

Oracle VTS 7.0 Software

User's Guide for Patch Set 8 and Subsequent
Compatible Releases



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Contents

Using This Documentation xiii

Understanding the Software 1

Software Overview 1

Software Architecture 2

Testable Components 4

Understanding Test Modes 5

 Online Stress Test Mode 5

 System Exerciser Test Mode 6

 Component Stress Test Mode 6

User Interface Options 7

Installing or Updating the Software 9

Preparing for Installation 9

 Installation Requirements 10

 ▼ Determine Installed Software Version 11

 ▼ Determine Installed Package Version for Oracle Solaris 11 Updates 11

 ▼ Determine Installed Package Version for Oracle Solaris 10 Updates
 12

 Obtaining Packages for Installation 12

 Software Packages 13

 ▼ Install the Software for Oracle
 Solaris 11 13

- ▼ Install the Software for Oracle Solaris 10 Updates 14
- ▼ Set Up Man Page Access 15
- ▼ Upgrade the Software for Oracle Solaris 11 16
- ▼ Upgrade the Software for Oracle Solaris 10 Updates 17
- ▼ Uninstall the Software for Oracle Solaris 11 17
- ▼ Uninstall the Software for Oracle Solaris 10 Updates 18

Starting the Software 19

- Preparing to Start the Software 19
 - System Requirements 20
 - Runtime Considerations 20
 - Device Preparations 21
- Starting the Software (Interface) 22
 - ▼ Start the Software (GUI) 23
 - ▼ Start the Software (TTY UI) 24
 - ▼ Start the Software (CLI) 25
- Starting the Software (No Interface) 25
 - ▼ Start Testing (No UI) 26
 - ▼ Start Long Testing 26
 - ▼ Start Short Testing 27
 - ▼ Start Memory Sub System Testing 27
 - ▼ Start Testing in all Stress Levels 28
 - ▼ Start Testing With Time Information 28
- Starting the Software (CD/DVD) 29
 - ▼ Start the Software (Bootable CD/DVD) 29

Testing Using the GUI 31

- GUI Overview 32
- Configuring the Test Session (GUI) 35

- ▼ View the Host Configuration (GUI) 36
- ▼ Select a Test Mode (GUI) 36
- ▼ Change Global Options (GUI) 36
- ▼ Select Device to Test (GUI) 38
- ▼ Change Individual Test Options (GUI) 38
- ▼ Begin the Test Session (GUI) 40
- ▼ Monitor the Test Session 41
- ▼ Stop the Test Session (GUI) 41
- ▼ Review the Log Files (GUI) 42
- ▼ Delete the Log Files (GUI) 43
- ▼ Reset the Test Session (GUI) 44
- ▼ Use the Auto Mode Sequencer (GUI) 44
- Saving a Test Session Configuration for Repeated Use (GUI) 45
 - ▼ Create and Save a Test Session (GUI) 46
 - ▼ List Test Sessions (GUI) 47
 - ▼ Load a Test Session (GUI) 48
 - ▼ To Create a Configuration File to Load Sessions From a User Defined Location 48
 - ▼ Delete a Test Session (GUI) 49
 - ▼ Reset a Test Session (GUI) 49
- ▼ Quit the GUI 50

Testing Using the TTY UI 51

- TTY UI Overview 52
- Keyboard Commands for Navigation (TTY UI) 53
 - ▼ Display TTY UI HELP and Release Table 54
 - ▼ View the Host System Configuration (TTY UI) 55
- Configuring the Test Session (TTY UI) 56
 - ▼ Select a Test Mode (TTY UI) 57

- ▼ Change Global Options (TTY UI) 57
- ▼ Select Devices to Test (TTY UI) 58
- ▼ Change Individual Test Options (TTY UI) 59
- ▼ Begin the Test Session (TTY UI) 60
- Monitor the Test Session 61
- ▼ Stop the Test Session (TTY UI) 62
- ▼ Review the Log Files (TTY UI) 62
- ▼ Reset the Test Session Results (TTY UI) 64
- Saving a Test Configuration for Repeated Use 65
 - Session Files in Oracle VTS 66
 - ▼ Create and Save a Test Session (TTY UI) 66
 - ▼ List Test Sessions (TTY UI) 67
 - ▼ Load a Test Session (TTY UI) 68
 - ▼ Delete a Test Session (TTY UI) 68
 - ▼ Reset a Test Session (TTY UI) 69
 - ▼ Reprobe the Devices (TTY UI) 69
 - ▼ Use the Auto Mode Sequencer (TTY UI) 70
 - ▼ Quit VTS TTY UI 71

Testing Using the CLI 73

- CLI Overview 74
 - ▼ View the Host Configuration 75
- Configuring the Test Session (CLI) 75
 - ▼ Display and Set a Test Mode (CLI) 76
 - ▼ Display and Set Global Options (CLI) 77
 - ▼ Select Device to Test (CLI) 77
 - ▼ Change Individual Test Options (CLI) 79
 - ▼ Begin the Test Session (CLI) 80
 - ▼ Monitor the Test Session (CLI) 81

- ▼ Stop the Test Session (CLI) 82
- ▼ Review the Log Files (CLI) 82
- Deleting the Log Files 83
- ▼ Reset the Test Session (CLI) 84
- Saving a Test Configuration for Repeated use (CLI) 84
 - ▼ Create and Save a Test Session (CLI) 85
 - ▼ List Test Sessions (CLI) 86
 - ▼ Load a Test Session (CLI) 86
 - ▼ Delete a Test Session (CLI) 87
 - ▼ Reset a Test Session (CLI) 87
- ▼ Reprobe the Devices (CLI) 88
- ▼ Use the Auto Mode Sequencer (CLI) 89
- ▼ Stop the CLI 90

Bootable CD/DVD (x86) 91

- Overview and Limitations 92
 - Using the Oracle VTS 7.0 PS16 Bootable Image Built on Oracle Solaris 11 Update Release 92
 - Using the Oracle VTS 7.0 PS13 or Older Bootable Image Built on Oracle Solaris 10 and Update Release 93
- ▼ Use the Service Processor to Boot From the VTS Image 94

Interpreting VTS Messages 97

- Log File Descriptions 97
- Test Status Indicators 98
- Log Files 100
- VTS Messages 101

Using Additional VTS Features 103

- ▼ Generate a Test Report 103
- ▼ Use the vtsprobe Utility 104

Auto Mode Sequencer	105
Overview	105
Expected Behavior in Different Use Cases	106
Loop Option	107
Exiting the Auto Mode Sequencer	107
Automatic Setting of Levels	108
Safe and Unsafe Options	108
▼ Create a Configuration File for the Unsafe Option	109

Understanding the Tests 111

Disk Test	112
Disk Subtests	112
Disk Test Setup	114
Disk Test Options	115
Disk Test Options (Configuration File)	115
Environment Test	115
Environment Test Requirements	117
Environment Test Modes	118
Graphics Test	118
Graphics Test Overview	119
Graphics Test Modes	119
Graphics Test Setup	120
▼ Disable the Solaris Screen Saver	120
▼ Change the Screen Resolution	121
▼ Run <code>hlgraphics</code> Test	121
▼ Check Presence of <code>ast</code> Driver on T4 System	123
Host Bus Adapter Test	124
Host Bus Adapter Test Modes	125
Host Bus Adapter Test Setup	125

Host Bus Adapter Test Options Through Configuration File	126
Io_Interconnect Test	126
Io_Interconnect Test Mode	127
Io_Interconnect Test Setup	127
Live-Network Port Testing Settings	127
Io_Interconnect Test Options Through Configuration File	128
IOports Test	128
IOports Test Overview	129
IOports Test Modes	129
IOports Test Setup	130
Media Test	130
Media Test Overview	131
Media Test Modes	131
Media Test Setup	132
Memory Test	132
Memory Test Overview	133
Memory Test Swap Space Requirements	133
Memory Test Modes	134
Memory Test Options Through Configuration File	134
Network Test	134
Network Test Overview	135
Network Test Modes	137
Network Test Setup	137
Live-Network Port Testing Settings	138
Network Test Options	138
▼ Select and Deselect Network Tests	139
▼ Select Target Devices Registered Under Network Test	139
Loopback Options	140

▼ Choose Auto, Internal, External, or Back-to-Back Loopback	140
Network Test Options Through Configuration File	141
Processor Test	141
Processor Test Overview	142
Processor Test Modes	142
Removable Disk Test	143
Removable Disk Test Overview	143
Media Subtest	144
File System Subtest	144
Removable Disk Test Modes	145
Removable Disk Test Options Through Configuration File	145
Supported Configuration Parameters	147
VTS Harness Configuration File Parameters	148
Disk Test Configuration File Parameters	151
Removable Disk Test Configuration File Parameters	153
Host Bus Adapter Test Configuration File Parameters	154
Io_Interconnect Test Configuration File Parameters	155
Memory Test Configuration File Parameters	156
Network Test Configuration File Parameters	157
VTS on Logical Domains	159
Running Oracle VTS on LDOMS	159
VTS on the Primary or Control Domain	160
VTS on Logical or Guest Domains	160
VTS Sessions on LDOMs	160
Using the TTY Interface: System Exercisor	160
Using the TTY Interface - Component Stress	161
Building Test Connectors	165

Test Connector Overview	166
25-Pin Port A-to-Port B Plug	167
25-Pin Port A-to-A Port B-to-B Plug	169
9-Pin Male Single-Port Plug	171
9-Pin Female Single-Port Plug	172
9-Pin to 9-Pin Port-to-Port Cable	173
NT to TE Cable	174
TPE Cable for Fast Ethernet	175
TPE Cable for Gigabit and 10/100 Ethernet	176
9-Pin Male DB-9 External Connector	177
9-Pin Female DB-9 External Connector	179

Index	181
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Using This Documentation

This guide describes how to install, configure, and use Oracle Validation Test Suite 7.0 (Oracle VTS) software for patch set 8, and subsequent compatible releases. The primary audience of this manual is hardware testing and verification personnel, qualified maintenance providers, and advanced users.

The software provides a comprehensive diagnostic tool that tests and validates Oracle's Sun hardware by verifying the connectivity and proper functioning of most hardware controllers and devices.

Note – The software supports all Oracle manufactured SPARC and x86 systems that are supported by the Oracle Solaris Operating System that is compatible with each release.

In this document the term x86 refers to systems manufactured using processors compatible with the AMD64 or Intel Xeon/Pentium product families.

- [“Related Documentation”](#) on page xiv
- [“Feedback”](#) on page xiv
- [“Support and Accessibility”](#) on page xiv

Related Documentation

Documentation	Links
All Oracle products	http://www.oracle.com/documentation
Oracle VTS 7.0 Software User's Guide for Patch Set 8 and Subsequent Releases	http://www.oracle.com/pls/topic/lookup?ctx=OracleVTS7.0

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Understanding the Software

- “Software Overview” on page 1
- “Software Architecture” on page 2
- “Testable Components” on page 4
- “Understanding Test Modes” on page 5
- “User Interface Options” on page 7

Related Information

- “Installing or Updating the Software” on page 9
- “Starting the Software” on page 19
- “Testing Using the GUI” on page 31
- “Testing Using the TTY UI” on page 51
- “Testing Using the CLI” on page 73
- “Bootable CD/DVD (x86)” on page 91
- “Interpreting VTS Messages” on page 97
- “Using Additional VTS Features” on page 103
- “Understanding the Tests” on page 111
- “Supported Configuration Parameters” on page 147
- “VTS on Logical Domains” on page 159
- “Building Test Connectors” on page 165

Software Overview

Oracle VTS is an Oracle hardware validation test based on the Oracle Solaris Operating System. The software’s multiple hardware diagnostic tests verify the functionality of most hardware controllers and devices for systems based on the SPARC and x86 architectures. The software also provides an infrastructure for developers to develop their own tests and integrate into it.

The software is an application level tool that is used for:

- Hardware testing and validation during development
- Production
- Receive inspection
- Troubleshooting
- Periodic maintenance
- General system exercising

Testing capabilities are provided for all the major hardware in the system.

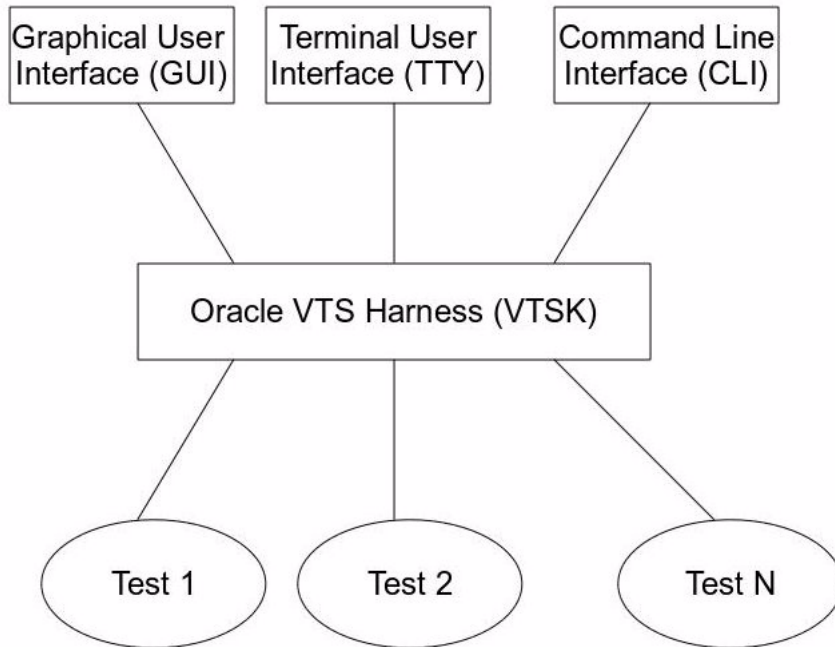
The software supports execution on the full range of Oracle Sun systems, starting from small desktops to high-end servers. The tests and the infrastructure of the tool scales with the type and size of the system configuration. The software automatically detects the type and configuration of the system it is running on, and it tailors the test execution accordingly.

Related Information

- [“Software Architecture” on page 2](#)
- [“Testable Components” on page 4](#)
- [“Understanding Test Modes” on page 5](#)
- [“User Interface Options” on page 7](#)

Software Architecture

Beginning with Patch Set 8, the software follows a two-tier architecture model. It consists of two distinct layers: client and agent, as shown below.



Note – Previous versions of the software supported a BUI interface. As of Oracle VTS 7.0, Patch Set 8, the BUI interface is no longer available. Instead, a GUI is provided. For instructions on using the BUI with earlier versions of the software, refer to the *Sun VTS 7.0 Software User's Guide*.

- **Client layer:** Consists of the user interfaces for the software. Three different user interfaces are supported: the GUI, TTY, and CLI.
- **Agent layer:** This layer consists of all the tests for testing the hardware, and a harness, which manages the tests. The harness also handles chores like the following:
 - Logging of messages
 - Handling of commands coming from different user interfaces
 - Updating status messages
 - Probing hardware

The harness (`vtstk`) acts as the control center for a testing session. The harness is the entity that controls and manages the complete working of a testing session. The harness performs functions like:

- Starting and stopping tests

- Handling commands from the user interfaces
- Scheduling

Like the test, the `vtstk` process needs to be run on the machine under test.

Related Information

- [“Software Overview” on page 1](#)
- [“Testable Components” on page 4](#)
- [“Understanding Test Modes” on page 5](#)
- [“User Interface Options” on page 7](#)

Testable Components

The software tests most of the key components in the system. These can be catered towards different testing needs. The software tests the following components:

- Processor
- Memory
- Disk
- Removable disk
- Graphics
- Media
- I/O ports
- Interconnects
- Network
- Environment
- HBA

Related Information

- [“Software Overview” on page 1](#)
- [“Software Architecture” on page 2](#)
- [“Understanding Test Modes” on page 5](#)
- [“User Interface Options” on page 7](#)

Understanding Test Modes

The tests can be tailored for different testing needs through a set of modes and test options. These modes and options determine how the tests are run on the system. You have the option of running the tests in three different modes:

- “Online Stress Test Mode” on page 5
- “System Exerciser Test Mode” on page 6
- “Component Stress Test Mode” on page 6

Related Information

- “Software Overview” on page 1
- “Software Architecture” on page 2
- “Testable Components” on page 4
- “User Interface Options” on page 7

Online Stress Test Mode

Use this mode for testing if you want to simultaneously run other applications in addition to this software on the system. The goal of this mode is to validate the hardware without having significant impact on other applications running on the system. In this mode, the tests would not stress the system, and to provide coverage they might have to run for longer periods of time. If there are any latent faults in the system hardware, the tests in this level will try to stimulate those faults before the application is impacted by the fault. When the test stimulates the fault, the OS detects the fault and takes appropriate action.

The test characteristics in this mode are as follows:

- **Nonintrusive:** The tests running in this mode do not intrude on the applications that are running on the system. Nonintrusive mode does not change any system configuration that can have an effect on the applications.
- **Data Safe:** The tests running in this mode do not cause any kind of data corruption.
- **Test Time:** The time of completion for these tests could vary from milliseconds to days. There is no restriction on the amount of time.
- **Resource Usage:** The resource usage is designed so that the test does not have any distinguishable effect on the applications that are running on the system. The goal is to use as few resources as possible for a given instance of time.

Related Information

- [“System Exerciser Test Mode” on page 6](#)
- [“Component Stress Test Mode” on page 6](#)

System Exerciser Test Mode

This mode provides system exercising capability. It tests the system with all its components. All tests are run in parallel. In this mode, no other application except this software should be running on the system. The characteristics of the tests in this mode are as follows:

- **Intrusive:** The tests can be intrusive in nature. No other application should run on the system while these tests are running.
- **Data Safe:** The tests are data safe by default.
- **Resource Usage:** The tests are aware that there could be other tests running. Accordingly, the tests would then allocate and lock resources.

Related Information

- [“Online Stress Test Mode” on page 5](#)
- [“Component Stress Test Mode” on page 6](#)

Component Stress Test Mode

This mode performs targeted testing of system components and modules. In this mode, the test puts the maximum stress on the component or module under test. The tests are not run simultaneously with other tests: all tests are run sequentially. No other user application should be running on the system. The characteristics of the tests in this mode are as follows:

- **Intrusive:** The tests can be intrusive in nature. The tests might need specific system configuration settings to run efficiently.
- **Data Safe:** The tests are data safe by default.

The tests assume that the complete system resources are at their disposal and can use resources according to its needs.

Related Information

- [“Online Stress Test Mode” on page 5](#)
- [“System Exerciser Test Mode” on page 6](#)

User Interface Options

The software provides three user interfaces. These user interfaces cater to different usage needs of the tool. Testing session controls are available through all interfaces. The harness, which handles the commands that are coming from the user interfaces, does not distinguish between which interface is sending the command. The different user interfaces and their usages are as follows:

- **GUI:** Oracle Java technology-based standalone user interface. The Java GUI must be started on the same machine under test that has the VTS kernel running. The GUI does not allow remote connection.
- **TTY:** An ASCII-based, screen-oriented interface that does not need a graphical window environment. You can use this interface to run the software from a serial terminal or a graphical window tool like a shell tool or a terminal window.
- **CLI:** The most lightweight user interface. Its main advantage is that it can be used in scripts for tool automation. The CLI is provided through the interface called `vts_cmd`. It is a UNIX shell application that enables you to send a single command to the kernel (`vtsk`), and receive a reply back.

Related Information

- [“Software Overview” on page 1](#)
- [“Software Architecture” on page 2](#)
- [“Testable Components” on page 4](#)
- [“Understanding Test Modes” on page 5](#)

Installing or Updating the Software

- “Preparing for Installation” on page 9
- “Install the Software for Oracle Solaris 11” on page 13
- “Install the Software for Oracle Solaris 10 Updates” on page 14
- “Set Up Man Page Access” on page 15
- “Upgrade the Software for Oracle Solaris 11” on page 16
- “Upgrade the Software for Oracle Solaris 10 Updates” on page 17
- “Uninstall the Software for Oracle Solaris 11” on page 17
- “Uninstall the Software for Oracle Solaris 10 Updates” on page 18

Related Information

- “Understanding the Software” on page 1
- “Starting the Software” on page 19
- “Testing Using the GUI” on page 31
- “Testing Using the TTY UI” on page 51
- “Testing Using the CLI” on page 73
- “Bootable CD/DVD (x86)” on page 91
- “Interpreting VTS Messages” on page 97
- “Using Additional VTS Features” on page 103
- “Understanding the Tests” on page 111
- “Supported Configuration Parameters” on page 147
- “VTS on Logical Domains” on page 159
- “Building Test Connectors” on page 165

Preparing for Installation

- “Installation Requirements” on page 10

- [“Determine Installed Software Version”](#) on page 11
- [“Obtaining Packages for Installation”](#) on page 12
- [“Software Packages”](#) on page 13

Related Information

- [“Install the Software for Oracle Solaris 11”](#) on page 13
- [“Install the Software for Oracle Solaris 10 Updates”](#) on page 14
- [“Set Up Man Page Access”](#) on page 15
- [“Upgrade the Software for Oracle Solaris 11”](#) on page 16
- [“Upgrade the Software for Oracle Solaris 10 Updates”](#) on page 17
- [“Uninstall the Software for Oracle Solaris 11”](#) on page 17
- [“Uninstall the Software for Oracle Solaris 10 Updates”](#) on page 18

Installation Requirements

Your system must meet the following requirements to run the software:

- Oracle Solaris OS S10U5 and above.
- The system must be booted to the multiuser level 3.
- The system must be running the Java Platform, Enterprise Edition, version 1.5.
- You must be logged in as a superuser.

Related Information

- [“Determine Installed Software Version”](#) on page 11
- [“Determine Installed Package Version for Oracle Solaris 11 Updates”](#) on page 11
- [“Determine Installed Package Version for Oracle Solaris 10 Updates”](#) on page 12
- [“Obtaining Packages for Installation”](#) on page 12
- [“Software Packages”](#) on page 13

▼ Determine Installed Software Version

- Determine if the software is installed and its version:

```
# cat /usr/sunvts/bin/.version
```

The output of this command confirms that the software is installed on the system and, displays the version of the software installed.

Related Information

- [“Installation Requirements”](#) on page 10
- [“Determine Installed Package Version for Oracle Solaris 11 Updates”](#) on page 11
- [“Determine Installed Package Version for Oracle Solaris 10 Updates”](#) on page 12
- [“Obtaining Packages for Installation”](#) on page 12
- [“Software Packages”](#) on page 13

▼ Determine Installed Package Version for Oracle Solaris 11 Updates

- Find the installed package version on Oracle Solaris 10 updates, type:

```
# pkg info sunvts | grep Version  
Version: 7.0.15
```

Related Information

- [“Installation Requirements”](#) on page 10
- [“Determine Installed Software Version”](#) on page 11
- [“Determine Installed Package Version for Oracle Solaris 10 Updates”](#) on page 12
- [“Obtaining Packages for Installation”](#) on page 12
- [“Software Packages”](#) on page 13

▼ Determine Installed Package Version for Oracle Solaris 10 Updates

- Find the installed package version on Oracle Solaris 10 updates, type:

```
# pkgparam -v SUNWvts | grep PRODVERS
SUNW_PRODVERS='7.0ps15'
```

The `pkgparam` command can be run on `SUNWvts`, `SUNWvtsts`, `SUNWvtstr`, `SUNWvtsmn` and `SUNWvtss` package to get the corresponding installed package versions.

Related Information

- “Installation Requirements” on page 10
- “Determine Installed Software Version” on page 11
- “Determine Installed Package Version for Oracle Solaris 11 Updates” on page 11
- “Obtaining Packages for Installation” on page 12
- “Software Packages” on page 13

Obtaining Packages for Installation

You can download the latest software packages from

My Oracle Support (<https://support.oracle.com/CSP/ui/flash.html>)

The downloaded package contains the `<VTSRelease>_sparc_singlesystem.tar.Z` file

Related Information

- “Installation Requirements” on page 10
- “Determine Installed Software Version” on page 11
- “Determine Installed Package Version for Oracle Solaris 11 Updates” on page 11
- “Determine Installed Package Version for Oracle Solaris 10 Updates” on page 12
- “Software Packages” on page 13

Software Packages

The software packages are delivered as part of the Oracle Solaris OS. The software is installed by default when the operating system is loaded onto the system. To find and upgrade to the latest version of the software, refer to the documentation at:

<http://www.oracle.com/pls/topic/lookup?ctx=OracleVTS7.0>

Package Name	Description
SUNWvts	Contains the test development library APIs and Oracle VTS kernel. You must install this package to run the software.
SUNWvtsmn	Contains the man pages for the Oracle VTS utilities, including the commandline utility.
SUNWvtstr	Contains the software framework configuration files in the root partition (superuser).
SUNWvtsts	Contains the test binaries for both x86 and SPARC systems.
SUNWvtss	Contains the software server modules. This package is no longer in use. If required, this package is used only for backward compatibility purposes.

Related Information

- “Installation Requirements” on page 10
- “Determine Installed Software Version” on page 11
- “Determine Installed Package Version for Oracle Solaris 11 Updates” on page 11
- “Determine Installed Package Version for Oracle Solaris 10 Updates” on page 12
- “Obtaining Packages for Installation” on page 12

▼ Install the Software for Oracle Solaris 11

1. Ensure that the Oracle Solaris Publisher is pointing to a repository containing the Solaris version currently installed on the machine.
2. Install the Image Packaging System (IPS) `sunvts` package `fmri`, type:

```
# pkg install SunVTS-incorporation sunvts
```

Related Information

- “Preparing for Installation” on page 9
- “Install the Software for Oracle Solaris 10 Updates” on page 14
- “Set Up Man Page Access” on page 15
- “Upgrade the Software for Oracle Solaris 11” on page 16
- “Upgrade the Software for Oracle Solaris 10 Updates” on page 17
- “Uninstall the Software for Oracle Solaris 11” on page 17
- “Uninstall the Software for Oracle Solaris 10 Updates” on page 18

▼ Install the Software for Oracle Solaris 10 Updates

1. Uncompress the downloaded package, type:

```
# tar -xvf VTS7.0ps12_sparc_singlesystem.tar
```

The VTS7.0ps12_sparc_singlesystem/sparc/ and VTS7.0ps12_sparc_singlesystem/x86 directories are created.

2. Add the packages, type:

```
# pkgadd -d . SUNWvts SUNWvtsmn SUNWvtser SUNWvtsts SUNWvtss
```

Related Information

- “Preparing for Installation” on page 9
- “Install the Software for Oracle Solaris 11” on page 13
- “Set Up Man Page Access” on page 15
- “Upgrade the Software for Oracle Solaris 11” on page 16
- “Upgrade the Software for Oracle Solaris 10 Updates” on page 17
- “Uninstall the Software for Oracle Solaris 11” on page 17
- “Uninstall the Software for Oracle Solaris 10 Updates” on page 18

▼ Set Up Man Page Access

The man pages are installed in the `/usr/sunvts/man` directory. To access the man pages, follow these steps to add this directory to your `MANPATH` variable in the initialization that corresponds to your login shell. (usually, `.profile` for the Bourne and Korn shells or `.login` for the C shell).

1. **Using an editor, add the man directory (`/usr/sunvts/man`) to the `MANPATH` variable in the appropriate initialization file.**

- For Bourne or Korn shell:

```
export MANPATH= /usr/share/man:/usr/man:/usr/sunvts/man
```

- For C shell:

```
setenv MANPATH /usr/share/man:/usr/man:/usr/sunvts/man
```

2. **Source the modified initialization file (with the `.[dot]` or the `source` command), or log out and log back in.**
3. **Ensure that the man directory is part of the `MANPATH` variable:**

```
# echo $MANPATH
/usr/share/man:/usr/man:/usr/sunvts/man
```

Related Information

- [“Preparing for Installation” on page 9](#)
- [“Install the Software for Oracle Solaris 11” on page 13](#)
- [“Install the Software for Oracle Solaris 10 Updates” on page 14](#)
- [“Upgrade the Software for Oracle Solaris 11” on page 16](#)
- [“Upgrade the Software for Oracle Solaris 10 Updates” on page 17](#)
- [“Uninstall the Software for Oracle Solaris 11” on page 17](#)
- [“Uninstall the Software for Oracle Solaris 10 Updates” on page 18](#)

▼ Upgrade the Software for Oracle Solaris 11

1. On a system running Oracle Solaris 11.2, set the publisher:

For Oracle Solaris S11 update releases:

```
# pkg set-publisher -G '*' -g
http://pkg.oracle.com/solaris/release solaris
```

For Oracle Solaris S11 update SRU releases:

```
# pkg set-publisher -G '*' -g
https://pkg.oracle.com/solaris/support solaris
```

2. Refresh the metadata.

```
# pkg refresh --full
```

3. Install the Oracle VTS packages if they are not pre-installed:

```
# pkg install SunVTS-incorporation sunvts
```

4. Update the Oracle VTS packages from a pre-installed version to a higher version:

```
# pkg update SunVTS-incorporation sunvts
```

Related Information

- [“Preparing for Installation” on page 9](#)
- [“Install the Software for Oracle Solaris 11” on page 13](#)
- [“Install the Software for Oracle Solaris 10 Updates” on page 14](#)
- [“Set Up Man Page Access” on page 15](#)
- [“Upgrade the Software for Oracle Solaris 10 Updates” on page 17](#)
- [“Uninstall the Software for Oracle Solaris 11” on page 17](#)
- [“Uninstall the Software for Oracle Solaris 10 Updates” on page 18](#)

▼ Upgrade the Software for Oracle Solaris 10 Updates

You can download the latest software patch from

My Oracle Support (<https://support.oracle.com/CSP/ui/flash.html>)

1. Uncompress the software patch (.Z) file, type:

```
# tar -xvf 146861-01.tar
```

After completion, the directory will have the patch directory. For example, 146861-01.

