



vFabric Hyperic 4.5

User Guide

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1. Understand HQ Monitoring Features

- [Section 1.1, “Introduction to Hyperic Monitoring”](#)
- [Section 1.2, “Understand Resources, Resource Types and Inventory Types”](#)
- [Section 1.3, “Understand Metrics, Metric Collection and Baselines”](#)
- [Section 1.4, “Understand Log and Configuration Tracking”](#)
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- [Section 1.6, “Understand Users and Roles”](#)

1.1. Introduction to Hyperic Monitoring

Topics marked with * relate to features available only in vFabric Hyperic.

- [Section 1.1.1, “Hyperic Monitoring and Management Features”](#)
- [Section 1.1.2, “Overview of the Monitoring User Interface”](#)
- [Section 1.1.3, “Key Hyperic Facts for the New User”](#)

1.1.1. Hyperic Monitoring and Management Features

- **Resource Discovery** — The Hyperic Agent managing a platform automatically discover the resources and software on the platform. The agent discovers key platform properties, such as architecture, RAM, CPU speed, IP address, and domain name. The agent uses *resource plugins* to discovery software products — for example, web servers, application servers, database servers, and so on ---- running on the platform. Hyperic categorizes the resources it discovers into *inventory types*. Hyperic's *inventory model* is fundamental to how Hyperic makes sense of a large number of software resources and presents information about software resources components in a useful way. Discovered resources are presented in the Hyperic user interface; an authorized user explicitly imports them into inventory.
- **Metric Collection** — After a resource is added to inventory, and (if necessary) configured for monitoring, the Hyperic agent starts collecting metrics for the resource. Agents collect a standard set of metrics that reflect availability, performance, utilization, and throughput for each supported resource type. An authorized user can tailor metric collection from the Hyperic user interface.
- **Event Tracking** — Hyperic can monitor log and configuration files and record events of interest for most server types. For example, you can track user logins, Windows registry key changes, error logs, configuration files, and so on. Event tracking is configured at for an individual resource.
- **Resource Control** — You can use Hyperic for remote control and administration of your software resources. Available control actions vary by resource type. For instance, for an application server, you can do tasks like starting, stopping, and garbage collection. For a database server, you can perform analysis or housekeeping functions.
- **Alerting and Notification** — You can set alerts on metrics and configure actions for HQ to perform when an alert fires. When an alert fires, HQ can respond in a variety of ways: it can issue email notifications, set SNMP traps, perform a control action, or issue a communication to another management system. You can define a sequence of responses to a fired alert — an escalation scheme — to ensure that problems don't fall through a crack.
- **Live Data** — Hyperic provides a *Live Exec* views for all platform types — you can run a variety of real-time system commands to obtain live system status.

1.1.2. Overview of the Monitoring User Interface

The Hyperic browser-based user interface, sometimes referred to as the *Hyperic Portal* is a configurable, extendible user interface for monitoring and analyzing performance and availability. Key features of the user interface include:

- **Dashboard** — The Dashboard is the first page you see when you open the Hyperic user interface. The Dashboard contains multiple portlets — **Recent Alerts**, **Availability**, **Problem Resources**, and so on — each of

which presents a summary view of events and resources of interest. The Dashboard can be tailored on a per-user basis. You can remove and rearrange portlets on your Dashboard, and tailor what data a portlet presents.

- **Resource Hub** — The **Resources** tab in the Hyperic user interface, often referred to as the *Resource Hub* is where you go to browse to specific resources, view resource properties, view metric data and charts, and initiate resource control actions. Hyperic administrators use the features of the Resource Hub to configure resources for monitoring and set up alert definitions.
- **Global Monitoring Views** — The Hyperic user interface contains a number of pages that present deployment-wide resource monitoring results. These include:
 - **Operations Center** — Provides a broad view of deployment health, including alerts, events, and currently down resources.
 - **Alert Center** — Deployment-wide view of alert activity and alert definitions.
 - **Event Center** — Deployment-wide view of log events, configuration events, and alerts.
 - **Nagios Data** — This view is available in deployments that have integrated Hyperic with Nagios.
 - **Currently Down** — This page lists resources that are currently unavailable.
- **Resource Type Views** — Some pages in the Hyperic user interface are specific to a particular resource type. Examples the **vSphere View** for vCenter and vCenter-managed resources, and the **GemFire View** for monitoring components of a GemFire distributed caching environment.

1.1.3. Key Hyperic Facts for the New User

In vFabric Hyperic, the resources you can view and your permission levels are governed by your *role*.

Some resources need to be configured for monitoring. Although Hyperic starts monitoring most resources as soon as they are added to inventory, for certain resource types, some configuration is required to enable the agent to start collection metrics. For example, the JMX URL and credentials have to be defined in Hyperic for the agent to be able to monitor via JMX.

The metric collected for a resource are governed by the default metric collection setting for the resource type.

1.2. Understand Resources, Resource Types and Inventory Types

Topics marked with* relate to features available only in vFabric Hyperic.

These topics describe the *Hyperic Inventory Model*: how resources are classified by type, and how types relate to each other.

- [Section 1.2.1, “Resources and Resource Categories in Hyperic”](#)
- [Section 1.2.2, “About Platforms, Servers, and Services”](#)
- [Section 1.2.3, “About Applications in Hyperic”](#)
- [Section 1.2.4, “Introduction to Applications in Hyperic”](#)
- [Section 1.2.5, “Inventory Tab for an Application”](#)
- [Section 1.2.6, “Monitor Tab for an Application”](#)
- [Section 1.2.7, “About Groups in Hyperic”](#)

1.2.1. Resources and Resource Categories in Hyperic

This page describes the two main ways that a individual managed resource is classified in Hyperic inventory: *inventory type* and *resource type*. *Inventory type* relates to a software dependency hierarchy, most notably, Hyperic's *platform - server - service* hierarchy. *Resource type* relates to the "brand" or vendor associated with a resource.

Topics marked with * relate to features available only in vFabric Hyperic.

- [Inventory Type](#)
- [Resource Type](#)
- [The Platform-Server-Service Hierarchy](#)

Inventory Type

A resource's *inventory type* is the first level of classification Hyperic applies to resources. Inventory types serve two purposes:

- Resource hierarchy - Several inventory types identify where a resource fits into a resource hierarchy. All Hyperic resources are classified as one of the following inventory types.
 - platform - usually corresponds to a machine running an operating system
 - server - a software product running on an operating system, for instance a database or application server
 - service - an integral component of a platform or server, for instance, a file server mount, database table, or a connection pool.
- Grouped resources - There are two inventory types that correspond to multiple individual resources. You group resources for a variety of reasons: to monitor a set of like or related resources in aggregate; to administer or control like resources at the group level instead of individually; and, in vFabric Hyperic, for resource access control. There are two inventory types that are named sets of other resources:
 - group
 - application

In summary, "inventory type" classifies a resource as a platform, server, service, group, or application. The term "inventory level" refers to inventory types that fit into a hierarchical structure - platforms, servers, and services.

Resource Type

Each individual resource (every resource that is a platform, server, or service) in Hyperic inventory has a *resource type* that indicates what kind of platform, server, or service it is. For example,

- The resource type of a Windows system (whose inventory type is "platform") is "Win32"; the resource type of a Linux system (whose inventory type is also platform) is "Linux".
- For clarity, Hyperic documentation refers to resource types that correspond to platforms - like "Win32" and "Linux" - as *platform types*.
- The resource type of a JBoss 4.0 instance (whose inventory type is "server") is "JBoss 4.0"; the resource type of a WebLogic 9.1 instance (whose inventory type is also server) is "WebLogic 9.1".

- For clarity, Hyperic documentation refers to resource types that correspond to servers - such as "JBoss 4.0" and "WebLogic 9.1" - as *server types*.
- The resource type of a Jboss entity EJB (whose inventory type is "service") is "JBoss 4.0 Entity EJB"; the resource type of a WebLogic EJB (whose inventory type is also service) is "WebLogic 9.2 Entity EJB".
- For clarity, Hyperic documentation refers to resource types that correspond to services - such as "JBoss 4.0 Entity EJB" and "WebLogic 9.1 Entity EJB" - as *service types*.

In summary, "resource type" classifies a resource as a particular type of platform, server, service.

The Platform-Server-Service Hierarchy

In Hyperic, platforms, servers, and servers are hierarchically related.

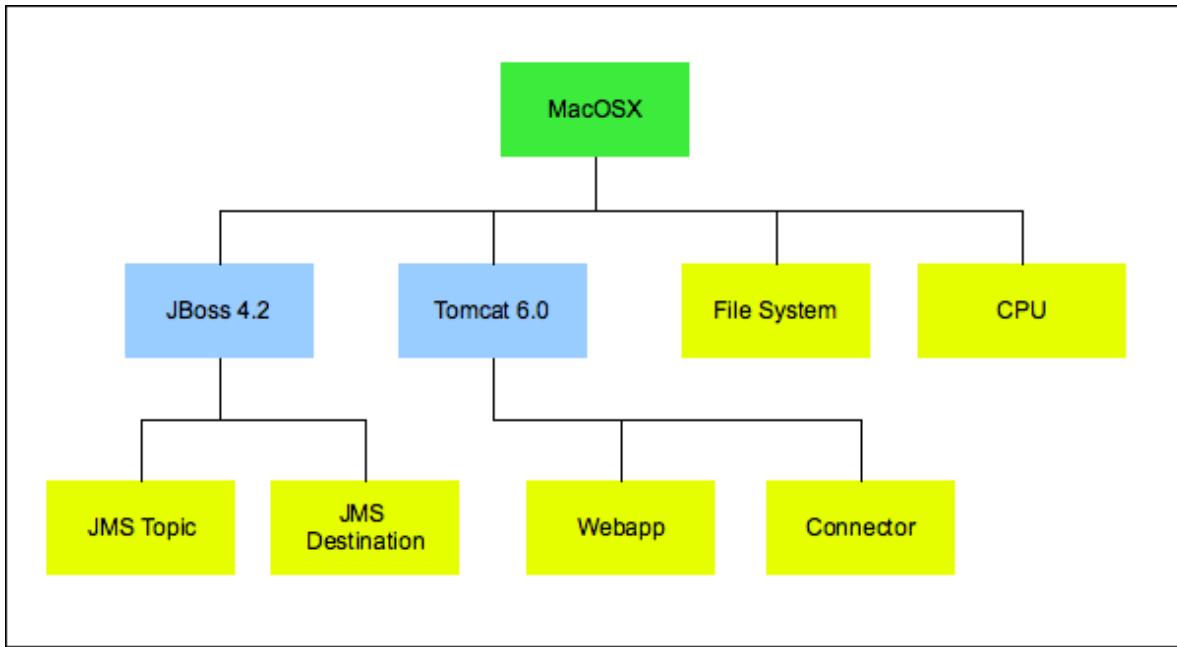
- A platform is usually a machine its operating system, with a Hyperic Agent running on it. There are also platform types for virtual and network hosts.
- A server is a software product that runs on a platform.
- A service is an resource that is integral to, or runs upon, a platform or server. Whether the resource is at the platform or server level, in Hyperic it is a "service". Note, however that services associated with a platform are usually referred to as a *platform services*.

Hyperic auto-discovers most platform, server, and service types and populates the Hyperic database with key information about each discovered item, and its relationship with other resources.

Graphical View of a Resource Hierarchy

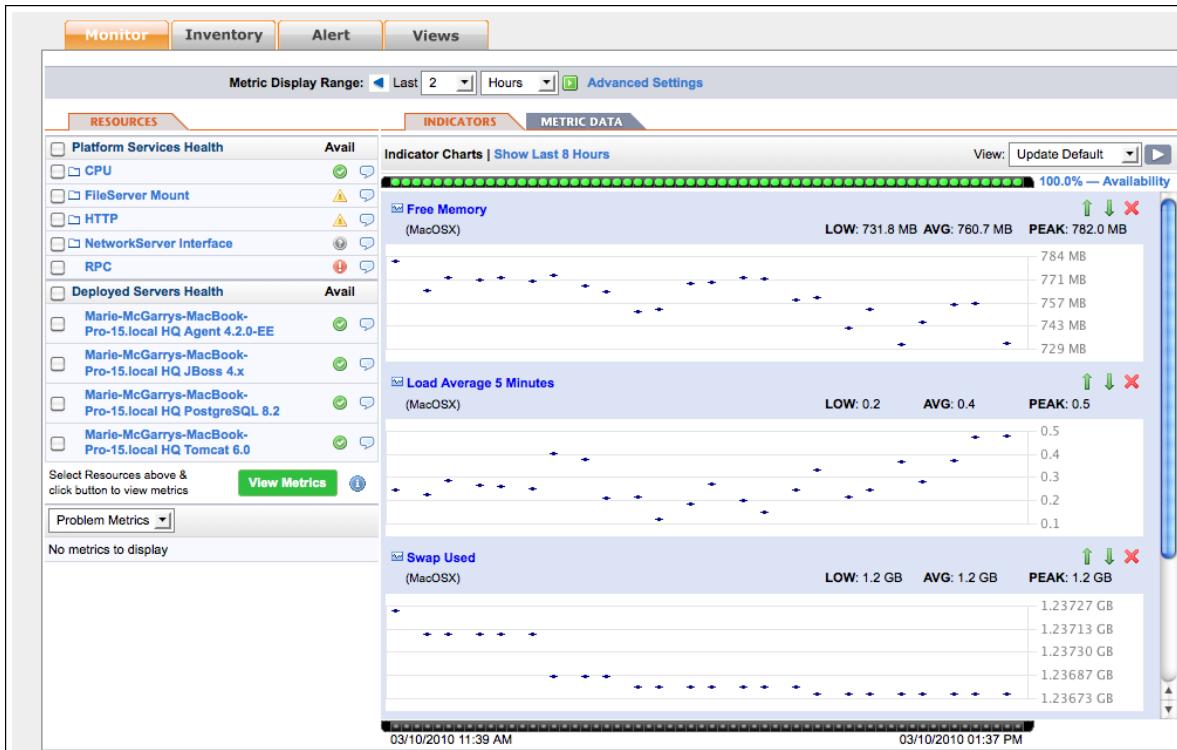
The diagram below illustrates a specific platform-server-service hierarchy. (Only a subset of the servers and services in the hierarchy are shown.) The label for each resource indicates its type. The hierarchy consists of:

- a platform of whose type is "MacOSX"
- two platform services, whose types are "File System" and "CPU"
- two servers, whose types are "JBoss 4.2" and "Tomcat 6.0"
- four services (that run in servers) whose types are "JMS Topic", "JMS Destination", "Webapp", and "Connector".



Platform Hierarchy In Hyperic User Interface

The screenshot below is the **Monitor** tab for the platform whose hierarchy is partially illustrated in the previous section. Note that the **Resources** panel shows the currently selected resource's immediate "relatives". For the selected platform, the **Resources** panel lists the platform services and the servers that run on the platform.



1.2.2. About Platforms, Servers, and Services

Topics marked with * relate to features available only in vFabric Hyperic.

This page describes the fundamental inventory types in Hyperic: *platforms*, *servers*, and *services* — any individual resource instances has one of these types. For information about inventory types that are configurable collections of other resources — *groups* and *applications* — see [About Groups in Hyperic](#) and [About Applications in Hyperic](#).

- [Platforms](#)
- [Servers](#)
- [Services and Platform Services](#)

Platforms

There are two major kinds of platforms in Hyperic.

Operating System Platforms

An *operating system platform* is a computer and the operating system that runs on it. The Hyperic Agent auto-discovers operating system platform using Hyperic's `system` plugin. You cannot manually add an operating system platform to inventory. Hyperic supports these operating system platform types:

- AIX
- FreeBSD
- HPUX
- Linux
- MacOSX
- Solaris
- Unix
- Win32

Virtual and Network Platforms

Hyperic supports a variety of platform types that do not map to an individual physical machine running a traditional operating system. These include:

- Resources that a Hyperic Agent monitors remotely over the network, such as for network hosts and devices,
- Virtual resources such as VMware vSphere hosts and VMs, and
- Distributed sets of resources, such as GemFire Distributed Systems.

The Hyperic Agent does not automatically discover and monitor virtual and network platforms — typically you create such platforms manually (using the **New Platform** command on the **Tools** menu in the **Resource** tab of the Hyperic user interface), or at a minimum, supply resource properties data that enable the agent to manage them. These are the virtual and network platform types that Hyperic supports:

- Cisco IOS
- Cisco Pixos
- GemFire Distributed System
- NetApp Filer
- Network Device
- Network Host
- VMware vSphere Host
- VMware vSphere VM
- Xen Host

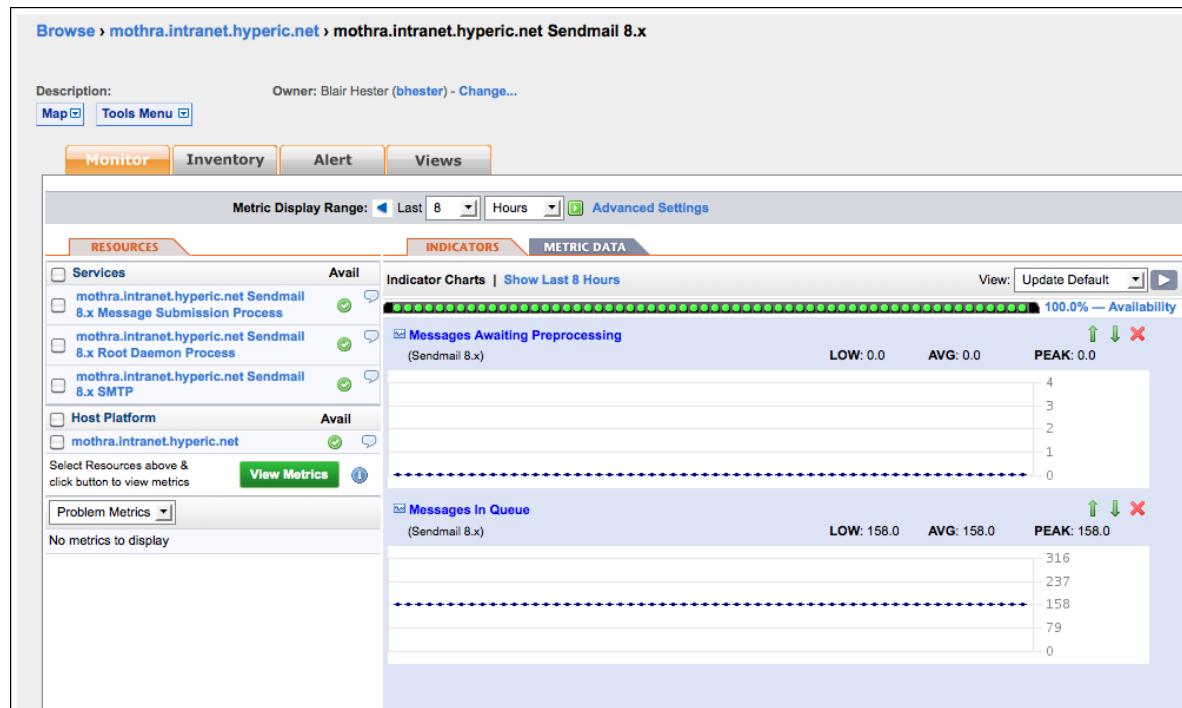
For information about creating an un-discoverable platform, see [Create a Platform](#).

Servers

In Hyperic, a server is software product that runs on a platform. Servers provide a communications interface and perform specific tasks upon request. Examples of server types include Tomcat, JBoss, and Exchange. The **Monitoring Defaults** page in Hyperic's **Administration** tab lists all of the server types that Hyperic supports.

Most server types are auto-discovered by a server type-specific Hyperic plugin. If the plugin that manages a server does not support auto-discovery, or if auto-discovery of a server fails, you may need to manually create a server, as described in [Create a Server](#).

The screenshot below shows the **Monitor** tab for a server. The **Resources** panel for the server lists its child services and parent platform.



Services and Platform Services

In Hyperic, a service is a software component dedicated to a particular task that runs on a server or platform. A service that runs on a server is referred to as a *service*. A service that runs on a platform is referred to as a *platform service*.

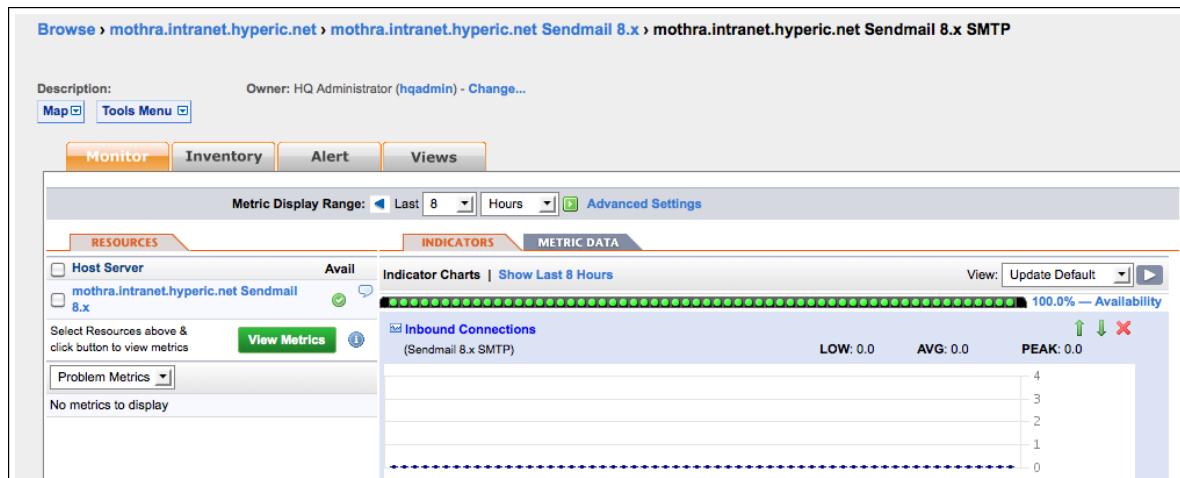
The resource plugin that discovers a platform or server also discovers key services — such as CPUs, network interfaces, file systems, and so on — running on the platform.

In addition, an authorized user can explicitly configure a platform service on a platform to serve as a proxy for a resource the Hyperic Agent can monitor over the network, for example, a DNS or POP3 service. For more information see [Create a Platform Service](#)

Services that runs on a server can be either an internal component of the server (for instance, "Weblogic Admin 9.2 Entity EJB service") or a deployed item ("CustomerEntityEJB").

The **Monitoring Defaults** page in Hyperic's **Administration** tab lists the service and platform service types that Hyperic supports.

The screenshot below shows the **Monitor** tab for a service. The **Resources** panel for the service lists its parent server.



1.2.3. About Applications in Hyperic

Topics marked with * relate to features available only in vFabric Hyperic.

In Hyperic, an *application* is an inventory type that is a collection of other inventory resources. This page describes the purpose of applications in Hyperic, and key application views in the Hyperic user interface

- [Introduction to Applications in Hyperic](#)
- [Inventory Tab for an Application](#)
- [Monitor Tab for an Application](#)

Note: For information about creating an application in Hyperic, see [Create and Manage Applications](#).

1.2.4. Introduction to Applications in Hyperic

In Hyperic, an application is a collection of services that together fulfill a single business purpose. This concept reflects the idea that an application, from the business point of view, comprises many different pieces, and those pieces are usually distributed across different platforms and provided by different servers. Thus you can manage your infrastructure from an application — as opposed to a hardware — point of view.

In Hyperic, an application is an inventory type, configured by an authorized user. An application is a set of selected services, usually running in different servers on multiple platforms, that together fulfill a single business purpose. Configuring applications enables you to manage your infrastructure from an application — as opposed to a hardware — perspective.

Hyperic Visibility into Instrumented Java Applications

The Hyperic Agent can auto-discover and manage Java application services via Model MBeans that adhere to a specified `ObjectName` naming convention and expose a specified set of service data. This enables deeper visibility into application health: you can monitor application services along with the hosting application server and its internal services. For more information, see [Instrumenting Java Applications for Management](#).

Note: Although instrumentation provides deeper visibility into Java application health, it is not required for application monitoring.

1.2.5. Inventory Tab for an Application

The screenshot below shows the **Inventory** tab for the application. Note:

- This is the tab you use to add services to an application.
- The "Service Counts" section shows the total number of services in the application, and the number of each type.
- The "Services" section lists key information for each service in the application.
- You can define and view the dependencies between services by clicking **View** button in the "Dependencies" column.

Browse > Travel Business

Description: Owner: Don Baron (dbaron) - Change...

Monitor **Inventory** **Views**

General Properties

Description:	Date Created: 11/06/2008 06:28 AM
Location:	Date Modified: 11/13/2009 08:58 AM
Resource Type: Application	Modified By: Don Baron (dbaron)

Application Properties

Application Type: Generic Application	Business Owner:
Engineering Contact:	IT Operations Contact:

Service Counts

Total Services: 37			
Services By Type:	Apache 2.0 VHost (4)	NetworkServer Interface (3)	VMware VI3 VM NIC (6)
	HTTP (8)	VMware VI3 VM CPU (5)	JBoss 4.0 JCA Connection Pool (1)
	JBoss 4.0 JMS Destination (2)	JBoss 4.0 JCA Data Source (1)	Tomcat 5.5 Webapp (1)
	MySQL 5.x Table (5)	JBoss 4.0 HQ Internals (1)	

Services

Dependencies	Services	EntryPoint	Service Type	Res Type	Host Server	Availability
<input type="checkbox"/> <input type="button" value="VIEW"/>	demo2.hyperic.net HQ Tomcat 5.5 /jboss-lather Tomcat 5.5 Webapp	No	Tomcat 5.5 Webapp	Service	demo2.hyperic.net HQ Tomcat 5.5	
<input type="checkbox"/> <input type="button" value="VIEW"/>	demo2.hyperic.net JBoss 4.0 default DefaultDS JCA Connection Pool	No	JBoss 4.0 JCA Connection Pool	Service	demo2.hyperic.net HQ JBoss 4.x	
<input type="checkbox"/> <input type="button" value="VIEW"/>	demo2.hyperic.net JBoss 4.0 default HQ Internals	No	JBoss 4.0 HQ Internals	Service	demo2.hyperic.net HQ JBoss 4.x	
<input type="checkbox"/> <input type="button" value="VIEW"/>	demo2.hyperic.net JBoss 4.0 default agentScheduleQueue JMS Destination	No	JBoss 4.0 JMS Destination	Service	demo2.hyperic.net HQ JBoss 4.x	
<input type="checkbox"/> <input type="button" value="VIEW"/>	demo2.hyperic.net JBoss 4.0 default DLQ JMS Destination	No	JBoss 4.0 JMS Destination	Service	demo2.hyperic.net HQ JBoss 4.x	
<input type="checkbox"/> <input type="button" value="VIEW"/>	demo2.hyperic.net JBoss 4.0 default DefaultDS JCA Data Source	No	JBoss 4.0 JCA Data Source	Service	demo2.hyperic.net HQ JBoss 4.x	
<input type="checkbox"/> <input type="button" value="VIEW"/>	demo2.hyperic.net Linux Network Interface lo (loopback)	No	NetworkServer Interface	Service	demo2.hyperic.net Linux NetworkServer	
<input type="checkbox"/> <input type="button" value="VIEW"/>	demo2.hyperic.net Linux Network Interface eth1 (ethernet)	No	NetworkServer Interface	Service	demo2.hyperic.net Linux NetworkServer	
<input type="checkbox"/> <input type="button" value="VIEW"/>	demo2.hyperic.net Linux Network Interface eth0 (ethernet)	No	NetworkServer Interface	Service	demo2.hyperic.net Linux NetworkServer	
<input type="checkbox"/> <input type="button" value="VIEW"/>	falcon-win-2003 CPU 0	No	VMware VI3 VM CPU	Service	falcon-win-2003	
<input type="checkbox"/> <input type="button" value="VIEW"/>	falcon-win-2003 Network Adapter 1	No	VMware VI3 VM NIC	Service	falcon-win-2003	
<input type="checkbox"/> <input type="button" value="VIEW"/>	49er-ubuntu-6 CPU 0	No	VMware VI3 VM CPU	Service	49er-ubuntu-6	
<input type="checkbox"/> <input type="button" value="VIEW"/>	49er-ubuntu-6 Network Adapter 1	No	VMware VI3 VM NIC	Service	49er-ubuntu-6	
<input type="checkbox"/> <input type="button" value="VIEW"/>	bronco-centos-4.3 CPU 0	No	VMware VI3 VM CPU	Service	bronco-centos-4.3	
<input type="checkbox"/> <input type="button" value="VIEW"/>	bronco-centos-4.3 Network Adapter 1	No	VMware VI3 VM NIC	Service	bronco-centos-4.3	

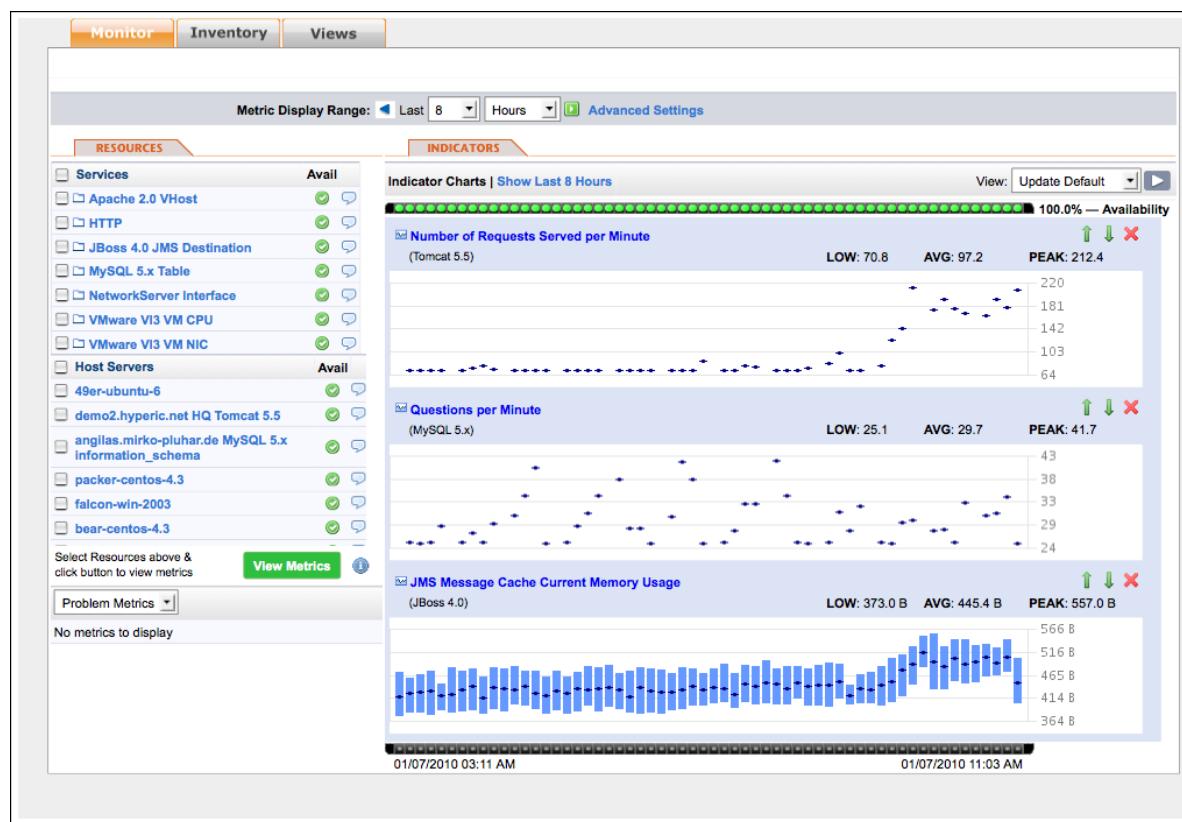
Groups containing this resource

Group	Description
<input type="checkbox"/> Group	
<input type="checkbox"/> Group of Apps	

1.2.6. Monitor Tab for an Application

The screenshot below shows the **Monitor** tab for an application. Note that:

- The **Resources** panel on the left side of the page lists the services in the application, grouped by type.
- The **Indicator** panel charts the aggregated values for selected metrics that are available for the services in the application and the servers where they run. The user that configures the application can choose the metrics to display as indicators.



1.2.7. About Groups in Hyperic

Topics marked with * relate to features available only in vFabric Hyperic.

In Hyperic, a *group* is an inventory type that is a collection of other inventory resources. This page describes the purpose of groups in Hyperic and different types of groups you can create.

- [Resource Groups in Hyperic](#)
- [Compatible Groups](#)
- [Mixed Groups](#)

Resource Groups in Hyperic

In the Hyperic inventory model, a group is named set of other inventory resources. Grouping resources is useful for:

- **Monitoring a set of homogeneous or related resources in aggregate** - Groups enable role-specific monitoring views, or views that reflect the purpose or business need that the set of resources satisfy. In an environment with thousands of resources, viewing availability and performance data at the group level reduces the clutter in the user interface.
- **Automating resource operations and control** — You can perform control actions on a group of like resources with a single command.
- **Controlling access to resources*** — Groups are fundamental to vFabric Hyperic's role-based access control. A Hyperic role specifies permissions to the resources in the groups associated with the role. Resources can only be associated with a role at the group level.

Note: When you create a group in vFabric Hyperic, you can designate it as "private". Private groups are invisible to other users, including admin users. You can share a private group by associating it with a role. For more information see Roles in vFabric Hyperic.

Compatible Groups

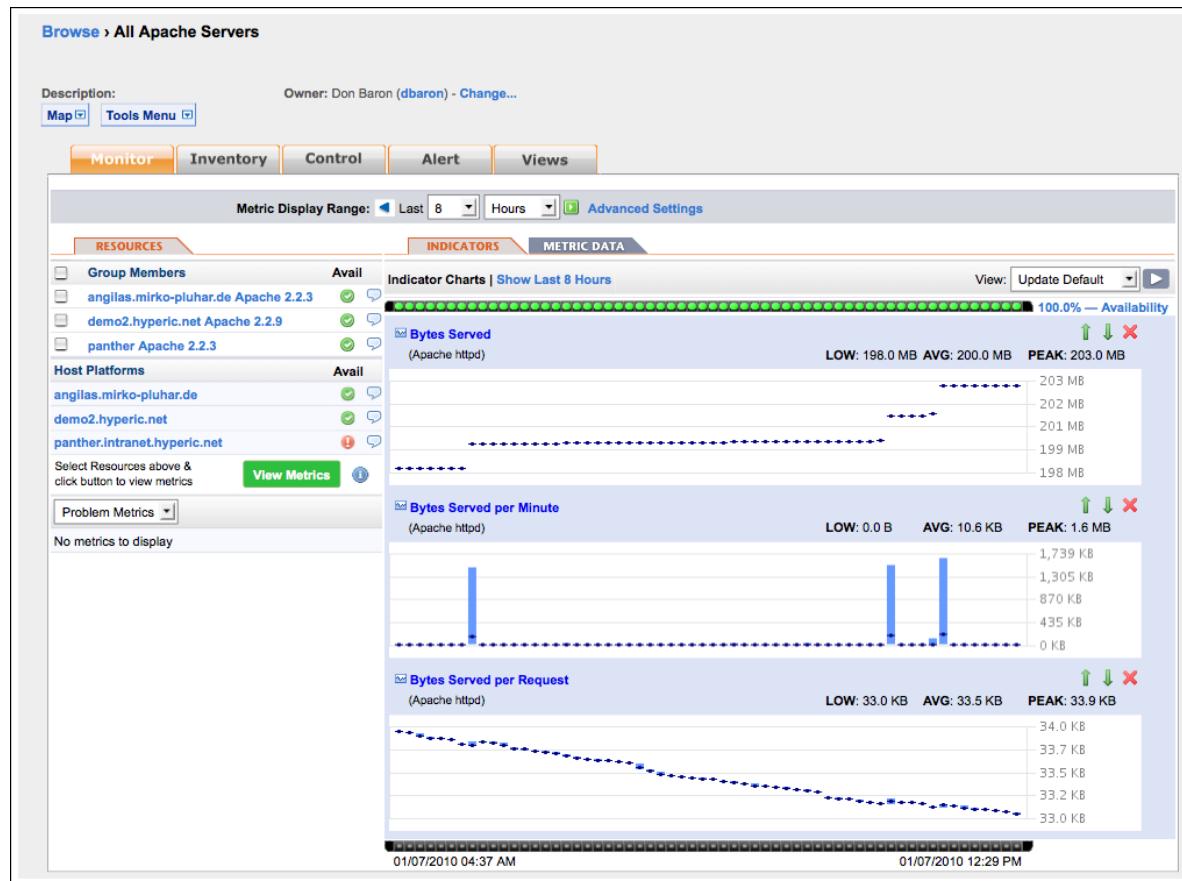
A *compatible group* is a user-configured set of inventory items of the same type, for example "JBoss 4.x" servers, or "Linux" platforms.

Using compatible groups, you can ease the effort for operations tasks for a large population of like resources - you can perform the same control action on all members of a compatible group with a single command, on a scheduled or ad hoc basis.

Compatible groups enable richer monitoring. For instance, you can view metrics in aggregate across some or all resources of the same type. In vFabric Hyperic, you can set alerts on compatible groups. Group alerts fire based on the percentage or number of members that meet an alert condition.

The screenshot below is the **Monitor** tab for a compatible group. Note:

- The **Indicators** panel charts the aggregate values for metrics across all group members.
- The **Resource** panel lists the member of the group, and the platforms that host group members.
- The **Control** tab is present, because the selected group supports control actions.
- The **Alert** tab is present, because vFabric Hyperic supports alerts on compatible groups.



Mixed Groups

Mixed groups contain inventory resources that are of different types.

Mixed groups are useful in implementing access control policies - for instance, for a set of resources from the same vendor, or that are hosted for a particular customer. Mixed groups do not have a common measurement and control profile. The metrics available naturally vary for different types of resources for instance, you monitor free memory for a CPU, but not for a database table. For similar reasons, mixed groups do not support group control actions.

