

Oracle® Solaris 10 1/13 What's New

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Preface

Oracle Solaris 10 1/13 What's New summarizes features in the Oracle Solaris 10 operating system (OS) that are new or have been enhanced in the Oracle Solaris 10 1/13 release.

Note – This Oracle Solaris release supports systems that use the SPARC and x86 families of processor architectures. The supported systems appear in the *Oracle Solaris OS: Hardware Compatibility Lists*. This document cites any implementation differences between the platform types.

In this document, these x86 related terms mean the following:

- x86 refers to the larger family of 64-bit and 32-bit x86 compatible products.
- x64 relates specifically to 64-bit x86 compatible CPUs.
- "32-bit x86" points out specific 32-bit information about x86 based systems.

For supported systems, see the *Oracle Solaris OS: Hardware Compatibility Lists*.

Who Should Use This Book

This book provides introductory descriptions of the new Oracle Solaris features for users, developers, and system administrators who install and use the Oracle Solaris OS.

Related Books

For further information about the features that are summarized in this book, refer to the Oracle Solaris 10 documentation at <http://www.oracle.com/technetwork/documentation/solaris-10-192992.html>.

Access to Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For information, visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info> or visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs> if you are hearing impaired.

Typographic Conventions

The following table describes the typographic conventions that are used in this book.

TABLE P-1 Typographic Conventions

Typeface	Description	Example
AaBbCc123	The names of commands, files, and directories, and onscreen computer output	Edit your <code>.login</code> file. Use <code>ls -a</code> to list all files. <code>machine_name% you have mail.</code>
AaBbCc123	What you type, contrasted with onscreen computer output	<code>machine_name% su</code> Password:
<i>aabbcc123</i>	Placeholder: replace with a real name or value	The command to remove a file is <i>rm filename</i> .
<i>AaBbCc123</i>	Book titles, new terms, and terms to be emphasized	Read Chapter 6 in the <i>User's Guide</i> . <i>A cache</i> is a copy that is stored locally. Do <i>not</i> save the file. Note: Some emphasized items appear bold online.

Shell Prompts in Command Examples

The following table shows UNIX system prompts and superuser prompts for shells that are included in the Oracle Solaris OS. In command examples, the shell prompt indicates whether the command should be executed by a regular user or a user with privileges.

TABLE P-2 Shell Prompts

Shell	Prompt
Bash shell, Korn shell, and Bourne shell	\$

TABLE P-2 Shell Prompts (Continued)

Shell	Prompt
Bash shell, Korn shell, and Bourne shell for superuser	#
C shell	machine_name%
C shell for superuser	machine_name#

What's New in the Oracle Solaris 10 1/13 Release

This document summarizes features that are new or have been enhanced in the current Oracle Solaris 10 1/13 release.

For a summary of new features in the Oracle Solaris 10 operating system (OS), see *Solaris 10 What's New*.

Installation Enhancements

This section describes installation enhancements in this release.

iSCSI Target LUN Support

Oracle Solaris 10 1/13 now supports installation on an iSCSI LUN, for example a LUN provided by Oracle's Sun ZFS Storage Appliances. For more information, see the article about configuring the Oracle Solaris iSCSI initiator at:

<http://www.oracle.com/technetwork/server-storage/sun-unified-storage/documentation/iscsi-quickstart-v1-2-051512-1641594.pdf>

The following installation methods are supported:

- Text installer (standard or Flash)
- JumpStart
- WAN boot

This feature provides the following benefits:

- **Ability to boot Oracle Solaris from an iSCSI attached storage** – Provides an alternate option of installing Oracle Solaris on an iSCSI target LUN (Logical Unit Number). If the iSCSI target LUN is hosted by a target system in the same client subnet, on postinstallation or reboot, the client system identifies the iSCSI target LUN as a local disk.
- **Supports CHAP authentication** – Maps a particular target to an iSCSI initiator and provides protection against inadvertent access and corruption of data disks. A target can be any object such as a large file, a UFS slice, a ZFS dataset, or a ZFS volume.
- **Supports the SNIA standard** – Any iSCSI LUN created as per the storage networking industry association (SNIA) standard can be a potential target for installing Oracle Solaris, irrespective of the type of the target operating system.