2. Add the patch, type:

```
# patchadd 146861-01
```

This updates the software with the latest patch.

Related Information

- “Preparing for Installation” on page 9
- “Install the Software for Oracle Solaris 11” on page 13
- “Install the Software for Oracle Solaris 10 Updates” on page 14
- “Set Up Man Page Access” on page 15
- “Upgrade the Software for Oracle Solaris 11” on page 16
- “Uninstall the Software for Oracle Solaris 11” on page 17
- “Uninstall the Software for Oracle Solaris 10 Updates” on page 18

▼ Uninstall the Software for Oracle Solaris 11

● Type:

```
# pkg uninstall sunvts SunVTS-incorporation
```

Related Information

- “Preparing for Installation” on page 9
- “Install the Software for Oracle Solaris 11” on page 13
- “Install the Software for Oracle Solaris 10 Updates” on page 14
- “Set Up Man Page Access” on page 15
- “Upgrade the Software for Oracle Solaris 11” on page 16
- “Upgrade the Software for Oracle Solaris 10 Updates” on page 17
- “Uninstall the Software for Oracle Solaris 10 Updates” on page 18

▼ Uninstall the Software for Oracle Solaris 10 Updates

- Type:

```
# pkgrm SUNWvts SUNWvtsmn SUNWvtstr SUNWvtsts SUNWvtss
```

Note – You have to remove the `SUNWvts` and `SUNWvtss` packages to completely uninstall the software.

Related Information

- “Preparing for Installation” on page 9
- “Install the Software for Oracle Solaris 11” on page 13
- “Install the Software for Oracle Solaris 10 Updates” on page 14
- “Set Up Man Page Access” on page 15
- “Upgrade the Software for Oracle Solaris 11” on page 16
- “Upgrade the Software for Oracle Solaris 10 Updates” on page 17
- “Uninstall the Software for Oracle Solaris 11” on page 17

Starting the Software

- “Preparing to Start the Software” on page 19
- “Starting the Software (Interface)” on page 22
- “Starting the Software (No Interface)” on page 25
- “Starting the Software (CD/DVD)” on page 29

Related Information

- “Understanding the Software” on page 1
- “Installing or Updating the Software” on page 9
- “Testing Using the GUI” on page 31
- “Testing Using the TTY UI” on page 51
- “Testing Using the CLI” on page 73
- “Bootable CD/DVD (x86)” on page 91
- “Interpreting VTS Messages” on page 97
- “Using Additional VTS Features” on page 103
- “Understanding the Tests” on page 111
- “Supported Configuration Parameters” on page 147
- “VTS on Logical Domains” on page 159
- “Building Test Connectors” on page 165

Preparing to Start the Software

- “System Requirements” on page 20
- “Runtime Considerations” on page 20
- “Device Preparations” on page 21

Related Information

- [“Starting the Software \(Interface\)” on page 22](#)
- [“Starting the Software \(No Interface\)” on page 25](#)
- [“Starting the Software \(CD/DVD\)” on page 29](#)
- *Oracle VTS PS19 Release Notes*

System Requirements

Your system must meet the following requirements to run the software:

- Oracle Solaris OS S10U5 and above.
- The system must be booted to the multiuser level 3.
- The system must be running the Java Platform, Enterprise Edition, version 1.6 or later.
- You must be logged in as a superuser.

Related Information

- [“Runtime Considerations” on page 20](#)
- [“Device Preparations” on page 21](#)

Runtime Considerations

Before you start the software, consider the following runtime issues:

- **System load:** Before you run the software on your system, consider the added system activity created by the software and its effect on users. Depending on the mode you select, testing can add a significant load to your system, or it can be quite minimal.
- **Other applications:** Some tests stress the system resources (such as virtual memory) to the point that other applications might not run.
- **System functionality:** The software is a diagnostic tool. It runs only when your system is fully booted to run level 3 (multiuser level). The software will not run from single-user (maintenance mode) nor from run level 0 (monitor mode).
- **Superuser access:** For security reasons, you must be a superuser to run the software.
- **Graphics tests:** When running tests on frame buffers, do not run any other application or screen saver program that uses the frame buffer. Frame buffer graphic tests print test patterns on the display. This situation temporarily prevents you from working in your window environment.

- **Swap space:** The amount of swap space required for testing varies widely with individual hardware and software configurations. If an adequate amount of swap space is not available on your system, the status column on the graphical user interface displays the message “waiting for swap space”.
- **Processor sets:** The software is not supported on systems where processor sets have been created. The Oracle Solaris OS enables the creation and management of processor set, which allows the users to bind processes to a group of processors, rather than just a single processor [`prset (1M)`]. In the presence of processor sets, the tests can have undeterministic behavior.
- **Zones:** The software is supported only in the Oracle Solaris global zone environment. It is not supported in local zones. The zones facility in the Oracle Solaris OS provides an isolated environment for running applications [`zones(5)`]. If the software is started on a local zone, it will abort with an appropriate message.
- **Systems in a clustered configuration:** When systems are configured in a cluster, do not run Oracle VTS, as system resources for testing needs might be exhausted. This could impact the ability of a system node in the cluster to respond to heartbeat communication from the other node. If you want to test the hardware for systems in a cluster, take the systems out of the cluster mode and then test them.

Related Information

- [“System Requirements” on page 20](#)
- [“Device Preparations” on page 21](#)

Device Preparations

Several tests require the installation of media or loopback connectors. You have to complete all installation requirements before the Oracle VTS kernel probes for devices (for example, when the software is started, or when you run the `reprobe` command). This installation allows the Oracle VTS kernel to properly identify each device.

You must install media in the following devices if you plan to test them in the System Exerciser test mode:

- **CD-ROM and DVD drives:** Load the appropriate media into the drive. The media can be an audio or data CD.
- **I/O ports:** Many of these tests require a loopback connector attached to the port. Attach any required loopback connectors for the ports you plan to test. For more information about connectors, see [Connectors](#).
- **Printer ports:** Requires a connection to a printer.

Related Information

- [“System Requirements”](#) on page 20
- [“Runtime Considerations”](#) on page 20

Starting the Software (Interface)

Oracle VTS application can be started with the script `startsunvts`. The script has a set of options that caters to different choices on how the application needs to be started. There are options to start the application and bring up a user interface that will need user intervention to select and start the tests. Also, there are options that will not bring up any user interface and start the testing without any user intervention.

The `startsunvts` script gets installed under `/usr/sunvts/bin` directory. You can type `startsunvts` in the terminal to know all the options. If you select any one the options from the menu (`d,l,s,m`, or `A`), it prompts the user to select yes or no to display the time taken for each LT in each pass.

```
# cd /usr/sunvts/bin
# ./startsunvts

Which VTS 7.0 User Interface (UI) or Testing option would you like
to use?
a) Command Line Interface
b) Terminal User Interface
c) Graphical User Interface
d) Default Testing
l) Comprehensive Testing
s) Short Testing
m) Memory Testing
A) All level Testing
s
Do you want time information of each LT in each pass 'y/n'
y
Starting VTS Short Testing....
```

A more detailed description on `startsunvts` and its option is provided in the following sections.

- [“Start the Software \(GUI\)”](#) on page 23
- [“Start the Software \(TTY UI\)”](#) on page 24
- [“Start the Software \(CLI\)”](#) on page 25

Related Information

- “Preparing to Start the Software” on page 19
- “Starting the Software (No Interface)” on page 25
- “Starting the Software (CD/DVD)” on page 29

▼ Start the Software (GUI)

The graphical user interface is a standalone user interface. Start the Java GUI on the same machine under test that has the Oracle VTS kernel running. The GUI does not allow remote connection.

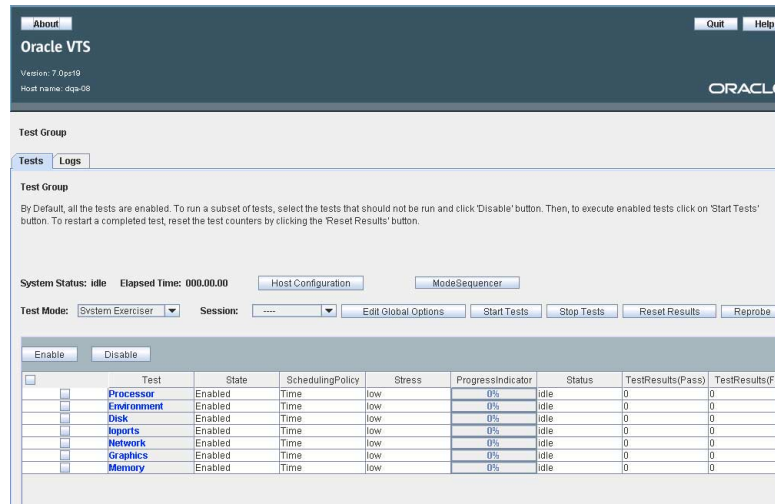
1. Review important information and perform any necessary steps before starting the software.

See “Preparing to Start the Software” on page 19

2. Start the graphical user interface:

```
# cd /usr/sunvts/bin
# ./startsunvts -g
```

The Oracle Validation Test Suite main window is displayed.



3. See “Testing Using the GUI” on page 31 to begin testing.

Related Information

- “Start the Software (TTY UI)” on page 24

- “Start the Software (CLI)” on page 25
- “Supported Configuration Parameters” on page 147

▼ Start the Software (TTY UI)

The terminal user interface is an ASCII-based, screen-oriented interface that does not require a graphical window environment. Most of the control and monitoring options that are available in the graphical interfaces are also available in this interface.

1. Review important information and perform any necessary steps before starting the software.

See “Preparing to Start the Software” on page 19

2. Start the terminal user interface:

```
# cd /usr/sunvts/bin
# ./startsunvts -t
```

The TTY main window of the Oracle Validation Test Suite is displayed.

```
*****Hostname: dqa-08~Model: SUNW, Sun-Blade-T6320~Oracle VTS 7.0ps19 *****
start  reset      quit      reprobe  test_mode  global_options
session log_files mode_sequencer host_conf help
*****
Test_Groups-
[+]Processor Options idle(Pass=0/Error=0)
[+]Environment Options idle(Pass=0/Error=0)
[+]Disk Options idle(Pass=0/Error=0)
[+]Ioports Options idle(Pass=0/Error=0)
[+]Network Options idle(Pass=0/Error=0)
[+]Graphics Options idle(Pass=0/Error=0)
[+]Memory Options idle(Pass=0/Error=0)

-----Status-----
Elapsed_time:000:00:00 System_status:idle Total_errors:0
Session_Name: Test_Mode:System Exerciser
```

3. See “Testing Using the TTY UI” on page 51 to begin testing.

Related Information

- “Start the Software (GUI)” on page 23
- “Start the Software (CLI)” on page 25
- “Supported Configuration Parameters” on page 147

▼ Start the Software (CLI)

1. Review important information and perform any necessary steps before starting the software.

See “Preparing to Start the Software” on page 19

2. Start the command line interface:

```
# cd /usr/sunvts/bin
# ./startsunvts -c
```

3. See “Testing Using the CLI” on page 73 to begin testing.

Related Information

- “Start the Software (GUI)” on page 23
- “Start the Software (TTY UI)” on page 24
- “Supported Configuration Parameters” on page 147

Starting the Software (No Interface)

The `startsunvts` command provides options to start testing the host under test without invoking the user interface. Starting the software in this way will run two hours of System Exerciser (high) mode followed by one pass of Component Stress (high) mode of all the probed tests.

- “Start Testing (No UI)” on page 26
- “Start Long Testing” on page 26
- “Start Short Testing” on page 27
- “Start Memory Sub System Testing” on page 27
- “Start Testing in all Stress Levels” on page 28
- “Start Testing With Time Information” on page 28

Related Information

- “Preparing to Start the Software” on page 19
- “Starting the Software (Interface)” on page 22
- “Starting the Software (CD/DVD)” on page 29

▼ Start Testing (No UI)

1. Review important information and perform any necessary steps before starting the software.

See “Preparing to Start the Software” on page 19

2. Start testing without any UI:

```
# cd /usr/sunvts/bin
# ./startsunvts -d
```

Related Information

- “Start Long Testing” on page 26
- “Start Short Testing” on page 27
- “Start Memory Sub System Testing” on page 27
- “Start Testing in all Stress Levels” on page 28
- “Start Testing With Time Information” on page 28

▼ Start Long Testing

Long testing runs the default settings of the tool, System Exerciser Mode (high), for four hours, followed by Component Stress (High) for five passes for all the probed tests.

1. Review important information and perform any necessary steps before starting the software.

See “Preparing to Start the Software” on page 19

2. Start long testing without any UI:

```
# cd /usr/sunvts/bin
# ./startsunvts -l
```

Related Information

- “Start Testing (No UI)” on page 26
- “Start Short Testing” on page 27
- “Start Memory Sub System Testing” on page 27
- “Start Testing in all Stress Levels” on page 28
- “Start Testing With Time Information” on page 28

▼ Start Short Testing

Short Testing runs the System Exerciser Mode (High) for 30 minutes.

1. **Review important information and perform any necessary steps before starting the software.**

See “Preparing to Start the Software” on page 19

2. **Start short testing without any UI:**

```
# cd /usr/sunvts/bin
# ./startsunvts -s
```

Related Information

- “Start Testing (No UI)” on page 26
- “Start Long Testing” on page 26
- “Start Memory Sub System Testing” on page 27
- “Start Testing in all Stress Levels” on page 28
- “Start Testing With Time Information” on page 28

▼ Start Memory Sub System Testing

This test runs the relevant Memory tests to do a thorough testing of the Memory sub system. After every run, a summary report of the test run is displayed on the terminal screen where the `startsunvts` is invoked.

1. **Review important information and perform any necessary steps before starting the software.**

See “Preparing to Start the Software” on page 19

2. **Start memory subsystem testing:**

```
# cd /usr/sunvts/bin
# ./startsunvts -m
```

Related Information

- “Start Testing (No UI)” on page 26
- “Start Long Testing” on page 26
- “Start Short Testing” on page 27
- “Start Testing in all Stress Levels” on page 28
- “Start Testing With Time Information” on page 28

▼ Start Testing in all Stress Levels

This test runs the default settings of the software, that is, Online Mode (Low and High), System Exerciser Mode (Low and High) and Component Stress (Low and High).

- **Start long testing without any UI:**

```
# cd/usr/sunvts/bin
# ./startsunvts -a
```

Related Information

- “Start Testing (No UI)” on page 26
- “Start Long Testing” on page 26
- “Start Short Testing” on page 27
- “Start Memory Sub System Testing” on page 27
- “Start Testing With Time Information” on page 28

▼ Start Testing With Time Information

Any non user interface test along with the `-T` option can store the time information of each logical test in each pass in the `/var/sunvts/logs/ltime` directory.

- **Start short testing with time information:**

```
# cd /usr/sunvts/bin
# ./startsunvts -s -T
```

Related Information

- “Start Testing (No UI)” on page 26
- “Start Long Testing” on page 26
- “Start Short Testing” on page 27
- “Start Memory Sub System Testing” on page 27
- “Start Testing in all Stress Levels” on page 28

Starting the Software (CD/DVD)

You can also start the software using the bootable CD/DVD that is delivered as a part of your system or a bootable CD/DVD that you have created. You can download the ISO image from the Oracle download center. To burn the ISO image to the CD/DVD, you can use any CD/DVD burning device and software.

Note – You can only use the CD feature on Oracle x86 platforms.

- [“Start the Software \(Bootable CD/DVD\)” on page 29](#)

Related Information

- [“Preparing to Start the Software” on page 19](#)
- [“Starting the Software \(Interface\)” on page 22](#)
- [“Starting the Software \(No Interface\)” on page 25](#)
- [“Bootable CD/DVD \(x86\)” on page 91](#)

▼ Start the Software (Bootable CD/DVD)

This procedure is applicable only for versions of the VTS bootable CD/DVD based on Oracle Solaris10 and update releases.

1. Insert the disk into the CD drive of the computer.

2. Set BIOS to boot from the CD.

To enable the CD to boot, ensure that the BIOS is configured properly. In the boot order priorities, the CD drive must be shown before the hard disk.

3. Save the BIOS changes, and then exit the BIOS settings.

The system boots from the CD and starts Oracle VTS. You are prompted to choose an interface: TTY, CLI, or GUI.

Related Information

- [“Bootable CD/DVD \(x86\)” on page 91](#)

Testing Using the GUI

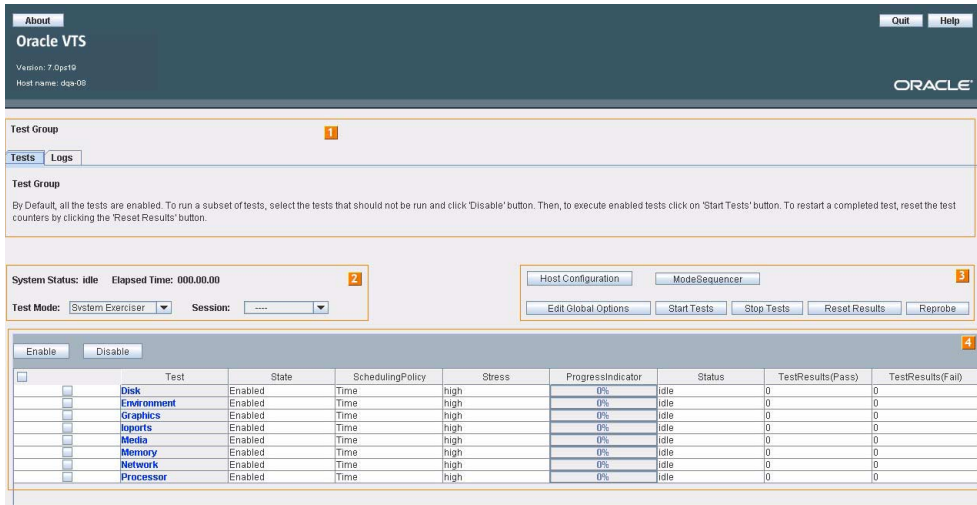
- “GUI Overview” on page 32
- “Configuring the Test Session (GUI)” on page 35
- “Begin the Test Session (GUI)” on page 40
- “Monitor the Test Session” on page 41
- “Stop the Test Session (GUI)” on page 41
- “Review the Log Files (GUI)” on page 42
- “Delete the Log Files (GUI)” on page 43
- “Reset the Test Session (GUI)” on page 44
- “Use the Auto Mode Sequencer (GUI)” on page 44
- “Saving a Test Session Configuration for Repeated Use (GUI)” on page 45
- “Quit the GUI” on page 50

Related Information


- “Understanding the Software” on page 1
- “Installing or Updating the Software” on page 9
- “Starting the Software” on page 19
- “Testing Using the TTY UI” on page 51
- “Testing Using the CLI” on page 73
- “Bootable CD/DVD (x86)” on page 91
- “Interpreting VTS Messages” on page 97
- “Using Additional VTS Features” on page 103
- “Understanding the Tests” on page 111
- “Supported Configuration Parameters” on page 147
- “VTS on Logical Domains” on page 159
- “Building Test Connectors” on page 165


GUI Overview

The GUI is an Oracle Java technology-based standalone user interface. The GUI needs to be started on the same machine under test that has the VTS kernel running. The GUI does not allow remote connection.



Icon	Name	Description
	Test Group Tab	Lists the tests that are registered with the host machine. The Tests tab is associated with the Test Group View, and the Logs tab is associated with the log view of the software. The host machine name can be viewed at the top of the page.
	Test Group Pane	Displays the tests registered with the host. You can set the testing modes, schedule the tests, and monitor the testing status of each of the tests.

Icon	Name	Description
	Test Group Buttons	<p>You can perform various functions on the Test Group table using the following buttons:</p> <ul style="list-style-type: none">• Host Configuration: Displays the details of the machine under test.• Mode Sequencer: Displays the options to set the Auto Mode Sequencer to run the tests.• Edit Global Options: Sets options that you can apply to all the tests globally. These options can be used to schedule the total time of the testing session.• Start Tests: Starts all the tests that are enabled. By default, all the tests are enabled. To run only a particular test, disable other tests by clicking the corresponding checkbox and then clicking Disable. To start a particular test when other tests are already running, select the checkbox for the test and click Enable.• Stop Tests: Stops all the tests that are started. To stop a particular test that is running, select the checkbox for the test and click Disable.• Reset Results: Resets the status counters (pass, elapsed time, and error count of a test is reset to zero), and progress bar to an idle state. Before starting a new test session, click Reset.• Reprobe: Reprobes the system for devices currently available.

Icon	Name	Description
	Test Table	<p>Describes the parameters available in setting up a test. The Test Group screen displays the name of the system being viewed. The following items describe the Test Table:</p> <ul style="list-style-type: none"> • Enable: Enables all the selected tests. To verify which tests are enabled, look for the state of the tests under the State column corresponding to the test. • Disable: Disables all the selected tests. To verify if a particular test is disabled, look for the state of the test under the State column corresponding to the test. • Test: Tests can be any of the following: Memory, Disk, Removable Disk, Network, HBA, Graphics, Processor, IO ports, Interconnect and Media. Click on the test link to set the test options, namely: stress level, scheduling policy (time-based or in terms of test passes) and error limit. • State: Displays the state of the test at a given time (enabled or disabled). • Scheduling Policy: Displays the scheduling policy selected for the test, whether Test Time or Test Pass based on the testing requirement. • Stress: Displays the stress level at which the test is running (low or high). • Progress Indicator: Indicates the percentage of test run completed. A tool tip over the progress bar shows the progress of the test in percentage and the current state of the test. • Status - Displays the status of the test being viewed. • Test Results: Displays the test results in two columns. The first column displays the number of test errors and the second displays the number of test successes.

Related Information

- “Configuring the Test Session (GUI)” on page 35
- “Begin the Test Session (GUI)” on page 40

- “Monitor the Test Session” on page 41
- “Stop the Test Session (GUI)” on page 41
- “Review the Log Files (GUI)” on page 42
- “Delete the Log Files (GUI)” on page 43
- “Reset the Test Session (GUI)” on page 44
- “Use the Auto Mode Sequencer (GUI)” on page 44
- “Saving a Test Session Configuration for Repeated Use (GUI)” on page 45
- “Quit the GUI” on page 50

Configuring the Test Session (GUI)

- “View the Host Configuration (GUI)” on page 36
- “Select a Test Mode (GUI)” on page 36
- “Change Global Options (GUI)” on page 36
- “Select Device to Test (GUI)” on page 38
- “Change Individual Test Options (GUI)” on page 38

Related Information

- “GUI Overview” on page 32
- “Begin the Test Session (GUI)” on page 40
- “Monitor the Test Session” on page 41
- “Stop the Test Session (GUI)” on page 41
- “Review the Log Files (GUI)” on page 42
- “Delete the Log Files (GUI)” on page 43
- “Reset the Test Session (GUI)” on page 44
- “Use the Auto Mode Sequencer (GUI)” on page 44
- “Saving a Test Session Configuration for Repeated Use (GUI)” on page 45
- “Quit the GUI” on page 50

▼ View the Host Configuration (GUI)

1. In the main page of the GUI, click **Host Configuration** to display the details of the machine under test.

The Host Configuration page is displayed, showing the machine details such as hostname, IP address, platform, operating system, number of CPUs, machine type, and architecture of the machine under test.

2. Click the **Back** button to return to the main page.

You can also use the navigation link at the top of the page to return to the parent page.

Related Information

- [“Select a Test Mode \(GUI\)” on page 36](#)
- [“Change Global Options \(GUI\)” on page 36](#)
- [“Select Device to Test \(GUI\)” on page 38](#)
- [“Change Individual Test Options \(GUI\)” on page 38](#)

▼ Select a Test Mode (GUI)

- On the **Test Group** page, choose the test mode you want from the **Test Mode** menu.

By default, the System Exerciser mode is selected.

Related Information

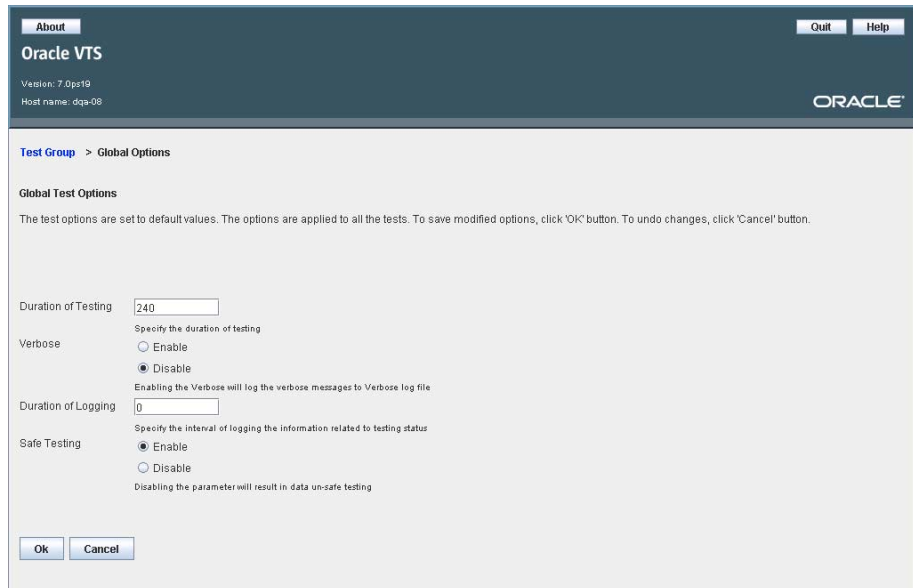
- [“View the Host Configuration \(GUI\)” on page 36](#)
- [“Change Global Options \(GUI\)” on page 36](#)
- [“Select Device to Test \(GUI\)” on page 38](#)
- [“Change Individual Test Options \(GUI\)” on page 38](#)

▼ Change Global Options (GUI)

You can apply certain options to all the tests globally. You can use these schedule the total time of the testing session.

1. In the **Test Group** screen, click **Edit Global Options**.

The Global Test Options page is displayed.



2. In the Duration of Testing field, set the test duration in minutes.

- For Online and Component Stress modes, the test duration is set to a default value of 0 (infinite).
- For System Exerciser Mode, the test duration is set to a default value of 240 minutes.

3. In the Verbose field, select Enable if you want to log the Verbose messages, or select Disable.

By default, the verbose messages are logged in the `/var/sunvts/logs/sunvts.verbose` file.

4. In the Duration of Logging field, set the time in minutes after which the information messages will be logged in the `sunvts.info` file.

For example, if the duration is set to 60 minutes, the testing information messages will be logged in the `sunvts.info` file every 60 minutes.

5. In the Safe Testing field, select Enable for data safe testing, or select Disable.

Note – Disabling this option will result in unsafe data testing.

6. Click Ok to save your changes.

Click Cancel to navigate back to the Test Group page without saving your edited options. You can also navigate back to the parent page using the links provided at the top of this page.

Related Information

- [“View the Host Configuration \(GUI\)” on page 36](#)
- [“Select a Test Mode \(GUI\)” on page 36](#)
- [“Select Device to Test \(GUI\)” on page 38](#)
- [“Change Individual Test Options \(GUI\)” on page 38](#)

▼ **Select Device to Test (GUI)**

1. **In the Test Groups page, choose the device you want to test from the test table.**
2. **Click Enable.**

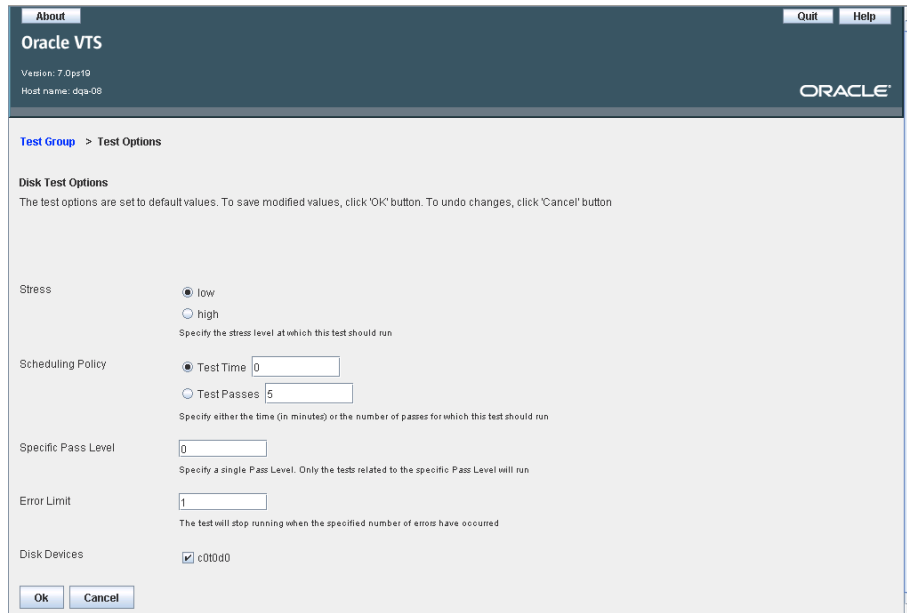
Related Information

- [“View the Host Configuration \(GUI\)” on page 36](#)
- [“Select a Test Mode \(GUI\)” on page 36](#)
- [“Change Global Options \(GUI\)” on page 36](#)
- [“Change Individual Test Options \(GUI\)” on page 38](#)

▼ **Change Individual Test Options (GUI)**

1. **In the Test Groups page, click the test for which you want to change the options.**

The Test Options screen is displayed for the selected test.



2. In the Stress field, select the stress level depending on your requirement.

The default value of stress is based on the system configuration. If the system has a small memory configuration, the default stress is set to low. If the system has a large memory configuration, the default stress is set to high. A small memory configuration is less than 120 Mb, multiplied by the number of CPUs.

3. In the Scheduling Policy field, select Test Time or Test Pass.

Depending on the selection, provide the time in minutes or number of passes.

