

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

## Service Assurance Manager User's Guide for Concord eHealth Adapter

Version 1.0



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# Preface

This document describes the configuration and operation of the InCharge Service Assurance Manager Adapter for Concord eHealth.

## Intended Audience

This document is intended for personnel who need to configure and use the InCharge Service Assurance Manager Adapter for Concord eHealth.

## Prerequisites

Before you configure and use the InCharge Adapter for Concord eHealth, the following software must be installed on appropriate servers in your network:

- Concord eHealth version 5.02, 5.5, or 5.6. For complete requirements, see [Requirements for InCharge Adapter for Concord eHealth](#) on page 1.
- InCharge Adapter for Concord eHealth. For information about installing InCharge adapters, see the *InCharge Installation Guide*.
- Other required InCharge applications: InCharge Global Console, InCharge Service Assurance Manager (Service Assurance), InCharge Service Assurance Manager (SAM) Adapter Platform, and InCharge Availability Manager. For more information about installing these InCharge applications, see the *InCharge Installation Guide*.

# Document Organization

This guide consists of the following chapter.

1. THE INCHARGE ADAPTER FOR CONCORD eHEALTH	Provides an overview of the InCharge Adapter for Concord eHealth and details on how to configure and use the adapter.
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**Table 1:** Document Organization

# Documentation Conventions

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

CONVENTION	EXPLANATION
<code>sample code</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.

## InCharge Installation Directory

In this document, the term **BASEDIR** represents the location where InCharge software is installed.

- For UNIX, this location is: */opt/InCharge<n>/<productsuite>*.
- For Windows, this location is: *C:\InCharge<n>\<productsuite>*.

The *<n>* represents the InCharge software version number. The *<productsuite>* represents the InCharge product suite that the product is part of.

Table 3 defines the *<productsuite>* directory for each InCharge product.

PRODUCT SUITE	INCLUDES THESE PRODUCTS	DIRECTORY
IP Management Suite	<ul style="list-style-type: none"> <li>• InCharge IP Availability Manager</li> <li>• InCharge IP Performance Manager</li> <li>• InCharge Discovery Manager</li> <li>• InCharge Adapter for HP OpenView NNM</li> <li>• InCharge Adapter for IBM/Tivoli NetView</li> </ul>	/IP
Service Assurance Management Suite	<ul style="list-style-type: none"> <li>• InCharge Service Assurance Manager</li> <li>• Global Console</li> <li>• InCharge Service Assurance Manager Business Impact Manager</li> <li>• InCharge Service Assurance Manager Failover System</li> <li>• InCharge Service Assurance Manager Notification Adapters</li> <li>• InCharge Service Assurance Manager Adapter Platform</li> <li>• InCharge SNMP Trap Adapter</li> <li>• InCharge Syslog Adapter</li> <li>• InCharge XML Adapter</li> <li>• InCharge Adapter for Remedy</li> <li>• InCharge Adapter for TIBCO Rendezvous</li> <li>• InCharge Adapter for Concord eHealth</li> <li>• InCharge Adapter for InfoVista</li> </ul>	/SAM
Application Management Suite	<ul style="list-style-type: none"> <li>• InCharge Application Connectivity Monitor</li> </ul>	/APP
SMARTS Software Development Kit	<ul style="list-style-type: none"> <li>• Software Development Kit</li> </ul>	/SDK

**Table 3:** Product Suite Directory for InCharge Products

For example, on UNIX operating systems, version 6.0 of InCharge IP Availability Manager is, by default, installed to `/opt/InCharge6/IP/smarts`. This location is referred to as **BASEDIR**/`smarts`.

Optionally, you can specify the root of **BASEDIR** to be something other than `/opt/InCharge6` (on UNIX) or `C:\InCharge6` (on Windows), but you cannot change the `<productsuite>` location under the root directory.

For more information about the directory structure of InCharge software, refer to the *InCharge System Administration Guide*.

## 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 Installation Guide*
- *InCharge System Administration Guide*
- *InCharge Operator's Guide*

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

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

- *An Introduction to InCharge Service Assurance Manager*
- *InCharge Service Assurance Manager Configuration Guide*
- *InCharge Service Assurance Manager Failover System User's Guide*
- *InCharge Service Assurance Manager User's Guide for Business Impact Manager*

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 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
IDS	Incremental Device Support
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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# The InCharge Adapter for Concord eHealth

The InCharge Adapter for Concord eHealth integrates with the Concord eHealth suite of applications to provide you with the ability to do the following:

- Display eHealth reports from an InCharge Global Console
- View and respond to performance-related notifications that originate at eHealth's Live Health product from the InCharge Global Console

This chapter describes these capabilities and how to configure and use this adapter.