For more information, see [Chapter 4, “Installing the Oracle Solaris 10 OS on an iSCSI Target Disk,”](#) in *Oracle Solaris 10 1/13 Installation Guide: Basic Installations*.

Network-Based Installation Support in Text Installer

The text installer in Oracle Solaris 10 1/13 allows enabling a network-based installation when installing Oracle Solaris from a CD/DVD. The GUI installer has offered this option in previous Oracle Solaris releases, but not the text installer.

For those who do not set up a JumpStart infrastructure for hands on installations and are installing on older systems with slower DVD drives, the ability to boot from the install media and then switch to access the Oracle Solaris 10 packages from an NFS share may decrease the time to complete a hands on installation. In most cases, installing over NFS will be faster than reading from a local DVD drive.

Automatic Resolution of Package Dependencies in Text and GUI Installers

You can customize installations by choosing specific packages to add to the installation during the installation process. Prior to Oracle Solaris 10 1/13, individual packages could be specified to install, and if a selected package was dependent on other package or packages being installed, a warning was generated. The system administrator would then add the needed package or packages, and those too might generate warnings of their dependencies.

In Oracle Solaris 10 1/13, this iterative process has been dramatically simplified through a new option, Preserve, added to the Package Dependency Summary screen in the text and GUI installers. Selecting the Preserve option causes all the packages that satisfy dependencies of the specified package or packages to be installed, thus simplifying this customization process for the administrator.

The following figure shows the Preserve option in the text installer.

FIGURE 1-1 Preserve Option to Install Dependent Packages in Text Installer

```

Warning

When customizing a software group, you added or removed packages that other
software depends on to function, or you added packages that now require
other software. Select OK to ignore this problem if you plan to mount the
required software later, or if you're sure you do not want the functionality
of the dependent software. Select Preserve to add the packages marked as
dependencies (and all their dependent packages) to your customized
selections.

Selected package                               Depends on package
-----
ZFS (Usr)                                     The Python interpreter, libraries
and utilities
X11 ISO8859-15 Codeset Support                X11 ISO8859-15 required fonts
X11 ISO8859-1 Codeset Support                X Window System platform software
Asian Language Environment Common            X Window System & Graphics Runtime
Files                                        Library Links in /usr/lib
Asian Language Environment Common            X Window System platform software

F2_OK    F4_Preserve    F5_Cancel    F6_Help

```

Note – If you do not select the Preserve option, you can still install the packages without the dependent packages.

Live Upgrade Preserves the Dump Device Configuration

A new option, `-P`, has been added to the `lucreate` and `lumake` commands. The `-P` option preserves the dump device while creating or populating a boot environment.

In the previous Oracle Solaris releases, during a Live Upgrade, the `dumpadm` configuration is set to the default value in the new boot environment. A dedicated dump device should not be reset to the default configuration.

If you do not specify the `-P` option while creating or populating a boot environment device, the dump device will be set to the default configuration.

For more information, see the `lucreate(1M)` and `lumake(1M)` man pages.

Live Upgrade Preflight Checker

The Live Upgrade Preflight Checker tool, `lupc(1M)`, enables you to detect system configuration issues that might cause a Live Upgrade (LU) operation to fail. You should run this tool before invoking the `lucreate` command to create the boot environment (BE).

Some of the sample checks that the Live Upgrade Preflight Checker tool performs are as follows:

- Verifies that the target device where the BE is being created has enough space to copy the parent boot environment file system.
- Prints a message if you are running an Oracle Solaris release prior to the Solaris 10 10/08 release. Live Upgrade with ZFS root is supported only beginning with the Solaris 10 10/08 release.
- Reports the LU patch level on the system.
- Because the results of the `lucreate(1M)` command in the single-user mode are unpredictable, the `lupc(1M)` command prints a message to create the BE in a multi-user mode.

