

HP Code Coverage Tool Software

Data sheet



HP Code Coverage Tool Software provides software developers with a view of how much application code is exercised when a specific workload is applied to the application. To determine which code is used, it analyzes static profile information generated by the compiler, as well as dynamic profile information generated by running an instrumented form (compiled with specific flags) of the application binaries on the workload. The tool displays the results in HTML pages showing color-coded, annotated, source code listings that distinguish between used and unused code.

Code Coverage Tool Software allows the instrumentation of object files for code coverage without any source code changes. It generates HTML-based reports to provide easy interpretation of the code coverage results.

Key features and benefits

- Instrumentation is supported by all the TNS/E compilers.
 - C/C++, epTAL, and ECOBOL
- Compilations can be done on all supported TNS/E platforms.
 - Guardian, HP Open System Services (OSS), or Microsoft® Windows® for C/C++ and ECOBOL
 - Guardian and Windows for epTAL
- It supports instrumentation for any type of application.
 - OSS and Guardian processes
 - Mixed language processes
 - Processes with embedded HP NonStop SQL/MP and SQL/MX Software
 - Active and passive NonStop process pairs

Coverage summary

The screenshot shows a web browser window displaying the HP Integrity NonStop Code Coverage Information page. The page title is "Coverage Summary". It features three main tables: a top-level summary table, a "Covered Files" table, and an "Uncovered Files" table. The top-level summary table provides overall statistics for Files, Functions, and Blocks. The "Covered Files" table lists individual files with their respective function and block coverage. The "Uncovered Files" table lists files that were not covered during the analysis.

Files				Functions				Blocks			
total	cvrd	uncvrd	cvrg%	total	cvrd	uncvrd	cvrg%	total	cvrd	uncvrd	cvrg%
4	1	3	25.00	58	8	50	13.79	2,141	225	1,916	10.51

Name	Functions			Blocks		
	total	cvrd	cvrg%	total	cvrd	cvrg%
ELEOUMP.CPP	41	8	19.51	2,097	225	10.73

Name	Functions	Blocks
	total	total
NSISEL.H	2	4
PLATDEP.CPP	1	3
YOSELF.CPP	14	37

Instrumentation of the code can be done either on Windows using the cross compilers or on the NonStop operating system using the native compilers. When the instrumented code is executed, it generates information files that are interpreted by the Code Coverage Tool to generate reports.

The Code Coverage Tool is available on HP Integrity NonStop servers with any of the supported C/C++, ECOBOL, or epTAL compilers available in RVU H06.07 or later. The tool is also available with the latest release of the cross compiler products (refer to the Compatibility section that follows for more details).

Code Coverage Tool capability

Supported application types

Instrumentation for Code Coverage Tool is supported for any type of application. This includes, but is not limited to, the following:

- OSS and Guardian processes
- Active and passive NonStop process pairs
- Mixed language processes
- Processes with embedded NonStop SQL/MP and SQL/MX Software

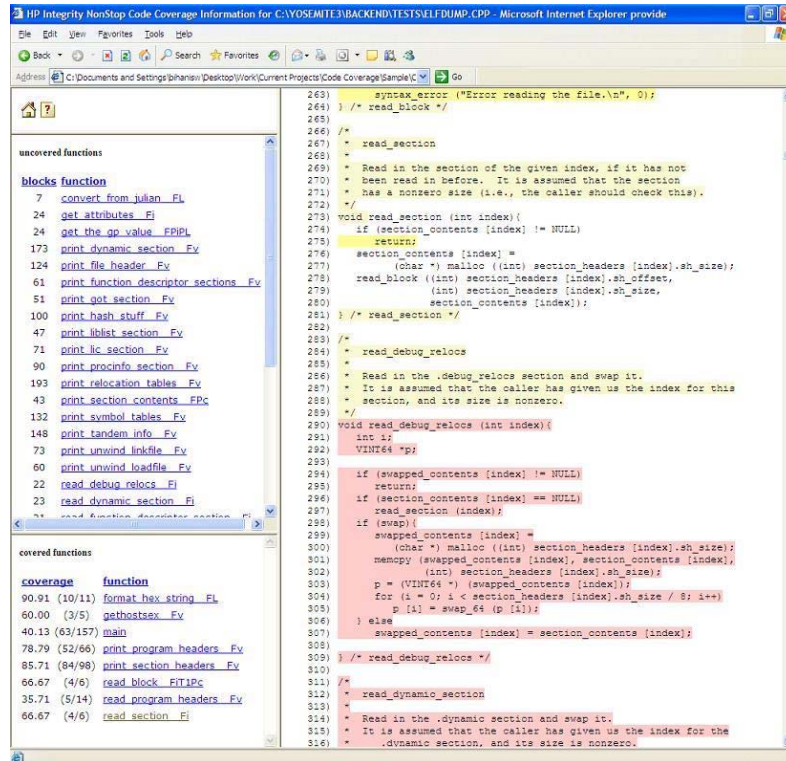
Top-level coverage

The top-level coverage summary presents the overall code coverage for the modules (see figure). For the selected modules, the tool generates a list of covered modules, a list of modules that are not covered, and a total coverage summary. The summary information includes the number of functions and blocks in each module and the portions that were covered.