## Requirements for InCharge Adapter for Concord eHealth

The InCharge Adapter for Concord eHealth integrates with Concord eHealth 5.0.2, 5.5, or 5.6. The InCharge Adapter for Concord eHealth is supported on these platforms:

- Solaris 8 or Solaris 9
- Windows 2000 Server or Windows 2000 Advanced Server.

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**Note:** The InCharge Adapter for Concord eHealth is not supported on the HP-UX, AIX, and Linux operating systems.

---

To ensure all necessary files are available, the InCharge Adapter for Concord eHealth must be installed on hosts where the following applications are running:

- Concord eHealth 5.0.2, 5.5, or 5.6
- InCharge Global Consoles (6.0 or later). The Concord eHealth Adapter cannot be used with pre-6.0 Global Managers.
- InCharge Service Assurance Manager
- InCharge SAM Adapter Platforms

To install the InCharge Adapter for Concord eHealth, you must either:

- Be superuser (User ID 0) on UNIX platforms.
- Have administrative privileges on Windows platforms.

For InCharge Service Assurance Management suite hardware and additional software requirements including required X Server Settings (UNIX) and Java Applet requirements, see the *InCharge Installation Guide*.

## Overview of the Concord eHealth Adapter

The Concord eHealth Adapter allows InCharge to do the following:

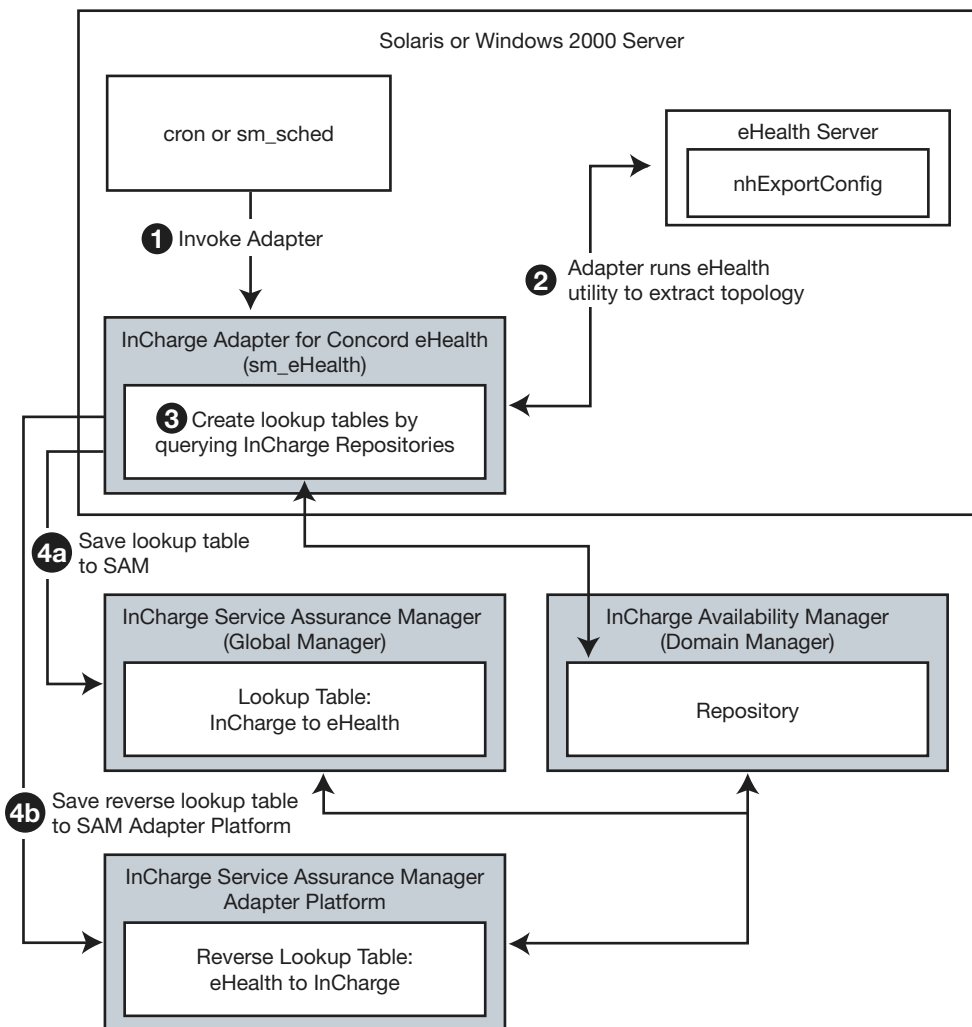
- Map eHealth elements to InCharge elements
- View eHealth reports from the InCharge Global Console
- Convert eHealth Live Health traps to InCharge notifications

This section describes how these capabilities are supported by the Concord eHealth Adapter.