- **Online Stress Default:** The Scheduling Policy is Test Pass, and the default test pass is 1. If the scheduling policy is changed to Test Time, the default test time is 240 minutes.
- **System Exerciser Default:** the Scheduling Policy is Test Time, and the default test time is 0 (or infinite). If the scheduling policy is changed to Test Pass, the default test pass is 5.
- **Component Stress Default:** Scheduling Policy is Test Pass, and the default test pass is 5. If the scheduling policy is changed to Test Time, the default test time will be 240 minutes.

4. In the Specific Pass level field, type the number of passes for the test to run.

You can choose a specific pass level, and only the test related to that specific pass level will run. The valid range of pass levels are listed in the enclosed bracket next to the specific pass level tag. By default, the value of Specific Pass level is 0, which means that no specific pass level has been selected.

5. In the Error Limit field, type the error limit after which the test will stop.

By default, the Error Limit is set to 1. An error limit of 0 means that the test continues to run with no limits to error count.

6. In the Disk Devices field, select the test you want to test.

Some tests export specific options that allow you to select the test devices and modify the device options.

7. Click Ok to save the changes.

Clicking Cancel returns you back to the Test Groups page without saving your changes.

Related Information

- [“View the Host Configuration \(GUI\)” on page 36](#)
- [“Select a Test Mode \(GUI\)” on page 36](#)
- [“Change Global Options \(GUI\)” on page 36](#)
- [“Select Device to Test \(GUI\)” on page 38](#)

▼ Begin the Test Session (GUI)

All the tests that are enabled start by default. By default, all the tests are enabled.

1. In the Test Groups page, choose the test you want to run from the Test Table section and click Enable.

2. Click Start Tests.

All the tests that are enabled start. To run a particular test, disable the other tests by clicking the corresponding checkbox and then click Disable. To start a particular test when other tests are already running, select the checkbox for the test and click Enable.

Related Information

- [“GUI Overview” on page 32](#)
- [“Configuring the Test Session \(GUI\)” on page 35](#)
- [“Monitor the Test Session” on page 41](#)
- [“Stop the Test Session \(GUI\)” on page 41](#) [“Review the Log Files \(GUI\)” on page 42](#)
- [“Review the Log Files \(GUI\)” on page 42](#)
- [“Delete the Log Files \(GUI\)” on page 43](#)
- [“Reset the Test Session \(GUI\)” on page 44](#)

- “Use the Auto Mode Sequencer (GUI)” on page 44
- “Saving a Test Session Configuration for Repeated Use (GUI)” on page 45
- “Quit the GUI” on page 50

▼ Monitor the Test Session

- **You can monitor the tests by viewing the following fields:**
 - **System Status:** Displays the system status as testing if a test is running.
 - **Elapsed_time:** Displays the total time elapsed since the tests were started.
 - **Progress Indicator:** Displays the percentage of test completion.
 - **Test_Mode:** Displays the mode in which the tests are being executed.

Related Information

- “GUI Overview” on page 32
- “Configuring the Test Session (GUI)” on page 35
- “Begin the Test Session (GUI)” on page 40
- “Stop the Test Session (GUI)” on page 41 “Review the Log Files (GUI)” on page 42
- “Review the Log Files (GUI)” on page 42
- “Delete the Log Files (GUI)” on page 43
- “Reset the Test Session (GUI)” on page 44
- “Use the Auto Mode Sequencer (GUI)” on page 44
- “Saving a Test Session Configuration for Repeated Use (GUI)” on page 45
- “Quit the GUI” on page 50

▼ Stop the Test Session (GUI)

- **In the Test Group page, click Stop Tests to stop all the running tests.**

The test session is stopped and the Status field changes to stopping. Once all the tests are stopped, the status is changed to idle.

Related Information

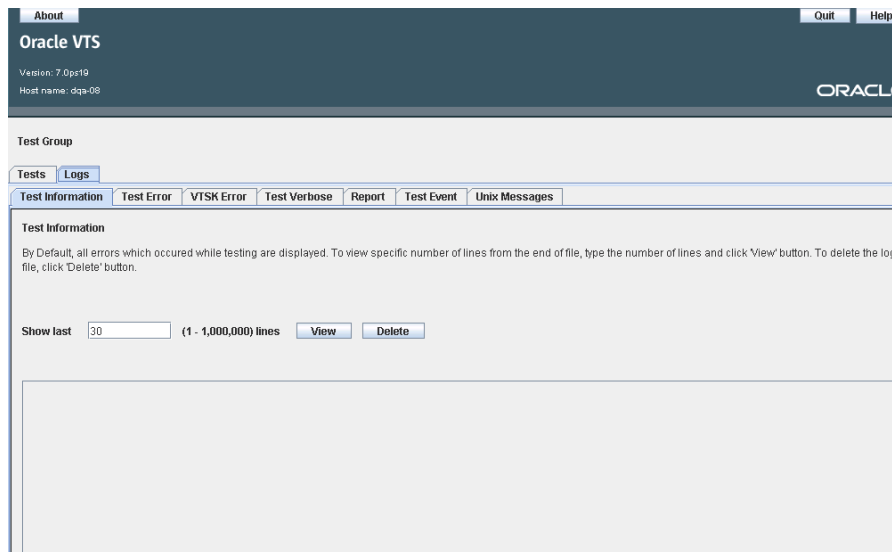
- “GUI Overview” on page 32

- “Configuring the Test Session (GUI)” on page 35
- “Begin the Test Session (GUI)” on page 40
- “Monitor the Test Session” on page 41
- “Review the Log Files (GUI)” on page 42
- “Delete the Log Files (GUI)” on page 43
- “Reset the Test Session (GUI)” on page 44
- “Use the Auto Mode Sequencer (GUI)” on page 44
- “Saving a Test Session Configuration for Repeated Use (GUI)” on page 45
- “Quit the GUI” on page 50

▼ Review the Log Files (GUI)

1. In the Test Group screen, click the Logs tab.

The Logs screen is displayed.



2. Click a tab to view the related logging information.
3. In the Show last field, type the number of lines you want to view from the end of the log file, and click View.

Related Information

- “GUI Overview” on page 32
- “Configuring the Test Session (GUI)” on page 35
- “Begin the Test Session (GUI)” on page 40
- “Monitor the Test Session” on page 41
- “Stop the Test Session (GUI)” on page 41
- “Delete the Log Files (GUI)” on page 43
- “Reset the Test Session (GUI)” on page 44
- “Use the Auto Mode Sequencer (GUI)” on page 44
- “Saving a Test Session Configuration for Repeated Use (GUI)” on page 45
- “Quit the GUI” on page 50

▼ Delete the Log Files (GUI)

1. **In the Test Group screen, click the Logs tab.**
The Logs screen is displayed.
2. **Click a tab to delete the related logging information.**
3. **Click Delete.**

Note – The Delete option deletes the log tests from the directory.

Related Information

- “GUI Overview” on page 32
- “Configuring the Test Session (GUI)” on page 35
- “Begin the Test Session (GUI)” on page 40
- “Monitor the Test Session” on page 41
- “Stop the Test Session (GUI)” on page 41
- “Review the Log Files (GUI)” on page 42
- “Reset the Test Session (GUI)” on page 44
- “Use the Auto Mode Sequencer (GUI)” on page 44
- “Saving a Test Session Configuration for Repeated Use (GUI)” on page 45
- “Quit the GUI” on page 50

▼ Reset the Test Session (GUI)

- In the Test Groups page, click **Reset Results** to reset the current test session.

Note – You have to stop the current test session to reset it.

Related Information

- “GUI Overview” on page 32
- “Configuring the Test Session (GUI)” on page 35
- “Begin the Test Session (GUI)” on page 40
- “Monitor the Test Session” on page 41
- “Stop the Test Session (GUI)” on page 41
- “Review the Log Files (GUI)” on page 42
- “Delete the Log Files (GUI)” on page 43
- “Use the Auto Mode Sequencer (GUI)” on page 44
- “Saving a Test Session Configuration for Repeated Use (GUI)” on page 45
- “Quit the GUI” on page 50

▼ Use the Auto Mode Sequencer (GUI)

Use the Mode Sequencer to determine the sequence of tests that will be run in Auto mode. By default, the Sequencer is switched off (set to Disable).

1. In the main page of the GUI, click **Mode Sequencer**.

The Auto Mode Sequence screen is displayed.

2. In the Sequencer field, select **Enable**.

3. Select the modes.

- **First:** Select one of the three test modes that will run first. By default, this option is set to None.
- **Second:** Select one of the three test modes that will run second. By default, this option is set to None.

- **Third:** Select one of the three test modes that will run third. By default, this option is set to None.
4. **In the Loop field, specify the number of times the sequence will run.**
The value must be between 1 and 99999. By default, this is set to 1.
 5. **Click Ok to apply the changes.**

Related Information

- [“Auto Mode Sequencer” on page 105](#)
- [“GUI Overview” on page 32](#)
- [“Configuring the Test Session \(GUI\)” on page 35](#)
- [“Begin the Test Session \(GUI\)” on page 40](#)
- [“Monitor the Test Session” on page 41](#)
- [“Stop the Test Session \(GUI\)” on page 41](#)
- [“Review the Log Files \(GUI\)” on page 42](#)
- [“Delete the Log Files \(GUI\)” on page 43](#)
- [“Reset the Test Session \(GUI\)” on page 44](#)
- [“Saving a Test Session Configuration for Repeated Use \(GUI\)” on page 45](#)
- [“Quit the GUI” on page 50](#)

Saving a Test Session Configuration for Repeated Use (GUI)

- [“Create and Save a Test Session \(GUI\)” on page 46](#)
- [“List Test Sessions \(GUI\)” on page 47](#)
- [“Load a Test Session \(GUI\)” on page 48](#)
- [“To Create a Configuration File to Load Sessions From a User Defined Location” on page 48](#)
- [“Delete a Test Session \(GUI\)” on page 49](#)
- [“Reset a Test Session \(GUI\)” on page 49](#)

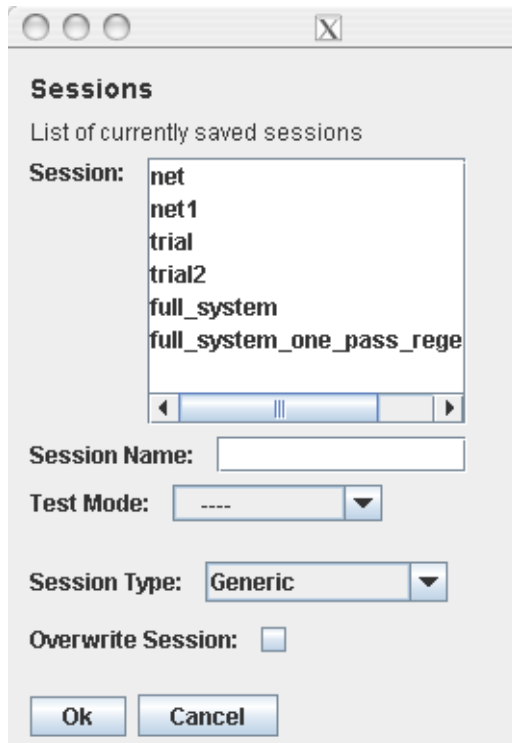
Related Information

- [“GUI Overview” on page 32](#)
- [“Configuring the Test Session \(GUI\)” on page 35](#)

- “Begin the Test Session (GUI)” on page 40
- “Monitor the Test Session” on page 41
- “Stop the Test Session (GUI)” on page 41
- “Review the Log Files (GUI)” on page 42
- “Delete the Log Files (GUI)” on page 43
- “Reset the Test Session (GUI)” on page 44
- “Use the Auto Mode Sequencer (GUI)” on page 44
- “Quit the GUI” on page 50

▼ Create and Save a Test Session (GUI)

1. **Configure the software for the test session that you want to save.**
2. **In the Test Groups page, choose Save Session from the Session menu.**
The Save Session window is displayed.



3. In the **Session Name Text field**, type a name for the session you want to save.
You can also choose existing session name from the list.

Note – Do not use any space for the session name input.

4. From the **Test Mode menu**, choose a default test mode for the session.
5. From the **Session Type menu**, choose the type of session, either **Generic** or **Host Specific**.
6. If you want to overwrite an existing session with a new one, select **Overwrite Session**.
7. Click **OK** to save the session.

The Save Session window is closed, and your session configurations are saved for future use.

Related Information

- [“List Test Sessions \(GUI\)” on page 47](#)
- [“Load a Test Session \(GUI\)” on page 48](#)
- [“To Create a Configuration File to Load Sessions From a User Defined Location” on page 48](#)
- [“Delete a Test Session \(GUI\)” on page 49](#)
- [“Reset a Test Session \(GUI\)” on page 49](#)

▼ List Test Sessions (GUI)

1. In the **Test Groups page**, choose **List Sessions** from the **Session menu**.
The List Sessions window is displayed with the list of all existing sessions.
2. Click **Close** to close the window.

Related Information

- [“Create and Save a Test Session \(GUI\)” on page 46](#)
- [“Load a Test Session \(GUI\)” on page 48](#)
- [“To Create a Configuration File to Load Sessions From a User Defined Location” on page 48](#)
- [“Delete a Test Session \(GUI\)” on page 49](#)
- [“Reset a Test Session \(GUI\)” on page 49](#)

▼ Load a Test Session (GUI)

You can choose and load a saved test session. Based on the selected test session, the configuration and option values for its execution are set.

1. **In the Test Groups page, select Load session from the Session menu.**

The Sessions window is displayed listing all the available test sessions.

2. **Select the session that you want to load.**

3. **From the Test Mode menu, choose a default test mode to load the session.**

4. **Click Ok to load the session.**

The Session window is closed, and the test session configuration is loaded. You can use this configuration, or modify it, before you start testing.

Note – Click Cancel to exit this window without loading a test session.

Related Information

- [“Create and Save a Test Session \(GUI\)” on page 46](#)
- [“List Test Sessions \(GUI\)” on page 47](#)
- [“To Create a Configuration File to Load Sessions From a User Defined Location” on page 48](#)
- [“Delete a Test Session \(GUI\)” on page 49](#)
- [“Reset a Test Session \(GUI\)” on page 49](#)

▼ To Create a Configuration File to Load Sessions From a User Defined Location

1. **Obtain root privileges.**

2. **Create a configuration file:**

```
# /etc/sunvts/conf/sunvts.conf
```

3. **Open the configuration file for editing.**

This file takes a variable name and a corresponding value, which will be used by the software. Both the name and the value are keywords. The only name and value that are accepted is: **VTS_CUSTOM_SESSIONDIR /tmp/session/**

4. **Save the file.**

5. Start the software.

The software reads the sessions from the path mentioned in the configuration file.

Related Information

- [“Create and Save a Test Session \(GUI\)” on page 46](#)
- [“List Test Sessions \(GUI\)” on page 47](#)
- [“Load a Test Session \(GUI\)” on page 48](#)
- [“Delete a Test Session \(GUI\)” on page 49](#)
- [“Reset a Test Session \(GUI\)” on page 49](#)

▼ Delete a Test Session (GUI)

1. In the Test Groups page, choose Delete Session from the Session menu.

The Sessions window is displayed, listing all the available test sessions.

2. Select the session that you want to delete.

3. Click Ok to delete the selected session.

The Sessions window is closed and the selected session is deleted.

Note – Click Cancel to exit the window without deleting a test session.

Related Information

- [“Create and Save a Test Session \(GUI\)” on page 46](#)
- [“List Test Sessions \(GUI\)” on page 47](#)
- [“Load a Test Session \(GUI\)” on page 48](#)
- [“To Create a Configuration File to Load Sessions From a User Defined Location” on page 48](#)
- [“Reset a Test Session \(GUI\)” on page 49](#)

▼ Reset a Test Session (GUI)

You can use this option if you load or save a session but then decide to run the tests with the default test configuration. This clears the values and settings of the session and loads default parameters.

● In the Test Group page, choose Reset Session from the Session menu.

The current session is cleared and the default parameters are loaded.

Related Information

- [“Create and Save a Test Session \(GUI\)”](#) on page 46
- [“List Test Sessions \(GUI\)”](#) on page 47
- [“Load a Test Session \(GUI\)”](#) on page 48
- [“To Create a Configuration File to Load Sessions From a User Defined Location”](#) on page 48
- [“Delete a Test Session \(GUI\)”](#) on page 49

▼ Quit the GUI

1. **In the main page, click Quit.**

The Quit VTS window is displayed.

2. **Click Quit UI to exit the GUI, or click Quit UI + Kernel to exit the GUI interface and then the kernel.**

Related Information

- [“GUI Overview”](#) on page 32
- [“Configuring the Test Session \(GUI\)”](#) on page 35
- [“Begin the Test Session \(GUI\)”](#) on page 40
- [“Monitor the Test Session”](#) on page 41
- [“Stop the Test Session \(GUI\)”](#) on page 41
- [“Review the Log Files \(GUI\)”](#) on page 42
- [“Review the Log Files \(GUI\)”](#) on page 42
- [“Delete the Log Files \(GUI\)”](#) on page 43
- [“Reset the Test Session \(GUI\)”](#) on page 44
- [“Use the Auto Mode Sequencer \(GUI\)”](#) on page 44
- [“Saving a Test Session Configuration for Repeated Use \(GUI\)”](#) on page 45

Testing Using the TTY UI

- “TTY UI Overview” on page 52
- “Keyboard Commands for Navigation (TTY UI)” on page 53
- “Display TTY UI HELP and Release Table” on page 54
- “View the Host System Configuration (TTY UI)” on page 55
- “Configuring the Test Session (TTY UI)” on page 56
- “Begin the Test Session (TTY UI)” on page 60
- “Monitor the Test Session” on page 61
- “Stop the Test Session (TTY UI)” on page 62
- “Review the Log Files (TTY UI)” on page 62
- “Reset the Test Session Results (TTY UI)” on page 64
- “Saving a Test Configuration for Repeated Use” on page 65
- “Reprobe the Devices (TTY UI)” on page 69
- “Use the Auto Mode Sequencer (TTY UI)” on page 70
- “Quit VTS TTY UI” on page 71

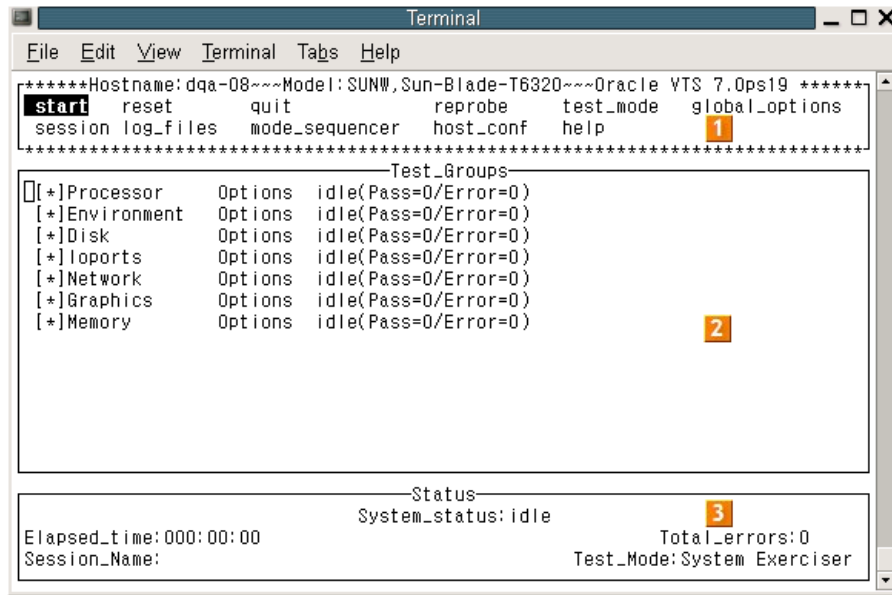
Related Information

- “Understanding the Software” on page 1
- “Installing or Updating the Software” on page 9
- “Starting the Software” on page 19
- “Testing Using the GUI” on page 31
- “Testing Using the CLI” on page 73
- “Bootable CD/DVD (x86)” on page 91
- “Interpreting VTS Messages” on page 97
- “Using Additional VTS Features” on page 103
- “Understanding the Tests” on page 111
- “Supported Configuration Parameters” on page 147
- “VTS on Logical Domains” on page 159
- “Building Test Connectors” on page 165

TTY UI Overview

The TTY UI is an ASCII-based, screen-oriented interface that does not require a graphical window environment. Most of the control and monitoring options that are available in the GUI are also available in the TTY interface.

You can use the TTY interface to run the software from a serial terminal, or through a graphical window tool such as a shell tool, command tool, or a terminal window. The below figure displays the TTY main window.



Icon	Name	Description
	Control panel	Provides access to the software controls.
	Test_Groups panel	Shows the testable devices (categorized in groups) and provides access to their test options.
	Status Panel	Displays the test status information.

Related Information

- “Keyboard Commands for Navigation (TTY UI)” on page 53
- “Display TTY UI HELP and Release Table” on page 54
- “View the Host System Configuration (TTY UI)” on page 55
- “Configuring the Test Session (TTY UI)” on page 56
- “Begin the Test Session (TTY UI)” on page 60
- “Monitor the Test Session” on page 61
- “Stop the Test Session (TTY UI)” on page 62
- “Review the Log Files (TTY UI)” on page 62
- “Reset the Test Session Results (TTY UI)” on page 64
- “Saving a Test Configuration for Repeated Use” on page 65
- “Reprobe the Devices (TTY UI)” on page 69
- “Use the Auto Mode Sequencer (TTY UI)” on page 70
- “Quit VTS TTY UI” on page 71

Keyboard Commands for Navigation (TTY UI)

You can use the following keyboard commands instead of the mouse to navigate the TTY interface.

Key	Description
Tab	Move from one panel to another. For example, if you are accessing the Control panel and the press Tab key, the focus (or highlight) shifts to the Test Groups panel. Highlighted panels are bordered by asterisks (*).
Arrow keys	Move between selections within a panel.
Return	Display a menu. Select and apply a choice or a command in a menu.
Spacebar	Select or deselect a checkbox: [*] = select [] = deselect
Back Space	Delete text in a text field.
Escape	Discard a pop-up menu or window.

Key	Description
Control-F	Scroll forward in a scrollable window.
Control-B	Scroll backward in a scrollable window.
Control-X	Quit the TTY UI, but leave the VTS kernel running.
Control-L	Refresh the TTY window.

Related Information

- [“TTY UI Overview” on page 52](#)
- [“Display TTY UI HELP and Release Table” on page 54](#)
- [“View the Host System Configuration \(TTY UI\)” on page 55](#)
- [“Configuring the Test Session \(TTY UI\)” on page 56](#)
- [“Begin the Test Session \(TTY UI\)” on page 60](#)
- [“Monitor the Test Session” on page 61](#)
- [“Stop the Test Session \(TTY UI\)” on page 62](#)
- [“Review the Log Files \(TTY UI\)” on page 62](#)
- [“Reset the Test Session Results \(TTY UI\)” on page 64](#)
- [“Saving a Test Configuration for Repeated Use” on page 65](#)
- [“Reprobe the Devices \(TTY UI\)” on page 69](#)
- [“Use the Auto Mode Sequencer \(TTY UI\)” on page 70](#)
- [“Quit VTS TTY UI” on page 71](#)

▼ Display TTY UI HELP and Release Table

1. In the TTY main window, use the **Tab** key to move to the Control panel.

2. Use the arrow keys to select **help**, and then press **Return**.

The option `help` menu is displayed.

3. Select a help option.

- Select `vtstty help` to view the help contents in a vi editor.
- Select `Release Table` to view the supported Oracle Solaris releases for the current Oracle VTS release.

Related Information

- “TTY UI Overview” on page 52
- “View the Host System Configuration (TTY UI)” on page 55
- “Configuring the Test Session (TTY UI)” on page 56
- “Begin the Test Session (TTY UI)” on page 60
- “Monitor the Test Session” on page 61
- “Stop the Test Session (TTY UI)” on page 62
- “Review the Log Files (TTY UI)” on page 62
- “Reset the Test Session Results (TTY UI)” on page 64
- “Saving a Test Configuration for Repeated Use” on page 65
- “Reprobe the Devices (TTY UI)” on page 69
- “Use the Auto Mode Sequencer (TTY UI)” on page 70
- “Quit VTS TTY UI” on page 71

▼ View the Host System Configuration (TTY UI)

1. In the TTY main window, use the **tab** key to move to the main Control panel.
2. Use the **arrow** keys to select `HostConf`, and then press **Return**.
The `HostConf` window is displayed, listing the options to display or print the system configuration of the machine under test.
3. Select `Display`, and press **Return**, to display the system configuration.
4. Select `Print`, and press **Return**, to view the host configuration print display.
Enter the printer name and press the `Print` button to print the system configuration.

```

HostConf  help
-----
Display  Test_Groups
Print
-----
*****SysConfig Print*****
Printer name:
Print Cancel
*****

```

Related Information

- “TTY UI Overview” on page 52
- “Display TTY UI HELP and Release Table” on page 54
- “Configuring the Test Session (TTY UI)” on page 56
- “Begin the Test Session (TTY UI)” on page 60
- “Monitor the Test Session” on page 61
- “Stop the Test Session (TTY UI)” on page 62
- “Review the Log Files (TTY UI)” on page 62
- “Reset the Test Session Results (TTY UI)” on page 64
- “Saving a Test Configuration for Repeated Use” on page 65
- “Reprobe the Devices (TTY UI)” on page 69
- “Use the Auto Mode Sequencer (TTY UI)” on page 70
- “Quit VTS TTY UI” on page 71

Configuring the Test Session (TTY UI)

- “Select a Test Mode (TTY UI)” on page 57
- “Change Global Options (TTY UI)” on page 57
- “Select Devices to Test (TTY UI)” on page 58
- “Change Individual Test Options (TTY UI)” on page 59

Related Information

- “TTY UI Overview” on page 52
- “Keyboard Commands for Navigation (TTY UI)” on page 53
- “Display TTY UI HELP and Release Table” on page 54

- “View the Host System Configuration (TTY UI)” on page 55
- “Begin the Test Session (TTY UI)” on page 60
- “Monitor the Test Session” on page 61
- “Stop the Test Session (TTY UI)” on page 62
- “Review the Log Files (TTY UI)” on page 62
- “Reset the Test Session Results (TTY UI)” on page 64
- “Saving a Test Configuration for Repeated Use” on page 65
- “Reprobe the Devices (TTY UI)” on page 69
- “Use the Auto Mode Sequencer (TTY UI)” on page 70
- “Quit VTS TTY UI” on page 71

▼ Select a Test Mode (TTY UI)

1. In the TTY main window, use the **Tab** key to move to the **Control** panel.
2. Use the **arrow** keys to select `test_mode`, and then press **Return**.
The `test_mode` menu is displayed, listing the test modes.
3. Use the **arrow** keys to select either the **System Exerciser, Component Stress, or Online Stress mode**, and then press **Return**.
See Understanding Test Modes for test mode description.

Related Information

- “Change Global Options (TTY UI)” on page 57
- “Select Devices to Test (TTY UI)” on page 58
- “Change Individual Test Options (TTY UI)” on page 59

▼ Change Global Options (TTY UI)

1. In the TTY main window, use the **Tab** key to move to the **Control** panel.
2. Use the **arrow** keys to select `global_options`, and then press **Return**.
The `global_options` menu is displayed.

```

*****/*****
Options:
Duration of Testing:[0-99999] 0
Verbose:                Disable
Duration of Logging:[0-99999] 0
Safe Testing:           Enable

Apply  Reset
*****

```

3. In the Duration of Testing field, specify how many minutes you want the test to run, and then press Return.
4. Use the arrow key to specify whether you want to enable or disable the Verbose option, and then press Return.
5. In the Duration of logging field, specify in minutes how often you want testing information messages to be logged.
6. Use the arrow key to enable or disable the Safe Testing, and then press Return. Enabling this option results in safe data testing.

Related Information

- [“Select a Test Mode \(TTY UI\)” on page 57](#)
- [“Select Devices to Test \(TTY UI\)” on page 58](#)
- [“Change Individual Test Options \(TTY UI\)” on page 59](#)

▼ Select Devices to Test (TTY UI)

1. In the TTY main window, use the Tab key to go to the Test_Groups window.
2. Use the arrow keys to select the device to test, and then press the Spacebar to enable or disable the device for testing.

Related Information

- [“Select a Test Mode \(TTY UI\)” on page 57](#)
- [“Change Global Options \(TTY UI\)” on page 57](#)
- [“Change Individual Test Options \(TTY UI\)” on page 59](#)

▼ Change Individual Test Options (TTY UI)

The test options are specific to individual tests.

1. In the TTY main window, use the Tab key to move to the Test_Groups menu (if needed).
2. Use the arrow keys to move to the individual tests and select Options, and then press Return.

The test options for the selected test is displayed.

```
*****Disk*****
Options:
Stress:                high
Scheduling Policy:    Test Passes
Test Time:[0-99999]  <240 >
Test Passes:[0-99999] 5
Specific Pass Level:[0-5] 0
Error Limit:[0-99999] 1
Disk Devices:        c1t0d0

Apply  Reset
```

3. Use the arrow keys to move to Stress and press Return.
The stress options are displayed.
4. Select a stress level using the arrow keys and press Return.
5. Use the arrow keys to move to Scheduling Policy and press Return.
The scheduling policy options are displayed.
6. Use the arrow keys to select a scheduling policy and press Return.
7. Use the arrow keys and select Test Time or Test Passes to change the values depending on the scheduling policy selected.
8. Use the arrow keys to move to Error limit and specify the error limit for the test.
9. Use the arrow keys to move to Disk Devices and press Return.
The device options window is displayed.

```
*****Disk*****
Disk Devices:        [+]c1t0d0
Apply  Reset
*****[DONE: RETURN]*****
```

10. Use the arrow keys to select the device you want to test and press Return.
11. Use the arrow keys to select Apply, and then press Return to apply the options.

