

# **hp system healthcheck user guide for hp OpenVMS**

**mission critical and proactive services**



**SHC Version 2.3 for HP OpenVMS**

**February 2004**

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## **purpose of this guide**

This user guide provides a brief overview of the HP System Healthcheck (SHC) for HP OpenVMS tool and instructs users on how to install, configure and run the SHC tool.

**Note:**

HP also provides versions of SHC for Microsoft® Windows®, Tru64 UNIX® and HP-UX systems. This document is not relevant for these versions of SHC.

For information on SHC for Microsoft Windows, Tru64 UNIX and HP-UX go to the following URL:

<http://www.compaq.com/support/svctools/shc>

## **intended audience**

All system administrators who plan to run SHC on their systems and all HP Technical account manager (TAMs) that deliver services that include SHC should read this guide.

## **structure of this guide**

This guide is divided into the following chapters:

- § Introduction
- § Technical Overview
- § Installing SHC for HP OpenVMS
- § Using SHC
- § Known Issues
- § Obtaining Support and Providing Feedback

This guide contains the following appendices:

- § Glossary
- § T4 Performance Tool for HP OpenVMS Information
- § SHC Impact Statement

## document conventions

Table 0–1 provides details of the conventions used in this guide.

Table 0–1 Document conventions

Convention	Description
<code>Courier</code>	File names, commands, and user input are shown in <code>courier</code> font.
<i>Italics</i>	<i>Italics</i> type is used to emphasize important information, to indicate the first instance of a term defined in the glossary, or to denote titles of documents or sections.
<code>&lt;variables&gt;</code>	Variables appear in <code>courier</code> font and are enclosed in angle brackets.

# 1. introduction

---

SHC is a tool produced by HP Services to analyze a system's configuration, performance, and security status. SHC analysis results are provided by a series of reports that highlight any *problems* found on a system and provide suggestions on how to resolve these problems.

When SHC runs on a system, it performs an analysis of the system. SHC performs analyses in two discrete phases, that is, a *dynamic phase* and a *static phase*. The dynamic phase is intended to be run during a system's typical production cycle, thereby analyzing dynamic aspects of system performance such as memory usage, I/O activity, and processor usage. The static phase is normally run immediately before the dynamic phase and it analyzes system parameters that do not change significantly over a typical production day. These parameters include memory subsystem configurations, installed software, security settings, and so on.

Both phases consist of a cycle of data collection and data analysis. The analysis is conducted by SHC components called *rules* that are managed by the SHC analysis engine, which co-ordinates the execution of rules. Each rule is a check for a specific problem, or misconfiguration. Details of each problem, for example, its severity and the evidence for the problem existing, are recorded by SHC. For more information, see *Section 2.4.1 how SHC rules work*.

The problem data is processed by HP Services and the resulting SHC Lite and SHC Professional reports are sent to the HP Specialist, or Technical Account Manager (TAM), nominated by the user when they configured SHC. The types of report provided by HP depend on the SHC customer's service contract.

The SHC Reports (see *Section 4.7 SHC reports*) group rules according to their categories. Each rule category provides an overview of which aspect of the system is affected by a particular rule that may have fired. For full details of the SHC rule categories, see *Section 2.4.2 SHC rule categories*.

## 2. technical overview

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This chapter provides a technical overview of SHC and it includes the following sections:

- § 2.1 supported hp OpenVMS operating systems
- § 2.2 hardware/software requirements
- § 2.3 performance impact
- § 2.4 SHC rules

### 2.1 supported hp OpenVMS operating systems

SHC supports the following systems, running HP OpenVMS Version 6.2 to 7.3-2 and higher:

- § All HP VAX systems
- § All HP AlphaServer systems

SHC is available for previous versions of HP OpenVMS. For further information, contact the SHC Product Manager. For contact details go to:

<http://www.support.compaq.com/svctools/shc/menu/contact.html>

### 2.2 hardware/software requirements

The following are the prerequisite hardware and software requirements for installing and running SHC for HP OpenVMS:

- § For both VAX systems and Alpha systems, HP OpenVMS V6.2 or higher.
- § Access to a disk that is accessible by all nodes on which data is to be collected.
- § Approximately 150,000 blocks free disk-space for a typical 8-hour dynamic data collection. If the amount of free disk space falls below 5000 blocks the data collection will terminate.
- § Access to a privileged account with OPER, READALL, SYSPRV, SECURITY, and CMKRNL privileges.



## 2.3 performance impact

The dynamic phase of an SHC run should be performed during a system's normal production period; therefore, it has been designed to have a minimal impact on system performance.

The performance impact of the static analysis phase is slightly higher than the dynamic phase. Therefore, it is recommended that the static phase be scheduled to run during off-peak hours, for example, at the end of a typical production period.

**Note:** The actual impact of SHC is highly dependent on your operating system and hardware configuration and may be higher in more complex environments.

## 2.4 SHC rules

As outlined in *Chapter 1*, the analysis performed by SHC is governed by a set of rules. The following subsections detail how SHC rules work and specify the categories that SHC rules are divided into.

### 2.4.1 how SHC rules work

Each SHC rule performs a specific check (or set of checks) by retrieving information from the system and comparing it against one, or more, test conditions. A test condition can be as simple as testing whether a given system parameter has a value of 0 or 1, or as complex as monitoring the averages of a number of system load parameters over a period of time and testing these averages against standard thresholds.

When a rule check proves positive, the rule creates problem data that contains details of the rule check that created the problem. These details include the following:

- § Severity of the problem
- § Supporting evidence to verify the existence of the problem
- § A detailed description of the problem
- § Documented references that identify why the condition is a problem

SHC for HP OpenVMS consists of approximately 450 rules that provide a comprehensive analysis of a system's configuration, performance, and security.

### 2.4.2 SHC rule categories

Each SHC rule is associated with one SHC Report Rule Category. A rule has a high, medium, or low priority status in relation to its category. When a specific rule problem in a report is being audited, these categories provide a quick overview of the affected area. The System Healthcheck Scorecard section of the SHC reports list the number of problems that are found in each category for a particular SHC analysis. For more information, see *Section 4.7 SHC reports*.

### 2.4.2.1 rule categories in detail

The following tables list the SHC rule categories for HP OpenVMS. There are seven major rule categories, that is, System Configuration, Systems Operation, Software Updates, System Security, Networks, System and Disk Performance, and Availability. When a specific rule problem in a report is being audited, these categories provide a quick overview of the affected area.

Table 2–1 provides details of the System Configuration rule category.

Table 2–1 System Configuration Rule Category

Subcategory	Code	Issues addressed...
<b>Hardware Physical Configuration</b>	SC1	Checks the physical configuration of modules, disks, devices, and so on.
<b>Software Logical Configuration</b>	SC2	Checks the logical configuration of disks, jobs/queues, and software revision compatibility.
<b>System Design</b>	SC3	Checks the system design for availability, I/O system design, and system security design.
<b>System Environment</b>	SC4	Checks the overall system management environment as it relates to configuration.

Table 2–2 provides details of the Systems Operation rule category.