There are three basic sub-types of mixed groups, which vary in terms of their membership. When you browse mixed groups in Hyperic, the "Group Type" column shows each group's sub-type:

- *Mixed Group - Platforms, Servers, & Service.* If your service level agreements vary by customer, you could use configure this sort of mixed group to contain all of the resources hosted for CustomerA, and name it accordingly. The "CustomerA" group might include multiple Linux platforms, each running Tomcat servers and a variety of deployed EJBs and servlets.
- *Mixed Group - Groups.* This type of mixed group, a kind of "supergroup", is made up other groups. For example, a regional manager might use a mixed group that contains many customer-specific groups (like the "CustomerA" group above) to monitor availability and other metrics from a territory perspective.
- *Mixed Group - Applications* - This type of mixed group is made up of multiple applications. For example, a line-of-business manager might want to assess and monitor operations at the product line level.

The following screenshot is the **Inventory** page for a mixed group. Note that no **Monitor** or **Control** or **Alert** tab is present, because these functions are not supported for a mixed group.

The screenshot shows the 'Customer Support West Group' page in the Hyperic interface. At the top, there are links for 'Browse' and 'Customer Support West Group', and a 'Return to JBoss Group' link. Below this, the 'Description' is listed as 'All resources for west coast' and the 'Owner' is 'System User (admin)'. A 'Tools Menu' dropdown is shown. The main content area has tabs for 'Inventory' (which is selected) and 'Views'. Under 'General Properties', there are fields for 'Description', 'Location', 'Resource Type' (set to 'Group'), and status information ('Date Created: 12/16/2008 11:15 AM', 'Date Modified: 02/11/2010 11:47 AM', 'Modified By: System User (admin)'). An 'EDIT...' button is present. The next section, 'Resources - Platforms, Servers & Service resource types.', shows a table with 7 items. The table has columns for 'Name', 'Type', 'Description', and 'Availability'. The items listed are:

Name	Type	Description	Availability
angilas.mirko-pluhar.de	Linux	Debian 4.0	✓
bear.intranet.hyperic.net	Linux	CentOS 4.3	✓
demo2.hyperic.net	Linux	Red Hat Enterprise Linux 5	✓
demo2.hyperic.net HQ JBoss 4.0	JBoss 4.0		✓
demo2.hyperic.net MySQL 5.x hqdb	MySQL 5.x		✓
demo2.hyperic.net MySQL 5.x test	MySQL 5.x		✓
dolphin.intranet.hyperic.net	Linux	CentOS 4.2 (VM Guest of esx2.intranet.hyperic.net)	✓

Buttons for 'ADD TO LIST...' and 'REMOVE FROM LIST' are at the bottom of this section. The 'Total: 7' and 'Items Per Page: 15' are also visible. The final section, 'Roles Assigned To', lists two roles: 'ITCTier1SupportRole' and 'asmorrison1 Role'. Similar to the first section, it has an 'Edit' button and 'Total: 2' items per page.

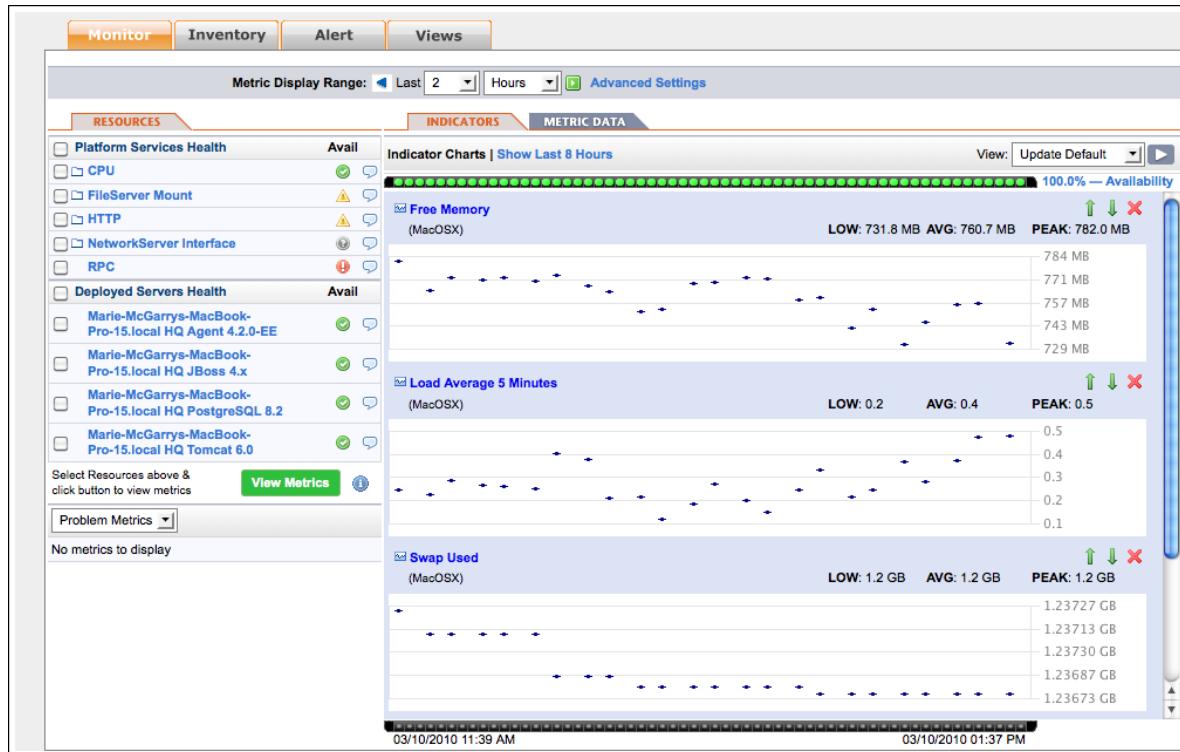
Autogroups

An *autogroup* is a set of resources of the same type with the same parent resource. As the term implies, an autogroup is not explicitly configured. HQ automatically creates an autogroup to contain all of the resources of the same type on the same platform or server. An autogroup is named for the type of resources it contains. For instance, an autogroup that contains the CPUs on a platform is called "CPU".

View a List of Autogroups on a Resource

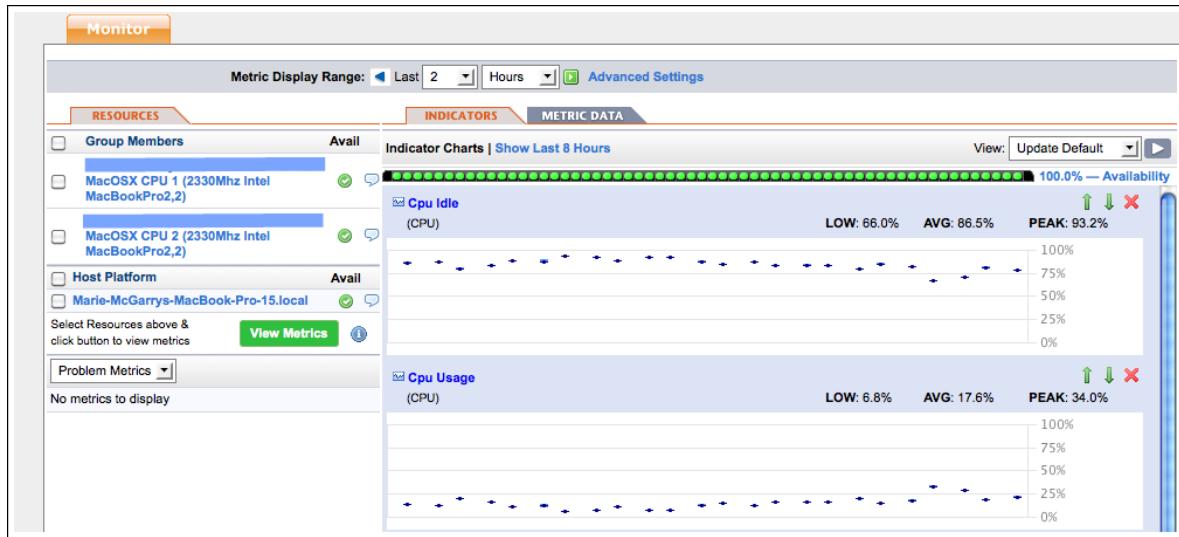
You can see the autogroups on a resource on its **Monitor** tab. This is the only way to see and navigate to an autogroup and its member resources. An autogroup name is only unique in the context of its parent resource.

The name of the autogroup is prefixed with a blue folder-like icon . In the screenshot below, there are four autogroups in the "Platform Services" section: "CPU", "FileServer Mount", "HTTP", and "NetworkServer Interface". The Availability icon for an autogroup indicates the availability of the group.



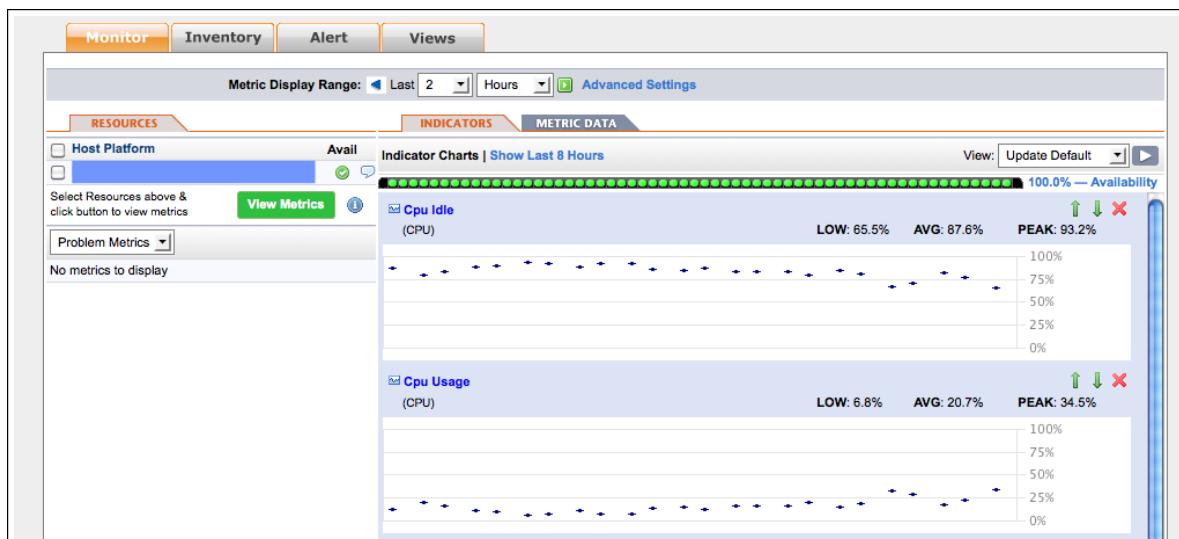
View Monitor Tab for an Autogroup

When you click an autogroup in its parent's **Resources** panel, the **Monitor** tab for autogroup appears. The **Resources** panel lists the individual resources in the group, and indicator metrics are shown for the group as a whole.



View Monitor Tab for a Member of an Autogroup

When you click an resource name in **Resources** panel for the parent autogroup, the **Monitor** tab for that resource appears, and indicator metrics are shown for that resource.



1.3. Understand Metrics, Metric Collection and Baselines

- [Section 1.3.1, “Metric Categories”](#)
 - [Availability](#)
 - [Throughput](#)
 - [Utilization](#)
 - [Performance](#)
- [Section 1.3.2, “Metric Value Types”](#)
- [Section 1.3.3, “Baselines”](#)
 - [Uses for Baselines in Hyperic](#)
 - [Baselines in the Hyperic User Interface](#)
 - [How a Baseline is Calculated](#)
- [Section 1.3.4, “Default Metric Collection Settings”](#)

1.3.1. Metric Categories

Availability

In Hyperic, a resource is "available" when it is ready to service requests. More specifically, a platform is available if the HQ Server can reach it. For other inventory types, HQ issues a query or a request to the resource to determine its availability. If a resource that is part of an application is unavailable, Hyperic considers the entire application to be unavailable. A managed resource's availability is displayed as follows:

Availability Icon Color	Availability Icon	Definition
Green		Indicates that an individual resource is currently available, or in the case of an autogroup, all members of the group are currently available.
Yellow		This value appears for an autogroup only — indicates that at least one group member, but not all members, is not available.
Red		Indicates that an individual resource is currently unavailable, or in the case of an autogroup, none of the members are currently available.
Grey		For an individual resource, indicates that its availability is unknown. For an autogroup, indicates that the availability of at least one of the members is unknown.

When HQ notifies you that an application is unavailable, you can drill down into the resources that make up that application in order to determine which resource (such as a web server, application server, or database) is causing the availability problem.

Throughput

HQ can measure throughput for each managed resource. For Web servers and application servers, throughput is typically measured as bytes served, bytes received, number of requests, and number of responses over a user-specified period of time (minutes, hours, days). For databases, throughput is typically measured as the number of requests processed or active connections over a specified period of time.

Utilization

Hyperic HQ can measure utilization rates for the platforms and servers that make up an Application. Examples of utilization include number of sessions created and destroyed, number of loaded or reloaded servlets, JVM total, used, and free memory, EJB creates, removes, loads, stores, and so on.

You can examine the capacity of an entire platform and measure individual utilization of the servers on those platforms. Using Hyperic HQ, you can pinpoint underutilized resources by establishing minimum utilization thresholds on a per platform basis. You can also determine where Application bottlenecks occur by examining utilization rates between disk, memory, CPU, and network, and then apply capacity appropriately.

Performance

A variety of metrics are categorized as performance metrics in Hyperic. Performance metrics are often measured in units of time, the milliseconds spent performing a type of operation, or the length of time that a threshold value was reached. Some performance metrics take an integer value - for instance the length of a work queue.

1.3.2. Metric Value Types

- **Dynamic** — Value may go up or down over time. CPU utilization is an example.
- **Static** — Value does not change over time. A time stamp is an example.
- **Trends Up** — Value always increases. For metrics whose values trend upwards, the rate of change is of interest, so Hyperic automatically creates a secondary metric: a per-minute rate measurement. If this rate metric has a **defaultOn** attribute set to true, the **defaultOn** attribute for the original metric is set to false (so that only the rate metric will be displayed, not the original metric). To disable an automatically generated rate metric, set its **rate** attribute to none.
- **Trends Down** — Value always decreases.

1.3.3. Baselines

Available only in vFabric Hyperic

Baselines — values that represent the norm for resource behavior — help you quickly identify problems with your resources. With baselines, you can automate metric analysis and configure alert conditions based on how a metric varies from baseline values. Hyperic automatically calculates the baseline values for all dynamic metrics.

Uses for Baselines in Hyperic

Baselines can help you provide:

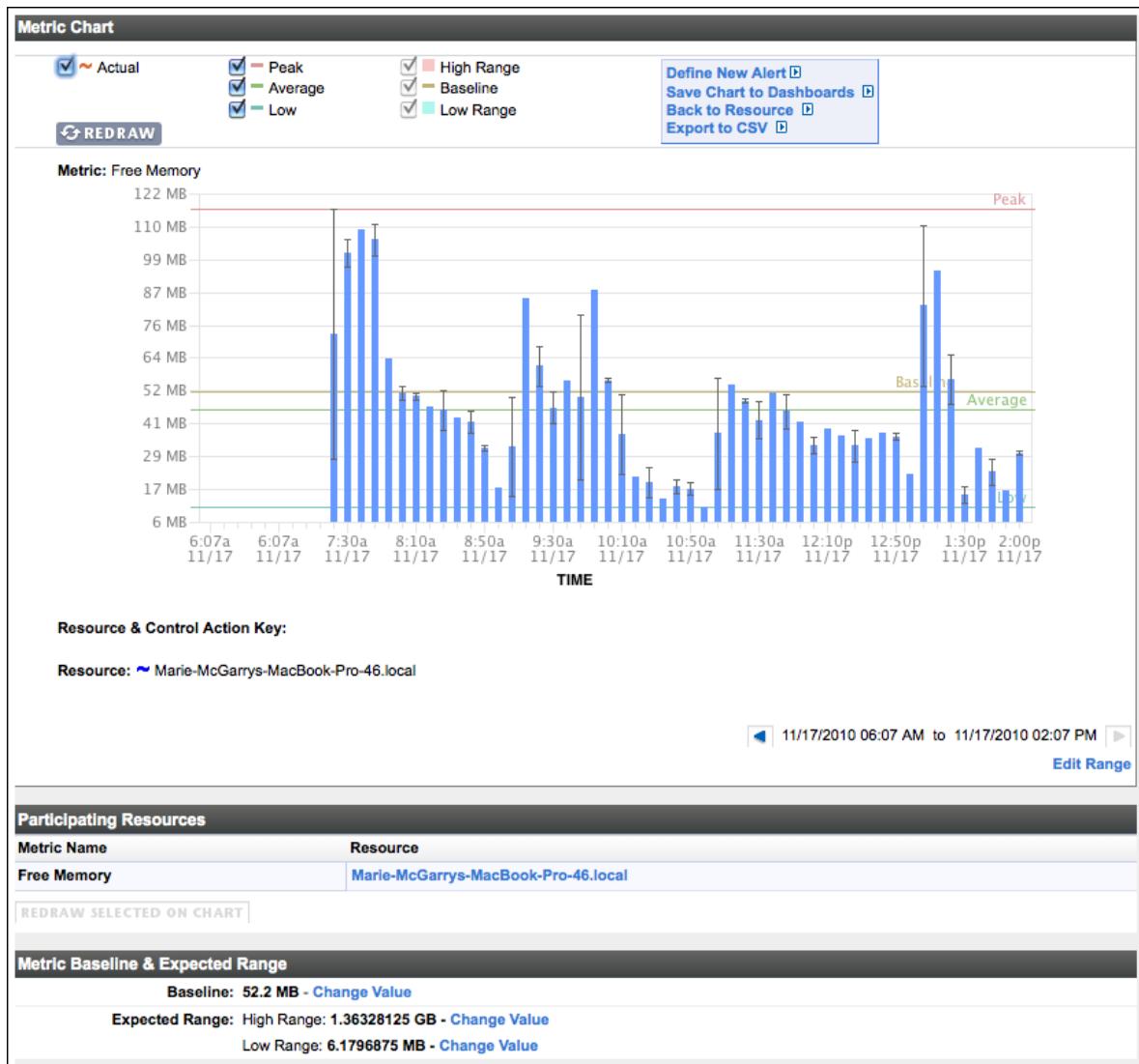
- **Trend Analysis:** The most common use of baselining is as a performance management tool for trending analysis. Using Hyperic, you establish and retain the same metric baseline value over a specific period of time, then include the baseline when you chart the current values of the metric. You can then identify trends that will help you to estimate future performance or needs.
- **Service-Level Management:** To manage service-level agreements, you measure actual performance against agreed-upon minimum service-level values. Using Hyperic, you specify the acceptable high and low values for the metric then include this range of acceptable values when you chart the current values of the metric.
- **Exception Management:** You can monitor application health — watching for changes in [problem indicators](#), a proactive form of fault management — by defining an alert based on either the baseline, the high, or the low metric values. For example, you can set up an alert that triggers when the metric value is more than 25% of the baseline value.

Baselines in the Hyperic User Interface

Baseline values for a metric are indicated on a chart for the metric. A chart for a metric is displayed when you click a metric's name on the resource's Monitor page - either in the **Indicators** or **Metric Data** tab.

A metric chart, like the example shown below, provides two sets of metric statistics:

- **Low, Average, and Peak** - these lines indicate that low, average, and high values for the metric for the current display range.
- **Low Range, Baseline, and High Range** - these lines reflect baseline values that were calculated (or specified) as the expected low, normal, and high values for the metric.



How a Baseline is Calculated

Hyperic continuously and automatically calculates the baselines for dynamic metrics it collects for a resource: it averages the observed metric values over a user-specified time frame. A baseline value for a metric becomes more accurate as more data is collected. Hyperic calculates the baseline values based on the frequency of calculation, the set of metrics to consider, and the minimum number of data points to use for calculation. You can change these values and thereby change how baselines are calculated.

1.3.4. Default Metric Collection Settings

Metric collection defaults are set at the resource level and apply to all resources in inventory of that type.

Although you can modify metric collection settings for an individual resource, those settings will be over-written the next time the default metric collect for that resource type is updated. Changes at the resource type level will apply to all resources of the type.

Default metric collection and alert definitions for a resource type can be viewed and edited by an authorized user on the **Monitoring Defaults** page for a resource type.

1.4. Understand Log and Configuration Tracking

- [Section 1.4.1, “Hyperic Log Tracking Overview”](#)
- [Section 1.4.2, “Hyperic Configuration Tracking Overview”](#)

1.4.1. Hyperic Log Tracking Overview

System problems can often be detected or diagnosed from messages generated by operating systems, application servers, network services, or middleware throughout the environment. Hyperic can monitor messages in log files and in memory, and record events in the Hyperic database based on criteria you specify.

Hyperic Resource Types that Support Log Tracking

Hyperic supports log tracking for operating system platforms, network services, and most server types. If a resource supports log tracking, its **Configuration Properties** page contains log tracking configuration options.

Supported Log Message Types

Hyperic can monitor and record log events for:

- Log file messages that specify log levels using log4j log levels.
- Events written to Windows Event Logs.
- Network request results for a variety of network services.

Log Tracking Configuration Options

You enable and configure log tracking for a resource on its **Configuration Properties** page. Navigate to the resource's **Inventory** page, and click **Edit** in the **Configuration Properties** section to display the **Configuration Properties** page.

Note: Log and configuration tracking must be enabled for a resource if you wish to log events for log messages or configuration changes. Event logging is automatic for alerts and control actions. Log tracking configuration options vary somewhat by resource type.

Log tracking options vary by resource type.

1.4.2. Hyperic Configuration Tracking Overview

You can configure Hyperic to log an event when a specified file - usually a configuration artifact - associated with a managed resource is modified. The agent uses a cryptographic hash function to continuously compare a original version of the file with the current version to see if it has changed. You can view configuration event data on the **Monitor** page for a resource or the **Event Center**. You can base alert conditions on configuration events.

- Hyperic can track multiple files per resource.
- The Hyperic Agent must be able to read a file to track it - ensure that file permissions are such that the Hyperic Agent can read files you wish to track.

- Configuration tracking is supported for most platform and server types; typically not for services.

1.5. Resource Control in Hyperic

Topics marked with * relate to features available only in vFabric Hyperic.

1.5.1. Control Action Overview

In Hyperic, a *control action* is a resource command the agent can perform on a individual managed resource (usually a server type) or on a compatible group of resources.

Hyperic has built-in resource control functionality for a variety of resource types, generally servers and services — this functionality is implemented in the resource plugin that manages a resource type. For example, Hyperic's apache plugin enables several tomcat control actions, including "start", "stop", and "restart". Note that a Hyperic plugin may not implement all commands supported by a resource type.

An authorized user — one with access to the resource and permission to perform a control action — can invoke a control action on-demand ([Section 7.1, “Run Resource Control Actions”](#)), schedule an action for a future time, or schedule an action for periodic execution ([Schedule a Control Action](#)).

An authorized Hyperic administrator can configure a control actions to be initiated as the result of an alert firing. For more information, see .

Hyperic control action functionality is extendable. An authorized Hyperic administrator can configure Hyperic to run custom scripts or executables. See [Configure a Custom Control Action](#). In addition, plugin developers can leverage Hyperic's base resource control classes to implement control functions that a target managed product supports.

You can monitor the status and history of resource control actions. For more information, see [Section 7.2, “View Control Action Status and History”](#).

HQApi control API

You can use Hyperic's **control** API to:

- list a resource's supported control actions,
 - run control actions, and
 - see control action history
- For more information, see [HQApi control command](#).

1.6. Understand Users and Roles

Topics marked with * relate to features available only in vFabric Hyperic.

- [User Accounts in Hyperic](#)
- [Roles in vFabric Hyperic](#)

1.6.1. User Accounts in Hyperic

You create an account in Hyperic for each user.

In Hyperic HQ, a user account specifies the user's name, username, and contact information, including the email and SMS addresses for receiving alert notifications.

In vFabric Hyperic, a user account is also associated with one or more *roles*, the mechanism by which resource access and associated permissions are granted to users. Note that in vFabric Hyperic, to have access to resources, a user account must be assigned at least one role to which resources are assigned. Roles are not supported in Hyperic HQ — all users have all permissions to all resources in inventory. Similarly, any Hyperic HQ user has the permission to create other users.

For information about roles, see [Roles in vFabric Hyperic](#).

Built-in Accounts

There is one built-in user account in Hyperic HQ, and two in vFabric Hyperic.

hqadmin Account

Both Hyperic HQ and vFabric Hyperic have a built-in hqadmin account, which has the `superuser` role, and can:

- Administer the HQ Server
- and, in vFabric Hyperic:
 - Assign alert definitions to resource types
 - Modify role-based dashboards

guest Account

vFabric Hyperic has a built-in guest account, which, when enabled, allows anonymous, view-only access to the HQ user interface. The guest user has the built-in guest role. Note that the guest role provides `View` permissions for all types, but unless resource groups are assigned to the role, anonymous users will not be able to view any resources. To allow anonymous users to view resources in HQ you must enable the guest account and assign the groups of resources you wish to expose to the guest role.

You can expose all resources to the guest role without assigning groups to the role. To do so, insert the following row into the database. Note that there is no user-interface that can revert this assignment and that you will have to remove the row manually from the database to disable it.

```
INSERT INTO EAM_ROLE_RESOURCE_GROUP_MAP VALUES (2, 1);
```

1.6.2. Roles in vFabric Hyperic

Available only in vFabric Hyperic

In vFabric Hyperic, every user is assigned one or more roles. Roles enable:

- **Access control** - A role defines what resources the users added to the role - *role users* - can access, and the types of operations - view, edit, create, and so on - they can perform on those resources.
- **Alert notification** - A role with users but no resource groups assigned to it can serve simply as a distribution list for alert notifications. Role-based notification makes it easier to maintain alert definitions, and enables shift-based alert notifications. For around-the-clock operations, you can define multiple roles, with complementary alert calendars that specify when role users are on duty. If you assign the several complementary roles as recipients for the same alert, when the alert fires, HQ will send notifications only to the role with currently active calendar.
- **Role-Specific Dashboards** - When you create a role, HQ creates a new Dashboard for the role, which you can customize to meet the needs of role users.

The sections below describe the information you define for a role in vFabric Hyperic.

Permission Matrix: Grants Access to Types

The permission matrix for a role defines the level of access that role users have to configurable items in vFabric Hyperic. There are several types of targets to which you can define a permission level:

- User management types - The permission levels to **Users** and **Roles** determines what level of access, if any, role users have to view and manage HQ user accounts and HQ roles.
- Inventory resource types - The permission level to inventory types - **Platforms**, **Servers**, **Services**, **Groups**, and **Applications** - controls the level of access, if any, role users have to that inventory type. **Note:** Granting access to an inventory type does *not* grant access to specific resource instances.
- Escalations - The permission level for **Escalations** controls the level of access, if any, role users have to view or manage escalations defined for use in alert definitions.

The screenshot below shows the permission matrix you define for a role.

Permissions		
Resource Type	Permissions	Capabilities
Users	Full	
Roles	Full	
Groups *	Full	Can Fix/Ack Alerts? <input checked="" type="checkbox"/>
Platforms	Full	Can Fix/Ack Alerts? <input checked="" type="checkbox"/> Can Control? <input checked="" type="checkbox"/>
Servers	Full	Can Fix/Ack Alerts? <input checked="" type="checkbox"/> Can Control? <input checked="" type="checkbox"/>
Services	Full	Can Fix/Ack Alerts? <input checked="" type="checkbox"/> Can Control? <input checked="" type="checkbox"/>
Applications	Full	
Escalations	Full	

* Regardless of permissions selected, all users have the ability to create groups in the system.

Ok **Reset** **Cancel**

Assign Users & Groups to this Role after clicking "OK".

About Permission Levels

You assign one of the following permission levels to each type.

- **None** - No access at all to instances of the type.
- **Read-Only** - Allows role users to view instances of the type, but not create, edit, or delete them. For **Platforms**, **Servers**, **Services**, **Groups**, also enables:
 - **Read-Only** access to alert definitions for the inventory type.

A role with **Read-Only** permission level does **not** have permissions to enable/disable/fix/ack alerts or control resources - these capabilities must be explicitly granted.
- **Read-Write** - Allows role users to view and edit instances of the type, but not create or delete them. For **Platforms**, **Servers**, **Services**, **Groups**, also gives:
 - **Full** access to alert definitions for the inventory type,
 - Permission to manage alerts (enable/disable, fix, acknowledge) for the inventory type.
 - Permission to perform supported control operations on resources of the inventory type.
- **Full** - Allows role users to create, edit, delete, and view instance of the type. For **Platforms**, **Servers**, **Services**, **Groups**, also gives:
 - **Full** access to alert definitions for the inventory type.
 - Permission to manage alerts (enable/disable, fix, acknowledge) for the inventory type.
 - Permission to perform supported control operations on resources of the inventory type.

Permission Tips

Defining a Role's Permission Matrix

For roles that:

- **Add resources to inventory and create alert definitions** - use **Full** or **Read-Write** permission levels. These permission levels enable a role to also process fired alerts and control resources.
- **Monitor resources, respond to alerts and control resources** - use the **Read** permission level, and then grant **Fix/Ack** and **Control** capability, or both. This allows operations staff to respond to alerts, see the details of alert definitions, and perform routine or as-needed resource control tasks but **not** create/delete resources and alert definitions.
- **Need visibility only** - Use **Read** permission level for roles that view and monitor resources, but do not (1) create/delete resources and alert definitions, or (2) response to alerts.

How HQ Validates Platform-Server-Service Permission Level Assignments

HQ Enterprise does a bottom-up validation of the permission levels a role grants to Platforms, Servers, and Services.

A role with **Full** access (which enables resource deletion) to an inventory type must have at least **Read-Only** access to the parent type (if there is one) and Full to the child type (if there is one).

For example, **Full** access to Servers requires at least Read access to Platforms and Full access to Services.

Groups: Grant Access to Specific Resources

In addition to defining a permission matrix for a role, you assign one or more resource groups to the role. Together, the permission levels and groups defined in the role determine the *specific* inventory resources that role users can work with.

If you create a role simply for use in role-based alert notifications, you do not have to assign any resource groups to the role.

Permission levels to **Platforms**, **Servers**, **Services**, **Groups**, and **Applications** define the level of access role users have to each of those inventory *types*. The operations that a role enables for an inventory type apply *only* to resources that belong to a group assigned to the role. (You cannot assign individual resources to a role, you must create groups of resources, and assign groups to roles.)

For example, the **Full** permission to **Platforms** granted by a role may only be exercised on platforms that belong to a group assigned to the role. So, a group assigned to a role may well contain resource types to which the role does not grant access.

You can assign the same resource group to multiple roles, and you can assign the same user to multiple roles. This allows for the fact that different users may need different levels of access to the same resources. For instance, you can create one role for users that need **Read-Only** access to the members of a resource group, and another for users that need **Full** permission, and assign the same resource groups to both roles.

Alert Calendar: Enable Shift-Based Notifications

An Alert Calendar is an optional component of a role that builds on the notion of role-based notification. In role-based alert notifications, the notification recipient is a role - notifications are sent to all users with the role. An

Alert Calendar for role defines the time periods during a work week that role users are on duty. You can define multiple roles to span the week - each with a different availability calendar, and assign all of the complementary roles as the notification recipients. In this case, Hyperic Server will send alert notifications only to the role that is currently on-duty, based on the alert calendars defined in the roles.

The screenshot below shows the alert calendar you can define for a role.

Alert Calendar						
<input checked="" type="checkbox"/> Monday	From:	12 AM	To:	12 AM	<input type="checkbox"/> Except	From: 1 AM To: 2 AM
<input checked="" type="checkbox"/> Tuesday	From:	12 AM	To:	12 AM	<input type="checkbox"/> Except	From: 1 AM To: 2 AM
<input checked="" type="checkbox"/> Wednesday	From:	12 AM	To:	12 AM	<input type="checkbox"/> Except	From: 1 AM To: 2 AM
<input checked="" type="checkbox"/> Thursday	From:	12 AM	To:	12 AM	<input type="checkbox"/> Except	From: 1 AM To: 2 AM
<input checked="" type="checkbox"/> Friday	From:	12 AM	To:	12 AM	<input type="checkbox"/> Except	From: 1 AM To: 2 AM
<input checked="" type="checkbox"/> Saturday	From:	12 AM	To:	12 AM	<input type="checkbox"/> Except	From: 1 AM To: 2 AM
<input checked="" type="checkbox"/> Sunday	From:	12 AM	To:	12 AM	<input type="checkbox"/> Except	From: 1 AM To: 2 AM

Built-in Roles

vFabric Hyperic has two built-in roles, which are described in the sections below.

SuperUser

The screenshot below is the permission matrix for the Hyperic SuperUser. The built-in hqadmin account has the SuperUser role.

Super User Role

[<< Return to Roles](#)

Properties		
* Name: Super User Role Description: Dashboard Name: Super User Role Role Dashboard	Owner: System User (admin) Administer HQ Server YES Configuration:	

Permissions		
Resource Type	Permissions	Capabilities
Users	Full	
Roles	Full	
Groups	Full	Can Fix/Ack Alerts? <input checked="" type="checkbox"/>
Platforms	Full	Can Fix/Ack Alerts? <input checked="" type="checkbox"/> Can Control? <input checked="" type="checkbox"/>
Servers	Full	Can Fix/Ack Alerts? <input checked="" type="checkbox"/> Can Control? <input checked="" type="checkbox"/>
Services	Full	Can Fix/Ack Alerts? <input checked="" type="checkbox"/> Can Control? <input checked="" type="checkbox"/>
Applications	Full	Can Control? <input checked="" type="checkbox"/>
Escalations	Full	

Assigned Users		
<input type="checkbox"/> First Name HQ	Last Name Administrator	Username: <input type="text" value="hqadmin"/>
ADD TO LIST... REMOVE FROM LIST		Total: 1 Items Per Page: <input type="text" value="15"/>

Alert Calendar							
<input checked="" type="checkbox"/> Monday	From: <input type="text" value="12 AM"/>	To: <input type="text" value="12 AM"/>	<input type="checkbox"/> Except	From: <input type="text" value="1 AM"/>	To: <input type="text" value="2 AM"/>		
<input checked="" type="checkbox"/> Tuesday	From: <input type="text" value="12 AM"/>	To: <input type="text" value="12 AM"/>	<input type="checkbox"/> Except	From: <input type="text" value="1 AM"/>	To: <input type="text" value="2 AM"/>		
<input checked="" type="checkbox"/> Wednesday	From: <input type="text" value="12 AM"/>	To: <input type="text" value="12 AM"/>	<input type="checkbox"/> Except	From: <input type="text" value="1 AM"/>	To: <input type="text" value="2 AM"/>		
<input checked="" type="checkbox"/> Thursday	From: <input type="text" value="12 AM"/>	To: <input type="text" value="12 AM"/>	<input type="checkbox"/> Except	From: <input type="text" value="1 AM"/>	To: <input type="text" value="2 AM"/>		
<input checked="" type="checkbox"/> Friday	From: <input type="text" value="12 AM"/>	To: <input type="text" value="12 AM"/>	<input type="checkbox"/> Except	From: <input type="text" value="1 AM"/>	To: <input type="text" value="2 AM"/>		
<input checked="" type="checkbox"/> Saturday	From: <input type="text" value="12 AM"/>	To: <input type="text" value="12 AM"/>	<input type="checkbox"/> Except	From: <input type="text" value="1 AM"/>	To: <input type="text" value="2 AM"/>		
<input checked="" type="checkbox"/> Sunday	From: <input type="text" value="12 AM"/>	To: <input type="text" value="12 AM"/>	<input type="checkbox"/> Except	From: <input type="text" value="1 AM"/>	To: <input type="text" value="2 AM"/>		
Save							

Guest Role

The screenshot below is the permission matrix for the Hyperic SuperUser. The built-in guest account has the Guest role.

The screenshot shows the 'Guest Role' configuration page. At the top, there is a 'Properties' section with the following details:

* Name: Guest Role	Owner: System User (admin)
Description:	Administrator HQ Server YES
Configuration:	

Below the properties is a 'Dashboard Name' field set to 'Guest Role Role Dashboard'. The main area is titled 'Permissions' and contains a table:

Resource Type	Permissions	Capabilities
Users	Read Only	
Roles	Read Only	
Groups	Read Only	Can Fix/Ack Alerts? <input type="checkbox"/>
Platforms	Read Only	Can Fix/Ack Alerts? <input type="checkbox"/> Can Control? <input type="checkbox"/>
Servers	Read Only	Can Fix/Ack Alerts? <input type="checkbox"/> Can Control? <input type="checkbox"/>
Services	Read Only	Can Fix/Ack Alerts? <input type="checkbox"/> Can Control? <input type="checkbox"/>
Applications	Read Only	Can Control? <input type="checkbox"/>
Escalations	None	

At the bottom of the permissions section is a blue 'EDIT...' button. Below this is an 'Assigned Users' section:

<input type="checkbox"/> First Name	Last Name	Username
<input type="checkbox"/> Guest	User	guest

At the bottom right of the user section are buttons for 'ADD TO LIST...', 'REMOVE FROM LIST', 'Total: 1', 'Items Per Page: 15', and a dropdown menu.

2. Use and Tailor the Hyperic Dashboard

- [Section 2.1, “Introduction to the Hyperic Dashboard”](#)
- [Section 2.2, “Auto-Discovery Portlet”](#)
- [Section 2.3, “Availability Summary Portlet”](#)
- [Section 2.4, “Control Actions Portlet”](#)
- [Section 2.5, “Favorite Resources Portlet”](#)
- [Section 2.6, “Group Alert Summary Portlet”](#)
- [Section 2.7, “Metric Viewer Portlet”](#)
- [Section 2.8, “Problem Resources Portlet”](#)
- [Section 2.9, “Recent Alerts Portlet”](#)
- [Section 2.10, “Saved Charts Portlet”](#)
- [Section 2.11, “Summary Counts Portlet”](#)

2.1. Introduction to the Hyperic Dashboard

Topics marked with * relate to features available only in vFabric Hyperic.

