

# *InCharge*<sup>TM</sup>

## Service Assurance Manager Business Dashboard Configuration Guide

Version 6.2



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# Contents

<b>Preface</b>	<b>vii</b>
Intended Audience	vii
Prerequisites	vii
Document Organization	viii
Documentation Conventions	viii
Additional Resources	ix
InCharge Commands	ix
Documentation	ix
Common Abbreviations and Acronyms	xi
Technical Support	xi
<b>1 Overview</b>	<b>1</b>
Architecture of InCharge Service Assurance Manger with the Dashboard	2
Software Requirements	4
Client Requirements	4
Server Requirements	4
<b>2 Configuring the InCharge Business Dashboard</b>	<b>5</b>
Serving InCharge Viewlets	6
About the SMARTS Servlet Engine Service	6
Deploying Viewlets	8
About User Profiles and User Accounts	10
About InCharge Viewlets	11
Global Console Views That Function as Viewlets	12
Saving Views as Viewlets	12
Displaying Maps	13
HTML Syntax for Viewlets	15
HTML to Display Viewlets	15

Specifying Additional Viewlet Properties	16
Additional Viewlet Properties	18
URL-Addressable Viewlets	21
About the Web Console	22
Attaching With the Web Console	22
<b>3 Examples of InCharge Viewlets</b>	<b>25</b>
About the Sample Viewlets	25
Sample 1	26
Sample 2	27
Sample 3	28
Sample 4	29
Sample 5	30
Sample 6	31
Example of URL-Addressable Viewlet	33
<b>Index</b>	<b>35</b>

# Preface

The InCharge Business Dashboard is a Web-based interface that enables customers, operators, and administrators to access information about the status of their managed infrastructure from any standard browser, from any location. This document describes how to configure the InCharge Business Dashboard. Configuration tasks include configuring Jakarta Tomcat Servlet Engine, saving views in the Global Console as viewlets, writing HTML, and configuring the interaction and operation of InCharge Viewlets<sup>TM</sup>(viewlets).

## Intended Audience

This document is intended for system or network administrators and IT managers responsible for the configuration and management of the InCharge Business Dashboard. Administrators responsible for deploying Web portals that incorporate InCharge Viewlets or the Web Console will also find this document useful.

## Prerequisites

To create and use viewlets it is required that the InCharge Business Dashboard is installed, as described in the *InCharge Service Assurance Management Suite Installation Guide*. A Global Console and a Global Manager are also required for saving viewlets.

# Document Organization

This guide consists of the following chapters.

<b>1. OVERVIEW</b>	Provides an overview and architecture description of the InCharge Business Dashboard.
<b>2. CONFIGURING THE INCHARGE BUSINESS DASHBOARD</b>	Describes how to start Jakarta Tomcat Servlet Engine and create viewlets for Web clients.
<b>3. EXAMPLES OF INCHARGE VIEWLETS</b>	Describes the example viewlets included with the InCharge Business Dashboard.

**Table 1: Document Organization**

# Documentation Conventions

Several conventions may be used in this document as shown in Table 2.

CONVENTION	EXPLANATION
sample code	Indicates code fragments and examples in Courier font
<b>keyword</b>	Indicates commands, keywords, literals, and operators in bold
%	Indicates C shell prompt
#	Indicates C shell superuser prompt
<parameter>	Indicates a user-supplied value or a list of non-terminal items in angle brackets
[option]	Indicates optional terms in brackets
<i>/InCharge</i>	Indicates directory path names in italics
<b><i>yourDomain</i></b>	Indicates a user-specific or user-supplied value in bold, italics
<i>File &gt; Open</i>	Indicates a menu path in italics
▼▲	Indicates a command that is formatted so that it wraps over one or more lines. The command must be typed as one line.

**Table 2: Documentation Conventions**

Directory path names are shown with forward slashes (/). Users of the Windows operating systems should substitute back slashes (\) for forward slashes.



Also, if there are figures illustrating consoles in this document, they represent the consoles as they appear in Windows. Under UNIX, the consoles appear with slight differences. For example, in views that display items in a tree hierarchy such as the Topology Browser, a plus sign displays for Windows and an open circle displays for UNIX.

Finally, unless otherwise specified, the term InCharge Manager is used to refer to InCharge programs such as Domain Managers, Global Managers, and adapters.

## Additional Resources

In addition to this manual, SMARTS provides the following resources.

### InCharge Commands

Descriptions of InCharge commands are available as HTML pages. The *index.html* file, which provides an index to the various commands, is located in the **BASEDIR**/*smarts/doc/html/usage* directory.

### Documentation

Readers of this manual may find other SMARTS documentation (also available in the **BASEDIR**/*smarts/doc/pdf* directory) helpful.

#### **InCharge Documentation**

The following SMARTS documents are product independent and thus relevant to users of all InCharge products:

- *InCharge Release Notes*
- *InCharge Documentation Roadmap*
- *InCharge System Administration Guide*
- *InCharge ICIM Reference*
- *InCharge ASL Reference Guide*
- *InCharge Perl Reference Guide*

### **InCharge Service Assurance Manager Documentation**

The following SMARTS documents are relevant to users of the InCharge Service Assurance Management product suite.

- *InCharge Service Assurance Management Suite Installation Guide*
- *An Introduction to InCharge Service Assurance Manager*
- *InCharge Operator's Guide*
- *InCharge Service Assurance Manager Configuration Guide*
- *InCharge Service Assurance Manager Business Dashboard Configuration Guide*
- *InCharge Service Assurance Manager User's Guide for Business Impact Manager*
- *InCharge Service Assurance Manager User's Guide for Report Manager*
- *InCharge Service Assurance Manager Failover System User's Guide*

The following SMARTS documents are relevant to InCharge Service Assurance Manager adapters.

- *InCharge Service Assurance Manager Notification Adapters User's Guide*
- *InCharge Service Assurance Manager SQL Data Interface Adapter User's Guide*
- *InCharge Service Assurance Manager Adapter Platform User's Guide*
- *InCharge XML Adapter User's Guide*
- *InCharge Service Assurance Manager User's Guide for Remedy Adapter*
- *InCharge Service Assurance Manager User's Guide for Concord eHealth Adapter*
- *InCharge Service Assurance Manager User's Guide for InfoVista Adapter*

## Common Abbreviations and Acronyms

The following lists common abbreviations and acronyms that are used in the InCharge guides.

ASL	Adapter Scripting Language
CDP	Cisco Discovery Protocol
ICIM	InCharge Common Information Model
ICMP	Internet Control Message Protocol
IP	Internet Protocol
MSFC	Multilayer Switch Feature Card
MIB	Management Information Base
MODEL	Managed Object Definition Language
RSFC	Router Switch Feature Card
RSM	Router Switch Module
SNMP	Simple Network Management Protocol
TCP	Transmission Control Protocol
VLAN	Virtual Local Area Network

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## Overview

The InCharge Business Dashboard displays the results of InCharge analysis in a flexible, Web-based user interface. The InCharge Business Dashboard provides the views from the Global Console as individual components called InCharge Viewlets. An InCharge Viewlet is implemented as a Java applet.

You can configure the display and contents of viewlets to customize the presentation of InCharge's analysis, enabling you to deliver role-based views of the managed topology across all layers of your IT environment.

- Business managers can view status summaries for systems and business processes
- Operations staff can view real-time operational status of monitored elements and services
- Users can drill down to see the health and status of related infrastructure, applications, and business services

Installing the InCharge Business Dashboard provides all of the components necessary to create, configure, and display InCharge Viewlets. Also included are a set of ready-to-use viewlets, described in [Examples of InCharge Viewlets](#) on page 25, and a fully operational demonstration of an InCharge Business Dashboard.