For more information, see the `lucreate(1M)` man page.

System Administration Enhancements

This section describes system administration enhancements in this release.

Oracle Configuration Manager 10.3.7.1

Starting with the Oracle Solaris 10 1/13 release, Oracle Configuration Manager (OCM) 10.3.7.1 is the default configuration collection and reporting mechanism. OCM collects configuration information from the server running Oracle Solaris and uploads it to the Oracle repository. Oracle uses this data to understand customer environments and to improve customer support programs.

Prior to the Oracle Solaris 10 1/13 release, the configuration information was collected and reported by the `regadm` command. In this release, the configuration information is collected by the Oracle Configuration Management client data collection service. You can use the new `svc:/application/management/ocm` service to disable or enable the collection of configuration data by OCM. You can collect and report configuration information by using the `configCCR(1M)`, `emCCR(1M)`, and `emocmrsp(1M)` commands.

The OCM client service is a standardized service that is used across the Oracle products to collect configuration data. By default, OCM is configured in the connected mode by using the My Oracle Support credentials, which are provided during installation.

My Oracle Support access is included with Oracle Premier Support. The combination of My Oracle Support with Oracle Configuration Manager can provide customers with a complete view of the configuration of their Oracle environment and with environment-specific recommendations to get maximum benefits from their Oracle systems while maintaining a positive security posture. The various reports based on OCM data made available in the My Oracle Support can help customers prevent outages, troubleshoot systems, and identify trends across their systems.

Note – Although the collection mechanism has changed, JumpStart still uses the `autoreg` keyword to control OCM operations. If you have configured your JumpStart server to support Oracle Solaris 10 9/10 or Oracle Solaris 10 8/11, no reconfiguration is necessary to handle OCM unless you want to change the parameter values.

For more information about OCM, see [Oracle Configuration Manager Installation and Administration Guide Release 10.3.7](#).

Oracle Solaris Zones Preflight System Checker

Oracle Solaris Zones Preflight System Checker is included in the Oracle Solaris 10 1/13 release. The `zonep2vchk` utility evaluates an Oracle Solaris 10 host for migration to an Oracle Solaris Zone. The following migration scenarios are supported:

- Migration to an Oracle Solaris Zone (Container) on an Oracle Solaris 10 host
- Migration to an Oracle Solaris Zone on an Oracle Solaris 11 host

The `zonep2vchk` utility has the following capabilities:

- Analysis of the Oracle Solaris system configuration, including networking, storage, and Oracle Solaris operating system features in use
- Analysis of application binaries
- Analysis of running applications
- Generation of an Oracle Solaris Zone configuration template to use on the target host

For more information, see the `zonep2vchk(1M)` man page. Also, see *System Administration Guide: Oracle Solaris Containers-Resource Management and Oracle Solaris Zones*.

Oracle VTS 7.0 Patch Set 15

This section summarizes enhancements in the Oracle VTS 7.0 Patch Set 15 in this release.

Oracle Validation Test Suite (Oracle VTS) is a comprehensive hardware diagnostic tool that tests and validates the connectivity and functionality of most controllers and devices on Oracle

platforms. The VTS tests are targeted for each hardware component or function in a system. The tool supports three user interfaces (UIs) – a graphical UI (GUI), a terminal-based UI, and a command-line interface (CLI).

Memory and CPU diagnostics include the following enhancements:

- Improved quality and performance of VTS libraries
- Support for retrieving package versioning information on an installed system
- Support for mapping of multiple tests to SYSTEM BUS for interconnect LT option
- New subtests (`march`, `hammer` and `stress`) made available for `l3sramtest` on x86 platforms

Input and output diagnostics include the following enhancements:

- Enhanced `networktest` to log `kstat` data
- Support to run an extended 36 bytes inquiry against SAS SSD
- Specialized Oracle VTS SSD profiles that could maximize read or write operations
- Enhanced `diskmediatest` to read inquiry details of the disks connected behind raid controller card and automate write-read paths for all channels