- [Hyperic Dashboard](#)
- [Portlet Quick Facts and Links](#)
- [Tailor Dashboard](#)
- [Using Multiple Dashboards in vFabric Hyperic](#)

2.1.1. Hyperic Dashboard

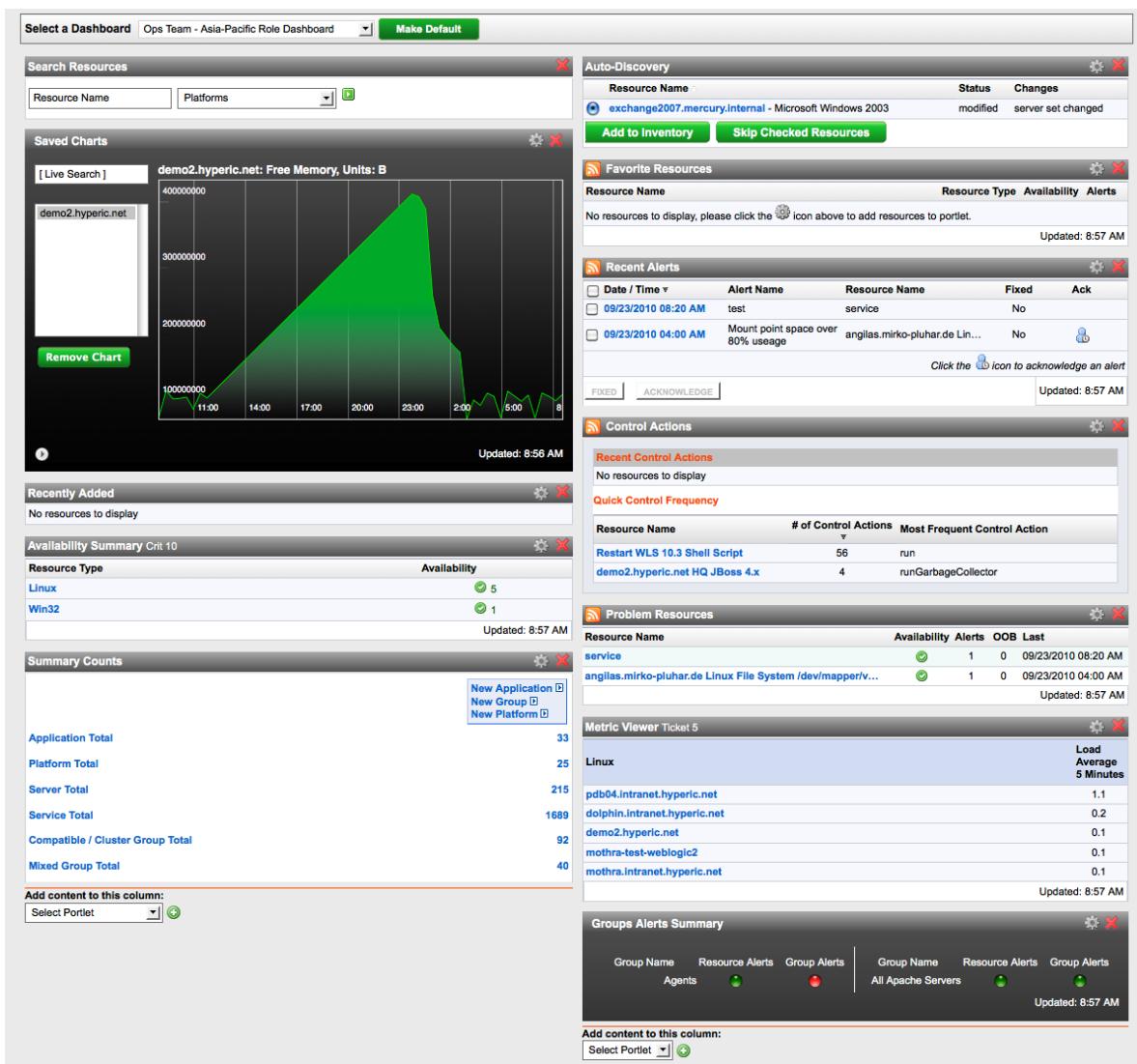
The Hyperic Dashboard is the first page displayed in the Hyperic user interface when you log on. The dashboard contains multiple portlets, each of which presents a particular type of information, such as resource health, recent alerts, recently discovered resource or changes to resources, recently performed resource control actions, and so on.

You can personalize the dashboard to suit your responsibilities and preferences; you can add or remove portlets, rearrange them, and customize the contents of many of the portlets.

In vFabric Hyperic, you can have multiple dashboards — one for each role to which you are assigned. For more information, see [Using Multiple Dashboards in vFabric Hyperic](#).

Note also that in vFabric Hyperic, the roles you are assigned to govern what resource data appears in dashboard portlets. Portlets will contain only the resource data to which your Hyperic roles allows access. For more information, see [Section 1.6, “Understand Users and Roles”](#).

Click the thumbnail to see a screenshot of the dashboard.



2.1.2. Portlet Quick Facts and Links

Portlet	Description	More Information and Configuration Options
Autodiscover	Lists new and changed resources, and allows you to add them inventory.	Auto-Discovery Portlet
Availability Summary	Displays the availability of selected resources, aggregated by resource type. Refreshes every minute. This portlet does not contain any resources until you configure it.	Availability Summary Portlet
Control Actions	Lists the control actions that Hyperic has most recently performed on any managed resource, upcoming scheduled control actions, and the most frequently performed quick control actions.	Control Actions Portlet
Favorite Resources	Lists resources that have been added to the portlet. This portlet does not contain any resources until you configure it.	Favorite Resources Portlet
Saved Charts	Displays charts that have been saved to the Dashboard. In vFabric Hyperic, charts are displayed as a slideshow.	Saved Charts Portlet
Recent Alerts	Lists the most recently triggered alerts for a set of user-selected resources. Refreshes every minute.	Recent Alerts Portlet
Recently Added	Lists platforms recently added to inventory.	Recently Added Portlet
Search Resources Portlet	Allows you to search for resources. The search supports case-insensitive, partial-term queries and is restricted to a single inventory type.	
Summary Counts	Displays a count of all the managed resource of each inventory type. In vFabric Hyperic, the resources that appear are limited to those that you have permissions to view.	Summary Counts
Group Alert Summary*	Displays traffic light indicators for resource alerts and group alerts for selected groups. Click on the traffic light for a group alert to view a list of alerts that have fired. Click on a group name to view the group page. This portlet does not present any groups until you add them to it.	Group Alerts Summary Portlet

Portlet	Description	More Information and Configuration Options
Hyperic IQ Reports*	In deployments that include Hyperic IQ, this portlet allows users to run IQ reports that reside in Hyperic IQ's Dashboard Reports directory. The Hyperic Server must be configured with the Hyperic IQ URL, on the Administration > HQ Server Settings page.	
Metric Viewer	Shows selected metrics for selected resources. Refreshes every minute. This portlet does not contain any resources until they have been added to it.	Metric Viewer Portlet
Problem Resources*	Lists all resources with problem metrics, their availability, the number of alerts triggered on each, the number of times the metric has been out of bounds, and the last time the OOB metric was collected. Click the resource name to view the Monitor page for it.	Problem Resources Portlet

2.1.3. Tailor Dashboard

You can customize the dashboard in these ways:

- Add portlets — At the bottom of each column of portlet, click **Add Content to this column** to list portlets you can add.
- Remove portlets — The top right corner of each portlet has a delete icon you can use to remove it from your Dashboard. If you remove a portlet, you can add it back later — removed portlets can be selected from the list that displays when you click **Add Content to this column**.
- Change layout — You move a portlet to a different location in a column by grabbing it by the bar at the top of it and dragging it to the desired location.
- Change portlet behavior — Most portlets have a gear-shaped icon in the bar at the top, which you can click to display a configuration dialog.

2.1.4. Using Multiple Dashboards in vFabric Hyperic

Available only in vFabric Hyperic

In vFabric Hyperic, you can:

- Select a dashboard — Select which dashboard to view using the **Select a Dashboard** pull-down in the upper left of the page. In addition to your personal dashboard, the list will contain the role-specific dashboard for each role to which you are assigned.

- Set a default dashboard — By default, your default dashboard is your personal dashboard. To change the default dashboard, select the desired dashboard, and click **Make Default** to the right of the **Select a Dashboard** pull-down — this control appears on a dashboard that is not currently your default dashboard.

2.2. Auto-Discovery Portlet

Topics marked with * relate to features available only in vFabric Hyperic.

- [Contents of the Auto-Discovery Portlet](#)
- [Import or Skip Resources in Auto-Discovery Portlet](#)
- [Configure the Number of Auto-Discoveries Displayed](#)

2.2.1. Contents of the Auto-Discovery Portlet

The **Auto-Discovery** portlet on the Hyperic Dashboard lists recently added or modified platforms and servers, and allows an authorized user to view discovery details, and to import the new or changed resource data to the Hyperic database.

By default, the **Auto-Discovery** portlet lists the (up to) five most recently new or changed platforms. To set the maximum number of platforms that can appear in the list, see [Configure the Number of Auto-Discoveries Displayed](#).

A platform appears in the the **Auto-Discovery** portlet if it, or a server running on it, is new or changed. The rules are these:

- **The platform is new** — A platform appears as new in the portlet, if neither its IP address or FQDN match that of an existing platform in inventory. In this case, any new servers discovered on the platform appear below the platform in the portlet.
- **The platform has a new server** — A new server has been discovered on the platform since the last scan. The new server is listed below the platform.
- **Platform or server properties have changed** — One or more inventory properties for the platform, or for one or more of the servers running it, have changed since the last scan. Servers with changed properties are listed below the platform.

The image below shows the Auto-Discovery portlet after the agent was started for the first time on a platform.

Auto-Discovery		
Resource Name	Status	Changes
melba - Mac OS X Tiger	new	N/A
Apache 1.3.41 /usr	new	N/A
HQ Agent 4.0.0 /Applications/Hyperic/agent-4.0.0	new	N/A
Tomcat 5.5 /Applications/AtlassianConfluence	new	N/A
HQ JBoss 4.x /Applications/.../hq-engine/server/default	new	N/A
HQ Tomcat 5.5 /Applications/.../jbossweb-tomcat55.sar	new	N/A
HQ PostgreSQL 8.2 /Applications/Hyperic/server-4.0.0/hqdb	new	N/A
Add to Inventory	Skip Checked Resources	

The **Auto-Discovery** portlet presents the following information for each platform it contains:

- **Hostname** — The hostname of the platform is a link to a page — the **Auto-Discovery Results** page - that contains detailed information about the scan results for the platform and servers running there. See [Using the Auto-Discovery Results Page](#).
- **Platform type** — The resource type for the platform.
- **Status** — Indicates the type of change that was detected for a resource, either "new" or "modified".
- **Changes** — If the **Status** for a resource is "modified", the **Changes** column contains a summary of what changed. For example:
 - "server set changed" — Applies to platforms; this value indicates that changes to one or more servers on the platform were detected. The changed server(s) are listed below the platform.
 - "name change" — Indicates that the name of the resource has changed; a resource name can change when a resource is upgraded from one version to another, if version number forms a portion of the resource name, as is often the case.
 - "install path changed" — Indicates that the installation path for a server has changed; the installation path for a resource can change when a resource is upgraded from one version to another, if version number forms a portion of the path, as is often the case.
 - "IP set changed" — Indicates that the IP address has changed. When the agent detects an IP address not associated with an existing platform in inventory, it checks for a platform with a matching FQDN - if found, Hyperic recognizes the platform as existing.
 - "FQDN changed"
- For each newly discovered or changed server on the platform:
 - **Installation path** —
 - **Status** — Indicates "new" or "modified"
 - **Changes** — If **Status** is "modified", the **Changes** column contains a summary of what changed.

About Discovery and Import of Services

The **Auto-Discovery Portlet** does not display new or changed services. As described above in [Hyperic Auto-Discovery Processes](#), service discovery occurs as a result of a run-time scan, and services that are discovered are automatically added to Hyperic inventory.

2.2.2. Import or Skip Resources in Auto-Discovery Portlet

You can process the contents of the **Auto-Discovery Portlet** in these ways:

- To import all resources---leave all resources selected, and click **Add to Inventory**.
- To skip all resources---leave all resources selected, and click **Skip Checked Resources**.
- To import selected resources---Either:
 - De-select the resources you do not want to add to inventory, and click **Add to Inventory**, or

- De-select the resources you do want to add to inventory and **Skip Checked Resources**.

About Skipped Resources

If you do not import a resource displayed in the **Auto-Discovery** portlet, note:

- If you skip a new platform, you skip its servers as well.
- During the next platform scan, skipped resources will reappear in the portlet after the next scan that detects them. If you have resources that you do not want the agent to discover, see the relevant section in [Options for Running and Controlling Resource Discovery](#).

If the Hyperic Agent discovered all of the resource properties required to monitor a resource, it starts monitoring that resource as soon as you add it to inventory. This is the case for most resource types. Note however, that some level of configuration is required to start managing some resources types - see the **Configuration Properties** section on a resource's **Inventory** tab for configuration requirements.

2.2.3. Configure the Number of Auto-Discoveries Displayed

To set the number of completed auto-discoveries displayed in the portlet, click the gear icon in the upper left corner of the portlet. On the **Display Settings** page, select "10" or "all", and click **OK**.

2.3. Availability Summary Portlet

Topics marked with * relate to features available only in vFabric Hyperic.

- [About the Availability Summary Portlet](#)
- [Configure the Availability Summary Portlet](#)

2.3.1. About the Availability Summary Portlet

The **Availability Summary** portlet presents the availability of selected resources by resource type. The portlet is empty until you configure the resources to include.

In the screenshot below, the portlet summarizes the available of 6 resources - five Linux platforms and one Win32 platform:

- One Linux platform is unavailable, the other four are available.
- The Win32 platform is available

Availability Summary Crit 10		
Resource Type	Availability	
Linux	✗ 1	✓ 4
Win32	✓ 1	
Updated: 11:09 AM		

2.3.2. Configure the Availability Summary Portlet

1. Click the gear icon in the upper right corner of the **Availability Summary** portlet.
2. The **HQ Dashboard Settings: Availability Summary** page appears.

HQ Dashboard Settings: Availability Summary

Display Settings

Description: Crit 10
Display Range: Display top 10 resource types.

Selected Resources

Resource	Description
<input type="checkbox"/> Resource A	CentOS 4.3
<input type="checkbox"/> bear.intranet.hyperic.net	Red Hat Enterprise Linux 5
<input type="checkbox"/> demo2.hyperic.net	CentOS 4.2 (VM Guest of esx2.intranet.hyperic.net)
<input type="checkbox"/> dolphin.intranet.hyperic.net	Microsoft Windows 2003
<input type="checkbox"/> panther.intranet.hyperic.net	CentOS 4.2
<input type="checkbox"/> patriot.intranet.hyperic.net	CentOS 5.2
<input type="checkbox"/> pdb04.intranet.hyperic.net	

Buttons: ADD TO LIST... REMOVE FROM LIST Total: 6 Items Per Page: 15

Ok Reset Cancel

3. In the **Description** field, enter the title to appear at the top of the portlet.

4. In the **Display Range** pulldown, select the maximum number of resource types to list in the portlet.
5. If the Selected Resources section contains resources that you do not want to be included in the availability summary, checkmark them and click **Remove From List**.
6. To add resources to the portlet:
 - a. Click **Add to List**.
 - b. The **Dashboard Settings: Availability Summary Add/Remove Resources** page appears.

Dashboard Settings: Availability Summary Add/Remove Resources

Resources		Add Resources	
View: Platforms All Types		Add Resources	
Filter By Name:			
<input type="checkbox"/> Name	Description	<input type="checkbox"/> Name	Description
<input type="checkbox"/> anglias.mirko-pluhar.de	Debian 4.0	<input type="checkbox"/> bear.intranet.hyperic.net	CentOS 4.3
<input type="checkbox"/> artisqa.sfo.covalent.net	AIX 5.3	<input type="checkbox"/> demo2.hyperic.net	Red Hat Enterprise Linux 5
<input type="checkbox"/> esx1	VMware ESX Server 3.5.0 build-64607	<input type="checkbox"/> dolphin.intranet.hyperic.net	CentOS 4.2 (VM Guest of esx2.intranet.hyperic.net)
<input type="checkbox"/> esx3i	VMware ESX Server 3i 3.5.0 build-82664	<input type="checkbox"/> panther.intranet.hyperic.net	Microsoft Windows 2003
<input type="checkbox"/> esx3i.intranet.hyperic.net - 2	10.0.0.3	<input type="checkbox"/> patriot.intranet.hyperic.net	CentOS 4.2
<input type="checkbox"/> exchange2007.mercury.internal	Microsoft Windows 2003	<input type="checkbox"/> pdb04.intranet.hyperic.net	CentOS 5.2
<input type="checkbox"/> hammer.intranet.hyperic.net	CentOS 5.2		
<input type="checkbox"/> imhotep-2nd-agent	CentOS 5.3		
<input type="checkbox"/> imhotep.intranet.hyperic.net	CentOS 5.3		
<input type="checkbox"/> mothra-test-weblogic2	CentOS 5.2		
<input type="checkbox"/> mothra.intranet.hyperic.net	CentOS 5.2		
<input type="checkbox"/> sfo-gw.hyperic.net	SSG-140 version 6.2.0r5.0 (SN: 0185022009000541, Firewall+VPN)		
<input type="checkbox"/> test net			
<input type="checkbox"/> vmc-src-rh17.eng.vmware.com	Red Hat Enterprise Linux 5		
<input type="checkbox"/> vmlin-was-03.intranet.hyperic.net	CentOS 5.3		

[1 2]

Ok **Reset** **Cancel**

- c. In the **Resources** column:
 - i. Use the **View** filters to filter by inventory type, resource type, or both, as desired.
 - ii. Enter a substring in the **Filter by Name** field to filter by resource name, as desired.
 - iii. In the list of resources, checkmark desired resources, and click the right arrow between the columns to include them in the availability summary.
- d. If the **Add Resources** column contains resources you do not wish to include in the availability summary, checkmark those resources and click the left arrow between the panels
7. Click **OK**.

2.4. Control Actions Portlet

- [About the Control Actions Portlet](#)
- [Configure the Control Actions Portlet](#)

2.4.1. About the Control Actions Portlet

The **Control Actions** portlet displays information about recent control actions performed on resources over a configurable period of recent history.

- **Recent Control Actions** - This section lists the individual resource control action performed during the configured period, starting with the most recent. The following information is displayed for each resource:
 - Resource Name — Name of the resource.
 - Control Action — The control action that was performed.
 - Date/Time — When the action was performed
 - Message — Results of the control action.
- **Quick Control Frequency** - This section lists the resources upon which the most on-demand control actions have been performed during the configured interval. The following information is displayed for each resource:
 - Resource Name — Name of the resource.
 - # of Control Actions — How many control actions were performed during the interval.
 - Most Frequent Control Action - The control action that was most frequently performed.

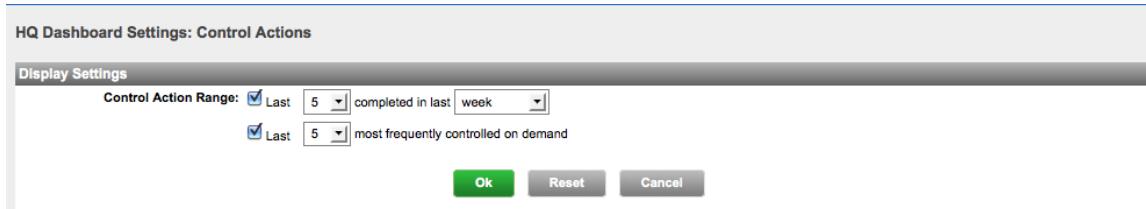
The screenshot shows the VMware Control Actions portlet. At the top, there's a header bar with a gear icon, a red X button, and the title "Control Actions". Below the header are two main sections:

- Recent Control Actions:** A table with columns: Resource Name, Control Action, Date / Time, and Message. One row is shown for "angilas.mirko-pluhar.de Apache 2.2.3" with the action "startssl" at "09/23/2010 09:12 AM". The message column contains a note: "The startssl option is no longer supported. Please edit httpd.conf to include the SSL configuration settings and then use apachectl start.".
- Quick Control Frequency:** A table with columns: Resource Name, # of Control Actions, and Most Frequent Control Action. Two rows are listed: "Restart WLS 10.3 Shell Script" with 56 actions and "run", and "demo2.hyperic.net HQ JBoss 4.x" with 4 actions and "runGarbageCollector".

2.4.2. Configure the Control Actions Portlet

To configure the amount of data in the **Control Actions** portlet:

1. Click the gear icon in the upper right corner of the **Control Actions** portlet.
2. The **HQ Dashboard Settings: Control Actions** page appears.



3. Configure what appears in the **Recent Control Actions** section using the first row of filters:
 - a. Check the box next **Control Action Range** if you want to list recent control actions in the portlet. (To stop the display of this data, uncheck it.)
 - b. In the first drop-down list, select the maximum number of completed control actions to list.
 - c. In the second drop-down list, select the time range from which to gather that data.
4. Configure what appears in the *Quick Control Frequency *section using the second row of filters:
 - a. Check the box if you want to list the resources with the most on-demand control actions. (To stop the display of on-demand control-action data, uncheck it.)
 - b. Select the maximum number of resources to list.
5. Click **OK**.

2.5. Favorite Resources Portlet

- [About the Favorite Resources Portlet](#)
- [Select a Favorite Resource On-the-Fly](#)
- [Configure Favorite Resources on the Dashboard](#)

2.5.1. About the Favorite Resources Portlet

The **Favorite Resources** portlet lists the name, resource type, current availability, and total fired alerts for selected resources.

Resource Name	Resource Type	Availability	Alerts
angilas.mirko-pluhar.de	Linux	Available	616
artisqa.sfo.covalent.net	AIX	Unavailable	0
imhotep-2nd-agent	Linux	Available	0

Updated: 9:07 AM

2.5.2. Select a Favorite Resource On-the-Fly

You can add a resource to **Favorite Resources** when you are viewing it in the **Resources** tab — click **Add to Dashboard Favorites** on the Tools menu.

2.5.3. Configure Favorite Resources on the Dashboard

1. Click the gear icon in the upper right corner of the **Favorite Resources** portlet.
2. The **HQ Dashboard Settings: Favorite Resources** page appears.

Selected Resources	
<input type="checkbox"/>	Resource
<input type="checkbox"/>	demo2.hyperic.net Linux Network Interface eth0 (ethernet)
<input type="checkbox"/>	demo2.hyperic.net Linux Network Interface eth1 (ethernet)
<input type="checkbox"/>	esx1 (VMware ESX Server 3.5.0 build-64607)
<input type="checkbox"/>	hammer.intranet.hyperic.net (CentOS 5.2)
<input type="checkbox"/>	bear.intranet.hyperic.net (CentOS 4.3)

ADD TO LIST... | REMOVE FROM LIST |

Ok | Reset | Cancel

3. If the **Selected Resources** section contains resources that you do not want to be included in the portlet, checkmark them and click **Remove From List**.
4. To add resources to the portlet:
 - a. Click **Add to List**.
 - b. The **Dashboard Settings: Favorite Resources: Add Resources** page appears.

Dashboard Settings: Favorite Resources: Add Resources

Resources

View: Platforms All Types

Filter By Name:

Name	Description
angilas.mirko-pluhar.de	Debian 4.0
artisqa.sfo.covalent.net	AIX 5.3
demo2.hyperic.net	Red Hat Enterprise Linux 5
dolphin.intranet.hyperic.net	CentOS 4.2 (VM Guest of esx2.intranet.hyperic.net)
esx3i	VMware ESX Server 3i 3.5.0 build-82664
esx3i.intranet.hyperic.net - 2	10.0.0.3
exchange2007.mercury.internal	Microsoft Windows 2003
imhotep-2nd-agent	CentOS 5.3
imhotep.intranet.hyperic.net	CentOS 5.3
mothra-test-weblogic2	CentOS 5.2
mothra.intranet.hyperic.net	CentOS 5.2
panther.intranet.hyperic.net	Microsoft Windows 2003
patriot.intranet.hyperic.net	CentOS 4.2
pdb04.intranet.hyperic.net	CentOS 5.2
sfo-gw.hyperic.net	SSG-140 version 6.2.0r5.0 (SN: 0185022009000541, Firewall+VPN)

1 2 >

Add Resources

Name	Description
demo2.hyperic.net	Linux Network Interface eth0 (ethernet)
demo2.hyperic.net	Linux Network Interface eth1 (ethernet)
esx1	VMware ESX Server 3.5.0 build-64607
hammer.intranet.hyperic.net	CentOS 5.2
bear.intranet.hyperic.net	CentOS 4.3

Ok Reset Cancel

c. In the **Resources** column:

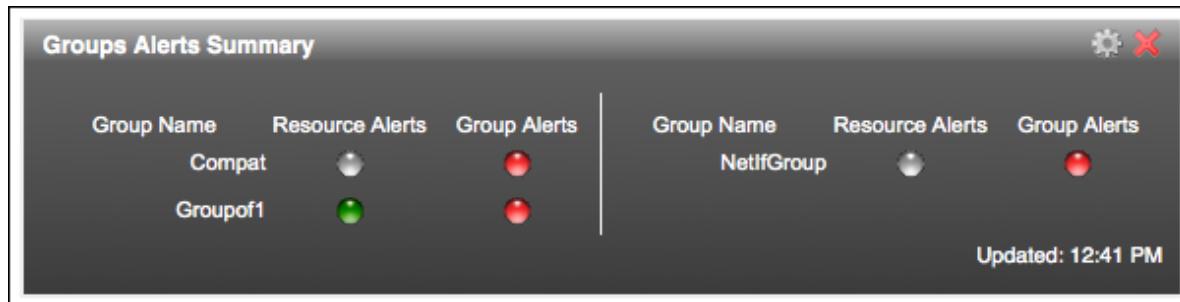
- i. Use the **View** filters to filter by inventory type, resource type, or both, as desired.
 - ii. Enter a substring in the **Filter by Name** field to filter by resource name, as desired.
 - iii. In the list of resources, checkmark desired resources, and click the right arrow between the columns to include them in the portlet.
- d. If the **Add Resources** column contains resources you do not wish to include in the portlet, checkmark those resources and click the left arrow between the panels

5. Click **OK**.

2.6. Group Alert Summary Portlet

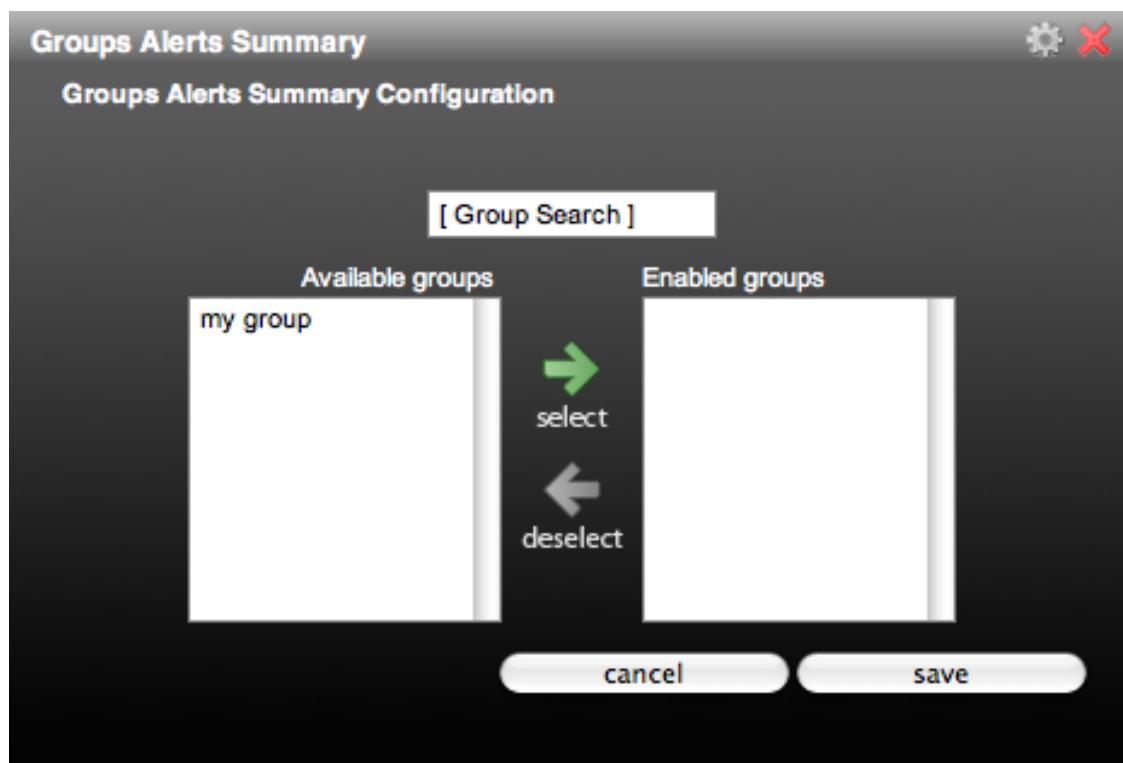
2.6.1. About the Group Alerts Portlet

The Group Alerts Summary portlet displays traffic light indicators for resource alerts and group alerts for selected groups. Click on the traffic light for a group alert to view a list of alerts that have fired. Click on a group name to view the group page. This portlet does not present any groups until you add them to it.



2.6.2. Configure the Group Alerts Portlet

1. Click the gear icon in the upper right corner of the **Group Alerts Summary** portlet.
2. The portlet refreshes.
 - The **Available groups** column lists compatible groups that have not been added to the portlet.
 - The **Enabled groups** column lists compatible groups that have been added to the portlet.



3. Change the content of the portlet by clicking a group, and using the appropriate arrow to move the group from one column to another.
4. Click **save** to save your changes.

2.7. Metric Viewer Portlet

Topics marked with* relate to features available only in vFabric Hyperic.

- [About the Metric Viewer Portlet](#)
- [Configure the Metric Viewer Portlet](#)

2.7.1. About the Metric Viewer Portlet

The Metric Viewer portlet displays a selected metric for selected resources of the same resource type. The example below shows the current "Load Average 5 Minutes" metric for five Linux Platforms.

Metric Viewer Ticket 5	
Linux	Load Average 5 Minutes
pdb04.intranet.hyperic.net	3.1
bear.intranet.hyperic.net	0.7
dolphin.intranet.hyperic.net	0.2
demo2.hyperic.net	0.1
angilas.mirko-pluhar.de	0.1

Updated: 9:15 AM

2.7.2. Configure the Metric Viewer Portlet

1. Click the gear icon in the upper right corner of the **Metric Viewer** portlet.
2. The **HQ Dashboard Settings: Metric Viewer** page appears.

HQ Dashboard Settings: Metric Viewer

Display Settings

Description:	Linux
Display Range:	Display top 10 resources.
Resource Type:	- Win32
Metric:	Availability
Sort Order:	Highest Values First

Selected Resources

<input type="checkbox"/> Resource	Description
<input type="checkbox"/> angilas.mirko-pluhar.de	Debian 4.0
<input type="checkbox"/> bear.intranet.hyperic.net	CentOS 4.3
<input type="checkbox"/> demo2.hyperic.net	Red Hat Enterprise Linux 5
<input type="checkbox"/> dolphin.intranet.hyperic.net	CentOS 4.2 (VM Guest of esx2.intranet.hyperic.net)
<input type="checkbox"/> exchange2007.mercury.internal	Microsoft Windows 2003
<input type="checkbox"/> hammer.intranet.hyperic.net	CentOS 5.2
<input type="checkbox"/> imhotep-2nd-agent	CentOS 5.3
<input type="checkbox"/> imhotep.intranet.hyperic.net	CentOS 5.3
<input type="checkbox"/> mothera-test-weblogic2	CentOS 5.2
<input type="checkbox"/> mothera.intranet.hyperic.net	CentOS 5.2
<input type="checkbox"/> panther.intranet.hyperic.net	Microsoft Windows 2003
<input type="checkbox"/> patriot.intranet.hyperic.net	CentOS 4.2
<input type="checkbox"/> pdbo4.intranet.hyperic.net	CentOS 5.2
<input type="checkbox"/> vmc-sso-rh17.ong.vmware.com	Red Hat Enterprise Linux 5
<input type="checkbox"/> vmlin-was-03.intranet.hyperic.net	CentOS 5.3

Buttons: ADD TO LIST... | REMOVE FROM LIST | Total: 18 Items Per Page: 15 | 1 2 | Ok | Reset | Cancel

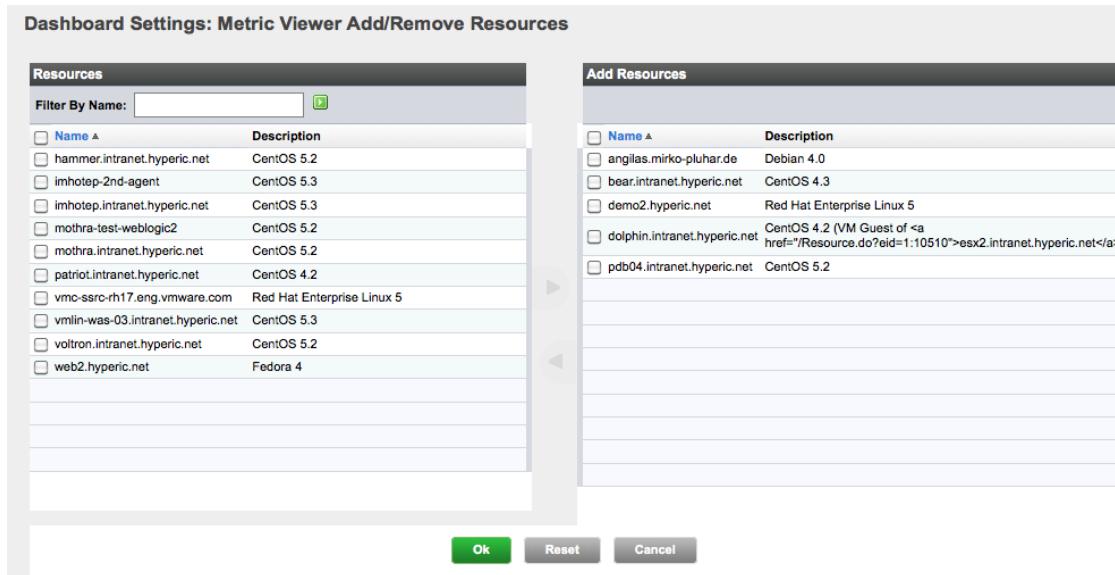
3. Specify the display settings for the portlet:

- Description — This description shows up at the top of the portlet.
- Display Range — The total number of resources to display in the portlet.
- Resource Type — This selection filters both the set of resources that users can add to the portlet and the list of metrics available for selection.
- Metric — The single metric that will be displayed for the user-selected set of resource in the portlet.
- Sort Order — Determines whether the resources will be displayed in the portlet by descending or ascending metric value/

4. If the **Selected Resources** section contains resources that you do not want to be included in the portlet, checkmark them and click **Remove From List**.

5. To add resources to the portlet:

- a. Click **Add to List**.
- b. The **Dashboard Settings: Metric Viewer: Add/Remove Resources** page appears.



- c. In the **Resources** column:
- Enter a substring in the **Filter by Name** field to filter by resource name, as desired.
 - In the list of resources, checkmark desired resources, and click the right arrow between the columns to include them in the portlet.
- d. If the **Add Resources** column contains resources you do not wish to include in the portlet, checkmark those resources and click the left arrow between the panels
6. Click **OK**.

2.8. Problem Resources Portlet

Available only in vFabric Hyperic

- [About the Problem Resources Portlet](#)
- [Configure the Problem Resources Portlet](#)

2.8.1. About the Problem Resources Portlet

The **Problem Resources** portlet on the HQ Dashboard lists resources that, over a configured period of recent history, have either had a fired alert, or an *out-of-bounds* metric. An out-of-bounds metric is a metric that had a value outside the "acceptable" range of values set by the baselining process.

Note: Tracking out-of-bounds metrics is a behavior that is configured globally, in the "Automatic Baseline Configuration Properties" section of the **Administration > HQ Server Settings** page. If tracking of OOB metrics is not enabled, OOB metrics will not cause a resource to appear in the **Problem Resources** portlet.

The following information is shown for each problem resource:

- Current availability of the resource.
- Number of alerts that have fired during the historical period.
- Number of out-of-bounds metrics reported during the historical period.

Resources are ordered by inventory type (platform, server, and service), and then by the date and time of problem occurrence, from most recent to least recent.

Problem Resources				
Resource Name	Availability	Alerts	OOB	Last
service	✓	1	0	09/23/2010 08:20 AM
angilas.mirko-pluhar.de Linux File System /dev/mapper/v... angilas.mirko-pluhar.de	✓	1	0	09/23/2010 04:00 AM
Updated: 9:14 AM				

2.8.2. Configure the Problem Resources Portlet

You can use the **HQ Dashboard Settings: Problem Resources** page to limit the resources that are included in the **Problem Resources** portlet.

- Click the gear icon in the upper right corner of the **Problem Resources** portlet.
- The **HQ Dashboard Settings: Problem Resources** page appears.

HQ Dashboard Settings: Problem Resources Settings				
Display Settings				
Show Maximum of:	10	problem resources on the dashboard		
For the Last:	8	hours		
Problem Resources				
Resource Name	Availability	Alerts	OOB	
service	✓	1	0	
angilas.mirko-pluhar.de Linux File System /dev/mapper/vg00-lv_www_mp mounted on /srv/www/mp (local/ext3)	✓	1	0	
<input type="button" value="Ok"/> <input type="button" value="Reset"/> <input type="button" value="Cancel"/>				

3. To limit the resources that appear in the portlet:
 - **Show Maximum of** — Select maximum number of problem resources to list.
 - **For the Last** — Choose the period of history for which to show problem resources.
4. Click **OK**.

2.9. Recent Alerts Portlet

Topics marked with * relate to features available only in vFabric Hyperic.

- [About the Recent Alerts Portlet](#)
- [Configure the Recent Alerts Portlet](#)

2.9.1. About the Recent Alerts Portlet

The **Recent Alerts** portlet presents a list of recently fired alerts. The following information is shown for each alert:

- Date/Time - When the alert fired. Click to view the **Alert Detail** page.
- Alert Name - Name of the alert definition.
- Resource Name - The resource where the alert fired.
- Fixed - Whether the alert has been marked "fixed".
- Ack - If the alert

Date / Time	Alert Name	Resource Name	Fixed	Ack
09/23/2010 08:20 AM	test	service	No	
09/23/2010 04:00 AM	Mount point space over 80% usageage	angilas.mirko-pluhar.de Lin...	No	

Click the icon to acknowledge an alert

FIXED **ACKNOWLEDGE** Updated: 9:06 AM

2.9.2. Configure the Recent Alerts Portlet

1. Click the gear icon in the upper right corner of the **Recent Alerts** portlet.
2. The **HQ Dashboard Settings: Recent Alerts** page appears.