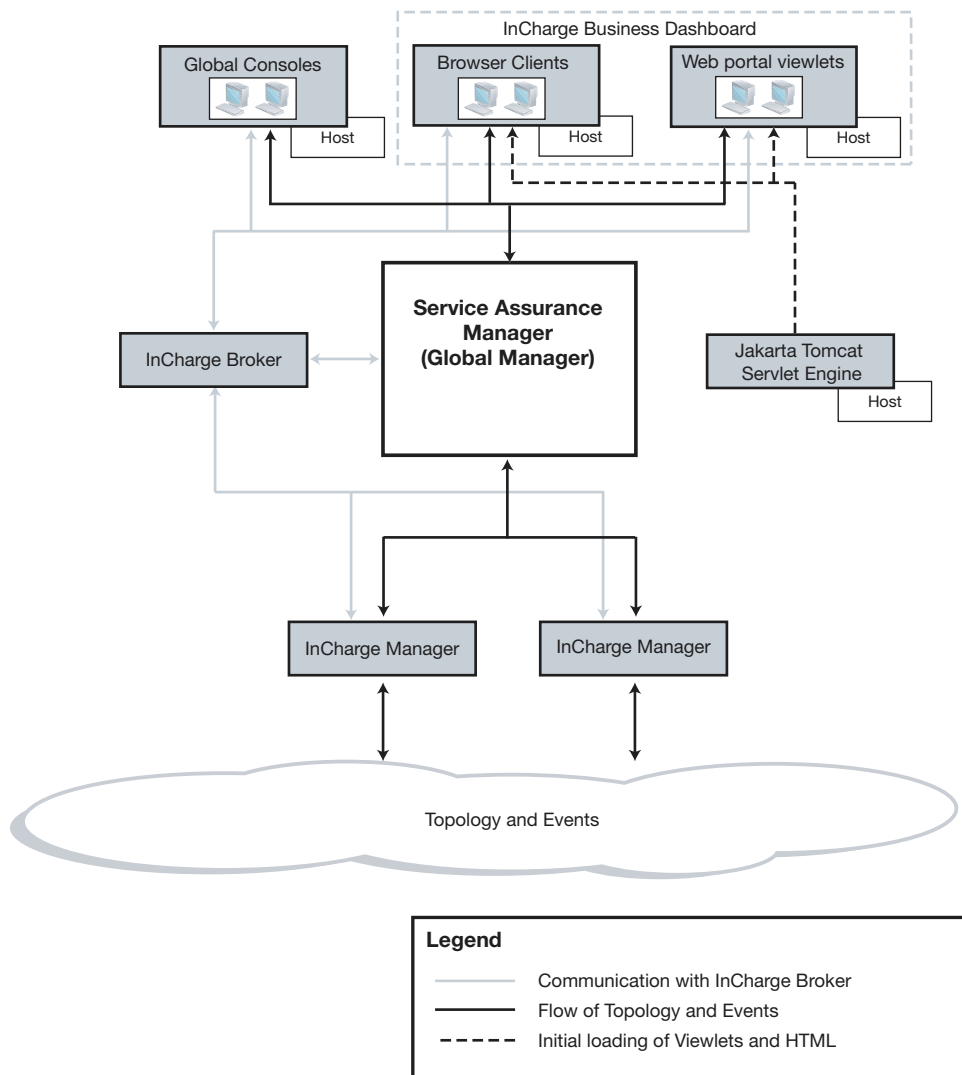
In addition, an installation of the InCharge Business Dashboard includes the Web Console, which displays the Global Console within a Web browser. The Web Console provides the same functions and features as the Global Console.

## Architecture of InCharge Service Assurance Manger with the Dashboard

While the Global Console is the primary user interface for InCharge software, the InCharge Business Dashboard provides another means of viewing and responding to the analysis provided by InCharge Service Assurance Manager. The InCharge Business Dashboard provides additional features:

- InCharge Viewlets can be displayed in any supported Web browser from any location. The Web clients do not require an installation of InCharge software.
- InCharge Viewlets can be embedded into a Web Portal, combining InCharge's analysis with information from other sources.

Figure 1 illustrates how the InCharge Business Dashboard integrates with InCharge Service Assurance Manager.



**Figure 1:** Architecture of Service Assurance with InCharge Business Dashboard

The following components illustrated in Figure 1 are related to the InCharge Business Dashboard.

- Global Manager consolidates topology and event information it receives from data sources such as InCharge Managers. The Global Manager provides this data to clients such as the Global Console or InCharge Viewlets.

- InCharge Business Dashboard is a collection of InCharge Viewlets that are displayed in a Web page. A viewlet can also be embedded within a Web portal page or loaded from a dynamically generated URL.
- Jakarta Tomcat Servlet Engine serves the JAR files that compose InCharge Viewlets and the map layout servlet. The servlet engine is installed as a service with the InCharge Business Dashboard. If you are already running a Web server, you can use it to serve the necessary files to display InCharge Viewlets.

## Software Requirements

InCharge Business Dashboard includes the necessary files and software for serving the files to display InCharge Viewlets and the InCharge Web Console.

## Client Requirements

Users who display InCharge Viewlets in a Web browser, or wish to use the Web Console, require the following software.

- One of the following Web browsers:
  - Internet Explorer 6.0 with Service Pack 1
  - Netscape Navigator 7.0
  - Browser that supports the JRE 1.4.2 and the Java plug-in
- Java Runtime Environment, Standard Edition 1.4.2, which includes the Web browser plug-in and Java Web Start 1.4.2. Java Web Start is an optional item that can be used with the Web Console.

## Server Requirements

An installation of the InCharge Business Dashboard includes the Jakarta Tomcat Servlet Engine, which is necessary to serve the JAR files and map layout servlet. The servlet engine is installed as the SMARTS Servlet Engine service on the system where you install the InCharge Business Dashboard.

If you wish to serve InCharge Viewlets from a different Web server, you must install the InCharge Business Dashboard to obtain the necessary files, which are described in [Deploying Viewlets](#) on page 8.



# 2

## Configuring the InCharge Business Dashboard

The configuration tasks for InCharge Business Dashboard depend on how you intend to deploy it. A simple deployment could use the sample viewlets as an InCharge Business Dashboard to display information from a Global Manager. A more complicated deployment could involve creating new HTML pages to display InCharge Viewlets, configuring the display of viewlets, creating an on-demand URL addressable viewlet, or integrating a viewlet with a portal.

The configuration steps necessary to provide these deployments are described in this chapter and involve one or more of the following tasks:

- Configuring the Jakarta Tomcat Servlet Engine or an alternative Web server
- Configuring user accounts on the Global Manager
- Creating saved viewlets with the Global Console
- Creating a URL-addressable viewlet
- Writing HTML to display viewlets

## Serving InCharge Viewlets

The Jakarta Servlet Tomcat Engine is installed into the **BASEDIR**/*smarts/jakarta-tomcat-5.0.16* directory on the host where the InCharge Business Dashboard is installed. If you intend to use Tomcat to serve InCharge Viewlets, you should install the InCharge Business Dashboard onto the system from which you want to serve the relevant files. This can be a different host from where the Global Manager, or any other Service Assurance component is installed.

The Jakarta Servlet Tomcat Engine, its directory structure, and the Tomcat configuration files are not developed by SMARTS. As such, the files under this directory, including the files related to the InCharge Business Dashboard, are not intended to be edited using the *sm\_edit* utility. Instead, open and edit any files under the **BASEDIR**/*smarts/jakarta-tomcat-5.0.16* directory with a text editor.

Table 3 lists relevant subdirectories under **BASEDIR**/*smarts/jakarta-tomcat-5.0.16* related to the configuration and running of InCharge Business Dashboard.