Table 2–2 Systems Operation Rule Category

Subcategory	Code	Issues addressed...
<b>General Operations</b>	SO1	Checks the overall system management and administration operations.
<b>Security Checks</b>	SO2	Performs a brief check on the system security management operation.
<b>System Configuration</b>	SO3	Performs a brief check on specific system management issues, relating to the overall system configuration maintenance.

Table 2–3 provides details of the Software Updates rule category.

Table 2–3 Software Updates Rule Category

Subcategory	Code	Issues addressed...
<b>Software Product Revisions</b>	SU1	Checks the compatibility of layered products and the operating system.
<b>Operation Checks</b>	SU2	Checks jobs/queues, availability, disk configurations, and so on, as these relate to system update planning.

Table 2–4 provides details of the System Security rule category.

Table 2–4 System Security Rule Category

Subcategory	Code	Issues addressed...
Account Setup	SS1	Checks security of passwords and account names.
File Protection/Auditing	SS2	Checks parameters and configuration design which may affect network performance.
Security Parameters	SS3	Checks security parameters and security related system parameters.

Table 2–5 provides details of the Networks rule category.

Table 2–5 Networks Rule Category

Subcategory	Code	Issues addressed...
Network Performance	NE1	Checks parameters and configuration design that may affect network performance.
Network Security	NE2	Checks network security and account protection.

Table 2–6 provides details of the System and Disk Performance rule category.

Table 2–6 System and Disk Performance Rule Category

Subcategory	Code	Issues addressed...
CPU Performance	SP1	Checks secondary storage and general configuration design relating to performance.
I/O Performance	SP2	Checks I/O rates, disk queues, configuration, error levels, and so on.
Queues/Job Control	SP3	Checks operation of jobs/queues, batch queues, working sets, and so on.
Memory Performance	SP4	Checks memory utilization and software compatibility.

Table 2–7 provides details of the Availability rule category.

Table 2–7 Availability Rule Category

Subcategory	Code	Issues addressed...
System Availability	AV1	Checks secondary storage and general configuration design relating to system availability.
Network Availability	AV2	Checks parameters and configuration design relating to network availability.

## 3. installing SHC for hp OpenVMS

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This chapter describes how to install and configure SHC and it includes the following sections:

- § 3.1 getting the latest version of SHC
- § 3.2 extracting the kit and installing SHC
- § 3.3 kit expiry
- § 3.4 uninstalling SHC

### 3.1 getting the latest version of SHC

The latest version of SHC can be obtained from the *SHC Software Download* page at the following URL:

<http://www.support.compaq.com/svctools/shc/menu/download.html>

You may need to complete a registration form if this is your first time downloading the SHC software.

The SHC for HP OpenVMS kit is a self-extracting executable with the following file names conventions:

SHC\_AXPVMS\_<version number>\_<build number>.exe for AlphaServer systems

SHC\_VAXVMS\_<version number>\_<build number>.exe for VAX systems

For example, SHC\_AXPVMS\_V0202\_201.exe is build 201 of the SHC Version 2.2 kit for AlphaServer systems.

### 3.2 extracting the kit and installing SHC

This section includes the following subsections:

- § 3.2.1 extracting the kit
- § 3.2.2 installing SHC

#### 3.2.1 extracting the kit

The SHC for HP OpenVMS kit for both VAX and AlphaServer systems contain POLYCENTER Software Installation Utility (PCSI) installation kits. To extract the PCSI kits to your system, enter the following command:

```
§ RUN SHC_AXPVMS_<version number>_<build number>.exe (for AlphaServer systems)
```

```
$ RUN SHC_VAXVMS_<version number>_<build number>.exe (for VAX systems)
```

### 3.2.2 installing SHC

To install the SHC tool for HP OpenVMS 6.3 or later, do the following:

1. Set your default directory to that which contains the extracted PCSI kits.

For example, if your kit was extracted to your system disk, enter the following command:

```
$ SET DEFAULT SYS$COMMON
```

2. Enter the following command and answer the prompts to install the SHC tool:

```
$ PRODUCT INSTALL SHC
```

The SHC tool is installed to a subdirectory [ .SHC ] on your system disk and the following system-wide logicals are created:

- o SHC\$DIR
- o SHC\$NODE
- o SHS\$DATA

**Note 1:**

If you want to install the SHC tool in a particular directory, enter the following command:

```
$ PRODUCT INSTALL SHC/DESTINATION=<dsk><dir> where <dsk> represents your target disk and <dir> represents your target directory. Ensure that the target disk is accessible to all nodes from which data is to be collected.
```

The SHC tool is installed to a subdirectory [ .SHC ] in your target directory.

**Note 2:**

If you are installing the SHC tool on an HP OpenVMS V6.2 system, you must also specify the /SOURCE=<dsk><dir> in order to point to the directory containing the extracted SHC PCSI kit.

**Note 3:**

On AlphaServer systems V7.2-1 and later, the Tabular Timeline Tracking Tool (T4 tool) for HP OpenVMS is also installed as part of the SHC installation. For more information, see *Appendix B, T4 Tool Information*.

## 3.3 kit expiry

SHC kits typically expire one year after release. After an SHC kit expires, you cannot use it to perform an SHC analysis. You must upgrade to the latest version of SHC.

The expiry date is included in SHC to encourage users to upgrade to the latest version. Each new version of SHC typically contains new functionality, new rules, and bug fixes. Newer versions of SHC are available for download well before the current version expires.

For more information on obtaining the latest versions of SHC, see *Section 3.1 getting the latest version of SHC*.

## 3.4 uninstalling SHC

To uninstall SHC for HP OpenVMS, do the following:

1. Optionally copy the collected .ZIP file, SHC\_DATA\_<nodename>.ZIP from the [ .SHC ] directory to another directory and delete all the remaining files from the [ .SHC ] directory.
2. Enter the following command:

```
$ PRODUCT REMOVE SHC
```

All SHC processes are stopped, the SHC logicals are deassigned, and all SHC files are deleted from your system.

## 4. using SHC

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This chapter describes how to use SHC and it includes the following sections:

- § 4.1 performing an analysis
- § 4.2 starting an SHC analysis using an existing configuration file
- § 4.3 stopping an SHC analysis
- § 4.4 manually creating and editing SHC configuration files
- § 4.5 scheduling analyses
- § 4.6 enabling/disabling SHC rules
- § 4.7 SHC reports
- § 4.8 transporting the data

### 4.1 performing an analysis for the first time

The SHC tool references a configuration file when it is performing an analysis. When you begin to run an analysis for the first time, the SHC tool displays prompts for the required configuration information and creates a configuration file accordingly. It then uses this configuration file as a reference during the analysis. It is recommended that you use this method to create your configuration file, as it avoids introducing syntax errors in the file. The system also provides help for each configuration item when you use this method to create your configuration file. You can subsequently edit the automatically created configuration file. For details on editing configuration files, see *Section 4.4.2 manually editing an SHC configuration file*.

The downloaded kit includes a configuration file template (SHC\$DEFAULTS.CFG). Instead of following system prompts, you can manually create a new configuration file using SHC\$DEFAULTS.CFG as a template. For details on creating configuration files, see *Section 4.4.1 manually creating an SHC configuration file*.

The following instructions assume that you have chosen to use the system prompts to create the configuration file.

