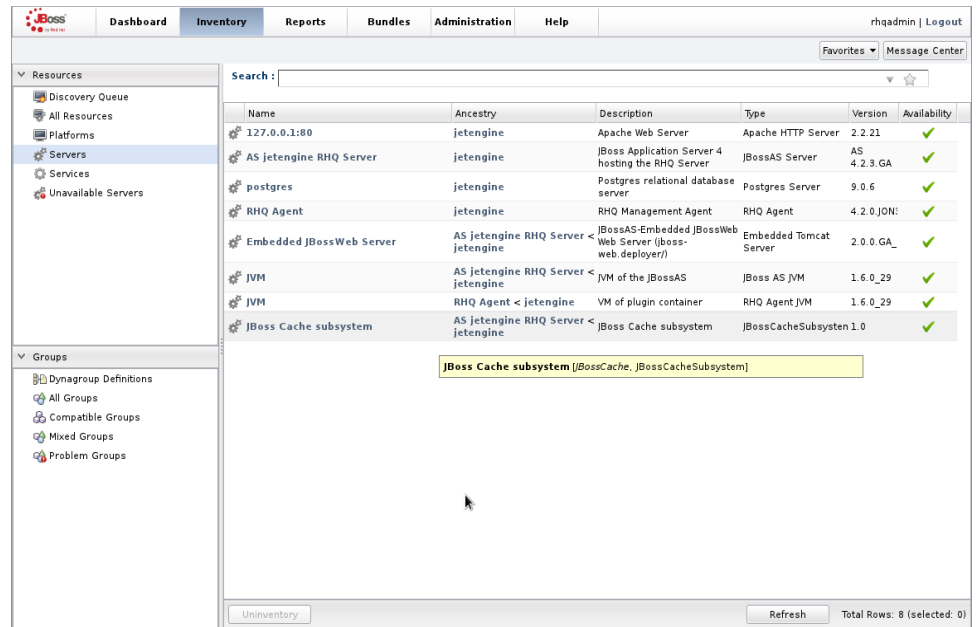
Changes in Prerequisites

- Changes in Supported JRE, Database, and Browser Versions(Note: IE 8/JDK 1.6)
- For Details, See http://www.redhat.com/jboss_on/requirements/



New GUI

- GWT
 - Pure AJAX
 - JSF/Struts IFrames
- SmartGWT
- Wizards
- Other Changes



The screenshot displays the JBoss Inventory GUI. The interface includes a navigation menu on the left with categories like Resources, Groups, and Dynagroup Definitions. The main area shows a table of resources with columns for Name, Ancestry, Description, Type, Version, and Availability. A search bar is located at the top of the table area. The table lists various components such as Apache Web Server, JBoss Application Server, PostgreSQL, and JBoss Cache subsystem. A tooltip is visible over the 'JBoss Cache subsystem' row.

Name	Ancestry	Description	Type	Version	Availability
127.0.0.1:80	jetengine	Apache Web Server	Apache HTTP Server	2.2.21	✓
AS jetengine RHQ Server	jetengine	JBoss Application Server 4 hosting the RHQ Server	JBossAS Server	AS 4.2.3.GA	✓
postgres	jetengine	Postgres relational database server	Postgres Server	9.0.6	✓
RHQ Agent	jetengine	RHQ Management Agent	RHQ Agent	4.2.0.JON!	✓
Embedded JBossWeb Server	AS jetengine RHQ Server < jetengine	JBossAS-Embedded JBossWeb Server (jboss-web-deployer!)	Embedded Tomcat Server	2.0.0.GA_	✓
JVM	AS jetengine RHQ Server < jetengine	JVM of the JBossAS	JBoss AS JVM	1.6_0_29	✓
JVM	RHQ Agent < jetengine	VM of plugin container	RHQ Agent JVM	1.6_0_29	✓
JBoss Cache subsystem	AS jetengine RHQ Server < jetengine	JBoss Cache subsystem	JBossCacheSubsystem 1.0		✓

JBoss Cache subsystem (JBossCache, JBossCacheSubsystem)

Uninventory Refresh Total Rows: 8 (selected: 0)

Edit Mode for Dashboards

The screenshot displays the JBoss ON Dashboards interface in edit mode. The browser window title is "JBoss ON: Dashboards - Mozilla Firefox" and the address bar shows "http://localhost:7080/coregui/#Dashboards". The navigation menu includes "Dashboard", "Inventory", "Reports", "Bundles", "Administration", and "Help". The user is logged in as "rhqadmin".

