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CA Product References

This document references the following CA products:

- CA eHealth® (eHealth)
- CA eHealth® Distributed eHealth
- CA AdvantEDGE View™ (AdvantEDGE View)
- CA eHealth® SystemEDGE™ (SystemEDGE)
- CA eHealth® Traffic Accountant

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Chapter 1: Introducing eHealth Reporting

This section contains the following topics:

- **eHealth User Interfaces** (see page 9)
- **Reporting Concepts** (see page 10)
- **Types of eHealth Reports** (see page 11)
- **Distributed Reports** (see page 23)
- **Large-Scale Reports** (see page 23)
- **Capacity Planning** (see page 24)
- **Roadmap to Report Management Tasks** (see page 27)

**eHealth User Interfaces**

As eHealth identifies and collects data from existing devices, agents, and management systems in your infrastructure, you can generate reports on the historical and current performance data to manage your resources. The eHealth software offers two user interfaces (UIs) for generating and customizing reports:

- eHealth console
- eHealth Web interface

The interface that you use should depend on your role. Not all functions are available through both interfaces, and some are available in only one. If you log in as an eHealth administrator, you can generate eHealth standard reports from the eHealth console and Web interface, control user access, customize reports, and schedule them to run on a regular basis. If you log in as an eHealth web user and your user account has the appropriate permissions, you can generate eHealth reports from the eHealth Web user interface.

The most efficient and practical methods for performing a particular report management task are based on your role within your organization. To control user access to reports, eHealth provides a user management interface through the OneClick for eHealth (OneClickEH) administrative console.

**Note:** In addition, eHealth provides the Report Center applications, which let you create entirely new custom reports. For details, see the *eHealth Overview Guide* and the *eHealth Report Center User and Administration Guide*. These guides are available in PDF format in the eHealth Help and on the eHealth Support Web site.
Administrator’s Role in Report Management

As an eHealth report administrator, you can generate reports on demand from the eHealth console, schedule them, and output them to the Web for users to view. You can also e-mail reports to one or more eHealth users. To meet the specific needs of a user or organization, you can customize reports in various ways as well as control access to particular report types and drill-down report features from the eHealth console. You can run reports on demand or schedule them to run on a regular basis.

User’s Role in Report Management

As an eHealth report user, you can generate reports from the Run Reports page of the eHealth Web interface on demand, immediately display them within your web browser, or print them. You can also customize their appearance from the Run Reports page. From some report charts, you can drill down to additional reports for more information. To generate, customize, and view reports from the Web interface and access drilldowns, a user must have the appropriate permissions in their web user account.

Reporting Concepts

An eHealth report presents data in a particular format, which typically includes one or more charts. From many web-based eHealth report charts, you can drill down to other eHealth reports by clicking on a bar in a chart or an element name in a table. An element is a resource (such as a router, system, interface, or modem) for which eHealth collects data.

When you drill down from one report to another, you do not need to specify report criteria. eHealth automatically uses the context of the current report and the selected report item to determine the appropriate criteria for the new report. You can generate reports on elements or groups (sets of elements related by function or geographical location within your infrastructure).

eHealth reports assess the overall health of the resources within your network by analyzing performance indicators, or variables, such as the following:

- **Usage** – Demand or activity on a resource.
- **Availability** – Amount of time that an element is active and running.
- **Traffic** – Type of information that travels over a network.
For Health, MyHealth, and Service Level reports, eHealth assigns a performance grade, or health index, to the elements based on these variables. eHealth analyzes trends and calculates averages based on a service profile—a set of defined Health Index thresholds, Trend thresholds, service level ranges, and percentiles.

More information:

How eHealth Determines Health Indexes (see page 69)

Types of eHealth Reports

It is important to become familiar with the different types of eHealth reports that are available to you and determine which ones closely meet your needs. As your infrastructure changes and expands, you may need to introduce different charts into your analysis to fully evaluate the health of your resources.

As an eHealth web user with reporting permissions, you can generate several types of reports from the Web interface and modify their presentation. As an eHealth administrator, you can generate most of these same reports from the eHealth console, output them to the Web for users to view, and customize them. You can run reports on all technology types that eHealth supports (such as Router/Switch and LAN/WAN). Your eHealth system, however, must be licensed to monitor the specific technology types.

The following table lists standard reports that are available through the eHealth console and the Web interface.

<table>
<thead>
<tr>
<th>eHealth Console and Web</th>
<th>eHealth Console Only</th>
<th>Web-Based Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>At-a-Glance</td>
<td>Standard Traffic Accountant</td>
<td>What-If MyHealth</td>
</tr>
<tr>
<td>Top N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trend</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service Level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quick Start Traffic Accountant</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Types of eHealth Reports

From most reports, you can drill down to Element Configuration and Element Variable reports.

**Note:** For complete details about a particular chart or report, see the eHealth Help. The Help describes the purpose and value of each report and chart, provides helpful examples, and clearly defines the variables, or performance indicators, on which you can generate your reports.

**At-a-Glance Reports**

An At-a-Glance report is composed of a series of charts that show the performance of critical variables for a specified element during the report period. You typically run these reports for a particular element to obtain immediate, detailed information on the critical performance parameters. The charts that appear in an At-a-Glance report vary, depending on the element type that the report represents.
The following graphic is an At-a-Glance report for a wide area network (WAN) element.

Using these charts, you can determine if the WAN element is experiencing any performance problems. For example, the Bandwidth charts provide a quick assessment of how busy the link was. The Bytes In and Bytes Out charts show the volume of traffic handled by the element. The Discards In and Discards Out charts identify links that may be bottlenecks.
Types of eHealth Reports

Top N Reports

A Top N report (shown in the following graphic) is a tabular report that lists the top elements in a group that exceed or fall below the performance values that you specify. If you are troubleshooting the infrastructure or planning for upgrades, Top N reports can identify those elements on which you should focus your management efforts. You can also use these reports to specify a service goal against which you can compare the performance of the elements.

For example, the following graphic shows a Top N report for elements that have a CPU utilization above a certain percentage.

<table>
<thead>
<tr>
<th>Element</th>
<th>CPU Utilization</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Above 80</td>
</tr>
<tr>
<td>Colorado-SH-Cpu</td>
<td>98.69</td>
</tr>
<tr>
<td>NewYork-SH-Cpu</td>
<td>94.34</td>
</tr>
<tr>
<td>Detroit-SH-Cpu-1</td>
<td>87.57</td>
</tr>
<tr>
<td>Boston-SH-Cpu-1</td>
<td>87.40</td>
</tr>
<tr>
<td>Atlanta-SH-Cpu</td>
<td>84.90</td>
</tr>
<tr>
<td>Houston-SH-Cpu-1</td>
<td>82.18</td>
</tr>
<tr>
<td>SanDiego-SH-Cpu-1</td>
<td>80.24</td>
</tr>
</tbody>
</table>

You could also run a report on system partitions that have less than a certain percentage of utilization. When you run a Top N report, you can specify up to six variables on which to report.

Trend Reports

A Trend report shows the behavior of one or more performance variables for an element or a group of elements, over a specified period of time. Because of its flexibility, you can use a Trend report to reveal traffic patterns over time, as well as relationships between elements and between variables. If it indicates that two variables are correlated, then it suggests a causal relationship between them. For instance, if the bandwidth utilization and the collision rate on an Ethernet segment show a strong correlation, the high bandwidth utilization is likely causing the high rate of collisions.
The following graphic is an example of a Trend report that was run on one variable (bandwidth utilization) for two WAN elements. The graph is color-coded to enable you to compare the performance of the two elements throughout the report period.

**Important!** If you plan to use eHealth polled data from Trend reports for billing purposes, you should use the nhExportData command to export the raw data for your accounting applications. You should not use the ASCII output of reports for this purpose as reports will prorate polled data samples to fit the exact report time ranges, and different types of reports could prorate the samples in slightly different ways.
Types of eHealth Reports

MyHealth Reports

A MyHealth report (shown in the following graphic) can contain up to 20 customized panels that summarize performance data on your critical resources. Administrators and web users with MyHealth editing permissions can design the MyHealth panels and content from the Web interface. From the console, administrators can change the baseline periods, the MyHealth report schedule, and the service profiles that are associated with them.

![MyHealth Report](image)

What-If Reports

A What-If report is an interactive web-based Trend report that measures capacity—the amount of traffic, volume, or usage that a resource can support. This report is not available in the eHealth console. Administrators and web users who have permission to run What-If reports can generate them to evaluate the current trends in resource usage and plan for growth and changes before problems occur.

For example, you can adjust the capacity to observe what would happen if you upgraded or downgraded the resource, and then modify the demand (the load that users or applications place upon a resource) to observe what would happen if the usage increased or decreased for the resource. Using these results, you can visualize possible scenarios and devise the appropriate solution.
When you initially generate the What-If Capacity Trend report, you can set a goal line (shown in red in the following graphic) to enable you to measure the changes in data with respect to a specific threshold.

![Graph showing physical memory utilization over time.]

From: 03/16/2001 12:00 AM
To: 03/22/2001 11:59 PM
Created: 03/23/2001 01:27:43 PM
Health Reports

A Health report evaluates the health of a group of elements by comparing current performance to historical performance over the course of a day, week, or month. As shown in the following graphic, the report identifies errors, unusual utilization rates, or shifts in volume that warrant investigation.

This report helps you evaluate the health of your resources by monitoring how efficiently those resources are running, checking for availability of critical resources, and detecting whether they are beginning to experience problems. The report analyzes trends based on historical data and calculates averages by using a service profile.

The following table lists the various types of Health reports that you can run and describes their purpose.

<table>
<thead>
<tr>
<th>Health Report</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Health</td>
<td>Identifies errors, unusual utilization rates, or shifts in volume that warrant investigation.</td>
</tr>
</tbody>
</table>
### Types of eHealth Reports

**Health Report** | **Purpose**  
--- | ---  
**CIO Summary** | Describes the performance of a group of monitored applications based on response time, service level agreement (SLA) violations, and availability, and alerts you to situations that require your attention.  
**Service Response** | Provides information based on active tests of response time and availability of Internet services, business applications, and network services. Identifies slow or unavailable services and applications that are hindering user productivity.  
**Application Response** | Shows a response path summary, a list of the poorest performing paths, and a response history. Identifies slow response paths that may degrade service.  
**Busy Applications** | Identifies the applications that perform the most transactions and may, therefore, require additional resources to maintain service level expectations.  
**High Traffic Applications** | Identifies the applications that create heavy network traffic.  
**Slow Applications** | Identifies the applications with the slowest response times, which may be interfering with user productivity.  

Health reports are multi-page reports that contain several sections, described in the following table. As an eHealth administrator or a web user, you can easily exclude or include any sections from a Health report by setting presentation attributes. The charts that appear in each section vary for each technology.

| Report Section | Purpose |  
--- | ---  
**Exceptions** | Identifies elements that have exception points as the result of errors or high utilization.  
**Summary** | Compares the volume performance of a group of elements to their performance over a baseline period.  
**Top Ten** | Alerts you to the leading elements in the report.  
**Element Top N** | Compares the health and performance of the specified number of elements in a group to their performance over a baseline period. Elements appear in order from highest utilization to lowest within the chart.  

## Types of eHealth Reports

<table>
<thead>
<tr>
<th>Report Section</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Element Detail</td>
<td>Compares the health and performance of all elements to their performance over a baseline period. Elements appear in alphabetical order within the charts.</td>
</tr>
<tr>
<td>Supplemental</td>
<td>Contains additional report pages that provide information about availability, latency, reachability, and other factors.</td>
</tr>
</tbody>
</table>

Health reports that are output to the web also include drill-down reports such as Health Index Detail and Situations to Watch Detail reports. These reports explain the cause of a poor Health Index rating or Trend evaluation.

### Service Level Reports

A Service Level report (shown in the following graphic) summarizes the performance of the resources in an enterprise, region, department, or business unit for a group or group list based on analysis ranges and thresholds defined in a service profile.
The following table describes the types of Service Level reports that are available. Each type of report can provide details about individual technologies. For example, you can run a LAN/WAN Executive report or a Response Service Customer report. These reports provide the most value when you run them for a month.

<table>
<thead>
<tr>
<th>Report Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Unit</td>
<td>Summarizes the service level for the network resources that belong to a department, company, or organization.</td>
</tr>
<tr>
<td>Executive</td>
<td>Determines how workloads, availability, and latency vary with time across the enterprise.</td>
</tr>
<tr>
<td>IT Manager</td>
<td>Summarizes service levels by specific groups in a group list and provides details on elements.</td>
</tr>
<tr>
<td>Service Customer</td>
<td>Provides information about the service level performance of the elements in a group or group list for a service customer and determines quality of service.</td>
</tr>
<tr>
<td>Response</td>
<td>Determines the relative performance of an application for a location or functional group.</td>
</tr>
<tr>
<td>VoIP</td>
<td>Monitors the quality of voice services across groups within the enterprise.</td>
</tr>
</tbody>
</table>
Traffic Accountant Reports

A Traffic Accountant report (shown in the following graphic) analyzes your network traffic.

![Traffic Accountant Report Diagram]

Traffic Accountant is a specialized network and application monitoring capability that collects traffic flow information from RMON2 probes and traffic sources such as Cisco NetFlow. These reports let you track individual users and departments who are consuming your network resources. You can use this information to do the following:

- Analyze the IT infrastructure and solve problems.
- Plan and implement infrastructure reconfiguration, growth, and security procedures.
- Relate IT infrastructure costs to the nodes and organizations that use it.
Distributed Reports

If you have a large infrastructure, you could deploy multiple Distributed eHealth systems across large geographic ranges or locate them centrally to gather data and manage various segments of your network. This configuration is referred to as a cluster. The cluster contains several eHealth systems that manage specific sets of resources and share the information with each other.