To perform a collection for the first time, do the following:

1. Enter the following command:

```
$ SET DEFAULT SHC$DATA
```

2. In the SHC\$DATA directory, enter the following command:

```
$ @SHC$DIR:SHC_START
```

The system displays the following prompt:

```
Enter SHC configuration file (.CFG) to use or create
(<cr> to exit):
```

3. Enter a name for your configuration file, for example, <node\_name>.cfg and press ENTER.

The system displays the following prompt:

```
<node_name>.cfg does not exist. Do you want to create it
([Y]/N)?
```

4. As Y is the default option (denoted by the brackets ( [ ]) enclosing the option), press ENTER to create a configuration file called <node\_name>.cfg.

The system prompts you for the first item of configuration information, that is, Company Name.

**Note:**

If you want help for any of the prompts, type ? at the prompt and press ENTER. Also, note that mandatory fields are indicated by an asterisk (\*).

5. At the Company Name prompt, enter the name of the customer's company and press ENTER. You are prompted for the company's address.
6. Enter details for customer's company address, country, and details of the customer's contact person at subsequent prompts. You are then asked whether the customer is part of a wider Business Critical Contract (BCC).
7. At the Business Critical Contract Y/[N] prompt, press ENTER if the customer does not have a BCC, to accept the default of N. You are prompted for the target system serial number (see *Step 9*). Alternatively, if the customer has a BCC, enter Y at the prompt and press ENTER. You are prompted for an Electronic Site Management Guide ([eSMG](#)) Obligation ID (OID) (see *Step 8*).

For more information on eSMG go to the following URL:

<http://aladin.vbe.cpqcorp.net/esmg/>

8. Enter a valid eSMG OID and press ENTER, this ensures that a copy of the generated reports will be available in eSMG for BCC customers. You are prompted for the target system serial number.
9. The SHC tool automatically detects the current node's serial number (for example, AB12345678). At the System Serial Number [AB12345678] prompt, ensure that the correct serial number is displayed and press ENTER. If it is not, enter the correct serial number for the current node and press ENTER. You are prompted for the name of the Technical Account Manager (TAM) for this customer account.



10. At the HP Account Manager prompt, enter the name of the TAM (for example, John Smythe) for this customer account and press ENTER. You are prompted for the TAM's contact e-mail address.
11. The SHC tool automatically suggests an HP e-mail address for the TAM (for example, John.Symthe@hp.com). At the Account Manager Email [John.Smythe@hp.com] prompt, check the suggested e-mail address. If it is correct, press ENTER, otherwise, enter the correct e-mail address and press ENTER. You are prompted for the TAM's contact telephone number.

The system only accepts e-mail addresses that end with one of the following:

- o hp.com
  - o compaq.com
  - o cpqcorp.net
12. At the HP telephone prompt, enter the TAM's telephone number and press ENTER. You are prompted for the type of transport mechanism that you wish to use in order to send the collected data to HP for analysis.
  13. At the Transport Option [E]/F/D/M prompt, press ENTER to accept the default transport method of e-mail. Enter F to use FTP as the transport method, D to use the DSNlink or MFM method or M to indicate that you want to use a manual method for transporting the data. You are asked whether you want the collected data file to be encrypted.

**Note:**

If you select M as the transport option, the data is *not* automatically sent to HP for analysis.

14. At the Do you want the collected .ZIP file encrypted ([Y]/N) prompt, press ENTER to accept the default option of encryption, otherwise select N, and the data file is not encrypted. You are asked whether you want to schedule regular analyses.
15. At the Do you want regular SHC collections:  
(D)aily/(W)eekly/[M]onthly/(Q)uarterly/(T)wice  
yearly/(N)one prompt, press ENTER to accept the default option of performing SHC analyses every 28 days. Entering None means that no analyses are automatically scheduled, however, the tool does provide you with the opportunity to run an analysis as soon as you have finished creating the configuration file. You can subsequently manually run a data collection at any time, through the command line interface (CLI), regardless of which option you choose. You can also subsequently schedule automatic analyses by editing the configuration file at a later time. If you decided to run analyses monthly or weekly, you are prompted for the date of the first scheduled analysis (see *Step 16*). If you chose None, you are prompted for the delay time before running the dynamic collection phase (see *Step 17*).

16. At the `Enter date of first scheduled collection [DD-MMM-YYYY HH:MM]:` prompt, accept the default date suggested (which is calculated based on your decision at the last prompt) by pressing ENTER, or alternatively enter the date and time that you wish to run the first scheduled collection in the following format and press ENTER:

DD-MMM-YYYY:HH:MM:SS.CC

For example, if you enter `15-SEP-2003:13:59:59.99`, the analysis is set to run at one hundredth of a second before 1400hrs on September 15th 2003. It is not necessary to define the date and time to the hundredth of a second; at a minimum you must enter a date, for example, `15-SEP` (the year defaults to the current year and the time defaults to `00:00:00.00`). You are prompted for the delay time that you want before the dynamic phase is run.

17. At the `Delay time before Dynamic collection (hh:mm)?` [`00:00`] prompt, accept the default delay of zero by pressing ENTER, or enter the amount of time that you want to delay the dynamic phase by; that is, the dynamic phase of the analysis starts the specified number of days/hours/minutes after the time that the static phase has been scheduled to run (or after a manual static analysis has been started). This feature can be useful when you want to schedule the static system-data to be analyzed during an off-peak period and the dynamic phase to be run during a peak period.

**Note:**

The maximum delay time allowed is `23:59`.

You are prompted to specify the duration of the dynamic phase.

18. At the `Dynamic collection duration (dd-hh:mm)` [`00-08:00`] prompt, accept the default of eight hours by pressing ENTER or enter the amount of time that you want the dynamic phase to run. You are then asked whether security or performance is a priority.

**Note:**

The entered time (in the format `DD-HH:MM:SS`) must be a valid HP OpenVMS delta time, for example, `00-24:00:00` is invalid, in this case, you should use either `01-00:00:00` or `00-23:59:00` instead.

19. At the `Is Security or Performance more important at this site?` [`S`]/`P` prompt, accept the default (security) by pressing ENTER or enter `P` to indicate that performance is more important. This configuration item determines the rules and settings that the target system is compared against during analysis. You are prompted to define a minimum password length for privileged accounts.
20. At the following seven prompts, accept the defaults by pressing ENTER each time, or enter custom values if the customer site-policy differs from the default values suggested.

On AlphaServer systems that support T4 tool functionality, you are prompted as to whether you want to run the T4 tool on your system (see *Step 21*). For VAX systems and AlphaServer systems that do not support T4 tool functionality see *Step 22*.

21. At the `Do you want to run the T4 Performance collector [Y]?` prompt, accept the default by pressing ENTER to run the T4 tool on your system. Whether you enter `Y` or `N`, you are prompted to identify the nodes on which you would like to run collections. However, if you enter `Y`, you are subsequently prompted for T4 configuration information (see *Step 23* for more information).