Coloring scheme

The tool distinguishes between covered code, uncovered basic blocks, uncovered functions, and partially covered code. The tool uses colors to classify the coverage, making the results easy to interpret (see figure). The default colors can be replaced with any valid HTML colors.

Code Coverage Tool coloring scheme



Color key

Color	Meaning
Code covered	The portion of code colored in this color was exercised by the tests.
Uncovered basic block: yellow color	Basic blocks that are colored yellow were not exercised by any of the tests. They were within functions that were executed during the tests.
Uncovered function: pink color	Functions that are colored pink were never called during the tests.
Partially covered code: pale yellow color	Some of the blocks were covered for the code at this position, while others were not.
Unknown	No code was generated for this source. The source at this position is either a comment, a header-file inclusion, or a variable declaration.

HP Code Coverage Tool Software provides you with a view of how much application code is exercised by a given workload.

Dynamic counters

Options are provided to allow developers to configure the Code Coverage Tool to display dynamic execution counts. The resulting counts information appears under the displayed code after a “^” sign, directly beneath the source position where the corresponding basic block begins. If more than one basic block is generated for the code at a source position (e.g., for macros), then the number of generated blocks and the number of the executed blocks appear in front of the execution count.

Code subset analysis

The tool provides efficient coverage analysis on a subset of the modules in an application. Users can compile only a subset of the application modules with the instrumentation option. In such scenarios, the tool generates coverage information only for those modules. This helps to avoid the overhead incurred from profile generation within unnecessary modules.

Compatibility

Code Coverage Tool Software is being released with the following compilers in H06.07 and later RVUs:

Part number	Product name
HSB01	COBOL Compiler TNS/E
HSB03	TNS/E C/C++ Compiler
HSB04	PTAL Compiler for TNS/E

It is also available with the following cross compiler products:

Part number	Product name
HSB11V2	COBOL Cross Compiler
HSB13V2	C/C++ Cross Compiler
HSB14V2	PTAL Cross Compiler

Technical specifications

HP Code Coverage Tool Software

System requirements

Hardware	HP Integrity NonStop server
NonStop server software	HP NonStop operating system, Mission Critical Operating Environment, RVU H06.07 or later
PC client software	Microsoft Windows operating system

Ordering information

The Code Coverage Tool is part of the following compiler products:

Part number	Description
HSB01	Cobol Compiler TNS/E
HSB03	TNS/E C/C++ Compiler
HSB04	PTAL Compiler for TNS/E
HSB11V2	Cobol Cross Compiler
HSB13V2	C/C++ Cross Compiler
HSB14V2	PTAL Cross Compiler
Manuals	
5426840-001	HP Code Coverage Tool Reference Manual for NonStop Servers

HP Services

HP's end-to-end Service Solutions built on the Solution Lifecycle (SLC) process, offers consistent quality and service levels for the Integrity NonStop servers. The SLC process helps achieve rapid productivity and maximum availability by examining specific needs at each of five distinct phases (Plan, Design, Integrate, Install and Manage) and then designing solutions around those needs. We offer three different Service Solutions designed to meet customer needs. They are:

HP Critical Service Solution

- Startup and Deployment Services—build the solution to your exact specifications, complete the installation, and make the solution application-ready.
 - Assessment and Design services—define requirements and translate your business and technical needs into a solution that melds the necessary hardware and software
 - Deployment Management—upfront project coordination from HP
 - Education Services—training curriculums relevant to needs and existing expertise based upon a needs analysis
- HP Critical Service—comprehensive ongoing support designed to help minimize the business impact of downtime for mission-critical applications

HP Proactive Service Solution

- Startup and Deployment Services
- HP Proactive 24 Service—integrated hardware and software support, including proactive and reactive services to improve stability and availability across your IT environment

HP Foundation Service Solution

- Startup and Deployment Services
- HP Support Plus 24 Service—integrated hardware and software support services designed specifically for your technology.

For more information: www.hp.com/services/nonstop.

For more information

For more information about HP Code Coverage Tool Software, visit www.hp.com/go/nonstop.

HP Financial Services provides innovative financing and financial asset management programs to help you cost-effectively acquire and manage your HP solutions. For more information on these services, contact your HP sales representative or visit www.hp.com/go/hpfinancialservices.

© Copyright 2006 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

Microsoft and Windows are U.S. registered trademarks of Microsoft Corporation. UNIX is a registered trademark of The Open Group.

For more information, visit www.hp.com/nonstop
4AA0-7120ENW Rev. 1, September 2006