DIRECTORY	DESCRIPTION
<i>/conf</i>	Contains Tomcat configuration files, including <i>server.xml</i>
<i>/webapps</i>	<p>Contains directories and files served by Tomcat.</p> <ul style="list-style-type: none"> <li><i>/templates</i> includes JAR files, viewlets, configuration files, and HTML files related to the samples described in <a href="#">Examples of InCharge Viewlets</a> on page 25.</li> <li><i>/webconsole</i> includes the files for the InCharge Web Console</li> <li><i>/InCharge-samples</i> includes JAR files, viewlets, configuration files, and HTML files related to a full demonstration of the InCharge Business Dashboard.</li> </ul>

**Table 3:** Jakarta Tomcat Servlet Engine Directories

## About the SMARTS Servlet Engine Service

The Jakarta Servlet Tomcat Engine is installed as a service named the SMARTS Servlet Engine. As a service, it starts automatically with the system and runs continuously until it is manually stopped. The SMARTS Servlet Engine serves the HTML, JAR, and map layout servlet for both InCharge Viewlets and the Web Console.

### Default Service Parameters

The SMARTS Servlet Engine service is installed with the following options:

```
/opt/InCharge6/SAM/smarts/bin/sm_service install --force
  --startmode=runonce \
  --description="SMARTS Servlet Engine" \
  ic-business-dashboard
  --startmode=manual \
  /opt/InCharge6/SAM/smarts/bin/sm_tomcat \
  --output \
  start \
```

Note that the program used to invoke the Jakarta Tomcat Servlet Engine is the `sm_tomcat` program. The `sm_tomcat` program is used by SMARTS to set the proper environment for software running from an InCharge installation.

### Starting and Stopping the SMARTS Servlet Engine

The `sm_service` utility is used to start and stop services. Invoke the following commands from the **BASEDIR**/`smarts/bin` directory on the host where the service is running:

To stop the SMARTS Servlet Engine service:

```
# ./sm_service stop ic-business-dashboard
```

To start the SMARTS Servlet Engine service:

```
# ./sm_service start ic-business-dashboard
```

For more information about services, see the *InCharge System Administration Guide*.

### Verify that Tomcat is Running

After the SMARTS Servlet Engine service is installed and started, you can verify whether Tomcat is running by opening the following URL in a Web browser: `http://<tomcat_host>:<port>`, where **<tomcat\_host>** is the system where the InCharge Business Dashboard is installed and **<port>** is the TCP port the Jakarta Tomcat Servlet Engine is listening on.

You can also access the Jakarta Tomcat Servlet Engine documentation from the following URL: `http://<tomcat_host>:<port>/tomcat-docs`.

### Changing the Port Number of Tomcat

For most installations, Tomcat should not require any additional configuration. In some cases, however, it may be necessary to change the port number on which the Jakarta Tomcat Servlet Engine is running.

The configuration of Tomcat is determined by the *server.xml* file located in the **BASEDIR**/*smarts/jakarta-tomcat-5.0.16/conf* directory. By default, Tomcat is configured to use TCP port 8080. If this port is already in use on the system where the InCharge Business Dashboard is installed, you can configure Tomcat to use another port.

To change the port number, find the following line in *server.xml*:

```
<Connector port="8080"
```

Change the port number to a suitable number. If Tomcat is currently running, you will need to restart it.

For more information regarding Jakarta Tomcat Servlet Engine, see <http://jakarta.apache.org/tomcat>.

## Deploying Viewlets

Directories under **BASEDIR**/*smarts/jakarta-tomcat-5.0.16/webapps* contain the Web applications served by the Jakarta Tomcat Servlet Engine. For example, the sample InCharge Viewlets included with InCharge Business Dashboard are installed to the

**BASEDIR**/*smarts/jakarta-tomcat-5.0.16/webapps/templates* directory.

Each directory under */webapps* must contain the JAR, HTML, and configuration files necessary for the Web application to run.

You can choose one of the following methods to deploy InCharge Viewlets:

- Modify the template files under **BASEDIR**/*smarts/jakarta-tomcat-5.0.16/webapps/templates*. You can serve these files from the */templates* directory or copy the files to a new directory under */webapps*.
- Create new viewlet files in a directory under */webapps*. You must ensure that the new directory contains the files and directories listed in Table 4. After you create a new directory and add the necessary files, you will need to restart the SMARTS Servlet Engine service.

FILE OR DIRECTORY	DESCRIPTION
HTML files	HTML files that specify the layout of viewlets, including the JAR files and configuration parameters.
jcommon-0.7.0.jar jfreechart-0.9.3.jar masterpiece.jar tsgdtj50.jar tsgetj50.jar tsglt50.jar tsgltc50.jar tsgmtj50.jar	JAR files necessary for displaying InCharge Viewlets. All JAR files are required.
dashboard.properties	[Optional] Properties file to specify parameters that apply to all viewlets. This file must be specified in the HTML using the <i>com.smarts.propertiesFile</i> parameter. For more information about the HTML parameters, see <a href="#">Specifying Additional Viewlet Properties</a> on page 16.
viewlet.properties	[Optional] Property file to specify parameters for a specific viewlet. This file must be specified in the HTML using the <i>com.smarts.viewletProperties</i> parameter. For more information about the HTML parameters, see <a href="#">Specifying Additional Viewlet Properties</a> on page 16.
WEB-INF	Directory indicates that Tomcat should serve the files contained in this directory upon request. This directory is required by Tomcat.

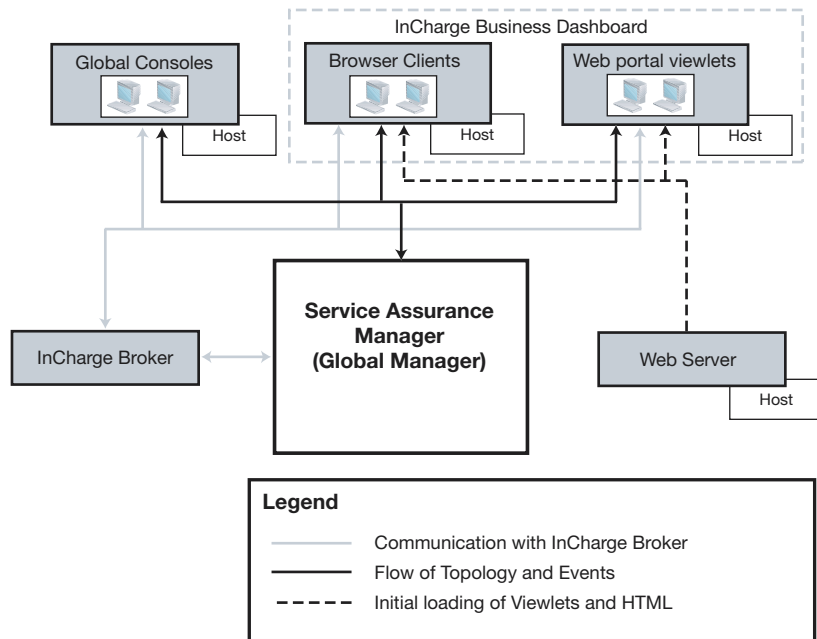
**Table 4:** Files Used for Viewlets

### Deploying Viewlets with a Third-Party Web Server

If you deploy viewlets using a different Web server, the JAR files listed in Table 4 are required. The properties files are optional, but recommended as they simplify configuration of viewlets.

Copy the necessary files from Table 4 to the host where the Web server is running. You must copy the files to the location where the Web server serves files from. If you intend to display Map viewlets, the Web server must be capable of serving the map layout servlet.

Figure 2 illustrates the flow of information when using a Web server other than the SMARTS Servlet Engine to serve viewlets.



**Figure 2:** Architecture When Using a Third-Party Web Server

## About User Profiles and User Accounts

Users who attach to a Global Manager, whether through the Global Console, the Web Console, or a Web browser, must have a user account. Each user account, in turn, is associated with a user profile. A user profile defines the console operations a user can perform, the tools the user can invoke, and the notifications displayed to the user. Detailed information about user profiles is provided in the *InCharge Service Assurance Manager Configuration Guide*.

If a user attaches to a Global Manager using both the Global Console and a Web browser, the same user profile can apply for both connections.

When you save a viewlet, you can save it to a user's directory or a user profile directory. In both cases, the directory is located in the **BASEDIR**/smarts/local/consales directory on the host where the Global Manager is running.