The dashboard is titled "Default" and contains several portlets:

- Inventory Summary:** Shows platform, server, and service totals, along with compatible and mixed group counts.
- Alerted or Unavailable Resources:** A table listing resources with their ancestry, alerts, and availability status.
- Recent Alerts:** A table showing alerts with creation time, name, condition text, priority, status, resource, and ancestry.
- Discovery Queue:** A table for resource discovery, currently empty.
- Recent Operations:** A table showing operations with date submitted, operation name, requester, status, resource, and ancestry.

The interface also features a "CUSTOMER PORTAL" section with links to Knowledgebase, Tech Briefs, Product Documentation, Downloads, Support Cases, and Groups. A search bar is located at the bottom left.

Resource	Ancestry	Alerts	Availability
EAP localhost:1199 node1	localhost	16	✓
br1	localhost	0	!
guess.war	EAP localhost:1199 node1 < localhost	0	!
guess.war	EAP localhost:1299 node2 < localhost	0	!
//localhost/guess	guess.war < EAP localhost:1199 node1 < localhost	0	!
//localhost/guess	guess.war < EAP localhost:1299 node2 < localhost	0	!

Creation Time	Name	Condition Text	Priority	Status	Resource	Ancestry
Jan 31, 2012 3:13:53 PM	OutofC	Drift Detection for drift definition [Template-Base Files - Guess]	High	No Ack	EAP localhost:11 localhost node1	
Jan 31, 2012 3:12:53 PM	OutofC	Drift Detection for drift definition [Template-Base Files - Guess]	High	No Ack	EAP localhost:11 localhost node1	
Jan 31, 2012 3:11:53 PM	OutofC	Drift Detection for drift definition [Template-Base Files - Guess]	High	No Ack	EAP localhost:11 localhost node1	

Date Submitted	Operation	Reque	Status	Resource	Ancestry
Jan 31, 2012 1:06:00 PM	Disable webapp	rhqadi	Success	localhost:localhost:1299 node2 < localhost	mod_cluster < EAP localhost:1299 node2 < localhost
Jan 31, 2012 1:04:47 PM	Disable	rhqadi	Success	localhost:localhost:1299 node2 < localhost	mod_cluster < EAP localhost:1299 node2 < localhost

New Alerting Features

- Server API Script Alert Sender
- Call-Time Alert Conditions
- Numeric Range Alert Conditions



Threshold Conditions

The screenshot shows the JBoss ON web interface in Mozilla Firefox. The browser address bar displays `http://localhost:7080/coregui/#Resource/10653/Alerts/Definitions/0`. The page title is "JBoss ON: Resource | Alerts | Definitions - Mozilla Firefox". The navigation menu includes Dashboard, Inventory, Reports, Bundles, Administration, and Help. The user is logged in as "rhqadmin".

The main content area is titled "org.jboss.seam.example.booking.Booking" and is categorized as a "HIBERNATE ENTITY". It has tabs for Summary, Inventory, Alerts, and Monitoring. The "Alerts" tab is active, showing a "Definitions" section with a "Back to List" button and tabs for General Properties, Conditions, Notifications, Recovery, and Dampening. The "Conditions" tab is selected, showing a "Fire alert when" dropdown set to "ANY" and a "Condition" list area that currently displays "No items to show."

An "Add Condition" dialog box is open, allowing the user to define a new condition. The dialog contains the following fields:

- Condition Type:** Measurement Value Range
- Metric:** Fetch Count
- Comparator:** Inside, exclusive
- Low Value:** 10
- High Value:** 50

The dialog also includes "OK" and "Cancel" buttons. At the bottom of the main page, there are "Add", "Delete", "Refresh", "Save", and "Cancel" buttons, along with a "Total Rows: 0 (selected: 0)" indicator. A search bar at the bottom left contains the text "Find:" and options for "Previous", "Next", "Highlight all", and "Match case".

RHQ Server Sync

- Import/Export of System Settings and Metric Templates
- No GUI - CLI Only



CLI Export Example

```
glamperi@glamperi:~/Dev/JON/jon-server-3.0.0.GA/CLI/rhq-remoting-cli-4.2.0
File Edit View Search Terminal Help
[glamperi@glamperi bin]$ ./rhq-cli.sh
RHQ - RHQ Enterprise Remote CLI 4.2.0.JON300.GA
unconnected$ login rhqadmin rhqadmin
Remote server version is: 3.0.0.GA (e23441b:1ca6ad9)
Login successful

rhqadmin@localhost:7080$ var x = SynchronizationManager.exportAllSubsystems();

rhqadmin@localhost:7080$ x
ExportReport:
    errorMessage:
        messagesPerExporter: {org.rhq.enterprise.server.sync.MetricTemplateSynch
ronizer=org.rhq.core.domain.sync.ExporterMessages@12fb0af, org.rhq.enterprise.se
rver.sync.SystemSettingsSynchronizer=org.rhq.core.domain.sync.ExporterMessages@1
f8bd0d}

rhqadmin@localhost:7080$ saveBytesToFile(x.exportFile, 'export.xml.gz');

rhqadmin@localhost:7080$ quit

[glamperi@glamperi bin]$ cd ..
[glamperi@glamperi rhq-remoting-cli-4.2.0.JON300.GA]$ ls
bin  conf  export.xml  export.xml.gz  lib  logs  samples
[glamperi@glamperi rhq-remoting-cli-4.2.0.JON300.GA]$ gunzip export.xml.gz
```