When you run a report across multiple Distributed eHealth Systems, the systems process their specific data in parallel and then send it to the Distributed eHealth Console. The Console collates the data into a single distributed report. Distributed reports are identical to standard eHealth reports. As an eHealth administrator, you can generate distributed reports from the console or Web interface by using the same method that you would use to generate other eHealth reports.

Large-Scale Reports

In a large-scale environment, a group or group list may contain many thousands of elements. If you have a large-scale or Distributed eHealth environment in which you can run Service Level or Health reports for more than 20,000 elements in one report, you should use the large-scale versions of the reports listed in the following table.

<table>
<thead>
<tr>
<th>Standard Report</th>
<th>Large-Scale Version of the Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health report</td>
<td>StandardLite Health report</td>
</tr>
<tr>
<td>IT Manager Service Level report</td>
<td>IT Manager Top 100 Service Level report</td>
</tr>
<tr>
<td>Service Customer Service Level report</td>
<td>Service Customer Top 100 Service Level report</td>
</tr>
</tbody>
</table>

These versions are variations of the standard reports. While the standard reports display all elements based on the selection criteria, the large-scale reports reduce the number of elements shown in certain charts or tables. Although the reports might take longer to run, they are easier to review because they are much shorter.
Capacity Planning

*Capacity planning* is the process of evaluating the current trends in resource usage in your network and planning for growth and changes before problems occur. This process involves these major activities:

- Identifying underutilized resources
- Identifying overutilized resources
- Analyzing trends, confirming underuse or overuse, and determining potential solutions
- Addressing underuse or overuse by eliminating or adding, downgrading or upgrading, relocating or rerouting resources
- Planning future capacity needs

**Note:** For more information about capacity planning, see the eHealth Overview Guide and the eHealth Help.

Reports Used for Capacity Planning

eHealth reports, charts, and queries help with capacity planning by providing information about the status of your network.

- **Health reports** provide a snapshot of your current network capacity and utilization patterns. You can use them to do the following:
  - Predict when you have to make upgrades
  - Determine when resources will meet thresholds and whether any capacity problems need immediate attention
  - Project usage trends into the future
  - Predict capacity expense budgets by identifying elements that may soon need an upgrade according to a customizable lead-time window

Health reports and associated charts include the following:

**Exceptions Summary Report**

Identifies the resources that are consistently inadequate for the demand on them.

This report is on the Exceptions page of the Health report.

**Exceptions Detail Report**

Provides details about the resources in the Exceptions Summary Report.

You drill down to this report from the Exceptions Summary Report.
Situations to Watch Chart  
Shows the top 10 elements (network interfaces, CPUs, disk partitions) that are nearing their capacity and indicates when demand will exceed capacity.

This chart is in the Summary section of the Health report.

Total Network and Total Call Volume Chart  
Indicates the times that have the highest network traffic and whether traffic is increasing, decreasing, or remaining constant. Use this report to predict the behavior of resources and identify troublesome areas in your network.

This chart is in the Summary section of the Health report.

Volume Leaders Chart  
Indicates resources that create the most network traffic. Review these charts to identify new resources that are creating network traffic.

This chart is in the Top Ten section of the Health report and can appear in the Supplemental section of the Health report.

Utilization Chart  
Indicates which resources are operating above, within, or below capacity. You can use several types of utilization charts, such as a Bandwidth Utilization chart.

This chart is in the Element Detail section of the Health report.

Element Volume Versus Baseline Chart  
Compares the total volume for a resource to its minimum, maximum, and average volume over a baseline period. Use this chart to determine whether the resource is operating at its average volume or above or below average.

This chart is in the Element Detail section of the Health report.

Capacity Provisioning Report  
Shows the average capacity that each resource consumes on a daily basis and predicts the number of days remaining before an upgrade is needed.

Note: The eHealth administrator must modify the Health report to add this report to the Supplemental section.

Capacity Projection Report  
Lists the resources that are predicted to reach a specified threshold based on a time period of the associated Health report.

Note: The eHealth administrator must modify the Health report to add this report to the Supplemental section.
Capacity Planning

- **Top N reports** help you identify overutilized or underutilized resources and plan for upgrades. You can specify the resource that you want to view, a goal, up to six filters for this resource, and display options. For example, you can view all resources that are above or below a specified value.

- **What-If Capacity** reports let you model the impact of capacity and demand changes on your resources. You can change the capacity to model how upgrades or downgrades may affect the performance of a resource. By changing the demand, you can model how increases or decreases in the load will affect the resource.

  What-If Capacity Trend reports show how resources could perform as your infrastructure changes and grows.
  
  - You can leverage historical data to predict future patterns.
  
  - You can model changes in the amount of volume, traffic, or usage that a resource supports, the load that users or applications place on a resource, or both to see the effect on resources.

  You can then determine whether resources can support the anticipated changes and, if not, whether you have to perform detailed capacity planning before deciding on a solution. You can also illustrate potential problems to justify upgrade requests.

- **At-a-Glance** reports provide more details about an element’s performance, including how frequently the element was overused and the periods of overuse. Other charts in the report show anomalies, such as high error rates or signs of congestion, that indicate conditions (like insufficient capacity) possibly affecting the element.

  You run this report by right-clicking on an element in the Bandwidth Utilization chart in the Element Detail section of the Health report.

- **AdvantageEDGE queries** let you obtain the following real-time information:

  - System information such as system name and location, operating system, version of SystemEDGE agent, basic system resources, and the number of users, open files, and processes.
  
  - Performance statistics, including memory and swap capacity, I/O buffer and cache, system-wide CPU averages, and system load averages.
  
  - Application data collected by the eHealth application insight modules (AIMs).

  **Note:** You must have an AdvantageEDGE View license to use AdvantageEDGE queries.
Run Reports for Capacity Planning

You run Health, Top N, and What-If reports from the eHealth Web interface.

To run a Health report
1. Go to the Run Reports page from the eHealth Web interface.
2. Select Standard or another template name under Health in the Available Reports column.

To run a Top N report
1. Go to the Run Reports page from the eHealth Web interface.
2. Select Standard or another template name under Top N in the Available Reports column.

To run a What-If Capacity Trend report
1. Go to the Run Reports page from the eHealth Web interface.
2. Select Capacity Trend under What-If in the Available Reports column.

More information:

Run Reports from the eHealth Web User Interface (see page 44)

Roadmap to Report Management Tasks

Because eHealth allows both users and administrators to generate and view reports on demand from the Web user interface, some of the tasks related to report management are shared. The primary administrator, however, controls the ability for other administrators and web users to generate, customize, and view reports by granting the appropriate permissions to their web user accounts.
The following table outlines the tasks that administrators and users need to follow to properly manage eHealth reports.

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Chapter 2: Generating Reports

This section contains the following topics:

- Report Generation Overview (see page 29)
- Report Generation from the eHealth Console (see page 29)
- How eHealth Works with Scheduled Reports (see page 38)
- Report Generation from the eHealth Web User Interface (see page 41)

Report Generation Overview

As an eHealth administrator, you can generate reports from the eHealth console, and also schedule reports to run on a regular basis. As a report user, you can generate and view reports from the Web interface if your user account has the appropriate permissions to do so. You can effectively manage the report generation process as a user and as an administrator.

Report Generation from the eHealth Console

From the eHealth console, administrators can perform the following tasks:

- Set global options for time zones and elements
- Run reports on demand
- Schedule reports to run on a regular basis from the eHealth console.

Global Options

As an eHealth administrator, you can set global options for time zones, element filtering, and alias names. These settings apply to all reports that you generate from the eHealth console.

Note: If your site has several eHealth administrators using different eHealth consoles, see the information about using secondary eHealth consoles in the eHealth Administration Guide.
The global options are as follows:

**Show Alias Names**

Because eHealth creates names for elements based on data obtained during discovery, the names can be long and complex. To make statistics elements easier to recognize, you can assign more meaningful alias names to them by using the element management feature of OneClickEH. You cannot specify alias names for conversations (Traffic Accountant) elements. Alias names do not have to be unique.

If you enable this option, alias names appear when you view and edit the poller configuration, browse for elements, or run and schedule reports from the eHealth console.

This option does not affect the display of elements that appear in the Web interface or the OneClickEH console. To view alias names in the Web interface, your web user account must have permission to do so. The OneClickEH console displays both alias names and element names regardless of your user account setting.

**Show Report Time Zones**

Your eHealth report output correlates events and volume with the time zone specified for the report. To provide eHealth reports that are customized for report consumers in other time zones, you can specify a particular time zone that will appear in the footer for each report. When you generate a report and select a time zone, the reporting period reflects the time range in the specified time zone. The time zone setting does not affect database rollups. eHealth displays data for the report that is appropriate for the time zone.

For example, you can run daily Health reports from an eHealth system in New York for customers in Paris. The reports show data for the 24-hour day in Paris, which is actually the time from 18:00 (day 1) to 18:00 (day 2) in New York. If you scheduled a daily Health report for 7 a.m. Paris time, eHealth actually runs the report at 1 a.m. New York time, and uses the 24-hour range from 18:00 to 18:00 in New York to obtain the 24-hour day in Paris time. For scheduled reports, eHealth applies the Greenwich Mean Time (GMT) offset to run the report at the scheduled time in the specified time zone.

Keep in mind that operating systems might not support all time zones. eHealth displays only time zones that it supports.

**Set Element Filter**

If you are using groups to organize your elements, you can use this option to make sure that only the elements in the specified groups appear when you edit the poller configuration and run reports from the console. This option filters all elements except probe elements for Traffic Accountant.

**Note:** For detailed instructions on creating groups, see the *eHealth Element and Poller Management Guide.*
Set Global Options

Settings made to global options apply to all reports that you generate from the eHealth console.

**To set global options**

1. Select Setup, Options.
   - The Options dialog appears.
2. Set the options that you want to enable.

   **Show Alias Names**
   - Displays alias names when you view and edit the poller configuration, browse for elements, or run and schedule reports from the eHealth console.

   **Show Report Time Zones**
   - Outputs events and volume correlated with the time zone specified for the report.
   - **Limits:** The time zone setting does not affect database rollups.

   **Set Element Filter**
   - Displays only the elements in the specified groups used to organize your elements when you edit the poller configuration and run reports from the console.
   - **Limits:** Filters all elements except probe elements for Traffic Accountant.

3. Click OK.
   - eHealth saves your settings.

**Note:** For detailed instructions on creating groups, see the *eHealth Element and Poller Management Guide*. For information about using secondary eHealth consoles, see the *eHealth Administration Guide*. 

Generating Reports  31
Run Reports on Demand

As an eHealth administrator, you can run a report from the eHealth console for elements, groups, or group lists, depending on the report type. While some Run Report dialogs contain common options such as Report, Subject, Group, and Time Range, a few have unique options that are specific to that report. Regardless of the one you choose, the basic procedure for generating a report is the same for all types.

To run a report on demand from the eHealth console

1. Select Reports in the eHealth console and then choose the name of the report that you want to run.
2. Specify the following criteria for the report in the Run Reports dialog:
   - Subject
   - Time range and time zone
   - Format for the report output

Report Output Options

As an eHealth report administrator, you can use any of the following methods to output reports for users when generating them on demand:

- Print the report.
- Display the report on the screen.
- Send the report to a web server for viewing.
- Save the report as a file.
- E-mail the report to specified users.

Print a Report

You can send your reports directly to a printer. The PRINTER environment variable specifies the default printer, but you can specify an alternate by changing the value.

To send a report to a printer on a UNIX system

1. Specify the name of the printer.
2. Add the PRINTER environment variable to your nethealthrc.sh.usr file.

   **Example:** To print eHealth reports by using a printer named colorps, add the following definition to your nethealthrc.sh.usr file:
   ```
   export PRINTER; PRINTER=colorps
   ```
To send a report to a printer on a Windows system
1. Specify the name of the printer server.
2. Specify the name of the printer by using the following format without spaces:
   \printServer\printerName

  **Example:** If you specify \utah\laser2, eHealth sends your reports to the
  laser2 printer connected to the print server utah.

To send reports to a local printer
1. Specify the name of the printer port such as LPT1 or COM1.
   **Note:** If you defined a default printer while installing eHealth, you can
   change this printer by using the System Properties dialog to change the
   NH_PRINTER environment variable.
2. Stop and restart the eHealth server to enable the changes.

Options for Displaying Reports on the Screen

If you do not want to save an interactive report, you can use the Screen
option to display it on your monitor.

**Note:** The Screen option is not available for scheduled reports.

eHealth UNIX systems use a PostScript image display utility or Adobe Acrobat
Reader to display the report on the screen. To use Adobe Acrobat Reader, you
must download the software from the Adobe web site and install it.

Display Reports by Using a PostScript Image Display Utility

The PostScript image display utility that you use is specific to the UNIX
operating system. eHealth supplies the Image Tool utility for the Solaris
operating system or the GhostView utility for the HP-UX operating system. On
Solaris 9 or later systems, eHealth uses the GhostView utility by default.