22. You are prompted in turn for each node as to whether or not you want to run a collection on it. You are informed if it is not possible to run a collection on a particular node. Enter Y or N as appropriate for each node and press ENTER. You must select Y for the node that the SHC tool is currently running on. If you are running the SHC tool on a standalone node, you must also select Y. The content of your configuration file, for example `<node_name.cfg>`, is displayed. If you indicated at *Step 22* that you wanted to run the T4 tool, go to *Step 23*. Alternatively, if you decided not to run the T4 tool, go to *Step 24*.
23. If you indicated at *Step 21* that you wanted to run the T4 tool, you are prompted to provide T4 configuration information, as follows:
  - a. T4 Collection Start Time? [Immediately]  
Enter the time at which you want to start the T4 collection.  
**Note:**  
The default is set to the current time, for example:  
T4 Collection Start Time? [5-FEB-2003 11:04]
  - b. T4 Collection End Time? [Current time + SHC Dynamic time]  
Enter the time at which you want to end the T4 collection.  
**Note:**  
The default is set to the current time plus the length of the dynamic phase of the collection that you set at *Step 18*. For example, if you accepted the default of eight hours, the prompt may look similar to the following:  
T4 Collection Start Time? [5-FEB-2003 11:04]
  - c. T4 Sampling Interval? [60seconds]  
Enter a value for the T4 sampling interval. This is the time interval (in seconds) between data collection events. The default value of 60 is usually adequate, although if the data collection period is no more than several hours, then you may want to set it to a lower value.
  - d. Resubmit T4 collection daily [Y]/N  
Enter Y if you want a T4 collection to be run daily at the specified times, independently of the SHC tool.
  - e. [node] Batch Queue (? for list) :  
Enter a batch-queue name on which data is to be collected.  
**Note:**  
This must be a batch queue that runs on the node. For a list of available batch queues for a particular node, enter ? at the prompt for that node.

The information that you provide is written to a T4 tool configuration file (`SYST4:SHCT4.CFG`). `SYST4:SHCT4.CFG` contains other T4 configuration settings that can be changed by editing the file.

For more information on the T4 tool, see *Appendix B, T4 Performance Tool for HP OpenVMS Information*.

You are asked whether or not you want to continue, see *Step 25*.

24. Alternatively, enter N and press ENTER and the T4 tool is not run on your system when you run an SHC analysis. If you indicated at *Step 21* that you did not want to run the T4 tool, you are asked whether or not you want to continue.
25. At the Do you want to continue <Y> prompt, accept the default to run an SHC analysis tool using the newly created configuration file. Enter N, to save the configuration file and exit. You can subsequently edit the configuration file that you have created, for more details, see *Section 4.4.2 manually editing an SHC configuration file*.

## 4.2 starting an SHC analysis using an existing configuration file

The SHC tool references a configuration file when it is performing a collection. This section assumes that you have created a configuration file already, either manually (see *Section 4.4.1 manually creating an SHC configuration file*), or through system prompts (see *Section 4.1 performing an analysis for the first time*).

To manually run an SHC analysis, do the following:

1. Enter the following command on the node that has the SHC tool installed:  
`@shc$dir:shc_start <system name>.cfg` where *<system\_name>.cfg* is the name of your configuration file that you want to use for this analysis.
2. The content of your configuration file is displayed. Review the content of the configuration file, and if you are satisfied with the configuration settings, at the Do you want to continue <Y> prompt, accept the default to run the collection by pressing ENTER. If you do not want to run the collection with the current configuration settings, enter N to exit the SHC tool. If you want to edit the existing configuration file, see *Section 4.4.2 manually editing an SHC configuration file* for more information. If you want to create a new configuration file, see *Section 4.1 performing an analysis for the first time* or *Section 4.4.1 manually creating an SHC configuration file*.
3. If you accept the default, the SHC tool starts running the analysis on the specified nodes. You are asked if you want to monitor the progress of the collection. At the Do you want to run SHC\$DIR:SHC\_STATUS now (to monitor progress of collection) ([Y]/N) prompt, accept the default by pressing ENTER and the data collection starts while providing on-screen feedback on its progress (to exit from monitoring the progress of the collection press CTRL+Y at any time). Alternatively, enter N if you do not want to monitor the progress of the collection and the data collection begins without displaying any on-screen feedback as to its progress.

**Note:** If you chose not to monitor a collection at the prompt, or subsequently exited from the monitoring process, you can run it at any time by entering the following command:

```
$ @SHC$DIR:SHC_STATUS
```

4. When both the static and dynamic phases of the SHC analysis has completed, the collected data is stored in a ZIP archive in the following area:  
`[<installation directory>.SHC$DATA]`  
The ZIP archive containing the collected data is named as follows:  
`SHCOx-<node>-<moddyyhmm>.SHC`
5. If your configuration file has specified that the data be automatically sent to HP for analysis, then the following SHC reports are sent to the TAM e-mail address specified in your configuration file:
  - SHC Lite Report (HTML format)
  - SHC Professional Report (HTML format)
  - SHC Professional Report (Microsoft Word format)You may decide to initially provide the customer with the SHC Lite Report before the SHC Professional Report is reviewed and the Executive Summary section completed.
6. Alternatively, if your configuration file specifies that the collected data be sent to HP manually, then you must access the stored data and send it to HP (see *Section 4.8 transporting the data*). When the data has been analyzed at HP, the resultant reports are sent to the TAM e-mail address specified in your configuration file, as described above.

## 4.3 stopping an SHC analysis

To stop all SHC processes on a machine, enter the following command:

```
$ @SHC$DIR:SHC_STOP
```

All SHC processes that are currently running are stopped.

## 4.4 manually creating and editing SHC configuration files

This section includes the following subsections:

### § 4.4.1 manually creating an SHC configuration file

### § 4.4.2 manually editing an SHC configuration file

The downloaded kit includes a configuration file template (SHC\$DEFAULTS.CFG). The following is an example of an SHC\$DEFAULTS.CFG file that may be used as a reference when following the instructions in this section:

```
; OpenVMS SHC Configuration file
;
[COMPANY NAME]
[ADDRESS]
[COUNTRY]
[CUSTOMER NAME]
[CUSTOMER TELEPHONE]
[CUSTOMER EMAIL]
[BUSINESS CRITICAL CONTRACT] ; Y/N
[OBLIGATION ID NUMBER]      ; must be filled in if BCC is Y
[SYSTEM SERIAL NUMBER]      ; s/n of 'start' node. must be filled in if BCC is Y
[HP CONTACT]                ; Compaq Technical Account Manager
[HP EMAIL] <name>@hp.com ; must be a Compaq/HP address
[HP TELEPHONE]
[TRANSPORT OPTION]          ; options: [F]tp, [E]mail, [D]SN or [M]anual
[ENCRYPT COLLECTED DATA] Y; Do you want the collected .ZIP file encrypted
([Y]/N)?
[REGULAR SCHEDULE] N; Automatically run SHC Collection on a regular schedule
[NEXT TIME]                  ; time of next collection
[DELAY TIME] 00:00           ; time to delay dynamic collection (hh:mm)
[DYNAMIC TIME] 00-08:00 ; Duration of Dynamic Phase of collection (dd-hh:mm)
[SECURITY_OR_PERF] S       ; Is Security or Performance more important [S]/P ?
[MIN PRIV PASSWORD LENGTH] 15
[MIN NONPRIV PASSWORD LENGTH] 8
[PRIV PASSWORD LIFETIME] 30 ; days
[NONPRIV PASSWORD LIFETIME] 90 ; days
[UNUSED ACCOUNT LAST LOGIN] 90 ; days
[PASSWORD DICTIONARY] YES
[PASSWORD HISTORY] YES
[RULES DISABLED] ;list rules disabled
[RUN T4 COLLECTOR] Y
[NODES]
```