## Mapping eHealth Elements to InCharge Elements

The Concord eHealth Adapter must accurately map eHealth elements to InCharge elements to support the report viewing and trap conversion capabilities that the Concord eHealth Adapter adds to InCharge. Figure 1 shows how this mapping is accomplished.





**Figure 1: Mapping between eHealth Elements to InCharge**

As the first step in mapping, the Concord eHealth Adapter is started using one of these methods:

- Manually at the command line. This allows you to update the mapping on demand.
- At scheduled intervals using cron (UNIX) or sm\_sched (Windows or UNIX). For more information on using sm\_sched with the Concord eHealth Adapter, see [Scheduling sm\\_ehealth](#) on page 11.
- Whenever a Service Assurance Manager (SAM) or SAM Adapter Platform starts. This method requires that the Concord eHealth Adapter is running in the background.

The Concord eHealth Adapter then runs the nhExportConfig utility on the eHealth server to obtain the eHealth topology information. The topology is retrieved and parsed by the adapter.

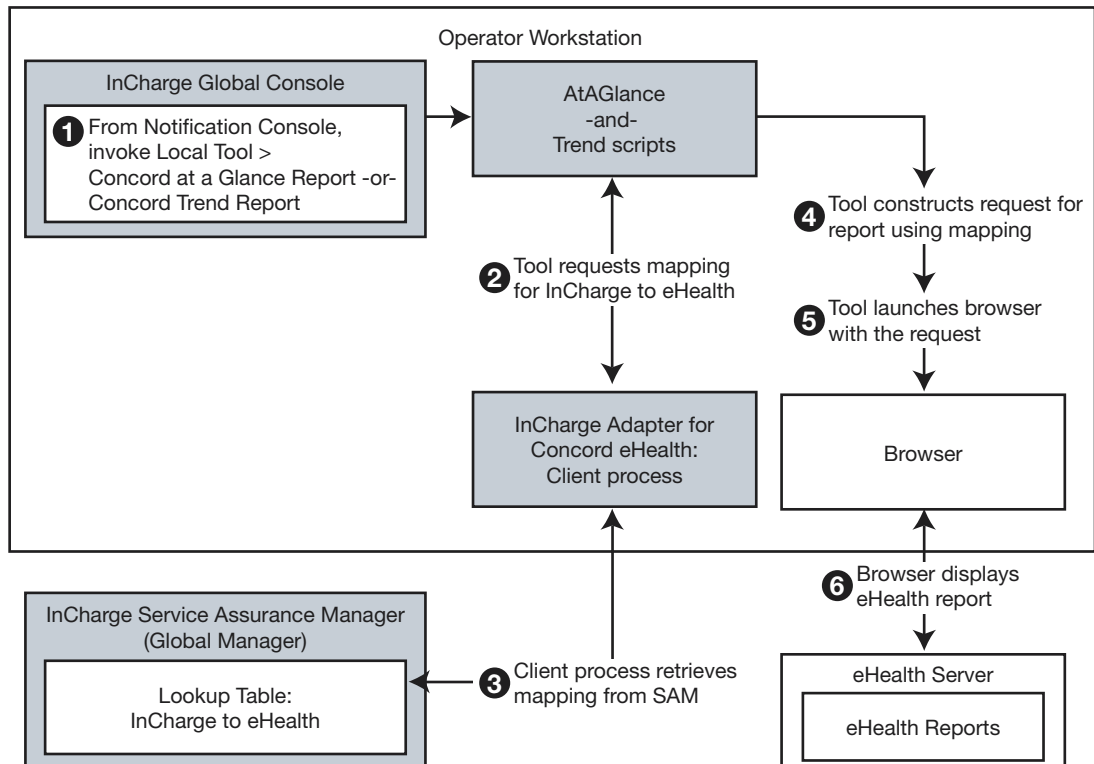
By using the topology and querying InCharge repositories, the Concord eHealth Adapter maps device names from InCharge to eHealth. With the mappings, the adapter creates a lookup table and a reverse lookup table.

The lookup table is stored on the SAM server to support viewing Concord eHealth reports. The reverse lookup table is stored on the SAM Adapter Platform to support translating traps that come from the eHealth Live Health product to InCharge notifications.

As the topology changes in eHealth, mapping information and lookup tables must be maintained. Importing the topology from eHealth requires significant system resources. Therefore, SMARTS recommends the Concord eHealth Adapter be invoked *once* every 24 hours to keep the lookup tables accurate.

## Viewing eHealth Reports from the Global Console

Viewing eHealth reports via the InCharge Global Console is supported by the Concord eHealth Adapter as shown in Figure 2.



**Figure 2: Displaying eHealth Reports from the Global Console**

A user at the InCharge Global Console selects *Local Tool > Concord At A Glance Report* or *Local Tool > Concord Trend Report*. This invokes either the AtAGlance or Trend script.