Related Information

- [“Select a Test Mode \(TTY UI\)” on page 57](#)
- [“Change Global Options \(TTY UI\)” on page 57](#)
- [“Select Devices to Test \(TTY UI\)” on page 58](#)

▼ Begin the Test Session (TTY UI)

1. In the TTY main window, use the Tab key to move to the Test_Groups menu.
2. Use the arrow keys to highlight the test you want to execute, and then press the Spacebar.

Note – Use the arrow keys and select more than one test.

3. Use the Tab key to move to the Control panel in the TTY main window.
4. Use the arrow keys to select start, and then press Return.

The test session begins. Depending on how the options are configured, testing continues until one of the following occurs:

- Testing has reached the Max_Passes value. The default is to run indefinite test passes.
- Testing has reached the Max_Time value. The default is to run indefinitely.
- You select Stop in the Control panel.

Related Information

- [“TTY UI Overview” on page 52](#)
- [“Display TTY UI HELP and Release Table” on page 54](#)
- [“View the Host System Configuration \(TTY UI\)” on page 55](#)
- [“Configuring the Test Session \(TTY UI\)” on page 56](#)
- [“Monitor the Test Session” on page 61](#)
- [“Stop the Test Session \(TTY UI\)” on page 62](#)
- [“Review the Log Files \(TTY UI\)” on page 62](#)
- [“Reset the Test Session Results \(TTY UI\)” on page 64](#)

- [“Saving a Test Configuration for Repeated Use”](#) on page 65
- [“Reprobe the Devices \(TTY UI\)”](#) on page 69
- [“Use the Auto Mode Sequencer \(TTY UI\)”](#) on page 70
- [“Quit VTS TTY UI”](#) on page 71

Monitor the Test Session

You can monitor the overall test session status by viewing the Status panel. The Status panel indicates that a test session is running and displays the following status information:

Field	Description
System_status	Displays the system status as testing if a test is in running.
Elapsed_time	Displays the total time elapsed since the tests were started.
Total_errors	Displays the total number of errors encountered since the test began execution.
Session_name	Displays the current session. In this case, it displays Test.
Test_mode	Displays the mode in which the tests are being executed.

Related Information

- [“TTY UI Overview”](#) on page 52
- [“Keyboard Commands for Navigation \(TTY UI\)”](#) on page 53
- [“Display TTY UI HELP and Release Table”](#) on page 54
- [“View the Host System Configuration \(TTY UI\)”](#) on page 55
- [“Configuring the Test Session \(TTY UI\)”](#) on page 56
- [“Begin the Test Session \(TTY UI\)”](#) on page 60
- [“Stop the Test Session \(TTY UI\)”](#) on page 62
- [“Review the Log Files \(TTY UI\)”](#) on page 62
- [“Reset the Test Session Results \(TTY UI\)”](#) on page 64
- [“Saving a Test Configuration for Repeated Use”](#) on page 65
- [“Reprobe the Devices \(TTY UI\)”](#) on page 69
- [“Use the Auto Mode Sequencer \(TTY UI\)”](#) on page 70
- [“Quit VTS TTY UI”](#) on page 71

▼ Stop the Test Session (TTY UI)

1. In the TTY main window, use the Tab key to move to the Control panel.
2. Use the arrow keys to highlight stop, and then press Return.

The test session is being stopped and the System Status field changes its status to stopping. The main window shows a disabled stop button as <stop>. The start button re-appears when all the tests are stopped.

Related Information

- [“TTY UI Overview” on page 52](#)
- [“Display TTY UI HELP and Release Table” on page 54](#)
- [“View the Host System Configuration \(TTY UI\)” on page 55](#)
- [“Configuring the Test Session \(TTY UI\)” on page 56](#)
- [“Begin the Test Session \(TTY UI\)” on page 60](#)
- [“Monitor the Test Session” on page 61](#)
- [“Review the Log Files \(TTY UI\)” on page 62](#)
- [“Reset the Test Session Results \(TTY UI\)” on page 64](#)
- [“Saving a Test Configuration for Repeated Use” on page 65](#)
- [“Reprobe the Devices \(TTY UI\)” on page 69](#)
- [“Use the Auto Mode Sequencer \(TTY UI\)” on page 70](#)
- [“Quit VTS TTY UI” on page 71](#)

▼ Review the Log Files (TTY UI)

1. In the TTY main window, use the Tab key to move to the Control panel.
2. Use the arrow keys to highlight log_files, and then press Return.

The log files menu is displayed.

```

-----Hostname: dqa-08~~~Model: SUNW,Sun-Blade-T6320~~~Oracle VTS 7.0ps19-----
start   reset       quit         reprobe     test_mode   global_options
session log_files   mode_sequencer host_conf   help
*****log_files*****
Information
[+]Process Test Error      ss=0/Error=0)
[+]Environ VTS Kernel Error ss=0/Error=0)
[+]Disk     Verbose         ss=0/Error=0)
[+]Iloports Report          ss=0/Error=0)
[+]Network  Event           ss=0/Error=0)
[+]Graphic[FWD:~F][DONE:ESC][BA+ ss=0/Error=0)
[+]Memory   Options idle(Pass=0/Error=0)
Test_Groups

```

3. Use the arrow keys to select one of the log files, and then press Return.

The log file display options are displayed.

4. Use the arrow keys to select an option and press Return.

- Display - the content of the log file is displayed.

Note – The log file is displayed in your default editor. In many cases, the default test editor is vi, and you can use the standard vi commands to view the content. However, the file is opened in read-only mode. Type q to quit and return to the main TTY window.

- Remove - the content of the log file is deleted.
- Print - the print menu appears. Specify the name of the printer in this menu, highlight Apply, and press Return. The content of the log file is sent to the printer.

Note – Consider the length of the log file before printing it.

5. Press Esc to close the log_file menu.

Related Information

- [“TTY UI Overview” on page 52](#)
- [“Display TTY UI HELP and Release Table” on page 54](#)
- [“View the Host System Configuration \(TTY UI\)” on page 55](#)
- [“Configuring the Test Session \(TTY UI\)” on page 56](#)
- [“Begin the Test Session \(TTY UI\)” on page 60](#)
- [“Monitor the Test Session” on page 61](#)
- [“Stop the Test Session \(TTY UI\)” on page 62](#)
- [“Reset the Test Session Results \(TTY UI\)” on page 64](#)

- “Saving a Test Configuration for Repeated Use” on page 65
- “Reprobe the Devices (TTY UI)” on page 69
- “Use the Auto Mode Sequencer (TTY UI)” on page 70
- “Quit VTS TTY UI” on page 71

▼ Reset the Test Session Results (TTY UI)

Resetting the test sessions resets all the test pass, error, and time limit counts to zero. Reset is available only if the System Status is idle, otherwise an error is returned.

1. In the TTY main window, use the Tab key to move to the Control panel.
2. Use the arrow keys to highlight reset, and then press Return.

The information in the Status panel is reset.

Note – This does not reset your test options.

Related Information

- “TTY UI Overview” on page 52
- “Display TTY UI HELP and Release Table” on page 54
- “View the Host System Configuration (TTY UI)” on page 55
- “Configuring the Test Session (TTY UI)” on page 56
- “Begin the Test Session (TTY UI)” on page 60
- “Monitor the Test Session” on page 61
- “Stop the Test Session (TTY UI)” on page 62
- “Review the Log Files (TTY UI)” on page 62
- “Saving a Test Configuration for Repeated Use” on page 65
- “Reprobe the Devices (TTY UI)” on page 69
- “Use the Auto Mode Sequencer (TTY UI)” on page 70
- “Quit VTS TTY UI” on page 71

Saving a Test Configuration for Repeated Use

You can use the Session Files feature to save the current set of selected tests and test options for reuse. This is a convenient feature when you plan to use the same test session configuration repeatedly.

The configuration information is saved in a file name of your choice in the `/var/sunvts/sessions` directory.

- [“Create and Save a Test Session \(TTY UI\)”](#) on page 66
- [“List Test Sessions \(TTY UI\)”](#) on page 67
- [“Load a Test Session \(TTY UI\)”](#) on page 68
- [“Delete a Test Session \(TTY UI\)”](#) on page 68
- [“Reset a Test Session \(TTY UI\)”](#) on page 69

Related Information

- [“TTY UI Overview”](#) on page 52
- [“Keyboard Commands for Navigation \(TTY UI\)”](#) on page 53
- [“Display TTY UI HELP and Release Table”](#) on page 54
- [“View the Host System Configuration \(TTY UI\)”](#) on page 55
- [“Configuring the Test Session \(TTY UI\)”](#) on page 56
- [“Begin the Test Session \(TTY UI\)”](#) on page 60
- [“Monitor the Test Session”](#) on page 61
- [“Stop the Test Session \(TTY UI\)”](#) on page 62
- [“Review the Log Files \(TTY UI\)”](#) on page 62
- [“Reset the Test Session Results \(TTY UI\)”](#) on page 64
- [“Reprobe the Devices \(TTY UI\)”](#) on page 69
- [“Use the Auto Mode Sequencer \(TTY UI\)”](#) on page 70
- [“Quit VTS TTY UI”](#) on page 71

Session Files in Oracle VTS

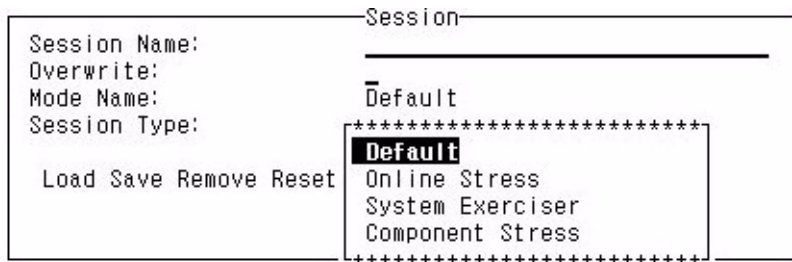
In Oracle VTS 7.0 all user selectable options can be saved in a file called a session file. This file encapsulates all the selectable options in the tool and saves them in an XML file. The user can select the necessary testing options and save them in this file, which can be loaded later to apply all the saved options. When a user saves a session file, the options are saved in all three stress levels, that is, Online Mode, System Exerciser and Component Stress. Similarly when a session file is loaded, the options of all the three stress levels are loaded. There are two types of session files.

Type	Description
Generic Session File	Default file type for session files. Generic session files are used if a session file is created on one host and used on other hosts with different configuration. When users load this type of session file on a host with different configuration, Oracle VTS applies the options that it can apply and leaves the rest as is.
Host Specific Session File	Users save this type of session file if they intend to use it in systems with similar configurations or want to be restrictive in the application of options. When loading this kind of file, Oracle VTS applies only the options to the devices for which it can find a match and other devices and options are disabled.

▼ Create and Save a Test Session (TTY UI)

1. **Configure the software for the test session that you want to save.**
2. **In the TTY main window, use the arrow keys to select a session in the Control panel, and then press Return.**

The Session Files menu is displayed.



3. **In the Session Name field, type a name for the test session.**

4. In the **Mode Name** field drop-down box, type the test mode and use the arrow keys to select the test mode in which the test has to be executed.
Type s for System Exerciser, c for Component Stress, or o for Online Stress modes. Leave it blank to save it with the default mode of the current test session.
5. In the **Overwrite** field, type y for yes or n for no if you are overwriting and saving the test session with an existing one.
6. In the **Session Type** field, use the arrow keys to select the type of session, and then press **Return**.
7. Use the arrow keys to select **Save** and press **Return**.

Note – To access the session files from the TTY UI, the file name must be 30 characters or less.

Related Information

- [“List Test Sessions \(TTY UI\)” on page 67](#)
- [“Load a Test Session \(TTY UI\)” on page 68](#)
- [“Delete a Test Session \(TTY UI\)” on page 68](#)
- [“Reset a Test Session \(TTY UI\)” on page 69](#)

▼ **List Test Sessions (TTY UI)**

1. In the TTY main window, use the arrow keys to select session in the Control panel, and then press **Return**.
The Session Files menu is displayed.
2. Use the arrow keys to select (highlight) **List** and press **Return**.
The list of available session files are displayed.
3. Press **Esc** to exit the menu.

Related Information

- [“Create and Save a Test Session \(TTY UI\)” on page 66](#)
- [“Load a Test Session \(TTY UI\)” on page 68](#)
- [“Delete a Test Session \(TTY UI\)” on page 68](#)
- [“Reset a Test Session \(TTY UI\)” on page 69](#)

▼ Load a Test Session (TTY UI)

Loading a session file that was created on another system is permitted, but you must ensure that the configuration is valid for the system you plan to test.

1. **In the TTY main window, use the arrow keys to select a session in the Control panel, and then press Return.**

The Session Files menu is displayed.

2. **Use the arrow keys to select List, and then press Return.**

The list of available session files are displayed.

3. **Use the arrow keys to select a session file from the list, and then press Return.**

4. **Use the arrow keys to select Load, and then press Return.**

The test session configuration is loaded. You can use this configuration, or modify it before you start the test session.

Related Information

- [“Create and Save a Test Session \(TTY UI\)” on page 66](#)
- [“List Test Sessions \(TTY UI\)” on page 67](#)
- [“Delete a Test Session \(TTY UI\)” on page 68](#)
- [“Reset a Test Session \(TTY UI\)” on page 69](#)

▼ Delete a Test Session (TTY UI)

1. **In the TTY main window, use the arrow keys to select a session in the Control panel, and then press Return.**

The Session Files menu is displayed.

2. **Use the arrow keys to select List, and then press Return.**

The list of available session files are displayed.

3. **Use the arrow keys to select the session you want to delete, and then press Return.**

4. **Use the arrow keys to select Remove, and then press Return.**

Related Information

- [“Create and Save a Test Session \(TTY UI\)” on page 66](#)
- [“List Test Sessions \(TTY UI\)” on page 67](#)

- “Load a Test Session (TTY UI)” on page 68
- “Reset a Test Session (TTY UI)” on page 69

▼ Reset a Test Session (TTY UI)

1. **In the TTY main window, use the arrow keys to select a session in the Control panel, and then press Return.**

The Session Files menu is displayed.

2. **Use the arrow keys to select Reset, and then press Return.**

The Reset option enables you to reset and modify the current test session.

Related Information

- “Create and Save a Test Session (TTY UI)” on page 66
- “List Test Sessions (TTY UI)” on page 67
- “Load a Test Session (TTY UI)” on page 68
- “Delete a Test Session (TTY UI)” on page 68

▼ Reprobe the Devices (TTY UI)

The Reprobing feature reprobes and registers the devices, making them available for VTS testing. This feature also removes the device from the Oracle VTS listing if the device has been removed from the system.

1. **In the TTY main window, use the Tab key to move to the Control panel.**

2. **Use the arrow keys to select reprobe, and then press Return.**

The reprobe screen is displayed.

3. **Use the arrow keys to select ok and press Return.**

Related Information

- “TTY UI Overview” on page 52
- “Display TTY UI HELP and Release Table” on page 54
- “View the Host System Configuration (TTY UI)” on page 55
- “Configuring the Test Session (TTY UI)” on page 56
- “Begin the Test Session (TTY UI)” on page 60

- “Monitor the Test Session” on page 61
- “Stop the Test Session (TTY UI)” on page 62
- “Review the Log Files (TTY UI)” on page 62
- “Reset the Test Session Results (TTY UI)” on page 64
- “Saving a Test Configuration for Repeated Use” on page 65
- “Use the Auto Mode Sequencer (TTY UI)” on page 70
- “Quit VTS TTY UI” on page 71

▼ Use the Auto Mode Sequencer (TTY UI)

Use the Mode Sequencer to determine the sequence of tests that will be run in Auto mode. By default, the Sequencer is switched off (set to Disable).

1. **In the TTY main window, use the arrow keys to mode_sequencer, and then press return.**

The Mode Sequencer screen is displayed.

2. **In the Sequencer field, use the arrow keys select Enable, and then press Return.**

3. **Use the arrow keys to select the modes, and then press Return.**

- **First:** Select one of the three test modes that will run first. By default, this option is set to None.
- **Second:** Select one of the three test modes that will run second. By default, this option is set to None.
- **Third:** Select one of the three test modes that will run third. By default, this option is set to None.

4. **In the Loop field, specify the number of times the sequence will run, and then press Return.**

The value must be between 1 and 99999. By default, this is set to 1.

5. **Use the arrow keys to select Apply, and then press Return.**

Related Information

- “Auto Mode Sequencer” on page 105
- “TTY UI Overview” on page 52
- “Display TTY UI HELP and Release Table” on page 54

- “View the Host System Configuration (TTY UI)” on page 55
- “Configuring the Test Session (TTY UI)” on page 56
- “Begin the Test Session (TTY UI)” on page 60
- “Monitor the Test Session” on page 61
- “Stop the Test Session (TTY UI)” on page 62
- “Review the Log Files (TTY UI)” on page 62
- “Reset the Test Session Results (TTY UI)” on page 64
- “Saving a Test Configuration for Repeated Use” on page 65
- “Reprobe the Devices (TTY UI)” on page 69
- “Quit VTS TTY UI” on page 71

▼ Quit VTS TTY UI

The Quit option provides a way to exit out of the terminal user interface. You can quit the TTY UI when the testing is not in progress and the system status is in idle state.

1. In the TTY main window, use the **Tab** key to move to the control panel.
2. Use the arrow keys to select quit, and then press **Return**.
The quit menu is displayed.
3. Choose a quit option
 - To quit the TTY UI, select **Quit UI**, and then press **Return**.
 - To completely exit the software, select **Quit UI and Kernel**, and then press **Return**.

Related Information

- “TTY UI Overview” on page 52
- “Display TTY UI HELP and Release Table” on page 54
- “View the Host System Configuration (TTY UI)” on page 55
- “Configuring the Test Session (TTY UI)” on page 56
- “Begin the Test Session (TTY UI)” on page 60
- “Monitor the Test Session” on page 61
- “Stop the Test Session (TTY UI)” on page 62
- “Review the Log Files (TTY UI)” on page 62

- “Reset the Test Session Results (TTY UI)” on page 64
- “Saving a Test Configuration for Repeated Use” on page 65
- “Reprobe the Devices (TTY UI)” on page 69
- “Use the Auto Mode Sequencer (TTY UI)” on page 70

Testing Using the CLI

- “CLI Overview” on page 74
- “View the Host Configuration” on page 75
- “Configuring the Test Session (CLI)” on page 75
- “Begin the Test Session (CLI)” on page 80
- “Monitor the Test Session (CLI)” on page 81
- “Stop the Test Session (CLI)” on page 82
- “Review the Log Files (CLI)” on page 82
- “Deleting the Log Files” on page 83
- “Reset the Test Session (CLI)” on page 84
- “Saving a Test Configuration for Repeated use (CLI)” on page 84
- “Reprobe the Devices (CLI)” on page 88
- “Use the Auto Mode Sequencer (CLI)” on page 89
- “Stop the CLI” on page 90

Related Information

- “Understanding the Software” on page 1
- “Installing or Updating the Software” on page 9
- “Starting the Software” on page 19
- “Testing Using the GUI” on page 31
- “Testing Using the TTY UI” on page 51
- “Bootable CD/DVD (x86)” on page 91
- “Interpreting VTS Messages” on page 97
- “Using Additional VTS Features” on page 103
- “Understanding the Tests” on page 111
- “Supported Configuration Parameters” on page 147
- “VTS on Logical Domains” on page 159
- “Building Test Connectors” on page 165

CLI Overview

`vts_cmd` is a UNIX shell application that enables you to send a single command to the VTS kernel (`vtsk`) from the command line. The VTS kernel processes the command and sends the response back to the command line.

To control a test session, `vtsk` must be running. While the test is running, you can control the session using the `vts_cmd` commands.

The software's API is character-based, which means that a string of characters (in the form of a command) can be sent to the VTS kernel.

This action returns a reply back in the form of a string of characters. `vts_cmd` enables you to send commands and receive replies from a UNIX command-line. `vtstalk` is a utility used to establish a connection to the VTS kernel.

Note – The examples sections show `vts_cmd` commands. If using `vtstalk` commands, replace `./vts_cmd` with `vtstalk(hostname)` in the below examples.

Related Information

- [“View the Host Configuration” on page 75](#)
- [“Configuring the Test Session \(CLI\)” on page 75](#)
- [“Begin the Test Session \(CLI\)” on page 80](#)
- [“Monitor the Test Session \(CLI\)” on page 81](#)
- [“Stop the Test Session \(CLI\)” on page 82](#)
- [“Review the Log Files \(CLI\)” on page 82](#)
- [“Deleting the Log Files” on page 83](#)
- [“Reset the Test Session \(CLI\)” on page 84](#)
- [“Saving a Test Configuration for Repeated use \(CLI\)” on page 84](#)
- [“Reprobe the Devices \(CLI\)” on page 88](#)
- [“Use the Auto Mode Sequencer \(CLI\)” on page 89](#)
- [“Stop the CLI” on page 90](#)

▼ View the Host Configuration

Perform the following step to display the configuration information of the test machine.

- **Type:**

```
./vts_cmd get_host_config
```

Related Information

- [“CLI Overview” on page 74](#)
- [“Configuring the Test Session \(CLI\)” on page 75](#)
- [“Begin the Test Session \(CLI\)” on page 80](#)
- [“Monitor the Test Session \(CLI\)” on page 81](#)
- [“Stop the Test Session \(CLI\)” on page 82](#)
- [“Review the Log Files \(CLI\)” on page 82](#)
- [“Deleting the Log Files” on page 83](#)
- [“Reset the Test Session \(CLI\)” on page 84](#)
- [“Saving a Test Configuration for Repeated use \(CLI\)” on page 84](#)
- [“Reprobe the Devices \(CLI\)” on page 88](#)
- [“Use the Auto Mode Sequencer \(CLI\)” on page 89](#)
- [“Stop the CLI” on page 90](#)

Configuring the Test Session (CLI)

- [“Display and Set a Test Mode \(CLI\)” on page 76](#)
- [“Display and Set Global Options \(CLI\)” on page 77](#)
- [“Select Device to Test \(CLI\)” on page 77](#)
- [“Change Individual Test Options \(CLI\)” on page 79](#)

Related Information

- [“CLI Overview” on page 74](#)
- [“View the Host Configuration” on page 75](#)

- “Begin the Test Session (CLI)” on page 80
- “Monitor the Test Session (CLI)” on page 81
- “Stop the Test Session (CLI)” on page 82
- “Review the Log Files (CLI)” on page 82
- “Deleting the Log Files” on page 83
- “Reset the Test Session (CLI)” on page 84
- “Saving a Test Configuration for Repeated use (CLI)” on page 84
- “Reprobe the Devices (CLI)” on page 88
- “Use the Auto Mode Sequencer (CLI)” on page 89
- “Stop the CLI” on page 90

▼ Display and Set a Test Mode (CLI)

1. To view the current test mode, type:

```
./vts_cmd get_mode
```

The current test mode is displayed on the screen.

2. To change or set the current test mode, provide the mode name (Online Stress or System Exerciser or Component Stress) as per the testing requirement.

```
./vts_cmd set_mode [test_mode]
```

The **test_mode** can be any one of the test modes as per your requirement. A confirmation message with the word DONE in it verifies that the operation was successful.

Note – If setting the options fails (for example, an error due to format or a misspelled word), the following error string is displayed along with the usage help. Usage: `vts_cmd set_mode [modeValue]` where `modeValue` can be OnlineStress/System Exerciser/Component Stress`

Related Information

- “Display and Set Global Options (CLI)” on page 77
- “Select Device to Test (CLI)” on page 77
- “Change Individual Test Options (CLI)” on page 79

▼ Display and Set Global Options (CLI)

1. Type:

```
./vts_cmd get_global_options
```

The global options that apply to all the tests are displayed. The parameters for the global options includes:

- Duration of testing (in minutes)
- Verbose option (enabled or disabled)
- Duration of logging (in minutes)
- Safe testing option (enabled or disabled)

2. Specify a value for each parameter:

```
./vts_cmd set_global_options [Duration of Testing:<numeric value>,Verbose:<Enable or Disable>, Duration of Logging:<numeric value>, Safe Testing:<Enable or Disable>]
```

You can determine the values from the options listed by the `get_global_options` command, as per testing requirements. A confirmation message with the word `DONE` in it verifies that the operation was successful.

Note – If the operation fails (for example, an error due to format or a misspelled word), the following error string is displayed along with the usage help.

```
Usage: `vts_cmd set_global_options [Duration of Testing:<0-99999>,Verbose:Enable/Disable,Duration of Logging:<0-99999>,Safe Testing:Enable/Disable]`
```

Related Information

- [“Display and Set a Test Mode \(CLI\)” on page 76](#)
- [“Select Device to Test \(CLI\)” on page 77](#)
- [“Change Individual Test Options \(CLI\)” on page 79](#)

▼ Select Device to Test (CLI)

- Choose from the following options:

- To list the tests that are successfully probed by the system, type:

```
./vts_cmd list_tests
```

The details include information on whether the test is selected or not, its scheduling policy (time or pass based), the stress factor (high or low), the progress percentage of the test (when executed), and its status (idle, testing, completed, or failed).

- To enable a particular test or all tests, type:

```
./vts_cmd enable_test testname/all
```

where **testname** is a test that you want to run, for example, Processor. If testname is a variable, use the replacement element. Using the **all** option executes all the available tests. A confirmation message with the word **DONE** in it verifies that the operation was successful. If the command fails, an error string is displayed along with the usage help.

- To disable a particular test or all tests, type:

```
./vts_cmd disable_test testname/all
```

where **testname** is a test that you want to run, for example, Processor. If testname is a variable, use the replacement element. Using the **all** option executes all the available tests. A confirmation message with the word **DONE** in it verifies that the operation was successful. If the command fails, an error string is displayed along with the usage help.

Related Information

- [“Display and Set a Test Mode \(CLI\)” on page 76](#)
- [“Display and Set Global Options \(CLI\)” on page 77](#)
- [“Change Individual Test Options \(CLI\)” on page 79](#)

▼ Change Individual Test Options (CLI)

1. To view the options of a particular test, type:

```
./vts_cmd get_test_options test-name
```

where **test-name** is the name of the test for which you want to view options.

The parameters for the test options include stress factor (high or low), scheduling policy (test passes or test time in minutes), and error limit. The parameters have been defined under type of display, the chosen or default value, and the choices or range of values.

2. To set the test options for the test of your choice, type:

```
./vts_cmd set_test_options test-name [Stress:low/high,Scheduling  
Policy:Test Time<,mins>/Test Passes,Test Time<mins>:x*,Test  
Passes:y*,Error Limit:z*]
```

where x, y, and z denote time, pass, and error count, respectively.

To set the test options, you must provide all the option parameters (stress, scheduling policy, and error limit) with a value in the format shown. You can determine the values from the options listed by using the `get_test_options` command, as per testing requirements. A confirmation message with the word `DONE` in it verifies that the operation was successful. If the command fails, an error string is displayed along with the usage help.

Note – You cannot set the global options when the vts kernel is not in idle state.

3. To view the devices and options exported for a test, type:

```
./vts_cmd get_device_options [testname.devicename]
```

4. To set the device options exported for the test, type:

```
./vts_cmd set_device_options [testname.devicename:Exported  
Variable1:Value1,Exported Variable2:Value2.....]
```

5. To delete the device options exported for the test, type:

```
./vts_cmd delete_session sunvts_session xyz
```

Related Information

- “Display and Set a Test Mode (CLI)” on page 76
- “Display and Set Global Options (CLI)” on page 77
- “Select Device to Test (CLI)” on page 77

▼ Begin the Test Session (CLI)

- Type:

```
./vts_cmd start
```

A confirmation message with the word DONE in it verifies that the operation was successful.

Related Information

- “CLI Overview” on page 74
- “View the Host Configuration” on page 75
- “Configuring the Test Session (CLI)” on page 75
- “Monitor the Test Session (CLI)” on page 81
- “Stop the Test Session (CLI)” on page 82
- “Review the Log Files (CLI)” on page 82
- “Deleting the Log Files” on page 83
- “Reset the Test Session (CLI)” on page 84
- “Saving a Test Configuration for Repeated use (CLI)” on page 84
- “Reprobe the Devices (CLI)” on page 88
- “Use the Auto Mode Sequencer (CLI)” on page 89
- “Stop the CLI” on page 90

▼ Monitor the Test Session (CLI)

1. To display the agent summary in the test machine, type:

```
./vts_cmd get_agent_summary
```

Displays the agent machine name, the operating system running on the agent, the version of the software currently installed on the agent, and the health of the agent.

2. To view the global status of the system, type:

```
./vts_cmd get_status
```

Displays the status of the global tests that are running on the system.

Note – To display the status of a test, append the test name to `get_status`. For example, `./vts_cmd get_status Processor`.

Related Information

- [“CLI Overview” on page 74](#)
- [“View the Host Configuration” on page 75](#)
- [“Configuring the Test Session \(CLI\)” on page 75](#)
- [“Begin the Test Session \(CLI\)” on page 80](#)
- [“Stop the Test Session \(CLI\)” on page 82](#)
- [“Review the Log Files \(CLI\)” on page 82](#)
- [“Deleting the Log Files” on page 83](#)
- [“Reset the Test Session \(CLI\)” on page 84](#)
- [“Saving a Test Configuration for Repeated use \(CLI\)” on page 84](#)
- [“Reprobe the Devices \(CLI\)” on page 88](#)
- [“Use the Auto Mode Sequencer \(CLI\)” on page 89](#)
- [“Stop the CLI” on page 90](#)

▼ Stop the Test Session (CLI)

- Type:

```
./vts_cmd stop
```

A confirmation message with the word DONE in it verifies that the operation was successful.