Table 4–1 provides guidelines for editing SHC configuration files

Table 4–1 SHC Configuration Files Editing Guidelines

Configuration File Entry	Details
[COMPANY NAME]	Enter the name of the customer's company
[ADDRESS]	Enter the address of the customer's company.
[COUNTRY]	Enter the country of the customer's company.
[CUSTOMER NAME]	Enter the customer's name.
[CUSTOMER TELEPHONE]	Enter the customer's telephone number.
[CUSTOMER EMAIL]	Enter the customer's e-mail address.
[BUSINESS CRITICAL CONTRACT]	Enter Y or N before the ';' character, depending on whether or not the customer is part of a wider Business Critical Contract (BCC).

Configuration File Entry	Details
[OBLIGATION ID NUMBER]	If the customer has a BCC, enter their eSMG obligation ID number before the ‘;’ character
[SYSTEM SERIAL NUMBER]	Enter the serial number of the machine with SHC installed before the ‘;’ character.
[HP CONTACT]	Before the ‘;’ character, enter the name of the customer’s Technical Account Manager (TAM).
[HP EMAIL]	Before the ‘;’ character, edit the default ‘<name>@hp.com’ entry to reflect the e-mail address of the TAM.
[HP TELEPHONE]	Before the ‘;’ character, enter the telephone number of the TAM.
[TRANSPORT OPTION]	E-mail is the default entry. Replace E with F to change the transport option to FTP, enter D to automatically send the data using DSNlink or MFM or enter M to change the transport option to manual. For more information see Table 4–1.
[ENCRYPT COLLECTED DATA]	By default, the ZIP file that is sent to HP for analysis is encrypted. Enter N to prevent the ZIP file from being encrypted.
[REGULAR SCHEDULE]	<p>The default is N, so analyses are not regularly scheduled. Enter one of the following options if you want to schedule regular analyses:</p> <ul style="list-style-type: none"> <li>• D - Daily (every day)</li> <li>• W - Weekly (every 7 days)</li> <li>• M - Monthly (every 28 days)</li> <li>• Q - Quarterly (every 13 weeks, that is, 91 days)</li> <li>• T - Twice Yearly (every 26 weeks, that is, 182 days)</li> </ul>
[NEXT TIME]	<p>If you have scheduled SHC analyses in the [REGULAR SCHEDULE] line, enter the date and time that you wish to run the first scheduled collection in the following format: DD–MMM–YYYY:HH:MM:SS.CC For example, if you enter 15–SEP–2003:13:59:59.99, the analysis is set to run at one hundredth of a second before 0200hrs on September 15th 2003. It is not necessary to define the date and time to the hundredth of a second; at a minimum you must enter a date, for example, 15–SEP (the year defaults to the current year and the time defaults to 00:00:00.00).</p>
[DELAY TIME]	Accept the default of 00:00 or enter the amount of time that you want to delay the dynamic phase by; that is, the dynamic phase of the analysis starts the specified number of days/hours/minutes after the time that the static phase has been scheduled to run (or after a manual static analysis has been started). This feature can be useful when you want to schedule the static system-data to be analyzed during an off-peak period and the dynamic phase to be run during a peak period.
[DYNAMIC TIME]	<p>Accept the default of 00–08:00 or enter the amount of time that you want the dynamic phase to run.</p> <p><b>Note:</b> The entered time (in the format DD–HH:MM:SS) must be a valid HP OpenVMS delta time, for example, 00–24:00:00 is invalid, in this case, you should use either 01–00:00:00 or 00–23:59:00 instead.</p>
[SECURITY_OR_PERF]	Accept the default of S (security) or enter P to indicate that performance is a priority for your system. This configuration item determines the rules and settings that the target system is compared against during the analysis.
[MIN PRIV PASSWORD LENGTH]	Accept the default, or edit it to that of the customer’s site policy, if it is different to the default setting.
[MIN NONPRIV PASSWORD LENGTH]	Accept the default, or edit it to that of the customer’s site policy, if it is different to the default setting.
[PRIV PASSWORD LIFETIME]	Accept the default (set in days), or edit it to that of the customer’s site policy, if it is different to the default setting.

Configuration File Entry	Details
[NONPRIV PASSWORD LIFETIME]	Accept the default (set in days), or edit it to that of the customer's site policy, if it is different to the default setting.
[UNUSED ACCOUNT LAST LOGIN]	Accept the default (set in days), or edit it to that of the customer's site policy, if it is different to the default setting.
[PASSWORD DICTIONARY]	Accept the default of YES or change it to NO if the customer's site policy is different to the default setting.
[PASSWORD HISTORY]	Accept the default of YES or change it to NO if the customer's site policy is different to the default setting.
[RULES DISABLED]	<p>In the line, list any rules that you want disabled (separated by commas) before the ';' character.</p> <p>If you have a lot of rules that you want to disable, you can add more than one [RULES DISABLED] tag to the configuration file in order to avoid wrapping problems. For example in the following extract from a configuration file, two additional [RULES DISABLED] tags have been added:</p> <pre> [PASSWORD HISTORY]    YES [RULES DISABLED]      SS001,SS002 ;list rules disabled [RULES DISABLED]      SS003,SS004 [RULES DISABLED]      SS005,SS007 [RUN T4 COLLECTOR]    Y </pre>
[RUN T4 COLLECTOR]	<p>Accept the default of Y, or alternatively, enter N and press ENTER and the T4 tool is not run on your system when you run an SHC analysis. If you accept the default, the SHC tool references another configuration file (SYS\$T4:SHCT4.CFG) for the following information:</p> <ul style="list-style-type: none"> <li>• T4 Collection Start Time? [Immediately]</li> <li>• T4 Collection End Time? [12 hours time]</li> <li>• T4 Sampling Interval? [60seconds]</li> <li>• Resubmit T4 collection daily [Y]/N</li> <li>• Batch Queue to use on each node.</li> </ul> <p>(SYS\$T4:SHCT4.CFG) also contains other options that can be changed by editing the file.</p> <p>For more information on the T4 tool, see <i>Appendix B, T4 Tool Information</i>.</p>
[NODES]	<p>List all the nodes that you want to run the collection on (separated by commas) before the ';' character.</p> <p><b>Note:</b> You must enter the node that the SHC tool is currently running on.</p>



### 4.4.1 manually creating an SHC configuration file

The downloaded kit includes a configuration file template (SHC\$DEFAULTS.CFG). Instead of following system prompts, you can manually create a new configuration file using SHC\$DEFAULTS.CFG as a template.

**Note:**

It is recommended that you use the method described in *Section 4.1 performing an analysis for the first time* to create your configuration file, as it avoids introducing errors in the configuration file.