Regardless of which tool is invoked, the next step is to request a mapping of InCharge elements to eHealth elements. The client process of the Concord eHealth Adapter retrieves the mapping from the lookup table stored on the Global Manager.

The tools use the mapping to construct a URL that will retrieve the appropriate report from the appropriate eHealth server. The tools then open a browser and pass it the URL. The browser connects to the appropriate eHealth server and displays the report.

## Converting eHealth Traps to InCharge Notifications

Converting eHealth traps to InCharge notifications is supported by the Concord eHealth Adapter as shown in Figure 3.

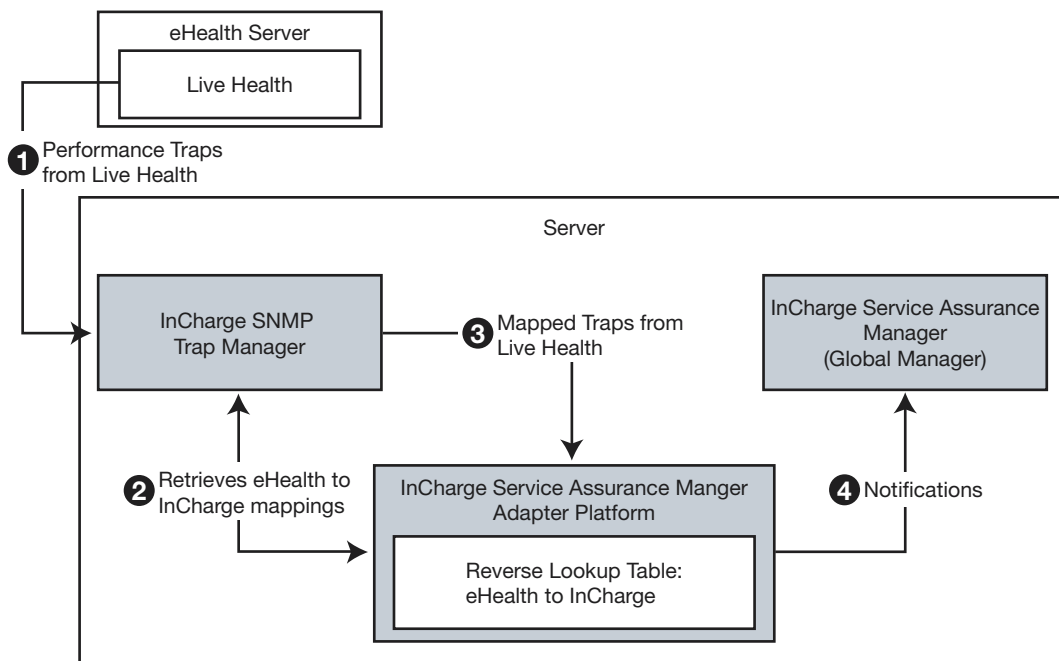


Figure 3: Converting eHealth Traps to InCharge Notifications

Performance-related traps are generated by eHealth Live Health. Using the Live Health user interface, you must specify the InCharge SAM Adapter Platform's IP Address and Trap Manager port. The InCharge SNMP Trap Manager residing with the SAM Adapter Platform, receives the traps and uses the lookup table on the SAM Adapter Platform to map the eHealth device names to InCharge device names. These traps appear as events in the notification log of the Global Console and are associated with the appropriate device in the InCharge topology.

## Configuring the InCharge Adapter for Concord eHealth

This section explains how to configure the InCharge Adapter for Concord eHealth and its related client tools.

### Editing Configuration Files

As part of the InCharge deployment and configuration process, you will need to modify certain files. User modifiable files include InCharge tool scripts, configuration files, rule set files, and templates. Original versions of these files are installed into appropriate subdirectories under the **BASEDIR**/*smarts/* hierarchy. For example, original versions of Global Manager configuration files are installed to **BASEDIR**/*smarts/conf/ics*.

To edit a user modifiable file, create a local copy of the file in **BASEDIR**/*smarts/local* or one of its subdirectories. For example, a modified *ics.conf* file should be saved to **BASEDIR**/*smarts/local/conf/ics*. InCharge software is designed to first search for user modifiable files in **BASEDIR**/*smarts/local* or one of its subdirectories. If a modified version of a file is not found in the local area, InCharge software then searches appropriate nonlocal directories.

---

**Note:** Original versions of files may be changed or updated as part of an InCharge software upgrade. However, files located in **BASEDIR**/*smarts/local* are always retained during an upgrade.

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To facilitate proper file editing, SMARTS provides the *sm\_edit* utility. When used to modify an original version of a file, this utility automatically creates a local copy of the file and places it in the appropriate location under **BASEDIR**/*smarts/local*. This ensures that the original version of the file remains unchanged. In both UNIX and Windows environments, you can invoke *sm\_edit* from the command line. Optionally, you can configure Windows so that *sm\_edit* is automatically invoked when user-modifiable files are double-clicked in Windows Explorer.