New Plugin Packs

- BRMS
- EAP6/mod_cluster Preview



mod_cluster plugin

The screenshot displays the JBoss ON Administration Console interface. The browser address bar shows the URL `http://localhost:7080/coregui/#Resource/10917/Operations/Schedules/0`. The navigation menu includes Dashboard, Inventory, Reports, Bundles, Administration, and Help. The user is logged in as `rhqadmin`.

The left sidebar shows a tree view of the system configuration. The `mod_cluster` section is expanded, showing `Webapp Contexts` with `localhost/guess` selected.

The main content area is titled `localhost/guess WEBAPP CONTEXT` and contains the following sections:

- Schedules**: A tabbed interface with `Schedules` and `History` tabs.
- Create New Operation Schedule**: A form for defining a new operation schedule.
 - Operation ***: A dropdown menu with options: `Disable webapp`, `Enable webapp`, and `Stop webapp`.
 - Parameters**: A text input field with the value `Disable webapp`.
 - Schedule using**: Radio buttons for `Calendar` (selected) and `Expression`.
 - Repeat**: Radio buttons for `Now` (selected), `Now & Repeat`, `Later`, and `Later & Repeat`.
 - Timeout**: A text input field followed by a dropdown menu set to `seconds`.
 - Notes**: A text area for additional notes.
- Buttons**: `Schedule`, `Reset`, and `Cancel` buttons.

The bottom of the page features a search bar with the text `Find:` and navigation controls for `Previous`, `Next`, `Highlight all`, and `Match case`.

JBoss ON 3.0 Bundle enhancements

- 2.4.x
 - Deploy only to a compatible group of platforms
 - Deploy directory always absolute
- 3.0
 - Deploy only to a compatible group of bundle-supporting types
 - EAP 4, 5 app servers
 - Deploy directory relative to base directory (install or AS config)

Creating a Group on Bundle Deploy

The screenshot displays the JBoss ON web console interface. The main window is titled "Bundle Deployment Wizard" and is currently on "Step 1 of 5". The wizard is for a "New Destination" named "Cluster-Datacenter3". The "Destination Name" field is filled with "Cluster-Datacenter3". Other fields like "Destination Description", "Resource Group", "Base Location", and "Deployment Directory" are empty. A "Cancel" button is visible at the bottom of the wizard.

Overlaid on the wizard is a "Create Group" dialog box, which is on "Step 2 of 2". The dialog has a "Search" field containing "node", a "Category" dropdown, and a "Type" dropdown set to "Choose a value". Below the search fields are two tables:

Available resource	
Name	
node2.sh	
node1.sh	
node1.sh	
node2.sh	

Assigned resource	
Name	
EAP localhost:1299 node2	
EAP localhost:1199 node1	

Navigation buttons (left, right, double left, double right) are located between the two tables. At the bottom of the dialog are "Cancel", "Previous", and "Finish" buttons. The status bar at the bottom right of the dialog shows "Refresh" and "Total Rows: 1 (selected: 0)".

The background interface shows a sidebar with "Bundles" and "Destinations" sections. The "Destinations" section is expanded to show "EAP 5.1 Cluster for Guess App". The main content area shows a "Bundle Destinations" table with one entry: "EAP 5.1 Cluster for Guess App".

JBoss ON 3.0 Drift Management

- Detect unplanned configuration changes or “configuration drift”
- Prevent/Shorten/Explain application failures
- Ensure configuration compliance for a resource
- Alert on detected configuration drift
- Identify differences to help return to expected configuration
- Track changes with snapshots
 - Records every file add, remove, edit for monitored
 - directories
 - All changes are tracked in change sets and different
 - versions
- CLI enabled

Drift Management Snapshot Comparison

JBoss ON: Resource | Drift | Definitions - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://localhost:7080/coregui/#Resource/10421/Drift/Definitions/10042

Most Visited Red Hat Customer Portal Documentation Red Hat Network Monitoring Mod_cluster Status redhat.com | JBoss E... PNT

JBoss ON: Resource | Drift | Defi...