To manually create a new SHC configuration file using SHC\$DEFAULTS.CFG as a template, do the following:

1. Make a copy of SHC\$DEFAULTS.CFG, rename it, and open it in a text editor.
2. Edit the copy of the configuration file template as required, referring to Table 4–1 for help with specific fields.
3. Save and close your newly created configuration file.

**Note:**

If you want to add notes to any particular line of your configuration file, ensure that you do so after a ‘;’ character.

### 4.4.2 manually editing an SHC configuration file

To manually edit an existing SHC configuration file, do the following:

1. Make a copy of SHC\$DEFAULTS.CFG, rename it, and open it in a text editor.
2. Edit the relevant line, or lines, of your configuration file as required, referring to Table 4–1 for help with specific fields.
3. Save and close your edited configuration file.

**Note:**

If you want to add notes to any particular line of your configuration file, ensure that you do so after a ‘;’ character.

## 4.5 scheduling analyses

You can schedule SHC analyses periodically and receive a periodic analysis from a system so that effectively it monitors its own health over time.

SHC can be scheduled to run an analysis periodically by setting the [Regular Schedule] tag in your configuration file as follows:

- § Set the entry to D in order to run SHC data collections every day.
- § Set the entry to W in order to run SHC data collections every seven days.
- § Set the entry to M in order to run SHC data collections every 28 days.
- § Set the entry to Q in order to run SHC data collections every quarter, that is, every 91 days.
- § Set the entry to T in order to run SHC data collections twice a year, that is, every 182 days.

For information on editing your configuration file see Section 4.4.2 *manually editing an SHC configuration file*.

## 4.6 enabling/disabling SHC rules

If you want to prevent a particular SHC rule from being run, you can disable it by editing the [Rules Disabled] entry of your configuration file to list the rule in question. For information on editing your configuration, see Section 4.4.2 *manually editing an SHC configuration file*. When you disable a rule and subsequently run SHC, the test contained in the rule is not carried out and so the problem that the rule is testing for does not appear in generated reports.

When you disable a rule it remains disabled until you re-enable it. Once a rule is re-enabled its associated test is performed in any subsequent run of SHC.

You may want to disable an individual rule, in the following circumstances:

- § If the rule is firing when it should not (that is, there is an error in the rule implementation).
- § If the rule is generating errors in the logs, or causing SHC to function incorrectly.
- § If the rule is firing correctly, but you do not want it to appear in the reports.

## 4.7 SHC reports

The results of an SHC analysis are presented in a series of reports that are provided as mail attachments to the TAM listed in the SHC configuration file. All SHC reports are provided in HTML that can be viewed in any standard browser. The SHC Professional Report is also provided in Microsoft Word format to allow the TAM to edit its contents before delivering it to a customer. Table 4–2 outlines sections that are common to all SHC reports.

Table 4–2 Sections common to all SHC reports

Report Section	Description
<b>Report Cover/Title</b>	This section contains a summary of the platform SHC was run on, what version of SHC was used, and when the analysis was run.
<b>Analysis Details</b>	This contains details of the version of SHC used and some information about the analysis including the start time, duration, and sampling interval.
<b>Scorecard</b>	This section provides a quick overview of the status of a system. It contains a table summarizing the tests performed during the SHC analysis (the tests are broken down into the major test categories), along with failure counts for each test area (categorized as High, Medium and Low).
<b>Summary of Conditions Detected</b>	This section provides one-line summaries for each problem that was found on the system including the priority of the problem, the number of times each problem occurred during the analysis, and a brief description of the problem.
<b>Description of Areas Tested</b>	This section describes the current rule categories supported by SHC (see <i>Section 2.4.2.1 rule categories in detail</i> for information on rule categories).
<b>System Details</b>	This section provides an overview of a system's configuration. It is intended to provide a brief overview of the configuration of the system and its primary subsystems, in order to provide some context to any problems in the SHC report.

For details of each report type and the additional information that they contain, see *Section 4.7.1 report types*.

### 4.7.1 report types

SHC currently provides two different types of report. The SHC reports differ in terms of their intended audience and the level of detail they provide. The types of SHC reports are described in the following subsections.

#### 4.7.1.1 SHC lite report

The SHC Lite report is provided free of charge through the specified TAM, to all users of SHC whether they are HP employees, or customers. It is intended to give customers an introduction to the capabilities of SHC and to provide an overview of the state of their system. It does not contain any additional sections outside of those listed in *Section 4.7 SHC reports*.

### 4.7.1.2 SHC professional report

The SHC Professional Report provides full details of an SHC analysis and is intended for HP Service Professionals to use in analyzing and diagnosing problems on customer systems. In addition to the sections listed in *Section 4.7* SHC reports, it contains full details of each problem encountered, including an explanation of each problem, references to supporting documentation, and proposals on how to resolve the problem. The SHC Professional Report is delivered as part of a Business Critical, Availability or standalone HP System Healthcheck service and is delivered to customers by their HP Service Consultant. Table 4–3 outlines the additional sections that are provided in the SHC Professional Report.

Table 4–3 Additional sections available in the SHC Professional Report

Report Section	Description
<b>Introduction</b>	This section provides a brief introduction to SHC.
<b>Customer Details</b>	This section contains the customer details provided to SHC during configuration.
<b>Executive Summary</b>	This section is used by HP Services personnel when presenting a report to a customer. The HP consultant completes this section with their analysis and recommendations based on the problems detected by SHC and their understanding of the customer's environment and business needs.
<b>Descriptions of Conditions Detected</b>	This section forms the core of an SHC Professional Report, presenting the details of the SHC analysis. It consists of one section for each problem found on the system. Each problem found is described in detail complete with supporting evidence.
<b>Detailed Information on Conditions Detected</b>	This section is a companion to the previous section. It also contains a section for each problem found and expands on the details provided in the previous section. In particular, it provides instructions on how to verify that the problem exists, references to documentation relating to the problem, and suggestions on how to resolve the problem.
<b>About System Healthcheck</b>	This section provides further details of SHC and SHC reports.

## 4.8 transporting the data

To generate SHC Reports, you must send the SHC analysis data to HP. The SHC tool can be configured to do this automatically, or you can also send the data manually (for example, by copying the SHC analysis data to removable media and physically sending it to HP). The SHC analysis data is stored after each analysis in the SHC data file, in an encrypted ZIP file.

The following sub-section details the transport capabilities of SHC and their use.

## 4.8.1 transport methods

SHC supports three modes of automated transport. See Table 4–1 for details of how to configure SHC to use one of these methods during automated transport. Details of each method are as follows:

### § E-mail (SMTP)

SHC analysis data is uuencoded and sent to HP using the standard SMTP mail protocol. This transport method only works on a system or network that supports the SMTP mail protocol. The address that the SHC data is sent to is as follows:

[shc.data@hp.com](mailto:shc.data@hp.com).

### § File Transfer Protocol (FTP)

SHC analysis data is sent to HP using the standard FTP protocol. This transport method only works on a system or network that does not block FTP. If the system is behind a firewall, the firewall must permit traffic on the FTP ports. Otherwise the automated FTP transport fails. The FTP data is sent to the anonymous FTP site on `esmg.support.compaq.com`, (SHC files are uploaded to the `/to_rcm` directory, which is monitored by the HP SHC team).