- Viewlets saved to a user's directory are only accessible to that user. The name of a user's directory is the same as the user name.

- Viewlets saved to a user profile directory are accessible by any user associated with that user profile. The name of the user profile directory is the same as the user profile name.

You must create the user profiles and user accounts before you can save a viewlet to a user's directory or a user profile.

## About InCharge Viewlets

An InCharge Viewlet is a view from the Global Console that you can use as an applet. As such, you can use viewlets in the following ways:

- Create an HTML page that includes one or more viewlets to provide a customized display of InCharge's analysis. Because this view is displayed in a Web browser, it is accessible from any host with a Web browser.
- Provide an application that dynamically generates a URL in response to a notification that displays one or more viewlets in a Web browser.
- Embed a viewlet within a Web portal application to combine the information from the Global Manager within an existing information view.

The configuration tasks that must be completed to provide any of the above viewlets are similar. After you create a viewlet for a Web page, for example, you could also embed that same viewlet within a portal. This enables you to re-use viewlets, assigning them as necessary according the user's role or informational requirements.

You can also use the viewlets located in the **BASEDIR**/*smarts/jakarta-tomcat-5.0.16/webapps/templates* directory. The HTML code for each viewlet has been converted to HTML that displays properly in both Netscape and Internet Explorer. For more information about the sample viewlets, see [Examples of InCharge Viewlets](#) on page 25. The HTML converter used to create browser-specific HTML is available from <http://java.sun.com/products/plugin/1.2/converter.html>.

### Global Console Views That Function as Viewlets

The following views from the Global Console can also be displayed as viewlets.

- Notification Log
- Status Table
- Summary View
- Containment
- Notification Properties

You can display these console elements as viewlets by specifying their parameter name and any configuration parameters, in the HTML code. For more information regarding the HTML syntax for viewlets, see [HTML Syntax for Viewlets](#) on page 15.

### Saving Views as Viewlets

You can configure the views listed below using the Global Console. Unless noted otherwise, the configuration options provided through the Global Console are retained in the viewlet file.

- Notification Log
- Status Tables
- Summary Views

To save a view as a viewlet, perform the following steps.

- 1** Configure the view using the Global Console. For information about configuring views, see the *InCharge Operator's Guide*.
- 2** Select *View > Save View As InCharge Viewlet* to open the Save View As InCharge Viewlet dialog. You need to provide the following information to save the viewlet:
  - Global Manager where the viewlet is to be saved
  - Location where the viewlet is to be saved
  - Viewlet name
- 3** Select the Global Manager where the viewlet is to be saved. You can save the viewlet to any attached Global Manager.
- 4** Select the location on the Global Manager where the viewlet is to be saved.



- Save for User saves the viewlet into a user's directory on the selected Global Manager under **BASEDIR**/*smarts/local/consoles*. The drop-down menu lists users for the selected Global Manager. If the user directory under **BASEDIR**/*smarts/local/consoles* does not exist, it is created. A viewlet saved to a user's directory is only accessible to that user.
- Save for User Profile saves the viewlet into a user profile directory on the selected Global Manager under **BASEDIR**/*smarts/local/consoles*. The drop-down menu lists available user profiles. If the user profile directory does not exist, it is created.

Any user associated with this user profile can load the viewlet, provided the viewlet is specified by name in the Web page loaded by the user.

---

**Note:** If a viewlet in the user's directory has the same name as a viewlet in the user profile directory, the viewlet in the user's directory takes precedence.

---

- 5 Specify a name for the viewlet. The file naming convention for saved viewlets is as follows:

```
<user_specified_name><viewlet_type>.icsvm
```

where <viewlet\_type> is one of the following:

- NLviewlet for a Notification Log viewlet
- STviewlet for a Status Table viewlet
- SVviewlet for a Summary View viewlet

For example, if you saved a Notification Log as a viewlet with the name *CoreRouters*, the resulting file would be named *CoreRoutersNLviewlet.icsvm*.

- 6 Click **OK**.

## Displaying Maps

Map viewlets are not the same as the Maps displayed in a Global Console. Map viewlets do not display a topology tree from which an element can be selected. Use one of the following methods to display elements in a Map viewlet:

- Select *Show Map* from a menu in another viewlet
- Enable context sharing for the Map viewlet, as described in [Context Sharing for Viewlets](#) on page 18
- Save a map, as described below, and display the map by specifying its focus.

### Saving Maps

The purpose of saving a map is to customize the default map that is displayed for a specific element. A saved map is associated with the element that is the focus of the map. When the focus element is selected to display in a map, the saved map is displayed for users with access to the saved map.

A saved map can include the following information:

- Adjusted scope (for example, expanded nodes)
- Node positions
- Layout type (circular, hierarchical, or manual)
- Filtered classes
- User-defined backgrounds

To save a map, in the Map Console, select *Map > Save Map*. Click **OK** to acknowledge the pop-up message which displays the location of the saved map. The map is saved to the user's directory under **BASEDIR/smarts/local/consoles/** on the host where the Global Manager is running. The file extension for a saved map is ".icsvm".

To make a saved map available to other users, you must copy the map file to the shared location **BASEDIR/smarts/local/consoles**.

For information about saved maps, see the *InCharge Operator's Guide*.

### Displaying a Saved Map

To display a saved Map, you must specify the topological instance that was the focus when the map was saved. Unlike a saved viewlet, it is not necessary to specify the name of the saved map. The parameters for specifying the instance to display in a Map viewlet are described in [Properties for Map Viewlets](#) on page 20.

## HTML Syntax for Viewlets

This section describes the HTML parameters for loading and configuring viewlets. Because the viewlets are Java applets, you must use the HTML tags for displaying applets. The tags vary with the version of HTML.

When you create an HTML page that displays several viewlets, using HTML frames provides control over the layout of the viewlets. In addition, if you want to load two viewlets of the same type, two Notification Logs for example, each viewlet must be specified in a separate HTML page. Then apply Frame tags to display both Notification Log viewlets on the same page.

You can examine and copy the HTML of the samples in the **BASEDIR**/*smarts/jakarta-tomcat-5.0.16/webapps/templates* directory. The viewlets and their associated HTML files are described in [Examples of InCharge Viewlets](#) on page 25.

The HTML code in this section uses elements from the HTML 4.0 Specification.

## HTML to Display Viewlets

Table 5 lists the HTML tags and attributes necessary to display a viewlet in a Web page. Subsequent sections describe attributes that enable you to further configure the viewlet.

An attribute's name and its value must be enclosed by double quotes. When an attribute includes a set of values, the set of values is enclosed by double quotes, as shown in the following example:

```
<APPLET TYPE="applet"
  CODE="com.smarts.webapps.SmWebNotificationsApp.class"
  WIDTH="100%" HEIGHT="100%"

  ARCHIVE="masterpiece.jar,jcommon-0.7.0.jar,\
jfreechart-0.9.3.jar,tsgdtj50.jar,tsgetj50.jar,\
tsglt50.jar,tsgltc50.jar,tsgmtj50.jar">
</APPLET>
```

HTML ELEMENT AND PARAMETERS	DESCRIPTION
<APPLET>...</APPLET>	Element used to embed an InCharge Viewlet within a Web page.
code=	Parameter that specifies the type of viewlet. <ul style="list-style-type: none"> <li>• com.smarts.webapps.SmWebNotificationsApp (Notification Log)</li> <li>• com.smarts.webapps.SmWebGridApp (Status Table)</li> <li>• com.smarts.webapps.SmWebMapApp (Maps)</li> <li>• com.smarts.webapps.SmWebSummaryApp (Summary View)</li> <li>• com.smarts.webapps.SmWebNotificationPropertiesApp (Notification Properties)</li> <li>• com.smarts.webapps.SmWebContainmentApp (Containment)</li> </ul>
archive=	Parameter that lists the JAR files necessary to display the viewlet. All of the JAR files are necessary for each viewlet. <ul style="list-style-type: none"> <li>• jcommon-0.7.0.jar</li> <li>• jfreechart-0.9.3.jar</li> <li>• masterpiece.jar</li> <li>• tsgdtj50.jar</li> <li>• tsgetj50.jar</li> <li>• tsglt50.jar</li> <li>• tsgltc50.jar</li> <li>• tsgmtj50.jar</li> </ul>

**Table 5:** HTML Elements Required to Display an InCharge Viewlet

## Specifying Additional Viewlet Properties

You can use HTML, or a properties file, to specify additional viewlet properties. These properties include parameters for opening a saved view, enabling context sharing, setting the focus of a view, and specifying connection properties.