To use the GhostView utility on a Solaris operating system, change the value
of the NH_PSVIEWER1 environment variable by executing the following
command:

```
NH_PSVIEWER1="ehealth/bin/ghostview"
```
Display Reports by Using Adobe Reader

For Windows systems, eHealth uses Adobe Reader, which you must install, to display reports on the screen. You can also use this application to view screen-based reports on a UNIX system.

To use the Adobe Reader on a UNIX workstation

1. Confirm that your PATH environment variable includes the installation directory for Adobe Reader.
   
   **Note:** As a best practice, you should not install it in the same directory in which you installed eHealth.

2. Change the environment variable settings in the nethealthrc.sh.usr file as follows:
   
   ```
   export NH_VIEWER_TYPE; NH_VIEWER_TYPE="pdf"
   export NH_PDFVIEWER; NH_PDFVIEWER="/export/pathToAcrobat/bin/acroread"
   ```

3. Stop and restart the eHealth console to activate the changes.

Send a Report to the Web Server

You can send a report to the web server for viewing.

To send a report to the web server

1. Choose the Web Directory output option.
   
   Users can view reports in the web directory of the eHealth installation or through the Report List page of the eHealth Web user interface.

2. (Optional) Specify the users who can view At-a-Glance and element-based Trend reports.

How Reports Are Saved in the Web Directory

eHealth saves the reports as Hypertext Markup Language (HTML), Graphics Interchange Format (GIF), portable document format (PDF), and comma-separated ASCII files in subdirectories of your eHealth installation. eHealth creates a PDF file for each web report, and you can open the PDF file in Adobe Reader to print the report. eHealth automatically creates ASCII reports as well. You can access these reports by using links when viewing the reports from the Web.

In the Web Directory field, you can specify the name of the lowest level directory for a report by rearranging, removing, or adding variables. You cannot specify characters. You can combine or remove variables to name the directory. If you do not include any variables, eHealth automatically uses the date as the name of the directory. If you do not want the date, subject name, or report name to appear in the directory name, specify empty braces ({}).
By default, eHealth names this directory as follows:

$(SUBJECT)_$(DATE)_$(TIME)

The eHealth variables are defined as follows:

$$(SUBJECT)$$

Defines one of the following:
- For statistics elements, the name of the element, group, or group list for which the report was run
- For conversations elements (Traffic Accountant), the name of the group, view, node, or probe

$$(DATE)$$

Defines the date on which the report was run in YYYY_MM_DD format.

$$(TIME)$$

Defines the time at which the report was run in HH_MM_SS_NUM format (where NUM is a unique number that identifies the report).

$$(CONFIG)$$

(Optional) Specifies include the report name as part of the directory name.

For example, if you ran a report for the Finance group on December 22, 2006 at 8:23 p.m., the default directory name for the report would be as follows:

Finance_2006_12_22_20_23_20_491

Restrict User Access to Element-Based Reports Run by Other Users

At-a-Glance and element Trend reports are based on elements only. As a security mechanism, eHealth does not allow users to view these reports unless they actually generated the reports from the Web interface. When you select the output options for a report through the eHealth console, you can specify the users who can view these reports on the Web.

**To specify viewing access to element-based reports**

2. Specify the name of the lowest level directory for the report by rearranging, removing, or adding variables, as described above.
3. Specify one or more web user names (separated by commas) in the Web User field:
   - If you do not want users to view the report, specify admin.
   - If you want all users to view the report, specify all.
   If you specify one or more names in the field, eHealth outputs them to the Web for those users and the admin.
4. Click OK.
   eHealth allows the specified users to view the report.

**Save a Report as a File**

**To save a report as a file**
1. Select Other and select a format (ASCII, PDF, or PostScript).
2. Specify the name, directory, or both in which you want eHealth to save the report.

**To save the reports in another directory**
1. Specify the pathname and file name in the field next to the file format that you select.
   eHealth names ASCII, PDF, and PostScript files according to the default syntax.
   - On a Windows system, use the following format:
     
     `C:\ehealth\$(SUBJECT)_$(DATE)_$(TIME).fileType`
   
     The extension `.fileType` is .csv (for ASCII files), .pdf, or .ps, according to the file format in which the report was saved. For example, if you ran a report for your Sales group on December 17, 2007, at 8:23 a.m. and saved it as an ASCII file, the default file name for the report would be `Sales_2007_12_17_08_23.csv`.
   - On a UNIX system, use either of the following formats:
     
     `/export/$(SUBJECT)_$(DATE)_$(TIME).filetype`
     `/tmp/$(SUBJECT)_$(DATE)_$(TIME).filetype`

2. (Optional) Use the `$(CONFIG)` variable to include the name of the report as part of the file name.
   You can use any combination of these variables and characters to name your files.
E-mail a Report to Users

You can e-mail reports to specified users by running the nhMail command automatically after the report is generated. It sends PDF or PostScript report files as Multipurpose Internet Mail Extension (MIME) attachments. ASCII text is not sent as an attachment but is imbedded in the body of the e-mail messages.

To use this feature, you must have an Internet e-mail account. (Aliases in local .mailrc files are not recognized, but system-wide aliases operate correctly.) If the mail recipient has a MIME-compliant e-mail application, the recipient can double-click the attachment icon to display the report file or save the file and open it by using the appropriate application.

**Note:** To view an e-mail message created by the nhMail command on a Japanese system, you must manually set encoding to Japanese (Auto-Select) or Japanese (Auto-Detect) in your e-mail application. For instructions, refer to the documentation for your e-mail application.

**To e-mail a report to users**

1. Select Other in the Run Report dialog and choose an output format.
2. Select Run Command.
3. Specify another e-mail address in place of eHealthUser or specify multiple users by doing the following:
   - On a UNIX system, separate the user names and file names with a space and enclose each set in single quotation marks:
     
     nhMail 'smith@xyz.com sales@xyz.com dev@xyz.com'

     **Note:** If you selected more than one saved file format (such as ASCII and PDF), the user receives multiple e-mail messages with each report.
   - On a Windows system, separate the user names with a plus sign (+) and enclose each set in single quotation marks:
     
     nhMail 'jdoe@acb.com+jsmith@zzz.com'

You can create a script that accepts a file name as an option and specify the script in the Run Command field. eHealth passes the full pathname for the saved file to the specified script. If you specify more than one file format (such as ASCII and PDF), the option runs the command for each file format separately.
How eHealth Works with Scheduled Reports

When you schedule Health and Service Level reports, eHealth does the following:

- Runs a Data Analysis scheduled job that analyzes the data for each element in the report, based on the thresholds in the service profile for that report.
- Saves the daily analysis summaries for each element.

When you run future Health and Service Level reports for the same profile and elements, the reports finish faster because eHealth does not need to perform data analysis for the elements for which summaries already exist.

Recommended Scheduling Practices

Follow these guidelines for scheduling reports:

- Schedule Health and Service Level reports to run during off-peak hours as they can take a long time to run.
- Schedule only two large Health reports, two MyHealth reports, or two Service Level reports to run at one time. Running several large reports of those types simultaneously from the console or the Web could impact the performance of the eHealth system.
  
  You could run up to five At-a-Glance reports or ten Trend reports at one time without impacting the performance of your system.
- Schedule a limited set of reports initially and examine the results to confirm that the interface elements in the poller configuration have correct speed settings.
  
  For example, you might need to set Frame Relay speeds to your committed information rate (CIR).
- Create service profiles that you want to use with the reports.
- Schedule reports to run in the early morning hours when your resources are less busy. The report users can then review them when they start their day.

More information:

Service Profile Management (see page 76)
Pattern Detection

Over time, you can observe patterns in your resources such as the periods during which IT resources generate more volume. As you become familiar with these patterns in your infrastructure behavior, you can also detect changes in normal behavior. If changes occur because of increased volume, you can run a Trend report to identify the time that they occurred. If the change in behavior is due to poor performance by an element, you can run a Trend report or an At-a-Glance report to identify possible causes, and the time that the change occurred.

Time Zone Scheduling

By default, eHealth schedules one data analysis job to occur before the first scheduled Health or Service Level report. When you set time zones, it schedules one data analysis job for each time zone that you use in a Health or Service Level report, including a job for all reports scheduled for the local time zone. If you schedule a report and specify a time zone setting, eHealth applies the time zone to the report.

Add Scheduled Report Jobs

As an eHealth administrator, you can use the eHealth console’s job scheduler to create scheduled report jobs for every standard type of report. With the exception of the additional Schedule options, the Add Scheduled Report dialog for a report type is exactly the same as its Run Report dialog counterpart. Regardless of the report type that you choose, the basic procedure for adding a scheduled report job is the same across all types.

To schedule a report

1. Log in to the eHealth console as an administrator.
   
   **Note:** If you log in to eHealth remotely and your eHealth system is configured to run in a High Availability environment, specify the shared hostname or shared IP address for your system rather than the specific eHealth system name.
   
   The eHealth console appears.

2. Select Setup, Scheduled Jobs.
   
   The Scheduled Jobs dialog appears.

3. Select Add Health from the list.
   
   The Add Scheduled Health Report dialog appears.

4. Do the following in the Add Scheduled Report dialog:
   
   a. Select the subject of the report.
   
   b. Specify a time range for the report, and optionally, a time zone.
How eHealth Works with Scheduled Reports

c. Select the format in which you would like to output the report.

d. Set the schedule for the job.

**Note:** If you specify 31 in the Day of the Month field, the reports will only run on months that have 31 days. To schedule a report for the end of the month, specify the first day of the month.

e. Click OK.

eHealth adds the report job to its scheduled job list and runs the job at the scheduled time.

You can use OneClickEH to monitor its status and modify the schedule, but you must use the eHealth console to modify all other parameters of the report job.

**Note:** For detailed instructions, see the *eHealth Scheduled Job Management Guide*.

---

**Change the MyHealth Report Schedule**

Once a user has created and saved a MyHealth report, eHealth schedules the MyHealth report job to run at 1:00 a.m. daily. To reduce the load on the eHealth server, the eHealth administrator can schedule the report job to run at a different time on specific days of the week or on a specific day of the month. In the OneClickEH console, a MyHealth job appears in the Job List on the Scheduled Jobs page for each MyHealth report that you have created.

**To modify a MyHealth scheduled job**

1. Log in to the OneClick for eHealth console by entering the following in a web browser:

   `eHealthSystem/OneClickEH`

   **eHealthSystem**

   Specifies the name of the system on which eHealth is installed.

   **Note:** If your eHealth system is configured to run in a High Availability environment, specify the shared hostname or shared IP address for your system rather than the specific eHealth system name.

   The Connect to *eHealthSystemName* window appears.

2. Specify a user name and password of an administrator who has permission to access OneClickEH and then click OK.

   The OneClick for eHealth page appears.

3. Click Launch OneClick for eHealth.

   The File Download window appears.
4. Click Run.
   The OneClickEH login window appears.

5. Specify the user name and password of an administrator who has permission to manage scheduled jobs. Then click Log In.
   The eHealth Status Summary window appears.

6. Click Tasks and Information, Job Scheduler in the left pane of the console and then click Scheduled Jobs.
   The Scheduled Jobs window appears.

7. Select the All or Other tab.
   The list of scheduled job appears.

8. Select the MyHealth job that you want to modify, right-click, and select Edit Job.
   The Edit MyHealth window appears.

9. Select the Schedule tab. Then change the day, time, or month and click OK.
   eHealth changes the job schedule accordingly.

If your web user account has MyHealth reporting permissions, you can run the MyHealth report on demand rather than waiting for eHealth to generate it.

---

Report Generation from the eHealth Web User Interface

In the eHealth Web user interface, web users with the appropriate permissions can generate reports through the Run Reports page and then view them on the Report List and Organization pages. Using this interface, web users can select resources and the time periods during which they want to generate data for their elements. They can also customize the reports in various ways by setting presentation attributes, or create customized Run Report templates of their own that they can reuse to save time.
Web Reporting Security

If you log in to the eHealth Web user interface as the web admin, you can generate any type of report from the Run Reports page. Web users with access permissions can run reports. For security purposes, however, they do not have access to any subjects (elements, groups, or group lists) to run the reports against.

As an additional security measure, you can control user access to report templates and report directories by modifying the web user account. By default, web users can view eHealth templates that you have created for the eHealth site and all eHealth directories that contain reports that you output to the Web from the eHealth console.

Enable a User to Run an eHealth Report from the Web Interface

For users to be able to generate reports, an admin must assign access permissions to their web user accounts.

To enable a user to run an eHealth report from the eHealth Web user interface

1. Launch the OneClick for eHealth console by executing the following in a web browser:
   ```
eHealthSystem/OneClickEH
   ```

   **eHealthSystem**

   Specifies name of the system on which eHealth is installed.

   **Note:** If your eHealth system is configured to run in a High Availability environment, specify the shared hostname or shared IP address for your system rather than the specific eHealth system name.

   The Connect to *eHealthSystemName* window appears.

2. Specify a user name and password of an administrator who has permission to access OneClickEH and then click OK.
   The OneClick for eHealth page appears.

3. Click Launch OneClick for eHealth.
   The File Download window appears.

4. Click Run.
   The OneClickEH login window appears.

5. Specify the user name and password of an administrator who has permission to manage web users. Then click Log In.
   The eHealth Status Summary window appears.
6. Click Tasks and Information, User Administration in the left pane of the console.
   The User Administration page appears.