### § DSNlink or MFM

You can use either DSNlink or Matrix File Manager (MFM) to send SHC analysis data to HP, if you are transferring data automatically, or if you are transferring data manually.

MFM, in conjunction with the HP communications tool WorldWire, is the replacement for DSNlink (which may be no longer supported in your geographical location). The main benefit to SHC users is that MFM provides a fully secure transport mechanism (all data is encrypted before being transported). To avoid any disruption to users, MFM replicates the DSNlink command line interface, which means that all DSNlink instructions are also valid for MFM installations.

In order to use DSNlink to transfer SHC data, you must have DSNlink Version 2.x or higher installed on the system from which you want to transfer the data. If you are transferring data automatically, DSNlink must be installed on the machine where you installed the SHC Data Collector.

In order to use MFM to transfer SHC data, you must have MFM Version 3.1 or higher installed on the system from which you want to transfer the data. If you are transferring data automatically, MFM must be installed on the machine where you installed the Data Collector. In addition, a WorldWire Version 3.1 or higher communications link must be available between the customer site and HP.

To send the data manually using either DSNlink or MFM, enter the following command:

```
$ DSN COPY/TOOL=RCM SHCOTP-<nodename>-<timestamp>.SHC
```

**Note:** If you wish to send data to SHC manually, you can only send one attachment per e-mail and the data file's extension ( `.shc` ) must not be changed.

## 5. known issues

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This chapter describes the known issues that pertain to SHC for HP OpenVMS.

The following is a known issue for SHC for HP OpenVMS:

### **T4 tool functionality**

The T4 tool is not currently fully integrated with the SHC tool. Additional SHC rules are currently in development that will integrate with the data collected by the T4 tool.

# 6. obtaining support and providing feedback

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This chapter describes how to obtain support for SHC and to provide feedback on the SHC tool. It includes the following sections:

- § obtaining support for SHC
- § providing feedback on SHC

## obtaining support for SHC

Technical support issues and problems can be reported to:

[shc.support@hp.com](mailto:shc.support@hp.com)

If SHC fails, you should examine the SHC Error Log file stored in `SHC$DATA`, which may contain errors or warnings that indicate the cause of the failure. If you cannot determine the cause of the failure, zip up the SHC data directory for the failed analysis and return it to the SHC support team at the above e-mail address.

This ensures that the SHC support team receives all files needed to help solve the problem.

## providing feedback on SHC

Feedback information can be sent to:

[shc.feedback@hp.com](mailto:shc.feedback@hp.com)

We appreciate feedback on all aspects of SHC and suggestions for improvements to the tool.

# A glossary

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## **Dynamic analysis**

The dynamic analysis is the phase of the SHC analysis during which dynamic aspects of the system's performance are analyzed, for example, memory usage, I/O, and so on.

## **eSMG**

The Electronic Site Management Guide - eSMG provides a one-step portal for Business Critical and Mission Critical service providers and customers for all of their service information on a per-site or per-platform basis. eSMG is available to users in the Americas, EMEA, Japan, Asia Pacific, Australia/New Zealand and Greater China. The data available to eSMG users varies with both geography and the service level of the customer. The eSMG team can be contacted by mailing [support.esmg@hp.com](mailto:support.esmg@hp.com).

## **Problem**

In the context of SHC, a problem is the data recorded when a rule fires.

## **Rule**

An SHC rule is a check for a specific problem or misconfiguration on the system. Each rule has a unique rule ID.

## **Sample window**

The SHC dynamic rules collect a number of samples for a rule, before analyzing them. The number of samples is referred to as a sample window. Sample windows are set per-rule and cannot be changed by the user.

## **SHC data file**

The file generated by SHC after completing a successful analysis. This file contains problem data and SHC configuration data and is used to generate the SHC reports.

## **SHC Error Log**

Each SHC analysis generates an Error Log file, which contains all the information in the User Log file as well as any errors or warnings that occurred during the analysis. The SHC Support team uses this file to troubleshoot problems with SHC.

## **SHC Lite Report**

The SHC Lite Report provides a minimal set of details of an SHC analysis and is intended to give the user an indication of the capabilities of SHC.

## **SHC Professional Report**

The SHC Professional Report provides the full details of an SHC analysis and is intended to be used by HP Service Professionals in analyzing and diagnosing problems on customer systems.



**Static analysis**

The static analysis is the phase of the SHC analysis during which static aspects of the system's configuration are analyzed, for example, security settings, and so on.

# B T4 performance tool for hp OpenVMS information

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This appendix provides a brief outline of the Tabular Timeline Tracking Tool (T4 tool).

On AlphaServer systems V7.2-1 and later, the T4 tool is also installed as part of the SHC installation and is currently configured to run during the dynamic phase of an SHC data collection.

Data collected by the T4 tool is sent to the TAM for a particular SHC data collection in a ZIP archive that contains a number of graphs. The ZIP archive does not include all graphs produced by the T4 tool, as their number can run into several hundred for each node. The SHC analysis engine filters the T4 output so that only data showing significant deviation during the dynamic phase are included.

The T4 graphs generated by the SHC Analysis software are controlled by the following file:

SHC\$DATA:T4\_METRICS.LIS

A template for this file is available in the SHC\$DIR directory. It contains entries such as the following:

```
; T4_METRICS.LIS
; This file specifies which parameters from T4 CSV files are graphed by the
; SHC Analysis code.
; The parameter names in the CSV file are in the fourth line of the file.
;e.g [MON]Sample Time,[MON.SYST]Direct I/O Rate,[MON.SYST]Buffered I/O
;Rate,[MON.IO]Mailbox Write Rate,...
; Metrics containing any of the following strings will be processed.
; use ';' as the first character of the line to 'comment-out' the line.
; To get graphs of every parameter, uncomment all the lines from here to end
of file
;
[MON.SYST]
[MON.IO]
[MON.MODE]
[MON.STAT]
[MON.PAGE]
[MON.LOCK]
;[MON.DLOC]
;[MON.FCP]
;[MON.MSCP]
;[MON.TIMR]
;[MON.RLCK]
[MON.DISK]
;[MON.DSK]
[MON.FLSC]
;[MON.PROC]
[MON.MODES]
;[ACLG]
;[XFC]
;[LCK73]
;[NET]
```

If all graphs are required, remove the leading ‘;’ from each data line.

**Note:**

This may result in several hundred graphs being generated by the SHC analysis software.

If any T4 rules (T4xxx) fire during the SHC Analysis, the graphs illustrating the parameter involved can be extracted by the HP Technical Account Manager from the following file and be sent with the SHC reports:

T4CHARTS.ZIP

When you choose to run the T4 tool as detailed in *Section 4.1 performing an analysis for the first time*, you are then prompted for the following information:

```

$ T4 Collection Start Time? [Immediately]
$ T4 Collection End Time? [12 hours time]
$ T4 Sampling Interval? [60 seconds]
$ Resubmit T4 collection daily [Y]/N
$ Batch Queue to use on each node.
```

This information is written to a T4 Configuration file (SYS\$T4:SHCT4.CFG), and contains other options that can be changed by editing this configuration file, but these options are outside the scope of this user guide.