If you specify these properties in HTML, the parameters must be included in the HTML code that displays a viewlet. Parameters are nested inside the <APPLET> tags with the following syntax:

```
<param name="name" value="value" >
```

In the following example, the *com.smarts.context.collectionEntity* parameter is set to true to enable context listening for a Notification Log viewlet.

```
<APPLET TYPE="applet"  
  CODE="com.smarts.webapps.SmWebNotificationsApp.class"  
  WIDTH="100%" HEIGHT="100%"  
  
  ARCHIVE="masterpiece.jar,jcommon-0.7.0.jar,\  
  jfreechart-0.9.3.jar,tsgdtj50.jar,tsgetj50.jar,\  
  tsglt50.jar,tsgltc50.jar,tsgmtj50.jar">  
  
  <PARAM NAME="com.smarts.context.collectionEntity"\  
  VALUE ="true">  
  
</APPLET>
```

### Using a Properties File to Specify Viewlet Parameters

You can also use a properties file to specify parameters for a viewlet. One or more viewlets can reference the properties file. This simplifies configuration because you can change the parameters within the properties file instead of editing each HTML file.

Two parameters are used to specify a properties file:

- *com.smarts.propertiesFile* specifies properties common to all viewlets. Such properties might include the location of the InCharge Broker and the name of the Global Manager.
- *com.smarts.viewletProperties* specifies properties for a single viewlet. Such properties might enable context sharing or set the focus of a map viewlet.

Use the syntax described above to specify a properties file. In the following example, the HTML for a Notification Log viewlet references a properties file named *dashboard.properties*.

```
<APPLET TYPE="applet"  
  CODE="com.smarts.webapps.SmWebNotificationsApp.class"  
  WIDTH="100%" HEIGHT="100%"  
  
  ARCHIVE="masterpiece.jar,jcommon-0.7.0.jar,\  
  jfreechart-0.9.3.jar,tsgdtj50.jar,tsgetj50.jar,\  
  tsglt50.jar,tsgltc50.jar,tsgmtj50.jar">  
  
  <PARAM NAME="com.smarts.propertiesFile" \  
  VALUE ="dashboard.properties">  
  
</APPLET>
```

The contents of *dashboard.properties* specify the location of the InCharge Broker and the name of the Global Manager:

```
smarts.remote.broker=host1.smarts.com:426  
com.smarts.autoAttachDM=INCHARGE-SA
```

As a result, when a user opens the Web page that displays the Notification Log viewlet, the Attach dialog includes the information about the InCharge Broker and Global Manager. The user simply provides a user name and password to connect.

You can use any name for a properties file as long as the file name matches the value you specify in the viewlet's HTML code.

## Additional Viewlet Properties

The following sections describe viewlet properties that can be specified using the techniques described in [Specifying Additional Viewlet Properties](#) on page 16. Similar properties are grouped together.

### Displaying a Saved Viewlet

Table 6 describes the parameter used to specify the name of a saved viewlet.

PARAMETER	DESCRIPTION
com.smarts.savedView=	Name of the saved view that is displayed as a viewlet. Note that it is not necessary to include the file extension, ".icsvm", of the viewlet file. For information about saving a viewlet, see <a href="#">Saving Views as Viewlets</a> on page 12.

**Table 6:** Parameter for Displaying a Saved Viewlet

### Context Sharing for Viewlets

Context sharing is when the focus of one viewlet determines the content that is displayed in one or more viewlets on the same HTML page. A simple example illustrates how this might work. When instance context sharing is enabled for a Notification Log viewlet, a user can select a failed node in a Map viewlet and the Notification Log displays the notifications related to the selected map node. For more information about context sharing, see the *InCharge Operator's Guide*.

Table 7 lists the parameters related to context sharing for viewlets and indicates which viewlets the parameters apply to. Setting the value to "true" enables context sharing.

PARAMETER	DESCRIPTION
com.smarts.context.notification=	When true, causes the viewlet to listen for notification context changes. You can set this parameter for the following viewlets: <ul style="list-style-type: none"> <li>• Map</li> </ul>
com.smarts.context.instance=	When true, causes the viewlet to listen for instance context changes. You can set this parameter for the following viewlets: <ul style="list-style-type: none"> <li>• Map</li> <li>• Notification Log</li> </ul>
com.smarts.context.summary=	When true, causes a Notification Log viewlet to display the notifications graphed in the Summary Viewlet. <ul style="list-style-type: none"> <li>• Notification Log</li> </ul>
com.smarts.context.collectionEntity=	When true, causes the viewlet to display information related to the collection entity class. Collection entity classes include the following classes and their subclasses: <ul style="list-style-type: none"> <li>• ServiceOffering</li> <li>• ServiceSubscriber</li> <li>• HierarchicalGroup</li> <li>• SelectiveGroup</li> <li>• ApplicationGroup</li> </ul> You can set this parameter for the following viewlets: <ul style="list-style-type: none"> <li>• Notification Log</li> <li>• Map</li> <li>• Summary</li> </ul>
com.smarts.launch.globalMgr=	Name of the Global Manager for context when the viewlet is attached to more than one Global Manager.

**Table 7:** Parameters for Context Sharing with Viewlets

**Note:** Notification Properties viewlets always listen for notification context and Containment viewlets always listen for notification and instance context.

### Automatic Attach for Viewlets

Automatic attach enables you to configure a viewlet so that a user does not need to provide a user name or password to view information provided by the Global Manager. To make the connection to a Global Manager transparent, you must specify the location of the InCharge Broker, the name of the Global Manager, an InCharge user name, and an InCharge password.

When values for one or more of the parameters in Table 8 are not provided, the viewlet displays an Attach dialog that requests the necessary information. Any information provided through the parameters described in Table 8 is automatically displayed in the Attach dialog.

PARAMETER	DESCRIPTION
com.smarts.userid=	InCharge user name. This name must match a record in the <i>serverConnect.conf</i> file used by the Global Manager. In addition, this user must have an account with the Global Manager.
com.smarts.password=	InCharge password.
smarts.remote.broker=	Location of the InCharge Broker in <b>&lt;host&gt;: &lt;port&gt;</b> format. For example, smarts-broker:426.
com.smarts.autoAttachDM=	Name of the Global Manager.

**Table 8:** Parameters for Automatic Attach with Viewlets

### Properties for Map Viewlets

The parameters described in Table 9 enable you to specify an element as the focus of a map viewlet and to determine what type of map is displayed. The map type must be relevant to the specified element.

PARAMETER	DESCRIPTION
com.smarts.launch.class=	Name of the ICIM class of which the element is an instance.
com.smarts.launch.instance=	Display name of the elements.
com.smarts.launch.mapType=	Type of map that is displayed. <ul style="list-style-type: none"> <li>• Physical for Physical Connectivity</li> <li>• IP for IP Connectivity</li> <li>• VLAN for VLAN Connectivity</li> <li>• Membership for Membership</li> <li>• Business for Business Services Maps</li> <li>• Application for Applications Maps</li> </ul>
com.smarts.map.passive=	When true, prevents console operations such as Show Map from displaying in the Map viewlet. Instead, actions such as Show Map display in a new Map viewlet.

**Table 9:** Parameters for Map Viewlets



---

**Note:** You can also use the `com.smarts.launch.class` and `com.smarts.launch.instance` parameters for Notification Properties and Containment viewlets.