To invoke the *sm\_edit* utility from the command line, specify the path and the name of the file you want to edit under **BASEDIR**/*smarts*. For example, to edit the configuration file for the Global Manager, you invoke the *sm\_edit* utility as follows:

```
% BASEDIR/smarts/bin/sm_edit conf/ics/ics.conf
```

The *sm\_edit* utility automatically creates a local copy of the *ics.conf* file in the **BASEDIR**/*smarts/local/conf/ics* directory, if necessary, and opens the file in a text editor. If a local version of the file already exists, the *sm\_edit* utility opens the local version in a text editor. In addition, *sm\_edit* creates any necessary directories.

For more information about how to properly edit user modifiable InCharge files and how to use the *sm\_edit* utility, refer to the *InCharge System Administration Guide*.

## Integrating the InCharge Adapter for Concord eHealth

Configure the InCharge Adapter for Concord eHealth using the files in Table 4. It is only necessary to edit the InCharge configuration file installed on the same host as the application listed in the first column.

CORESIDENT APPLICATION	INCHARGE DIRECTORY (BELOW BASEDIR)	INCHARGE CONFIGURATION FILE(S)	DESCRIPTION
eHealth Server	<i>conf/ehealth</i>	<i>ehealth.conf</i>	Configuration file for the InCharge Adapter for Concord eHealth.
	<i>script/ehealth/server</i>	<i>runNhExportConfig</i>	Indicates path to eHealth Server's export utility, <i>nhExportConfig</i> .
InCharge Global Console(s)	<i>actions/client/ehealth</i>	<i>AtAGlanceTrend</i>	Client tool scripts for retrieving reports from the Concord eHealth Server. Client tools are invoked from the Global Console by an operator.

CORESIDENT APPLICATION	INCHARGE DIRECTORY (BELOW BASEDIR)	INCHARGE CONFIGURATION FILE(S)	DESCRIPTION
InCharge SAM Adapter Platform	<i>conf/icoi</i>	<i>trap_mgr.liveHealth.conf</i> <i>trap_mgr.conf</i>	<i>trap_mgr.liveHealth.conf</i> is used to define and map incoming eHealth Live Health traps to InCharge notifications. The content must be appended to the <i>trap_mgr.conf</i> file.
InCharge Service Assurance Manager (Global Manager)	<i>conf/ics</i>	<i>configureEHealthTools.xml</i>	XML definition of eHealth tools used by the Global Manager. Import this file using <i>sm_config</i> to configure the client tools related to the Concord eHealth Adapter.

**Table 4:** Configuration Files for Concord eHealth Adapter

To configure the Concord eHealth Adapter, complete the following steps:

- 1 On your computer where the Concord eHealth Adapter is coresident with eHealth, do the following:
  - Configure eHealth Live Health to send traps to InCharge. Using the Live Exceptions program, specify InCharge as a *trap destination*. The trap destination parameters include a *name* (such as InCharge), the *IP address* of server where the InCharge SAM Adapter Platform is installed and the *port* that Trap Manager uses to listen for traps (specified in the *trapd.conf* file). *Community string* is not used in this case.
  - Change the configuration parameters in the *eHealth.conf* file to match your InCharge and eHealth configurations. For details, refer to [Editing the ehealth.conf Configuration File](#) on page 9.
  - Edit the *runNhExportConfig* file to ensure NHEXPORTCONFIG\_FILE includes the correct path to the *nhExportConfig* utility on your eHealth Server. If your operating system is UNIX, edit the *runNhExportConfig.sh* file; if your operating system is Windows, edit the *runNhExportConfig.cmd* file.
- 2 On each computer where the InCharge Global Console is installed, change the client tool files related to the Concord eHealth reports. The files are located in **BASEDIR**/*actions/client/ehealth*. If your operating system is UNIX, edit the *AtAGlance.sh* and *Trend.sh* files; if your operating system is Windows, edit the *AtAGlance.cmd* and *Trend.cmd* files:

- Edit the `eHealthServer`, `eHealthUserName`, and `eHealthPassword` in the eHealth Server section of the script so that these arguments represent your eHealth configuration.
  - Ensure the path to the browser, `BROWSER_DIR`, is accurate for your computer where the Global Console is installed. If necessary, modify the path.
- 3 On the computer where the InCharge SAM Adapter Platform is installed, append the content of `trap_mgr.liveHealth.conf` to the `trap_mgr.conf` file. Both files are in the **BASEDIR**/`smarts/conf/icoi`. This will allow the InCharge SNMP Trap Adapter (Receiver) to listen for traps and then map incoming eHealth Live Health traps to InCharge notifications. For complete instructions on configuring the SNMP Trap Adapter including security considerations, see the *InCharge Service Assurance Manager Adapter Platform User's Guide*.
  - 4 On your InCharge Service Assurance Manager, invoke the `sm_config` command from the **BASEDIR**/`smarts/bin` directory to import the `configureEHealthTools.xml` to the Global Manager. For example:

```
# ./sm_config -s <global_manager> import▼  
▲ configureEHealthTools.xml
```

- 
- ▼▲ Indicates the command must be typed as one line.
- 

Refer to the *InCharge Service Assurance Manager Configuration Guide* for details about importing XML files to the Global Manager.