The following is a sample of the content of a typical T4 Configuration file:

```

[COLLECTION START TIME]                12-DEC-2003
08:54:58.18
[COLLECTION END TIME]                  12-DEC-2003
09:54:00.00
[SAMPLING INTERVAL]                   60
[DESTINATION DIRECTORY]               SYS$T4
[MANAGE T4 DATA STORAGE]              Y
[DAYS TO RETAIN RAW DATA]             7
[DAYS TO RETAIN INTERMEDIATE FILES]    3
[DAYS TO RETAIN REDUCED FILES]         9999
[RE-SUBMIT DAILY]                     Y
[EMAIL ADDRESS]                       ANON
[NODES]                               MCSILO,IMWIRD
[MCSILO BATCH QUEUE NAME]             MCSILO_BATCH
[MCSILO NETWORK INTERFACE DEVICES]    ALL
[IMWIRD BATCH QUEUE NAME]             IMWIRD_BATCH
[IMWIRD NETWORK INTERFACE DEVICES]    ALL
```

The T4 tool collects performance-related statistics using the following utilities:

**\$ MONITOR**

This is the standard HP OpenVMS MONITOR utility. The collected data is written to a recording file, and subsequently the data is extracted to a .CSV file using the utility program T4EXTR.EXE.

**\$ NET\_MON**

This utility collects network traffic statistics for a specified network adapter.

### § RESP\_MON

This utility collects response time statistics.

### § ACLG

This utility collects data on logins and logouts, and process duration times.

### § XFC\_MON

This utility collects data related to Extended File Cache (XFC) performance.

SHC V2.3 includes the utility `SY$T4:CSVPNG_ALPHA.EXE` which can be used to generate PNG charts from the T4 CSV data. See `SY$T4:CSVPNG.TXT` for details of how to use this utility.

When T4 is run as part of an SHC collection, `CSVPNG_ALPHA.EXE` is run and generates a small number of sample charts that are emailed (as a ZIP archive) to the Customer Email address entered in the SHC Configuration file. The file, `SY$T4:CSVPNG.LIS`, determines which parameters from the T4 CSV files are generated. The default values in `CSVPNG.LIS` are: “direct, buffered, Mp Synch, idle, busy”. This means that all parameters containing those strings in the CSV column headers are graphed. `CSVPNG.LIS` can be edited to include other parameters as required.

# C SHC impact statement

## C.1 SHC for hp OpenVMS impact statement

### C.1.1 summary

SHC is an HP proprietary tool designed to collect system performance, configuration, and security data. The collected data is transferred from the Customer site for automatic analysis by HP's expert system application. This data is analysed using a set of predefined rules, which encode recommended best practice and acceptable benchmarks. A report is generated detailing any deviation from these standards.

Impact and Information Summary	
Product name	System Healthcheck
Version	V 2.3
Supported operating systems	HP OpenVMS V6.2 to V7.3
Supplier	Hewlett-Packard Company
Default installation directory	The user can select any destination directory
Disk space required for installation	5K Blocks (Including installation file)*
Disk space required for normal operation	5K Blocks per node that will run SHC
Installation media	Floppy Disks, CD-ROM or Network
Installation mechanism	'Run' the self-extracting kit and enter PRODUCT INSTALL SHC
License PAK required	No
Software removed	At customers discretion using command: Product Remove SHC
Privileged account required for running	SYSRV,SECURITY,OPER,READALL,CMKRN,SYSLCK,BYPASS
Startup files modified	Adds SHC\$STARTUP.COM to SYSMAN STARTUP database
Scheduler modified	No. But maintains its own schedule if specified.
Approximate run-time (Elapsed)	Default is 8.5 hours (depending on static data collection)
Output format	ZIP archive containing text files. Encryption is an option
Data removed from site	Yes via EMAIL, FTP or DSNlink (MFM)
Network connection required	No (Network can be used to send data collection to HP)
Security impact	Minimal - Account information will be included in collected data *
Performance impact	Low *
Emergency stop procedure	SHC_STOP.COM
Deinstallation procedure	Product Remove SHC
Installation prerequisites	None
Installation incompatibilities	None
Customer Proprietary Information Collected	Username details.

\* More detailed information is provided in the following sections.

## C.1.2 performance impact

The SHC data collector runs in two phases, a static and a dynamic phase:

The dynamic phase gathers information about the dynamic processes on the system, for example, CPU and memory usage to determine the systems performance characteristics. This is achieved by running the Monitor utility for the specified time (default eight hours). The dynamic collector has minimal impact on system performance.

During the static phase, non-varying system configuration information is collected. This phase can be quite CPU intensive and may have a small but noticeable impact upon certain system configurations. Where system performance is at a premium, it would be advisable to run this stage of the data collector at a non-critical period of the day. The Static tests are run first, then the Dynamic tests over the selected time, (default eight hours).

Both collection phases can be configured to start at predefined times during the working day.

## C.1.3 security impact

The SHC data collector is usually installed, configured, and run from a system privileged account.

SHC will only report inappropriate security configurations and parameters; no security setting will be changed during the normal execution of the data collectors.

Some of the data collected in previous versions of SHC could be used to compromise system security in extreme situations, (for example, account names, improperly protected files, and so on). For this reason that particular data is now analysed on the customers system and is not removed from site for analysis. The resulting evidence is stored in rule specific files in SHC\$DATA e.g. SS008\_'NODE'.LIS. The file name is included as part of the rule evidence in the SHC Professional Report. System and user account passwords are not collected.

## C.1.4 disk space

The SHC data collector can be installed in any directory. A normal installation, including installation files will utilise less than 5,000 Blocks. Data collection over an eight-hour period will typically use about 5K blocks per node, but this can vary widely. SHC will automatically terminate data collection if disk free space falls below 50K blocks, or CPU time of the SHC\_COLLECT process on any node exceeds one hour.

## C.1.5 emergency stop procedures

A SHC collection can be aborted by running the SHC\_STOP.COM DCL command procedure. This procedure will find any active SHC collection processes on a Cluster and stop them.

## C.1.6 installation procedure

To install the SHC collector, download the kit and use the PCSI Utility as follows:

```
$ SET DEFAULT to the directory where the PCSI kit is located.
```

```
$ PRODUCT INSTALL SHC/DESTINATION=<disk><dir>
```

where <disk><dir> point to the disk and directory where you want to install SHC. The disk must be accessible from all nodes from which data will be collected.

Note that SHC will be installed to a subdirectory [..SHC] of the directory specified with the /DESTINATION qualifier. For example, if /DESTINATION=DISK\$ : [ JONES ] is used, SHC will be installed to

```
DISK$ : [ JONES . SHC ]
```

If installing on a pre-V7 HP OpenVMS system, it is also necessary to specify the /SOURCE=<disk><dir> to point to the directory containing the SHC PCSI kit.

The installation creates system-wide logicals, SHC\$DIR, SHC\$ROOT, SHC\$NODE, and SHC\$DATA.

## C.1.7 uninstallation procedure

To remove the SHC software from an HP OpenVMS system, enter the command:

```
$ PRODUCT REMOVE SHC
```

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