Dashboard **Inventory** Reports Bundles Administration Help

rhqadmin | Logout

localhost

- Apache HTTP Servers
- Bundle Handler - Ant
- CPUs
- File Systems
- JBossAS Servers (JBossAS5 plugin)
 - EAP localhost:1199 node1**
 - Applications
 - Embedded EJ3 JARs
 - Embedded Web Applic...
 - Enterprise Application
 - Resource Adapter Arc...
 - Web Application (WAR)
 - admin-console.war
 - guess.war
 - Web Application
 - jmx-console.war
 - ROOT.war
 - Hibernate Statistics
 - JBoss Caches
 - JMS Manager
 - mod_cluster
 - Resources
 - Service Binding Manager
 - EAP localhost:1299 node2
 - JBossAS Servers (JBossAS plugin)
 - Network Adapters
 - Postgres Servers
 - RHQ Agent

EAP localhost:1199 node1 JBossAS SERVER

Summary Inventory Alerts Monitoring Events Operations **Drift** Content

Definitions

Back to List Template-Base Files - Guess

Filters

Category: File Added, File Changed, File Removed

Path:

Snapshot Start: 3

Snapshot Display Max: 4

Snapshot 3 Jan 31, 2012 3:02:53 PM		Snapshot 2 Jan 31, 2012 3:01:53 PM		Snapshot 1 Jan 31, 2012 3:00:53 PM	
Category	Path	Category	Path	Category	Path
	server/node1/deploy/GuessApp/guess.war/WEB-INF/jboss-web.xml		server/node1/deploy/GuessApp/guess.war/WEB-INF/gary.xml		server/node1/deploy/GuessApp/guess.war/WEB-INF/gary.xml
	server/node1/deploy/GuessApp/guess.war/WEB-INF/web.xml		server/node1/deploy/GuessApp/guess.war/WEB-INF/jboss-web.xml		server/node1/deploy/GuessApp/guess.war/WEB-INF/gary.xml~
	server/node1/deploy/GuessApp/guess.war/META-INF/MANIFEST.MF		server/node1/deploy/GuessApp/guess.war/WEB-INF/web.xml		server/node1/deploy/GuessApp/guess.war/WEB-INF/jboss-web.xml
	server/node1/deploy/GuessApp/guess.war/WEB-INF/test.xml		server/node1/deploy/GuessApp/guess.war/WEB-INF/new file		server/node1/deploy/GuessApp/guess.war/WEB-INF/web.xml
	server/node1/deploy/GuessApp/.rhqdeployments/10031/file-hashcodes.dat		server/node1/deploy/GuessApp/guess.war/WEB-INF/gary.xml~		server/node1/deploy/GuessApp/guess.war/META-INF/MANIFEST.MF
	server/node1/deploy/GuessApp/guess.war/index.jsp		server/node1/deploy/GuessApp/guess.war/index.jsp		server/node1/deploy/GuessApp/.rhqdeployments/10031/file-hashcodes.dat
	server/node1/deploy/GuessApp/.rhqdeployments/current-deployment.properties		server/node1/deploy/GuessApp/guess.war/META-INF/MANIFEST.MF		server/node1/deploy/GuessApp.guess.war/index.jsp
	server/node1/deploy/GuessApp/.rhqdeployments/10031/deployment.properties		server/node1/deploy/GuessApp/.rhqdeployments/current-deployment.properties		server/node1/deploy/GuessApp/.rhqdeployments/current-deployment.properties
			server/node1/deploy/GuessApp/.rhqdeployments/10031/deployment.properties		server/node1/deploy/GuessApp/.rhqdeployments/10031/deployment.properties
			server/node1/deploy/GuessApp/.rhqdeployments/10031/file-hashcodes.dat		

Total Rows: 8 (selected: 0) Total Rows: 10 (selected: 0) Total Rows: 9 (selected: 0)

Compare Fixed Width Refresh Previous Next

Find: Previous Next Highlight all Match case

Done

Alerts based on Drift

The screenshot shows the JBoss ON Alerts History page in a Mozilla Firefox browser. The page title is "JBoss ON: Resource | Alerts | History - Mozilla Firefox". The address bar shows the URL "http://localhost:7080/coregui/#Resource/10421/Alerts/History". The browser's bookmark bar includes "Most Visited", "Red Hat", "Customer Portal", "Documentation", "Red Hat Network", "Monitoring", "Mod_cluster Status", "redhat.com", "JBoss E...", and "PNT". The JBoss ON navigation menu includes "Dashboard", "Inventory", "Reports", "Bundles", "Administration", and "Help". The user is logged in as "rhqadmin" and has a "Logout" link. There are also "Favorites" and "Message Center" buttons.