Resource	Description
<input type="checkbox"/> Resource A	

Total: 0 Items Per Page: 15

3. In the **Display Settings** section:

- Description — (optional) Enter a description, if desired. The description will appear at the top of the portlet.
- Alert Range — Select:
 - Maximum length of the alert list: 4, 10, 20 or 30.
 - The minimum priority of the alerts to include.
 - Timeframe of interest; choices range from 30 minutes to a month.
 - Resources of interest:
 - all resources - With this setting, alerts (that meet the priority and timeframe criteria) on *any* resource can appear in the list.
 - selected resources - With this setting, alerts that appear in the list are limited to alerts on resources listed in the *Selected Resources* section. If you wish to limit the alerts listed to certain resources.

4. If desired, define a set of resources of interest in the **Selected Resources** section.

The content of the portlet will be limited to alerts that fired on resources in the **Selected Resources** only when the "all resources/selected resources" switch is set to "selected resources". The contents of the **Selected Resources** section is ignored when the "all resources/selected resources" switch is set to "selected resources".

- If the **Selected Resources** section contains resources not of interest, check the box next to them and click **Remove from List**.
- If you wish to add resources to **Selected Resources** click **Add to List**.
- The **Dashboard Settings: Alerts Add/Remove Resources** page appears.

Dashboard Settings: Alerts Add/Remove Resources																			
Resources View: Platforms All Types Filter By Name: <input type="text"/> <table border="1"> <thead> <tr> <th>Name</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> Marie-McGarrys-MacBook-Pro-46.local</td> <td>Mac OS X Snow Leopard</td> </tr> </tbody> </table>	Name	Description	<input type="checkbox"/> Marie-McGarrys-MacBook-Pro-46.local	Mac OS X Snow Leopard	Add Resources <table border="1"> <thead> <tr> <th>Name</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> Marie-McGarrys-MacBook-Pro-46.local HQ PostgreSQL 8.2 eam_action</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Marie-McGarrys-MacBook-Pro-46.local HQ PostgreSQL 8.2 eam_agent</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Marie-McGarrys-MacBook-Pro-46.local HQ PostgreSQL 8.2 eam_agent_type</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Marie-McGarrys-MacBook-Pro-46.local HQ PostgreSQL 8.2 eam_aq_ip</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Marie-McGarrys-MacBook-Pro-46.local HQ PostgreSQL 8.2 eam_aq_platform</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Marie-McGarrys-MacBook-Pro-46.local HQ PostgreSQL 8.2 eam_aq_server</td> <td></td> </tr> </tbody> </table>	Name	Description	<input type="checkbox"/> Marie-McGarrys-MacBook-Pro-46.local HQ PostgreSQL 8.2 eam_action		<input type="checkbox"/> Marie-McGarrys-MacBook-Pro-46.local HQ PostgreSQL 8.2 eam_agent		<input type="checkbox"/> Marie-McGarrys-MacBook-Pro-46.local HQ PostgreSQL 8.2 eam_agent_type		<input type="checkbox"/> Marie-McGarrys-MacBook-Pro-46.local HQ PostgreSQL 8.2 eam_aq_ip		<input type="checkbox"/> Marie-McGarrys-MacBook-Pro-46.local HQ PostgreSQL 8.2 eam_aq_platform		<input type="checkbox"/> Marie-McGarrys-MacBook-Pro-46.local HQ PostgreSQL 8.2 eam_aq_server	
Name	Description																		
<input type="checkbox"/> Marie-McGarrys-MacBook-Pro-46.local	Mac OS X Snow Leopard																		
Name	Description																		
<input type="checkbox"/> Marie-McGarrys-MacBook-Pro-46.local HQ PostgreSQL 8.2 eam_action																			
<input type="checkbox"/> Marie-McGarrys-MacBook-Pro-46.local HQ PostgreSQL 8.2 eam_agent																			
<input type="checkbox"/> Marie-McGarrys-MacBook-Pro-46.local HQ PostgreSQL 8.2 eam_agent_type																			
<input type="checkbox"/> Marie-McGarrys-MacBook-Pro-46.local HQ PostgreSQL 8.2 eam_aq_ip																			
<input type="checkbox"/> Marie-McGarrys-MacBook-Pro-46.local HQ PostgreSQL 8.2 eam_aq_platform																			
<input type="checkbox"/> Marie-McGarrys-MacBook-Pro-46.local HQ PostgreSQL 8.2 eam_aq_server																			
<input type="button" value="Ok"/> <input type="button" value="Reset"/> <input type="button" value="Cancel"/>																			

- d. In the **Resources** column:
 - i. Use the **View** filters to filter by inventory type, resource type, or both, as desired.
 - ii. Enter a substring in the **Filter by Name** field to filter by resource name, as desired.
 - iii. In the list of resources, checkmark desired resources, and click the right arrow between the columns to include them in the portlet.
 - e. If the **Add Resources** column contains resources that are not of interest, checkmark those resources and click the left arrow between the columns.
5. Click **OK**.

2.10. Saved Charts Portlet

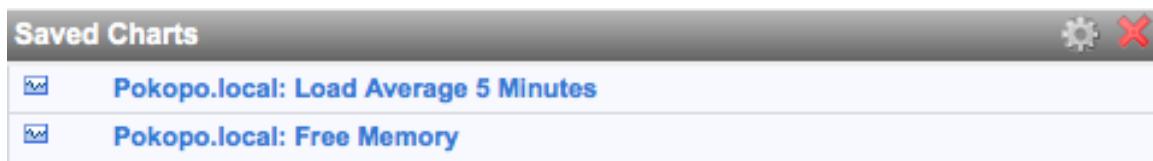
Topics marked with * relate to features available only in vFabric Hyperic.

- [About the Saved Charts Portlet](#)
- [Configure the Saved Charts Portlet](#)

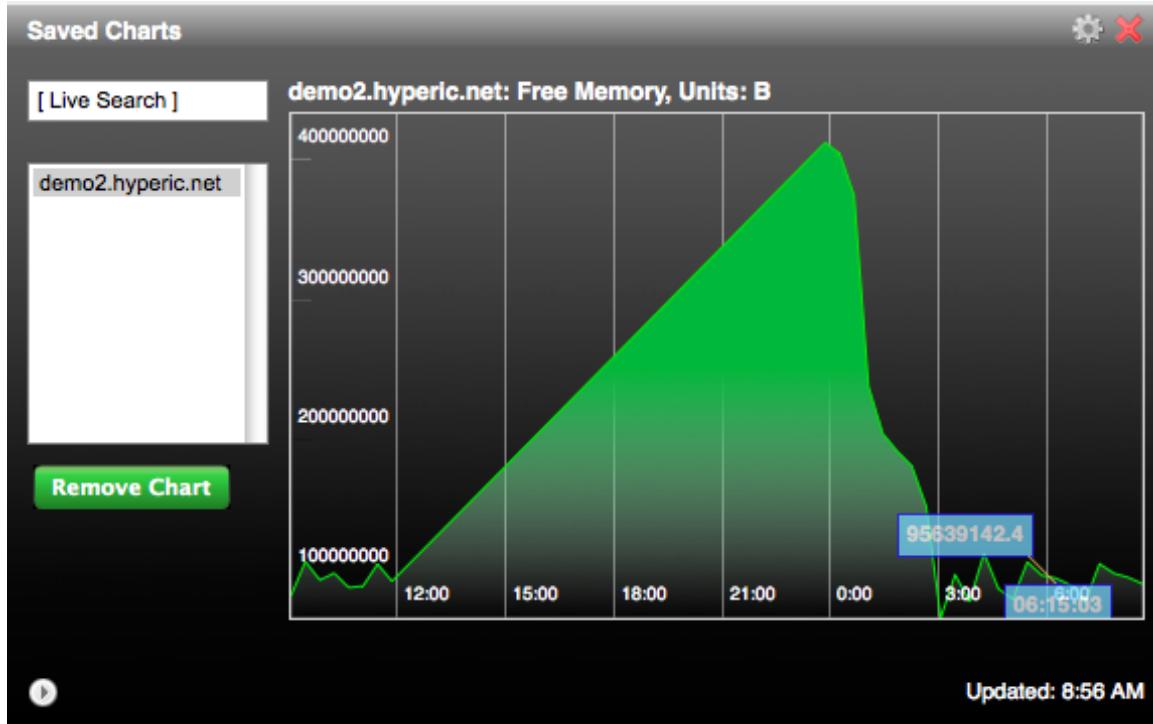
2.10.1. About the Saved Charts Portlet

The **Saved Charts** portlet allows you to view charts of interest from the dashboard. The portlet behaves differently depending on which edition of Hyperic you have.

- **Hyperic HQ** - In the open source version of Hyperic, the portlet contains links to charts that have been saved to the portlet.

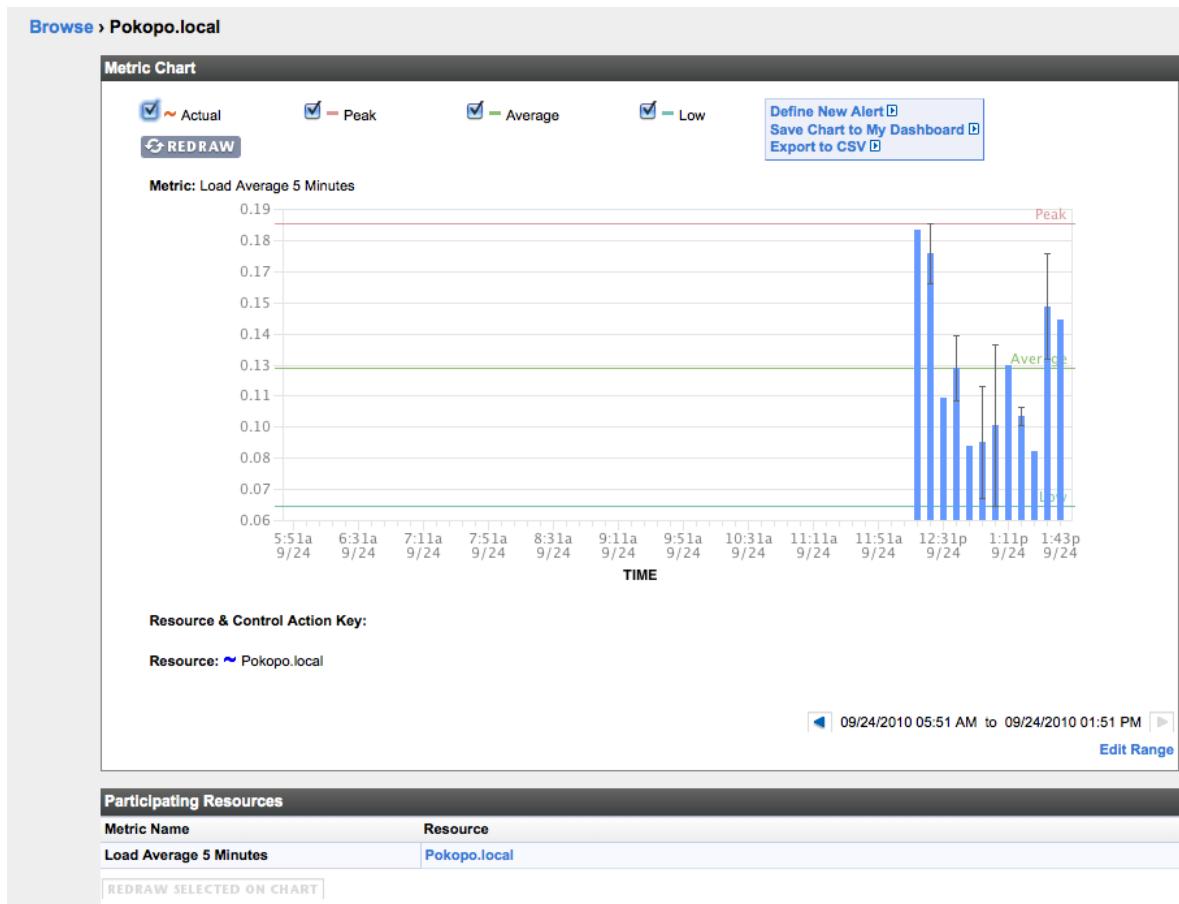


- **vFabric Hyperic** - Charts are shown as a slideshow.



2.10.2. Add Chart to Saved Charts Portlet

When you are viewing a chart, click **Save to Dashboard**, show in the screenshot below.



2.10.3. Remove Chart from Charts Portlet

In vFabric Hyperic, click **Remove Chart** button on the chart.

To remove a chart from the portlet in the open source edition of Hyperic:

1. Click the gear icon in the upper right corner of the portlet.
2. The **HQ Dashboard Settings: Charts** page appears.
1. Check the box next to each chart you wish to remove, and click **Delete**.
2. Click **OK**.

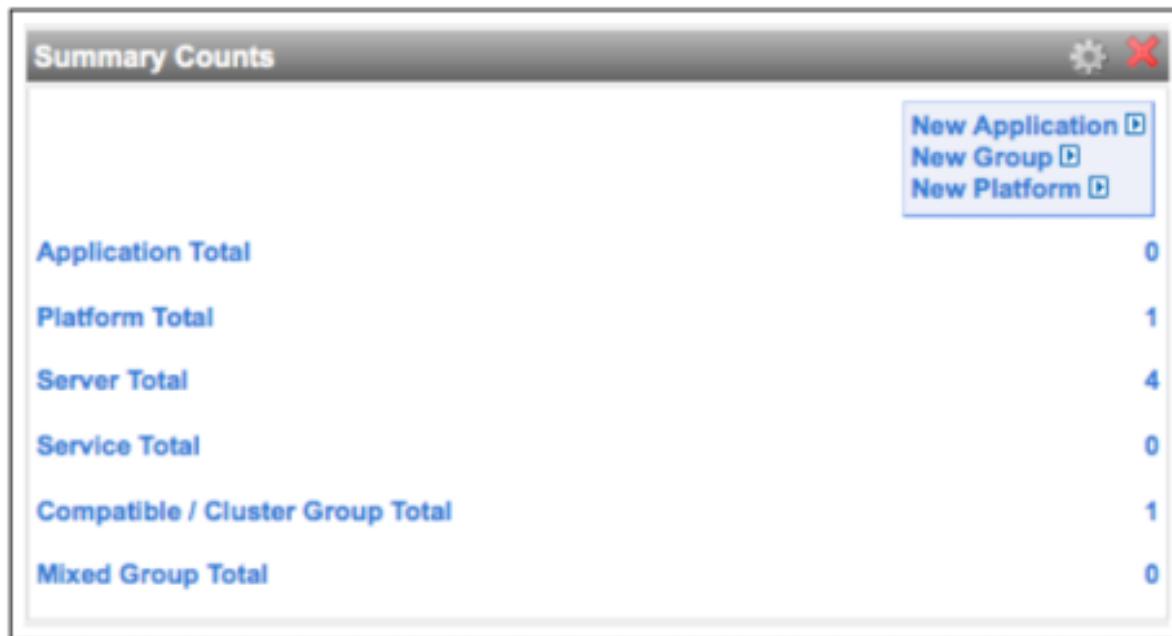
2.11. Summary Counts Portlet

Topics marked with * relate to features available only in vFabric Hyperic.

- [About the Summary Counts Portlet](#)
- [Configure the Summary Counts Portlet](#)

2.11.1. About the Summary Counts Portlet

The **Summary Counts** portlet on the HQ Dashboard shows resource counts by inventory type, and if configured to do so, counts for selected resource types. (For information about inventory and resource types, see [HQ Inventory Model](#)). By default, the **Summary Counts** portlet shows the total resources of each inventory type — Application, Platform, Server, Service, Compatible Group, and Mixed Group — as shown in the screenshot below.



2.11.2. Configure the Summary Counts Portlet

To tailor the content of the **Summary Counts** portlet:

1. Click the gear icon in the upper right corner of the portlet.
2. The **HQ Dashboard Settings: Summary Counts** page appears. The screenshot below shows the top part of the page.

HQ Dashboard Settings: Summary Counts

Display Settings

Summary Counts:

Show Total of All Applications
 Check All Application Types
 Generic Application

Show Total of All Platforms
 Check All Platform Types
 Xen Host
 Linux
 VMware VI3 Host
 Win32
 AIX
 Network Device

Show Total of All Servers
 Check All Server Types
 Weblogic Admin 8.1
 MySQL 5.x
 MySQL Process 5.x
 Nagios
 Weblogic Admin 9.2
 HQ Agent
 OC4J 10
 Tomcat 6.0
 Tomcat 5.5
 NTP 4.x
 Weblogic 10.0

3. To exclude the count for a particular inventory type, (for instance, Applications) uncheck the "Show Total of All ..." checkbox for the inventory type.
4. To show the count of resources of particular resource types, (for instance, WebLogic Admin 8.1 and MySQL 5.x), check the box next those resource types.
5. Click **OK**.
 - The screenshot below shows the **Summary Counts** portlet configured to exclude the count of applications, and to include counts for two server types: WebLogic Admin 8.1 and MySQL 5.x

Summary Counts	
New Application	
New Group	
New Platform	
Platform Total	25
Server Total	215
Weblogic Admin 8.1	1
MySQL 5.x	17
Service Total	1689
Compatible / Cluster Group Total	92
Mixed Group Total	40

3. Monitor Resources in the Resource Tab

- [Section 3.1, “Browsing to Resources”](#)
- [Section 3.2, “Indicators Minitab”](#)
- [Section 3.3, “Metric Data Minitab”](#)
- [Section 3.4, “Resources Minitab”](#)
- [Section 3.5, “Metric Display Range”](#)
- [Section 3.6, “Charting Metric Data”](#)
- [Section 3.7, “Read a Full Page Chart”](#)
- [Section 3.8, “Tools Menu”](#)
- [Section 3.9, “Map Control”](#)
- [Section 3.10, “Metric Extrapolation View for Groups”](#)

3.1. Browsing to Resources

- [Section 3.1.1, “List Resources by Inventory Type”](#)
- [Section 3.1.2, “List Resources by Resource Type”](#)
- [Section 3.1.3, “Filter Platforms, Servers, and Services by Group”](#)
- [Section 3.1.4, “Filter Resources by Name, Owner, and Availability”](#)

3.1.1. List Resources by Inventory Type

The first time you display the **Resources > Browse** page during a session, it lists the platforms in inventory, and the type, description, and current availability for each. See the screenshot below for an example. To list resources of another inventory type, click the link for that type — **Servers**, **Services**, **Compatible Groups/Clusters**, **Mixed Groups**, or **Applications** — above the resource list.

Platform	Type	Description	Availability
anglias.mirko-pluhar.de	Linux	Debian 4.0	Green
bear.intranet.hyperic.net	Linux	CentOS 4.3	Green
demo2.hyperic.net	Linux	Red Hat Enterprise Linux 5	Green
dolphin.intranet.hyperic.net	Linux	CentOS 4.2 (VM Guest of esx2.intranet.hyperic.net)	Green
esx1	VMware VI3 Host	VMware ESX Server 3.5.0 build-64607	Green
esx3i	VMware VI3 Host	VMware ESX Server 3i 3.5.0 build-82664	Green
esx3i.intranet.hyperic.net - 2	VMware VI3 Host	10.0.0.3	Red
exchange2007.mercury.internal	Win32	Microsoft Windows 2003	Red
hammer.intranet.hyperic.net	Linux	CentOS 5.2	Green
imhotep-2nd-agent	Linux	CentOS 5.3	Green
imhotep.intranet.hyperic.net	Linux	CentOS 5.3	Green
mothra-test-weblogic2	Linux	CentOS 5.2	Green
mothra.intranet.hyperic.net	Linux	CentOS 5.2	Green
panther.intranet.hyperic.net	Win32	Microsoft Windows 2003	Green
patriot.intranet.hyperic.net	Linux	CentOS 4.2	Red

3.1.2. List Resources by Resource Type

After you select an inventory type to list, a resource type selector list appears. The pulldown label depends on the currently selected inventory type, for example, **All Platform Types**, **All Server Types**, and so on. For example, in when screenshot below, the **Platforms** inventory type is selected, so a **Platform Types** pulldown is present. Select a platform type from the list to list only resources of that type.

Platform Type	Description	Availability
Linux	Debian 4.0	
Linux	CentOS 4.3	
Linux	Red Hat Enterprise Linux 5	

If the currently selected inventory level is **Servers or Services**, a pulldown list of resource types of the selected inventory type is present. Select a resource type from the list to list only resources of that type.

If the currently selected inventory level is **Compatible Groups/Clusters**, a pulldown list labelled "Group Type" will appear. The list will contain resource types. If there is at least one compatible group of a resource type, that type will appear in the pulldown. Select a resource type from the list to list only groups that contain that type.

If the currently selected inventory level is **Mixed Groups**, a pulldown list labelled "Group Type" will appear. (See the pulldown to the right of the *Platform Types" list in the screenshot in [List Resources by Resource Type](#)). The entries in the list depend on the mixed groups configured in your environment. Select a group type from the list to list only groups of that composition. Depending on your deployment, the list may include:

- **Mixed Group - Platforms, Servers and Services**
- **Mixed Group - Groups**
- **Mixed Group - Applications**

3.1.3. Filter Platforms, Servers, and Services by Group

When the currently selected inventory level is **Platforms, Servers or Services**, a pulldown list of groups appears. It lists both compatible and mixed groups to which you have access. To list the platforms, servers, or services that are members of a particular group, select the group from the **All Groups** pulldown.

3.1.4. Filter Resources by Name, Owner, and Availability

You can apply additional filters the list of resources currently displayed.

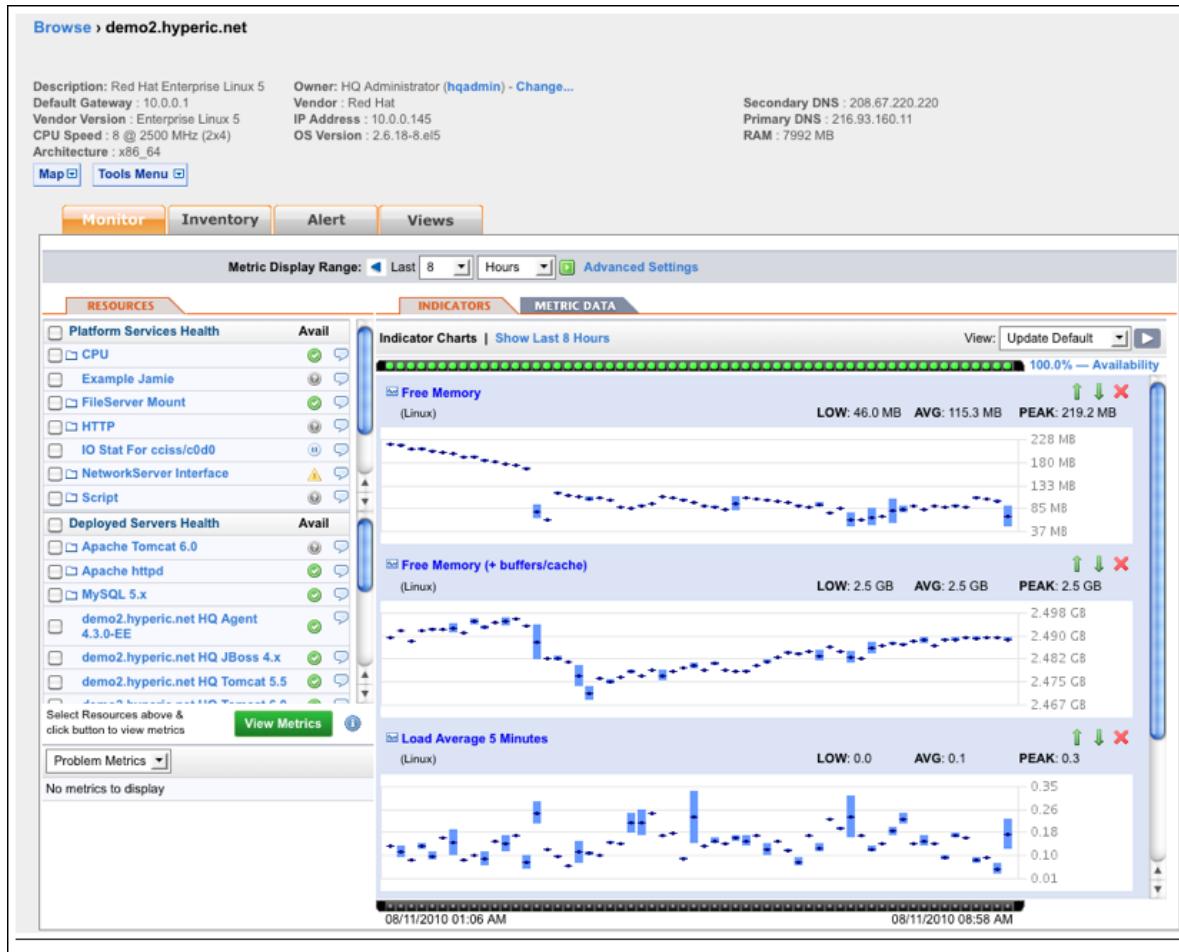
1. To filter by resource name, enter an alphanumeric string that matches all or a portion of resource name.
2. Click the **Unavailable** box to filter the current list of resources to include only resources that are currently unavailable.
3. Click the **Owned by UserName** box to filter to include only resources
4. Click the green control to the right of the filter options to apply the filters.

3.2. Indicators Minitab

- [Section 3.2.1, “Overview of Indicators Minitab”](#)
- [Section 3.2.2, “Availability Bar and Timeslices”](#)
- [Section 3.2.3, “Metric Charts in the Indicators Minitab”](#)
- [Section 3.2.4, “Event Icons and Popups”](#)

3.2.1. Overview of Indicators Minitab

The **Indicators** minitab contains a chart for each indicator metric for the currently selected resource.



3.2.2. Availability Bar and Timeslices



The bars across the top and bottom of the the tab — labelled "D" and "G" in the screenshot in the [Overview of Indicators Minitab](#) section — contain grey dots, each of which corresponds to a timeslice. The length of

the timeslices depends upon the currently selected **Metric Display Range** — if the display range is 8 hours, each timeslice is 8 minutes. If the display range is 4 hours, each timeslice is 4 minutes. The color of the dot for a timeslice indicates the availability of the resource during that timeslice. If the timeslice is longer than the collection interval for the metric, the availability shown for the timeslice is based on the multiple data points collected during the timeslice.

- **Green** — indicates 100% availability during timeslice — each time that availability was reported during the interval, the resource was available.
- **Orange** — indicates availability greater than 0% and less than 100% — during the interval, the availability of the resource was reported to be unavailable data point during the interval was the resource was available
- **Red** — indicates 0% availability during timeslice — each time that availability was reported during the interval, the resource was not available.

The average availability over the display range is shown to the right of the availability bar.

Click an availability indicator to display the start time of the timeslice, and a vertical bar to help you view the state of each metric during the timeslice. Click the thumbnail for an example.



3.2.3. Metric Charts in the Indicators Minitab

The **Indicators** page displays a chart of each of the resource's indicator metrics. (This portion of the page is labeled "E") in the screenshot in the [Overview of Indicators Minitab](#) section ---The values labeled **LOW**, **AVG**, and **PEAK** are the lowest, average, and highest values collected during the metric display range.

The indicators are displayed as column charts: the area of each column indicates the value range (the high and low values) of the metric. The average value of the metric is indicated by the cross in the column. The charts

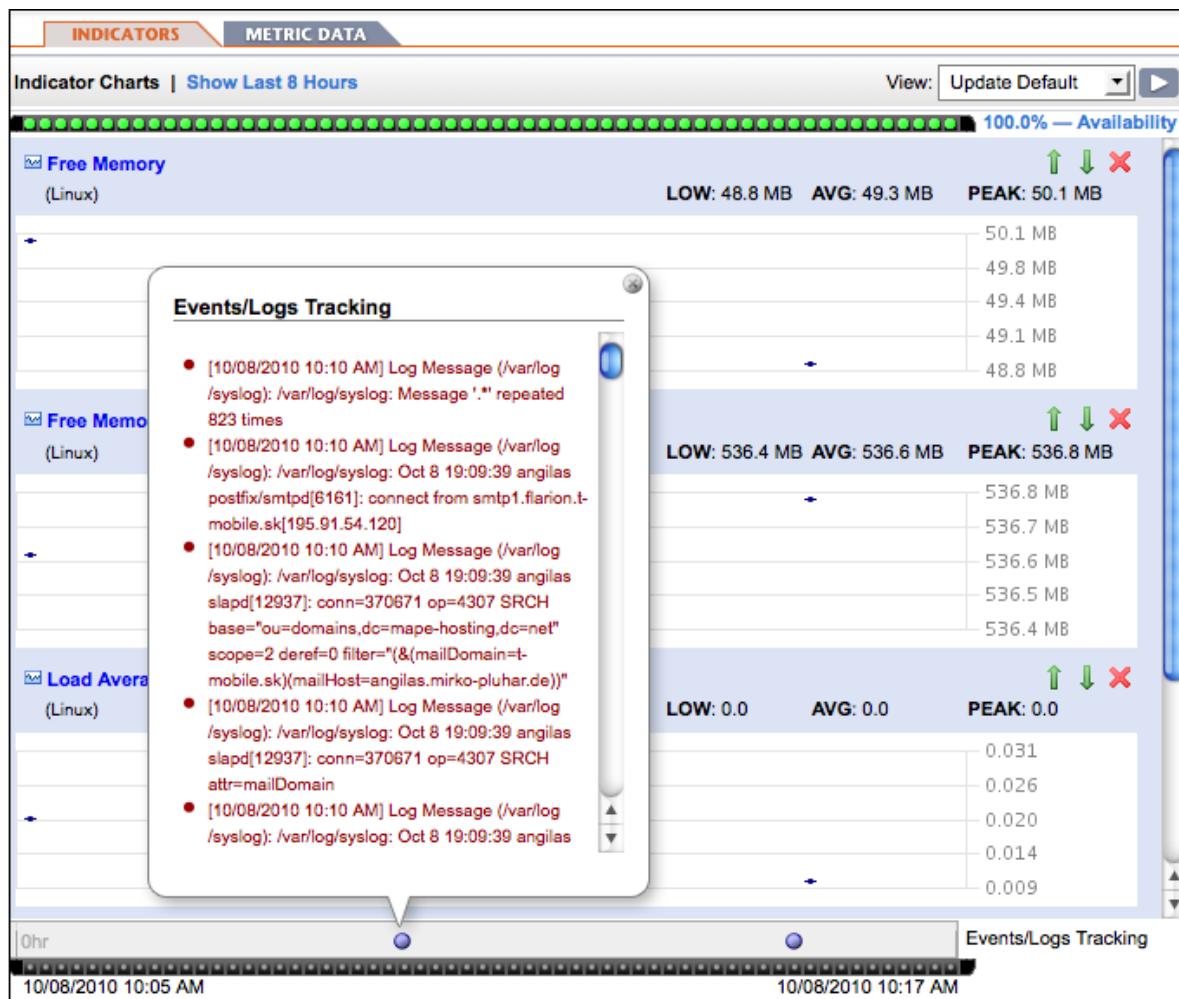
are stacked vertically so that their X-axis (time) values line up. This works in conjunction with the vertical highlight from the availability and timeline bars to analyze the metric data across multiple metrics for a specific time. This is useful when trying to diagnose a problem at a specific time by correlating relevant metric values. Arrangements of charts for selected metrics can be saved as a "view" so that users can easily always compare the same metric data and therefore understand the interaction between different resources.

- To change the display order of the charts, click the up and down arrow controls at the upper-right-hand corner of each chart.
- To remove a chart from display, click the red X icon at the upper-right-hand corner of the chart.
- To save the set of displayed charts and their order, either
 - Update the current view: Select "Update <current-view name>" in View and click the icon.
 - Create a new view: Select "Create New View" in View, type a view name, and click icon!.
- To delete the current view: Select "Delete View" in View and click icon!.png!.
- To display another view: Select "Go to View" in View and select one of the views.



3.2.4. Event Icons and Popups

A purple circular icon over a timeslice in the the bar at the bottom of the **Indicators** pane indicates an event was logged occurred during that timeslice. Click an event icon to display details in a popup.



3.3. Metric Data Minitab

- [Section 3.3.1, “Metric Data Minitab”](#)
 - [Metric Data Minitab for a Single Resource](#)
 - [Metric Data Minitab for an Autogroup or Compatible Group](#)
 - [Compare Metrics for Resources in a Compatible Group](#)
 - [View Metric Details and Metadata](#)
- [Section 3.3.2, “Set Page Refresh Frequency”](#)
- [Section 3.3.3, “Tailor Metric Collection Settings for the Resource”](#)
 - [Disable Collection of a Metric](#)
 - [Enable Collection of a Metric](#)
 - [Set Collection Interval for a Metric](#)
- [Section 3.3.4, “Configure a Metric Baseline and Acceptable Low and High Values”](#)

3.3.1. Metric Data Minitab

This **Metric Data** minitab, available when an individual resource, or a group of resources of the same type are selected, is a tabular summary of the measurements collected during the currently selected metric display range.

By default, the **Metric Data** minitab displays only metrics for which measurements exist during the metric display range. To list all metrics supported for the resource, click the control next to **Show All Metrics** at the top of the **Metric Data** minitab.

When all supported metrics for a resource are listed, a **Hide Metrics Without Data** control replaces the **Show All Metrics** control - click the control next to it to toggle the display.

The columns in the **Metric Data** minitab vary, depending on whether an individual resource or a group of resources is selected, as described in the subsections below.

Metric Data Minitab for a Single Resource

The Metric Data minitab displays the following data for each metric that is enabled for one or more members of a compatible, over the current metric display range:

- **Alerts** — Number of times a collected metric value triggered an alert.
- **OOB** — Number of times the metric was out-of-bounds.
- **LOW** — Lowest value collected.
- **AVG** — Average of values collected.
- **PEAK** — Highest value collected.
- **LAST** — Last collected value.
- **Collection Interval** — Frequency of metric collection. "NONE" indicates that data is not being collected.

	Availability	OOB	LOW	AVG	PEAK	LAST	Collection Interval
Availability	0	0	-	100.0%	-	<input checked="" type="checkbox"/>	00:05:00
Performance	0	0	6.161ms	280.847ms	1.232s	177.724ms	00:10:00
Total Processing Time per Minute	0	0	0.5	23.1	43.9	9.8	00:10:00
Number of Requests Served per Minute	0	0	0.5	23.1	43.9	9.8	00:10:00
Utilization	0	0	135.0	137.5	271.0	136.0	00:05:00
JVM Active Thread Count	0	0	135.0	137.5	271.0	136.0	00:05:00

Metric Data Minitab for an Autogroup or Compatible Group

The *Metric Data minitab displays the following data for each metric that is enabled for one or more members of a group of resources of the same type — an autogroup or a compatible group.

- **Number Coll** — Number of data points collected across all group members for which the metric is enabled.
- **Alerts** — Number of times a collected metric value triggered an alert.

- **OOB** — Number of times the metric was out-of-bounds across all group members.
- **LOW** — Lowest value collected across all group members.
- **AVG** — Average of values collected across all group members.
- **PEAK** — Highest value collected across all group members.
- **SUM** — Sum of all values collected, not for a metric whose unit is percentage.
- **Collection Interval** — Frequency of metric collection.
 - "NONE" — indicates that data is not being collected.
 - "VARIES" — Indicates that the collection interval varies among members of the group.
- Member health data — (For compatible groups only, not autogroups) The lower portion of the Metric Data minitab for a compatible group lists the resources in the group, the current availability of each, and in the rightmost column. an icon that links to the **Alerts** page for the resource.

Browse > Agents

[Return to Agents](#)

Description: Owner: Javier Soltero ([javier](#)) - Change...

[Map](#) [Tools Menu](#)

[Monitor](#) [Inventory](#) [Alert](#) [Views](#)

RESOURCES		INDICATORS METRIC DATA																														
Group Members	Avail																															
anglias.mirko-pluhar.de HQ Agent 4.1.1-EE		Show All Metrics [x] Last Updated: Fri Mar 11 10:31:27 2011 Metrics Refresh: 1 min 2 min 5 min OFF Availability # Coll. Alerts OOB LOW AVG PEAK SUM Collection Interval Availability 768 0 0 - 100.0% - 00:05:00 ⓘ Start Time 768 0 0 - - - 11/16/10 1:11:05 AM 00:05:00 ⓘ Up Time 288 0 0 - - - 146 days 12:19:55 VARIES ⓘ Performance Number of Metrics Sent to Server per Minute 384 0 0 9.3 96.8 412.5 37,160.7 00:10:00 ⓘ Server Offset 1152 0 0 0ms 29.823s 00:02:55.6 09:32:36.343 VARIES ⓘ Total Time Spent Fetching Metrics per Minute 384 0 0 0.8ms 449.882ms 2.171s 00:02:52.754 00:10:00 ⓘ Throughput Number of Metrics Collected per Minute 384 0 0 9.3 96.8 412.0 37,160.7 00:10:00 ⓘ Utilization Cpu Total Time per Minute 768 0 0 15.405ms 306.158ms 1.168s 00:03:55.129 00:05:00 ⓘ JVM Free Memory 768 0 0 0.0 B 13.7 MB 36.5 MB 10.3 GB 00:05:00 ⓘ JVM Total Memory 768 0 0 13.7 MB 44.4 MB 64.0 MB 33.3 GB 00:05:00 ⓘ Open File Descriptors 768 0 0 26.0 298.3 1,838.0 229,078.0 00:05:00 ⓘ Resident Memory Used 768 0 0 63.8 MB 91.4 MB 119.7 MB 68.5 GB 00:05:00 ⓘ																														
Host Platforms	Avail																															
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vmlin-was-03.intranet.hyperic.net																																
vmwin-dm02-01																																
Show Metrics of Categories																																
<input checked="" type="checkbox"/> Availability	<input checked="" type="checkbox"/> Utilization																															
<input checked="" type="checkbox"/> Throughput	<input checked="" type="checkbox"/> Performance																															
Show Metrics with Value Types																																
<input checked="" type="checkbox"/> Dynamic	<input checked="" type="checkbox"/> Trends Up																															
<input checked="" type="checkbox"/> Trends Down	<input checked="" type="checkbox"/> Static																															
Keyword Search: <input type="text"/>																																
DISABLE COLLECTION Collection Interval for Selected: <input type="text"/> Minutes																																
Current Health of group's HQ Agent resources collecting metrics																																
Avail																																
<table border="1"> <tr> <td><input type="checkbox"/> HQ Agent ^</td> <td></td> <td></td> </tr> <tr> <td>anglias.mirko-pluhar.de HQ Agent 4.1.1-EE</td> <td></td> <td></td> </tr> <tr> <td>bear HQ Agent 4.0.2-EE</td> <td></td> <td></td> </tr> <tr> <td>demo2.hyperic.net HQ Agent 4.3.0-EE</td> <td></td> <td></td> </tr> <tr> <td>imhotep.intranet.hyperic.net HQ Agent 4.2.0-EE</td> <td></td> <td></td> </tr> <tr> <td>vmlin-was-03.intranet.hyperic.net HQ Agent 4.3.0-EE</td> <td></td> <td></td> </tr> <tr> <td>vmwin-dm02-01 HQ Agent 4.3.0-EE</td> <td></td> <td></td> </tr> <tr> <td>voltron HQ Agent 4.2.0-EE</td> <td></td> <td></td> </tr> </table>									<input type="checkbox"/> HQ Agent ^			anglias.mirko-pluhar.de HQ Agent 4.1.1-EE			bear HQ Agent 4.0.2-EE			demo2.hyperic.net HQ Agent 4.3.0-EE			imhotep.intranet.hyperic.net HQ Agent 4.2.0-EE			vmlin-was-03.intranet.hyperic.net HQ Agent 4.3.0-EE			vmwin-dm02-01 HQ Agent 4.3.0-EE			voltron HQ Agent 4.2.0-EE		
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vmwin-dm02-01 HQ Agent 4.3.0-EE																																
voltron HQ Agent 4.2.0-EE																																
Total: 8 Items Per Page: <input type="text"/> 15																																

Compare Metrics for Resources in a Compatible Group

Check the member resources in "Current Health of group's <group name> resources collecting metrics" and click **Compare Metrics of Selected** at the bottom of the page. and proceed to the "[Compare Metrics](#)" screen.