---

## URL-Addressable Viewlets

A URL-addressable viewlet is a viewlet that is displayed when a Web client loads a particular URL. This enables you to dynamically generate a URL to display a specific viewlet, for example, from within the context of another application. Using the viewlet parameters described in [Additional Viewlet Properties](#) on page 18, you can configure a URL-addressable viewlet. In addition, you can specify the focus of Map, Notification Properties, and Containment viewlets.

To specify viewlet parameters directly in a URL, use the following syntax:

```
<param name>=<value>
```

Table 10 lists parameters typically used with URL-addressable viewlets.

PARAMETER	DESCRIPTION AND VALUES
class=	Determines the viewlet that is displayed. <ul style="list-style-type: none"> <li>com.smarts.webapps.SmWebNotificationsApp</li> <li>com.smarts.webapps.SmWebGridApp</li> <li>com.smarts.webapps.SmWebMapApp</li> <li>com.smarts.webapps.SmWebSummaryApp</li> <li>com.smarts.webapps.SmWebNotificationPropertiesApp</li> <li>com.smarts.webapps.SmWebContainmentApp</li> </ul>
?	Separates the file name, the HTML page specifying the JAR files, from the parameter/value pairs.
&	Separates parameter/value pairs in the URL.

**Table 10:** Parameters for URL-addressable Viewlets

The following URL is an example of a URL-addressable viewlet that loads a Map viewlet with a specific instance as the focus. This example uses an HTML page included with the viewlet samples, described in [Example of URL-Addressable Viewlet](#) on page 33, to load the necessary JAR files.

```
http://<tomcat_host>:8080/templates/context.html? \  
class=com.smarts.webapps.SmWebMapApp& \  
com.smarts.propertiesFile=dashboard.properties& \  
com.smarts.launch.class=Router& \  
com.smarts.launch.instance=lab-gw.smarts.com
```

Note that the URL has been formatted to make it readable. An actual URL would not include spaces or backwards slashes (\) between parameters.

## About the Web Console

The Web Console provides the same functionality as the Global Console, including the Topology Browser view that is not available as a viewlet. Client systems must meet the requirements specified in [Client Requirements](#) on page 4.

Users can open the InCharge Web Console after you complete the following tasks:

- Start the InCharge Business Dashboard service
- Create user profiles and user accounts

The Web Console is installed to the **BASEDIR**/*smarts/jakarta-tomcat-5.0.16/webapps/webconsole* directory.

## Attaching With the Web Console

Two versions of the Web Console are available. With both versions, the JAR files are loaded over the network during the initial connection but then saved to the user's local system. Subsequent connections use the cached files to optimize the use of network resources.

The first version functions as a typical Java applet. The HTML and JAR files are located on the host where the InCharge Business Dashboard is installed. When a user opens the Web Console, the JAR files are loaded over the network to the user's Web browser.

A second version of the Web Console uses Java Web Start. Java Web Start integrates the Web Console with the user's desktop. This enables users to start the Web Console directly from their desktop without using a Web browser.

**Note:** When opening the Web Console or an InCharge Viewlet, the JRE on the user's system displays a security warning. Users must select **Yes** or **Always** to allow the applet to run.

---

### Using the Web Console

To display the Web Console, open the following URL:

```
http://<tomcat_host>:8080/webconsole/InChargeApplet.html
```

When attached, the Web Console displays inside the Web browser window. If the user opens additional consoles using the *File > Open* menu options, each new console is displayed in its own window. When the user exits the Web browser, all Web Console windows are closed, as is the connection to the Global Manager.

### Using Java Web Start

You can also use Java Web Start for caching the applet locally for improved performance; the necessary applet files are not reloaded each time the applet is launched. To do so, point your browser at the following URL:

```
http://<tomcat_host>:8080/webconsole/globalConsoleCached.html
```

When you launch the cached applet, you are prompted to optionally add a Java Web Start icon on your desktop and a link in your Start menu.

If Java Web Start is not installed, you are prompted to use an automatic installer or directed to a Sun Microsystems web page, depending upon your operating system or browser.



# 3

## Examples of InCharge Viewlets

This section describes the InCharge Viewlet and HTML code samples included with the InCharge Business Dashboard. The sample viewlets and their Web pages are installed to the

**BASEDIR**/*smarts/jakarta-tomcat-5.0.16/webapps/templates* directory.

Online information regarding the sample viewlets is available from [http://<tomcat\\_host>:<port>/templates/DashboardIndex.html](http://<tomcat_host>:<port>/templates/DashboardIndex.html)

### About the Sample Viewlets

Each viewlet type is specified in an HTML page, with slight variations specified in separate HTML pages. Each sample combines several viewlets, which are displayed in a single HTML page through the use of HTML frames.

To ensure that the HTML pages that specify a viewlet display properly on all supported platforms and Web browsers, SMARTS has processed the HTML pages using Java Plug-in HTML Converter. The Java Plug-in Converter converts an HTML page that specifies Java applet to a form that can be processed by a Web browser using the Java Plug-in.

Because the converted HTML files are not easily read, both the original HTML file and the converted files are included. For example, the original file for the Notification Log viewlets is named *NotificationsAppOrig.html*. The converted files, which are used to display the viewlet, have names such as *NotificationsApp1.html*.

To view the samples in a Web browser, the SMARTS Servlet Engine must be installed and running. You can open the following URL in your Web browser, appending the file name specified for each sample. For example, if the SMARTS Servlet Engine is running on *host1*, you can view sample 1, by opening the following URL:

`http://<tomcat_host>:<port>/templates/sample1.html`

In addition, you can view

## Sample 1

You can view the first sample by opening *sample1.html* in your Web browser. This sample includes the viewlets described in Table 11. The layout of this sample includes a Notification Log in the top frame row and a Summary and Status Table in the bottom frame row.

FRAME PAGE	VIEWLET PAGES	VIEWLET	ADDITIONAL PARAMETERS
sample1.html	NotificationsApp1.html	Notification Log	<ul style="list-style-type: none"> <li>com.smarts.propertiesFile includes the parameters specified in the dashboard.properties file. For more information regarding a properties file, see <a href="#">Specifying Additional Viewlet Properties</a> on page 16.</li> <li>com.smarts.context.collectionEntity has a value of true. This indicates that the Notification Log viewlet will display notifications related to elements selected in the Status Table. For more information about context sharing, see <a href="#">Context Sharing for Viewlets</a> on page 18.</li> </ul>
	SummaryApp1.html	Summary View	<ul style="list-style-type: none"> <li>com.smarts.propertiesFile includes the parameters specified in the dashboard.properties file. For more information regarding a properties file, see <a href="#">Specifying Additional Viewlet Properties</a> on page 16.</li> </ul>
	StatusTableAll.html	Status Table	<ul style="list-style-type: none"> <li>com.smarts.propertiesFile includes the parameters specified in the dashboard.properties file. For more information regarding a properties file, see <a href="#">Specifying Additional Viewlet Properties</a> on page 16.</li> </ul>

**Table 11:** Viewlets of sample1.html

## Sample 2

You can view the second sample by opening *sample2.html* in your Web browser. This sample includes the viewlets described in Table 12. The layout of this sample includes a Status Table and Map in the top frame row and a Notification Log in the bottom frame row.