The main content area is titled "EAP localhost:1199 node1 JBossAS SERVER". It has tabs for "Summary", "Inventory", "Alerts", "Monitoring", "Events", "Operations", "Drift", and "Content". The "Alerts" tab is active, showing a "History" section with a "Definitions" sub-section. A "Priority Filter" is set to "High, Medium, Low".

Creation Time	Name	Condition Text	Priority	Status
Tue Jan 31 15:09:53 GMT-800 2012	OutOfComplianceWar	Drift Detection for drift definition [Template-Base Files - Guess]	High	No Ack
Tue Jan 31 15:08:53 GMT-800 2012	OutOfComplianceWar	Drift Detection for drift definition [Template-Base Files - Guess]	High	No Ack
Tue Jan 31 15:07:53 GMT-800 2012	OutOfComplianceWar	Drift Detection for drift definition [Template-Base Files - Guess]	High	No Ack
Tue Jan 31 15:06:53 GMT-800 2012	OutOfComplianceWar	Drift Detection for drift definition [Template-Base Files - Guess]	High	No Ack
Tue Jan 31 15:05:53 GMT-800 2012	OutOfComplianceWar	Drift Detection for drift definition [Template-Base Files - Guess]	High	No Ack
Tue Jan 31 15:04:53 GMT-800 2012	OutOfComplianceWar	Drift Detection for drift definition [Template-Base Files - Guess]	High	No Ack
Tue Jan 31 15:03:53 GMT-800 2012	OutOfComplianceWar	Drift Detection for drift definition [Template-Base Files - Guess]	High	No Ack
Tue Jan 31 15:02:53 GMT-800 2012	OutOfComplianceWar	Drift Detection for drift definition [Template-Base Files - Guess]	High	No Ack
Tue Jan 31 15:01:54 GMT-800 2012	OutOfComplianceWar	Drift Detection for drift definition [Template-Base Files - Guess]	High	No Ack
Tue Jan 31 15:00:54 GMT-800 2012	OutOfComplianceWar	Drift Detection for drift definition [Template-Base Files - Guess]	High	No Ack
Tue Jan 31 14:59:54 GMT-800 2012	OutOfComplianceWar	Drift Detection for drift definition [Template-Base Files - Guess]	High	No Ack
Tue Jan 31 14:56:54 GMT-800 2012	OutOfComplianceWar	Drift Detection for drift definition [Template-Base Files - Guess]	High	No Ack

At the bottom of the table, there are buttons for "Delete", "Acknowledge", "Delete All", and "Acknowledge All". A "Refresh" button and "Total Rows: 12 (selected: 0)" are also present.

The footer of the page includes a search bar with "Find:" and "Done" text, and navigation links for "Previous", "Next", "Highlight all", and "Match case".

JBoss ON 3.0 CLI Alert Sender

- Alert notification executes CLI script (on JON server)
- Script seeded with "alert" variable for the relevant alert

Alert Notification

The screenshot shows the JBoss ON web interface in Mozilla Firefox. The browser address bar shows the URL `http://localhost:7080/coregui/#Resource/10004/Alerts/Definitions/0`. The page title is "JBoss ON: Resource | Alerts | Definitions". The navigation menu includes Dashboard, Inventory, Reports, Bundles, Administration, and Help. The user is logged in as "rhqadmin".

The main content area displays the configuration for an Apache HTTP Server on 127.0.0.1:80. The "Alerts" tab is active, and the "Definitions" sub-tab is selected. A "Back to List" button is visible. The "Notifications" sub-tab is also visible.

An "Add Notification" dialog box is open in the foreground. It has a title bar "Add Notification" and a close button. The "Notification Sender" is set to "CLI Script". Below this, there is a section "User To Run The Script As" with three options:

- Myself
- Another User: Includes fields for "User Name" and "Password", and a "Verify" button.
- Existing Script: Includes a dropdown menu.

Below the "Existing Script" option, there is a "File:" field with a "Browse..." button and a "Version:" field. The "Upload New Script" option is selected with a radio button. At the bottom of the dialog are "OK" and "Cancel" buttons.

The background interface shows a tree view on the left with categories like Apache HTTP Servers, File Systems, and JBossAS Servers. At the bottom of the page, there are "Add", "Delete", "Save", and "Cancel" buttons, along with a "Refresh" button and a status indicator "Total Rows: 0 (selected: 0)".

Questions?