View Metric Details and Metadata

To display metric data for a single resource in a separate window, click the log at the right end of metric data for the resource.

Metric Details and Metadata: Marie-McGarrys-MacBook-Pro-46.local								
Metric Name			Resource Name					
Category			Indicator					
Collection Type			Base Units					
Alias			bytes					
Platforms		Low Range	High Range	Collection Interval	Enabled	Last Modified	Last Value	Last Value Collection Time
Marie-McGarrys-MacBook-Pro-46.local		N/A	N/A	00:05:00	Yes	10/07/2010 09:05 AM	20.5 MB	10/08/2010 10:00 AM
				close	refresh			

3.3.2. Set Page Refresh Frequency

To change the frequency with which the page refreshes, click a refresh value or **OFF**, in the **Metric Refresh** section in the upper right of the minitab.

3.3.3. Tailor Metric Collection Settings for the Resource

You can tailor the metric collection settings for the resource on the **Metric Data** minitab.

Resource-Level Metric Collection Settings can Be Overwritten

The default metric collection settings for a resource are specified on the **Administration > Monitoring Defaults** page for the associated resource type. You can alter the metric collection interval for a specific resource on its **Metric Data** minitab — note however that subsequent updates to the monitoring defaults for the resource type will overwrite any modifications to collection intervals made for a specific resource. For information about setting metric collection options for all resources of the same resource type, see the [Configure Metric Collection for a Resource Type](#) page of the *Configure Monitoring Options* guide.

Modifying Metric Collection for a Group

Changes to make to metric collection settings for a group will apply to all members of that group.

Disable Collection of a Metric

1. Place a checkmark next to each metric you wish to disable.
2. Click **Disable Collection** at the bottom of the minitab.

Note: If the currently selected resource is a compatible group, collection of the metric is disabled for all resources in the group.

Enable Collection of a Metric

1. Click the arrow to the right of **Show All Metrics** at the top of the minitab.
 - All metrics, including currently disabled metrics, will be listed.
2. Place a checkmark next to each metric you wish to enable.

3. Click **Enable Collection** at the bottom of the minitab.

Note: If the currently selected resource is a compatible group, collection of the metric is enabled for all resources in the group.

Set Collection Interval for a Metric

1. If the Metric Data minitab currently display all metrics for the resource, including disabled metrics, click **Hide Metrics Without Data**.
2. Place a checkmark next to the metric whose collection interval you wish to modify.
 - You can checkmark more than one metric if you want to set the same collection interval for each of them.
3. To specify the frequency of metric collection:
 - a. Enter an integer value in the **Collection Interval for Selected** field.
 - b. Select "Minutes" or "Hours" from the pull-down list.
 - c. Click the arrow to the right of the "Minutes/Hours" pull-down list.

3.3.4. Configure a Metric Baseline and Acceptable Low and High Values

Available only in vFabric Hyperic

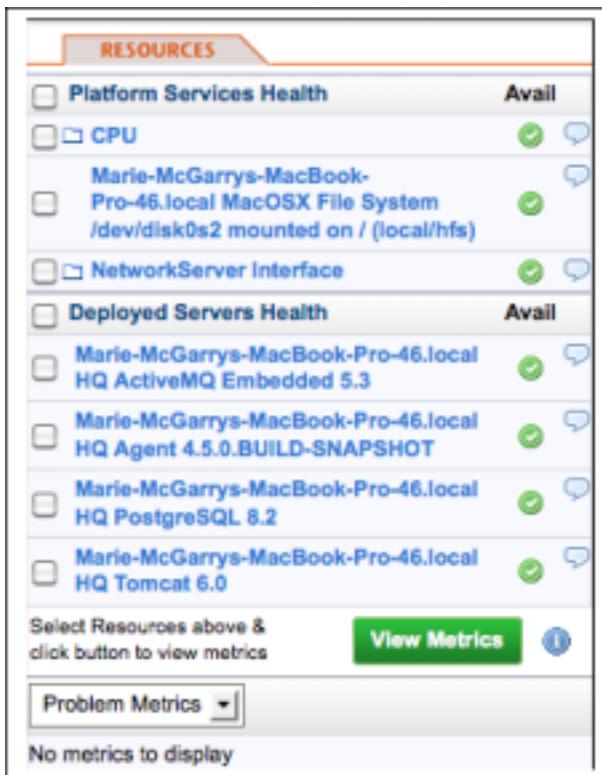
In vFabric Hyperic, you can use the **Set Baselines** control at the bottom of the **Metric Data** minitab to set the baseline, acceptable high, and acceptable low values for a metric. For more information, see the "Set Baselines to Current Low, Average, and Peak" section in the [Understand and Configure Metric Baselines](#) page of the vFabric Hyperic Administration Guide.

3.4. Resources Minitab

- [Section 3.4.1, “Resources Minitab”](#)
- [Section 3.4.2, “Resource Lists in the Resources Minitab”](#)
- [Section 3.4.3, “Availability Icons in the Resources Minitab”](#)
- [Section 3.4.4, “Availability Details in the Resources Minitab”](#)
- [Section 3.4.5, “Metric Summaries in the Resources Minitab”](#)
- [Section 3.4.6, “View Metric Data for Related Resources in the Resources Minitab”](#)
- [Section 3.4.7, “Use Controls and Popup Options in the Resources Minitab”](#)
- [Section 3.4.8, “Filter Metrics by Category and Value Type”](#)

3.4.1. Resources Minitab

The **Resources** minitab for a resource in the Resource Hub lists the resources with which the current resource has a parent or child relationship, as shown in the screenshot below.



3.4.2. Resource Lists in the Resources Minitab

For a....	the Resource minitab lists these related resources....
Platform	<ul style="list-style-type: none"> • Platform Services Health ---List of platform services running on the platform • Deployed Servers Health — List of servers running on the platform. If more than one service or server of the same type runs on a host, they are presented as a single item in the appropriate list - an autogroup - whose name is the resource type.
Server	<ul style="list-style-type: none"> • Services --- List of services running in the server. If more than one service runs on a server, they are presented as a single item - an autogroup - whose name is the resource type. • Host Platform --- Platform where the server runs.
Service	<ul style="list-style-type: none"> • Host Server --- Server where the service runs.

For a....	the Resource minitab lists these related resources....
Compatible Group	<p>*Group Members *--- List of resources in the group, and <i>either</i>:</p> <ul style="list-style-type: none"> • *Host Platforms *--- If the compatible group contains servers, this section lists each platform upon which one or more group member runs. • Host Servers — If the compatible group contains services, this section lists each server upon which a group member runs.
Applications	<ul style="list-style-type: none"> • Services --- List of the services that the server comprises. If the application contains more than one service of the same type, they are presented as a single item in the Services list - an autogroup - whose name is the resource type. • Host Servers --- Lists each server upon which a service in the applications runs.

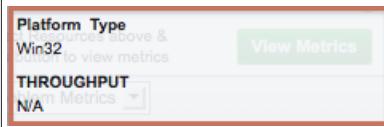
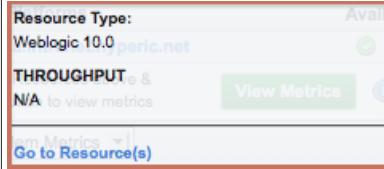
3.4.3. Availability Icons in the Resources Minitab

The color of the icon in the **Availability** column indicates the current availability status of the resource, or the resource group.

Availability Icon Color	Availability Icon	Definition
Green		Indicates that an individual resource is currently available, or in the case of an autogroup, all members of the group are currently available.
Yellow		This value appears for an autogroup only — indicates that at least one group member, but not all members, is not available.
Red		Indicates that an individual resource is currently unavailable, or in the case of an autogroup, none of the members are currently available.
Grey		For an individual resource, indicates that its availability is unknown. For an autogroup, indicates that the availability of at least one of the members is unknown.

3.4.4. Availability Details in the Resources Minitab

Hover over the  callout icon for more information about the resource. The information displayed in the popup varies by resource type.

For a...	the popup contains	Example
Platform, Platform Service, Server, or Service	<ul style="list-style-type: none"> Inventory level and resource type of the resource. Last known throughput metric value for the resource. 	
Autogroup	<ul style="list-style-type: none"> Inventory level and resource type of the resource. Breakdown of resources availability by availability status 	
Compatible Group	<ul style="list-style-type: none"> Resource type for the resources in the group Last known throughput metric value for the group. Go to Resources link — Click to expand the group and see a list of its members. 	

3.4.5. Metric Summaries in the Resources Minitab

When the **Indicators** minitab is selected, you can use the controls in the **Resources** minitab on the left side of the page to display information about metrics collected for the current resource and resources directly related to it.

You checkmark one or more of the resources listed in the **Resources** minitab, and then choose **All Metrics** or **Problem Metrics** to display all available metrics, or only those with measurements that were out-of-bounds or fired alerts during the metric display range. When you click **View Metrics** the metrics that meet your are listed.

For example, in the the screenshot below, the **Resources** minitab lists all of the metrics collected for the current platform, and all of the metrics collected for a Tomcat server running on the platform. The **OOB** and **Alerts** columns for a metric show how many times the metric was out-of-bounds or fired an alert

RESOURCES

	Platform Services Health	Avail
<input type="checkbox"/>	CPU	
<input type="checkbox"/>	Marie-McGarrys-MacBook-Pro-46.local MacOSX File System /dev/disk0s2 mounted on / (local/hfs)	
<input type="checkbox"/>	NetworkServer Interface	
	Deployed Servers Health	Avail
<input type="checkbox"/>	Marie-McGarrys-MacBook-Pro-46.local HQ ActiveMQ Embedded 5.3	
<input type="checkbox"/>	Marie-McGarrys-MacBook-Pro-46.local HQ Agent 4.5.0.BUILD-SNAPSHOT	
<input type="checkbox"/>	Marie-McGarrys-MacBook-Pro-46.local HQ PostgreSQL 8.2	
<input checked="" type="checkbox"/>	Marie-McGarrys-MacBook-Pro-46.local HQ Tomcat 6.0	

Select Resources above & click button to view metrics

View Metrics

All Metrics OOB Alerts

MacOSX

Free Memory	0	0	
Load Average 5 Minutes	0	0	
Swap Used	0	0	
Availability	0	0	

Apache Tomcat 6.0

Heap Memory Free	0	0	
Process Cpu Time per Minute	0	0	

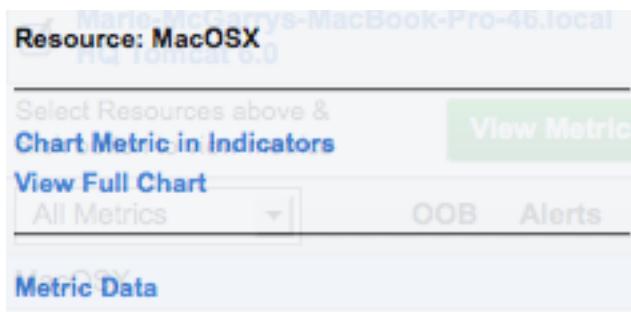
3.4.6. View Metric Data for Related Resources in the Resources Minitab

1. Checkmark the box next to each resource for which you wish to display metrics.
2. Filter metrics as desired:
 - **Problem Metrics** — Only metrics whose values are outside the expected range established via the baselining process will be listed. For each metric, the portlet displays two counts: the number of the selected resources that have "OOB" values for the metric, and the number of "Alerts" that the metric value has triggered
 - **All Metrics** — The indicator metrics for selected resources will be listed - regardless of whether they are out of bounds.
3. Click **View Metrics**.

3.4.7. Use Controls and Popup Options in the Resources Minitab

When you use the **View Metrics** option described in the previous section to list metrics, two controls are available for each metric, to the right of the **Alerts** column.

1. Hover over the callout icon next to a metric to display a popup menu of options.



- Click **Chart Metric in Indicators** to add a chart for the metric to the chart pane to the right.
- Click **View Full Chart** to view a full page chart for the metric.
- Click **Metric Data** to display the **Metric Details and Metadata** for the metric in a new window.

Metric Details and Metadata: Marie-McGarrys-MacBook-Pro-46.local							
Metric Name		Resource Name					
Category		Indicator					
Collection Type		Base Units					
Alias	MemFree	bytes					
Platforms	Low Range	High Range	Collection Interval	Enabled	Last Modified	Last Value	Last Value Collection Time
Marie-McGarrys-MacBook-Pro-46.local	N/A	N/A	00:05:00	Yes	10/07/2010 09:05 AM	20.5 MB	10/08/2010 10:00 AM
close				refresh			

3.4.8. Filter Metrics by Category and Value Type

When the **Metric Data** minitab is active, rather than the **Indicators** minitab, the **Resources** minitab provides filtering options near the bottom of the tab, as shown in the screenshot below:

The screenshot shows the VMware Metric Data interface. At the top, there are tabs for Monitor, Inventory, Alert, Control, and Views, with Monitor being the active tab. Below the tabs is a metric display range selector set to 'Last 8 Hours'. There are also 'Advanced Settings' and 'Metrics Refresh' buttons.

The main area has three tabs: RESOURCES, INDICATORS (which is active), and METRIC DATA. The RESOURCES tab shows a list of services and host platforms with their status (Avail or Unavailable). The METRIC DATA tab displays a table of metrics with columns for Alerts, OOB, LOW, AVG, PEAK, LAST, and Collection Interval. The table includes metrics like Availability, Performance, Throughput, Utilization, and JVM Active Thread Count. On the left side of the METRIC DATA tab, there are checkboxes for filtering metrics by category (Availability, Throughput, Utilization, Performance) and value type (Dynamic, Trends Up, Trends Down, Static). A green arrow icon is located at the bottom right of this filter section. Below the filter section is a 'Keyword Search:' input field.

1. Uncheck a metric category — Availability, Throughput, Utilization, or Performance — to exclude metrics of that type from the list of metrics.
2. Value Type - Uncheck a value type - Dynamic, Trends Up, Trends Down, or Static — to exclude metrics with that value type from the list of metrics.
3. Click the green arrow control to filter the list.

3.5. Metric Display Range

- [Section 3.5.1, “Default Metric Display Range”](#)
- [Section 3.5.2, “Select a Number of Minutes, Hours, or Days”](#)
- [Section 3.5.3, “Advanced Settings for Metric Display Range”](#)

3.5.1. Default Metric Display Range

By default, the last 8 hours of history are presented on the **Indicators** page and other views in the **Monitor** tab. There are two ways to change the display range.

3.5.2. Select a Number of Minutes, Hours, or Days

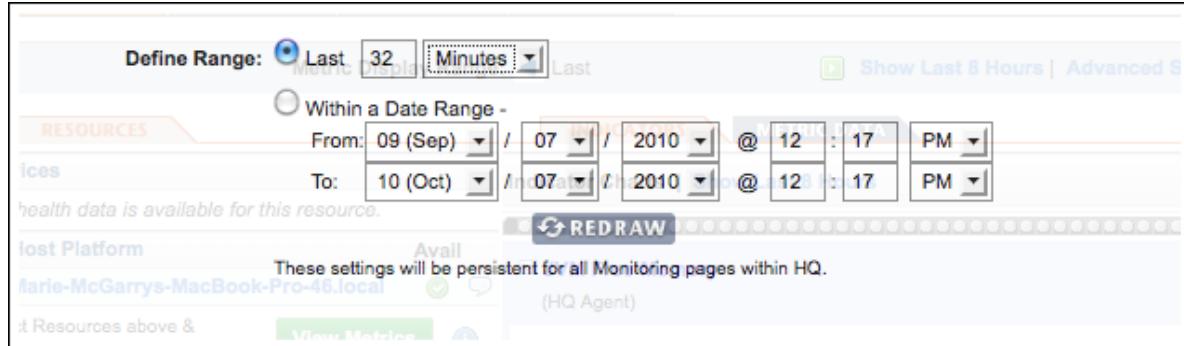
Use the pulldowns in the **Metric Display Range** section of the page to select a numeric value (available choices range from 4 to 120) and a unit of time (minutes, hours or days), and click the green right-arrow to refresh the page.



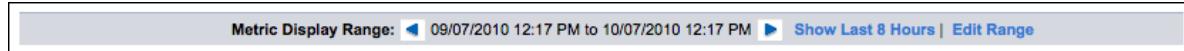
3.5.3. Advanced Settings for Metric Display Range

For more control over the display range, click **Advanced Settings** in the **Metric Display Range** section of the page. On the popup that appears, shown below, either:

- Click **Last**, enter a number, and select a unit of time (minutes, hours or days) and click **REDRAW**, or
- Click **Within a Date Range**, and use the pulldowns and fields to designate the start and end of the desired display interval, and click **REDRAW**.



After the page is redrawn, the **Metric Display Range** section shows the currently selected range. You can use the **Show Last 8 Hours** to return to the default display range, or **Edit Range** to display the **Advanced Settings** popup and choose a different display range.



3.6. Charting Metric Data

Topics marked with * relate to features available only in vFabric Hyperic.

A metric chart is a graphical representation of the metric data that Hyperic HQ collects for each resource. Each [resource type](#) support a different set of metric data, so chart vary by resource type also. Charts can help you see trends in resource behavior, which can in turn be helpful for capacity planning, cost analysis, and other operational decision-making.

HQ displays all full-page metric charts in the "[Metric Chart](#)" screen, where you can adjust how the metric is displayed. (Indicator charts are more minimally displayed on the "[Current Health](#)" screen.) Consult the help for those screens for the nitty gritty about viewing and interpreting charts.

- Chart [types \[94\]](#): What they are and how to view them
- How a chart is [constructed](#)

3.6.1. Chart Types: What They Are and How to View Them

There are three kinds of charts, and each gives you a different perspective on resource health. For any chart, you have to select the metrics to be charted: this selection occurs on the "[Current Health](#)" screen for the re-

source (or for the parent group if looking at multiple resources), on the  tab, on the  tab, which lists all the metrics collected for the resource being viewed. The chart of the selected metric(s) is displayed on the "[Metric Chart](#)" screen.

Type	Description
Single Metric Single Resource	<p>This chart shows a single metric for a single resource.</p> <p>To chart a single metric:</p> <ul style="list-style-type: none"> On the METRIC DATA tab, click the name of the metric or next to the metric whose chart you want to see. <p>Another way to view the chart page for a metric for a single resource is from the INDICATORS tab on the monitor visibility pages. If an indicator chart represents a metric for a single resource, clicking on its name will also display the full chart page for that metric and resource.</p>
Multiple Metrics Single Resource	<p>This chart shows up to a maximum of ten metrics simultaneously for a single resource, which is handy for getting an overall sense of the resource's health.</p> <p>To chart multiple metrics for a single resource:</p> <ul style="list-style-type: none"> On the METRIC DATA tab, check the names of the metrics you want to chart and click CHART SELECTED METRICS. <p>The INDICATORS tab also displays multiple metrics for a single resource. See the help for the "Current Health" screen for an explanation.</p>
Single Metric Multiple (Group) Resources	<p>This chart shows a single metric for a maximum of ten resources, which allows you to compare the behavior of different resources. The resources must be members of a single compatible group or of a single autogroup.</p> <ul style="list-style-type: none"> To chart a single metric for multiple resources of a compatible group: <ol style="list-style-type: none"> On the METRIC DATA tab, click the name of the metric or next to the metric whose chart you want to see. A full-page chart is displayed with data from the first 10 resources listed on the METRIC DATA tab. To change the set of resources displayed in the chart, on the "Metric Chart" screen, check or uncheck the desired resources in "Participating Resources" and click REDRAW SELECTED ON CHART. The chart will be refreshed to reflect metric data from the new set of resources.
Table 1. To view the chart for an indicator metric:	<ul style="list-style-type: none"> To chart a metric for multiple members of an auto group:

- Instead of the **METRIC DATA** tab, on the **INDICATORS** tab, click the name of the indicator metric above the chart.
A full-page chart is displayed.

[back to top](#)

3.6.2. How a Chart is Constructed

A metric chart by default displays only the measured metric data values over a user-selected time frame. You can also chart peak (highest observed), lowest and highest acceptable, and average values, and you can change the time frame that the chart covers. If you are charting a single metric for a single resource, you can also [establish and chart baseline](#) values. Depending on the [display range](#) over which you are charting the metric data and whether the metric data is cumulative (for example, throughput), the values may be averaged over time.

For more information about reading a chart, read the help for the "[Metric Chart](#)" screen.

[back to top](#)

Related Topics

Get more [details about monitoring HQ](#), including how to monitor specific resources
 Learn about metric data
 Use [baselines](#) to manage your resources
 See how to [define alerts using metrics](#)

Associated UI Pages

[Metric Chart](#)

[Return to the Monitoring Overview .](#)

3.7. Read a Full Page Chart

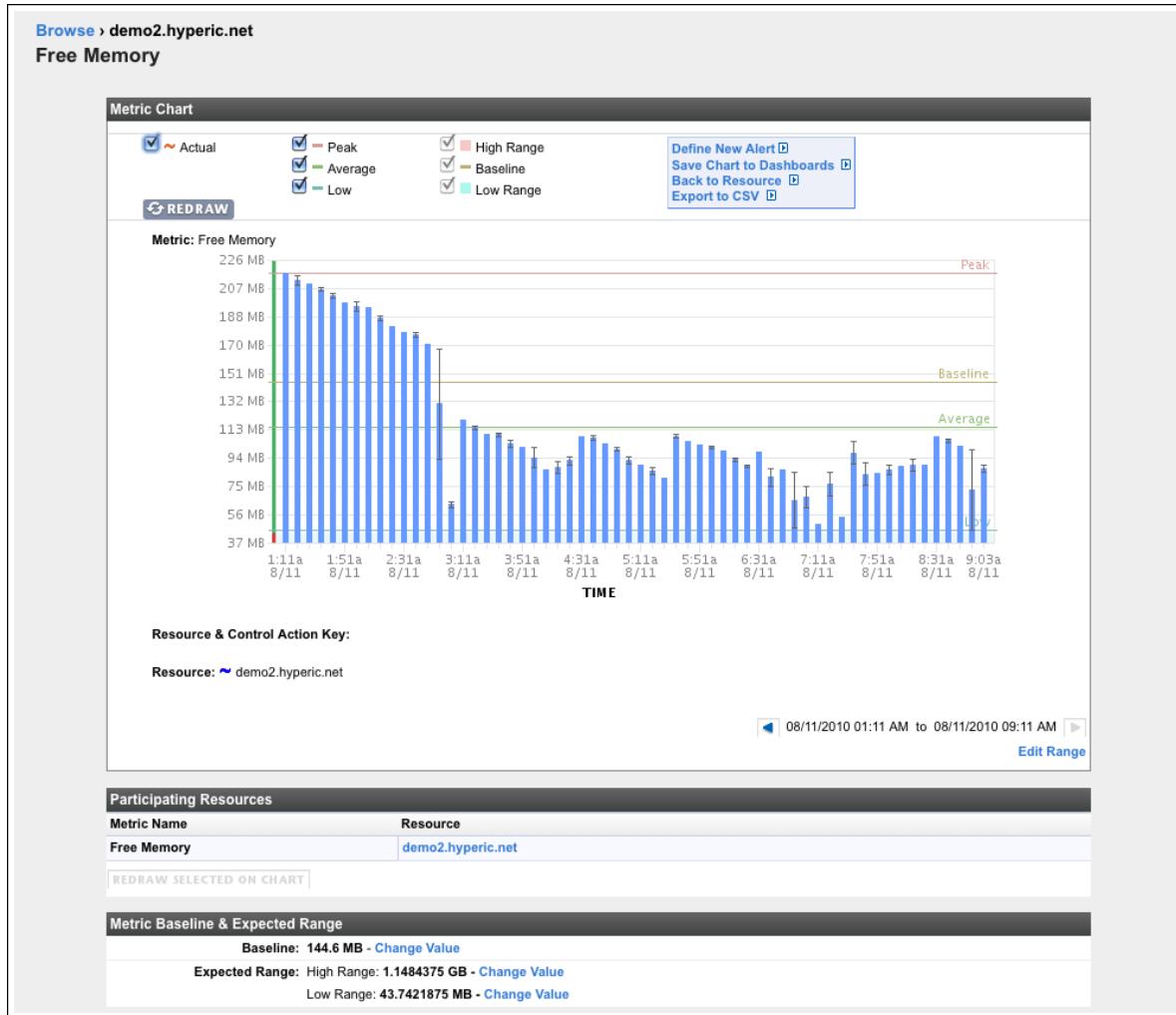
Topics marked with* relate to features available only in vFabric Hyperic.

- [Section 3.7.1, “Contents of a Full Page Chart”](#)
 - [Observed Measurements](#)
 - [Peak, Average, and Low Values](#)
 - [Baseline and Acceptable High and Low Values](#)
- [Section 3.7.2, “Participating Resources”](#)
- [Section 3.7.3, “Metric Baseline and Expected Range”](#)
- [Section 3.7.4, “Filter Chart Data”](#)
- [Section 3.7.5, “Change Metric Display Range”](#)

Read a Full Page Chart

- [Section 3.7.6, “Save Chart to Dashboard”](#)
- [Section 3.7.7, “Save the Chart in CSV Format”](#)

3.7.1. Contents of a Full Page Chart



Observed Measurements

Each bar on a chart represents a timeslice that is 1/60 of the selected metric display range. A chart can plot a maximum of 60 points. The value of the Y-axis at the top of the bar is the observed metric value for that timeslice. What the value represents varies by the nature of the metric:

- **Static** — For a static metric, one whose value does not vary over time (for instance a timestamp), the plotted value corresponds to a single measurement.
- **Dynamic** — For a dynamic metric, one whose value may go up or down over time:
 - The plotted point is the average of the values collected over the timeslice that *ended* at the time shown for the bar in the X-axis. The length of time over which the value was averaged depends on the current metric display range. For a display range of eight hours, each charted point represents the average of the preceding eight-minute period (8 hours / 60 time slices along the X-axis = 8 minutes). If the metric is collected every 60 seconds, and the chart's display range is 60 minutes, each of the 60 plotted points on the graph represents the single, observed value for the metric at a single point in time.
 - The I-bar superimposed on the vertical bar shows the range of values collected during the timeslice.

- **Trends Up and Trends Down** — For a cumulative metric, one whose values either always increases or decreases, (such as bytes served, uptime, minimum response time), the plotted point is the maximum (or minimum) value for the time slice. The value shown for a metric that for trends up or down metrics is not the average over the timeslice.

More About Timeslices

Charts are divided into a maximum of 60 slices, where each slice represents the same amount of time, over any display range the user chooses. For example:

- If the charted metric's collection interval is 5 minutes and the selected metric display range is one hour, during which the metric value was collected 12 times, the chart will contain 12 time slices, and each slice will represent a single observed metric value.
- If the metric display range is 5 hours, during which the metric value was collected 60 times, the chart will display 60 time slices, each will represent a single observed metric value.
- If the selected display range is 10 hours long, during which the metric value was collected 120 times, the chart will display 60 timeslices – the maximum — and each bar will summarize the 2 data points collected during the timeslice. For dynamic metrics, data points are averaged. For trends up or down metrics the highest/lowest value is plotted.

Peak, Average, and Low Values

By default, three colored horizontal lines appear on a metric chart that show the peak (pink), average (green) and low (blue) values collected for the metric for duration plotted.

Baseline and Acceptable High and Low Values

Available only in vFabric Hyperic

In vFabric Hyperic, this additional information may appear on a chart:

- **Baseline** — The Hyperic-calculated or user-specified baseline value for the metric is shown as a tan horizontal line.
- **High Range** — If you have specified a "high range" value for the metric, a pink horizontal bar appears across the chart, between the specified value and the maximum value shown on the chart's Y-axis.
- **Low Range** — If you have specified a "low range" value for the metric, an green horizontal bar appears across the chart, between the specified value and the minimum value shown on the chart's Y-axis.

3.7.2. Participating Resources

This section lists the resource and its metrics or the resources (in the case of charting a [group](#)) that are plotted in the chart. Users can change the individual resource's metrics or the set of group member resources that are included in the chart.

3.7.3. Metric Baseline and Expected Range

This section allows the user to view and change the values current calculated or set for the metric [baseline](#) and the acceptable range of metric values (outside of which observed metric values will be considered "out-of-bounds" (or "OOB")). This section is available only when a single metric is charted.

3.7.4. Filter Chart Data

The chart legend allows users to select types of data to include in the chart:

- Actual: The observed metric value at any point in time
- Peak: The highest observed metric value (this will be a horizontal line)
- Average: The average of observed metric values across the entire graph (this will be a horizontal line)
- Low: The lowest observed metric value (this will be a horizontal line)
- Low Range: The user-specific lowest acceptable metric value (this will be a horizontal line)
- High Range: The user-specific highest acceptable metric value (this will be a horizontal line)
- Baseline: The HQ- or user-set baseline value (this will be a horizontal line)
- Control Actions: Indicates on the chart when control actions were performed on the resource (to help correlate the actions with changes in performance)

3.7.5. Change Metric Display Range

- At the bottom right of the "Metric Chart" section, either:
 - To move forward or back eight hours, click the back-arrow or the forward-arrow, respectively. The new display range is indicated.
 - For a specific date/time range:
 1. Click **Edit Range**.
 2. For a range counting back from the current time: Select a length of time.
 3. For a date/time range: Select a date/time range.
 4. Click **Redraw**.The metric charts on the screen automatically refresh to reflect the new display range. This display range value applies to all resource-monitoring screens.

3.7.6. Save Chart to Dashboard

- At the top of the page, click **Save Chart to My Dashboard**, to add the chart to the "Saved Charts" portlet in the dashboard.
- If you have edit permissions for multiple dashboards, the **Tools** menu will instead have an **Save Chart to Dashboards** option. Select the option to view a list of dashboards for which you have edit permissions. You can select one or more dashboards, and click **Add** to add the chart to those dashboards.

3.7.7. Save the Chart in CSV Format

- At the top of the page, click **Export to CSV**.

3.8. Tools Menu

The **Tools** menu that appears on every page in the **Browse** tab in the HQ user interface contains commands you can perform on the currently selected resource type. The commands available vary depending on whether the current resource is a platform, a server, a service, and so on. Most of the commands on the **Tools** menu relate to managing resource inventory: creating, configuring, and deleting resource; for platforms you can enable and disable alert definitions; for compatible groups, you can schedule downtime - a period during which alerts on resources on the platform or the servers and services that run in it will not fire.

The commands that appear in the **Tools** menu vary depending on whether you are viewing a particular platform, server, service, group, application, or a list of resources on the **Resources > Browse** page.

Most of the commands on the **Tools** menu relate to managing resource inventory: creating, configuring, and deleting resources. The **Tools** menu for a platform also has options for enabling or disabling alerts on the platform; the menu for a compatible group has an option for scheduling maintenance downtime - a period during which alerts on resources on the platform and its dependent resources will not fire.

The following table lists the commands on the **Tools** menu for each inventory type.

Inventory Type	Tools Menu Options
Platform	<ul style="list-style-type: none">• Configure Platform• Clone Platform• Delete Platform• New Server• New Platform Service• New Auto-Discovery• Enable All Alerts On This Agent• Disable All Alerts On This Agent• Add to Dashboard Favorites• Add to Group• Configure Platform• Clone Platform• Delete Platform• New Server• New Platform Service• New Auto-Discovery• Enable All Alerts On This Agent• Disable All Alerts On This Agent• Add to Dashboard Favorites

Inventory Type	Tools Menu Options
	<ul style="list-style-type: none"> • Add to Group
Server	<ul style="list-style-type: none"> • Configure Server • Delete Server • New Service • Add to Dashboard Favorites • Add to Group
Service	<ul style="list-style-type: none"> • Configure Service • Delete Service • Add to Dashboard Favorites • Add to Group
Group	<ul style="list-style-type: none"> • New Group • Delete Group • Add to Dashboard Favorites • Add to Group • Schedule Downtime
Application	<ul style="list-style-type: none"> • Delete Application • Add to Dashboard Favorites • Add to Group
none	If no resource is selected, for instance on the on the

Note: If *no* resource is currently selected, for instance on **Resources > Browse > Platforms > All Platforms**, the **Tools** menu has these options:

- New Application
- New Group
- New Platform

3.9. Map Control

- [Section 3.9.1, “Overview of the Map Control”](#)
- [Section 3.9.2, “Resource Map for a Platform”](#)
- [Section 3.9.3, “Resource Map for a Server”](#)
- [Section 3.9.4, “Resource Map for a Service”](#)
- [Section 3.9.5, “Resource Map for a Compatible Group”](#)

3.9.1. Overview of the Map Control

The **Map** control, available when a resource is selected in the HQ user interface - presents graphical view of the current resource and resources that are related to it. The map illustrates hierarchical inventory relationships, and a resource's membership in groups or applications.

A resource map shows the name and resource type of currently selected resource in orange font. Child or member resources are shown above the selected resources; parent or containing resource is shown below.

In the example below, note that:

- The name of the currently selected resource is in orange font. In the example, the resource is a server type: "ActiveMQ Embedded 5.3".
- The resources listed above the current resource are its children --- assuming it has children. If the currently selected resource is a service type, it would not have children.
- The resource below the current resource is its parent --- assuming it has a parent. If the currently selected resource is a platform type, it would have no parent.

Each resource name is a link; click the link to navigate to the Indicators page for that resource.

The resource type for each resource is shown below the resource name.

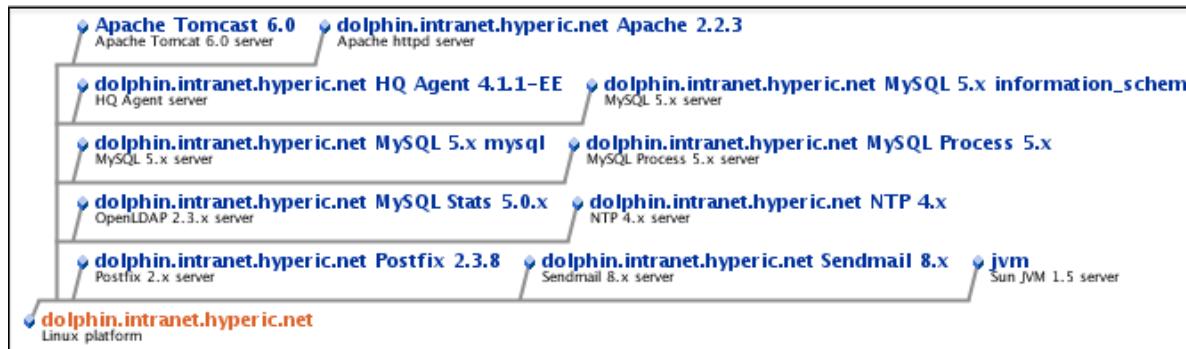


You can map a:

- platform
- server
- service
- compatible group

3.9.2. Resource Map for a Platform

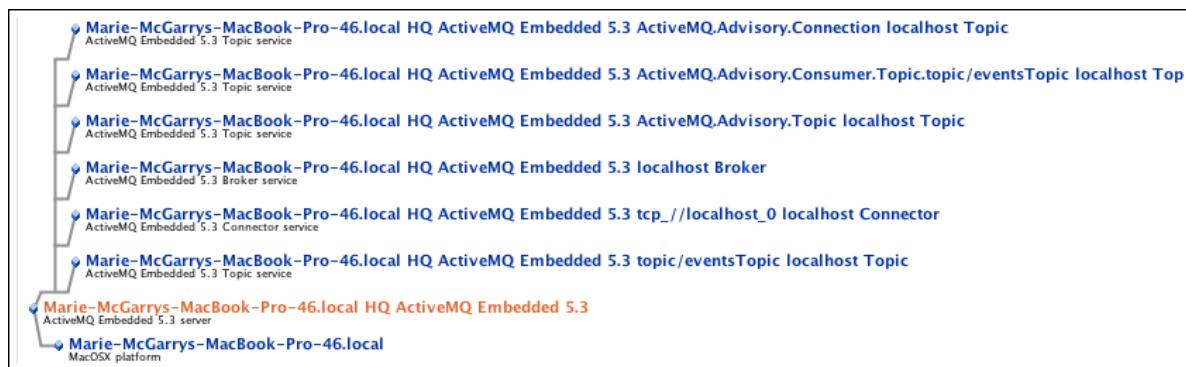
The screenshot below is a resource map for a platform of type "Linux", shown in orange. The resources listed above the platform are the 9 servers running on it.