Related Information

- “CLI Overview” on page 74
- “View the Host Configuration” on page 75
- “Configuring the Test Session (CLI)” on page 75
- “Begin the Test Session (CLI)” on page 80
- “Monitor the Test Session (CLI)” on page 81
- “Review the Log Files (CLI)” on page 82
- “Deleting the Log Files” on page 83
- “Reset the Test Session (CLI)” on page 84
- “Saving a Test Configuration for Repeated use (CLI)” on page 84
- “Reprobe the Devices (CLI)” on page 88
- “Use the Auto Mode Sequencer (CLI)” on page 89
- “Stop the CLI” on page 90

▼ Review the Log Files (CLI)

- To view the log files, type:

```
cd /var/sunvts/logs
```

Displays all the log files stored in the location.

Related Information

- “CLI Overview” on page 74
- “View the Host Configuration” on page 75

- “Configuring the Test Session (CLI)” on page 75
- “Begin the Test Session (CLI)” on page 80
- “Monitor the Test Session (CLI)” on page 81
- “Stop the Test Session (CLI)” on page 82
- “Deleting the Log Files” on page 83
- “Reset the Test Session (CLI)” on page 84
- “Saving a Test Configuration for Repeated use (CLI)” on page 84
- “Reprobe the Devices (CLI)” on page 88
- “Use the Auto Mode Sequencer (CLI)” on page 89
- “Stop the CLI” on page 90

Deleting the Log Files

There is no specific command to delete the log files. The log files can be treated as general files. You can use the Operating System supported commands for file deletion.

Related Information

- “CLI Overview” on page 74
- “View the Host Configuration” on page 75
- “Configuring the Test Session (CLI)” on page 75
- “Begin the Test Session (CLI)” on page 80
- “Monitor the Test Session (CLI)” on page 81
- “Stop the Test Session (CLI)” on page 82
- “Review the Log Files (CLI)” on page 82
- “Reset the Test Session (CLI)” on page 84
- “Saving a Test Configuration for Repeated use (CLI)” on page 84
- “Reprobe the Devices (CLI)” on page 88
- “Use the Auto Mode Sequencer (CLI)” on page 89
- “Stop the CLI” on page 90

▼ Reset the Test Session (CLI)

Once the execution of a session file is complete, you can restore the default values of the session without quitting the application.

- **Type:**

```
./vts_cmd reset_session
```

A confirmation message with the word DONE in it verifies that the operation was successful.

Related Information

- [“CLI Overview” on page 74](#)
- [“View the Host Configuration” on page 75](#)
- [“Configuring the Test Session \(CLI\)” on page 75](#)
- [“Begin the Test Session \(CLI\)” on page 80](#)
- [“Monitor the Test Session \(CLI\)” on page 81](#)
- [“Stop the Test Session \(CLI\)” on page 82](#)
- [“Review the Log Files \(CLI\)” on page 82](#)
- [“Deleting the Log Files” on page 83](#)
- [“Saving a Test Configuration for Repeated use \(CLI\)” on page 84](#)
- [“Reprobe the Devices \(CLI\)” on page 88](#)
- [“Use the Auto Mode Sequencer \(CLI\)” on page 89](#)
- [“Stop the CLI” on page 90](#)

Saving a Test Configuration for Repeated use (CLI)

- [“Create and Save a Test Session \(CLI\)” on page 85](#)
- [“List Test Sessions \(CLI\)” on page 86](#)
- [“Load a Test Session \(CLI\)” on page 86](#)
- [“Delete a Test Session \(CLI\)” on page 87](#)

- “Reset a Test Session (CLI)” on page 87

Related Information

- “CLI Overview” on page 74
- “View the Host Configuration” on page 75
- “Configuring the Test Session (CLI)” on page 75
- “Begin the Test Session (CLI)” on page 80
- “Monitor the Test Session (CLI)” on page 81
- “Stop the Test Session (CLI)” on page 82
- “Review the Log Files (CLI)” on page 82
- “Deleting the Log Files” on page 83
- “Reset the Test Session (CLI)” on page 84
- “Reprobe the Devices (CLI)” on page 88
- “Use the Auto Mode Sequencer (CLI)” on page 89
- “Stop the CLI” on page 90

▼ Create and Save a Test Session (CLI)

To create a new session file, you must provide the name of the session as an input parameter. The command has two more attributes: `overwrite:yes/no` and `defaultMode:test mode`.

A value of `yes` for the option `overwrite` overwrites the existing session file (the default value is `no`). You can use any of the test modes (Online Stress, System Exerciser, or Component Stress) as a value for `defaultMode`.

- To create and save a test session, type:

```
./vts_cmd save_session [overwrite:yes/no,defaultMode:test mode,  
name:session name]
```

Irrespective of the default mode, the session file saves all the options separately for each of the three modes. The default mode only decides which mode will be active once the session is loaded. If you do not provide any input for the `defaultMode` option, the software will make the current selected Test Mode as the default active Test Mode. On success, command returns `DONE`.

Note – In case of misspelled parameters or a missing value, an appropriate usage error message is returned by the command.

Related Information

- “List Test Sessions (CLI)” on page 86
- “Load a Test Session (CLI)” on page 86
- “Delete a Test Session (CLI)” on page 87
- “Reset a Test Session (CLI)” on page 87

▼ List Test Sessions (CLI)

- To view the list of available session files in the system, type:

```
./vts_cmd list_sessions
```

The command returns the comma separated list of all the existing session files available in system. You can load any session file based on its availability.

Related Information

- “Create and Save a Test Session (CLI)” on page 85
- “Load a Test Session (CLI)” on page 86
- “Delete a Test Session (CLI)” on page 87
- “Reset a Test Session (CLI)” on page 87

▼ Load a Test Session (CLI)

You can load an existing session file using the `load_session` command. The command has two input options: `defaultMode` and `name`. You must provide the name of the session file to load it. The `defaultMode` option is not mandatory, it provides a way to set the default mode as the active mode and load the session options corresponding to that test mode. With no default mode, the software will load the named session file and make the default test mode stored in the session file as the current test mode for the loaded session file.

- **Type:**

```
./vts_cmd load_session [defaultMode:testMode, name:sessionName]
```

A confirmation message with the word `DONE` in it verifies that the operation was successful. If the command fails, an error string is displayed along with the usage help.

Related Information

- [“Create and Save a Test Session \(CLI\)” on page 85](#)
- [“List Test Sessions \(CLI\)” on page 86](#)
- [“Delete a Test Session \(CLI\)” on page 87](#)
- [“Reset a Test Session \(CLI\)” on page 87](#)

▼ Delete a Test Session (CLI)

- **Type:**

```
./vts_cmd delete_session sessionName
```

where `sessionName` is the name of the test session you want to delete.

A confirmation message with the word `DONE` in it verifies that the operation was successful.

Note – If the command fails, an error string is displayed along with the usage help.

Related Information

- [“Create and Save a Test Session \(CLI\)” on page 85](#)
- [“List Test Sessions \(CLI\)” on page 86](#)
- [“Load a Test Session \(CLI\)” on page 86](#)
- [“Reset a Test Session \(CLI\)” on page 87](#)

▼ Reset a Test Session (CLI)

Once the session file is executed, you can use the `reset_session` command to restore the default values of the session without quitting from the application.

- **Type:**

```
./vts_cmd reset_session
```

A confirmation message with the word `DONE` in it verifies that the operation was successful.

Related Information

- [“Create and Save a Test Session \(CLI\)”](#) on page 85
- [“List Test Sessions \(CLI\)”](#) on page 86
- [“Load a Test Session \(CLI\)”](#) on page 86
- [“Delete a Test Session \(CLI\)”](#) on page 87

▼ **Reprobe the Devices (CLI)**

- **Type:**

```
./vts_cmd reprobe
```

Probes all the devices on the test machine and updates the VTS kernel device list. A confirmation message with the word `DONE` in it verifies that the vtsk has been informed to reprobe the devices.

Note – Reprobe only if the vtsk system status is idle. If the system status is not `IDLE`, an error message is displayed on the screen.

Related Information

- [“CLI Overview”](#) on page 74
- [“View the Host Configuration”](#) on page 75
- [“Configuring the Test Session \(CLI\)”](#) on page 75
- [“Begin the Test Session \(CLI\)”](#) on page 80
- [“Monitor the Test Session \(CLI\)”](#) on page 81
- [“Stop the Test Session \(CLI\)”](#) on page 82
- [“Review the Log Files \(CLI\)”](#) on page 82
- [“Deleting the Log Files”](#) on page 83
- [“Reset the Test Session \(CLI\)”](#) on page 84

- “Saving a Test Configuration for Repeated use (CLI)” on page 84
- “Use the Auto Mode Sequencer (CLI)” on page 89
- “Stop the CLI” on page 90

▼ Use the Auto Mode Sequencer (CLI)

1. To display the Auto Mode Sequencer options and its values, type:

```
# ./vts_cmd get_modesequencer_options
```

2. To edit the Auto Mode Sequencer options, type:

```
# ./vts_cmd set_modesequencer_options  
[Sequencer:Enable,First:<Test_Mode>,Second:<Test_Mode>,Third:<Test_Mode>,Loop:<Numerical_Value>]
```

Where:

- *Test_Mode*: The test mode in which the Sequencer must run.
- *Numerical_Value*: The number of times the sequence will run. This should be between 1 and 99999. By default this value is set to 1.

To set the Auto Mode Sequencer options, you must provide all the option parameters with a value as shown in the syntax. You can determine the values from the options listed by the `get_modesequencer_options` command.

A confirmation message with the word `DONE` in it verifies that the operation was successful. If the command fails, an error string is displayed along with the usage help

Related Information

- “Auto Mode Sequencer” on page 105
- “CLI Overview” on page 74
- “View the Host Configuration” on page 75
- “Configuring the Test Session (CLI)” on page 75
- “Begin the Test Session (CLI)” on page 80
- “Monitor the Test Session (CLI)” on page 81
- “Stop the Test Session (CLI)” on page 82
- “Review the Log Files (CLI)” on page 82

- “Deleting the Log Files” on page 83
- “Reset the Test Session (CLI)” on page 84
- “Saving a Test Configuration for Repeated use (CLI)” on page 84
- “Reprobe the Devices (CLI)” on page 88
- “Stop the CLI” on page 90

▼ Stop the CLI

You can quit vtsk only if the system status is idle.

- **Type:**

```
./vts_cmd quit
```

The VTS kernel (vtsk) is terminated. A confirmation message with the word DONE in it verifies that the operation was successful.

Note – If the system status is not IDLE, then an error message is displayed on the screen.

Related Information

- “CLI Overview” on page 74
- “View the Host Configuration” on page 75
- “Configuring the Test Session (CLI)” on page 75
- “Begin the Test Session (CLI)” on page 80
- “Monitor the Test Session (CLI)” on page 81
- “Stop the Test Session (CLI)” on page 82
- “Review the Log Files (CLI)” on page 82
- “Deleting the Log Files” on page 83
- “Reset the Test Session (CLI)” on page 84
- “Saving a Test Configuration for Repeated use (CLI)” on page 84
- “Reprobe the Devices (CLI)” on page 88
- “Use the Auto Mode Sequencer (CLI)” on page 89

Bootable CD/DVD (x86)

The bootable CD/DVD environment is supported only on x86 platforms based on Intel processors. This release enables you to use the tool regardless of the native operating systems environment of the host machine, such as Windows or Linux. These topics cover methods of using the bootable image, some of the limitations that you will encounter in this environment, and recommendations on how to use the bootable CD/DVD.

Starting VTS7.0 PS16, the bootable image is based on Oracle Solaris 11 update release. Whereas, all previous versions of the VTS bootable CD were based on Oracle Solaris10 and update releases.

- [“Overview and Limitations” on page 92](#)
- [“Use the Service Processor to Boot From the VTS Image” on page 94](#)

Related Information

- [“Understanding the Software” on page 1](#)
- [“Installing or Updating the Software” on page 9](#)
- [“Starting the Software” on page 19](#)
- [“Testing Using the GUI” on page 31](#)
- [“Testing Using the TTY UI” on page 51](#)
- [“Testing Using the CLI” on page 73](#)
- [“Interpreting VTS Messages” on page 97](#)
- [“Using Additional VTS Features” on page 103](#)
- [“Understanding the Tests” on page 111](#)
- [“Supported Configuration Parameters” on page 147](#)
- [“VTS on Logical Domains” on page 159](#)
- [“Building Test Connectors” on page 165](#)

Overview and Limitations

This section describes how to use the Oracle VTS boot image on Oracle Solaris 10 and Oracle Solaris 11 releases.

- “Using the Oracle VTS 7.0 PS16 Bootable Image Built on Oracle Solaris 11 Update Release” on page 92
- “Using the Oracle VTS 7.0 PS13 or Older Bootable Image Built on Oracle Solaris 10 and Update Release” on page 93

Using the Oracle VTS 7.0 PS16 Bootable Image Built on Oracle Solaris 11 Update Release

Oracle VTS 7.0 PS16 bootable image is created using the externally available Solaris 11 `distribution-creator` functionality. This distribution constructor is an XML specification for building an Oracle Solaris installer ISO image. For more information about `distribution-creator`, refer <http://docs.oracle.com/cd/E199963-01/html/820-6564/index.html>.

Once you load the bootable image, the default Oracle Solaris environment comes up. Open a terminal and login as root, with password *solaris*, and run Oracle VTS.

For more information on how to load the bootable image, refer the steps mentioned in the procedure, “Use the Service Processor to Boot From the VTS Image” on page 94.

Note – The Oracle VTS bootable image built on Oracle Solaris 11 does not support an USB image.

Related Information

- “Using the Oracle VTS 7.0 PS13 or Older Bootable Image Built on Oracle Solaris 10 and Update Release” on page 93

Using the Oracle VTS 7.0 PS13 or Older Bootable Image Built on Oracle Solaris 10 and Update Release

The bootable CD contains an ISO image of the tool, which you can use for booting, irrespective of the native environment on the machine under test. An ISO image is an image for an optical disk that has been created using the conventional ISO format. This format is based on the ISO 9660 file system, usually used with CD-ROM media. The format is supported on most platforms. It allows a platform independent means to describe the contents of a CD.

The VTS bootable CD image contains the following:

- Oracle Solaris operating system released with this tool. Oracle Solaris packages not needed by the tool have been removed.
- System diagnostics tool (*SUNWvts*, *SUNWvtsmn*, *SUNWvtsr*, *SUNWvtsst*)
- HD tool (*SUNWWhd*): Contains the hard disk drive utility for x86 systems, which enables you to determine the logical-to-physical device mapping of the system. For more information on the HD utility, go to <http://www.oracle.com/technetwork/indexes/documentation> and search for Hd utility.
- ssh and bash packages (*SUNWsshu* and *SUNWbash*)
- Python packages (*SUNWPython*, *SUNWPython-devel*, *SUNWPython-share*, *SUNWxml-python*, and *SUNWxlsl-python*)
- IPMI tool package (*SUNWipmi*)

The bootable CD environment presents some challenges for testing the hardware that are not present in the conventional environment where the tool is run from the disk. In the bootable CD environment, the memory in the system is used to run the image. Below are some limitations that you might encounter with the bootable CD environment.

- Infrastructure limitations
 - The bootable image only supports the 64-bit environment, that is, the operating system is booted in 64-bit mode.
 - If you want to save the test logs for future reference, the log files need to be saved onto a disk or moved over the network to another location. Two possible setups: Mount the existing disk on the system and copy the files to the disk. Plumb the interface and ftp the files to a known system on the network.
- Testing limitations

- **Memory Test:** The amount of physical memory that testing can cover is going to be limited due to the footprint of the bootable image. Additionally, when memory tests are run with other tests in the system, the tests will be allocating and using memory with some reserve amount. This enables all tests to run simultaneously without a severe effect on performance.
- **Media Test:** Since the system is booted off the CD, testing of that device is done with READ-only operations. Otherwise, the disk might get corrupted.

Note – To obtain a complete report of all FMA-generated events, with error messages, use the `VTSreportgenerate` utility.

▼ Use the Service Processor to Boot From the VTS Image

You can use the bootable CD/DVD directly instead of using the physical CD/DVD. The SP can be used to boot from the bootable image. Then, declare the ISO image as the virtual CD-ROM drive.

In the virtual BIOS, you must ask the computer to boot from the CD-ROM. This does not require the actual CD-ROM media for booting. For this method, the booting device can be on the network, in which case, you must specify the IP address. In the directions below, the SP is being used as the network device. You should know the SP IP address.

1. **Point your browser to the SP IP address of the machine.**
2. **Log in as root using your root password.**
3. **Accept the certificates prompts.**
4. **Click Remote Control.**
5. **Click Launch Redirection (8-bit).**
6. **Log in again as root using a root password for the SP.**
7. **Once connected appears in the left bottom, enable the keyboard and mouse in Devices at the top of the window.**
8. **On the redirected ILOM remote console, click Devices.**
9. **Click the CD-ROM image.**

10. **Attach the ISO image (that is, the file with the .iso extension) from your path.**
11. **Reboot the Host through the SP.**
 - a. **Log in as root using your root password.**
 - b. **Select OK, Run, Accept Certificate, and so on, when prompted.**
 - c. **Select Remote Control.**
 - d. **Select Remote Power Control.**
 - e. **Select Reset.**
12. **Check the redirected ILOM remote console for shutdown and then reboot messages.**
13. **Go to the BIOS setup options.**

On a Linux system, this is generally done by pressing the F2 key.
14. **Use the arrow keys to navigate to Boot Priority.**
15. **In the Boot Priority menu, make the first boot device the CD media.**
16. **Save and exit BIOS setup.**

On a Linux system, this is generally done by pressing the F10 key.

The bootloader then looks for the OS binary on the CD-ROM. In the SP, however, a virtual CD-ROM has been created by attaching the ISO image as the CD-ROM image. It therefore boots from your ISO image, and it may be a bit slow when booting from the ISO image. In case that the redirection on the ILOM remote console expires the session, do a reconnect making sure that the keyboard, mouse, and CD-ROM image in the Devices menu are properly checked.

Related Information

- [“Using the Oracle VTS 7.0 PS16 Bootable Image Built on Oracle Solaris 11 Update Release” on page 92](#)
- [“Using the Oracle VTS 7.0 PS13 or Older Bootable Image Built on Oracle Solaris 10 and Update Release” on page 93](#)

Interpreting VTS Messages

- “Log File Descriptions” on page 97
- “Test Status Indicators” on page 98
- “Log Files” on page 100
- “VTS Messages” on page 101

Related Information

- “Understanding the Software” on page 1
- “Installing or Updating the Software” on page 9
- “Starting the Software” on page 19
- “Testing Using the GUI” on page 31
- “Testing Using the TTY UI” on page 51
- “Testing Using the CLI” on page 73
- “Bootable CD/DVD (x86)” on page 91
- “Using Additional VTS Features” on page 103
- “Understanding the Tests” on page 111
- “Supported Configuration Parameters” on page 147
- “VTS on Logical Domains” on page 159
- “Building Test Connectors” on page 165

Log File Descriptions

In most cases, the faults in the hardware are detected and managed by the system (the hardware plus operating system) and not by the test. The software and its tests are all user-level applications, running on top of the operating system. Any error or failure that is detected and managed by the system might not be visible to the tests.

But the occurrence of such errors or failures are logged by the system. So, you should always check the following log files after a run of the testing session. These log files would give a clear picture of any error or failure that might have happened.

Log File	Description
VTS Error File	This file contains the failures that are detected and reported by the VTS tests. Wherever possible, the message includes possible causes of the error and recommended actions.
System Log File	These messages are reported by the <code>syslog</code> daemon. They are logged in the file <code>/var/adm/messages</code> . These messages are not necessarily errors, but do tell you about any mishaps that could have occurred while tests were running.
Output of <code>fmdump</code>	Most of the errors that happen on the system are detected, managed and reported by the system (hardware plus operating system), using the Proactive Self Healing technology in Oracle Solaris. Since the management of the fault happens underneath tests, the tests themselves don't see these errors. Oracle Solaris provides a utility called <code>fmdump</code> , which enables you to display the errors and faults that the system detected (see the man pages for <code>fmdump</code> for more details). After a testing session, look at the output of the following commands to check the errors and faults that happened during the testing session: <code>fmdump -eV</code> <code>fmdump</code>

Related Information

- [“Test Status Indicators” on page 98](#)
- [“Log Files” on page 100](#)
- [“VTS Messages” on page 101](#)

Test Status Indicators

View the TTY main window Status panel for the current state of the software. The following table describes the System Status options.

Status	Description
Idle	A test can be idle for any of the following reasons: <ul style="list-style-type: none"> • Initial state of a test. • When VTS resets the tests. • When you click the Stop button. • When the global time limit completes and all the tests stop.
Not supported	For the given stress level, a test might not be able to run for any of the following reasons: <ul style="list-style-type: none"> • The rules file does not define any task. • The tests defined under the task (in the rules file) were not able to probe any of the devices. • When you click the Stop button. • When the global time limit completes and all the tests stop.
Analyzing	A test after completion of each pass checks for certain terminating parameters such as max time, max pass, and max error to analyze if it can run for the next pass. The Analyzing status lasts for two to three seconds.
Testing	This status indicates that the test is currently executing.
Completed	This status indicates that the test has completed its execution. The completion factor is based on the limits set from the scheduling policy, that is, time or pass limit.
Failed	This status indicates that the test has been stopped because the test errors have reached the maximum error limit.
Waiting for swap	When there is not enough swap availability, you can stop a test and schedule the test execution for later.
Stopping	When you press the Stop button, the test status shows the transition from stopping status to idle state.

In the GUI and TTY interfaces, the statuses are displayed in the main window. In the CLI you get the status using the `get_status` command.

Related Information

- [“Log File Descriptions” on page 97](#)
- [“Log Files” on page 100](#)
- [“VTS Messages” on page 101](#)

Log Files

VTS supports the following log files.

TABLE: Test Statuses

Log files	Description
VTS test error log	Contains time-stamped VTS test error messages. The log file pathname is <code>/var/sunvts/logs/sunvts.err</code> . This file is not created until a VTS test failure occurs.
VTS kernel error log	Contains time-stamped VTS kernel and VTS probe errors. VTS kernel errors are errors that relate to running VTS, and not to testing of devices. The log file pathname is <code>/var/sunvts/logs/vtsk.err</code> . This file is not created until VTS reports a VTS kernel error.
VTS information log	Contains informative messages that are generated when you start and stop VTS test sessions. The log file pathname is <code>/var/sunvts/logs/sunvts.info</code> . This file is not created until a VTS test session runs.
Solaris system message log	Is a log of all the general Oracle Solaris events logged by <code>syslogd</code> . The pathname of this log file is <code>/var/adm/messages</code> .
VTS Verbose log	Verbose messages are the test progression informative messages that are logged to the log file in <code>/var/sunvts/logs/sunvts.verbose</code> . These messages are logged only when the verbose mode is enabled and helps you continuously monitor what is happening during the testing.
VTS Event log	Contains test start messages. Every test that is started by VTS infrastructure, logs its start message in the <code>sunvts.event</code> file which has the start time and version of the test binary. The pathname of this log file is <code>/var/sunvts/logs/sunvts.event</code> .
VTS Report log	A report of the VTS test session logged using the <code>vtsreportgenerate</code> utility. The log file path name is <code>/var/sunvts/logs/sunvts.rpt</code> .

Related Information

- [“Log File Descriptions” on page 97](#)
- [“Test Status Indicators” on page 98](#)
- [“VTS Messages” on page 101](#)

VTS Messages

There are various messages for each of the tests that run under VTS. Most messages contain all the explanatory text that is possible for each event that is encountered. Some messages are information messages (INFO, VERBOSE, WARNING) which do not represent an error, while some messages are error messages (ERROR and FATAL), indicating that the test detected a failure or was unable to run.

Whenever possible, the error message supplies a message type, followed by the message text, one or more probable causes, and one or more recommended corrective actions. The following table describes the types of messages you might encounter. All messages are displayed in the Message panel, and most are logged in one of the logs (Info or Error).

TABLE: VTS Messages

Message Type	Log File	Description
INFO	Info log	Displayed when a non-error test event occurs.
ERROR	Error and Info logs	Displayed when a test detects an error, often an indication of a problem with a specific function or feature of the device under test.
FATAL	Error and Info logs	Displayed when a test encounters a severe condition that might cause the test to exit, such as a failure to open a device. These messages generally do not indicate a hardware failure.
VERBOSE	Verbose log	Test progression messages that are displayed when the verbose feature is enabled.
WARNING	Info log	These messages warn you of a condition that might prevent the physical test to run with the test's full capabilities. These warning messages do not necessarily indicate an error.
ALERT		Displayed when a test encounters a software error or a resource issue that causes the test to exit.

Related Information

- [“Log File Descriptions” on page 97](#)
- [“Test Status Indicators” on page 98](#)
- [“Log Files” on page 100](#)

Using Additional VTS Features

- “Generate a Test Report” on page 103
- “Use the vtsprobe Utility” on page 104
- “Auto Mode Sequencer” on page 105
- “Automatic Setting of Levels” on page 108
- “Safe and Unsafe Options” on page 108
- “Create a Configuration File for the Unsafe Option” on page 109

Related Information

- “Understanding the Software” on page 1
- “Installing or Updating the Software” on page 9
- “Starting the Software” on page 19
- “Testing Using the GUI” on page 31
- “Testing Using the TTY UI” on page 51
- “Testing Using the CLI” on page 73
- “Bootable CD/DVD (x86)” on page 91
- “Interpreting VTS Messages” on page 97
- “Understanding the Tests” on page 111
- “Supported Configuration Parameters” on page 147
- “VTS on Logical Domains” on page 159
- “Building Test Connectors” on page 165

▼ Generate a Test Report

The `vtsreportgenerate` script generates a standard report to `stdout` in a verbose and summary format. Output can also be generated in a report text file.

The test report provides actionable details on the findings of the stress test results. It also provides, the diagnosed faults and actionable system messages are provided to the user.

- **Type:**

`vtsreportgenerate`

See the man pages for detailed information: `vtsreportgenerate(1M)`.

Related Information

- [“Use the vtsprobe Utility” on page 104](#)
- [“Auto Mode Sequencer” on page 105](#)
- [“Automatic Setting of Levels” on page 108](#)
- [“Safe and Unsafe Options” on page 108](#)
- [“Create a Configuration File for the Unsafe Option” on page 109](#)

▼ Use the vtsprobe Utility

The `vtsprobe` command lists all of the system testable devices, associated configuration information, and corresponding hardware tests.

- **Type:**

`vtsprobe`

See the man pages for detailed information: `vtsprobe(1M)`.

Related Information

- [“Generate a Test Report” on page 103](#)
- [“Auto Mode Sequencer” on page 105](#)
- [“Automatic Setting of Levels” on page 108](#)
- [“Safe and Unsafe Options” on page 108](#)
- [“Create a Configuration File for the Unsafe Option” on page 109](#)

Auto Mode Sequencer

- [“Overview” on page 105](#)
- [“Expected Behavior in Different Use Cases” on page 106](#)
- [“Loop Option” on page 107](#)
- [“Exiting the Auto Mode Sequencer” on page 107](#)

Related Information

- [“Generate a Test Report” on page 103](#)
- [“Use the vtsprobe Utility” on page 104](#)
- [“Automatic Setting of Levels” on page 108](#)
- [“Safe and Unsafe Options” on page 108](#)
- [“Create a Configuration File for the Unsafe Option” on page 109](#)

Overview

The Auto Mode Sequencer enables you to set-up any combination of test modes from the three test modes, and run the same sequence multiple times. You can save the same automated sequence as a session for future use and run all modes in a single set-up. By default, the Sequencer is disabled (Off).

The user interface displays three sequences labels: First, Second, and Third. The modes that the sequencer should follow can be named against the sequence labels. The modes are:

- Online Stress
- Component Stress
- System Exerciser
- None

You can select None when you do not want to include a testing mode. You can select any one combination of sequences. For example:

- {First: Online, Second: System Exercise, Third: Component Stress}, or
- {First: None, Second: System Exerciser, Third: Component Stress}, or
- {First: System Exerciser, Second: Component Stress, Third: System Exerciser}

Under normal circumstances, you run only one mode at a time in a session. Once testing with a mode is over, you must switch the mode in the same session and start the testing if required.

Related Information

- “Expected Behavior in Different Use Cases” on page 106
- “Loop Option” on page 107
- “Exiting the Auto Mode Sequencer” on page 107
- “Use the Auto Mode Sequencer (GUI)” on page 44
- “Use the Auto Mode Sequencer (TTY UI)” on page 70
- “Use the Auto Mode Sequencer (CLI)” on page 89

Expected Behavior in Different Use Cases

■ When the Auto Mode Sequencer completes the test sequence.

The Auto Mode Sequencer completes its cycle of execution when all the loops of the selected sequence complete testing (default is 1 loop). At this point, the status will show `IDLE`. To start the sequencer again, perform a `reset` and restart the testing.

■ When Auto Mode Sequencer execution encounters an error.

If even one test (LT) incurs an error in a particular mode of the sequence, the sequencer will not proceed for the next mode. All the other tests will complete execution for the same mode and stop. The sequencer will not proceed because a test error may go unnoticed if the next sequence of mode starts.

■ When the Execution is Stopped (due to a manual stop or some other condition like a time limit).

- **Manual stop:** The Mode Sequencer is an automated process. Once set and started, manual stops should be avoided unless stopping is necessary. If the mode sequencer is stopped before finishing, you need to reset the software to start with the Mode Sequencer again. When you select `reset`, all the parameters like `pass`, or `elapsed time`, will be reset to 0. Now the tests can be restarted and the software will start the Auto Mode Sequencer from the first sequence.

- **Time limit:** There is no global time limit for the Auto Mode Sequencer. Only the individual modes have time limits. To start the mode sequencer again, press `reset`, and start testing.

■ When the user stops and changes modes.

If the Auto Mode Sequencer must be stopped in between runs to perform a specific mode test, the best method is to set the Sequencer option to `Disable` and start the specific mode.