FRAME PAGE	VIEWLET PAGES	VIEWLET	ADDITIONAL PARAMETERS
sample2.html	StatusTableAppAll.html	Status Table	<ul style="list-style-type: none"> <li>com.smarts.propertiesFile includes the parameters specified in the dashboard.properties file. For more information regarding a properties file, see <a href="#">Specifying Additional Viewlet Properties</a> on page 16.</li> </ul>
	MapApp2a.html	Map	<ul style="list-style-type: none"> <li>com.smarts.propertiesFile includes the parameters specified in the dashboard.properties file. For more information regarding a properties file, see <a href="#">Specifying Additional Viewlet Properties</a> on page 16.</li> <li>com.smarts.context.collectionEntity has a value of true. This indicates that the Map viewlet will display the elements selected in the Status Table. For more information about context sharing, see <a href="#">Context Sharing for Viewlets</a> on page 18.</li> </ul>
	NotificationsApp2a.html	Notification Log	<ul style="list-style-type: none"> <li>com.smarts.propertiesFile includes the parameters specified in the dashboard.properties file. For more information regarding a properties file, see <a href="#">Specifying Additional Viewlet Properties</a> on page 16.</li> <li>com.smarts.context.collectionEntity has a value of true. This indicates that the Notification Log viewlet will display notifications for elements selected in the Status Table. For more information about context sharing, see <a href="#">Context Sharing for Viewlets</a> on page 18.</li> <li>com.smarts.context.instance has a value of true. This indicates that the Notification Log viewlet will display notifications for elements selected from the Map. For more information about context sharing, see <a href="#">Context Sharing for Viewlets</a> on page 18.</li> </ul>

**Table 12:** Viewlets of sample2.html

### Sample 3

You can view the third sample by opening *sample3.html* in your Web browser. This sample includes the viewlets described in Table 13. The layout of this sample includes a Map in the top frame row and a Notifications Log and Containment viewlet in the bottom frame row.

FRAME PAGE	VIEWLET PAGES	VIEWLET	ADDITIONAL PARAMETERS
sample3.html	MapApp3a.html	Map	<ul style="list-style-type: none"> <li>com.smarts.propertiesFile includes the parameters specified in the dashboard.properties file. For more information regarding a properties file, see <a href="#">Specifying Additional Viewlet Properties</a> on page 16.</li> <li>com.smarts.context.notification has a value of true. This indicates that the Map viewlet will display the elements related to notifications selected in the Notification Log. For more information about context sharing, see <a href="#">Context Sharing for Viewlets</a> on page 18.</li> </ul>
	NotificationsAppAll.html	Notification Log	<ul style="list-style-type: none"> <li>com.smarts.propertiesFile includes the parameters specified in the dashboard.properties file. For more information regarding a properties file, see <a href="#">Specifying Additional Viewlet Properties</a> on page 16.</li> </ul>
	ContainmentAppAll.html	Containment	<ul style="list-style-type: none"> <li>com.smarts.propertiesFile includes the parameters specified in the dashboard.properties file. For more information regarding a properties file, see <a href="#">Specifying Additional Viewlet Properties</a> on page 16.</li> </ul>

**Table 13:** Viewlets in sample3.html



## Sample 4

You can view the fourth sample by opening *sample4.html* in your Web browser. This sample includes the viewlets described in Table 14. The layout of this sample includes a Notifications Log in the top frame row, a Summary and Notification Properties viewlets in the middle frame row, and a Map in the bottom frame row.

FRAME PAGE	VIEWLET PAGES	VIEWLET	ADDITIONAL PARAMETERS
sample4.html	NotificationsApp4.html	Notification Log	<ul style="list-style-type: none"> <li>com.smarts.propertiesFile includes the parameters specified in the dashboard.properties file. For more information regarding a properties file, see <a href="#">Specifying Additional Viewlet Properties</a> on page 16.</li> <li>com.smarts.context.summary has a value of true. This indicates that the Notification Log viewlet will display the notifications graphed by the selected Summary. For more information about context sharing, see <a href="#">Context Sharing for Viewlets</a> on page 18.</li> </ul>
	SummaryAppAll.html	Summary	<ul style="list-style-type: none"> <li>com.smarts.propertiesFile includes the parameters specified in the dashboard.properties file. For more information regarding a properties file, see <a href="#">Specifying Additional Viewlet Properties</a> on page 16.</li> </ul>
	NotificationPropertiesAppAll.html	Notification Properties	<ul style="list-style-type: none"> <li>com.smarts.propertiesFile includes the parameters specified in the dashboard.properties file. For more information regarding a properties file, see <a href="#">Specifying Additional Viewlet Properties</a> on page 16.</li> </ul>
	MapApp4a.html	Map	<ul style="list-style-type: none"> <li>com.smarts.propertiesFile includes the parameters specified in the dashboard.properties file. For more information regarding a properties file, see <a href="#">Specifying Additional Viewlet Properties</a> on page 16.</li> <li>com.smarts.context.notification has a value of true. This indicates that the Map viewlet will display the elements related to notifications selected in the Notification Log. For more information about context sharing, see <a href="#">Context Sharing for Viewlets</a> on page 18.</li> </ul>

**Table 14:** Viewlets in sample4.html

## Sample 5

You can view the fifth sample by opening *sample5.html* in your Web browser. This sample includes the viewlets described in Table 15. The layout of this sample includes a Notification Log in the top frame row, a Summary and a Map in the middle frame row, and a second Notification Log in the bottom frame row.

FRAME PAGE	VIEWLET PAGES	VIEWLET	ADDITIONAL PARAMETERS
sample5.html	NotificationsAppAll.html	Notification Log	<ul style="list-style-type: none"> <li>com.smarts.propertiesFile includes the parameters specified in the dashboard.properties file. For more information regarding a properties file, see <a href="#">Specifying Additional Viewlet Properties</a> on page 16.</li> </ul>
	SummaryAppAll.html	Summary	<ul style="list-style-type: none"> <li>com.smarts.propertiesFile includes the parameters specified in the dashboard.properties file. For more information regarding a properties file, see <a href="#">Specifying Additional Viewlet Properties</a> on page 16.</li> </ul>
	MapApp5a.html	Map	<ul style="list-style-type: none"> <li>com.smarts.propertiesFile includes the parameters specified in the dashboard.properties file. For more information regarding a properties file, see <a href="#">Specifying Additional Viewlet Properties</a> on page 16.</li> <li>com.smarts.context.notification has a value of true. This indicates that the Map viewlet will display the elements related to notifications selected in the Notification Log. For more information about context sharing, see <a href="#">Context Sharing for Viewlets</a> on page 18.</li> </ul>
	NotificationsApp5.html	Notification Log	<ul style="list-style-type: none"> <li>com.smarts.propertiesFile includes the parameters specified in the dashboard.properties file. For more information regarding a properties file, see <a href="#">Specifying Additional Viewlet Properties</a> on page 16.</li> <li>com.smarts.context.summary has a value of true. This indicates that the Notification Log viewlet will display the notifications graphed by the selected Summary. For more information about context sharing, see <a href="#">Context Sharing for Viewlets</a> on page 18.</li> </ul>

**Table 15:** Viewlets of sample5.html

## Sample 6

You can view the sixth sample by opening *sample6.html* in your Web browser. This sample includes the viewlets described in Table 16. The layout of this sample includes a Status Table and Summary in the first row, a Notification Log in the second row, and a second Summary in the bottom row.

One notable difference between this sample and the previous samples is that *sample6.html* uses HTML TABLE tags in conjunction with IFRAME tags to position viewlets. An advantage of IFRAME tags is that the viewlets within the tags remain at their specified size. As the Web browser window is resized, the viewlets within the table do not resize. When the browser window is made smaller than the specified size of a viewlet, scroll bars are displayed within the IFRAME.