## Editing the `ehealth.conf` Configuration File

The configuration parameters for the Concord eHealth Adapter are specified in the local copy of `ehealth.conf` file, located in the **BASEDIR**/`smarts/local/conf/ehealth` directory.

To modify the `ehealth.conf` file, use `sm_edit` to ensure that the file is copied to **BASEDIR**/`smarts/local/conf/ehealth` and that it retains the proper permissions. For example, to open and modify the default `ehealth.conf` file, use the following command:

```
# ./sm_edit BASEDIR/smarts/conf/ehealth/ehealth.conf
```

Table 5 lists the configuration parameters of `ehealth.conf` file.

VARIABLE	DEFAULT VALUE	DESCRIPTION
SAM_SERVER_NAMES	INCHARGE-SA	The name of the Global Manager Service Assurance Manager (SAM) server. The SAM server stores the lookup table that maps InCharge device names to eHealth device names. If there are multiple top-level SAM servers, list them separated by spaces.
DOMAIN_MANAGER_NAMES	INCHARGE	The names of the Domain Managers underlying the SAM servers. If there are multiple Domain Managers, list them separated by spaces.
OI_SERVER_NAMES	INCHARGE-OI	The names of the Service Assurance Manager Adapter Platforms separated by spaces. The SAM Adapter Platform stores the reverse lookup table that maps eHealth device names to InCharge device names.
NHEXPORTCONFIG_SCRIPT	<i>ehealth/server/runNhExportConfig.cmd</i>	Location of the script that produces the output of runNhExportConfig on its stdout. When a relative path is specified, it's assumed to be under <i>SM_HOME/scripts</i> or <i>SM_HOME/local/scripts</i> .
IMPORT_EXISTING_FILE_FROM		Location of the eHealth export file containing the topology information, if the nhExportConfig utility ran and the file is prepared. This option is for custom installations supported by SMARTS Professional Services.
MONITOR_SERVER_RESTART (UNIX only)	FALSE	Determines if the Concord eHealth Adapter runs in the background and looks for SAM server or SAM Adapter Platform restart events. If this option is set to TRUE and a server restart is detected, the adapter will reimport the eHealth topology information and rebuild the lookup tables.
EHEALTH_SERVER_NAME	ehealth:8080	The name of eHealth server to which the config file belongs. This is the server name used in URL when retrieving Concord reports, so it may have a port attached to it (as in <i>ehealth.customer.com:8080</i> ). Note that InCharge can support multiple eHealth servers in this way. Contact SMARTS Professional Services for more information.

Table 5: Configuration Parameters for the Concord eHealth Adapter

## About sm\_ehealth

Running the *sm\_ehealth* executable starts the Concord eHealth Adapter. The adapter maps eHealth device names to InCharge device names, creates and stores lookup tables and then exits.



The `sm_ehealth` executable uses the following syntax:

```
sm_ehealth [options ...]
```

The following options are available when running `sm_ehealth`:

OPTION	DESCRIPTION
<code>--broker=&lt;location&gt;</code>	Alternate InCharge broker location as <code>&lt;host&gt;:&lt;port&gt;</code>
<code>-D "&lt;name&gt;=&lt;value&gt;"</code>	Set a configuration parameter. The value name pairs are listed in <a href="#">Editing the ehealth.conf Configuration File</a> on page 9. These values will override any values set in <code>sm_ehealth</code> 's configuration file, <code>ehealth.conf</code> .

**Table 6:** `sm_ehealth` Options

The InCharge Adapter for Concord eHealth is started using one of these methods:

- Invoke `sm_ehealth` manually at the command line. You can specify command line options that override values specified in the `ehealth.conf` file.
- Invoke `sm_ehealth` at scheduled intervals using cron (UNIX) or `sm_sched` (Windows or UNIX). For more information, see [Scheduling sm\\_ehealth](#) on page 11.
- Run `sm_ehealth` as a service with `MONITOR_SERVER_RESTART=TRUE` and if the Service Assurance Manager (SAM) or SAM Adapter Platform restarts, `sm_ehealth` will automatically reimport the topology from eHealth. In this situation, `sm_ehealth` uses the configuration values that were specified at the command line first and then any other values from the `ehealth.conf` file.