3.9.3. Resource Map for a Server

The screenshot below is a resource map for a server of type "ActiveMQ Embedded 5.3".

- The resources listed above the server are the six services that run it.
- The resource shown below the service its parent platform — whose resource type is "MacOSX".



3.9.4. Resource Map for a Service

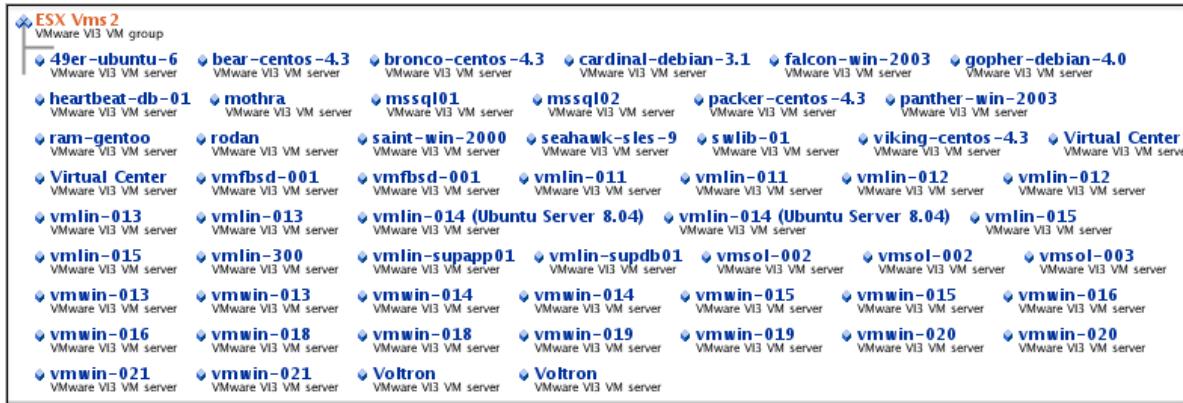
The screenshot below is a resource map for a service of type "ActiveMQ Embedded 5.3 Topic".

- The service runs in an "ActiveMQ Embedded 5.3" server, which is hosted on a "MacOSX" platform
- The service is part of an application called "myap".



3.9.5. Resource Map for a Compatible Group

The screenshot below is a resource map for compatible group that contains servers of type "VMware VI3 VM"
 - the name of each member resource is shown as a hyperlink.



3.10. Metric Extrapolation View for Groups

Available only in vFabric Hyperic

3.10.1. Extrapolating Metrics for a Group

This page allows you to predict future values of a metric for the members of group based on historical metrics.

The Metric Data Extrapolation plugin is available on the **Views** tab when a group is selected. Although this function is available for any group, whether compatible or mixed, metric projections are most meaningful for compatible groups.

The extrapolation method is a simple linear regression using the Apache Commons Math package. The historical metric data for a group is used to calculate a slope, which is used to predict future values. For more information on the simple linear regression algorithm, see <http://commons.apache.org/math/userguide/stat.html>.

To extrapolate a metric for a members of a group:^{*}

1. Navigate to compatible group of interest.
2. Choose the Metric Data Extrapolation option from the Views tab.
3. You can select:
 - Metric to extrapolate. By default, Availability is selected. If desired, choose another metric.
 - Known Data Range. The amount of history upon which the extrapolation will be based. You can select values ranging from 1 day to 1 year. Typically, a longer data range yields a better extrapolation. In some cases, however, it might be better to select the data range based on the timing of environment-related events, such as a new release or infrastructure change.
 - Projection Range. The total duration included in the trend analysis, including the Known Data Range and the Projection Range. The range you select determines, but is not equal to, how far into the future the metric will be projected.
 - Threshold value for the metric. Charts will display a horizontal line at the metric value you enter.
4. Click **Update** to plot the extrapolated values for the selected metric for each member of the Group. Historical values are plotted in blue.

3.10.2. Understanding Extrapolation Charts

Each chart has the same scale, to better show differences between the resources, and ease analysis. This is different from other HQ charts which are scaled independently. The heading for each chart shows:

- The resource name and metric charted
- The units of the metric charted
- Extrapolation confidence; values can be 'Excellent', 'Good', 'Average', 'Questionable', or 'Poor'.

Extrapolated values are represented by the orange triangle that appears between "now" and the end of the projection range on the timeline.

4. Global Management Views

- [Section 4.1, “Currently Down”](#)
- [Section 4.2, “Operations Center”](#)
- [Section 4.3, “Event Center”](#)
- [Section 4.4, “Alert Center”](#)
- [Section 4.5, “Nagios Availability”](#)
- [Section 4.6, “Report Center”](#)

4.1. Currently Down

Topics marked with * relate to features available only in vFabric Hyperic.

- [Section 4.1.1, “Currently Down Resources”](#)
- [Section 4.1.2, “Contents of the Currently Down Page”](#)
- [Section 4.1.3, “Filter Resources of the Currently Down Page”](#)

4.1.1. Currently Down Resources

The **Currently Down Resources** page, available on the **Resource** tab is lists resources that are not currently available, up to a maximum of 1000 resources.

Currently Down Resources				
Show Most Recent: 50 100 1000				
Resource	Type	Down Since	Down Time	Alerts
vmlin-012	VMware VI3 VM	11/3/09 8:15:00 PM	282 days 15:27:26	
vmlin-012	VMware VI3 VM	11/3/09 11:10:00 PM	282 days 12:32:26	
vmwin-003 Active Directory	Active Directory	11/8/09 9:20:00 PM	277 days 14:22:26	
vmwin-003 .NET 2.0	.NET 2.0	11/8/09 11:50:00 PM	277 days 11:52:26	
vmwin-003 HQ Agent 4.1.2.1-EE	HQ Agent	11/9/09 1:10:00 AM	277 days 10:32:26	
mssql02	VMware VI3 VM	12/4/09 12:05:00 AM	252 days 11:37:26	
mssql01	VMware VI3 VM	12/4/09 12:05:00 AM	252 days 11:37:26	
artisqa.sfo.covalent.net Sendmail 8.x	Sendmail 8.x	12/11/09 7:10:00 AM	245 days 04:32:26	
panther MQSeries 5.x	MQSeries 5.x	12/15/09 11:15:00 PM	240 days 12:27:26	
vmwin-020	VMware VI3 VM	12/17/09 12:10:00 PM	238 days 23:32:26	
vmlin-015	VMware VI3 VM	12/17/09 12:10:00 PM	238 days 23:32:26	
vmwin-021	VMware VI3 VM	12/17/09 12:10:00	238 days	

4.1.2. Contents of the Currently Down Page

The right pane of the **Currently Down Resources** pane lists resources that match the filter criteria selected in the "Resource Types" panel on the left, ordered by **Down Time**, from longest to shortest. Click a column header to sort by that column's contents — except for the "Alerts" column.

By default, the page will list up to 50 resources. You can choose to list up to 100, or up to 1000, using the **Show Most Recent** control.

The following data is shown for each resource on the list:

- **Resource** — Name of the down resource. Click to view the resource's **Indicators** page.
- **Type** — The resource's platform, server, or service type.
- **Down Since** — The time at which the resource became unavailable.
- **Down Time** — The length of time the resource has been unavailable.
- **Alerts** — Click the icon in this column to see a list of alerts fired for the resource.

Click  at the top right to refresh the page.

4.1.3. Filter Resources of the Currently Down Page

1. To list all currently unavailable resources of a particular inventory level click one of the top level links in **Resource Types** pane:
 - Platforms
 - Servers
 - Services
2. To further narrow the list to unavailable resources of a particular resource type, expand the link for the inventory level, and click select the desired resource type from list that appears.

4.2. Operations Center

Available only in vFabric Hyperic

- [Section 4.2.1, “Filter by Problem Type and Resource”](#)
- [Section 4.2.2, “Set Table Controls”](#)
- [Section 4.2.3, “Contents of Operations Center Page”](#)
 - [Current Filter Totals](#)
 - [Resource Details for All Hosts](#)

The **Operations Center** page, available on the **Analyze tab** in the Masthead lists resources that are down, have unfixed alerts, or both. You can use filters to scope the content of the page to the resources and problem type of interest. This concise view includes shows the current number of unavailable resources and unfixed alerts, and a single line problem summary for each resource.

The screenshot shows the VMware Operations Center interface. At the top, there are 'Display Filters' for Status Type (All Alerts), Platform Filter (empty), and Group Filter (None). Below these are 'Current Filter Totals' tables for Resources (Down Platforms: N/A, Down Resources: N/A) and Alerts (Unfixed Alerts: 0 Low, 3 Medium, 0 High, Total 3; Alerts in Escalation: 0 Low, 0 Medium, 0 High, Total 0). To the right are 'Table Controls' for Items per page (50) and Refresh interval (1 minute). A status message at the bottom right says 'Updated at 15:00:01, population took 14 ms.' The main area displays 'Resource Details for All Hosts' in a table format. The table has columns: Platform, Resource, Alert Name, Priority, Status Type, Last Escalation, Last Check, Duration, State, and Status Information. Three rows are listed:

Platform	Resource	Alert Name	Priority	Status Type	Last Escalation	Last Check	Duration	State	Status Information
angilas.mirko-pluhar.de	angilas.mirko-pluhar.de Linux File System /dev/mapper/vg00-lv_var mounted on /var (local/ext3)	Mount point space over 80% usage	!!	Alert	3/10/11 2:55 PM	544:40:02			1 occurrences. If Use Percent > 80.0% (actual value = 81.0%). Current value = 79.0%.
demo2.hyperic.net	demo2.hyperic.net Linux File System /dev/cciss/c0d0p7 mounted on /sw (local/ext3)	Mount point space over 80% usage	!!	Alert	3/10/11 2:55 PM	510:00:02			1 occurrences. If Use Percent > 80.0% (actual value = 81.0%). Current value = 27.0%.
demo2.hyperic.net	demo2.hyperic.net MySQL 5.x mysql	Slow Queries	!!	Alert	3/10/11 2:59 PM	649:53:02			1 occurrences. If Slow Queries per Minute > 50.0 (actual value = 54.0). Current value = 0.0.

 Buttons at the bottom left include 'FIXED' and 'ACKNOWLEDGE'.

4.2.1. Filter by Problem Type and Resource

Use the "Display Filters" fields in the upper left of the page to specify the issues and resources to include in the page:

1. Select a "Status Type":

- **All** - list every resource that is currently unavailable or has an unfixed alert.
- **Down Resources** - list only resources that are currently unavailable.
- **All Alerts** - list all resources with unfixed alerts.
- **Alerts in Escalation** - list resources with unfixed alerts that are currently in escalation.
- **Alerts not in Escalation** - list resources with unfixed alerts that are not in escalation.

2. To further limit the resources included in the page by hosting platform, enter a string in the "Platform Filter" field and press Return or Enter to update the page.
 - The list includes resources with the selected "Status Type" that run on the platform(s) whose names match the specified "Platform Filter" string.
3. To further limit the resources included based on group membership, select a group from the "Group Filter" pull-down.
 - The list includes resources with the selected "Status Type", that run on platforms whose names match the "Platform Filter" (if specified), and belong to the selected group.

4.2.2. Set Table Controls

Use the **Table Controls** to specify the number of resources list per page and the frequency with which the page content is updated.

4.2.3. Contents of Operations Center Page

At **Operation Center** page contains summary and detailed information for the alert or availability events that match the current "Display Filter" settings.

Current Filter Totals

The tables in the "Current Filter Totals" section summarize the results that match the current filter settings:

- **Resources** table - Current number of unavailable platforms and the current number of unavailable resources of any type - platform, server, or service. If the current **Status Type** selection limits the page to alerts, the count column contains "N/A".
- **Alerts table** - Total number of unfixed alerts and number of unfixed alerts in escalation, broken down by alert priority. If the current **Status Type** selection limits the page to alert events, the cells contain "N/A".

Resource Details for All Hosts

Each row in the table in the lower part of the **Operations Center** page represents a resource that is currently down or a resource that has an unfixed alert. If a resource is currently down and has an unfixed alert, it will appear in two rows.

- **Platform** - The platform where the resource runs.
- **Resource** - Name of the resource that is unavailable or has an unfixed alert.
- **Alert Name** - In a row for a resource with an alert, the name of the alert definition that fired the alert.
- **Priority** - In a row for a resource with an alert, the alert priority.
- **Status Type** - Indicates whether the row corresponds to a "Resource Down" event or an unfixed "Alert".
- **Last Escalation** - In a row for a resource with an alert in escalation, timestamp for the last escalation step performed.
- **Last Check** - For an unavailable resource, shows when metrics for the resource were last collected. For an alert, shows when it last fired.

- **Duration** - Indicates how long ago the alert fired or the resource went down.
- **State** - For an alert, a  icon indicates the alert is in escalation. A  icon indicates the alert in escalation has been acknowledged.
- **Status Information** - For an alert, shows how many times it has fired and the condition that triggered it. If a metric condition triggered the alert, the triggering and current values of the metric are shown.

4.3. Event Center

Topics marked with * relate to features available only in vFabric Hyperic.

- [Section 4.3.1, “Event Center”](#)
- [Section 4.3.2, “Filter the Event List”](#)
- [Section 4.3.3, “Contents of the Event Center Page”](#)

4.3.1. Event Center

The **Event Center** page, available on the **Analyze tab** in the Masthead, is a deployment wide view of events that have been logged for resources in your Hyperic deployment. Events are ordered by date, with most recent events first. To reverse the sort order, click the control in the **Date** column header.

Click at the top right to refresh the list.

The screenshot shows the "Event Center" page with a sidebar for filtering events. The sidebar includes dropdowns for "Minimum Status" (set to "Any"), "Type" (set to "All"), and "Time Range" (set to "Last 4 hours"). It also has a "In Groups" section with "Cisco IOS Interface" selected. The main area displays a table of events:

Date	Status	Resource	Subject	Detail
10/8/08 8:43 AM	Warning	NBHAYANI-WXP	SYSTEM	Dhcp: Your computer was not able to renew its address from the network (from the DHCP Server) for its current network address 0019D2968DA2. This following error occurred: %1%121. Your computer will continue to try and obtain an address on its own from the network address (DHCP) server.
10/8/08 8:43 AM	Error	NBHAYANI-WXP	SYSTEM	Dhcp: Your computer has lost the lease to its IP address 10.0.1.6 on the Network Card with network address 0019D2968DA2.

4.3.2. Filter the Event List

To limit the events displayed in the Events section, choose one or more filter options.

- **Minimum Status** — Select a status to limit the log tracking events in the list to those of that level or higher. Log tracking event levels, in decreasing order of severity, are:
 - Error
 - Warning
 - Info
 - Debug
- **Type** — Select a type to limit events in the list to those of that type:
 - Log track
 - Event Track

- Alerts
- **Time Range** — Select one or more time ranges to limit the events in the list to those occurred during the range:
 - Last 4 hours
 - Last 8 hours
 - Last day
 - Last week
 - Last month
- **Groups** — Select one or more groups to limit the events in the list to those related to resources in the selected group(s).

4.3.3. Contents of the Event Center Page

The following data is shown for each event that matches the filter criteria selected in the **Filter** pane:

The following information is shown for each event in the list:

- **Date** — Date and time the event happened
- **Status** — For log track events, the level is shown. For alerts, the status column contains "alert".
- **Resource** — The name of the resource that caused the event
- **Subject** — For an alert, the alert name; for a Nagios check, the plugin name, including path.
- **Detail** — Information about the event detail or triggering condition.

4.4. Alert Center

Available only in vFabric Hyperic

- [View Alerts In the Alert Center](#)
- [Filter Alert List](#)
- [Fix or Acknowledge an Alert in the Alert Center](#)
- [View Alert Definitions In the Alert Center](#)
- [Filter Alert Definition List](#)

The **Alert Center** page is a deployment-wide view of alerts and alert definitions

4.4.1. View Alerts In the Alert Center

1. Click the **Analyze** tab.
- The **Alert Center** page appears, with the **Alerts** tab selected.

The screenshot shows the 'Alert Center' interface with the 'Alerts' tab selected. On the left, there is an 'Alert Filter' sidebar with options for 'Show' (Not Fixed, In Escalation, All), 'Alert type' (Resource), 'Minimum priority' (Low), 'In the last:' (All Time), and 'Group' (All Groups). The main area is titled 'Resource Alerts' and contains a table with the following data:

Date	Alert Definition	Resource	Platform	Fixed	Ack	Priority
2/24/11 12:05 PM	Todd test 3280	demo2.hyperic.net	demo2.hyperic.net	Yes		Med
2/24/11 12:00 PM	Todd test 3280	demo2.hyperic.net	demo2.hyperic.net	Yes		Med
2/24/11 12:00 PM	Todd test 3280	demo2.hyperic.net	demo2.hyperic.net	Yes		Med
2/24/11 3:40 PM	Todd Test-3280	demo2.hyperic.net	demo2.hyperic.net	Yes		Med
2/23/11 3:01 PM	Test Alert	esx1	esx1	No		Med
2/23/11 2:55 PM	Todd Should-not-fire	demo2.hyperic.net Apache 2.2.3	demo2.hyperic.net	Yes		Med
2/17/11 9:00 AM	Mount point space over 80% usage	demo2.hyperic.net Linux File System /dev/cciss/c0d0p7 mounted on /sw (local/ext3)	demo2.hyperic.net	No		Med
2/15/11 10:20 PM	Mount point space over 80% usage	angilas.mirko-pluhar.de Linux File System /dev/mapper/vg0-lv_var mounted on /var (local/ext3)	angilas.mirko-pluhar.de	No		Med

At the bottom of the table, there are two buttons: 'FIXED' and 'ACKNOWLEDGE'. A note on the right says: 'Click the icon to acknowledge an alert'.

2. The **Alerts** page displays the following data for each fired alert that matches the currently selected filter criteria, ordered chronologically.
 - **Date** — The date and time the alert was triggered.
 - **Alert Definition** — The name of the alert definition that prompted the alert.
 - **Resource** — The resource the alert was triggered on.
 - **Fixed** — Whether or not the alert was fixed.
 - **Acked by** — The name of the user who acknowledged the alert.
 - **Priority** — The alert's priority.

Click a column heading to sort the table by the content of that column.

Filter Alert List

These are the options for filtering the list of alerts, and their default settings:

Option	Description	Values	Default Setting
Show	Filters the list of alerts by state.	<ul style="list-style-type: none"> Not Fixed In Escalation All 	All
Alert type	Filters the list of alerts by the type of target resource.	<ul style="list-style-type: none"> Resource — With this setting, only alerts fired on individual resources will appear. This includes alerts applied at the resource type level. Group — With this setting, only alerts that fired on resource groups appear. 	All
Minimum Priority	Filters the list of alerts by the priority of the associated alert definition.	<ul style="list-style-type: none"> Low Medium 	Low
In the last	Limits the list to alerts fired with a recent period of time.	<ul style="list-style-type: none"> High All Time day 2 days 3 days 4 days 5 days 6 days 	All Time
Groups	Limits the list of alerts to those fired on resources in a group.	<ul style="list-style-type: none"> week <p>The pulldown lists every resource group (whether compatible or mixed) in the deployment, and the options "All Groups".</p>	All Groups

Fix or Acknowledge an Alert in the Alert Center

To mark alerts "Fixed" from the **Alert Center** page, and (in vFabric Hyperic) to acknowledge an alert in escalation, checkmark the desired alerts, and click **Fixed** or **Acknowledge** at the bottom of the page.

4.4.2. View Alert Definitions In the Alert Center

The **Definitions** tab on the **Alert Center** page lists alert definitions in your deployment — resource alerts, resource type alerts, and group alerts — that match the current filter criteria.

1. Click the **Analyze** tab.
 - The **Alert Center** page appears, with the **Alerts** tab selected.
2. Click the **Definitions** tab to display the "Resource Alert Definitions" pane.

The screenshot shows the VMware Alert Center interface. The top navigation bar has tabs for 'Alerts' and 'Definitions', with 'Definitions' being the active tab. On the left, there is a 'Definition Filter' sidebar with a dropdown set to 'Resource'. It also contains two unchecked checkboxes: 'Exclude type-based definitions' and 'Only show disabled definitions'. The main content area is titled 'Resource Alert Definitions' and displays a table with the following columns: Name, Created, Modified, Active, Last Alert, Resource, Escalation, and Priority. The table lists several alert definitions, each with a yellow warning icon in the 'Last Alert' column. The 'Escalation' column shows 'Default Escalation' for most entries, except for one which is 'TestUser'. The 'Priority' column shows 'Med' for all entries. The table includes standard sorting and filtering controls at the top right.

Name	Created	Modified	Active	Last Alert	Resource	Escalation	Priority	
Extent	3/9/11 2:10 PM	3/9/11 2:10 PM	Yes		WebLogic 10.3	!	Med	
Todd test 3280	2/24/11 11:56 AM	2/24/11 12:06 PM	No	2/24/11 12:05 PM	demo2.hyperic.net	!	Med	
high jvm memory usage	2/23/11 2:24 PM	2/23/11 2:24 PM	Yes		voltron.intranet.hyperic.net tc	!	Med	
Runtime voltron-two					Runtime voltron-two	!	Med	
Transactions per Minute > 100.0	1/7/11 2:53 AM	1/7/11 2:53 AM	Yes		vmwin-demo2-01 MySQL 2005 MSSQLSERVER	!	Med	
Jim alert	12/18/10 10:07 AM	12/18/10 10:08 AM	Yes		49er-ubuntu-6 CPU 0	TestUser	!	Med
Jim alert	12/18/10 10:07 AM	12/18/10 10:07 AM	Yes		49er-ubuntu-6 CPU 0		!	Med
WLS Server Avail	11/5/10 6:24 AM	11/5/10 6:24 AM	Yes		Weblogic Admin 10.3 medrec MedRecServer		!	Med
WLS Service Avail	11/5/10 6:22 AM	11/5/10 6:22 AM	Yes		Weblogic medrec MedRecServer MedRecGlobalDataSourceXA JDBC Connection Pool		!	Med
plugin track	10/25/10 9:57 PM	10/25/10 9:57 PM	Yes		bear.intranet.hyperic.net	TestUser	!	Med
plugin track	10/25/10 9:57 PM	10/25/10 9:57 PM	Yes		bear.intranet.hyperic.net		!	Med
Mount point space over 80% usage	10/8/10 12:02 PM	10/8/10 12:02 PM	Yes	10/9/10 3:25 PM	vmwin-demo2-01 Win32 File System C:\ (local/NTFS)	Default Escalation	!	Med
Agent Unavailable	10/8/10 12:02 PM	10/8/10 12:02 PM	Yes		vmwin-demo2-01 HQ Agent 4.3.0-EE		!	Med

3. The "Resource Alert Definitions" pane displays the following data for each alert definition that matches the currently selected filter crieteria, ordered by creation date, with most recently created definitions first.
 - **Name** — The alert definition's name. Click to view the alert definition in the Resource Hub.
 - **Created** — Date and time the alert was defined
 - **Modified** — Date and time the alert was modified (if at all)
 - **Active** — Whether or not the alert definition is configured to generate alerts) or not. If the alert is defined to fire once, and not again until after it is fixed, an yellow flag icon will be displayed in this column if the the alert is not fixed.
 - **Last Alert** — Date and time the alert was last triggered. Click to view a list of alerts that fired for the alert definition.
 - **Resource** — The resource, resource type, or group for which the alert was defined. Click to view the **Monitor** tab for the resource in the Resource Hub.
 - **Escalation** — The name of the escalation scheme assigned to the alert definition. Click to view the escalation.
 - **Priority** — The alert definition priority.
- Click a column heading to sort the table by the content of that column.

Filter Alert Definition List

These are the options for filtering the list of alerts, and their default settings:

Option	Description
Definition Type	<p>Filters the list of alert definitions by whether the definition was for an individual resource, a group of resources, or a resource type target — so you can limit the list to definitions assigned to a resource, or to a resource type. Values are:</p> <ul style="list-style-type: none">• Resource — To list all alert definitions that assigned to individual resources or to a resource type.• Group — To list only alert definitions defined for a resource group.• Resource Type — To list only alert definitions that are assigned to resource groups.
Exclude Type-Based Definitions	This option is available only when "Resource" is selected for "Definition Type" — checkmark to exclude resource type alert definitions from the list.
Show Only Disabled Definitions	Further limit the definitions listed to those that are currently disabled.

4.5. Nagios Availability

- [View Nagios Service Detail](#)
- [View a Nagios Check](#)

4.5.1. View Nagios Service Detail

Select **Nagios Availability** from the **Resources** tab in the masthead.

The page displays the most recent results of the Nagios checks. This is the same information that is displayed on the Nagios Service Details page.

- **Host**---The host that the Nagios check is monitoring
- **Service**---The Nagios plugin used to perform the check
- **Status**---The Return Code from execution of the check
- **Last Check**---When the check was last run
- **Event Log**---Output of the plugin

Each line is color-coded:

- **Pink**---monitored service is down.
- **Yellow**---monitored service has triggered an alert, based on the threshold defined in Nagios.
- **Green**---monitored service is OK.

Nagios Service Detail				
Host	Service	Status	Last Check	Event Log
cisco2890	Uptime	Critical	Sep 18, 2008 12:50:00 PM	/usr/local/nagios/libexec/check_snmp: SNMP problem - No data received from host CMD: /usr/bin/snmpget -t 1 -r 5 -m ALL -v 1 -c switch 10.2.0.2:161 #sysUpTime.0
cisco2890	Port 1 Link Status	Critical	Sep 18, 2008 12:50:00 PM	/usr/local/nagios/libexec/check_snmp: SNMP problem - No data received from host CMD: /usr/bin/snmpget -t 1 -r 5 -m RFC1213-MIB -v 1 -c switch 10.2.0.2:161 #OperStatus.1
cisco2890	check_command	Critical	Sep 18, 2008 12:50:00 PM	/usr/local/nagios/libexec/check_ping: CRITICAL - Host Unreachable (10.2.0.2)
cisco2890	Uptime	Critical	Sep 18, 2008 12:50:00 PM	/usr/local/nagios/libexec/check_snmp: SNMP problem - No data received from host CMD: /usr/bin/snmpget -t 1 -r 5 -m ALL -v 1 -c switch 10.2.0.2:161 #sysUpTime.0
cisco2890	Port 1 Link Status	Critical	Sep 18, 2008 12:50:00 PM	/usr/local/nagios/libexec/check_snmp: SNMP problem - No data received from host CMD: /usr/bin/snmpget -t 1 -r 5 -m RFC1213-MIB -v 1 -c switch 10.2.0.2:161 #OperStatus.1

4.5.2. View a Nagios Check

To view a Nagios check in the Hyperic User Interface

1. Browse the the Nagios server resource using **Resources > Browse > Servers > Nagios**.
2. Choose the Nagios server from the list of servers.
 - The **Indicators** tab for the Nagios server appears.

Servers > Nagios > qa1.intranet.hyperic.net Nagios

Description: Owner: HQ Administrator (hqadmin) - Change...

Map Tools Menu

MONITOR INVENTORY ALERT VIEWS

RESOURCES INDICATORS METRIC DATA

Indicator Charts | Show Last 8 Hours

View: Update Default 100.0% — Availability

Services	Avail
Nagios Plugin	!
Host Platform	Avail
QA1-TEST	!

Select Resources above & click button to view metrics

View Metrics

3. In the **Resources** mintab, click the autogroup called "Nagios Plugin", which contains the Nagios checks.
4. The first chart on the **Indicators** tab shows the average execution time for the all of the checks in the group.
 - Note: (Charts of average Result Values and Return Codes are also presented, but this data is not meaningful for a group.)

Auto-Groups > Nagios Plugin > qa1.intranet.hyperic.net Nagios

Map

MONITOR VIEWS

RESOURCES INDICATORS METRIC DATA

Indicator Charts | Show Last 8 Hours

View: Update Default 46.6% — Availability

Group Members	Avail
qa1.intranet.hyperic.net Nagios Plugin C:\ Drive Space kparikh-160	!
qa1.intranet.hyperic.net Nagios Plugin check_command cisco2690	!
qa1.intranet.hyperic.net Nagios Plugin check_command kparikh-160	!
qa1.intranet.hyperic.net Nagios Plugin check_command localhost	!
Host Server	Avail
qa1.intranet.hyperic.net Nagios	!

Select Resources above & click button to view metrics

View Metrics

Problem Metrics No metrics to display

Execution Time (Nagios Plugin)

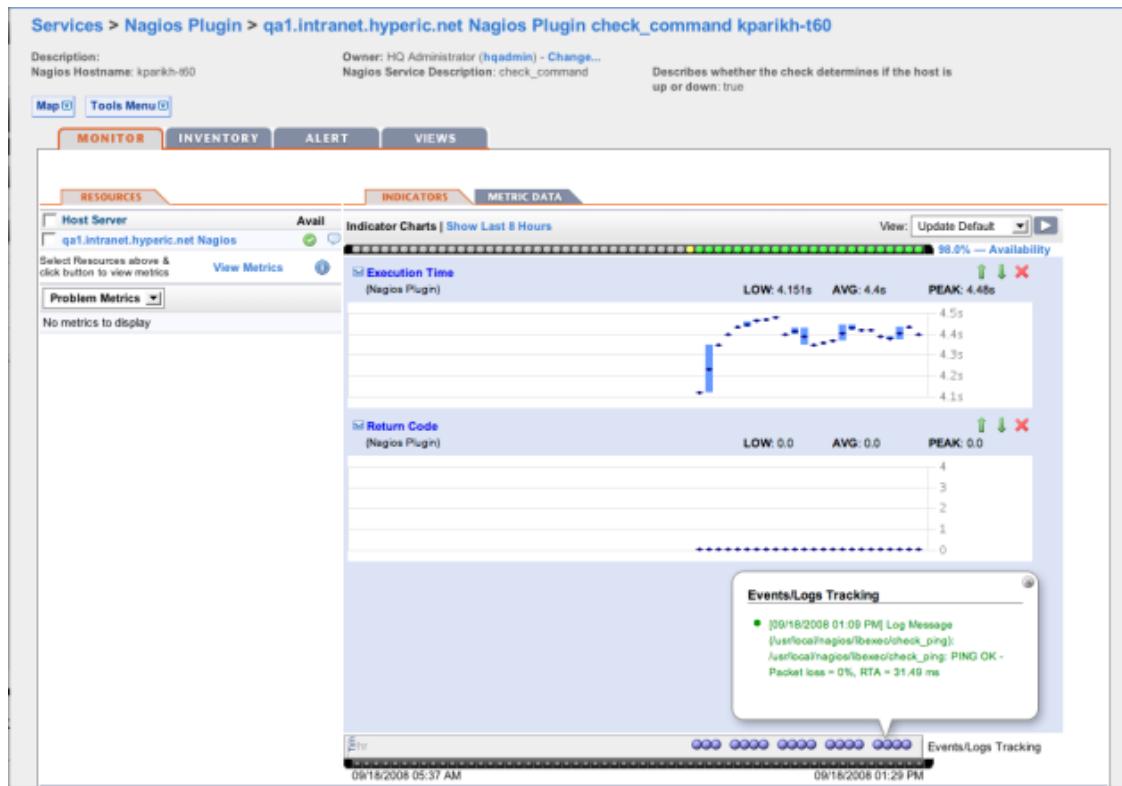
Result Value (Nagios Plugin)

Return Code (Nagios Plugin)

Metric Display Range: Last 8 Hours Advanced Settings

5. Click on a specific check in the **Group Members** list.
 - The **Indicators** tab for the Nagios service appears.

Nagios Availability



6. To view log messages output by the check, click the blue icons above the time range bar at the bottom of the page.

4.6. Report Center

Available only in vFabric Hyperic

- [Section 4.6.1, “Report Center Overview”](#)
- [Section 4.6.2, “Navigate to the Report Center”](#)
- [Section 4.6.3, “Built-In Reports”](#)
- [Section 4.6.4, “Custom Reports”](#)
- [Section 4.6.5, “Specifying Report Description and Report Parameters”](#)
- [Section 4.6.6, “Actionable Reports”](#)

4.6.1. Report Center Overview

HQ's **Report Center** has built-in reports that provide visibility into availability, alerts, inventory, resource utilization, and resources that are not collecting metrics. You can also create your own reports. HQ reports can accept parameter values, and be generated in PDF, HTML, Excel, and CSV formats.

4.6.2. Navigate to the Report Center

Click Analyze > Report Center.

4.6.3. Built-In Reports

The table below describes the ready-to-run reports in the **Report Center**. HQ provides the following canned report templates:

Report Template	What Does It Tell Me?	What The Report Displays	Required User Input (Parameters)	Sample Report	JRXML Template
Alert Detail	Which resources in my environment are firing the most alerts?	The same as the Alert Summary Report , except, instead of a summary of alerts, every alert is shown. This is useful when analyzing a full alert log.	Start Date End Date Group	[]	[] []
Alert Summary	Which resources in my environment are firing the most alerts?	A summary of all alerts that were triggered during the user-specified time range. You can restrict the list of alerts by a user-specified group. For each	Start Date End Date Group	[]	[]

Report Template	What Does It Tell Me?	What The Report Displays	Required User Input (Parameters)	Sample Report	JRXML Template
		resource, the number of low-, medium-, and high-priority alerts are shown, along with the total number of alerts.			
Availability Downtime	How many minutes were resources unavailable over the given time range?	Availability percentage and minutes of downtime, over a user-specified time range, for resources in a user-specified group. This report cannot be run against the entire environment.	Start Date End Date Group	[]	[]
Disk Usage	Which disks are running low on free space? Which disks are filling up the quickest?	Disk usage information for the environment, showing which disks are running low on free space, over a user-specified time range. This report can be run against a single group or across the entire environment.	Start Date End Date Group	[]	[]
Inventory	What resources were created during the given time range? What new services have been discovered? (HQ auto-imports them and so they are not immediately obvious.)	All resources created in the HQ environment in the user-specified time range, sorted by creation date. This report operates on the entire environment.	Start Date End Date	[]	[]
Event Log Summary	What's happening on each of my resources? A summary of events across	Resources and their logged events, taken from the system's event	Start Date End Date	[]	[]

Report Template	What Does It Tell Me?	What The Report Displays	Required User Input (Parameters)	Sample Report	JRXML Template
	all resources, instead of for a single resource.	logs, sorted by the number of events. Learn more about log tracking in HQ.			
License Count	The platforms for which I have HQ licenses.	Platform name, type, license count, and date added.	No user input	[]	[]
Metric Interval	How many metrics are being collected on my resources, how often, and when? Basically, the report shows the metric load.	The collection interval and the number of metrics that are being collected for each resource.	No user input	[]	[]
Network Interface	What kind of traffic are my resources experiencing?	Bits in/out per second for each resource	Start Date End Date Group	[]	[]
Resources Not Collecting Metrics	Which of my metrics are no longer collecting any metrics, even though they're supposed to be?	Resources that have stopped publishing metrics, plus the last time a metric was recorded for the resource	No user input	[]	[]
Resources Without Metrics	Which of my resources don't have metric collection enabled? For example, did you discover and import a platform but not configure it to collect metrics? For instance, Oracle needs a password, so when it is discovered and imported, it won't collect metrics if the password isn't provided.	Resources that don't have metric collection enabled in HQ	No user input	[]	[]

* For reports involving specific resource types (for example, the Disk Usage and Network Usage reports include only "File Server Mount" resources), only [compatible groups](#) of that resource type are allowed as an input parameter. For all non-resource-type-specific reports (for example, the Alert and Availability reports), all groups defined in HQ are available for selection.

4.6.4. Custom Reports

If you need reports that HQ does not yet provide, you can write your own. HQ's reporting functionality uses [JasperReports](#), and the templates are written in JasperReports' XML format, JRXML. To write a report template, Hyperic suggests you use the Java-based application iReport ([download it](#)). Custom report templates must be in either JRXML format (generated from the content created in iReport) or compiled .jasper format. At this time compiled .jasper format is the only format supported when deploying new templates to HQ.

For help with JasperReports and iReport, consult their documentation:

- [JasperReports Documentation](#)
- [iReport Documentation](#)

Requirements for Writing Custom Report Templates

Because HQ's reporting functionality uses JasperReports and only supports reporting generation using SQL queries against the HQ database, writing custom report templates requires familiarity with both JasperReports and the HQ database schema. Consult Hyperic Sales if you want to write custom report templates.

To incorporate a new report template into the Reporting screen:

1. Write a report template in JRXML or compiled Jasper format, being sure to specify any user-input parameters necessary for generating the report (for example, a date range).
 2. Place the template (.jasper format only) in `/hq-engine/hq-server/webapps/ROOT/WEB-INF/reportTemplates`.
-
3. Log out of HQ and log back in, the report will appear in the report list.

4.6.5. Specifying Report Description and Report Parameters

In the JasperReport file for a report:

- Use a `<property>` element to define a **description** for the report. The text you specify will appear as the **Report Description** when you select a report on the **Report Center** page

Use a `<parameter>` element to specify a report parameter. When you run the report, you will be queried to supply the parameter value. The following parameter types are supported:

- `java.util.Date`
- `java.util.String`

4.6.6. Actionable Reports

A couple of the reports give you information that can be immediately acted on:

- "Resources Not Collecting Metrics": For the resources listed in this report, users should determine why the resources are no longer collecting metrics. Are the Agents on the resources turned off? Did the collection interval get out of sync?
- "Resources Without Metrics": Access the resources listed here in HQ and configure them to collect metrics.

5. Views for Specific Resource Types

- [Section 5.1, “GemFire View”](#)
- [Section 5.2, “HQ vSphere View”](#)
- [Section 5.3, “tc Server Application Management View”](#)

5.1. GemFire View

The GemFire plugin provides a live data user interface for viewing metrics in real-time. (As opposed to the **Monitor** tab for a GemFire component, which presents metrics that have been saved to the HQ database.)

- [GemFire View for a DS](#)
- [GemFire View for a Cache Server or Application Peer](#)
- [GemFire View for a Gateway Hub](#)

5.1.1. GemFire View for a DS

The HQ GemFire View for a Distributed System displays the following information.

- Servers in the DS — The number of Cache Servers, Gateway Hubs and Application Peers in the DS.
- Gateways in the DS — If the DS is part of a multi-site deployment, the number of Gateways in the DS's Gateway Hub.
- Clients connected to the DS — The number of clients (Cache Servers, Gateways, or Application Peers) in other Distributed Systems that are connected to the DS.