IFRAME PAGE	VIEWLET PAGES	VIEWLET	ADDITIONAL PARAMETERS
sample6.html	StatusTableAll.html	Status Table	<ul style="list-style-type: none"> <li>com.smarts.propertiesFile includes the parameters specified in the dashboard.properties file. For more information regarding a properties file, see <a href="#">Specifying Additional Viewlet Properties</a> on page 16.</li> </ul>
	SummaryApp6.html	Summary	<ul style="list-style-type: none"> <li>com.smarts.propertiesFile includes the parameters specified in the dashboard.properties file. For more information regarding a properties file, see <a href="#">Specifying Additional Viewlet Properties</a> on page 16.</li> <li>com.smarts.context.collectionEntity has a value of true. This indicates that the Summary viewlet will display a summary based on selections in the Status Table. For more information about context sharing, see <a href="#">Context Sharing for Viewlets</a> on page 18.</li> </ul>
	NotificationsApp6.html	Notification Log	<ul style="list-style-type: none"> <li>com.smarts.propertiesFile includes the parameters specified in the dashboard.properties file. For more information regarding a properties file, see <a href="#">Specifying Additional Viewlet Properties</a> on page 16.</li> <li>com.smarts.context.collectionEntity has a value of true. This indicates that the Notification Log viewlet will display notifications for elements selected in the Status Table. For more information about context sharing, see <a href="#">Context Sharing for Viewlets</a> on page 18.</li> </ul>
	SummaryAppAll.html	Summary Log	<ul style="list-style-type: none"> <li>com.smarts.propertiesFile includes the parameters specified in the dashboard.properties file. For more information regarding a properties file, see <a href="#">Specifying Additional Viewlet Properties</a> on page 16.</li> </ul>

**Table 16:** Viewlets of sample6.html

## Example of URL-Addressable Viewlet

A URL-addressable viewlet is a viewlet that is displayed when a Web client loads a particular URL. This enables you to dynamically generate a URL that displays a specific viewlet.

This sample uses *context.html* to load the JAR files necessary to display any viewlet. You must, however, specify the type of viewlet to display (opening this page without specifying a viewlet displays a blank page). Table 17 lists several parameters you can add to the base URL shown below.

The base URL for displaying a viewlet:

*http://<tomcat\_host>:<port>/templates/context.html?*

PARAMETER	DESCRIPTION AND VALUES
class=	Determines the viewlet that is displayed. <ul style="list-style-type: none"> <li>• com.smarts.webapps.SmWebNotificationsApp</li> <li>• com.smarts.webapps.SmWebGridApp</li> <li>• com.smarts.webapps.SmWebMapApp</li> <li>• com.smarts.webapps.SmWebSummaryApp</li> <li>• com.smarts.webapps.SmWebNotificationPropertiesApp</li> <li>• com.smarts.webapps.SmWebContainmentApp</li> </ul>
com.smarts.propertiesFile	Specifies properties for all viewlets. Useful properties include the location of the InCharge Broker and the name of the Global Manager.

**Table 17:** Parameters for a URL-Addressable Viewlet

A URL, using these parameters, to display a Notification Log viewlet would be written as follows:

```
http://<tomcat_host>:<port>/templates/context.html? \
class=com.smarts.webapps.SmWebNotificationsApp& \
com.smarts.propertiesFile=dashboard.properties
```

Note that spaces and line breaks above are included to enhance reading and would not be included in the actual URL.



# Index

## A

Applications Map viewlet 20

## B

Business Services Map viewlet 20

## C

Collection entities

- Context sharing 19
- com.smarts.autoAttachDM 20
- com.smarts.context.collectionEntity 19
- com.smarts.context.instance 19
- com.smarts.context.notification 19
- com.smarts.context.summary 19
- com.smarts.launch.class 20
- com.smarts.launch.globalMgr 19
- com.smarts.launch.instance 20
- com.smarts.launch.mapType 20
- com.smarts.map.passive 20
- com.smarts.password 20
- com.smarts.propertiesFile 17
- com.smarts.savedView 18
- com.smarts.userid 20
- com.smarts.viewletProperties 17
- com.smarts.webapps.SmWebContainmentApp 16
- com.smarts.webapps.SmWebGridApp 16
- com.smarts.webapps.SmWebMapApp 16
- com.smarts.webapps.SmWebNotificationPropertiesApp 16
- com.smarts.webapps.SmWebNotificationsApp 16
- com.smarts.webapps.SmWebSummaryApp 16

Containment viewlet 12

- com.smarts.webapps.SmWebContainmentApp 16

Context sharing 19

- Collection entities 19
- Containment viewlet 19
- Instance 19
- Notification Properties viewlet 19
- Notifications 19
- Summary View viewlet 19

## D

dashboard.properties  
com.smarts.propertiesFile 17

## G

Global Console

- Saving maps 14
- Saving view as viewlet 12

Global Manager 3, 19

## H

HTML code

- Viewlet 16

## I

InCharge Business Dashboard

- Definition 4
- Integration with Service Assurance 2

InCharge Viewlets

- JAR files 9

Instance context sharing 19

IP Connectivity map viewlet 20

## J

Jakarta Tomcat Servlet Engine 4

- Configuration 6
- Installation 6
- TCP port 8

JAR files

- jcommon-0.7.0.jar 9
- jfreechart-0.9.3.jar 9
- masterpiece.jar 9
- tsgetj50.jar 9
- tsgetj50.jar 9
- tsglt50.jar 9
- tsgltc50.jar 9
- tsgmtj50.jar 9
- jcommon-0.7.0.jar 9
- jfreechart-0.9.3.jar 9

JRE requirements 4

### M

#### Map

- com.smarts.webapps.SmWebMapApp 16
- Layout servlet 6
- Saving 14
- Viewlet 13

#### Map viewlet

- Applications 20
- Business Services Map 20
- IP Connectivity 20
- Membership 20
- Physical Connectivity 20
- VLAN Connectivity 20

masterpiece.jar 9

Membership map viewlet 20

### N

Naming convention for saved viewlets 13

Notification Log viewlet 12

- com.smarts.webapps.SmWebNotificationsApp 16

Notification Properties viewlet 12

- com.smarts.webapps.SmWebNotificationPropertiesApp 16

Context sharing 19

Notifications

- Context sharing 19

### P

#### Parameter

- com.smarts.autoAttachDM 20
- com.smarts.context.collectionEntity 19
- com.smarts.context.instance 19
- com.smarts.context.notification 19
- com.smarts.context.summary 19
- com.smarts.launch.class 20
- com.smarts.launch.globalMgr 19
- com.smarts.launch.instance 20
- com.smarts.launch.mapType 20
- com.smarts.map.passive 20
- com.smarts.password 20
- com.smarts.propertiesFile 17
- com.smarts.savedView 18
- com.smarts.userid 20
- com.smarts.viewletProperties 17
- smarts.remote.broker 20

Physical Connectivity map viewlet 20

Properties file

- com.smarts.propertiesFile 17
- com.smarts.viewletProperties 17

dashboard.properties 9

viewlet.properties 9

### S

Saving map 14

Service

see SMARTS Servlet Engine

Service Assurance

Global Manager 3

Servlet

Engine 4

Map layout 6

sm\_service 7

sm\_tomcat 7

SMARTS Servlet Engine

Service 4, 6

sm\_tomcat 7

Starting and stopping 7

smarts.remote.broker 20

Status Table viewlet 12

com.smarts.webapps.SmWebGridApp 16

Summary View viewlet 12

com.smarts.webapps.SmWebSummaryApp 16

Context sharing 19

Syntax of viewlet properties 16

### T

Technical Support xi

tsgdtj50.jar 9

tsgtj50.jar 9

tsglt50.jar 9

tsgltc50.jar 9

tsgmtj50.jar 9

### U

URL-addressable viewlet 33

User profile 10

### V

View

Saving as viewlet 12

Viewlet

com.smarts.savedView 18

com.smarts.webapps.SmWebContainmentApp 16

com.smarts.webapps.SmWebGridApp 16

com.smarts.webapps.SmWebMapApp 16

com.smarts.webapps.SmWebNotificationPropertiesApp 16

App 16



---

- com.smarts.webapps.SmWebNotificationsApp 16
- com.smarts.webapps.SmWebSummaryApp 16
- Containment 12
- HTML code 16
- JAR files 16
- Maps 13
- Naming convention 13
- Notification Log 12
- Notification Properties 12
- Properties file 17
- Samples 26
- Saved to user 10
- Saved to user profile 11
- Status Table 12
- Summary View 12
- URL addressable 33
- Viewlet properties
  - Syntax 16
- viewlet.properties 9
  - com.smarts.viewletProperties 17
- Viewlets
  - Automatic attach 19
- VLAN Connectivity Map viewlet 20

## **W**

- WEB-INF 9