7. Double-click the user name in the web user account list.
   The Modify User page appears.

8. Select the Reports tab on the left and do the following:
   a. Select the report types that the user should be allowed to run.
   b. Optionally, restrict the user’s access to specific report templates. Enter text in the Report templates security patterns field by following these guidelines:
      - Specify more than one template name by separating each name with a space.
      - Restrict the user to template names containing specific text by specifying the text followed by the asterisk (*) symbol. For example, specify Blue* to permit the web user to run default reports and customized report templates with names that begin with Blue.
   c. Click Apply.
      eHealth resets the reporting permissions on the user account. By default, the user can view all report directories.

9. (Optional) Restrict access to specific directories as follows:
   a. Select the General tab and enter text in the web report directory security patterns field:
      - To allow the user to view specific reports saved in a web directory, specify the common characters followed by an asterisk (for example: Blue*).
      - To allow the user to view reports saved in web directories that begin with more than one set of characters, specify both sets of characters in this field (for example: Blue* and Red*).
   b. Click Apply.
      eHealth restricts the account’s access to the specified directories.
10. Enable the user to access the subjects (elements, groups, and group lists) for the reports:

- For Health, Service Level, Top N, and Trend, enable the account to access the groups to run the reports against. Select the Groups tab. In the Groups window, select Selected Groups, select Yes next to the individual groups that you want to include, and then click Apply.

- For Service Level reports, enable the account to access the group lists to run the reports against. Select the Group Lists tab. In the Group Lists window, select Selected Group Lists, select Yes next to the individual group lists that you want to include, and then click Apply.

- For At-a-Glance, element-based Trend, and What-If reports, enable the account to access the elements to run the reports against. Select the Groups tab. In the Groups window, select Selected Groups, select Yes next to the individual groups that you want to include, and then click Apply.

11. Click OK.

Run Reports from the eHealth Web User Interface

If your web user account has permission to run a report and to view the subjects against which you want to run it, you can generate it by selecting the Run Reports tab.

To generate a report from the eHealth Web user interface

1. Launch the eHealth Web user interface by entering the following in a web browser:

   \[ eHealthSystem \]

   Specifies the name of the system on which eHealth is installed.

   **Note:** If your eHealth system is configured to run in a High Availability environment, specify the shared hostname or shared IP address for your system rather than the specific eHealth system name.

   The Welcome to eHealth page appears.

2. Click Continue.

   The Connect to \[ eHealthSystemName \] window appears.

3. Specify a user name and password of an administrator who has permission to run reports and then click OK.

   The eHealth Web user interface appears.

4. Select the Run Reports tab.

   The Run Reports page appears.
5. Select a report template (such as Standard) from the report list in the left pane.
   The page refreshes and the selected template appears in the right pane.

6. Do the following on the Run Report page:
   a. Specify the criteria for the subject of the report (element, a group, or a group list).
   b. Specify a time range for the report, and optionally, a time zone.
   c. Customize the presentation by clicking More Options and setting presentation attributes.
   d. Click Generate Report.
      eHealth generates the report and displays it on the screen.
Chapter 3: Viewing, Saving, and Deleting Reports

If you are an administrator, you can output any eHealth report from the eHealth console to the Web to enable users to view it on the Report List and Organization pages. Any user who has a web account with the appropriate permissions can view reports, access report shortcuts, save their own custom report templates, and remove reports that they no longer need.

This section contains the following topics:

- Tasks Performed from the Report List Page (see page 47)
- Tasks Performed from the Organization Page (see page 48)
- Options for Viewing Web-Based Reports (see page 50)
- Live Reporting (LR) (see page 51)
- Custom Report Templates (see page 56)
- Removal of Reports, Saved Run Report Pages, and Files (see page 59)

Tasks Performed from the Report List Page

The Report List page provides links to all web-based reports that you have generated from the Run Reports page, as well as reports that other users have generated from that page if your account has permission to access the subjects against which the reports were run. For example, if an eHealth administrator generated At-a-Glance and element-based Trend reports from the eHealth console and explicitly specified your user name in the Run Report dialog, these reports will also appear on this page.

The following table lists the tasks that any user can perform from the Report List page.

<table>
<thead>
<tr>
<th>Task</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>List the reports in a particular order.</td>
<td>Use the sorting options.</td>
</tr>
<tr>
<td>List reports of a specific subject, technology, report type, or date.</td>
<td>Use the filtering options.</td>
</tr>
<tr>
<td>Condense the list.</td>
<td>Click Hide Titles.</td>
</tr>
<tr>
<td>View the report in your web browser.</td>
<td>Click the link for the title or subject.</td>
</tr>
<tr>
<td>View previous versions of a scheduled report on the web server.</td>
<td>Click the History link.</td>
</tr>
</tbody>
</table>
Tasks Performed from the Organization Page

The Organization page provides links to all subjects (group lists, groups, and elements) that your user account can access and the reports that you or other users have run against them. You can link to Live Reporting (LR) for live trend reporting. You can also link to views, groups, and nodes for Traffic Accountant. The report list changes each time that you select a new subject.

The left frame of the Organization page lists the subjects in your web-based reports.

- To show the reports for a subject in the right frame of the page, click the subject name. Subjects can include group lists, groups, elements, views, and nodes.
- To search for a specific subject, specify a string in the Find field. The search is not case-sensitive. You cannot use wildcards in the string, but eHealth finds items that contain that string anywhere in the name. For example, if you specify lan, the search highlights the groups, group lists, or views that contain “lan” anywhere in the element, group, group lists, view or node name, and places a bullet in front of the name.
- To expand an entry and view its subcomponents, click the plus sign (+).
- To display current information about eHealth elements in Live Reporting, click the LR link next to the element that you want to graph.

### Tasks Performed from the Organization Page

<table>
<thead>
<tr>
<th>Task</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>View the report using Acrobat Reader.</td>
<td>Click the PDF link.</td>
</tr>
<tr>
<td>View the ASCII report in Microsoft Excel or another application.</td>
<td>Click the ASCII link.</td>
</tr>
<tr>
<td>Identify a scheduled report that failed to run or is disabled.</td>
<td>View Status field.</td>
</tr>
<tr>
<td>Delete element-based reports that you no longer need (available only if your user account has permission to delete reports).</td>
<td>Select the box next to each report and click Delete above the list.</td>
</tr>
</tbody>
</table>

**Note:** To view the History link and the Status field, you must select the Scheduled reports only filter at the top of the page.
The following table describes the various ways that you can view reports and graphs from this page.

<table>
<thead>
<tr>
<th>Task</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locate a group to which an element belongs or a group list to which a group belongs.</td>
<td>Specify text in the Find field.</td>
</tr>
<tr>
<td>Note that you must have access to the group or group list.</td>
<td></td>
</tr>
<tr>
<td>View the reports in a particular order.</td>
<td>Use the sorting options.</td>
</tr>
<tr>
<td>View reports of a specific technology or report type, or generated on a specific date.</td>
<td>Use the filtering options.</td>
</tr>
<tr>
<td>View your reports as PDF files.</td>
<td>Click Get Acrobat Reader to download the software.</td>
</tr>
<tr>
<td>Locate elements within a cluster environment by identifying the Distributed eHealth System on which the elements reside.</td>
<td>Use the Find Element icon at the top of the page.</td>
</tr>
<tr>
<td>Note that you must have an eHealth Distributed license to access this option. For specific information, see the Distributed eHealth Administration Guide.</td>
<td></td>
</tr>
<tr>
<td>Access shortcuts to generate At-a-Glance, Trend, and Top N reports on demand (if your user account has permission to generate these report types and access shortcuts).</td>
<td>Click the appropriate icon at the top of the page.</td>
</tr>
<tr>
<td>Drill down to an Element Configuration Report or an Element Variable report (if your account has permission to generate the report type).</td>
<td>Click the appropriate icon at the top of the page.</td>
</tr>
<tr>
<td>Delete element-based web reports that you no longer need (if your account has permission to delete reports).</td>
<td>Select the box next to the report title. Then click the delete button above the list.</td>
</tr>
<tr>
<td>View element data in a continually updated trend graph.</td>
<td>Click the LR link for the element that you want to graph. Next, select variables to display and the time range. Then click Graph.</td>
</tr>
</tbody>
</table>
Options for Viewing Web-Based Reports

When viewing web-based eHealth reports, you can compare reports by opening one report in a new window and search for text in the current page.

Compare Reports by Opening One Report in a New Window

When you view a web-based report, the web server displays the report in your current browser window. If you would like to compare two or more reports at the same time, you can use a browser command to open one report in a new browser window.

To compare a report run last week with the same report run two weeks ago

1. Launch the eHealth Web user interface by entering the following in a web browser:
   
   `eHealthSystem`

   *eHealthSystem*

   Specifies the name of the system on which eHealth is installed.

   **Note:** If your eHealth system is configured to run in a High Availability environment, specify the shared hostname or shared IP address for your system rather than the specific eHealth system name.

   The Welcome to eHealth page appears.

2. Click Continue.

   The Connect to `eHealthSystemName` window appears.

3. Specify a user name and password of an administrator who has permission to run reports. Then click OK.

   The eHealth Web user interface appears.


   The Report List page appears.

5. Place the mouse pointer over the report link and click the right mouse button.

   A pop-up menu appears.
Live Reporting (LR)

6. Do one of the following:
   - If you use the Microsoft Internet Explorer browser, select Open in New Window.
   - If you use the Netscape Navigator browser, select Open Link in New Window.

   The web browser opens a new browser window containing the report.

7. Use the mouse to select (return to) the original browser window, locate the link for the report for last week, and click it.

   The report appears in the current browser.

Search for Text in the Current Page

You can locate text strings within the current page.

**To search for a text string on the current page**

1. Select the browser Find command.
   
   The Find dialog appears.

2. Specify a string in the Find field.
   
   If the current page uses HTML frames, this command searches each frame in the order of its appearance on the page. While the Find dialog is displayed, you cannot alternate between the browser window and the dialog. You must dismiss the dialog to return to the browser window.

**Note:** The Find command locates text strings in HTML text areas, but not in GIF images or selection lists.

Live Reporting (LR)

Live Reporting provides fast access to current element data, which is automatically updated in a graph that reflects ongoing changes.

Requirements and Limitations for Using LR

Graphing in a Web browser requires the following:

- Internet Explorer 6.0 or Firefox 2.0
- Java Runtime Environment 1.5
- In the Web user profile, the User can run Live Trend attribute must be set to yes. If this attribute is set to no, the LR links do not appear next to the elements on the eHealth Organization page.
The LR graphing feature has the following limitations:

- The graph supports only one Y axis.
- A maximum of 10 supported variables can be displayed on a graph.
- Only one element can be displayed on a graph.
- Only individual elements can be graphed.
- In an eHealth cluster environment, the Web UI must log in to a cluster back end system for the LR feature to be active. Only the cluster back end systems store statistical data.

Open LR and Display Current Element Data

LR lets you graph current data for all supported variables during a specified time period for a selected element.

To display current element data

1. Log in to the Web UI and on the eHealth main page, select the Organization tab.
   
   Elements are listed on the left under Organization View.

2. Click the LR link next to the element that you want to graph.
   
   The Live Reporting window opens and a time series chart appears.

3. (Optional) Select a variable filter: All (default), Percent, or Non-percent.

4. Select a variable supported for the element.

5. Select a duration from the following list:
   
   - Last 24 Hours of Normal polled data (default)
   - Last 7 Days of Hourly data
   - Last 30 Days of Daily data
6. Click the Update button.

A graph showing the selected variable for the selected duration appears, as shown in the following graphic.

In the LR window, you can do the following:

- Change the variable, duration, or both and then click the Update button to update the display.
- Open a new LR window by clicking the New Window button.
- Display only the chart in the LR window by clicking the Hide Filters button. This feature is handy for viewing the entire chart without scrolling.
- Pan and zoom within the graph to view data at a selected location.
To pan within the graph, left-click in the graph to activate the tool, which appears as a vertical line that moves with the cursor.

When you move the line to a point on the graph, the tool displays the horizontal axis and vertical axis coordinates. For example, in the following graphic the tool shows that Bandwidth Utilization at 4:30 AM was 0.024.
To zoom in to an area, hold down the left mouse button and draw a box around that area, as shown in the following graphic. Then release the mouse button to view the magnified area.

The following graphic shows the magnified view of the area selected in the previous graphic.

To return to the previous view of the graph, right-click in the graph.
Custom Report Templates

If you tend to run your reports on a regular basis by using the same options and attributes, you can create and save your own customized report page templates to save time.

Save Custom Report Templates from the Web interface

You can save custom report templates only if your web user account has permission to save them.

**To save a custom report template**
1. Click Save Template in the upper-right corner of the Run Report page.
2. Specify a name for the template.
   
   **Note:** If you do not specify a report name, eHealth names it MyReport.
   
   eHealth adds the template to the list of available reports in the left pane under the specific report type.

Save Customized Versions of Standard Reports from the eHealth Console

For any user who has an account with permission to run At-a-Glance, Trend, and Top N reports, eHealth displays shortcuts to the standard report templates at the top of the Organization page of the Web interface. By setting your user preferences, you can link to your own customized reports instead of the standard templates.

**To save a customized version of a standard report**
2. Rename the report.
3. Complete the remaining fields.
4. Click OK.
   
   **Note:** If you do not specify a name for the report, eHealth names it copy_of_reportName.
   
   eHealth adds the template to the list of available reports in the Run Report and Edit Report dialogs.
Create and Save Customized Report Shortcut Icons

If your web user account has permission to generate At-a-Glance and Trend reports from the Web interface, you can customize a report template and customize the icon that links to it from the Organization page to make it easily identifiable.