For example, if the Auto Mode Sequencer is stopped before the currently running mode in the sequence is complete, and the mode is changed to another mode:

- The changed mode will not start if there are other modes to be run in the sequencer.
- The next mode in the sequence will start.

If the last mode in the sequence is running, and testing stops before the test sequence completes, the changed mode will still work, because there are no more modes to run in the sequencer. This means that the mode sequencer is finished and any further test run will run with the mode that is presently set.

Related Information

- [“Overview” on page 105](#)
- [“Loop Option” on page 107](#)
- [“Exiting the Auto Mode Sequencer” on page 107](#)

Loop Option

The Auto Mode Sequencer has a loop option. The value for the loop decides how many times the sequence of modes, as set in the auto mode sequencer, will run. For example, if the loop is set to a value of 2, then a sequence of modes (let’s say Online Stress, followed by System Exerciser, followed by Component Stress) will run for two rounds of testing.

Related Information

- [“Overview” on page 105](#)
- [“Expected Behavior in Different Use Cases” on page 106](#)
- [“Exiting the Auto Mode Sequencer” on page 107](#)

Exiting the Auto Mode Sequencer

To switch off the Auto Mode Sequencer, you must set the Sequencer option to Disable. Until the Auto Mode Sequencer is disabled, it will keep starting the sequence of modes as defined in the sequencer. By default, the Sequencer is disabled (Off).

Related Information

- [“Overview” on page 105](#)
 - [“Expected Behavior in Different Use Cases” on page 106](#)
 - [“Loop Option” on page 107](#)
-

Automatic Setting of Levels

In each mode, a test can be run under high or low stress levels. The automatic selection feature ensures that the right stress level is enforced by VTS, regardless of what a loaded session file might specify. If there is a mismatch between the stress level specified in a session file and what VTS harness is setting the stress level to, an information message will be logged in the `/var/sunvts/logs/sunvts.info` file. This automatic forcing of stress level is done only in the System Exerciser mode of testing.

The main rationale of this feature is to prevent test failures caused due to resource exhaustion. The amount of memory in a system is an important factor in setting low or high test levels. If the system has a small memory configuration, the default stress level is set to low in each of the modes. A larger memory configuration results in a default stress level, which is set to high.

The software considers a system to be a small memory configuration if the configured system memory is less than 120 MB, multiplied by the number of CPUs.

Related Information

- [“Generate a Test Report” on page 103](#)
 - [“Use the vtsprobe Utility” on page 104](#)
 - [“Auto Mode Sequencer” on page 105](#)
 - [“Safe and Unsafe Options” on page 108](#)
 - [“Create a Configuration File for the Unsafe Option” on page 109](#)
-

Safe and Unsafe Options

These options enable you to perform more stressful hardware testing.



Caution – Use the unsafe option carefully. To conduct more stressful testing, the test performs operations on the device under test and erases data that is present on the device.

By default all tests are data safe. You can disable the Safe option to perform more stressful testing. By default, the option is always Enable or Data Safe.

To provide extra protection, the option to disable the safe option becomes active, only if the `sunvts.conf` configuration file contains the appropriate variable set.

Related Information

- “Generate a Test Report” on page 103
- “Use the vtsprobe Utility” on page 104
- “Auto Mode Sequencer” on page 105
- “Automatic Setting of Levels” on page 108
- “Create a Configuration File for the Unsafe Option” on page 109

▼ Create a Configuration File for the Unsafe Option

1. Obtain root privileges.
2. Create a configuration file:

```
# /etc/sunvts/conf/sunvts.conf
```

3. Open the file for editing.

The file takes a variable name and a corresponding value, which will be used by the tool. Both the name and the value are keywords. The `/etc/sunvts/conf/sunvts.conf` should have the following entries:

- To enable Write Only or Write-Read tests on the disk:
 - `Disk_Data_Write All=Enable`
- To enable Write Only or Write-Read tests on the Removable Media LT:
 - `RM_Disk_Data_Write All=Enable`

Note – Use the -U option to supply unsafe option from GUI and TTY.

4. Save the file.

5. Start the software.

The software will now read the configuration file. The Global Option button now has another entry: Safe Testing. You can set the button to Enable or Disable.

Note – From VTS 7.0ps10 release onwards the `sunvts_options.conf` file is obsolete and is not backward compatible.

Related Information

- [“Generate a Test Report” on page 103](#)
- [“Use the vtsprobe Utility” on page 104](#)
- [“Auto Mode Sequencer” on page 105](#)
- [“Automatic Setting of Levels” on page 108](#)
- [“Safe and Unsafe Options” on page 108](#)

Understanding the Tests

- “Disk Test” on page 112
- “Environment Test” on page 115
- “Graphics Test” on page 118
- “Host Bus Adapter Test” on page 124
- “Io_Interconnect Test” on page 126
- “IOports Test” on page 128
- “Media Test” on page 130
- “Memory Test” on page 132
- “Network Test” on page 134
- “Processor Test” on page 141
- “Removable Disk Test” on page 143

Related Information

- “Understanding the Software” on page 1
- “Installing or Updating the Software” on page 9
- “Starting the Software” on page 19
- “Testing Using the GUI” on page 31
- “Testing Using the TTY UI” on page 51
- “Testing Using the CLI” on page 73
- “Bootable CD/DVD (x86)” on page 91
- “Interpreting VTS Messages” on page 97
- “Using Additional VTS Features” on page 103
- “Supported Configuration Parameters” on page 147
- “VTS on Logical Domains” on page 159
- “Building Test Connectors” on page 165

Disk Test

The Disk test verifies the functionality of different types of disk drives such as ATA, SATA, SAS, SSD, NVMe, and eUSB.

- “Disk Subtests” on page 112
- “Disk Test Setup” on page 114
- “Disk Test Options” on page 115
- “Disk Test Options (Configuration File)” on page 115

Related Information

- “Environment Test” on page 115
- “Graphics Test” on page 118
- “Host Bus Adapter Test” on page 124
- “Io_Interconnect Test” on page 126
- “IOports Test” on page 128
- “Media Test” on page 130
- “Memory Test” on page 132
- “Network Test” on page 134
- “Processor Test” on page 141
- “Removable Disk Test” on page 143

Disk Subtests

- **Media subtest:** The Media subtest selects the biggest partition on the disk and runs either the *ReadOnly* test or the *WriteRead* test on the biggest partition. The *ReadOnly* test is selected if any partition on the disk has a file system on it. The *WriteRead* test is selected if the disk is raw and unsafe testing is enabled. By default all the read and write operations are completed using the asynchronous I/O method.



Caution – Disk test can only recognize file systems that Solaris supports or recognizes. If the `fstyp` command on the disk partition reports the file system type as “Unknown”, Disk test may write data to the partition if the safe testing is disabled.

Disk test runs the *ReadOnly* test by default. To run the Write/Read test on the disks, you must enable the unsafe testing option. The Unsafe option should be used with care. Unsafe testing will overwrite existing data on the hard disks. If the unsafe testing is enabled, the test automatically selects the largest partition for running the Write/Read test. The selection is based on the following rules:

- The disk should be raw.
- No partition should have a file system on it.
- The disk should not have an SVM or Veritas volume on it.

If any of the above conditions are not met, Disk test runs *ReadOnly* test on the disk partition. For more information about Unsafe test options.

Note – To run the Write/Read test, remove the file system on all the partitions of the disk.

- **File system subtest:** The file system subtest verifies the disk file system integrity. The test auto detects all mounted disk partitions in the system and runs the file system subtest. On each mounted disk partition, the test will:
 - Create multiple threads.
 - Enable each thread to create new temporary test directories and test files under `/<mount point>/Vts_Disk_Fileset`.
 - Enable each thread to create a new test file and perform the default I/O operations.
 - Open/write/read/compare/close tests.
 - Delete all temporary test directories and files on completion.

By default, the File system subtest do not run on NFS mounted filesystems. To enable filesystem subtest on NFS mounted filesystems, you should update `/etc/sunvts/conf/sunvts.conf` file with the following entry.

<code>NFS_Disk_Testing</code>	<code>All=Enable</code>
-------------------------------	-------------------------

or

<code>NFS_Disk_Testing</code>	<code><NFS mount path1>=Enable</code>
<code>NFS_Disk_Testing</code>	<code><NFS mount path2>=Enable</code>

You can use the cleanup option to remove the files left uncleaned by the Diskmedia test.

- **User patterns support for DiskTest:** The diskmedia test supports user patterns in two different ways:

- **patternfile:** The user can use this option to provide details of a pattern file. The diskmediatest reads the pattern files and prepares the pattern. The pattern file content will be read directly into the buffer without any change. The pattern file can be any of any file type. If the complete path of the pattern file is not specified, then by default the pattern file will be searched in the present working directory. The following is the syntax for specifying the pattern file.

```
patternfile= <filename>
```

where *filename* is the file containing the user patterns.

- **pattern:** The user can use this option to specify the pattern to be used for write/write-read tests. By default the P0 pattern is enabled, if no option is specified. You can also specify, create, and write list of different patterns in the `/etc/sunvts/conf/disk_io_pattern` file. The following is the syntax for an user pattern entry.

```
Pattern_name:<space><name><pattern[hex value]>,<repetition>
```

where:

name: Is the pattern name.

pattern[hex value]: Is the pattern in hexadecimal format. The maximum value is 64 bits.

repetition: Is the number of occurrences of a pattern. By default the value is 1.

Related Information

- [“Disk Test Setup” on page 114](#)
- [“Disk Test Options” on page 115](#)
- [“Disk Test Options \(Configuration File\)” on page 115](#)

Disk Test Setup

No special setup is required to run this test.

Related Information

- [“Disk Subtests” on page 112](#)
- [“Disk Test Options” on page 115](#)
- [“Disk Test Options \(Configuration File\)” on page 115](#)

Disk Test Options

The Disk Devices option lists the devices registered under Disk test options. This option provides a way to Select or Deselect the devices.

In case of a mounted file path, the device will be displayed as a '~' separated mounted path on the UI. For example, /<mount point>/Vts_Disk_Fileset will be displayed as ~<mount point>~Vts_Disk_Fileset.

Related Information

- [“Disk Subtests” on page 112](#)
- [“Disk Test Setup” on page 114](#)
- [“Disk Test Options \(Configuration File\)” on page 115](#)

Disk Test Options (Configuration File)

The test options are supported through the `/etc/sunvts/conf/sunvts.conf` configuration file. For more details on the supported configuration parameters, see [“Supported Configuration Parameters” on page 147](#).

Related Information

- [“Disk Subtests” on page 112](#)
- [“Disk Test Setup” on page 114](#)
- [“Disk Test Options” on page 115](#)

Environment Test

The Environment test exercises and validates the following system hardware:

- Environmental subsystems, which include system fan, LEDs, front panel, keyswitch, power supply, and temperature sensors. The environmental tests these subsystems on the following products:
 - Oracle’s Sun Enterprise 450 product line
 - Sun Enterprise 250 systems
 - Sun Blade 1000/2000 systems
 - Sun Blade 100/150 systems

- Sun Blade 1500/2500 systems
- A70 workstation systems
- Sun Fire 280R product line
- Sun Fire V440, V445, V240, V245, V210, V215, V250 systems
- Oracle's Netra 210, 240, 440 systems
- All x86 systems with Base Management Controller (BMC card).
- Remote System Control (RSC) feature, which is integrated on the Sun Enterprise 250 and on the next-generation RSC 2.0 plug-in card introduced with the Sun Fire 280R line.
- Exercises the Advanced Lights-Out Management (ALOM) feature, which is integrated into the Sun Fire V210, V240, V215, V245, V440, and V445, and Sun Netra 240 and 440 systems.
- I²C bus, proper placement of various I2C devices, their operation, status, and data integrity.
- Display functions, parameters of an IEEE 1394 digital camera, such as vid mode, frame rate, and frames received.
- SunPCi II card, which is a x86 PC processor embedded in an add-on card, runs bridge and system diagnostics tests.
- PCMCIA memory card, PKCS#11 token mechanism, sensors of the base management controller (BMC).
- Host-to-system controller interface in high-performance UltraSPARC T1 (chip multithreaded [CMT] multicore processor) CPU-based entry-level servers.
- Alarm card on Sun Netra 210, Sun Netra 240, and Sun Netra 440 servers.
- IPMI bus and its associated components, such as sensors and FRUPROMs in the local I²C bus, and DIMM SPD information.
- Oracle's Sun Crypto Accelerator 500, Sun Crypto Accelerator 1000, and Sun Crypto Accelerator 4000 and other Niagara Crypto Providers and cryptographic accelerators developed for the Oracle Solaris OS.

The following sections explain the Environment test requirements and its modes.

- ["Environment Test Requirements" on page 117](#)
- ["Environment Test Modes" on page 118](#)

Related Information

- ["Disk Test" on page 112](#)
- ["Graphics Test" on page 118](#)
- ["Host Bus Adapter Test" on page 124](#)
- ["To_Interconnect Test" on page 126](#)

- “IOports Test” on page 128
- “Media Test” on page 130
- “Memory Test” on page 132
- “Network Test” on page 134
- “Processor Test” on page 141
- “Removable Disk Test” on page 143

Environment Test Requirements

You must have the `SUNWpiclh`, `SUNWpiclr`, `SUNWpiclu`, and `SUNWpiclx` `picl` packages installed correctly before running the test to verify I²C devices. Verify that the `picld` daemon is running by typing:

```
# ps -ef|grep picld
root 100077 10 Sep 11 ? 23:40 /usr/lib/picl/picld
```

If the daemon is not running, restart it by typing the following:

```
# svcadm enable picl
```

To test the LG PC-10 camera, the system must already be running a window environment, such as JDS. If the system has no windowing environment, or is only displaying the login window, the test will neither pass nor fail. If you are working in JDS, you can change your system to 24-bit depth by editing the file `/usr/dt/config/Xservers` or `/etc/dt/config/Xservers`. The file `/etc/dt/config/Xservers` overrides the file `/usr/dt/config/Xservers`, which currently supports the LG PC-10 camera.

Edit the appropriate file to include the following line (type in one continual line):

```
:0 Local local_uid@console root /usr/openwin/bin/Xsun :0
-nobanner -dev /dev/fbs/ffb0 defdepth 24 defclass TrueColor
```

Before testing a SunPCi II card, you must shut down X Windows for Microsoft Windows.

Related Information

- “Environment Test Modes” on page 118

Environment Test Modes

The Environment test supports the following test mode.

Test Mode	Description
Online	Performs the basic checks on the hardware present.
System Exerciser	Performs read-only and runs some selftests.
Component Stress	Performs read-write and all other subtests. The full set of tests are run.

Note – The Environment test is not available for all subsystems for all platforms. The coverage is dependent on the availability of system interfaces to the hardware.

Related Information

- [“Environment Test Requirements” on page 117](#)

Graphics Test

- [“Graphics Test Overview” on page 119](#)
- [“Graphics Test Modes” on page 119](#)
- [“Graphics Test Setup” on page 120](#)
- [“Disable the Solaris Screen Saver” on page 120](#)
- [“Change the Screen Resolution” on page 121](#)
- [“Run hlgraphics Test” on page 121](#)
- [“Check Presence of ast Driver on T4 System” on page 123](#)

Related Information

- [“Disk Test” on page 112](#)
- [“Environment Test” on page 115](#)
- [“Host Bus Adapter Test” on page 124](#)
- [“To_Interconnect Test” on page 126](#)
- [“IOports Test” on page 128](#)

- [“Media Test” on page 130](#)
- [“Memory Test” on page 132](#)
- [“Network Test” on page 134](#)
- [“Processor Test” on page 141](#)
- [“Removable Disk Test” on page 143](#)

Graphics Test Overview

The Graphics test verifies the functionality of graphics adapters (graphics cards). By default, this test is disabled as this test can remove the user’s GUI. Currently supported adapters include:

- SPARC platforms: All graphics adapters
- x86 platforms: All graphics adapters

Related Information

- [“Graphics Test Modes” on page 119](#)
- [“Graphics Test Setup” on page 120](#)
- [“Disable the Solaris Screen Saver” on page 120](#)
- [“Change the Screen Resolution” on page 121](#)
- [“Run hlgraphics Test” on page 121](#)
- [“Check Presence of ast Driver on T4 System” on page 123](#)

Graphics Test Modes

The Graphics test supports the following test modes.

Test Mode	Description
Online	Not supported due to the disruptive nature of the graphics tests.
System Exerciser	Supported on both SPARC and x86 platforms. The test exercises the functionality of the graphics adapter along with other testing in the system.
Component Stress	Supported on both SPARC and x86 Platforms. The test puts higher stress and tests each detected graphics adapter individually.

Related Information

- [“Graphics Test Overview”](#) on page 119
- [“Graphics Test Setup”](#) on page 120
- [“Disable the Solaris Screen Saver”](#) on page 120
- [“Change the Screen Resolution”](#) on page 121
- [“Run hlgraphics Test”](#) on page 121
- [“Check Presence of ast Driver on T4 System”](#) on page 123

Graphics Test Setup

To run the Graphics test as superuser, you must use the console device or start the desktop with the `-ac` option.

Related Information

- [“Graphics Test Overview”](#) on page 119
- [“Graphics Test Modes”](#) on page 119
- [“Disable the Solaris Screen Saver”](#) on page 120
- [“Change the Screen Resolution”](#) on page 121
- [“Run hlgraphics Test”](#) on page 121
- [“Check Presence of ast Driver on T4 System”](#) on page 123

▼ Disable the Solaris Screen Saver

You must disable all screen savers before testing any graphics device.

- **At a UNIX prompt, type:**

```
# xset -dpms
```

Related Information

- [“Graphics Test Overview”](#) on page 119
- [“Graphics Test Modes”](#) on page 119
- [“Graphics Test Setup”](#) on page 120
- [“Change the Screen Resolution”](#) on page 121
- [“Run hlgraphics Test”](#) on page 121
- [“Check Presence of ast Driver on T4 System”](#) on page 123

▼ Change the Screen Resolution

The display resolution must be 1280x1024.

- **Type:**

```
# fbconfig -res 1280x1024x76
```

Note – To perform graphics test on kfb frame buffers, the desktop must be running on each kfb device in the system.

To run the Graphics test on an x86 system, you must start the GUI or TTY and run the Graphics test at the system console, or use the Java remote console from Oracle ILOM. See [“Start the Software \(GUI\)” on page 23](#).

Note – On some systems, Graphics test may need to be enabled. If the test is not enabled, a “not supported” message is displayed on the UI. By default, Graphics test is disabled on some systems. To re-enable the test, select the “Graphics Options”, scroll down to “Device Options”.

Related Information

- [“Graphics Test Overview” on page 119](#)
- [“Graphics Test Modes” on page 119](#)
- [“Graphics Test Setup” on page 120](#)
- [“Disable the Solaris Screen Saver” on page 120](#)
- [“Run hlgraphics Test” on page 121](#)
- [“Check Presence of ast Driver on T4 System” on page 123](#)

▼ Run hlgraphics Test

1. Set DISPLAY to a local display server screen. For example:

```
# export DISPLAY=sr1-sfbay-11:77.0
# echo $DISPLAY
```

2. Enable hlgraphics test from the UI or TTY by selecting Graphics LT. Click **Options** and select hlgraphicstest if it is not selected.

By default, the test is disabled.

3. Ensure that `/dev/fb` link is correctly set up and pointing to the correct device.
Type:

```
# ls -al /dev/fbs
total 24
drwxr-xr-x  6 root    root          6 Feb  1 20:04 .
drwxr-xr-x 276 root    sys           276 Feb  6 13:55 ..
lrwxrwxrwx  1 root    root          66 Dec 24 12:54 mga0 ->
../../../../devices/pci@340/pci@1/pci@0/pci@1/pci@0/pci@5/display@0:mga0
0
```

4. Ensure that Xorg is running on the system. Perform the following steps to enable Xorg:

- a. Install the `sunvts-mga` package. Type:

```
# pkg install sunvts-mga
# ln -s
/dev/devices/pci@340/pci@1/pci@0/pci@1/pci@0/pci@5/display@0:mga0/dev
/fb
```

- b. Reboot your system and run the following command.

```
# fbconfig -list
Device File Name Device Model Config Program
/dev/fbs/mga0 display fbconf_xorg
```

Note – If `fbconfig -list` does not list any configured X servers, then install the `xorg` package and again run the `fbconfig -list` command.

- c. Install the Xorg package. Type:

```
# pkg install Xorg
# /usr/bin/X &
```


d. To start Xorg, type:

```
# /usr/bin/X&
```

Attach a keyboard and mouse to your system and install solaris-desktop package to see the Java Desktop login screen.

```
# pkg install --accept solaris-desktop  
-reboot
```

Note – The installation of the package comes into affect only after rebooting the system.

e. Disable the JDS dtlogin screen before you can start graphicstest to see the test passes. Else, the graphicstest will not get any pass. Type:

```
# cd /usr/dt/bin  
# dtconfig -d
```

Note – You can enable the JDS dtlogin screen using `dtconfig -e` command.

Related Information

- [“Graphics Test Overview” on page 119](#)
- [“Graphics Test Modes” on page 119](#)
- [“Graphics Test Setup” on page 120](#)
- [“Disable the Solaris Screen Saver” on page 120](#)
- [“Check Presence of ast Driver on T4 System” on page 123](#)

▼ Check Presence of ast Driver on T4 System

1. Determine if the system you are workin on is a T4 system., type:

```
# prtdiag | grep 'System Config'  
# System Configuration:Oracle Corporation sun4v SPARC T4-4
```

2. If a key board and mouse is attached to the system, ensure the following:

- /dev/fb link is correctly set up and pointing to the correct device

- Xorg is running on the system

3. Install the `solaris-desktop` package for `ast` driver.

If the `solaris-desktop` package cannot be installed, then install the following FMRI packages:

Name	FMRI
<code>system/graphics/fbconfig/fbconfig-ast</code>	<code>pkg://solaris/system/graphics/fbconfig/fbconfig-ast@0.5.11,5.11-0.175.1.0.0.24.1317:20120904T175917Z</code>
<code>x11/server/xorg/driver/xorg-video-ast</code>	<code>pkg://solaris/x11/server/xorg/driver/xorg-video-ast@0.93.10,5.11-0.175.1.0.0.24.1317:20120904T180048Z</code>

Related Information

- [“Graphics Test Overview”](#) on page 119
- [“Graphics Test Modes”](#) on page 119
- [“Graphics Test Setup”](#) on page 120
- [“Disable the Solaris Screen Saver”](#) on page 120
- [“Run hlgraphics Test”](#) on page 121

Host Bus Adapter Test

- [“Host Bus Adapter Test Modes”](#) on page 125
- [“Host Bus Adapter Test Setup”](#) on page 125
- [“Host Bus Adapter Test Options Through Configuration File”](#) on page 126

Related Information

- [“Disk Test”](#) on page 112
- [“Environment Test”](#) on page 115
- [“Graphics Test”](#) on page 118
- [“Io_Interconnect Test”](#) on page 126
- [“IOports Test”](#) on page 128
- [“Media Test”](#) on page 130
- [“Memory Test”](#) on page 132

- [“Network Test” on page 134](#)
- [“Processor Test” on page 141](#)
- [“Removable Disk Test” on page 143](#)

Host Bus Adapter Test Modes

The Host Bus Adapters (HBA) test verifies the functionality of the HBAs in the system. The HBA test supports the following test modes.

Test Mode	Description
Online	Performs a basic check verifying the functionality of the devices connected.
System Exerciser	Exercises the functionality of the HBA along with other testing in the system.
Component Stress	Puts higher stress and verifies the operation of the HBAs in the system.

Related Information

- [“Host Bus Adapter Test Setup” on page 125](#)
- [“Host Bus Adapter Test Options Through Configuration File” on page 126](#)

Host Bus Adapter Test Setup

Some HBA tests, such as those for Emulex and Qlogic HBA, provide external connector testing capability. For these tests, you must connect an external connector before enabling the external subtests.

External loopback specifications for Oracle’s Sun Storage 10GbE FCoE PCIe Converged Network Adapter uses QLogic technology, and multi-mode fiber-optic cable, intended for short-wave lasers. For additional details, refer to *Sun Storage 10GbE FCoE PCIe Converged Network Adapter Installation Guide*.

Note – HBA tests can be run in component stress mode. If you have disks connected to an HBA controller that requires testing, you must suspend all the I/O operations on those disks.

See [“Understanding the Tests” on page 111](#) for information on connectors.

Related Information

- [“Host Bus Adapter Test Modes” on page 125](#)
- [“Host Bus Adapter Test Options Through Configuration File” on page 126](#)

Host Bus Adapter Test Options Through Configuration File

The test supports the options through the `/etc/sunvts/conf/sunvts.conf` configuration file. For more details on the options supported, see [“Supported Configuration Parameters” on page 147](#).

Related Information

- [“Host Bus Adapter Test Modes” on page 125](#)
- [“Host Bus Adapter Test Setup” on page 125](#)

Io_Interconnect Test

The `Io_Interconnect` test verifies all interconnects and different ASICs on the system board. If you enable unsafe testing, the `Io_Interconnect` test runs `WriteRead` tests. Unsafe tests cause data corruption on the hard disks and hence, should be enabled only if unsafe testing must be performed. For more information about Unsafe tests see [“Safe and Unsafe Options” on page 108](#). The below sections describe the following.

- [“Io_Interconnect Test Mode” on page 127](#)
- [“Io_Interconnect Test Setup” on page 127](#)
- [“Live-Network Port Testing Settings” on page 127](#)
- [“Io_Interconnect Test Options Through Configuration File” on page 128](#)

Related Information

- [“Disk Test” on page 112](#)
- [“Environment Test” on page 115](#)
- [“Graphics Test” on page 118](#)
- [“Host Bus Adapter Test” on page 124](#)
- [“IOports Test” on page 128](#)

- [“Media Test” on page 130](#)
- [“Memory Test” on page 132](#)
- [“Network Test” on page 134](#)
- [“Processor Test” on page 141](#)
- [“Removable Disk Test” on page 143](#)

Io_Interconnect Test Mode

The Io_Interconnect test supports the following test mode.

Test Mode	Description
Component Stress	Runs more stressful tests in sequence on all detected hardware.

Related Information

- [“Io_Interconnect Test Setup” on page 127](#)
- [“Live-Network Port Testing Settings” on page 127](#)
- [“Io_Interconnect Test Options Through Configuration File” on page 128](#)

Io_Interconnect Test Setup

No special setup is required to run this test.

Related Information

- [“Io_Interconnect Test Mode” on page 127](#)
- [“Live-Network Port Testing Settings” on page 127](#)
- [“Io_Interconnect Test Options Through Configuration File” on page 128](#)

Live-Network Port Testing Settings

By default, the Network ports that are plumbed and connected to a live network are not tested to avoid network congestion. These setting can be changed as described in [“Io_Interconnect Test Options Through Configuration File” on page 128](#).

Note – After you enable or disable live-network port testing, you must reprobe or restart the software.

Related Information

- [“Io_Interconnect Test Mode” on page 127](#)
- [“Io_Interconnect Test Setup” on page 127](#)
- [“Io_Interconnect Test Options Through Configuration File” on page 128](#)

Io_Interconnect Test Options Through Configuration File

The test supports the options through the `/etc/sunvts/conf/sunvts.conf` configuration file. For more details on the options supported, see [“Supported Configuration Parameters” on page 147](#).

Related Information

- [“Io_Interconnect Test Mode” on page 127](#)
- [“Io_Interconnect Test Setup” on page 127](#)
- [“Live-Network Port Testing Settings” on page 127](#)

IOports Test

- [“IOports Test Overview” on page 129](#)
- [“IOports Test Modes” on page 129](#)
- [“IOports Test Setup” on page 130](#)

Related Information

- [“Disk Test” on page 112](#)
- [“Environment Test” on page 115](#)
- [“Graphics Test” on page 118](#)
- [“Host Bus Adapter Test” on page 124](#)

- [“Io_Interconnect Test” on page 126](#)
- [“Media Test” on page 130](#)
- [“Memory Test” on page 132](#)
- [“Network Test” on page 134](#)
- [“Processor Test” on page 141](#)
- [“Removable Disk Test” on page 143](#)

IOports Test Overview

The IOports test verifies the following:

- Hardware and software components of the audio subsystem. All Oracle supported audio implementations are tested.
- Functionality of PCMCIA modem card and PCMCIA serial I/O socket card.
- Parallel port devices, which include SBus parallel port and IEEE 1286-complaint parallel port.
- SAI card.
- System on-board serial ports and any multiterminal interface (ALM2) boards (su[0,1], zs[0,1], zsh[0,1], se[0,1], se_hdlc[0,1], asy[0,1] and mcp[0-3]).
- Functionality of the SBus and PCI bus SunHSI boards.
- Functionality of the hardware of the USB subsystem, which includes audio, keyboard, and printer devices.

Related Information

- [“IOports Test Modes” on page 129](#)
- [“IOports Test Setup” on page 130](#)

IOports Test Modes

The IOports test supports the following test modes.

Test Mode	Description
Online	Performs a basic check verifying the functionality of the devices connected.
System Exerciser	Runs more stressful tests in parallel on all detected hardware along with the other tests.

Related Information

- [“IOports Test Overview” on page 129](#)
- [“IOports Test Setup” on page 130](#)

IOports Test Setup

The on-board serial ports support connector testing. The connector test requires the null modem and plug connectors described in [“Building Test Connectors” on page 165](#).

There are a variety of connector loopback paths available. The internal loopback paths do not require an external connector. The availability of the loopback paths depends on the device. The `zs(7D)` device has an internal path for synchronous mode and the `se(7D)` device has an internal path for asynchronous mode. The exact type of loopback connector required depends on the system I/O panel.