The table in the middle of the GemFire View for a DS displays inventory properties and last reported metric values for each server (including Cache Servers, Gateway Hubs and Application Peers) in the DS.

Browse > **Gemfire.6.5.latest**
 Description: Gemfire 6.5 latest with enable...
 Owner: HQ Administrator ([hqadmin](#)) - [Change...](#)

[Map](#) [Tools Menu](#)

[Monitor](#) [Inventory](#) [Alert](#) [Views](#)

HQ GemFire view

GemFire DS
 FC-Cent54x64-VM1(4353)<v1>:29204/56558
 FC-Cent54x64-VM1(4425)<v2>:56464/41381
 FC-Cent54x64-VM1(4287)<v0>:17128/36053

Distributed System: 239.192.81.1[10334]								
<ul style="list-style-type: none"> • Servers: 3 • Gateways: 1 • Clients: 0 								
id	name	host	port	heap	cpu	uptime	clients	type
FC-Cent54x64-VM1(4425)<v2>:56464/41381	FC-Cent54x64-VM1(4425)<v2>:56464/41381	FC-Cent54x64-VM1	40424	52.60%	0.60%	96 hours 53 mins 2 secs	0	Cache Server
FC-Cent54x64-VM1(4353)<v1>:29204/56558	FC-Cent54x64-VM1(4353)<v1>:29204/56558	FC-Cent54x64-VM1	40414	61.77%	0.60%	96 hours 53 mins 7 secs	0	Cache Server
FC-Cent54x64-VM1(4287)<v0>:17128/36053	FC-Cent54x64-VM1(4287)<v0>:17128/36053	FC-Cent54x64-VM1	40404	43.24%	0.40%	96 hours 53 mins 18 secs	0	Gateway Hub

5.1.2. GemFire View for a Cache Server or Application Peer

The GemFire View for a Cache Server or Application Peer displays server and region inventory properties and metrics:

- Server metrics — The single row table presents last reported metric values for the Cache Server or Application Peer.
- Region metrics — The multi-row table presents inventory properties and the Entry Count metric for each region the server contains.

Browse > Gemfire.6.5.latest
Description: Gemfire 6.5 latest with enable...
Owner: HQ Administrator (hqadmin) - Change...

Map **Tools Menu**

Monitor **Inventory** **Alert** **Views**

HQ GemFire view

GemFire DS
FC-Cent54x64-VM1(4353)<v1>:29204/56558
FC-Cent54x64-VM1(4425)<v2>:56464/41381
FC-Cent54x64-VM1(4287)<v0>:17128/36053

Details of FC-Cent54x64-VM1(4425)<v2>:56464/41381 with ID: FC-Cent54x64-VM1(4425)
<v2>:56464/41381

heap	cpu	uptime	clients
51.01%	0.40%	96 hours 57 mins 7 secs	0

Regions:

Name	Path	scope	Data Policy	Insert Policy	Entry counts	Disk Attrs
TestRegion1	/TestRegion1/	DISTRIBUTED_NO_ACK	REPLICATE	CACHE_CONTENT	84467	Synchronous writes to disk. MaxOplog size is : 1073741824. RollOplogs is : true
TestRegion10	/TestRegion10/	DISTRIBUTED_NO_ACK	REPLICATE	CACHE_CONTENT	0	Synchronous writes to disk. MaxOplog size is : 1073741824. RollOplogs is : true
TestRegion2	/TestRegion2/	DISTRIBUTED_NO_ACK	REPLICATE	CACHE_CONTENT	82775	Synchronous writes to disk. MaxOplog size is : 1073741824. RollOplogs is : true
TestRegion3	/TestRegion3/	DISTRIBUTED_NO_ACK	REPLICATE	CACHE_CONTENT	89584	Synchronous writes to disk. MaxOplog size is : 1073741824. RollOplogs is : true
TestRegion4	/TestRegion4/	DISTRIBUTED_NO_ACK	REPLICATE	CACHE_CONTENT	80598	Synchronous writes to disk. MaxOplog size is : 1073741824. RollOplogs is : true
TestRegion5	/TestRegion5/	DISTRIBUTED_NO_ACK	REPLICATE	CACHE_CONTENT	87280	Synchronous writes to disk. MaxOplog size is : 1073741824. RollOplogs is : true
TestRegion6	/TestRegion6/	DISTRIBUTED_NO_ACK	REPLICATE	CACHE_CONTENT	81719	Synchronous writes to disk. MaxOplog size is : 1073741824. RollOplogs is : true
TestRegion7	/TestRegion7/	DISTRIBUTED_NO_ACK	REPLICATE	CACHE_CONTENT	84602	Synchronous writes to disk. MaxOplog size is : 1073741824. RollOplogs is : true
TestRegion8	/TestRegion8/	DISTRIBUTED_NO_ACK	REPLICATE	CACHE_CONTENT	83281	Synchronous writes to disk. MaxOplog size is : 1073741824. RollOplogs is : true
TestRegion9	/TestRegion9/	DISTRIBUTED_NO_ACK	REPLICATE	CACHE_CONTENT	81888	Synchronous writes to disk. MaxOplog size is : 1073741824. RollOplogs is : true

5.1.3. GemFire View for a Gateway Hub

The HQ GemFire View for a Gateway Hub displays inventory data and live measurements for the Gateway Hub, the Hubs and Regions it contains, and any clients connected to the Hub.

Browse > Gemfire.FC-Cent54x64-VM2

Description: Gemfire Test Owner: HQ Administrator (hqadmin) - Change...

[Map](#) [Tools Menu](#)

[Monitor](#) [Inventory](#) [Alert](#) [Views](#)

HQ GemFire view

GemFire DS

- FC-Cent54x64-VM1(4353)<v1>:29204/56558
- FC-Cent54x64-VM1(4425)<v2>:56464/41381
- FC-Cent54x64-VM1(4287)<v0>:17128/36053
- FC-Cent54x64-VM1(23243)<v8>:56047/53023

Details of FC-Cent54x64-VM1(4287)<v0>:17128/36053 with ID: FC-Cent54x64-VM1(4287)<v0>:17128/36053

heap	cpu	uptime	clients
41.38%	0.38%	97 hours 9 mins 13 secs	1

gateways:

US
Queue Size=0
Connected=true

End Points:

Name	Host	Port
US	localhost	40415

TK
Queue Size=0
Connected=true

End Points:

Name	Host	Port
TK	localhost	40425

Regions:

Name	Path	scope	Data Policy	Insert Policy	Entry counts	Disk Attrs
TestRegion1	/TestRegion1/	DISTRIBUTED_NO_ACK	REPLICATE	CACHE_CONTENT	84493	Synchronous writes to disk. MaxOplog size is : 1073741824. RollOplogs is : true
TestRegion10	/TestRegion10/	DISTRIBUTED_NO_ACK	REPLICATE	CACHE_CONTENT	0	Synchronous writes to disk. MaxOplog size is : 1073741824. RollOplogs is : true
TestRegion2	/TestRegion2/	DISTRIBUTED_NO_ACK	REPLICATE	CACHE_CONTENT	82805	Synchronous writes to disk. MaxOplog size is : 1073741824. RollOplogs is : true
TestRegion3	/TestRegion3/	DISTRIBUTED_NO_ACK	REPLICATE	CACHE_CONTENT	89616	Synchronous writes to disk. MaxOplog size is : 1073741824. RollOplogs is : true
TestRegion4	/TestRegion4/	DISTRIBUTED_NO_ACK	REPLICATE	CACHE_CONTENT	80630	Synchronous writes to disk. MaxOplog size is : 1073741824. RollOplogs is : true
TestRegion5	/TestRegion5/	DISTRIBUTED_NO_ACK	REPLICATE	CACHE_CONTENT	87313	Synchronous writes to disk. MaxOplog size is : 1073741824. RollOplogs is : true
TestRegion6	/TestRegion6/	DISTRIBUTED_NO_ACK	REPLICATE	CACHE_CONTENT	81755	Synchronous writes to disk. MaxOplog size is : 1073741824. RollOplogs is : true
TestRegion7	/TestRegion7/	DISTRIBUTED_NO_ACK	REPLICATE	CACHE_CONTENT	84628	Synchronous writes to disk. MaxOplog size is : 1073741824. RollOplogs is : true
TestRegion8	/TestRegion8/	DISTRIBUTED_NO_ACK	REPLICATE	CACHE_CONTENT	83316	Synchronous writes to disk. MaxOplog size is : 1073741824. RollOplogs is : true
TestRegion9	/TestRegion9/	DISTRIBUTED_NO_ACK	REPLICATE	CACHE_CONTENT	81910	Synchronous writes to disk. MaxOplog size is : 1073741824. RollOplogs is : true

Clients:

id	queuesize	gets	puts	cachemisses	threads
FC-Cent54x64-VM1(23243):56047/53023	1	0	0	0	0

5.2. HQ vSphere View

Available only in **vFabric Hyperic**

- [About the HQ vSphere Page](#)
- [HQ vSphere Inventory Tab](#)
- [HQ vSphere Summary Tab](#)
- [HQ vSphere Performance Tab](#)
- [HQ vSphere Control Tab](#)

5.2.1. About the HQ vSphere Page

This page describes the **HQ vSphere** page, an interface for monitoring and managing vSphere Hosts and VMs available in HQ Enterprise.

See [Monitoring vSphere Components \(Hyperic 4.5.1 and Later\)](#) for information about the management functions supported for each resource type and configuration instructions.

"Performance data not available?"

The **Performance** tab appears for a VM only if there is an HQ Agent running in the VM. For information about installing an HQ Agent, see [Configure and Run the HQ Agent](#).

Display the HQ vSphere Page

To display the **HQ vSphere** page, select **HQ vSphere** from the **Resources** tab in the Masthead.

Note: The **HQ vSphere** option appears on the **Resources** tab only in HQ Enterprise, and only if you have vSphere components under management.

You can also navigate to the **HQ vSphere** page from the Resource Hub. The resource page for a vCenter server or vSphere Host has a **View in HQ vSphere** link above the **Monitor** tab. Click the thumbnail for a screenshot.

Browse > 10.16.16.100
Return to vmwin2k8x64-hqqa1

Description: VMware ESX 4.0.0 build-208167
Secondary DNS : 10.16.67.110
Cores per Socket : 4
Manufacturer : HP
Processor Type : Intel(R) Xeon(R) CPU ...

Owner: HQ Administrator (hqadmin) - Change...
Model : ProLiant ML350 G6
Data Center : Frederic
Primary DNS : 10.16.65.110
VMware Version : 4.0.0

Processor Sockets : 2
IP Address : 10.16.16.100
Build : 208167

View in HQ vSphere

Map **Tools Menu**

Monitor **Inventory** **Alert** **Views**

Metric Display Range: Last 8 Hours Advanced Settings

RESOURCES **INDICATORS** **METRIC DATA**

Indicator Charts | Show Last 8 Hours View: Update Default

CPU Usage (Average) (VMware vSphere Host)
LOW: 0.0% AVG: 3.5% PEAK: 12.0%

Disk Usage (Average) (VMware vSphere Host)
LOW: 331.0 KB AVG: 607.8 KB PEAK: 2.6 MB

Highest Disk Latency (VMware vSphere Host)
LOW: 0ms AVG: 0ms PEAK: 0ms

06/14/2010 10:28 AM 06/14/2010 06:20 PM

HQ vSphere and Resource Permissions

In HQ Enterprise, a user can only access resources that are assigned to groups to which the user's role grants access. The accessible resources are further limited by the role's permissions to inventory types.

In other words, you can see PlatformA in browse dialogs and navigate to it if: (1) it is a member of a group assigned to your role, **and** (2) that role grants access to platforms.

The **HQ vSphere** user interface behaves somewhat differently: if you have view access to platforms, you can see all of the vSphere Hosts and vSphere VMs in the deployment *whether or not* they belong to a group assigned to your role.

Note also that even if your role does not grant view permission to servers, vCenter servers will appear in the **HQ vSphere** page. A vCenter server is the root of the vSphere resource hierarchy and is visible regardless of role permissions; the only resource data exposed for the vCenter server is its name.

5.2.2. HQ vSphere Inventory Tab

The **Inventory** tab on the **HQ vSphere** page is a tree of the vSphere resources under HQ management, organized in the resource type hierarchy shown below. The lowest level appears for a VM that has an HQ Agent running and monitoring resources running in the VM.

The contents of the **Inventory** tab are updated once per minute.

You can use the **Inventory** tab to view the virtual resource hierarchy and to navigate among resources. When you select a resource, the tab or tabs on the right side of the page contain resource data, performance charts, and resource control commands, as appropriate to the resource type.

The table below shows the vSphere resource type hierarchy; the right column indicates the inventory level for a type in the HQ inventory model.

Vsphere Resource Hierarchy	Inventory Type
VMware vCenter	server
VMware vSphere Host	platform
VMware vSphere VM	platform
HQ Agent-managed resource in VM	server

Click the thumbnail to see an expanded hierarchy in the **Inventory** tab.

Icons in the vSphere Inventory Tab

The icon to the left of an item in the resource tree indicates the type of the resource, and for a VM, its availability status. For information about how VM availability is determined, see [VMware vSphere VM Metrics](#) below.

	vCenter Server
	vSphere Host
	VM whose availability is Up
	VM whose availability is Paused

	VM whose availability is Powered Off
	VM whose availability status is Down
	VM whose availability status is Unknown
	An HQ-managed resource running in a VM that has an HQ Agent running in it.

5.2.3. HQ vSphere Summary Tab

The **Summary** tab, available when any resource in the **Inventory** tab is selected, displays properties for the selected resource, and its parent resource, as applicable.

Jump to Resource Hub View of a Resource

To view a vSphere resource in the HQ resource hub - for instance to visit its **Inventory** or **Alert** page - click the **view resource** link to the right of the resource name.

Summary Tab for vCenter

When a vCenter Server instance is selected in the HQ vSphere page, the **Summary** tab contains the name of the vCenter instance. You can view inventory and configuration properties for the vCenter instance in the Resource Hub — click **view resource** next to the resource name to view it in the Resource Hub.

Summary Tab for vSphere Hosts

The **Summary** tab for a vSphere Host displays the following properties:

- Host Information
 - Hostname
 - Location
 - Manufacturer
 - Model
 - VMware Version
- Processor Details
 - Type - of the processor
 - CPUs - Processor sockets and cores per socket
- Network Details
 - IP Address
 - Default Gateway
 - DNS - primary and secondary DNS server

Summary Tab for vSphere VM

The **Summary** tab for a vSphere VM displays the following VM properties:

- VM Information
 - Hostname - of the vSphere Host (ESX platform) where the VM runs

- Guest OS - operating system running in the VM
- vCPU(s) - number of virtual processors in the VM
- Memory - VM memory, in MB
- MAC Address
- IP - VM's IP address
- VM Version - virtual machine hardware version
- Tools Version - version of VMware Tools on the VM.
- Config Details
 - ESX Host - IP address of the vSphere Host (ESX platform) where the VM runs
 - Resource Pool - resource pool with which the VM is associated
 - Config File - path to the the VM configuration (.vmx) file, expressed using the symbolic link path to the VMFS volume where the file is stored

Properties for the vSphere Host where the VM runs, described above in [Summary Tab for vSphere Hosts](#), are shown below the VM properties.

If the VM does not have an HQ Agent running in it, the **Summary** tab has a "Performance data not available" near the top of the page.

Summary Tab for a Managed Resource in the VM

Note: This information applies to a VM with a running HQ Agent that is managing resources in the VM. Otherwise, resources running in the VM do not appear in the **HQ vSphere** page.

When you select a managed resource running in a VM, the **Summary** tab displays the vSphere Host and VM properties described in [Summary Tab for vSphere VM](#).

The contents of the **Summary** tab are updated once per minute.

Click the thumbnail for an example screenshot; the selected resource is a DB2 server running on a VM whose name is "vmcent54x64-db297".

HQ vSphere

Inventory

Type resource name

- kparikh VMware vCenter
- 10.16.16.99
 - CentOS5.4
 - CentOS-5.4 HQ Ag...
 - CentOS-5.4 Sendm...
 - Frederic-VM-Test (42...)
 - vmc-ssrc-centos5
 - vmc-ssrc-centos5.4
 - vmc-ssrc-2k810 VMware v...
 - 10.16.16.100
 - Cent-5
 - Frederic-VM-Test
 - kparikh-VM1
 - test1 (4206e657-64cc...)
 - VM-Test
 - VM-Test2
 - VM-Test3
 - VM-Test4-Renamed
 - vmcent54x64-db297
 - **vmcent54x64-db...**
 - vmcent54x64-db29...

Summary **Performance**

last updated: 3:07:34 PM PDT

Resource Information

Name	vmcent54x64-db297 (view resource)
------	---

VM Information

Hostname	vmcent54x64-db297
Guest OS	Red Hat Enterprise Linux 5 (64-bit)
vCPU(s)	1
Memory	2048 MB
MAC Address	00:50:56:a5:23:72
IP	10.16.17.36
VM Version	vmx-07
Tools Version	8194

Host Information

Hostname	10.16.16.100
Location	Frederic's Datacenter
Manufacturer	HP
Model	ProLiant ML350 G6
VMware Version	4.0.0, build 208167

Processor Details

Type	Intel(R) Xeon(R) CPU E5520 @ 2.27GHz
CPU(s)	8 Logical Processor(s) (2 socket(s) x 4 cores/socket)

Network Details

IP	10.16.16.100
Gateway	null
DNS	10.16.65.110 10.16.67.110

To view inventory properties for the managed resource itself, click the **view resource** link next to the resource name to view the resource in the Resource Hub.

5.2.4. HQ vSphere Performance Tab

The **Performance** tab appears when a vSphere Host is selected, and, if the VMs running on the host have HQ Agents running, for each VM, and for the managed resources running in the VMs.

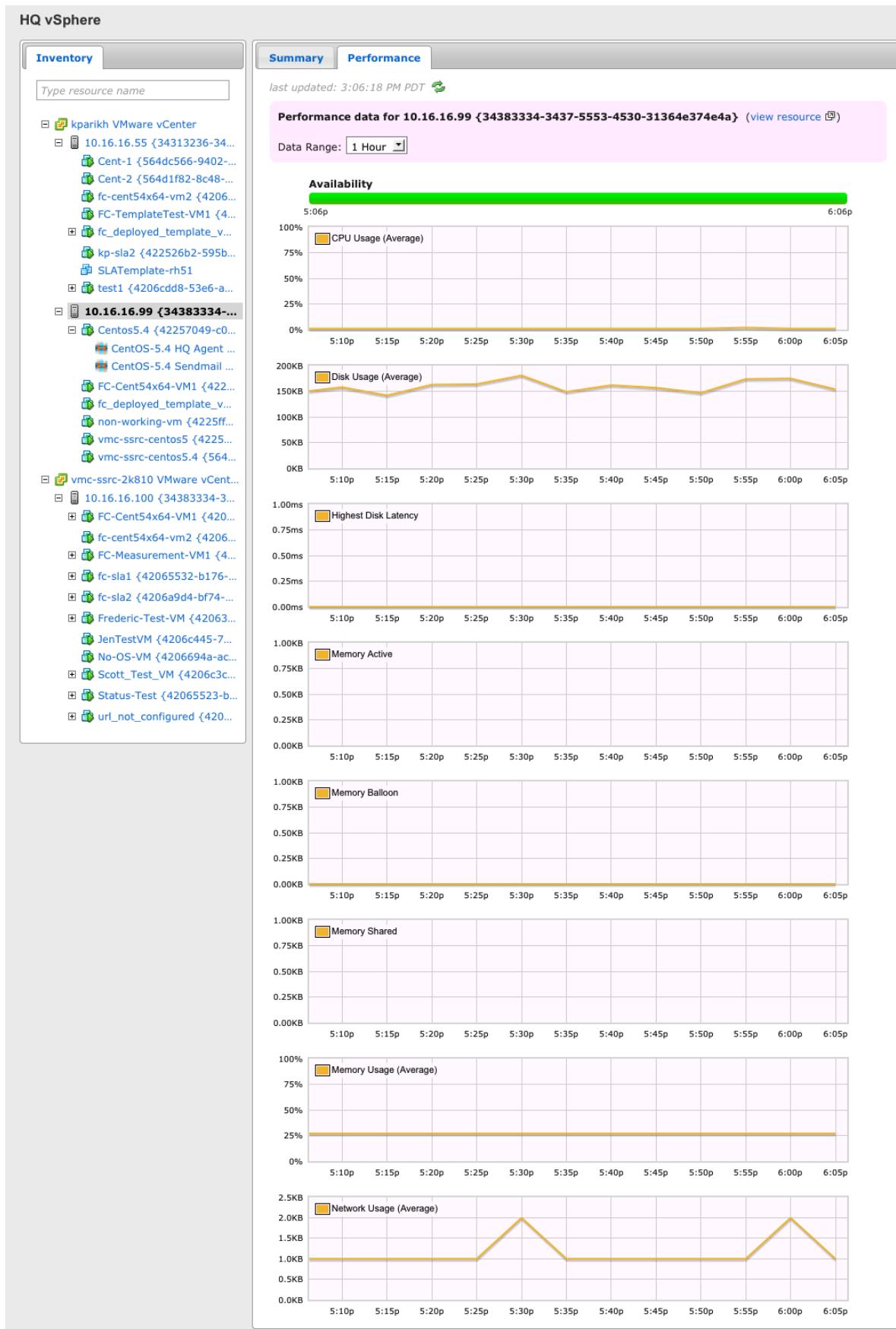
The contents of the **Performance** tab are updated once per minute.

If a VM does not have an agent running in it, no **Performance** tab appears. You can view the VM metrics in its **Monitor** page in the Resource Hub. Click **view resource** next to the "Hostname" property on the VM's **Summary** tab.

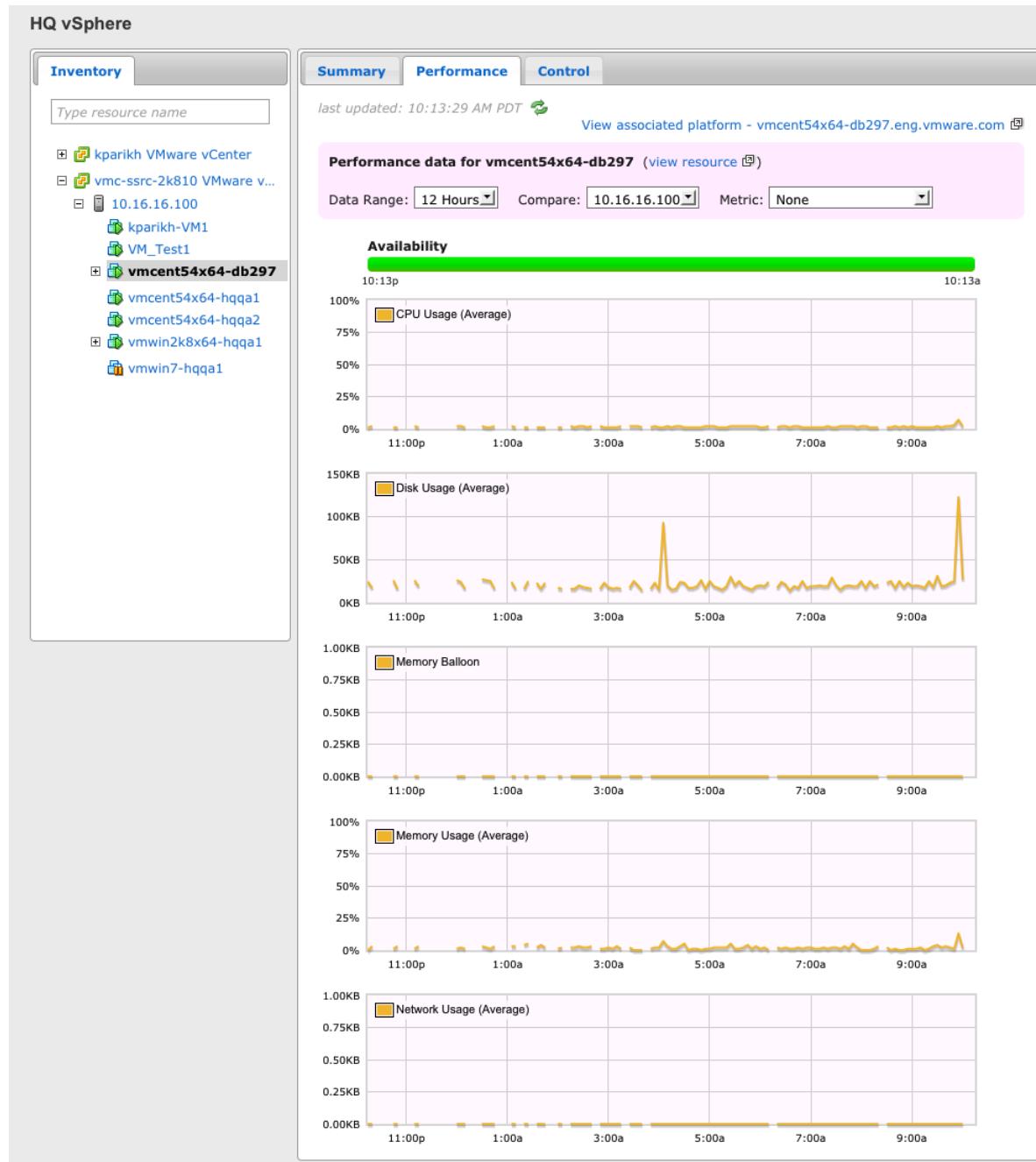
View Metrics

The **Performance** tab displays an **Availability** bar, and a chart for each metric currently enabled for the selected resource type.

Click the thumbnail for the **Performance** tab for a vSphere Host.



Click the thumbnail for the **Performance** tab for a vSphere VM.



The tables in [VMware vSphere Host Metrics](#) and [VMware vSphere Host Metrics](#) list supported vSphere metrics and default settings.

Twelve hours history is displayed by default. You can use the **Data Range** pull-down to set the display range to the most recent:

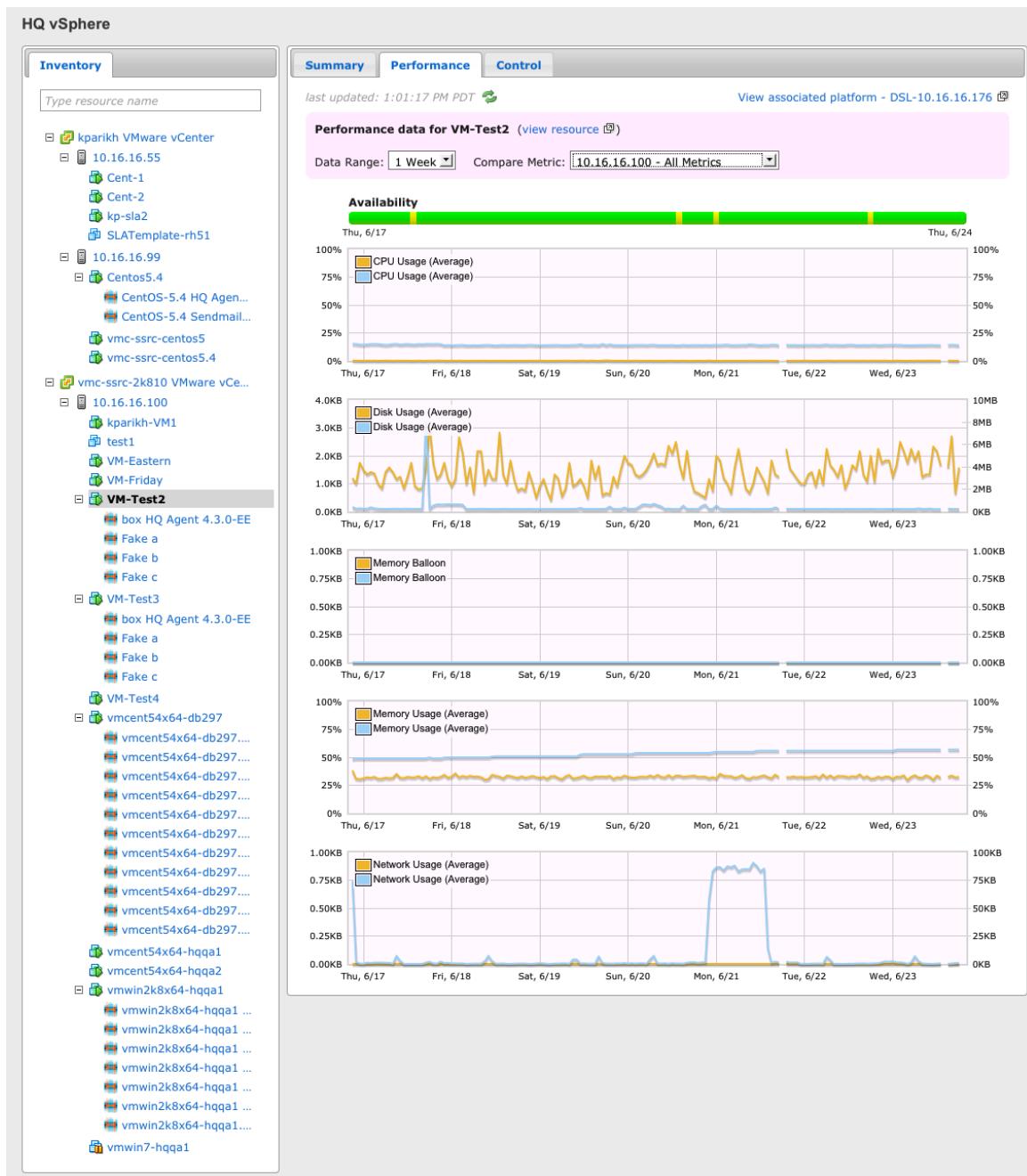
- 1, 4, or 12 hours
- 1 or 2 days,
- 1 week, or

- 1 month

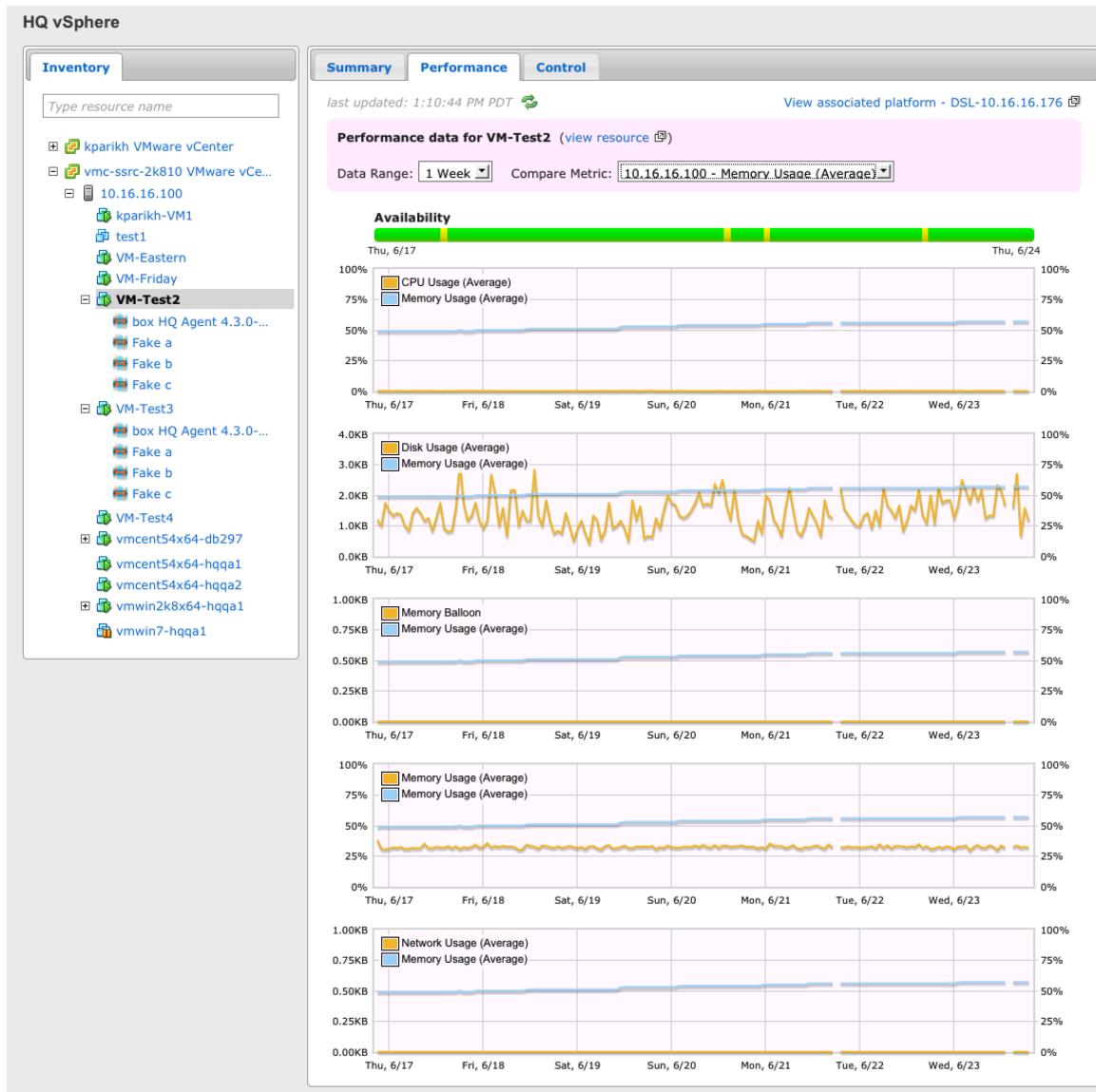
Correlate Metrics

On the **Performance** tab for a VM or an HQ Agent-managed resource running in the VM, you can use the **Compare** pull-down to correlate the selected resource's performance with its parent or grandparent. You can:

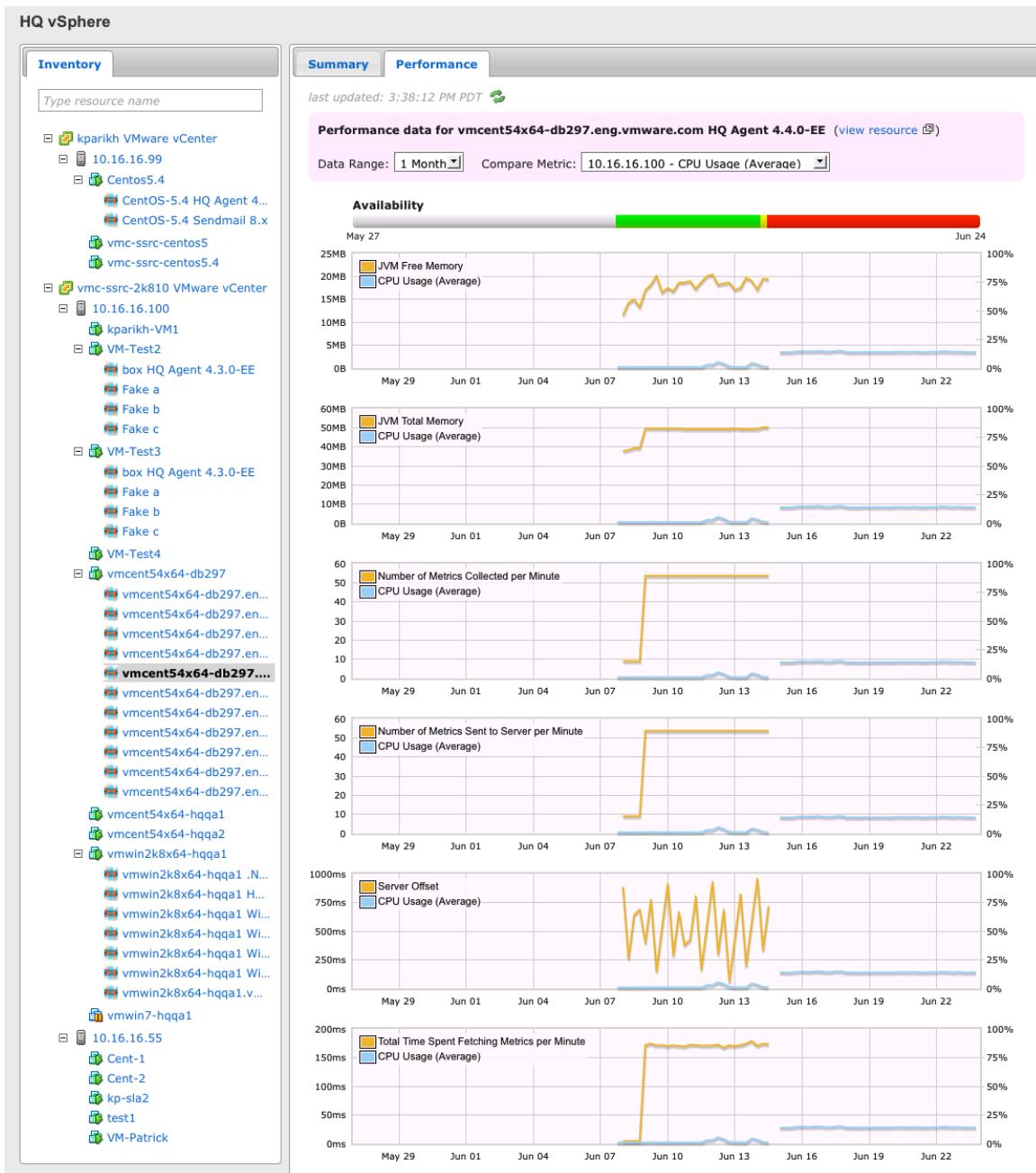
- **Compare each VM metric with its vSphere Host equivalent** — For example compare the VM's "Disk Usage (Average)" metric to its host's "Disk Usage (Average)" metric; the VM's "CPU Usage (Average)" metric to its host's "CPU Usage (Average)" metric; and so on. Click the thumbnail for an example screenshot.



- **Compare each VM metric to a selected vSphere Host metric** — For example, compare each VM metric to the "Disk Usage (Average)" metric of its vSphere host. Click the thumbnail for an example screenshot.



- **Compare metrics for a managed resource in the VM with performance of the VM or the vSphere host**
 - Use the **Compare** pull-down to select a VM or Host metric - the charts for the managed resource metrics will be overlaid with the line for the selected VM or host metric. Click the thumbnail for an example in which the vSphere Host's "CPU Usage (Average)" counter is overlaid on each HQ Agent metric chart.