**To create a customized report shortcut for your eHealth site**

1. Launch the eHealth Web user interface by entering the following in a web browser:
   
   ```
   eHealthSystem
   ```
   
   *eHealthSystem*
   
   Specifies the name of the system on which eHealth is installed.

   **Note:** If your eHealth system is configured to run in a High Availability environment, specify the shared hostname or shared IP address for your system rather than the specific eHealth system name.

   The Welcome to eHealth page appears.

2. Click Continue.

   The Connect to *eHealthSystemName* window appears.

3. Specify a user name and password of an administrator who has permission to run reports and then click OK.

   The eHealth Web user interface appears.

4. Select the Run Reports tab.

   The Run Reports page appears.

5. Create and save an At-a-Glance or Trend report template by using the appropriate Run Report page (for example, Router).

   The template appears within the Available Reports list on the Run Report page.

   eHealth generates a file named Router.rpt and stores it in the *ehealth/reports/glance/users/admin* or *ehealth/reports/trend/users/admin* directory.
6. Copy the toolbar.htm.usr.sample file located in the ehealth/web/output directory, rename it toolbar.htm.usr, and open the file.

   The following entries should appear in the file.

   `<TD> <A HREF="/cgi-bin/nhWeb?func=runShortCUT&subject=${subject}&report=users/admin/LanWanBandwidthTrend&reportType=trend&runShortCUT=1' TARGET="orgListFrame">`  
   `<IMG class="toolbarIcon height=24 width=24 SRC="/trendShortcut.gif' BORDER='0' ALT='Run a LanWan Bandwidth Trend'></A>`
   `</TD>`

   `<TD WIDTH="10"></TD>`

   `<TD> <A HREF="/cgi-bin/nhWeb?func=runShortCUT&subject=${subject}&report=users/admin/LanWanGlance&reportType=glance&runShortCUT=1' TARGET="orgListFrame">`  
   `<IMG class="toolboxIcon height=24 width=24 SRC="/aagShortcut.gif' BORDER='0' ALT='Run a LanWan AAG'></A>`
   `</TD>`

7. Replace the template text as follows, but do not italicize it:

   - To link to a Trend report template, at the beginning of the first entry, replace LanWanBandwidthTrend with Router. At the end of the entry, replace 'Run a LanWan Bandwidth Trend' with 'Run a Router Trend'.
   - To link to an At-a-Glance report template, at the beginning of the first entry, replace LanWanGlance with Router. In the last line of the entry, replace 'Run a LanWan AAG' with 'Run a Router AAG'.

   eHealth links the shortcut icons on the Report List and Organization pages to these templates.

8. Customize the image that appears on the shortcut icon:

   a. Locate the reference to the image file in the last line of the entry for the shortcut link.
   b. Replace the .gif image name with your new GIF image file, but do not italicize the name. It must be approximately 35 x 35 pixels.
   c. Place a copy of the image file in the ehealth/web/output directory.
   d. Close and save the file.

   eHealth saves the file, but does not replace the image that appears on the shortcut icons.

9. Select the Administration tab.

   The Administration page appears.

10. Select Preferences.

    The Preferences page appears.
11. Select the template that you just created and click Save.
   eHealth replaces the shortcut icon image that appears on the Organization page and Report List page.

12. Select the Organization tab at the top of the Web interface.
   The Organization page appears with the customized report icons at the top of page.

13. Click the plus sign (+) next to Elements in the left pane and then click the shortcut icon.
   eHealth generates a report for that element by using the specified router report template and displays the report.

Create Multiple Customized Report Shortcuts

You can create additional report shortcuts for your eHealth site.

To create these customized shortcuts
1. Go to the Run Reports page of the eHealth Web interface.
2. Create individual customized report templates by using the Save Template feature.
3. Add the appropriate link to the toolbar.htm.usr file.
   
   **Note:** The report shortcut will not use the appropriate report template unless the template .rpt file name matches the reference that appears in the toolbar.htm.usr file for that shortcut.

Removal of Reports, Saved Run Report Pages, and Files

Over time, you may accumulate customized versions of standard console reports, versions of Run Report pages that you have saved, and web reports that you have generated. You can remove the reports, associated templates, and files that you no longer need.
Delete eHealth Console Reports

You can delete a customized version of a standard report from the eHealth console.

To delete an eHealth console report
1. Log in as the administrator.
2. Select the report from the Available Reports list in the Run Report dialog.
3. Click Delete and click Delete again to confirm the removal.
   eHealth will remove the report from your Reports list.

Delete eHealth Web User Interface Reports

If your eHealth web user account has permission to delete reports, you can delete any element-based report.

To delete an element-based report
1. Go the Report List or Organization page.
2. Select the checkbox next to the report name and click Delete (above the report list), shown in the following graphic.

**Note:** You cannot delete group-based reports unless you are logged in as the administrator. Keep in mind that eHealth does not remove Web report files from the ehealth/web/output directory until it runs the Delete Old Reports scheduled system job.
Removal of Reports, Saved Run Report Pages, and Files

To delete Web report files immediately
1. Log in as the eHealth web administrator.
2. Click Remove Reports Marked for Deletion under eHealth Management.
   The report files will be removed.

More information:
Delete Old Report Files (see page 62)

Delete Saved Run Report Pages

At any time—regardless of your web account permissions—you can remove any report run page that you have saved previously by using the Save Template option, shown in the following graphic.

To delete a saved run report page
1. Select the run page name under Available Reports.
2. Click Delete above the list on the left.
   The run page is removed.

Note: You cannot delete report templates that the administrator created for you by using the eHealth console. The administrator must remove those templates by using the appropriate Edit Report dialog on the eHealth console.
Delete Old Report Files

eHealth runs a scheduled job daily at 6:00 a.m. to clean up report and temporary files. The Delete Old Reports job deletes reports and files that are older than 31 days and that are saved in certain eHealth directories. If you log in to the eHealth console as the eHealth administrator, you can modify the Delete Old Reports job to change the number of days that specific reports are kept and when the job runs. This scheduled job removes files only from the default directory.

To modify the Delete Old Reports job
1. Log in to the OneClick for eHealth console by entering the following in a web browser:

   `eHealthSystem/OneClickEH`

   **eHealthSystem**
   
   Specifies the name of the system on which eHealth is installed.

   **Note:** If your eHealth system is configured to run in a High Availability environment, specify the shared hostname or shared IP address for your system rather than the specific eHealth system name.

   The Connect to `eHealthSystemName` window appears.

2. Specify a user name and password of an administrator who has permission to access OneClickEH and then click OK.

   The OneClick for eHealth page appears.

3. Click Launch OneClick for eHealth.

   The File Download window appears.

4. Click Run.

   The OneClickEH login window appears.

5. Specify the user name and password of an administrator who has permission to manage scheduled jobs and then click Log In.

   The eHealth Status Summary window appears.

6. Click Tasks and Information, Job Scheduler, Scheduled Jobs in the left pane of the console.

   The Scheduled Jobs window appears.

7. Select the All or System tab.

   A list of scheduled jobs appears on the screen.
8. Select the Delete Old Reports job from the job list, right-click, and select Edit Job.

   The Edit Delete Old Reports window appears.

9. Do the following:
   a. Select the Schedule tab and change the number of days to retain report files. (For Health and Service Level reports, you can change the number of days to retain daily, weekly, and/or monthly report files.)
   b. Change the number of days to retain temporary files saved in the ehealth/tmp directory.
   c. Select the Schedule tab and specify a daily or monthly schedule and the time when the job should run.
   d. Click OK.

   eHealth changes the job schedule accordingly.
Chapter 4: Analyzing and Managing Report Data

To generate Health, MyHealth, and Service Level reports, eHealth assesses the overall health of the resources within your network by analyzing performance indicators for an element, assigning a performance grade to the element, and then analyzing trends and calculating averages based on a service profile. It is important for the eHealth administrator to understand the process that eHealth uses to analyze data and to effectively manage the service profiles.

This section contains the following topics:
- How eHealth Evaluates the Health of Your Resources (see page 65)
- Service Profile Management (see page 76)

How eHealth Evaluates the Health of Your Resources

To evaluate the health of your resources, eHealth does the following:

- Collects historical data over a period of time—defined as a baseline period.
- Analyzes polled, hourly, or daily samples and computes health exceptions, percentiles, service-level ranges, and situations-to-watch trends.
- Calculates a Health Index for your elements based on variables such as bandwidth, capacity, availability, and traffic. This index grades each element’s performance according to the utilization and number of errors that eHealth detects.
  
  eHealth uses upper limits for utilization and errors, referred to as Trend thresholds, to identify problem areas.

Service Profiles in Data Analysis

A service profile is a group of policy settings that control how eHealth analyzes the data used to generate reports. These settings include the following:

- Thresholds that eHealth uses to detect health exceptions and compute the Health Index
- Long-term trend thresholds
Time-of-day and day-of-week filters
Distribution chart thresholds, also called service level ranges

eHealth uses a standard service profile to analyze the data for Health, MyHealth, and Service Level reports. The way that eHealth actually stores and uses the analyzed data varies, depending on whether you run the reports on demand or schedule them.

How Data Is Analyzed for On-Demand Reports

When you run reports on demand, eHealth does the following:

1. Analyzes the data while the reports runs, which increases the amount of time that it requires to generate them. The length of time depends on how many elements are included in each report and the length of the baseline period.

2. Creates a baseline of analyzed data based on the available data for the element. It uses the available as-polled and rolled-up data for the element. Analyzed data based on rolled-up data is not as granular as the as-polled data, but the reports use the available data to show a complete baseline. You can configure reports so that they do not use rolled-up data for analysis, but the reports show gaps for any days in the baseline that do not have as-polled data.

3. Discards the analyzed data after the report is generated. Each time that you run a report on demand, eHealth analyzes the data again and discards the analysis when it finishes.
How Data Is Analyzed for Scheduled Reports

When you schedule a Health, Service Level, or MyHealth report, data is analyzed as follows:

- eHealth creates a scheduled data analysis job to analyze the data before the report runs.
- For each element in the report, the data analysis job creates a summary of the data for each day in the baseline based on the service profile that the report uses, as illustrated in the following graphic.

- The first time that you schedule the report, eHealth creates the baseline of data up to the last whole day of data. For each subsequent day, the analysis job creates the new daily summary, based on the setting in the Data Analysis Schedule dialog. As with on-demand reports, you can configure scheduled reports not to use rolled-up data for analysis. The reports show gaps for the earliest days in the baseline, but with each new day, analyzed data based on the as-polled data appears in the report.

- eHealth saves the analyzed data for each element/service profile pair in the database. Any future reports on that element and service profile run faster because the reports do not have to analyze the data during report generation. The report simply uses the analyzed data that already exists. Any future on-demand reports for the same elements and service profile will also run faster. eHealth uses the saved analyzed data whenever possible instead of re-analyzing the same data for the element and profile.
Baseline Periods Used in eHealth

The baseline period is a rolling period that projects back from the day on which the report is run. Health reports compare hourly information to the same hour of the day and daily information to the same days of the week in the baseline period.

eHealth uses the following baselines:

- 6-week baseline period for daily Health reports
- 13-week baseline for weekly Health reports (6-week baseline for weekly MyHealth reports)
- 12-month baseline for monthly Health reports

**Note:** If you add elements to a group or group list that is used in a scheduled report, eHealth may have to analyze the history of that element over the baseline period. If the added element is part of another group that has been analyzed against the same service profile, eHealth can reuse the analyzed data.

In the following graphic, the shaded days are included in an example six-week baseline period. In a Health report that is run for Thursday, eHealth averages data from the previous Thursdays to compare with the data collected for the report day. The baseline allows eHealth to compare data from the same day to data for previous days to identify changes in behavior or performance for that day.
How eHealth Determines Health Indexes

eHealth assigns a Health Index to each element that is based on the amount of volume and number of errors that the element experienced. A high Health Index indicates problems, while a low one indicates a healthy element.

To determine Health indexes, eHealth does the following:

1. Evaluates the data that it collects on each element in the report for each poll.
2. Groups the data into categories, referred to as Health Index variables, and divides each of them into four ranges: excellent, good, fair, and poor.
3. Assigns health points to each range as follows:
   - Excellent receives 0 points
   - Good receives 2 points
   - Fair receives 4 points
   - Poor receives 8 points
   For example, the following table lists the default Ethernet Health Index thresholds.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Excellent</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utilization</td>
<td>0 up to 10%</td>
<td>10 up to 20%</td>
<td>20 up to 35%</td>
<td>35% and over</td>
</tr>
<tr>
<td>Collisions</td>
<td>0 up to 5%</td>
<td>5 up to 9%</td>
<td>9 up to 15%</td>
<td>15% and over</td>
</tr>
<tr>
<td>Other errors</td>
<td>0 up to 3%</td>
<td>3 up to 7%</td>
<td>7 up to 10%</td>
<td>10% and over</td>
</tr>
<tr>
<td>Broadcast/multicast</td>
<td>0 up to 100</td>
<td>100 up to 200</td>
<td>200 up to 300</td>
<td>300 and over</td>
</tr>
</tbody>
</table>

4. Adds the points for each variable to determine a Health Index for each element.

   A very healthy element would have a Health Index of 0, in which all variables are in the excellent range. The most points an element can receive depends on the element type.
In the example presented in the following table, eHealth collected data for one poll of an Ethernet element and assigned the Health Index shown.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Current Value</th>
<th>Assigned Range</th>
<th>Health Index Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utilization</td>
<td>32%</td>
<td>Fair</td>
<td>4</td>
</tr>
<tr>
<td>Collisions</td>
<td>5.4%</td>
<td>Good</td>
<td>2</td>
</tr>
<tr>
<td>Other Errors</td>
<td>&lt;1%</td>
<td>Excellent</td>
<td>0</td>
</tr>
<tr>
<td>Broadcast/Multicast</td>
<td>158</td>
<td>Good</td>
<td>2</td>
</tr>
<tr>
<td><strong>Health Index</strong></td>
<td></td>
<td></td>
<td><strong>8</strong></td>
</tr>
</tbody>
</table>

**Note:** Details about the Health Index for the different element types are in the Web Help.

**Trend Thresholds**

eHealth sets an upper limit—defined as a *Trend threshold*—on the same variables that it uses for the Health Index. It uses the Trend threshold to predict when an element might experience difficulty. eHealth uses the data from the baseline period to construct a *trend line*. For each element in the report, it uses the trend line to predict the value that each element would receive at the end of the reporting period.