The connector for the null modem A-to-B option is a female-to-female plug. The pin configuration is the same as the one described in see [“9-Pin to 9-Pin Port-to-Port Cable” on page 173](#).

The connector for the plug A-to-A option is described in [“9-Pin Female Single-Port Plug” on page 172](#).

The Sbus and PCI bus SunHSI boards also support connector testing.

For x86 systems, only external loopback is supported on serial ports. However, this applies only to systems that do not use their serial ports for system management. For those systems, loopback testing is not supported.

Related Information

- [“IOports Test Overview” on page 129](#)
- [“IOports Test Modes” on page 129](#)

Media Test

- [“Media Test Overview” on page 131](#)
- [“Media Test Modes” on page 131](#)
- [“Media Test Setup” on page 132](#)

Related Information

- “Disk Test” on page 112
- “Environment Test” on page 115
- “Graphics Test” on page 118
- “Host Bus Adapter Test” on page 124
- “Io_Interconnect Test” on page 126
- “IOports Test” on page 128
- “Memory Test” on page 132
- “Network Test” on page 134
- “Processor Test” on page 141
- “Removable Disk Test” on page 143

Media Test Overview

The Media test verifies the following hardware:

- Optical media drives (CD-ROM, DVD-ROM, CD-RW, DVD-RW, DVD-RAM)
- Tape drives

Note – CD and DVD are the only supported optical disc tests: blue ray discs are not supported in Media test.

Related Information

- “Media Test Modes” on page 131
- “Media Test Setup” on page 132

Media Test Modes

The Media test supports the following test modes:

Test Mode	Description
Online	Performs a basic check that verifies the functionality of the connected devices.
System Exerciser	Runs more stressful tests in parallel on all detected hardware along with the other tests.

Test Mode	Description
Component	Runs more stressful tests exclusively on the specified optical disk drive hardware.

Related Information

- [“Media Test Overview” on page 131](#)
- [“Media Test Setup” on page 132](#)

Media Test Setup

Optical disk drives must have the supported media inserted into the optical disk drive. If the media or disk in the drive is changed, the software must reprobe to recognize the new media.

The tape drive must be populated for tape drive testing.

The media can be blank or used. If the media has been used, the test performs a read-only test. If the media is blank, the test performs a read/write test. The media test can also perform a CD/DVD read test and a CD/DVD Read/Write test.

Related Information

- [“Media Test Overview” on page 131](#)
- [“Media Test Modes” on page 131](#)

Memory Test

- [“Memory Test Overview” on page 133](#)
- [“Memory Test Swap Space Requirements” on page 133](#)
- [“Memory Test Modes” on page 134](#)
- [“Memory Test Options Through Configuration File” on page 134](#)

Related Information

- [“Disk Test” on page 112](#)
- [“Environment Test” on page 115](#)

- “Graphics Test” on page 118
- “Host Bus Adapter Test” on page 124
- “Io_Interconnect Test” on page 126
- “IOports Test” on page 128
- “Media Test” on page 130
- “Network Test” on page 134
- “Processor Test” on page 141
- “Removable Disk Test” on page 143

Memory Test Overview

The Memory test, tests the DRAMs, the memory subsystem, the virtual memory, and the swap partitions of the disks in system. This test achieves large memory bandwidths and performs a mix of read and write MARCH operations to the memory. This test also uses background patterns to bring out pattern-sensitive faults in the DRAMs. A part of the test uses the Oracle Solaris `vallloc` (page aligned) system call to allocate, write, read, and compare virtual memory. The system call causes heavy paging activity in the system and simulates a stressful environment for the OS. The test stimulates hard and soft error correction (ECC) errors, memory read errors, and addressing problems.

Related Information

- “Memory Test Swap Space Requirements” on page 133
- “Memory Test Modes” on page 134
- “Memory Test Options Through Configuration File” on page 134

Memory Test Swap Space Requirements

Memory tests can consume up to 80% of total system memory, depending on the test settings; and the test mode being run. Memory requirements are minimal in online mode and highest in component stress mode. All the memory tests have built-in logic to adopt to any underlying system configuration and suitably tune their memory requirements.

Related Information

- “Memory Test Overview” on page 133
- “Memory Test Modes” on page 134

- [“Memory Test Options Through Configuration File”](#) on page 134

Memory Test Modes

The Memory test supports the following test modes.

Test Mode	Description
Online	Runs less stressful tests and performs basic checks.
System Exerciser	Runs with optimal stress on the detected hardware.
Component Stress	Runs more stressful tests in sequence on all detected hardware.

Related Information

- [“Memory Test Overview”](#) on page 133
- [“Memory Test Swap Space Requirements”](#) on page 133
- [“Memory Test Options Through Configuration File”](#) on page 134

Memory Test Options Through Configuration File

The Memory test supports the options through the `/etc/sunvts/conf/sunvts.conf` configuration file. For more details on the options supported, see [“Supported Configuration Parameters”](#) on page 147.

Related Information

- [“Memory Test Overview”](#) on page 133
- [“Memory Test Swap Space Requirements”](#) on page 133
- [“Memory Test Modes”](#) on page 134

Network Test

- [“Network Test Overview”](#) on page 135
- [“Network Test Modes”](#) on page 137
- [“Network Test Setup”](#) on page 137

- “Live-Network Port Testing Settings” on page 138
- “Network Test Options” on page 138

Related Information

- “Disk Test” on page 112
- “Environment Test” on page 115
- “Graphics Test” on page 118
- “Host Bus Adapter Test” on page 124
- “Io_Interconnect Test” on page 126
- “IOports Test” on page 128
- “Media Test” on page 130
- “Memory Test” on page 132
- “Processor Test” on page 141
- “Removable Disk Test” on page 143

Network Test Overview

The Network test verifies the following:

- Checks all the networking hardware on the system (controllers). The machine under test must be attached to a network with at least one other system on the network.
- Performs the Ethernet connector test (Internal, External). You can select Internal/External loopback from the GUI or TTY for the Network Test. By default, `Loopback:Auto` is selected. Check for the proper connector cable connection before enabling the External Loopback option (see Test Setup). If `Loopback:Auto` is selected, the test automatically detects the internal or external loopback type.

Note – When the loopback is set to Auto, the test will make an attempt to select External Loopback Mode. If the External Loopback Mode cannot be selected, the test selects Internal Loopback Mode for testing. If a connector is faulty or loosely connected, the test will fall back to Internal Loopback mode and will not run the External Loopback Mode.

- Performs tests on the Infiniband host channel adapter (HCA). Verifies operation of associated chips and components. Verifies chip firmware/hardware revision. Internal Loopback is supported. DDR memory and flash memory verification is performed. The Infiniband host channel adapter test is supported only when the port does not have any cables connected to it.

- You must plumb down the ibdXX interfaces to perform Infiniband host channel adapter (HCA) validation without live network connection. Use the following commands to plumb down ibdXX interfaces:

- `#ifconfig ibdXX down`
- `#ifconfig ibdXX unplumb`

Where XX is the instance number of the interface. If ibdXX interfaces are plumbed up, then the software will validate IP over IB functionality over ibdXX interfaces.

Back_To_Back subtest provides a capability to test two ports connected by a supported network cable. Back_To_Back subtest runs in mutually exclusive mode, no other subtest will run on the back to back port pair.

Your system must meet the following requirements to run the Back_To_Back subtest:

- Ports must be plumbed down and connected back to back.
- Back_To_Back subtest is supported only on interface pair of same driver.
- The following entry in the `sunvts.conf` configuration file is required to run Back_To_Back subtest on `nxge2` and `nxge3`.

```
Network_Back_To_Back nxge2=nxge3
```

When a Network test starts, the `kstat log` file is created under the directory `/var/sunvts/log/networktest.kstat/`, with a filename as `interface_name`. This file contains the initial kstat entry. During the test, if there is a packet drop, the following alert message is displayed.

```
Packet(s) drop detected on <interface>,
see/var/sunvts/log/networktest.kstat/<interface> for details
```

The maximum size of the kstat log file is 5MB. If the file size is more than 5MB then the older kstat data is moved to a new file by the name `interface_name.old`. By default, the kstat logging feature is enabled. For more information on how to enable this feature. see [“Network Test Configuration File Parameters” on page 157](#).

Related Information

- [“Network Test Modes” on page 137](#)
- [“Network Test Setup” on page 137](#)
- [“Live-Network Port Testing Settings” on page 138](#)
- [“Network Test Options” on page 138](#)

Network Test Modes

The Network test supports the following test modes:

Test Mode	Description
Online	Runs a basic check verifying the functionality of the devices connected.
System Exerciser	Runs with optimal stress on the devices.
Component Stress	Runs more stressful tests in sequence on all devices.

Related Information

- [“Network Test Overview” on page 135](#)
- [“Network Test Setup” on page 137](#)
- [“Live-Network Port Testing Settings” on page 138](#)
- [“Network Test Options” on page 138](#)

Network Test Setup

For network loopback testing, the port must be unplumbed. For complete loopback testing of the network port, use an external loopback connector. [“Building Test Connectors” on page 165](#) has a list of supported network loopback connectors.

Note – While performing network loopback testing, ensure that there are no external cables connected to the port. After you enable or disable live-network port testing, you must reprobe or restart the software.

Related Information

- [“Network Test Overview” on page 135](#)
- [“Network Test Modes” on page 137](#)
- [“Live-Network Port Testing Settings” on page 138](#)
- [“Network Test Options” on page 138](#)

Live-Network Port Testing Settings

By default, the Network ports that are plumbed and connected to a live network are not tested to avoid network congestion. These settings can be changed as described in [“Network Test Options Through Configuration File”](#) on page 141.

Note – While performing network loopback testing, ensure that there are no external cables connected to the port.

Related Information

- [“Network Test Overview”](#) on page 135
- [“Network Test Modes”](#) on page 137
- [“Network Test Setup”](#) on page 137
- [“Network Test Options”](#) on page 138

Network Test Options

The Network Tests option lists the devices registered under network test options and provides a way to select or deselect the devices.

- [“Select and Deselect Network Tests”](#) on page 139
- [“Select Target Devices Registered Under Network Test”](#) on page 139
- [“Loopback Options”](#) on page 140
- [“Choose Auto, Internal, External, or Back-to-Back Loopback”](#) on page 140
- [“Network Test Options Through Configuration File”](#) on page 141

Related Information

- [“Network Test Overview”](#) on page 135
- [“Network Test Modes”](#) on page 137
- [“Network Test Setup”](#) on page 137
- [“Live-Network Port Testing Settings”](#) on page 138

▼ Select and Deselect Network Tests

1. Follow the steps described in “Change Individual Test Options (CLI)” on page 79 to select the Network Test Options.

The Network Test Options menu is displayed.

```
*****Network*****
[*]Disk      Options  idle(Pass=0/E
[*]Environment Options  idle(Pass=0/E
[*]Ioports   Options  idle(Pass=0/E
[*]Media     Options  idle(Pass=0/E
[*]Memory    Options  idle(Pass=0/E
[*]Network   Options  idle(Pass=0/E
[*]Processor Options  idle(Pass=0/E

Options:
Stress:                high
Scheduling Policy:
Test Time:[0-99999]    0
Test Passes:[0-99999] <-5 >
Specific Pass Level:[0-5] 0
Error Limit:[0-99999]  1
Device Options :      Click to view choices

Apply  Reset
```

2. Use the arrow keys to select the Network Test Options menu, and then press Return.
3. Use the arrow keys to select the Device Options menu, and then press Return.
By default, all network devices are selected for testing. Devices can be deselected if you intend to run the test only on specific devices.

4. Press Return to save the selected devices.

If you do not want to save the changes, press Esc. In either case, the cursor returns to the Network test options screen.

5. Select Apply to save the Network test options.

Pressing Esc returns you to the Network test options screen.

Related Information

- “Select Target Devices Registered Under Network Test” on page 139
- “Loopback Options” on page 140
- “Choose Auto, Internal, External, or Back-to-Back Loopback” on page 140
- “Network Test Options Through Configuration File” on page 141

▼ Select Target Devices Registered Under Network Test

1. Follow the steps described in “Change Individual Test Options (CLI)” on page 79 to reach the Network Test Options.

The Network Test Options menu is displayed.

2. Use the arrow keys to select the Network Test Options menu and press Return.

3. Use the arrow keys to highlight the Device Options menu and press Return.
4. Select the target that you need, for example e1000g0, and press Return.
5. Enter the target name or IP address.
6. Select Apply to save the target name.
7. Choose your final selection:
 - Select Apply to save the network test options, or
 - Press Esc to return back to the Network Test Options screen.

Related Information

- [“Select and Deselect Network Tests”](#) on page 139
- [“Loopback Options”](#) on page 140
- [“Choose Auto, Internal, External, or Back-to-Back Loopback”](#) on page 140
- [“Network Test Options Through Configuration File”](#) on page 141

Loopback Options

The Loopback option enables you to choose Auto, Internal, External, and Back-to-Back loopback connections for the devices registered under Network test.

Related Information

- [“Select and Deselect Network Tests”](#) on page 139
- [“Select Target Devices Registered Under Network Test”](#) on page 139
- [“Choose Auto, Internal, External, or Back-to-Back Loopback”](#) on page 140
- [“Network Test Options Through Configuration File”](#) on page 141

▼ Choose Auto, Internal, External, or Back-to-Back Loopback

1. Follow the steps described in [“Change Individual Test Options \(CLI\)”](#) on page 79 to reach the Network Test Options.

The Network Test Options menu is displayed.

2. Use the arrow keys to select the Network Test Options menu and press Return.
3. Use the arrow keys to highlight the Device Options menu and press Return.

4. **Select a target, for example e1000g1, and press Return**
The Loopback Option menu is displayed.
5. **Press Return to select the Auto, Internal, External, or Back-to-Back Loopback options.**
6. **Select Apply to save the loopback option.**
7. **Select Apply to save the Network Test Options.**
Else, press Esc to return back to the Network Test Options screen.

Related Information

- [“Select and Deselect Network Tests”](#) on page 139
- [“Select Target Devices Registered Under Network Test”](#) on page 139
- [“Loopback Options”](#) on page 140
- [“Network Test Options Through Configuration File”](#) on page 141

Network Test Options Through Configuration File

The test supports options through the `/etc/sunvts/conf/sunvts.conf` configuration file. For more details on the options supported, see [“Supported Configuration Parameters”](#) on page 147.

Related Information

- [“Select and Deselect Network Tests”](#) on page 139
- [“Select Target Devices Registered Under Network Test”](#) on page 139
- [“Loopback Options”](#) on page 140
- [“Choose Auto, Internal, External, or Back-to-Back Loopback”](#) on page 140

Processor Test

- [“Processor Test Overview”](#) on page 142
- [“Processor Test Modes”](#) on page 142

Related Information

- [“Disk Test”](#) on page 112

- [“Environment Test” on page 115](#)
- [“Graphics Test” on page 118](#)
- [“Host Bus Adapter Test” on page 124](#)
- [“Io_Interconnect Test” on page 126](#)
- [“IOports Test” on page 128](#)
- [“Media Test” on page 130](#)
- [“Memory Test” on page 132](#)
- [“Network Test” on page 134](#)
- [“Removable Disk Test” on page 143](#)

Processor Test Overview

The Processor test primarily targets the following features:

- The Integer and Floating-Point Units (IU/FPU)
- The on-chip caches
- Inter-core/ inter-processor communication and cache coherency

Related Information

- [“Processor Test Modes” on page 142](#)

Processor Test Modes

The Processor test supports the following test modes.

Test Mode	Description
Online	:Runs a basic check verifying the functionality of the devices connected.
System Exerciser	Runs with optimal stress on the devices.
Component Stress	Runs more stressful tests in sequence on all devices.

Related Information

- [“Processor Test Overview” on page 142](#)

Removable Disk Test

- “Removable Disk Test Overview” on page 143
- “Media Subtest” on page 144
- “File System Subtest” on page 144
- “Removable Disk Test Modes” on page 145
- “Removable Disk Test Options Through Configuration File” on page 145

Related Information

- “Disk Test” on page 112
- “Environment Test” on page 115
- “Graphics Test” on page 118
- “Host Bus Adapter Test” on page 124
- “Io_Interconnect Test” on page 126
- “IOports Test” on page 128
- “Media Test” on page 130
- “Memory Test” on page 132
- “Network Test” on page 134
- “Processor Test” on page 141

Removable Disk Test Overview

The Removable Disk test verifies the functionality of USB flash drives, CF (Compact Flash) cards, secure digital (SD) cards and USB disks using subtests like Media, File System, and Asynchronous I/O.

Related Information

- “Media Subtest” on page 144
- “File System Subtest” on page 144
- “Removable Disk Test Modes” on page 145
- “Removable Disk Test Options Through Configuration File” on page 145

Media Subtest

Media subtest selects the `ReadOnly` or `WriteRead` tests on USB storage devices, and compact flash and secure digital memory cards. By default all the read and write operations are completed using the asynchronous I/O method.

Caution – The `Removable_Disk` test recognizes file systems that only Oracle Solaris supports or recognizes. If the `fstyp` command on the `Removable_disk` reports the file system type as "Unknown", the `Removable Disk` test may write data to the partition if the safe testing is disabled

If you enable unsafe testing, the test selects partitions automatically and runs `WriteRead` tests. The `Unsafe` option should be used with care. Unsafe testing can cause data corruption. The test will always run `ReadOnly` tests by default.

The partition will not be selected if it is mounted or has a file system.

For more information about `Unsafe` test options, see `Safe and Unsafe Options`.

Related Information

- [“Removable Disk Test Overview” on page 143](#)
- [“File System Subtest” on page 144](#)
- [“Removable Disk Test Modes” on page 145](#)
- [“Removable Disk Test Options Through Configuration File” on page 145](#)

File System Subtest

The file system subtest verifies the file system integrity. This subtest exercises mounted partitions carrying the file system. By default, the test only runs on system mounted partitions, it does not premount any additional partitions.

The test creates two temporary files and the file sizes are specified by the `File System`.

Related Information

- [“Removable Disk Test Overview” on page 143](#)
- [“Media Subtest” on page 144](#)
- [“Removable Disk Test Modes” on page 145](#)
- [“Removable Disk Test Options Through Configuration File” on page 145](#)

Removable Disk Test Modes

The Removable Disk test supports the following test modes.

Test Mode	Description
Online	Performs a basic check verifying the functionality of the connected devices.
System Exerciser	Runs with optimal stress on the devices.
Component Stress	Runs more stressful tests on all devices.

Related Information

- [“Removable Disk Test Overview”](#) on page 143
- [“Media Subtest”](#) on page 144
- [“File System Subtest”](#) on page 144
- [“Removable Disk Test Options Through Configuration File”](#) on page 145

Removable Disk Test Options Through Configuration File

The Removable Disk test supports the options through the `/etc/sunvts/conf/sunvts.conf` configuration file. For more details on the options supported, see [“Supported Configuration Parameters”](#) on page 147.

Related Information

- [“Removable Disk Test Overview”](#) on page 143
- [“Media Subtest”](#) on page 144
- [“File System Subtest”](#) on page 144
- [“Removable Disk Test Modes”](#) on page 145

Supported Configuration Parameters

Configuration parameters are supported through the configuration file, `/etc/sunvts/conf/sunvts.conf`.

- “VTS Harness Configuration File Parameters” on page 148
- “Disk Test Configuration File Parameters” on page 151
- “Removable Disk Test Configuration File Parameters” on page 153
- “Host Bus Adapter Test Configuration File Parameters” on page 154
- “Io_Interconnect Test Configuration File Parameters” on page 155
- “Memory Test Configuration File Parameters” on page 156
- “Network Test Configuration File Parameters” on page 157

Related Information

- “Understanding the Software” on page 1
- “Installing or Updating the Software” on page 9
- “Starting the Software” on page 19
- “Testing Using the GUI” on page 31
- “Testing Using the TTY UI” on page 51
- “Testing Using the CLI” on page 73
- “Bootable CD/DVD (x86)” on page 91
- “Interpreting VTS Messages” on page 97
- “Using Additional VTS Features” on page 103
- “Understanding the Tests” on page 111
- “VTS on Logical Domains” on page 159
- “Building Test Connectors” on page 165

VTS Harness Configuration File Parameters

Parameter	Description
PROBE_SELECTION	<p>Accepts option-value pairs where the option is a physical test name, and its value as "Enable" or "Disable" which indicates whether the test probe must be enabled or disabled. By default, all test probes are enabled. The PROBE_SELECTION parameter can accept any number of option-value pair in the form:</p> <p>PROBE_SELECTION xxxtest=Disable, yyytest=Disable,</p> <p>For example to disable vmemtest and pmemtest:</p> <p>PROBE_SELECTION vmemtest=Disable, pmemtest=Disable</p>
MAX_LOG_SIZE	<p>Specifies the maximum log size for VTS generated logs. The value is accepted in the numeric form as a positive integer. The unit is in MB. By default, the size of a log is 1MB. For example, to set the maximum log file size to 5 MB:</p> <p>MAX_LOG_SIZE 5</p>
VTS_REPORT_GENERATE	<p>Logs the consolidated report sunvts.rpt at the end of a testing session. The option with a value of 1 allows the application to generate the report. By default, VTS does not generate this report unless the configuration option is set. The consolidated report is located under /var/sunvts/logs/ directory. For example, to generate the VTS report:</p> <p>VTS_REPORT_GENERATE 1</p>
DELAY	<p>Enables the delay option, which delays forking of physical tests within a Logical Test by a specified value. The parameter accepts option-value pairs where the option is the Logical Test name and its value is the delay time in seconds. The DELAY parameter can accept any number of option-value pair in the form:</p> <p>DELAY LName1=value1, LName2=value2,</p> <p>For example, to add a delay of 10 and 15 seconds before the start of Network and Graphics Test respectively:</p> <p>DELAY Network=10, Graphics=15</p>

Parameter	Description
RESERVE_SWAP_MIN	<p>Denotes the minimum amount of swap space to be reserved by the VTS harness (vtsk). The software will stop invoking new test instances when the available swap space amount falls below this specified threshold amount. Set the value to "default", XXXMB, or XX%. By default, this threshold amount is 15% of total configured swap space. If specified with % suffix, the percentage of total configured swap space is assumed. The specified amount must be between lower and upper limits of 5% and 75% of total configured swap space respectively. If the specified amount is too less or too high, the nearest acceptable value will be assumed.</p> <p>For example:</p> <ul style="list-style-type: none"> • RESERVE_SWAP_MIN default • RESERVE_SWAP_MIN 200MB • RESERVE_SWAP_MIN 35%
RESERVE_SWAP_MAX	<p>Denotes the maximum amount of swap space to be reserved. If the amount of swap available is greater than RESERVE_SWAP_MIN but less than RESERVE_SWAP_MAX, the software will delay invoking new test instances by LOW_SWAP_DELAY seconds. RESERVE_SWAP_MAX must be between 15% and 75% of the total configured swap space. By default, this value is set to 25%.</p> <p>For example, to set the maximum amount of swap space reserved to 45%:</p> <p>RESERVE_SWAP_MAX 45%</p>
LOW_SWAP_DELAY	<p>Specifies the time that the software waits before invoking a new test instance, when the system is low on memory. The time value is in seconds. The default value is 3 seconds.</p> <p>For example, to set a delay for a new test invocation when the system is low on memory:</p> <p>LOW_SWAP_DELAY 5</p>
VTS_CUSTOM_PLATFORMNAME	<p>Takes the name of a profile that has to be specifically run for a platform. The custom platform name specified with this option should match the profile name of the VTS rules file to run the specific profile. This is useful when the testing behavior of a platform cannot be appropriately identified under the categories of a defined platform, an architecture type, or the system processor type.</p> <p>For example:</p> <p>VTS_CUSTOM_PLATFORMNAME Genesis</p>

Parameter	Description
ALERT_THRESHOLD	<p>Specifies the maximum threshold that Alert messages can be accepted. Alert messages are used by the tests to communicate messages that can be fatal in nature but can be retried for a certain time to see if the condition improves and the test can start functioning smoothly. But these messages will not be ignored beyond the threshold. If the Alert messages reach the threshold, the Logical test receives an error and is stopped. The value is a count and is a positive numeric integer value. between 1 and 9999.</p> <p>For example:</p> <p>ALERT_THRESHOLD 10</p>
PROBE_TIME_LIMIT	<p>In case of a test probe hang, sets a time limit that the application will use to kill the test probes that did not complete in certain span of time. The option takes the time value in minutes. <code>Vtsk</code> kills the hung test probe after a default time of 15 mins.</p> <p>For example:</p> <p>PROBE_TIME_LIMIT 10</p>
TASK_TIMING_ENABLE	<p>Enables logging the task's elapsed time information in the <code>sunvts.info</code> logs. This information will not be logged by default. To enable logging the task's elapsed time, set the value to 1.</p> <p>For example:</p> <p>TASK_TIMING_ENABLE 1</p>
VTSK_IDLE_TIME_LIMIT	<p>Specifies the time limit beyond which the status of the test should move from from "Stopping" to "Idle". This is useful to bring the VTS status to "Idle" when a test or group of tests takes some time to clean up the routines after receiving the stop command, and the system status waits on "Stopping". The time unit is in minutes. The minimum value allowed is 2 minutes, and any value below this time is ignored and is set to 2 minutes.</p> <p>For example, to set the IDLE time limit to 10 mins, add the line as:</p> <p>VTSK_IDLE_TIME_LIMIT 10</p>

Parameter	Description
CORE_DIR	<p>Specifies an alternate directory for writing the core files in case of any exception conditions. The absolute path name of the directory needs to be specified here. When this parameter is not specified, the software dumps the core to the directory where the packages are installed, which is the default behaviour.</p> <p>For example:</p> <p>CORE_DIR /export/home/corefiles</p> <p>or</p> <p>CORE_DIR</p>
LOG_TEST_RUNTIME	<p>Enables additional logging of detailed test runtime status. To enable this set the parameter value to 1.</p>
MEMORY_PER_CPU	<p>VTSK uses 256MB per cpu for its calculation on lower or higher end machines (if it is less than 256 MB per CPU it will treat the system as a low configuration system). Through the configuration file, this parameter provides a way to fine tune the value: if needed.</p> <p>For example:</p> <p>MEMORY_PER_CPU 128</p>

Related Information

- [“Disk Test Configuration File Parameters” on page 151](#)
- [“Removable Disk Test Configuration File Parameters” on page 153](#)
- [“Io_Interconnect Test Configuration File Parameters” on page 155](#)
- [“Network Test Configuration File Parameters” on page 157](#)

Disk Test Configuration File Parameters

Parameter	Description
Disk_Data_Write	<p>This parameter enables Write tests on disk media for Disk test.</p> <p>For example:</p> <p>Disk_Data_Write All=Enable</p>

Parameter	Description
Disk_IOSize	<p>This parameter enables to set Disk I/O size in Disk test. The I/O size is in kilobytes.</p> <p>For example:</p> <p>Disk_IOSize All=<n></p>
Disk_Ignore_Target	<p>Parameter to ignore certain targets for Disk test. The targets need to be mentioned in separate entries as shown below.</p> <p>For example:</p> <p>Disk_Ignore_Target c0=Ignore Disk_Ignore_Target c0t0=Ignore Disk_Ignore_Target c0t0d0=Ignore Disk_Ignore_Target c0t0d0s2=Ignore</p>
NFS_Disk_Testing	<p>To enable File system testing on NFS disks.</p> <p>For example:</p> <p>NFS_Disk_Testing All=Enable NFS_Disk_Testing <NFS mount path1>=Enable NFS_Disk_Testing <NFS mount path2>=Enable</p>
Disk_File_Size	<p>This parameter enables to set file size for file system testing.</p> <p>For example:</p> <p>Disk_File_Size All=2000K</p>
Disk_File_IOSize	<p>This parameter enables to set I/O size for file system testing.</p> <p>For example:</p> <p>Disk_File_IOSize All=64k</p>
Disk_Error_Statistics	<p>This parameter enables the users to monitor the error statistics.</p> <p>For example,</p> <p>Disk_Error_Statistics=Enable</p>
Read_Intensive_SSD_Ratio	<p>This parameter specifies the read write ratio for read intensive SSDs, for example, TOSHIBA THNSNC512GBSJ.</p> <p>For example,</p> <p>Read_Intensive_SSD_Ratio All=xx:yy</p> <p>where <i>xx</i> is the ratio of the number of reads and <i>yy</i> is the ratio of number of writes.</p> <p>These options allow the users to qualify the read intensive SSDs and increase the stress on these SSDs by configuring the number of reads and writes through the <code>sunvts.conf</code> file.</p>

Parameter	Description
Write_Intensive_SSD_Ratio	<p>This parameter specifies the read write ratio for write intensive SSDs, for example, STEC ZeusIOPS G3.</p> <p>For example,</p> <p>Write_Intensive_SSD_Ratio All=xx:yy</p> <p>where <i>xx</i> is the ratio of the number of reads and <i>yy</i> is the ratio of number of writes.</p> <p>These options allow the users to qualify the write intensive SSDs and increase the stress on these SSDs by configuring the number of reads and writes through the <code>sunvts.conf</code> file.</p>
VTS_CUSTOM_PLATFORMNAME	<p>This parameter enables to use the Axiom Disk LT Profile. For example,</p> <p>VTS_CUSTOM_PLATFORMNAME Oracle_Flash_Storage</p>

Related Information

- [“VTS Harness Configuration File Parameters” on page 148](#)
- [“Removable Disk Test Configuration File Parameters” on page 153](#)
- [“Host Bus Adapter Test Configuration File Parameters” on page 154](#)
- [“Io_Interconnect Test Configuration File Parameters” on page 155](#)
- [“Memory Test Configuration File Parameters” on page 156](#)
- [“Network Test Configuration File Parameters” on page 157](#)