## Scheduling `sm_ehealth`

For Windows or UNIX, use the `sm_sched` utility to schedule `sm_ehealth` to run at a specific interval. The scheduling engine allows you to perform tasks at predefined times.

---

**Note:** On UNIX systems, cron is usually used to schedule commands. If you desire, use cron to schedule `sm_ehealth` using the guidelines in this section.

---

The `sm_sched` utility uses a control file to store configuration options and settings for the scheduled events. By default, `sm_sched` reads the control file called `sched.conf`, located in **BASEDIR**/`smarts/local/conf`. The `sm_sched` utility runs all of the jobs listed in the control file beginning two minutes from the time it is issued and repeats the jobs at the interval times specified. Up to 20 jobs may be performed simultaneously; if you have more than 20 jobs, the additional jobs are queued until the others are completed.

SMARTS recommends that you configure the scheduling facility to invoke the `sm_ehealth` once every 24 hours. To modify the `sched.conf` file, use `sm_edit` to ensure that the file is copied to **BASEDIR**/`smarts/local/conf` and that it retains the proper permissions. For example, to open and modify the default `sched.conf` file, use the following command from **BASEDIR**/`smarts/bin`:

```
# ./sm_edit BASEDIR/smarts/conf/sched.conf
```

The `sched.conf` lists a number of jobs, or tasks, to be performed when the control file is called by `sm_sched`. A job is a line that consists of two items: a *time interval* and a *command*. Each job is on an individual line within the control file using the following syntax:

```
<time interval> <command>
```

A line beginning with whitespace or the `#` character is treated as a comment line and ignored by the utility.

The time interval has the syntax of `hh:mm:ss` and represents the interval of time that needs to elapse (the hours, minutes, and seconds) before the job is run. For example, "24:00:00", represents an interval of twenty-four hours. An empty field has a value of zero so "24::" also represents 24 hours.

After the time interval, type the `sm_ehealth` command to be issued at a UNIX or Windows command prompt. For example, to run `sm_ehealth` at the recommended interval of every 24 hours using the options values specified in the `ehealth.conf` file, add the following to the control file on UNIX or Windows:

```
24:00:00 sm_ehealth
```

### Running the `sm_sched` Utility

The syntax for running `sm_sched` is as follows:

```
sm_sched [options...] [control-file]
```

Where `control-file` is the path and file name of the file listing the jobs you want executed. If you leave the value empty, it is assumed you want to use the default control file, `sched.conf` located in **BASEDIR**/`smarts/local/conf`.

Run `sm_ehealth` from the **BASEDIR**/`smarts/bin` directory.

Assuming you use the default control file name (*sched.conf*) and store it in the default location (**BASEDIR**/*smarts/local/conf*), issue the following command from **BASEDIR**/*smarts/bin*:

```
# ./sm_sched
```

The *sm\_ehealth* records important information to its log file. The log file is located in the **BASEDIR**/*smarts/local/logs* directory and is named *ehealth.log*.

### Options for *sm\_sched*

The following options are available when running *sm\_sched*:

OPTION	DESCRIPTION	DEFAULT VALUE
--maxjobs=<n>	Maximum number of jobs to be run simultaneously. Additional jobs listed in the control file are queued until one of the currently running jobs finishes.	20
--retries=<n>	Number of retries to attempt for each job. The job is canceled after <n> consecutive failures and no further attempt is made. If <n> is 0, then there is no limit to the number of retries.	3
--maxfails=<n>	Failure limit. The job is canceled after <n> failures. If <n> is 0, then there is no limit on the number of failures allowed.	100

**Table 7:** Command-Line Options for the *sm\_sched* Utility

### Results From *sm\_sched*

Jobs listed in the control file are expected to execute without feedback. Should there be any output from the job commands, it is written to a log file called *sm\_sched.log* located in **BASEDIR**/*smarts/local/logs*. Items logged by *sm\_sched* are done so with a Warning severity.

Since the purpose of the *sm\_sched* utility is to continuously schedule jobs, it normally does not exit. There are two conditions that would cause *sm\_sched* to exit (and return an exit value):

RETURN CODE VALUE	DESCRIPTION
0	The utility has no further jobs to run.
non-zero	A problem occurred, preventing the utility from starting up or the utility could not find a file that was scheduled to run.

**Table 8:** *sm\_sched* Exit Return Codes

## Displaying Concord eHealth Reports from the InCharge Global Console

The Concord eHealth Adapter allows you to retrieve eHealth reports directly from an InCharge Global Console. For a notification or certain topology elements, the Concord eHealth Adapter adds tools to the Client Tools popup menu in the Global Console. The new client tools retrieve Concord eHealth performance-related reports:

- Concord At A Glance Report
- Concord Trend Report. An example of this report is shown in Figure 4.

The tools are available for these topology elements: Firewalls, Routers, Switches, Interfaces, Ports, and Hosts.