When a report runs, eHealth evaluates the predicted value for any variable to determine whether it is near or above the Trend threshold, or whether it has reached the threshold. For variables with values that are increasing, eHealth attempts to predict when the variable might reach the threshold.

**Note:** Details about Trend thresholds for different element types are in the Web Help.
How eHealth Assigns Exception Points

To assign exception points, eHealth does the following:

- Assigns *exception points* to elements, based on the assigned Health Index and the Trend behavior of each variable.

eHealth also assigns exception points to elements that have suddenly experienced new errors or that have availability problems.

The Situations to Watch chart and its Supplemental report display the Trend behavior of element variables. An element can receive 100 exception points for each variable, with 66 points allocated to the Health Index and 34 points allocated to the Trend analysis. The maximum number of exception points that an element can receive depends on the number of variables that it has.

By customizing the Health report and its service profile, you can specify the number of exception points that an element needs to accumulate before it can appear in reports, the maximum number of elements that can appear, and the type of elements that appear.

- Divides the Trend analysis in two ways: how close the predicted value is to the threshold (Trend proximity) for 17 points, and how rapidly the trend is increasing (Trend slope) for the other 17 points.

- Totals the exception points for each element for the reporting period. For example, a WAN element has four variables: utilization, discard errors, other errors, and non-unicast frames.

The following graphic illustrates how eHealth allocates the exception points for each WAN variable.

![Diagram illustrating exception point allocation for WAN variables](image)

**Note:** For information about exception points for the different element types, see the *Web Help*. 
How eHealth Evaluates the Health of Your Resources

**Health Index Exception Points**

eHealth assigns exception points to an element, based on the Health Index that the element receives for a variable. For example, an element with few errors for a reported day would receive a low Health Index for errors and few or no exception points. If that same element experienced a high percentage of errors during the day, the element would probably receive a high Health Index and all 66 exception points.

Elements rarely experience extreme problems that cause them to receive the maximum Health Index for an entire day. To assign the appropriate number of exception points to all error conditions, eHealth aggressively assigns exception points to lower Health Indexes by using the logarithmic equation illustrated in the following graphic.

![Graph showing logarithmic relationship between Health Index and exception points](image)

**Exception Points for Availability**

If a Response or System element is unavailable during the report period, eHealth assigns up to 100 availability exception points based on the amount of time that the element was down. The Unavailable setting in the service profile determines the number of Health Index points that eHealth assigns for each second of unavailability. As with other Health Index exceptions, it uses a logarithmic equation to assign exception points based on the average Health index for the day (assigning exception points to lower Health Indexes).

**More information:**

Health Index Exception Points (see page 72)

**Exception Points for Sudden New Errors**

If an element has been error-free for at least eight days and suddenly experiences new errors during the report period, eHealth assigns 34 exception points to that element. This type of error condition might be the result of adding a faulty or misconfigured piece of equipment to the infrastructure.
Trend Proximity Exception Points

eHealth evaluates the predicted behavior from the Trend analysis to compare the predicted value for a variable to the threshold. It starts assigning exception points when the predicted value is at 90% of the threshold and assigns all 17 points once the predicted value is 200% or above the threshold. If the predicted value is less than 90% of the threshold, eHealth does not assign any exception points. The following graphic illustrates how eHealth assigns exception points to Trend proximity.

Trend Slope Exception Points

eHealth assigns exception points to the Trend slope based on the steepness of the slope, as illustrated in the following graphic; that is, it assigns more points as the steepness of the slope increases. It determines the steepness of the Trend slope based on the number of days predicted for the element to increase from a value of zero to the threshold value.

If the number of days is greater than 120 (four months), it does not assign any exception points. If the number of days is 30 or less (one month), it assigns the maximum of 17 points, as shown in the following graphic.
How eHealth Evaluates the Health of Your Resources

How As-Polled and Rolled-Up Data is Analyzed

When you generate a Service Level report, eHealth analyzes the following data for the entire report period against the service profile in the following order:

1. Any available as-polled data
2. Rolled-up hourly data (during the time as-polled data is not available)
3. Rolled-up daily data

Reports show data only for the times and days when eHealth polled the elements. When you first discover, poll, and run Service Level reports for elements, they show data only for the days that have polled data available.

The analyzed data generated for hourly and daily rolled-up data is not as detailed as that for as-polled data because rolled-up data does not include all of the peaks and spikes seen in as-polled data. The scheduled Statistics Rollup job creates the hourly and daily rolled-up data when it compresses the database.

Guidelines for Interpreting Service Level Report Chart Data

When you run a Service Level report, the data for charts that use a timeline might increase sharply in granularity for those days when the analyzed data is based on as-polled data. Also, the per-element charts may lack subtle variations. Do not interpret this increase as a sign that a new event or condition has occurred suddenly in your infrastructure. In six weeks, or the length of time that you retain analyzed data, the report will show that all analyzed data is based on as-polled data.

Service Level reports display a note that informs you of the percentage of data that is based on rolled-up samples. To suppress the note, disable the Show Data Notes General presentation attribute by selecting More Options on the Run Report page.

How Analyzed Data Is Generated and Saved

The process for generating and saving analyzed data is as follows:

- By default, eHealth saves analyzed data for six weeks. With each new day, the scheduled data analysis job adds another day of analyzed data and deletes analyzed data that is older than six weeks.
- eHealth runs a data analysis job once a day immediately prior to the first scheduled Health, MyHealth, or Service Level report. This job analyzes the data for all scheduled reports, except those scheduled for a different time zone.
- If you specify time zones for Health, MyHealth, or Service Level reports, eHealth runs an additional data analysis job before running the first report scheduled for each time zone.
- The data analysis schedule records information about the job in the `/ehealth/log/Data_Analysis.jobId.log` file.

### Analyzed Data in On-Demand Reports

eHealth uses analyzed data for on-demand reports that use the same service profiles for the same data. This practice increases the speed of report generation. However, if the elements in an on-demand Health or Service Level report do not have any analyzed data, the report could require several hours to finish running.

For example, if you create a new report and run it on demand, eHealth performs all analysis while running the report. It does not save the analyzed data for the reports that you run on demand as these might be temporary tests of new reports.

When you test new reports, run them for a small group of elements so that the reports run more quickly. When you are satisfied with the report format and service profile, schedule your reports for the full group of elements to take advantage of the scheduled data analysis job.

### Set the Time to Retain Analyzed Data

When you schedule a report, eHealth performs a preliminary analysis of the statistics data for each element in the report. If you prepare the information needed for each element, your scheduled reports run faster.

By default, eHealth retains six weeks of analyzed data for each element in scheduled reports. You can increase this time, but before you do so, carefully consider the value of the data versus the cost to maintain it. The recommended maximum is 12 weeks. Because all reports have only one setting, specify the longest report period in the reports that you schedule. For example, if you schedule a Service Level report for a quarter, specify at least 12 weeks.
To change the number of weeks of analyzed data to retain

1. Log in to the OneClick for eHealth console by entering the following in a web browser:

   `eHealthSystem/OneClickEH`

   **eHealthSystem**
   - Specifies the name of the system on which eHealth is installed.

   **Note:** If your eHealth system is configured to run in a High Availability environment, specify the shared hostname or shared IP address for your system rather than the specific eHealth system name.

   The Connect to *eHealthSystemName* window appears.

2. Specify a user name and password of an administrator who has permission to access OneClickEH and then click OK.

   The OneClick for eHealth page appears.

3. Click Launch OneClick for eHealth.

   The File Download window appears.

4. Click Run.

   The OneClickEH login window appears.

5. Specify the user name and password of an administrator who has permission to manage scheduled jobs and then click Log In.

   The eHealth Status Summary window appears.

6. Click Tasks and Information, Job Scheduler, Scheduled Jobs in the left pane of the console.

   The Scheduled Jobs window appears.

7. Select Data Analysis from the Jobs list, right-click, and select Edit Job.

   The Edit Data Analysis window appears.

8. Select the Properties tab, specify a higher value in the field, and click OK.

   eHealth updates the scheduled job. The next time that it runs, eHealth retains the specified amount of analyzed data for each element in scheduled reports.

---

**Service Profile Management**

By default, every Health, MyHealth, and Service Level report uses the eHealth Standard service profile. At any time, you can associate a different profile with the report by either editing the default service profile or creating a new profile. The impact of associating a new service profile with a report varies, depending on whether you schedule the report or run it on demand.
Tips for Using Service Profiles Effectively

In general, it is good practice to carefully plan the number and types of service profiles that you use. The following are some common tips for using and managing service profiles effectively:

- Run your Health and Service Level reports on demand for a small group of elements to observe the effects and thresholds of the analysis. If necessary, edit the service profile settings and run the reports on demand again. Once you are satisfied with the profile settings, schedule your reports for the groups or group lists that you want to monitor to reduce unnecessary and unwanted analyzed data samples in the database.

- Do not generally create several profiles that have the same settings but different names. If you do, do not schedule reports that use different profiles for the same groups of elements (such as All). This action causes eHealth to create several baselines of identical analyzed data (one per profile) for each element and significantly increases the database disk space size.

- If you do require multiple profiles to show different levels of service monitoring, plan your element groups and group lists carefully to reduce the number of scheduled reports with different profiles on the same elements.

- Whenever possible, do not change settings for profiles used in scheduled reports. This precaution can help reduce confusion for those who read or review the reports. When you must change the settings, be prepared for user questions regarding the change in report appearance.

- Whenever possible, do not customize a scheduled report to use a different service profile. If you do, eHealth creates a new baseline of analyzed data for the new profile and the old data is lost to the report. The lost data eventually ages out of the database.

- If you (or your report consumers) run the same Health or Service Level reports on demand every day, consider changing one or more of them to scheduled reports to speed processing and reduce the performance impact on the eHealth server.
Profile Management for Scheduled Reports

When you create a new service profile for a scheduled report, the change impacts the database size as well as the time required to run the first data analysis job. The next time that the data analysis job runs, it detects that the report now uses a new service profile. It must, therefore, create a new baseline of data for the elements in the report based on the new profile’s setting. eHealth saves the new set of analyzed data in the database, which increases the disk space of the database.

If you modify an existing profile, eHealth uses the new settings to analyze the data gathered after you changed the profile and does not discard the existing analyzed data, which was based on the old profile settings. Thus, your scheduled reports typically show a combination of analyzed data based on the old and the updated profile settings. The reports include a note that indicates when the profile changed, which might identify the reason for a change in the appearance of the charts.

Profile Management for Reports Run on Demand

When you specify a new service profile for a report that you run only on demand, the report uses the new profile settings for the data analysis. The impact is usually minimal. Because on-demand reports analyze the data during report generation, the reports take just as long to run after the change as they did before the change. The database size does not grow as a result of the change, however, because on-demand reports do not save data analysis results.

Unlike scheduled reports, the on-demand reports do not show data based on the old and new profiles. Instead they show data based on the new profile settings only. However, if your on-demand report includes elements that are also in a scheduled report that uses the same service profile, the on-demand report will include data based on the old and new profile settings. eHealth does have existing analyzed data for the element. Thus, it uses the data based on the old profile settings and uses the new settings for any elements that do not have stored analyzed data, as well as for any new data that has not been analyzed.

Guidelines for Editing a Service Profile

eHealth lets you change the settings of the service profile associated with a report by customizing the report or by editing the service profile. eHealth uses the new values for all future data analysis, but the changes do not affect previously analyzed data. Any changes that you make will change the appearance of all reports using this profile.
As a best practice—before modifying a service profile—always determine which reports are associated with it by clicking Used by in the Edit Service Profile dialog, shown in the following graphic.

eHealth does not apply your changes unless you confirm your understanding of the impact that they will have on the reports associated with the profile. You can make any of these modifications:

- Health, MyHealth, and Service Level reports – Set the data analysis schedule and specify the data direction of full-duplex interfaces.
- Health reports – Change the exception points cutoff number, Health Index, and Trend thresholds.
- Service Level reports – Change the service level range and percentile.
Set the Data Analysis Schedule

By modifying your service level profiles, you can include data collected during specific times to control the core hours and days to include in your MyHealth, Health, and Service Level reports.

To specify business-hour reporting
1. Select Reports, Customize, Health Reports in the eHealth console. The Edit Health Report dialog appears.
2. Select the report from the list and then click Edit next to Service Profile. The Edit Service Profile dialog appears.
3. Locate the area under Data Filter and select the hours of the day and the days of the week during which eHealth should analyze data. Example: Monday through Friday between the hours of 9:00 a.m. and 5:00 p.m.
4. Click OK and then click Yes. eHealth changes the service profile.