5.2.5. HQ vSphere Control Tab

The The **Control** tab appears when a VM is selected (if there is an HQ Agent running in the VM) and allows you to issue a control command to the VM. See [Management Functions for VMware VSphere VM](#) for information about the supported control actions.

Click the thumbnail to see the an example screenshot.

HQ vSphere

Inventory

Type resource name

- kparikh VMware vCenter
- 10.16.16.99
- Centos5.4
 - CentOS-5.4 HQ Ag...
 - CentOS-5.4 Sendm...
 - vmc-ssrc-centos5
 - vmc-ssrc-centos5.4
- testt
- vmc-ssrc-2k810 VMware v...
- 10.16.16.100
 - kparikh-VM1
 - test1
 - VM-Eastern
 - VM-Friday
 - VM-Test2
 - box HQ Agent 4.3....
 - Fake a
 - Fake b
 - Fake c
 - VM-Test3
 - VM-Test4
- vmcent54x64-db297
 - vmcent54x64-hqqa1
 - vmcent54x64-hqqa2
- vmwin2k8x64-hqqa1
 - vmwin7-hqqa1

Summary Performance Control

View control action details - Centos5.4

VM Commands - Centos5.4

- Create Snapshot
- Heartbeat Status
- Reboot
- Remove All Snapshots
- Reset
- Revert to Current Snapshot
- Power On
- Power Off
- Suspend

If a VM does not have an agent running in it, no **Control** tab appears. You can run control actions from the "Control" page for the VM in the Resource Hub. Click **view resource** next to the "Hostname" property on the VM's **Summary** tab.

5.3. tc Server Application Management View

The features described on this page are available in tc Server and tc Server Standard Edition.

- [Section 5.3.1, “tc Runtime Application Management”](#)
- [Section 5.3.2, “Navigating to a tc Runtime Instance Or Group”](#)
- [Section 5.3.3, “Creating tc Runtime Groups”](#)
- [Section 5.3.4, “Listing Applications”](#)
- [Section 5.3.5, “Deploying Applications”](#)
- [Section 5.3.6, “Undeploying Applications”](#)
- [Section 5.3.7, “Starting Applications”](#)
- [Section 5.3.8, “Stopping Applications”](#)
- [Section 5.3.9, “Reloading Applications”](#)

5.3.1. tc Runtime Application Management

The **Application Management** page, available when a tc Runtime instance or a group of tc Runtime instances is selected, enables an authorized user to manage applications deployed that server instance or group.

The HQ super-user can use all the tc Runtime Application Management features of the HQ UI. If, however, you log on to the HQ UI as a non-super-user, then that user must have certain permissions to be able to use the tc Runtime features. See [User Permissions Required to Use the tc Runtime Features](#) for details.

An HQ Group is not a Cluster

An HQ *group* is not equivalent or similar to a tc Runtime cluster.

- An HQ group is a set of other managed resources. An authorized user can create a group and assign resources to it. A group whose members are all of the same resource type is referred to as a *compatible group*. You can manage and monitor the resources in a compatible group at the group level. Grouping tc Runtime instances allows you manage applications across multiple tc Runtime instances.
- A tc Runtime cluster enables session replication. Clustering behavior is defined in a tc Runtime instance's `server.xml` file.

5.3.2. Navigating to a tc Runtime Instance Or Group

To navigate to the Application Management page of a tc Runtime instance or group.

1. Click **Resources > Browse** at the top of the HQ Dashboard.
 - To browse to a server instance:
 - Click **Servers** to view a list of the servers to which you have access. tc Runtime instances have the server type "SpringSource tc Runtime 6.0". Apache Tomcat server instances have the server type "Tomcat X.X".

- To browse to a group of servers:
 - Click **Compatible Groups/Clusters** to view a list all the compatible groups to which you have access. Groups of tc Runtime have the type "SpringSource tc Runtime 6.0".
2. In the table, click the name of the tc Runtime instance or group to which you want to navigate.
3. Click **Views > Application Management**.

5.3.3. Creating tc Runtime Groups

Grouping tc Runtime instances eases the process of managing server instances and applications. For example, you can deploy an application to group of tc Runtime with a single command, instead of deploying to each instance individually. To create a group of tc Runtime instances:

1. Click **Resources > Browse** at the top of the HQ Dashboard.
2. Click **Servers** to list servers in inventory to which you have access. (Note: Only server instances that have been auto-discovered by HQ and added to inventory appear). tc Runtime instances have the server type "Spring-Source tc Runtime 6.0". Apache Tomcat server instances have the server type "Tomcat X.X".
3. Check the box to the left of each tc Runtime instance you want to include in the new group.
4. Click **Group**.
5. Enter a name for the group (required) and a description and location as desired.
6. Click **OK**.

5.3.4. Listing Applications

Navigate to the **Application Management** page for a server instance or group. Deployed applications are listed in the **Deployed Applications** section of the page. For a group, the table lists all applications deployed to all servers in the group. The table shows:

- **Status** - The state of the application - either "Running" or "Stopped". For a group of servers:
 - "Running" or "Stopped" indicates that *all* instances of the application on all servers in the group have that state.
 - A numeric value indicates the number of servers upon which the application's state is "Running".
- **Sessions** - The number of current active sessions for the application.

NOTE: Only applications on running tc Runtime instances appear. HQ returns an error for application hosts that are not running.

5.3.5. Deploying Applications

Deploying an application is the process of uploading it to tc Runtime and making it available to users. You can deploy an application to a single tc Runtime instance or to a group of tc Runtime instances. If you deploy to a group, the application will be deployed to each of tc Runtime instance in that group, enabling users to run the application from any of the tc Runtime instances in the group.

You can deploy an application from a WAR file located:

- on your local file system (on the same machine as the browser you are using to connect to HQ's web user interface), or
- on the computer on which the tc Runtime resource is running.

Whether the WAR file is local or remote, you can either enter a new context path (string that uniquely identifies the Web application in the URL used to invoke it), or use the default value, which is the name of the WAR file, without the ".war" extension.

1. Navigate to the **Application Management** page for a tc Runtime instance or group.
2. Depending on the location of the WAR file for the application, either:
 - Click **Browse** in the **Deploy Application From Local Machine** section to browse to the file's location.
 - Enter the full path to the WAR file on the computer hosting the tc Runtime resource in the **Deploy Application from Server Machine** section.
3. As desired, enter a context path in the **Context path** text box.
4. Optionally check the **Use cold deployment strategy** if you want the tc Runtime instance to shutdown, deploy the application, and then start up again. By default (if box is unchecked), the tc Runtime instance hot-deploys the application, which means it does not shutdown then restart but simply deploys the application while the instance is still running. Use the cold deployment strategy if you want to avoid common hot deployment errors, such as running out of PermGen space. The PermGen space holds the metadata about classes that have been loaded/created in the JVM.
5. Click **Upload and Deploy** or **Deploy**, whichever is appropriate.
6. See the top "Results of the last operation" section for details about the result of deploying the application. When you deploy an application to tc Runtime, the application is started.

5.3.6. Undeploying Applications

Undeploying an application removes it from the tc Runtime instance or group. If you want to temporarily prevent users from access an application, stop it rather than undeploy it. See [Stopping Applications](#).

1. Navigate to the application management page of a tc Runtime instance or group.
2. In the **Deployed Applications** section, check the box to the far-left of the application(s) you want to undeploy.
3. Click **Undeploy**. HQ removes the application from the list of deployed applications.
4. See the top "Results of the last operation" section for details about the results of undeploying the application.

5.3.7. Starting Applications

Starting an application makes it available to users. You must have previously deployed the application to be able to start it.

1. Navigate to the application management page of a tc Runtime instance or group.
2. In the **Deployed Applications** section, check the box to the far-left of the application(s) you want to start.

3. Click **Start**. The status of the application changes to "Running".
4. See the top "Results of the last operation" section for details about the result of starting the application.

5.3.8. Stopping Applications

Stopping an application makes it unavailable to users.

1. Navigate to the application management page of a tc Runtime instance or group.
2. In the **Deployed Applications** section, check the box to the far-left of the application(s) you want to stop.
3. Click **Stop**. The status of the application changes to "Stopped".
4. See the top "Results of the last operation" section for details about the result of stopping the application.

5.3.9. Reloading Applications

When you reload an existing application, it shuts itself down and then reloads itself. For additional details, see [Reload an Existing Application](#) on the Apache Tomcat 6.0 Web site.

1. Navigate to the application management page of a tc Runtime instance or group.
2. In the **Deployed Applications** section, check the box to the far-left of the application(s) you want to reload.
3. Click **Reload**. The status of the application changes to "Running."
4. See the top "Results of the last operation" section for details about the result of reloading the application.

6. Run Live System and Metric Queries

- [Section 6.1, “JMX MBean Query for JVMs”](#)
- [Section 6.2, “Run Live Exec Queries”](#)

6.1. JMX MBean Query for JVMs

Topics marked with * relate to features available only in vFabric Hyperic.

- [Using JMX MBean Query](#)
- [Entering Query Options](#)
- [Enabling Automatic Refresh](#)
- [Defining Saved Mbean Searches](#)
- [Schema for JMX Search Criteria](#)

6.1.1. Using JMX MBean Query

The JMX MBean Query tool allows you to search for MBeans, display their attributes, and invoke selected MBean operations on them.

When HQ alerts you of availability or health issues with a JVM resource or service, you can use the JMX MBean Query tool to troubleshoot and resolve the problem.

The MBean attributes displayed in the JMX MBean Query tool are read-only; the console does not support attribute editing. In this version of HQ, support for MBean operations is limited to operations with one or no arguments of primitive or simple type.

The JMX MBean Query tool is available on the **Views** tab when you have a JVM selected in the HQ portal. These instructions assume that your JVM is in HQ inventory.

Note that JVMs are not auto-discovered by HQ. You must add a JVM to HQ inventory and configure for monitoring as described in [Monitor a Sun JVM](#).

6.1.2. Entering Query Options

To access specific MBean attributes and operations, you enter search patterns in the these text boxes in the JMX MBean Query tool page:

- Object Name Pattern - To specify the MBean or Mbeans of interest, enter a valid MBean object name pattern. For information on object name patterns, see <http://java.sun.com/j2ee/1.4/docs/api/javax/manage-ment/ObjectName.html>.
- Attribute Regex Filter - To restrict the attributes returned, enter a valid Java regular expression. For information on Java regex patterns, see <http://java.sun.com/j2se/1.4.2/docs/api/java/util/regex/Pattern.html>.
- Operation Regex Filter - To restrict the MBean operations returned, enter a valid Java regular expression.

Click the **Query MBeans** button to execute the search.

For MBeans whose object name matches the Object Name Pattern, attributes and operations that match your filter criteria will be listed. For example:

Servers > Sun JVM 1.5 > gviedmas-computer.local Sun JVM 1.5 Sleep

Description: Vm Version: 1.5_0_13-121 Owner: HQ Administrator (hqadmin) - Change... Vm Name: Java HotSpot(TM) Client VM Vm Vendor: "Apple Computer, Inc."

MONITOR INVENTORY ALERT CONTROL VIEWS

JMX MBean Query

Object Name Pattern: java.lang:type=MemoryPool,* Attribute Regex Filter: * Operation Regex Filter: *

Preset Searches: JVM Memory MBean Refresh Interval: Off

Query MBeans 7 matches

java.lang:type=MemoryPool,name=Tenured Gen

Name	Value
CollectionUsage	{committed=0, int=1441792, max=61997056, used=0}
CollectionUsageThreshold	0
CollectionUsageThresholdCount	0
CollectionUsageThresholdExceeded	true
CollectionUsageThresholdSupported	true
MemoryManagerNames	[MarkSweepCompact]
Name	Tenured Gen
PeakUsage	{committed=1441792, int=1441792, max=61997056, used=882520}
Type	HEAP
Usage	{committed=1441792, int=1441792, max=61997056, used=882520}
UsageThreshold	0
UsageThresholdCount	0
UsageThresholdExceeded	true
UsageThresholdSupported	true
Valid	true

Operations:

resetPeakUsage

6.1.3. Enabling Automatic Refresh

If you wish the console to periodically refresh the attribute values, select an interval from the **Refresh Interval** pulldown.

6.1.4. Defining Saved Mbean Searches

If you expect to perform the same search frequently, you can create an XML file that specifies the search criteria. You name the file according to a predefined convention, and store it in a specific directory in your HQ Server installation. Each saved search will appear in the MBean Query page's **Preset Searches** menu.

When you run a saved search, the values you defined for the search Object Name Pattern, Attribute Regex Filter, and Operation Regex Filter appear in the text boxes at the top of the view.

Create a saved search in accordance with the schema described below in [Schema for JMX Search Criteria], and save it with a name like this:

Name the file that contains a saved search like this:

SearchID-filter.xml

where *SearchID* is a meaningful name for the search to which you append "-filter.xml" identifies the search

The filters values defined in this file will then appear in the **Preset Searches** drop-down menu and will be named according to the filter ID. Save the file in:

ServerHome/hq-engine/hq-server/webapps/ROOT/hqu/jmx/conf

The following topics defines the XML schema for saved MBean searches.

6.1.5. Schema for JMX Search Criteria

A saved MBean search criteria consists of:

- A top-level *filters* element, containing at least one *filter* sub-element. Each filter sub-element consists of:

- An *id* attribute containing an identifier for the search. This string will appear in the **Preset Searches** drop-down menu. Each search you define and save on an HQ server must have a unique *d* attribute.
- An *objectName* sub-element, whose value is the object name pattern used for the MBean query.
- An *attributeRegex* sublement, whose value is the Java regular expression used to filter the attributes returned from the MBean query.
- An *operationRegex* sublement, whose value is the Java regular expression used to filter the operations returned from the MBean query.

For example:

```
<?xml version="1.0" encoding="UTF-8"?>

<filters>

    <filter id="JVM Memory MBean">
        <objectName>java.lang:type=Memory</objectName>
        <attributeRegex>.*Usage</attributeRegex>
        <operationRegex>.*</operationRegex>
    </filter>

    <filter id="JVM Platform MBeans">
        <objectName>java.lang:*</objectName>
        <attributeRegex>.*</attributeRegex>
        <operationRegex>.*</operationRegex>
    </filter>

</filters>
```

6.2. Run Live Exec Queries

Topics marked with * relate to features available only in vFabric Hyperic.

- [Live Exec Commands](#)
- [Run Live Exec on a Platform or Group of Platforms](#)

6.2.1. Live Exec Commands

Hyperic's **Live Exec** view allows you to run system commands on a managed platform, or a group of platforms. **Live Exec** uses Hyperic's SIGAR — an API for gathering system information in real-time. The table below describes the queries you can run from **Live Exec**.

Command	Data Returned
cpuinfo	All CPUs on a platform.
cpuperc	Usage percentages on each CPU and related data. Equivalent to <code>uptime</code> command.
df	All filesystems on a platform. This does not list disk-usage percentages.
ifconfig	Network statistics on each of the platform's network interfaces
netstat	Active socket connections on the platform
top	All processes — that the HQ Agent can see — running on the platform. If a process is not listed, it is most likely because the Agent does not have permission to see it.
who	Logged-in users

6.2.2. Run Live Exec on a Platform or Group of Platforms

To run **Live Exec**:

1. Navigate to a platform, or a group of platforms in the Resource Hub.
2. Click the resource's **Views** tab.
3. On the **Views** tab, click **Live Exec**.
 - The **Live Exec** page appears. Available queries are listed in the left page.
 - If the selected resource is a group, the individual platforms in the group appear as well. You can select individual platforms within the group.
4. Select a command from the **Please select a query to run** pulldown.
5. Command results appear in the right side of the page.

- If the resource is an individual platform, the results pane includes its name, with the name of the platform and the selected command listed about the data table.
- In the case of a group:
 - If a member of the group has not previously been selected, click  next to a specific platform now. That platform will be displayed first by default for subsequent commands.
 - If a member of a group is not available,  is displayed next to the resource, and, when it is clicked, the reason why it is unavailable is displayed at the right.
 - To view the real-time data for another platform in the group, click  next to that platform. The platform for which data is currently being displayed is highlighted at the left.

If the Hyperic Agent cannot reach the platform, an error message is displayed.

7. Use Resource Control Actions

- [Section 7.1, “Run Resource Control Actions”](#)
- [Section 7.2, “View Control Action Status and History”](#)

7.1. Run Resource Control Actions

- [Section 7.1.1, “Overview of Running Control Actions”](#)
- [Section 7.1.2, “Run a Built-in Control Action”](#)
- [Section 7.1.3, “Select and Run a Custom Control Action”](#)
 - [Select from a List of All Custom Control Actions](#)
 - [Select from a List Custom Control Actions for a Platform](#)
 - [Run Control Action](#)
- [Section 7.1.4, “Schedule a Control Action”](#)

7.1.1. Overview of Running Control Actions

This page has instructions for running control actions on resources that support control actions. There are two types of control actions in Hyperic: control actions enabled by the managing resource plugin, and custom control actions implemented by Hyperic administrators. For more information, see [Section 1.5, “Resource Control in Hyperic”](#).

The process you use to selecting a control action to run varies for built-in and custom control actions:

- You select built-in control actions from the **Control** tab of the target resource — generally a server type.
- A custom control action is configured by a Hyperic administrator as service (of type "FileServer Service") on the platform where it runs. So, even if a custom control action target a server running on the platform, to invoke it, you navigate the platform service that represents the service on the parent platform.

7.1.2. Run a Built-in Control Action

To run a built-in control action — one that is enabled by a resource plugin — you navigate to the target resource, usually some type of server. (Control actions are typically available for servers, not for platforms, and rarely for services.)

1. Navigate to the target resource.
2. Click the **Control** tab.
 - The **Control** page appears.

The screenshot shows the VMware Hyperic interface for managing a Apache 2.2.3 server. The top navigation bar includes 'Browse > demo2.hyperic.net Apache 2.2.3' and a 'Return to demo2.hyperic.net Apache 2.2.3' link. Below this, server details are listed: Description: mod_status monitor, Owner: Blair Hester (bhester) - Change..., Server MPM: prefork, Server Built: Mar 21 2007 19:00:14, and Server Executable: /usr/sbin/httpd. A 'Map' button and a 'Tools Menu' button are also present.

The main navigation bar features tabs: Monitor, Inventory, Alert, Control (which is highlighted in orange), and Views. Under 'Control', there are sub-tabs: Current (which is highlighted in blue) and History.

The 'Current Status' section indicates 'No current Action.'

The 'Quick Control' section contains a note: 'Quick Control Actions will occur after the current Control Action.' It includes a 'Control Action' dropdown menu with a green arrow icon to its right, and a 'Control Arguments (optional)' input field. A note below states: 'Quick Control Actions will be done in parallel to all resources.'

The 'Control Action Schedule' section has a note: 'Control Action Schedule - Click "New..." below to schedule a Control Action.' It features a table with columns: Control Action (with a dropdown arrow), Next Fire, Date Scheduled, and Description. The table currently shows one entry: 'Total: 0 Items Per Page: 15'. Buttons for 'NEW...' and 'DELETE' are located at the bottom of the table.

3. In the **Quick Control** section of the page, use the **Control Action** pull-down to display a list of supported actions.
4. Select the desired control action, and click the green arrow to the right to initiate it.

7.1.3. Select and Run a Custom Control Action

Follow the instructions in [Select from a List of All Custom Control Action](#) or [Select from a List Custom Control Actions for a Platform](#), and then run the action, as described in [Run Custom Control Action](#).

Select from a List of All Custom Control Actions

To select from a list of all custom control actions:

1. Use **Browse > Services > FileServer File**.

- The **Services > FileServer File** page lists all custom control actions defined in your Hyperic deployment.

The screenshot shows a table of custom control actions. The columns are Service (with a dropdown arrow), Size, and Availability. The table contains 10 entries, each with a checkbox and a small icon next to the service name. The availability column shows mostly green checkmarks, except for two entries which have red exclamation marks.

Service	Size	Availability
MIA Apache RC script	1.4 KB	Green
MIA File	371.0 B	Green
MIA File	0.0 B	Green
MIA FileServer Downtime Test	0.0 B	Green
MIA Oracle error log	N/A	Grey
MIA Restart WLS 10.3 Shell Script	540.0 B	Green
MIA Sendmail RC Script	3.3 KB	Green
MIA Ide	3.3 KB	Green
MIA mail script	N/A	Red
MIA test fileserver file	N/A	Red

2. Click the name of the custom action you want to run.

- The **Monitor** tab for the custom control action appears.

The screenshot shows the 'Monitor' tab for the 'Restart WLS 10.3 Shell Script' action. At the top, there are tabs for Monitor, Inventory, Alert, Control, and Views. The Monitor tab is selected. Below the tabs, there's a metric display range selector set to 'Last 8 Hours'. The main area has three tabs: RESOURCES, INDICATORS, and METRIC DATA. The RESOURCES tab shows a list of hosts, with 'mothra.intranet.hyperic.net' selected. The INDICATORS tab shows an indicator chart for 'Size' over the last 8 hours, with a value of 100.0% Availability. The METRIC DATA tab shows detailed metrics for 'Size': LOW: 540.0 B, AVG: 540.0 B, PEAK: 540.0 B, with a scale from 0 B to 1,080 B.

- Click the **Control** tab , and follow the instructions in [Run Custom Control Action](#).

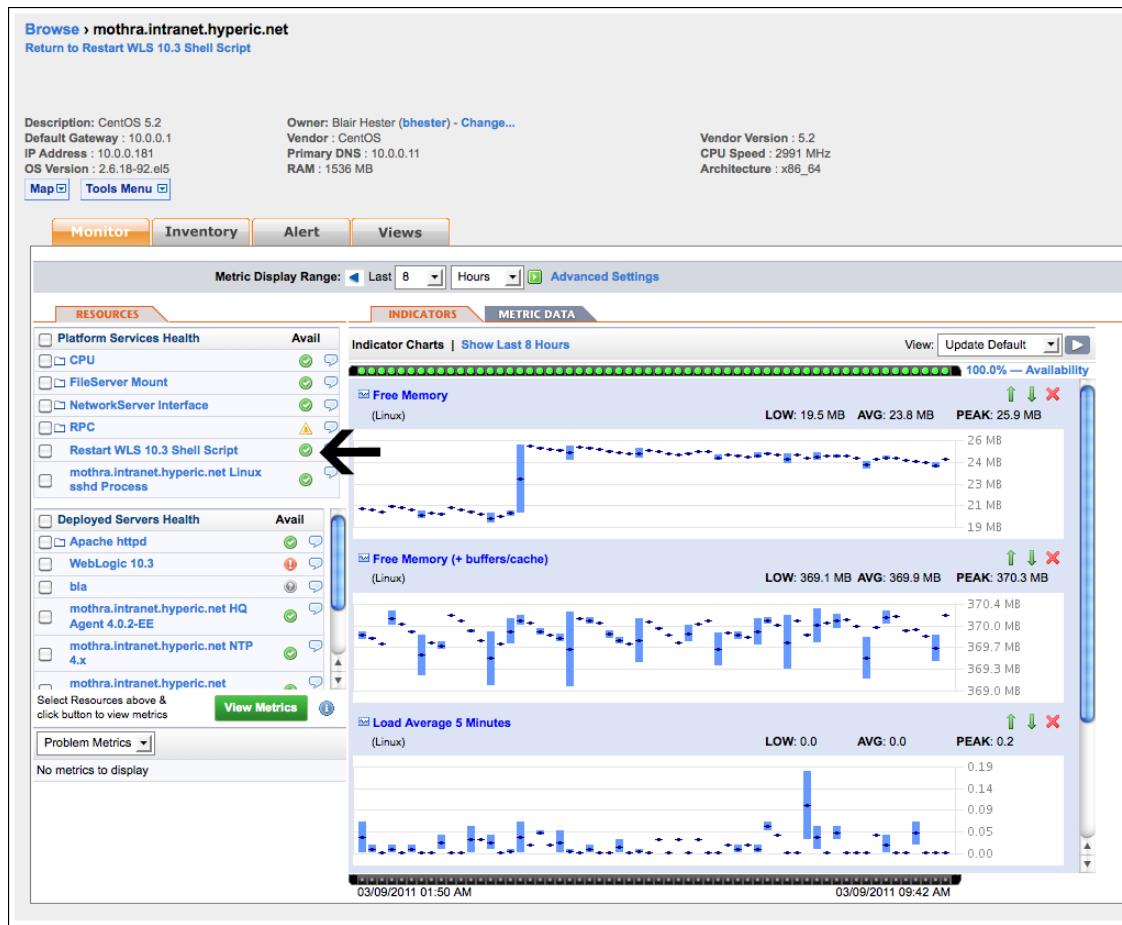
Select from a List Custom Control Actions for a Platform

To select from a list of control actions for the resources on a platform.

Run Resource Control Actions

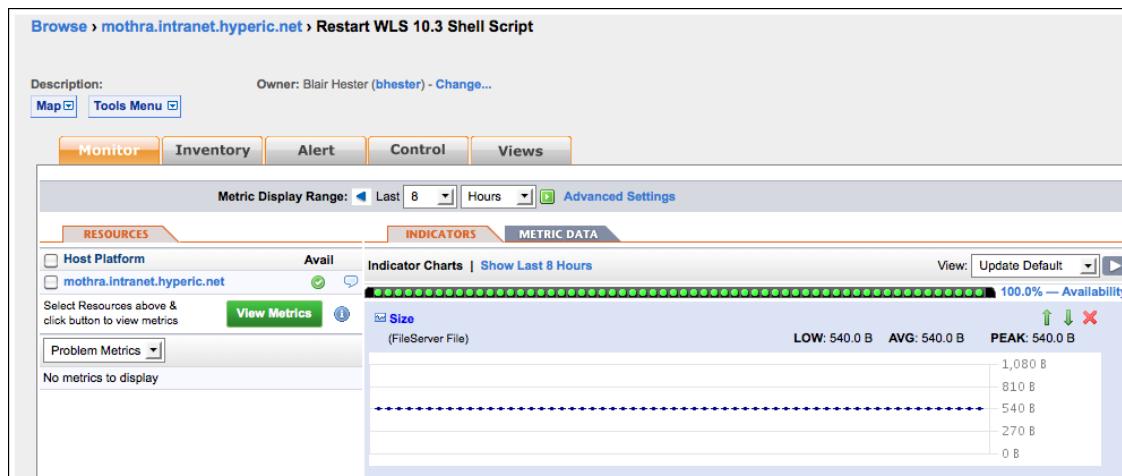
1. Navigate to the platform.

- Custom control actions for a resources are listed in the "Platform Services Health*" section.



2. Click the desired control action.

- The **Monitor** tab for the custom control action appears.



- Click the **Control** tab, and follow the instructions in [Run Custom Control Action](#).

Run Control Action

1. Navigate to the desired a custom control action using one of the options described above

- A page like the following appears:

The screenshot shows a web-based management interface for a server named 'demo2.hyperic.net Apache 2.2.3'. At the top, there's a breadcrumb navigation: 'Browse > demo2.hyperic.net Apache 2.2.3' and a link to 'Return to demo2.hyperic.net Apache 2.2.3'. Below this, server details are listed: 'Description: mod_status monitor', 'Owner: Blair Hester (bhester) - Change...', 'Server MPM : prefork', 'Server Built : Mar 21 2007 19:00:14', and 'Server Executable : /usr/sbin/httpd'. There are two buttons: 'Map' and 'Tools Menu'. A horizontal menu bar includes 'Monitor', 'Inventory', 'Alert', 'Control' (which is highlighted in orange), and 'Views'. Underneath the menu, there are two tabs: 'Current' (selected) and 'History'. A section titled 'Current Status' displays the message 'No current Action.' A 'Quick Control' section follows, with a note: 'Quick Control Actions will occur after the current Control Action.' It contains a dropdown menu for 'Control Action' (set to 'Select...') and a text input field for 'Control Arguments (optional)'. A note below states: 'Quick Control Actions will be done in parallel to all resources.' At the bottom, a table titled 'Control Action Schedule' is shown with columns: 'Control Action', 'Next Fire', 'Date Scheduled', and 'Description'. A note says: 'Click "New..." below to schedule a Control Action.' Buttons for 'NEW...' and 'DELETE' are at the bottom left, and a 'Total: 0 Items Per Page: 15' dropdown is at the bottom right.

2. In the **Quick Control** section of the page, select "Run" from the **Control Action** pull-down to run the control action.

7.1.4. Schedule a Control Action

Available only in vFabric Hyperic

In vFabric Hyperic, you can schedule a control action to be run in the future — either once, or on a recurring basis.

1. Select the **Control** tab:

- To schedule control actions for a resource with built-in control commands, navigate to the target resource, as described in [Run a Built-in Control Action](#)
- To schedule custom control actions, navigate to the platform service that represents it following the in [Run a Built-in Control Action](#), [Select from a List of All Custom Control Actions](#) or [Select from a List Custom Control Actions for a Platform](#).

2. In the **Control Action Schedule** section of the page, click **New**.

3. On the **New Scheduled Control Action** Page:

- Select a control action from the **Control Action** :pulldown.
- Description** — Type a description, if desired.
- Start** — Specify when you want to run the control action (or kick off a schedule of periodic control action execution):
 - Click **immediately** if you want Hyperic to initiate the control action as soon as you save the schedule.
 - Otherwise, select the date and a time you want Hyperic to run the control action.
 - The **Recur** pulldown appears; select how frequently Hyperic should repeat the control action.
 - **Never** - Choose this if you only want to run the command once.
 - **Daily**
 - **Weekly**
 - **Monthly**
- Click **OK**.

7.2. View Control Action Status and History

Topics marked with * relate to features available only in vFabric Hyperic.

- [Section 7.2.1, “View Recently Performed Control Actions”](#)
 - [About the Control Actions Portlet](#)
 - [Configure the Control Actions Portlet](#)
- [Section 7.2.2, “View Control History for a Resource”](#)

This page has information about how to view control action history. For information about control actions, see [Section 1.5, “Resource Control in Hyperic”](#).

7.2.1. View Recently Performed Control Actions

- [About the Control Actions Portlet](#)
- [Configure the Control Actions Portlet](#)

About the Control Actions Portlet

The **Control Actions** portlet displays information about recent control actions performed on resources over a configurable period of recent history.

- **Recent Control Actions** - This section lists the individual resource control action performed during the configured period, starting with the most recent. The following information is displayed for each resource:
 - Resource Name — Name of the resource.
 - Control Action — The control action that was performed.
 - Date/Time — When the action was performed
 - Message — Results of the control action.
- **Quick Control Frequency** - This section lists the resources upon which the most on-demand control actions have been performed during the configured interval. The following information is displayed for each resource:
 - Resource Name — Name of the resource.
 - # of Control Actions — How many control actions were performed during the interval.
 - Most Frequent Control Action - The control action that was most frequently performed.

Recent Control Actions			
Resource Name	Control Action	Date / Time	Message
angilas.mirko-pluhar.de Apache 2.2.3	startssl	09/23/2010 09:12 AM	The startssl option is no longer supported. Please edit httpd.conf to include the SSL configuration settings and then use apachectl start.

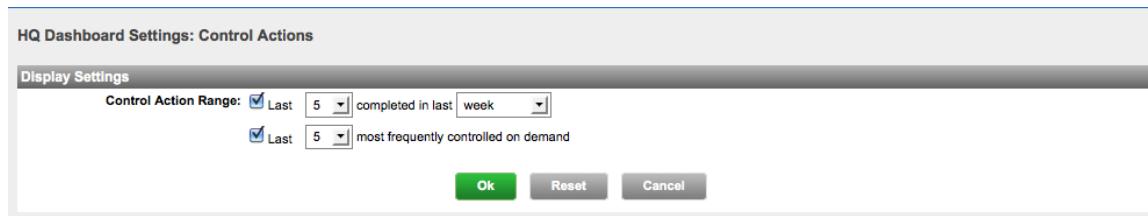
Quick Control Frequency		
Resource Name	# of Control Actions	Most Frequent Control Action
Restart WLS 10.3 Shell Script	56	run
demo2.hyperic.net HQ JBoss 4.x	4	runGarbageCollector

Configure the Control Actions Portlet

To configure the amount of data in the **Control Actions** portlet:

1. Click the gear icon in the upper right corner of the **Control Actions** portlet.

2. The **HQ Dashboard Settings: Control Actions** page appears.



3. Configure what appears in the **Recent Control Actions** section using the first row of filters:
- Check the box next **Control Action Range** if you want to list recent control actions in the portlet. (To stop the display of this data, uncheck it.)
 - In the first drop-down list, select the maximum number of completed control actions to list.
 - In the second drop-down list, select the time range from which to gather that data.
4. Configure what appears in the ***Quick Control Frequency** *section using the second row of filters:
- Check the box if you want to list the resources with the most on-demand control actions. (To stop the display of on-demand control-action data, uncheck it.)
 - Select the maximum number of resources to list.
5. Click **OK**.

7.2.2. View Control History for a Resource

To view a list of control actions that were performed on a resource:

1. Navigate to the resource in the Resource Hub.
2. Click the **Control** tab, which is present only if Hyperic supports control action for the selected resource type.
3. Click **History** on the **Control** tab.
 - The **Control History** page appears.

Control Action	Arguments	Command State	Date Started	Elapsed Time	User	Message
<input type="checkbox"/> run		Completed	02/08/2010 04:30 PM	15.265s	admin	kill: usage: kill [-s sigspec -n signum -sigsig] pid jobsig ... or kill -l [sigspec] /usr/local/bin/siege: no process killed PID: kill: usage: kill [-s sigspec -n signum -sigsig] pid jobsig ... or kill -l [sigspec]
<input type="checkbox"/> run		Completed	01/11/2010 11:26 AM	15.644s	admin	/usr/local/bin/siege: no process killed PID: 9331
<input type="checkbox"/> run		Completed	01/11/2010 10:19 AM	15.665s	admin	PID: 1839
<input type="checkbox"/> run		Completed	01/11/2010 09:08 AM	15.681s	admin	/usr/local/bin/siege: no process killed PID: 26969
<input type="checkbox"/> run		Completed	01/11/2010 07:56 AM	15.459s	admin	PID: 19786
<input type="checkbox"/> run		Completed	01/11/2010 06:48 AM	15.68s	admin	PID: 12716
<input type="checkbox"/> run		Completed	01/11/2010 05:40 AM	16.132s	admin	PID: 5162
<input type="checkbox"/> run		Completed	01/11/2010 04:23 AM	15.888s	admin	PID: 30620
<input type="checkbox"/> run		Completed	01/11/2010 03:13 AM	15.133s	admin	kill: usage: kill [-s sigspec -n signum -sigsig] pid jobsig ... or kill -l [sigspec] /usr/local/bin/siege: no process killed PID: 30386
<input type="checkbox"/> run		Completed	01/11/2010 03:01 AM	15.339s	admin	PID: 28496
<input type="checkbox"/> run		Completed	01/11/2010 02:58 AM	15.335s	admin	PID: 27958
<input type="checkbox"/> run		Completed	01/11/2010 02:55 AM	15.316s	admin	PID: 27451
<input type="checkbox"/> run		Completed	01/11/2010 02:52 AM	15.33s	admin	PID: 26904
<input type="checkbox"/> run		Completed	01/11/2010 02:49 AM	15.35s	admin	PID: 26358
<input type="checkbox"/> run		Completed	01/11/2010 02:46 AM	15.338s	admin	PID: 25839

4. The **Control History** pagelists the following information for actions that were performed on the resources:
 - **Control Action** — The action performed.
 - **Arguments** — Arguments supplied to the control action.
 - **Command State** — Status of the action: "Completed", "In Progress", or "Failed".
 - **Date Started** — Date and time that the control action was initiated.
 - **Elapsed Time** — How long it took to perform the control action.
 - **User** — User name of the Hyperic user who initiated or scheduled the control action
 - **Message** — (optional) Additional information about the control action.

To delete a control action, place a checkmark next to it in the list, and click **Delete** at the bottom of the page.

Control actions performed for as actions for particular alert firing are listed on the "[Alert Detail](#)" screen.

8. View Alerts and Update Alert Status

Topics marked with * relate to features available only in vFabric Hyperic.

This page describes options for displaying the status of fired alerts, marking an alert "fixed", and acknowledging an alert that has an escalation.

- [Section 8.1, "List Recent Alerts"](#)
- [Section 8.2, "List Alerts for a Resource"](#)
- [Section 8.3, "View Alerts Across All Resources"](#)
- [Section 8.4, "Monitor Unfixed Alerts"](#)
- [Section 8.5, "View Alert Detail"](#)
- [Section 8.6, "Acknowledge or Fix an Alert"](#)

8.1. List Recent Alerts

The Dashboard's **Recent Alerts** portlet displays alerts that have recently been fired. You can limit the alerts shown by affected resource, priority, and quantity. For information about the options and data presented see [ui-
Dashboard.Alerts](#).

8.2. List Alerts for a Resource

The **Alerts List** page for a resource lists presents key information and status about alerts that have fired for the resource. By default, alerts that have fired on the current day are listed. You can select a different day to view.

1. Browse to the resource.
2. Select the **Alert** tab.

For information about the options and data presented see [ui-
Alert.List](#).

8.3. View Alerts Across All Resources

Available only in vFabric Hyperic

vFabric Hyperic's **Alert Center**, available on the **Analyze** tab in the Masthead, provides system-wide and filtered views of fixed and unfixed alerts. You can include all alerts or those fired during a specified period, and filter by:

- whether the alert applies to an individual resource or a resource group
- minimum priority
- whether the alert is "not fixed" or "in escalation"

For information about the options and data presented see [ui-
Alert.Center](#).

8.4. Monitor Unfixed Alerts

Available only in vFabric Hyperic

vFabric Hyperic's **Operations Center** page, available on the **Analyze** tab in the Masthead, provides system-wide and filtered views of unfixed alerts. You can filter by platform or group, and whether or not the alerts have escalations.

For information about the options and data presented see [ui-Operations.Center](#).

8.5. View Alert Detail

There are several pages from which you can access the **Alert Detail** page for a fired alert:

- Click the alert name on the **Alert List** page.
- Click the alert definition name on the "Alert Center" page.*
- Click the date/time for an alert in the **Recent Alerts** portlet on the Dashboard.

For information about the options and data presented see [ui-Alert.Detail](#).

8.6. Acknowledge or Fix an Alert

There are several pages from which you can mark an alert "Fixed", or acknowledge an alert that has an escalation:

- **Recent Alerts** portlet on the Dashboard
- **Alert List** page
- **Alert Detail** page
- **Alert Center** page*