Removable Disk Test Configuration File Parameters

Parameter	Description
RM_Disk_Data_Write	<p>Parameter to enable Write tests with Removable Media test.</p> <p>For example:</p> <p>RM_Disk_Data_Write All=Enable</p>
RM_Disk_IOsize	<p>Parameter to set I/O size with Removable Media test. The size is in kilobytes (KB).</p> <p>For example:</p> <p>RM_Disk_IOsize All=<n></p>

Parameter	Description
RM_Disk_Ignore_Tar get	Parameter to ignore targets from Removable Media test. Each target needs to have a separate entry. For example: RM_Disk_Ignore_Target c0=Ignore RM_Disk_Ignore_Target c0t0=Ignore RM_Disk_Ignore_Target c0t0d0=Ignore RM_Disk_Ignore_Target c0t0d0s2=Ignore

Related Information

- [“VTS Harness Configuration File Parameters” on page 148](#)
- [“Disk Test Configuration File Parameters” on page 151](#)
- [“Host Bus Adapter Test Configuration File Parameters” on page 154](#)
- [“Io_Interconnect Test Configuration File Parameters” on page 155](#)
- [“Memory Test Configuration File Parameters” on page 156](#)
- [“Network Test Configuration File Parameters” on page 157](#)

Host Bus Adapter Test Configuration File Parameters

Parameter	Description
HBA_LOOPBACK	Parameter to specify the loopback mode for both Emlx and qlc tests. For example: HBA_LOOPBACK deviceX=Internal/External
HBA_Ignore_Target	Parameter to disable testing on a specific emlx or qlc port. For example: HBA_Ignore_Target emlxs0=Ignore HBA_Ignore_Target qlc0=Ignore

Related Information

- [“VTS Harness Configuration File Parameters” on page 148](#)

- “Disk Test Configuration File Parameters” on page 151
- “Removable Disk Test Configuration File Parameters” on page 153
- “Io_Interconnect Test Configuration File Parameters” on page 155
- “Memory Test Configuration File Parameters” on page 156
- “Network Test Configuration File Parameters” on page 157

Io_Interconnect Test Configuration File Parameters

Parameter	Description
Io_Interconnect_Plumbed_Ports	<p>Parameter to enable testing on live-network ports for Io_Interconnect test.</p> <p>For example:</p> <p>Io_Interconnect_Plumbed_Ports All=Enable</p> <p>To disable testing on live-network ports for Io_Interconnect test:</p> <p>Io_Interconnect_Plumbed_Ports All=Disable</p>
Io_Interconnect_Data_Write	<p>Parameter to enable/disable write test with Io_Interconnect test.</p> <p>For example:</p> <p>Io_Interconnect_Data_Write All=Enable</p> <p>Io_Interconnect_Data_Write All=Disable</p>
Io_Interconnect_USB_Stress	<p>Parameter to specify a stress level for USB devices with Io_Interconnect test.</p> <p>For example:</p> <p>Io_Interconnect_USB_Stress All=Enable</p> <p>Io_Interconnect_USB_Stress All=Disable</p> <p>Io_Interconnect_USB_Stress All=Low</p> <p>Io_Interconnect_USB_Stress All=High</p>

Parameter	Description
Io_Interconnect_Ignore_Target	<p>Parameter to ignore targets or test devices from Io_Interconnect test. Each target need to be specified as a separate entry.</p> <p>For example:</p> <p>Io_Interconnect_Ignore_Target target=Ignore</p> <p>Where target could be a hard disk name or network interface name.</p>

Related Information

- [“VTS Harness Configuration File Parameters” on page 148](#)
- [“Disk Test Configuration File Parameters” on page 151](#)
- [“Removable Disk Test Configuration File Parameters” on page 153](#)
- [“Host Bus Adapter Test Configuration File Parameters” on page 154](#)
- [“Memory Test Configuration File Parameters” on page 156](#)
- [“Network Test Configuration File Parameters” on page 157](#)

Memory Test Configuration File Parameters

Parameter	Description
Memory_Vmentest_ReservePercent PercentageValue	<p>Paramter to override the test’s argument, reserve. The PercentageValue is an integer value between 0 to 100.</p> <p>For example:</p> <p>Memory_Vmentest_ReservePercent 33</p>
Memory_Vmentest_ReserveFactor FloatingPointValue	<p>Paramter to override the test’s argument, reserve. The PercentageValue can be a value between -1.0 to 128.</p> <p>For example:</p> <p>Memory_Vmentest_ReservePercent 3.3</p>

Related Information

- “VTS Harness Configuration File Parameters” on page 148
- “Disk Test Configuration File Parameters” on page 151
- “Removable Disk Test Configuration File Parameters” on page 153
- “Host Bus Adapter Test Configuration File Parameters” on page 154
- “Io_Interconnect Test Configuration File Parameters” on page 155
- “Network Test Configuration File Parameters” on page 157

Network Test Configuration File Parameters

Parameter	Description
Network_Loopback	<p>Parameter to select loopback mode for Network test.</p> <p>Network_Loopback target=loopback_mode</p> <p>Where, target could be either a valid network device name or a valid network interface name under test.</p> <p>loopback_mode could be Auto, Internal, or External.</p> <p>For example:</p> <ul style="list-style-type: none">• Network_Loopback All=Internal - This test option executes the Network test on all network devices in Internal Loopback Mode.• Network_Loopback e1000g1=External - This test option executes the Network test on an e1000g1 device in External Loopback Mode.• Network_Loopback e1000g=Auto - This test option executes the Network test on all e1000g devices in Auto Loopback Mode.
Network_Ignore_Target	<p>Parameter to ignore certain targets from Network test.</p> <p>Network_Ignore_Target target=Ignore</p> <p>Where target is a valid network device name or a valid network interface name under test.</p>
Network_Plumbed_Ports	<p>Parameter to enable or disable testing on live-network ports for Network test. For example:</p> <p>Network_Plumbed_Ports All=Enable</p> <p>Network_Plumbed_Ports All=Disable</p>

Parameter	Description
Network_Kstat_Log	Parameter to enable or disable kstat logging facility. For example: Network_Kstat_Log ALL=Enable Network_Kstat_Log ALL=Disable
Network_Back_To_Back	Parameter to enable back to back testing. For example: Network_Back_To_Back nxge2=nxge3 Where, nxge2 and nxge3 are connected backto back.

Related Information

- [“VTS Harness Configuration File Parameters” on page 148](#)
- [“Disk Test Configuration File Parameters” on page 151](#)
- [“Removable Disk Test Configuration File Parameters” on page 153](#)
- [“Host Bus Adapter Test Configuration File Parameters” on page 154](#)
- [“Io_Interconnect Test Configuration File Parameters” on page 155](#)
- [“Memory Test Configuration File Parameters” on page 156](#)

VTS on Logical Domains

Oracle VTS has limitations running on logical domains (LDOMs) and Logical Device Representations. In general, Oracle VTS executes best on physical domains, that is, servers with no logical Domains configured or servers where there is atleast one control domain configured.

- [“Running Oracle VTS on LDOMs” on page 159](#)
- [“VTS Sessions on LDOMs” on page 160](#)

Related Information

- [“Understanding the Software” on page 1](#)
- [“Installing or Updating the Software” on page 9](#)
- [“Starting the Software” on page 19](#)
- [“Testing Using the GUI” on page 31](#)
- [“Testing Using the TTY UI” on page 51](#)
- [“Testing Using the CLI” on page 73](#)
- [“Bootable CD/DVD \(x86\)” on page 91](#)
- [“Interpreting VTS Messages” on page 97](#)
- [“Using Additional VTS Features” on page 103](#)
- [“Understanding the Tests” on page 111](#)
- [“Supported Configuration Parameters” on page 147](#)
- [“Building Test Connectors” on page 165](#)

Running Oracle VTS on LDOMS

This section describes the behaviour of Oracle VTS when run on primary or logical domains of a LDOM configured system.

Unlike a System Exercisor run, the Component Stress is not limited by an upper time limit and continues to run until finished.

Note – As described in this guide, users should refrain from running individual test binaries from a shell command prompt. While running individual tests on an LDOM, most of them might fail or hang forever. Therefore, users are cautioned not to run any test binaries from the command line.

Building Test Connectors

- “Test Connector Overview” on page 166
- “25-Pin Port A-to-Port B Plug” on page 167
- “25-Pin Port A-to-A Port B-to-B Plug” on page 169
- “9-Pin Male Single-Port Plug” on page 171
- “9-Pin Female Single-Port Plug” on page 172
- “9-Pin to 9-Pin Port-to-Port Cable” on page 173
- “NT to TE Cable” on page 174
- “TPE Cable for Fast Ethernet” on page 175
- “TPE Cable for Gigabit and 10/100 Ethernet” on page 176
- “9-Pin Male DB-9 External Connector” on page 177
- “9-Pin Female DB-9 External Connector” on page 179

Related Information

- “Understanding the Software” on page 1
- “Installing or Updating the Software” on page 9
- “Starting the Software” on page 19
- “Testing Using the GUI” on page 31
- “Testing Using the TTY UI” on page 51
- “Testing Using the CLI” on page 73
- “Bootable CD/DVD (x86)” on page 91
- “Interpreting VTS Messages” on page 97
- “Using Additional VTS Features” on page 103
- “Understanding the Tests” on page 111
- “Supported Configuration Parameters” on page 147
- “VTS on Logical Domains” on page 159

Test Connector Overview

Connectors aid in testing I/O ports. The connectors take the form of either a single plug or a port-to-port cable with some communications connections shorted (loopedback).

Note – Connectors must be wired properly and connected firmly for the serial port tests to work correctly. Miswired, poorly soldered, or missing connectors can cause erroneous diagnostic error messages.

The following table depicts the pin assignments for most plugs and cables that you can use to test a system.

TABLE: Connector Pin Assignments

Signal Description	EIA	CCITT	RS-449A	RS-449B	DIN 8 8-pin round	DB9 9-pin	DB25 25-pin	Direction	Alpha ID
Chassis/Frame Ground	AA	101	1	NC*	NC*	NC*	1	None	AA
Transmit Data (TxDa)	BA	103	4	22	3	3	2	Output	BA
Receive Data (RxDa)	BB	104	6	24	5	2	3	Input	BB
Request To Send (RTSa)	CA	105	7	25	6	7	4	Output	CA
Clear To Send (CTSa)	CB	106	9	27	2	8	5	Input	CB
Data Set Ready (DSRa)	CC	107	11	29	NC*	6	6	Input/output	CC
Signal Ground (SG)	AB	102	9	NC*	4	5	7	None	AB
Data Carrier Detect (DCDa)	CF	109	13	31	7	1	8	Input	CF
Transmit Clock In (TRxCa)	DB	114	5	23	NC*	NC*	15	Input	DB
Receive Clock In (RTxCa)	DD	115	8	26	8	NC*	17	Input	DD
Data Terminal Ready (DTRa)	CD	108	12	30	1	4	20	Output	CD
External Clock Out (TRxCa)	DA	113	17	35	NC*	NC*	24	Output	DA

TABLE: Connector Pin Assignments (*Continued*)

Signal Description	EIA	CCITT	RS-449A	RS-449B	DIN 8 8-pin round	DB9 9-pin	DB25 25-pin	Direction	Alpha ID
Secondary Data Carrier Detect (DCDb)	SCF	122	NC*	NC*	NC*	NC*	12	Input	SCF
Secondary Clear to Send (CTSb)	SCB	121	NC*	NC*	NC*	NC*	13	Input	SCB
Secondary Transmit Data (TxDb)	SBA	118	NC*	NC*	NC*	NC*	14	Output	SBA
Secondary Receive Data (RxDb)	SBB	119	NC*	NC*	NC*	NC*	16	Input	SBB
Secondary Request to Send (RTSb)	SCA	120	NC*	NC*	NC*	NC*	19	Output	SCA

*NC = No Connection

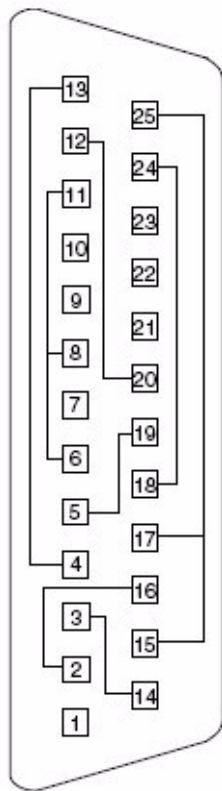
Related Information

- [“25-Pin Port A-to-Port B Plug” on page 167](#)
- [“25-Pin Port A-to-A Port B-to-B Plug” on page 169](#)
- [“9-Pin Male Single-Port Plug” on page 171](#)
- [“9-Pin Female Single-Port Plug” on page 172](#)
- [“9-Pin to 9-Pin Port-to-Port Cable” on page 173](#)
- [“NT to TE Cable” on page 174](#)
- [“TPE Cable for Fast Ethernet” on page 175](#)
- [“TPE Cable for Gigabit and 10/100 Ethernet” on page 176](#)
- [“9-Pin Male DB-9 External Connector” on page 177](#)
- [“9-Pin Female DB-9 External Connector” on page 179](#)

25-Pin Port A-to-Port B Plug

These pin connections are for connecting the first plug to the second plug for most systems.

First Plug	Second Plug
Pin 16	Pin 2
Pin 3	Pin 14
Pin 13	Pin 4
Pin 5	Pin 19
Pins 6 and 8	Pin 11
Pin 12	Pin 20
Pin 18	Pin 24
Pins 15 and 17	Pin 25



Male

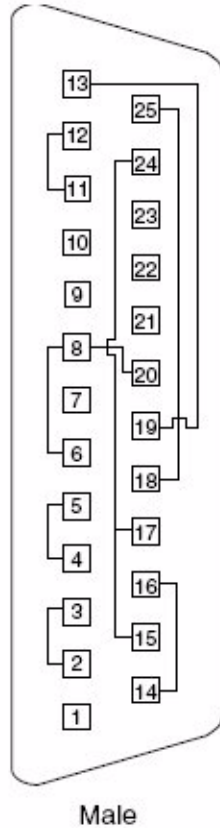
Related Information

- “Test Connector Overview” on page 166
- “25-Pin Port A-to-A Port B-to-B Plug” on page 169
- “9-Pin Male Single-Port Plug” on page 171
- “9-Pin Female Single-Port Plug” on page 172
- “9-Pin to 9-Pin Port-to-Port Cable” on page 173
- “NT to TE Cable” on page 174
- “TPE Cable for Fast Ethernet” on page 175
- “TPE Cable for Gigabit and 10/100 Ethernet” on page 176
- “9-Pin Male DB-9 External Connector” on page 177
- “9-Pin Female DB-9 External Connector” on page 179

25-Pin Port A-to-A Port B-to-B Plug

If your system has a single I/O port to connect it to peripherals, use these connections to make a male 25-pin plug for that I/O port.

First Plug	Second Plug
Pin 3	Pin 2
Pin 5	Pin 4
Pins 6 and 8	Pin 20
Pin 12	Pin 11
Pin 13	Pin 19
Pin 16	Pin 14
Pins 15 and 17	Pin 24
Pin 25	Pin 18



The following are the materials used for this plug:

- PCR-E96FA (1)
- PCS-E96LKPA (1)
- 3751 metal plug (1) (9563K42)
- AWG28 Madison cable (8 in. long) UL/CSA Approved

Related Information

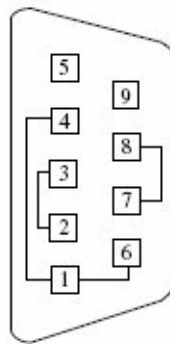
- [“Test Connector Overview”](#) on page 166
- [“25-Pin Port A-to-Port B Plug”](#) on page 167
- [“9-Pin Male Single-Port Plug”](#) on page 171
- [“9-Pin Female Single-Port Plug”](#) on page 172
- [“9-Pin to 9-Pin Port-to-Port Cable”](#) on page 173

- “NT to TE Cable” on page 174
- “TPE Cable for Fast Ethernet” on page 175
- “TPE Cable for Gigabit and 10/100 Ethernet” on page 176
- “9-Pin Male DB-9 External Connector” on page 177
- “9-Pin Female DB-9 External Connector” on page 179

9-Pin Male Single-Port Plug

Use these pin connections for male 9-pin RS-232 and RS-423 single-port plugs.

First Connector	Second Connector
Pin 2	Pin 3
Pin 1	Pins 4 and 6
Pin 7	Pin 8



Male

Related Information

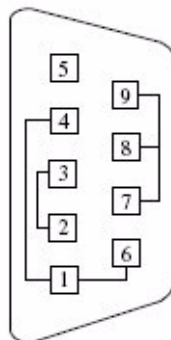
- “Test Connector Overview” on page 166
- “25-Pin Port A-to-Port B Plug” on page 167
- “25-Pin Port A-to-A Port B-to-B Plug” on page 169
- “9-Pin Female Single-Port Plug” on page 172

- [“9-Pin to 9-Pin Port-to-Port Cable”](#) on page 173
- [“NT to TE Cable”](#) on page 174
- [“TPE Cable for Fast Ethernet”](#) on page 175
- [“TPE Cable for Gigabit and 10/100 Ethernet”](#) on page 176
- [“9-Pin Male DB-9 External Connector”](#) on page 177
- [“9-Pin Female DB-9 External Connector”](#) on page 179

9-Pin Female Single-Port Plug

Use these pin connections for female 9-pin RS-232 and RS-423 single-port plugs.

First Connector	Second Connector
Pin 2	Pin 3
Pin 1	Pins 4 and 6
Pin 7	Pins 8 and 9



Female

Related Information

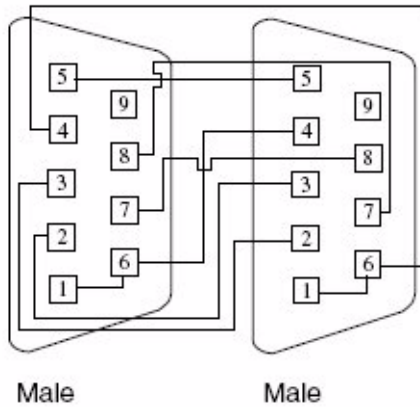
- [“Test Connector Overview”](#) on page 166
- [“25-Pin Port A-to-Port B Plug”](#) on page 167

- “25-Pin Port A-to-A Port B-to-B Plug” on page 169
- “9-Pin Male Single-Port Plug” on page 171
- “9-Pin to 9-Pin Port-to-Port Cable” on page 173
- “NT to TE Cable” on page 174
- “TPE Cable for Fast Ethernet” on page 175
- “TPE Cable for Gigabit and 10/100 Ethernet” on page 176
- “9-Pin Male DB-9 External Connector” on page 177
- “9-Pin Female DB-9 External Connector” on page 179

9-Pin to 9-Pin Port-to-Port Cable

Use these pin connections for 9-pin RS-232 and RS 423 port to 9-pin RS-232 and RS-423 port cables. Both plugs are male.

First Connector	Second Connector
Pins 1 and 6	Pin 4
Pin 2	Pin 3
Pin 3	Pin 2
Pin 4	Pins 1 and 6
Pin 5	Pin 5
Pin 7	Pin 8
Pin 8	Pin 7



This cable has no part number assigned to it.

Related Information

- [“Test Connector Overview” on page 166](#)
- [“25-Pin Port A-to-Port B Plug” on page 167](#)
- [“25-Pin Port A-to-A Port B-to-B Plug” on page 169](#)
- [“9-Pin Male Single-Port Plug” on page 171](#)
- [“9-Pin Female Single-Port Plug” on page 172](#)
- [“NT to TE Cable” on page 174](#)
- [“TPE Cable for Fast Ethernet” on page 175](#)
- [“TPE Cable for Gigabit and 10/100 Ethernet” on page 176](#)
- [“9-Pin Male DB-9 External Connector” on page 177](#)
- [“9-Pin Female DB-9 External Connector” on page 179](#)

NT to TE Cable

Using two standard RJ-45 connectors, connect pin 1 to pin 1, pin 2 to pin 2, and so on, for all pins. This is a straight-through connection.

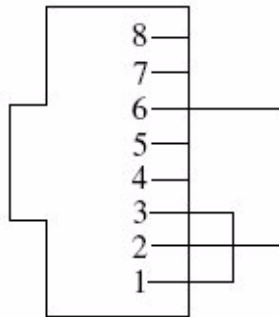
Related Information

- “Test Connector Overview” on page 166
- “25-Pin Port A-to-Port B Plug” on page 167
- “25-Pin Port A-to-A Port B-to-B Plug” on page 169
- “9-Pin Male Single-Port Plug” on page 171
- “9-Pin Female Single-Port Plug” on page 172
- “9-Pin to 9-Pin Port-to-Port Cable” on page 173
- “TPE Cable for Fast Ethernet” on page 175
- “TPE Cable for Gigabit and 10/100 Ethernet” on page 176
- “9-Pin Male DB-9 External Connector” on page 177
- “9-Pin Female DB-9 External Connector” on page 179

TPE Cable for Fast Ethernet

Use the following wiring instructions for standard RJ-45 connectors for Fast Ethernet.
Use cable in `net1btest` for `eri` devices.

First Connector	Second Connector
Pin 1	Pin 3
Pin 2	Pin 6



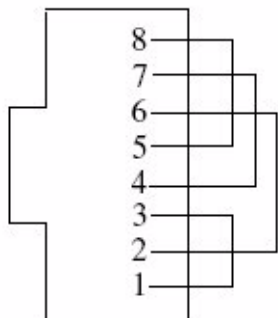
Related Information

- “Test Connector Overview” on page 166
- “25-Pin Port A-to-Port B Plug” on page 167
- “25-Pin Port A-to-A Port B-to-B Plug” on page 169
- “9-Pin Male Single-Port Plug” on page 171
- “9-Pin Female Single-Port Plug” on page 172
- “9-Pin to 9-Pin Port-to-Port Cable” on page 173
- “NT to TE Cable” on page 174
- “TPE Cable for Gigabit and 10/100 Ethernet” on page 176
- “9-Pin Male DB-9 External Connector” on page 177
- “9-Pin Female DB-9 External Connector” on page 179

TPE Cable for Gigabit and 10/100 Ethernet

Use the following wiring instructions for RJ-45 plugs for Gigabit and 10/100 Ethernet. This cable is used in `net1btest` for Gigabit and 10/100 devices.

First Connector	Second Connector
Pin 1	Pin 3
Pin 2	Pin 6
Pin 4	Pin 7
Pin 5	Pin 8



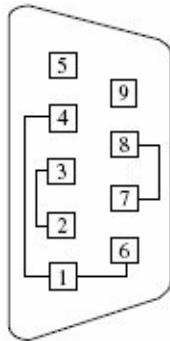
Related Information

- “Test Connector Overview” on page 166
- “25-Pin Port A-to-Port B Plug” on page 167
- “25-Pin Port A-to-A Port B-to-B Plug” on page 169
- “9-Pin Male Single-Port Plug” on page 171
- “9-Pin Female Single-Port Plug” on page 172
- “9-Pin to 9-Pin Port-to-Port Cable” on page 173
- “NT to TE Cable” on page 174
- “TPE Cable for Fast Ethernet” on page 175
- “9-Pin Male DB-9 External Connector” on page 177
- “9-Pin Female DB-9 External Connector” on page 179

9-Pin Male DB-9 External Connector

Use these wiring instructions for male 9-pin DB-9 external plugs.

First Connector	Second Connector
Pin 2	Pin 3
Pin 1	Pins 4 and 6
Pin 7	Pin 8



Male

The signals and names for the DB-9 connector are as follows.

Pin	Name	Signal
1	DCD	Data Carrier Detect
2	RxD	Receive Data
3	TxD	Transmit Data
4	DTR	Data Terminal Ready
5	SGND	Signal Ground
6	DSR	Data Set Ready
7	RTS	Request To Send
8	CTS	Clear To Send
9	RI	Ring Indicator

Related Information

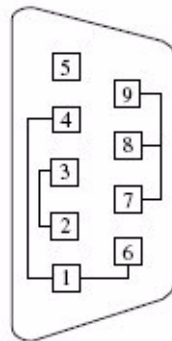
- [“Test Connector Overview” on page 166](#)
- [“25-Pin Port A-to-Port B Plug” on page 167](#)
- [“25-Pin Port A-to-A Port B-to-B Plug” on page 169](#)
- [“9-Pin Male Single-Port Plug” on page 171](#)
- [“9-Pin Female Single-Port Plug” on page 172](#)
- [“9-Pin to 9-Pin Port-to-Port Cable” on page 173](#)
- [“NT to TE Cable” on page 174](#)
- [“TPE Cable for Fast Ethernet” on page 175](#)

- [“TPE Cable for Gigabit and 10/100 Ethernet”](#) on page 176
- [“9-Pin Female DB-9 External Connector”](#) on page 179

9-Pin Female DB-9 External Connector

Use these wiring instructions for female 9-pin DB-9 external connectors.

First Connector	Second Connector
Pin 2	Pin 3
Pin 1	Pins 4 and 6
Pin 7	Pins 8 and 9



Female

Related Information

- [“Test Connector Overview”](#) on page 166
- [“25-Pin Port A-to-Port B Plug”](#) on page 167
- [“25-Pin Port A-to-A Port B-to-B Plug”](#) on page 169
- [“9-Pin Male Single-Port Plug”](#) on page 171
- [“9-Pin Female Single-Port Plug”](#) on page 172
- [“9-Pin to 9-Pin Port-to-Port Cable”](#) on page 173

- “NT to TE Cable” on page 174
- “TPE Cable for Fast Ethernet” on page 175
- “TPE Cable for Gigabit and 10/100 Ethernet” on page 176
- “9-Pin Male DB-9 External Connector” on page 177

Index

A

- architecture diagram, 2
- auto mode sequencer, 105
 - cli, 89
 - gui, 44
 - tty, 70

C

- component stress test mode, 6
- configuration file parameters
 - disk test, 151
 - HBA test, 154
 - interconnect test, 155
 - network test, 156, 157
 - removable disk test, 153
 - VTs harness, 148
- configuration file, unsafe options, 109
- configuring test session
 - cli, 75
 - gui, 35
 - tty, 56
- connector
 - 25-pin port A-to-A port B-to-B plug, 169
 - 25-pin port A-to-port B plug, 167
 - 9-pin female DB-9 external connector, 179
 - 9-pin female single port plug, 172
 - 9-pin male DB-9 external connector, 177
 - 9-pin male single port plug, 171
 - 9-pin to 9-pin port-to-port cable, 173
 - NT to TE cable, 174
 - TPE cable for fast ethernet, 175
 - TPE cable for gigabit and 10/100 ethernet, 176
- connector, overview, 166
- create test session
 - cli, 85
 - gui, 46
 - tty, 66

D

- delete session
 - cli, 87
 - gui, 49
 - tty, 68
- device preparations, 21
- documentation, xiv

F

- feedback, xiv

G

- global options
 - cli, 77
 - gui, 36
 - tty, 57

H

- host configuration
 - cli, 75
 - gui, 36
 - tty, 55, 75

I

- individual test options
 - cli, 79
 - gui, 38
 - tty, 59
- installation
 - packages, 12
 - requirements, 10
- installing software, 14

L

- limitations, 92
- list session

- cli, 86
- gui, 47
- tty, 67
- load session
 - cli, 86
 - gui, 48
 - tty, 68, 86
- log file
 - fmdump, 97
 - system log file, 97
 - vts error file, 97
 - vts kernel error log, 100
- log files
 - description, 97
 - Oracle Solaris system message log, 100
 - Report log, 100
 - Verbose log, 100
 - vts information log, 100
- log files, delete
 - cli, 83
 - gui, 43
- log files, review
 - cli, 82
 - gui, 42
 - tty, 62

M

- man page access, 15
- messages, software, 101
- monitor session
 - cli, 81
 - gui, 41
 - tty, 61

O

- online stress test mode, 5
- overview
 - cli, 74
 - gui, 32
 - software, 1
 - tty, 52

Q

- quit software
 - cli, 90
 - gui, 50
 - tty, 71

R

- related documentation, xiv
- reprobe device
 - cli, 88
 - tty, 69
- requirements, installation, 10
- reset session
 - cli, 84, 87
 - gui, 44, 49
 - tty, 64, 69
- runtime considerations, 20

S

- safe and unsafe options, 108
- save test session
 - cli, 85
 - gui, 46
 - tty, 66
- select device
 - cli, 77
 - gui, 38
 - tty, 58
- select test mode
 - cli, 76
 - gui, 36
 - tty, 57
- service processor, 94
- software
 - architecture, 2
 - installation, 14
 - overview, 1
 - uninstall, 18
 - version, 11
- software packages
 - SUNWvts, 13
 - SUNWvtsmn, 13
 - SUNWvtshr, 13
 - SUNWvtss, 13
 - SUNWvtsts, 13
- start software
 - bootable cd, 29
 - cd or usb, 29
 - cli, 25
 - gui, 23
 - interface, 22
 - no interface, 25
 - tty gui, 24

- stop session
 - cli, 82
 - gui, 41
 - tty, 62
- system exerciser test mode, 6

T

- test levels, 108
- test modes, 5
 - component stress, 6
 - online stress, 5
 - system exerciser, 6
- test report, generate, 103
- test status indicators, 98
- testable components, 4
 - disk, 4
 - environment, 4
 - graphics, 4
 - hba, 4
 - interconnects, 4
 - io ports, 4
 - media, 4
 - memory, 4
 - network, 4
 - processor, 4
 - removable disk, 4
- tests
 - disk test, 112
 - environment test, 117
 - graphics test, 119
 - HBA test, 125
 - interconnect test, 127
 - io ports test, 129
 - media test, 131
 - memory test, 133
 - network test, 135
 - processor test, 142
 - removable disk test, 143
- tty
 - help, 54
 - navigation, 53
 - release table, 54

U

- understanding test modes, 5
- upgrade, software, 17
- user interface

- cli, 7
- gui, 7
- tty, 7

V

- vts on ldoms, 159
- vtsprobe utility, 104