When you run Health and Service Level reports that use those service profiles, the reports will include the data for the specified hours and days only. The charts will not show data for those hours and/or days that are not included and will not include that data in the analysis for historical data or trends.

Charts for Daily Health Reports Using Service Profiles for Partial Weeks

Charts for a daily Health report that uses service profiles for partial weeks are affected in the following ways:

- Network Volume charts
  Volume data does not appear for days that are not analyzed.

- Situations to Watch charts
  Trends do not include, and are not affected by, the data for days that are not analyzed. The Daily Average column shows data for the last analyzed day of the report period.

- Volume Leaders, Health Index Leaders, and Volume Change Leaders charts
  Prior ranking is based on the previous analyzed day before the last analyzed day of the report period.

- Health Index Change Leaders charts
  Prior ranking and the Health Index are based on the previous analyzed day before the last analyzed day of the report period.
When you run a weekly Health report that limits analysis to the data for a part of the week, the Actual values in the Situations to Watch chart are the actual values from the previous analyzed day. For example, if you run a weekly Health report on Sunday for the previous week and you analyze only the days from Monday through Friday, the Actual values for the Situations to Watch chart are the values for Friday.

Specify Data Direction of Full-Duplex Elements

For service level profiles, you can specify how you want data to be analyzed, based on the direction of full-duplex interfaces such as WANs, Frame Relays, or MIB2 LANs.

To specify the data direction of full-duplex elements to analyze
1. Select Reports, Customize, Health Reports in the eHealth console.
   The Edit Health Report dialog appears.
2. Select the report from the list and then click Edit next to Service Profile.
   The Edit Service Profile dialog appears.
3. Locate the Data Direction list and specify the data direction to analyze for full-duplex links such as WAN, Frame Relay, or MIB2 LAN interfaces:
   - **In data**
     Identifies incoming data.
   - **Out data**
     Identifies outgoing data.
   - **Max data**
     Identifies the most data observed, regardless of direction.
   - **In & Out data**
     Identifies the activity for both the incoming and outgoing directions.
   - **Total data**
     Identifies the total of both incoming and outgoing data, which is the default.
4. Click OK and then click Yes.
   eHealth changes the service profile.
eHealth Analysis of Full-Duplex Interface Elements

eHealth analyzes full-duplex interface elements as follows:

- For Total data, it combines the data for both incoming and outgoing directions on the interface and reports the data as one value, the Total value.
- For In & Out data, it reports both the incoming data and outgoing data as separate data for the element.

The following graphic shows how eHealth represents In & Out data and Total data in the Element Volume vs Baseline chart.

As illustrated in the graphic, eHealth reports a full-duplex link as two distinct elements (incoming and outgoing) by using In & Out data analysis. The incoming data is the left column, and the outgoing data is the right column. eHealth reports a full-duplex link as one element with combined incoming and outgoing data by using Total analysis.

Set the Exception Points Cutoff and Thresholds for a Health Report

In the Exceptions section of a Health report, eHealth displays those elements that have received a number of exception points that exceed a specified threshold. By default, this number is 25. You can use service profiles to control when elements appear in the Exceptions section of a Health report.

**Example:** If you do not want WAN links to appear in Exceptions reports unless they have reported over 70% bandwidth utilization, you should do the following:

- Set the Health Index for WAN utilization to 70%, 80%, and 90%.
- Set the Trend Threshold for WAN utilization to 70%.
An element would then not appear in Exceptions reports with utilization exceptions until the element was approaching or had exceeded 70% bandwidth utilization.

You can change the Health Index thresholds for any variable for an element type. You can change the Trend thresholds for any variable for an element.

**Note:** For a general discussion on how eHealth uses the Health Index and for a listing of the default Health Index ranges, see the Web Help. For a general discussion of eHealth Trend thresholds and a listing of the default Trend thresholds, see the Web Help.

**To set the exception points cutoff and thresholds for Health report**

1. Select Reports, Customize, Health Reports in the eHealth console. The Edit Health Report dialog appears.
2. Select the report from the list and then click Edit next to Service Profile. The Edit Service Profile dialog appears.
3. Do the following:
   a. Select General from the list on the left under Service Settings.
   b. Change the Exceptions Points cutoff by selecting Exception Thresholds from the list on the right.
      eHealth selects Points Cutoff automatically, as shown in the following graphic.
   c. Specify a value that indicates the number of points that an element must receive before eHealth lists it in the Exceptions sections of the Health report.
   d. Select the element type from the list on the left and then select Health Index Thresholds from the list on the right.
      The variables for that element type appear in the list with the Health Index ranges below it.
e. Select the variable for which you want to change the Health Index thresholds and set the new boundaries for each range.

f. Select Trend Thresholds from the list on the right.
   The variables for that element type appear in the list with their values below.

g. Change the threshold value.

h. Click OK and then click Yes.
   eHealth changes the service profile.

Change the Underutilization Thresholds for Modems

eHealth calculates the average use for a modem or ISDN element at each poll. If the average use is below the underutilization threshold for a percentage of polls in one hour that exceeds the underutilized polls threshold, eHealth includes the element in the Underutilized Connections Supplemental report. The Underutilized Connections report is a supplemental report of the Modem/ISDN Health Report. eHealth uses 50% as the default for the underutilized polls threshold.

For example, using a five-minute polling interval, eHealth polls a modem element up to 12 times in one hour. If the element was underutilized for only one poll, it does not assign exception points. If the element was underutilized for six or more polls, it assigns *abused* modem exception points. An *abused* modem is a modem that is in the connected state but is sending little or no data across the connection.

You can adjust the underutilized threshold to appropriate values for your infrastructure. You can also change the underutilized polls threshold to control how many times during an hour that an element must have underutilized connections before eHealth assigns abused modem exception points.

**To change the underutilization thresholds**

1. Select Reports, Customize, Health Reports in the eHealth console.
   The Edit Health Report dialog appears.

2. Select the report from the list and then click Edit next to Service Profile.
   The Edit Service Profile dialog appears.
3. Do the following:
   a. Select Modem under Service Settings and then select Exception Thresholds from the list on the right.
   b. Select Underutilized Threshold from the list, as shown in the following graphic, and then specify a value for the new volume rate in bits per call second.
   c. Select Underutilized Polls and then specify a value for the percentage of polls.
   d. Click OK and then click Yes.
      eHealth changes the service profile.

Guidelines for Setting Service Level Ranges and Percentiles

When you set service level ranges, define the following for each goal level:
- Lowest line utilization range
- Lowest bandwidth utilization range
- Highest availability range
- Lowest latency range
- Lowest CPU utilization range
By default, service level percentile (Pctl) variables show the one-hundredth percentile value in the Element Summary table of the IT Manager report. The one-hundredth percentile is the top (largest) value in a set of sample values. If you include percentile variables in your Element Summary report and you run a report for a day, the percentile variable value is, by default, the same as the peak variable value. It represents the largest polled value obtained for that element during the day. If you run the report for more than one day, the percentile variable value is the average of the daily one-hundredth percentile values for each day in the report period.

If you include percentile values in your Element Summary table, you might not want to use the one-hundredth percentile value. For example, you might want to show the ninety-fifth percentile. That is, rather than show the top value, you might prefer to see the value that was ninety-fifth from the top. When you poll at five-minute intervals during the day, you collect 288 samples. If you list the samples in order from smallest to largest, the ninety-fifth percentile value is the sample in position 274. Only 5% of the samples are larger. You can change the service level percentiles used for each variable to meet your reporting needs.

**Change Service Level Ranges and Percentiles for a Service Level Report**

You can change the service level ranges for variables used by any Service Level report and the service level percentiles for variables used in the Element Summary table of the IT Manager report.

**To change the service level range and percentile for variables**

1. Select Reports, Customize, Health Reports in the eHealth console.
   The Edit Health Report dialog appears.
2. Select the report from the list and then click Edit next to Service Profile.
   The Edit Service Profile dialog appears.
3. Do the following:
   a. Select the element type from the list on the left under Service Settings.
   b. Select Service Level Ranges from the list on the right. Then select the variable for which you want to change the ranges and specify new boundaries for these ranges.
   c. Select Service Level Percentiles from the list on the right. Then select the variable for which you want to change the percentiles and specify the value.
   d. Repeat these steps to change service level ranges or service level percentiles for other elements, other variables, or both.
   e. Click OK and then click Yes.
      eHealth changes the service profile.

   Note: For a listing of the variables used by the reports and their default settings, see the Web Help.

Delete Service Profiles

If you delete service profiles, eHealth removes them from the list of available profiles and also deletes any analyzed data that was based on those service profiles. If you have created reports that use these profiles, you must change them to use other service profiles. Although you can delete the service profiles named Standard, you cannot edit the default reports to use other service profiles. To run the Standard Health report and the Executive, IT Manager, and Service Customer Service Level reports, you must have service profiles named Standard. If you delete the Standard service profiles, you can recreate them.
To delete a service profile

1. Select Reports, Customize, Health Reports in the eHealth console. The Edit Health Report dialog appears.
2. Select the report from the list and then click Edit next to Service Profile. The Edit Service Profile dialog appears.
3. Do the following:
   a. Select the service profile that you want to delete from the Named Profiles list.
   b. Click Used By.
      eHealth lists the reports that will not run after you delete the service profile.
   c. In the eHealth console, select Reports, Customize, Service Level. The Edit Service Level Report dialog appears.
   d. For each report listed under Report that uses this service profile, select another service profile from the Service Profile list and then click OK.
   e. Click Delete, click Delete in the Confirm Delete dialog, and click OK.
      The eHealth rollup process eventually removes any analyzed data for the deleted profile.
Chapter 5: Customizing Reports

eHealth uses default report settings for its standard reports, most of which are customizable. Most customization options are available through the Web interface if the web user account that you are using has permission to customize reports. As an alternative to the standard report customization options, eHealth offers two additional tools: eHealth Report Center and the eHealth Developer Program. eHealth Report Center is an optional web-based report customization application. eHealth Developer Program is a tool that provides encoded versions of report definition files for different types of reports.

**Note:** For detailed instructions about customizing reports, see the Web Help for reports. For more information about Report Center, see the eHealth Overview Guide and the eHealth Report Center User and Administration Guide. For more information about eHealth Developer Program, see the eHealth Report Designer Guide. You can access both documents through the eHealth Web Help and the eHealth Support web site.

This section contains the following topics:

- Customization Options (see page 89)
- Create a Custom Report from the eHealth Console (see page 100)

### Customization Options

eHealth provides default report templates for each type of report: At-a-Glance, Top N, Trend, Health, MyHealth, and Service Level. The default report templates are not modifiable. If you log in as an eHealth administrator, however, you can create a new custom report by copying the default template, renaming it, and changing the settings. Similarly, if your Web user account has permission to customize reports, you can create custom reports by using the Run Report screen options.

You can access customized templates that you create or your administrator creates for you. You cannot, however, use customized templates that other users have created.

Some customization options are available for every report, whereas others are specific to a report type, as shown in the following table.

<table>
<thead>
<tr>
<th>Customization Option</th>
<th>Applicable Reports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change the report definition</td>
<td>At-a-Glance, Top N, Service Level</td>
</tr>
</tbody>
</table>
### Customization Options

<table>
<thead>
<tr>
<th>Customization Option</th>
<th>Applicable Reports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specify business-hour reporting</td>
<td>At-a-Glance, Top N, Trend</td>
</tr>
<tr>
<td>Modify the service profile</td>
<td>Health, MyHealth, Service Level</td>
</tr>
<tr>
<td>Change the baseline period</td>
<td>Health only</td>
</tr>
<tr>
<td>Account for planned downtime</td>
<td>Health, MyHealth, Service Level, At-a-Glance, Trend</td>
</tr>
<tr>
<td>Set presentation attributes</td>
<td>All report types</td>
</tr>
</tbody>
</table>

**Note:** Different customization options are available for Traffic Accountant reports. For more information and instructions, see the Web Help.

### Change the Report Definition

A report definition file is the main file for reports. It contains the report components, layout, and data content of a report and identifies the styles files that you use for the report. A styles file provides templates or shared definitions for the various report components such as page, text, table, chart, graph, and color. To create or modify a report definition file, you must purchase the eHealth Developer Program product and complete the Report Developer training. The eHealth Report Designer Guide is intended for report designers who want to develop custom reports for themselves or customers. eHealth provides encoded versions of report definition files for different types of reports.

**To change the report definition**

1. Open the Edit Report dialog.
2. Select the report definition file from the Definition File field.
3. Click OK.
   
   The Definition File field lists the encoded report definition files that reside in the appropriate directory for a report type.
Specify Business-Hour Reporting

For At-a-Glance, Top N, and Trend reports, you can specify that the report include data for 24 hours every day of the week or for selected time ranges such as 8:00 a.m. to 6:00 p.m. For reports that are generated for a week or longer, you can also specify that the report include data for certain days of the week, such as Monday through Friday.

To specify business-hour reporting for At-a-Glance, Top N, and Trend reports
1. Open the Edit Report dialog.
2. Specify a time range, days of the week, or both for which to include data on the report.

For Health, MyHealth, and Service Level reports, you can specify business-hour reporting by editing the service profile to control the number of hours and specific days to include.

More information:
Set the Data Analysis Schedule (see page 80)

Change the Service Profile

You can change the service profile associated with a Health, MyHealth, or Service Level report, or edit an existing profile to customize the report. When you change a service profile associated with a report type, you cause eHealth to analyze data differently, which affects the scheduled reports that use the service profile.