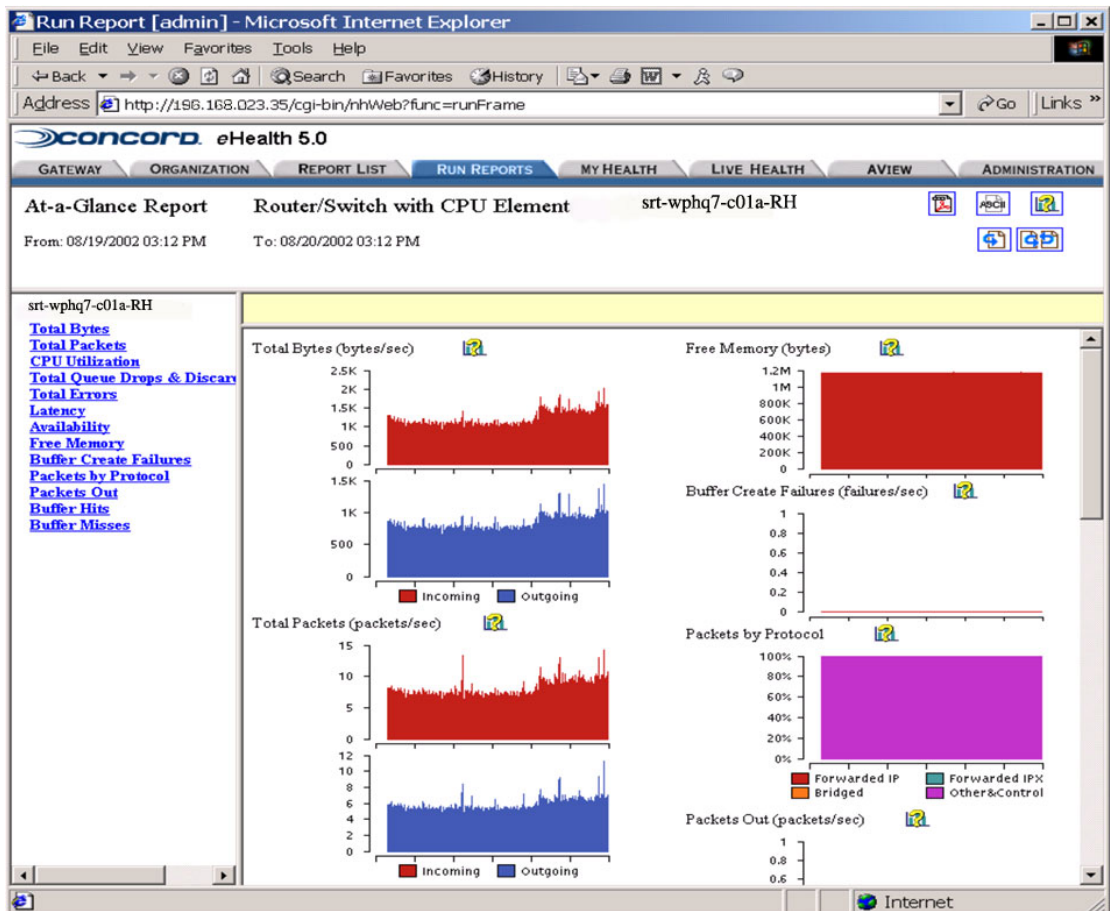


Figure 4: Typical Concord At A Glance Report

**Note:** As with any tool, the administrator at the Global Manager Administration Console can deny or permit access to these tools by any user.

---

### Viewing a Concord eHealth Report

To invoke a Concord eHealth Adapter tool, perform these steps:

- 1 Select and right-click one of the following:
  - A notification in the Notification Log Console
  - A map icon in the Map Console
  - A managed element in the topology tree of the Topology Browser Console

The popup menu including the Client Tools displays.

- 2 Select *Client Tools > Concord At A Glance Report* or *Client Tools > Concord Trend Report*.

A browser window opens and displays the report that you selected. If a report is not available, a message displays to indicate this.

---

**Note:** If the report is not available, the eHealth server may not have data for the element or the eHealth topology might need to be reimported into InCharge. An administrator can retrieve the eHealth topology using `sm_ehealth` from the command line. See [About sm\\_ehealth](#) on page 10 for more information.

---

## Viewing and Responding to Concord eHealth Notifications from the InCharge Global Console

Notifications that originate from eHealth's Live Health product can be viewed and processed like any other InCharge notification. These notifications can be acknowledged, owned, and escalated. In addition, the Concord At A Glance Report and Concord Trend Report client tools can be invoked on the notifications.

The following events originating from Live Health can appear in the InCharge notification log:

- NH Live Exception
- NH Clear Live Exception

- NH Severity Change
- NH Clear Live Alarm
- NH Reset All Alarms
- NH LiveAlarm

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