Important! Before you edit a service profile, obtain a list of the reports that use it to determine which reports would be affected if you change or delete it.

To change the service profile
1. Open the Edit Report dialog.
2. Select the service profile that you want to modify.
3. Make the changes and click OK to save and close the dialog or click Apply to save and modify more profiles.
   The Confirm Service Profile Changes dialog appears.
4. Click Yes to confirm service profile changes.

**Note:** For details about changing service profiles, see the *eHealth Help*.

**More information:**

[Guidelines for Editing a Service Profile](#) (see page 78)

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**Change the Baseline Period**

You can specify the number of weeks in the daily, weekly, or monthly baseline period for a Health report and modify the data analysis schedule. The baseline, however, cannot exceed the number of weeks for which you are retaining analyzed data.

By default, Health reports use the following baseline periods:

- For reports run for a day and MyHealth reports: six weeks
- For reports run for a week: 13 weeks
- For reports run for a month: 12 months

To change the number of weeks for retaining analyzed data, modify the data analysis schedule.

**More information:**

[Set the Data Analysis Schedule](#) (see page 80)
Account for Planned Downtime in Reports

eHealth reports provide availability information for the elements that support them and their components. Planned (scheduled) downtime includes any time periods during which an element in your IT infrastructure is unavailable because it is shut down for system maintenance, undergoing an upgrade, or being moved. Reports do not display data for elements during planned downtime, even if those elements were available during the planned downtime. eHealth schedules downtime on a per-element basis. You cannot schedule planned downtime for groups of elements.

eHealth reports account for planned downtime for individual elements in their associated Availability charts in various ways, as described in the following table.

<table>
<thead>
<tr>
<th>Method Used to Enable Planned Downtime</th>
<th>Report Type</th>
<th>How eHealth Indicates Planned Downtime</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select Account for Planned Downtime in Availability in the Edit Report dialog.</td>
<td>Health</td>
<td>Shows a color change in the bar chart for each element and displays a footnote.</td>
</tr>
<tr>
<td>Select Account for Planned Downtime in Availability in the Edit Report dialog.</td>
<td>Service Level</td>
<td>Reflects planned downtime in the Availability chart’s calculations and displays a footnote to indicate that one or more elements experienced downtime or an outage.</td>
</tr>
<tr>
<td></td>
<td>MyHealth</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Top N</td>
<td></td>
</tr>
<tr>
<td>Enable the General presentation attribute Show Data Notes (default).</td>
<td>At-a-Glance</td>
<td>Reflects planned downtime in the Availability chart’s calculations and displays a footnote to indicate that one or more elements experienced downtime or an outage.</td>
</tr>
<tr>
<td></td>
<td>Trend (for an element)</td>
<td></td>
</tr>
<tr>
<td>Not applicable</td>
<td>Trend (for a group)</td>
<td>Not applicable</td>
</tr>
<tr>
<td></td>
<td>Traffic Accountant</td>
<td></td>
</tr>
</tbody>
</table>
The following graphic shows an example of an At-a-Glance report with a footnote and a Health report without a footnote.

You can customize the default planned downtime file, import it into the eHealth database, and export a summary.

**Note:** For instructions about customizing planned downtime on Distributed eHealth Systems, see the section about setting up planned downtime in a cluster in the *Distributed eHealth Administration Guide*

**Planned Downtime Import File**

To account for planned downtime in Availability charts and reports, you maintain a *single* file of all planned downtime or *outages*. eHealth provides you with a default plannedDowntime.pdi file, located in the `ehealth/reports/dataAnalysis` directory, which you can import into the eHealth database.

The file is *element-based*, which means that every planned outage in the file refers to only one element—not a list of elements, a group, or a group list. Each entry in the .pdi file specifies a time period during which you plan to perform maintenance work on an eHealth element (or shut it down).

Each line of this file documents a single event or a recurring outage by using this format:

```
elementType, recurrence, startDate, endDate, startTime, endTime, dayOfWeek, dayOfMonth, timezone
```
**Note:** eHealth maintains a separate database table containing all planned outages for its elements. When you import a .pdi file, it replaces the entire table with the outages defined in that file. Before changing an outage for an element, first export the .pdi file to obtain the latest outages. Then edit the exported file.

The following table lists each attribute that you must define in the .pdi file, the required syntax, and a description. For each entry, you must define the attributes by using the specified format.

<table>
<thead>
<tr>
<th>Attribute Name</th>
<th>Syntax</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>elementName</strong></td>
<td>Element name as defined in the poller configuration</td>
<td>Enclose the name in double quotation marks and do not use alias names. If you specify an element that has subcomponents (such as a router, system, or response endpoint), eHealth automatically applies planned downtime to all of its subcomponents. Frame Relay component elements require separate entries.</td>
</tr>
<tr>
<td><strong>recurrence</strong></td>
<td>once, daily, weekly, monthly</td>
<td>Use once to define a single outage that will not occur on a regular basis. Use daily, weekly, and monthly to define recurring maintenance.</td>
</tr>
<tr>
<td><strong>startDate</strong></td>
<td>mm/dd/yyyy</td>
<td>For a one-time outage, the date of the outage. For recurring downtime, it is the first day on which the planned events begin.</td>
</tr>
<tr>
<td><strong>endDate</strong></td>
<td>mm/dd/yyyy</td>
<td>For a one-time outage, the date of the outage. For recurring downtime, it is the last day on which the planned events occur.</td>
</tr>
<tr>
<td><strong>startTime</strong></td>
<td>hh:mmAM, hh:mmPM</td>
<td>The exact time of day at which the downtime starts. You can specify this time using a 12- or 24-hour clock. Do not insert a space before am or pm.</td>
</tr>
<tr>
<td><strong>endTime</strong></td>
<td>hh:mmAM, hh:mmPM</td>
<td>The exact time of day at which the downtime ends. You can specify this time using either a 12- or 24-hour clock. Do not insert a space before am or pm. You can Overlap the Midnight Boundary to define outages that occur during the midnight hour.</td>
</tr>
</tbody>
</table>
### Attribute Name | Syntax | Description
--- | --- | ---
**dayOfWeek** (optional) | Sun, Mon, Tue, Wed, Thu, Fri, Sat | For downtimes that recur weekly, the day of the week on which the outage occurs.

**dayOfMonth** (optional) | 1–28 | For downtimes that recur monthly, the day of the month on which the outage occurs. Specify any number between 1 and 28.

Values of 29, 30, and 31 are valid, but are not recommended. If you specify one of those values, the downtime will not occur in months that do not have 29, 30, or 31 days.

If you specify a value for the `dayOfMonth` attribute, you must also specify one for the `dayOfWeek` attribute, although eHealth will ignore it.

**timezone** (optional) | Operating system name of time zone | The time zone for the start and end times of the outage (located in the second column of the `ehealth/sys/timezoneOS.txt` file).

As shown in the following table, you must separate each attribute with a comma. If you omit an optional attribute, you must include a comma as a placeholder.

<table>
<thead>
<tr>
<th>Event</th>
<th>Syntax for Entry in .pdi File</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single non-recurring event</td>
<td>&quot;myRouter-RH&quot;,once,12/14/1999,12/14/1999,12:30AM,1:30AM,,</td>
</tr>
</tbody>
</table>

| Weekly recurring event | "myServer-SH",weekly,1/1/1999,12/1/2004,12:30 AM,1:30PM,Sun,, |

| Monthly recurring event | "myRouter-RH",monthly,1/1/1999,12/1/2004,19:30,22:30,Sun,15, |

**More information:**

[Obtain a Summary of Existing Outages](#) (see page 98)
Overlap the Midnight Boundary

eHealth considers midnight as the boundary that defines the start and end times for the planned downtime. If the planned downtime for an element overlaps the midnight boundary, you must enter two entries in the .pdi file by using syntax similar to the following:
"myServer-SH",weekly,1/1/1999,12/1/2004,11:00PM,11:59PM,Sun,,
"myServer-SH",weekly,1/1/1999,12/1/2004,12:00AM,1:30AM,Mon,,

These entries define a weekly outage for a server and its components from 11:00 p.m. on Sunday to 1:30 a.m. on Monday.

Specify a Different Time Zone

You can document planned downtime for a particular device or component that is in a different time zone from that of the eHealth server. If you do not specify a time zone for a particular element, eHealth uses the time zone of the eHealth server. In the last field of the file entry for a particular element, you can specify a time zone for the start and end times of the outage.

To specify a different time zone, use the following syntax:
"myRouter-RH",monthly,1/1/1999,12/1/2004,12:30AM,1:30AM,Sun,15,GMT0

Note: If you define the timeZone attribute, you must specify values for the dayOfWeek and dayOfMonth attributes within the entry, although eHealth will ignore them.

Import the .pdi File

After you define outages for each element in your .pdi file, you can import the downtime schedule into the eHealth database.

To import the downtime schedule, execute the following command:

```
nhImportDowntime filename.pdi
```

You can also import the .pdi file to account for planned downtime that has already occurred.

Note: Before changing an outage for an element, you should first export the .pdi file to obtain the latest outages and then edit the exported file.
Customization Options

Obtain a Summary of Existing Outages

You can output a summary of all planned downtime that was previously imported into the eHealth database and then use this information to confirm all existing planned outages or resolve discrepancies between existing planned outages and actual occurrences (events). You can also correct errors, add new outages, or delete outages that did not occur.

To export all planned downtime from the eHealth database, execute the following command:

```
nhExportDowntime filename.pdi
```

After updating the schedule by correcting or changing the .pdi file (or files), you can re-import the data into the eHealth database.

Presentation Attributes

You can easily customize the appearance, content, and configuration of your reports before you generate them by changing the settings of the report presentation attributes if your Web user account has permission.

While some attributes are specific to a report type, numerous attributes apply to all reports, as shown in the following table. Some require values, while others simply require you to enable or disable them.

<table>
<thead>
<tr>
<th>Report Type</th>
<th>Presentation Attributes</th>
</tr>
</thead>
</table>
| All report types | - Show data notes, unsupported variables, and interface speed; specify layout; and sort entries in tables based on variable values.  
- Change the title and subtitle, display a logo image and URL, change the page length, enable drilldowns, and show x-axis tick labels.  
- Change the title and subtitle in PDF, PostScript, and ASCII reports, and show the company logo. |
<table>
<thead>
<tr>
<th>Report Type</th>
<th>Presentation Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>Modify the content of Capacity charts.</td>
</tr>
<tr>
<td></td>
<td>Modify the chart color and sort order, add or remove charts, specify the criteria for including elements, and specify the report panels to include.</td>
</tr>
<tr>
<td></td>
<td>Modify the display of data in tables.</td>
</tr>
<tr>
<td></td>
<td>Include or exclude the Chronic Situations chart. Specify that eHealth compare peak projections or percentile value projections against threshold.</td>
</tr>
<tr>
<td></td>
<td>Add or remove charts from the Summary section, specify the number of elements to include in Element Top N section, and specify the reports to include in the Supplemental section.</td>
</tr>
<tr>
<td></td>
<td>Specify the units that eHealth uses for the vertical axis (y-axis).</td>
</tr>
<tr>
<td>Service Level</td>
<td>Control the display of one or more charts.</td>
</tr>
<tr>
<td></td>
<td>Specify the maximum number of elements to include.</td>
</tr>
<tr>
<td></td>
<td>Specify the number of groups to show in a chart and sort order.</td>
</tr>
<tr>
<td></td>
<td>Show pages in the Business Unit Report.</td>
</tr>
<tr>
<td></td>
<td>In response reports, show service level violations for each application. In IT Manager reports, specify the number of rows and elements.</td>
</tr>
<tr>
<td>Top N</td>
<td>Control the format of currency values.</td>
</tr>
<tr>
<td></td>
<td>Control the display of information, labels, and financial values.</td>
</tr>
<tr>
<td></td>
<td>Control the format of variable values in financial reports.</td>
</tr>
<tr>
<td>Trend</td>
<td>Control the display of goals in line or bar charts.</td>
</tr>
<tr>
<td></td>
<td>Increase or decrease the number of charts and columns shown. Scale the y-axis maximum to the chart’s data, independent of other charts.</td>
</tr>
<tr>
<td></td>
<td>Change the number of decimal places shown in variable values.</td>
</tr>
<tr>
<td></td>
<td>Set the y-axis (vertical) scale for line or bar charts.</td>
</tr>
</tbody>
</table>

To set presentation attributes, select More Options on any Run Report page of the eHealth Web interface to customize a report.
Create a Custom Report from the eHealth Console

You can create custom reports by using the eHealth console.

To create a custom report from the eHealth console

1. Select Reports, Customize, reportType on the console, or click Edit next to the Report list in the Add Scheduled Report or the Run Report dialog.

   The Edit Report dialog, shown in the following graphic, appears.

   ![Edit Report Dialog]

   2. Select a report from the list and click Copy.

      The copy of the report appears in the Report list.

   3. Click Rename.

      The Rename Report dialog appears.
4. Specify a report name in the Name field and click OK.

   **Limits:** maximum of 64 single-byte characters. You can include the letters A through Z and a through z, the numbers 0 through 9, periods (.), dashes (-), and underscores (__). Space characters are not permitted. On Windows systems, accented characters are also not permitted.

   eHealth displays the new report name in the report list.

5. Customize your report by setting the available options and then click OK.

   Your customized report should now appear in the Report list of the appropriate Run Report dialog.
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