For more information, see <http://docs.oracle.com/cd/E19719-01/index.html>.

pkgdep Command

A new command, `pkgdep`, enables system administrators to list dependent packages for a specific Oracle Solaris package. The following example shows how to list dependent packages for the `SUNWzsh` package.

```
# pkgdep SUNWzsh
SUNWcar
SUNWcsd
SUNWcsl
SUNWcsr
SUNWcsu
SUNWkvm
```

For more information, see Chapter 22, “Managing Software by Using Oracle Solaris Package Commands (Tasks),” in *Oracle Solaris Administration: Basic Administration*.

x86: 64-bit: Fault Management for Oracle Intel Sandy Bridge-EP Platforms

The Oracle Solaris predictive self-healing technology is available for the following Sun x86 servers from Oracle:

- Sun Blade X3-2
- Sun Server X3-2
- Sun Server X3-2L

This enhancement provides users the following benefits:

- Automated error handling, fault diagnosis, and error reporting
- Easy identification of the faulty FRU (Field Replaceable Unit) that caused the system failure
- Clear and concise error messages

x86: AMD Generic MCA Driver Support for AMD Family 15h Processors

The AMD Generic machine check architecture (MCA) driver supports AMD Family 15h processors with the AMD Family 0Fh and 10h processors. The AMD Generic MCA driver provides the MCA feature support to the platform.

Security Enhancements

This section describes security enhancements in this release.

64-bit: openssl Command

Starting with the Oracle Solaris 10 1/13 release, the 64-bit version of the `openssl` command-line utility is available in the `/usr/sfw/bin/sparcv9` and `/usr/sfw/bin/amd64` directories. You can use the 64-bit version of the `openssl` command to perform benchmark testing and functional testing of the OpenSSL libraries in 64-bit mode.

Note – The 32-bit version of the `openssl` command is located in the `/usr/sfw/bin/openssl` directory.

For more information, see the `openssl(5)` man page.

Password and Account Creation Behavior Is Optional

The new `RESTRICTIVE_LOCKING` option in the `/etc/security/policy.conf` file makes the password and account creation behavior, which was introduced in the Oracle Solaris 10 9/10 and Oracle Solaris 10 8/11 releases, optional.

The default behavior of the `RESTRICTIVE_LOCKING` option retains the following changes:

- Assigning a new password does not unlock a locked account
- Account lockout requires two steps for `NOLOGIN` accounts

If the `RESTRICTIVE_LOCKING` option is set to `NO` in the `policy.conf` file, the security administrators can configure systems in one of the following ways:

- Retain the restrictive locking policies that were introduced in the Oracle Solaris 10 9/10 and Oracle Solaris 10 8/11 releases
- Retain compatibility with Sun Identity Manager, third-party, or site-developed security systems that have been programmed to expect the behavior of `passwd(1)`, `useradd(1M)`, and related utilities

For more information about the `RESTRICTIVE_LOCKING` option, see the `/etc/security/policy.conf` file. Also, see the `passwd(1)` and `policy.conf(4)` man pages.

Networking Enhancement

This section describes a networking enhancement in this release.

SSH, SCP, and SFTP Speed Improvements

Secure Copy, `scp(1)` shows up to 8X improved performance in bulk data transfers over high-bandwidth, high-latency networks in Oracle testing.

This scenario typically occurs during long distant communications, for example data transfer between the US and Europe using a high bandwidth connection. `scp` uses `ssh(1)` to do the actual transfers. Prior to Oracle Solaris 10 1/13, you could not adjust the receive window buffer used internally by `ssh` to tune performance for a particular situation of high bandwidth and high latency.

In Oracle Solaris 10 1/13 (and Oracle Solaris 11.1), the size of the `ssh` receive buffer is linked to the system `tcp` receive buffer setting (`tcp_recv_hiwat`). With this relationship established, it is now possible to tune for this specific data transfer situation, i.e. a high bandwidth and high latency connection. For high latency communications (in other words high round trip time communications), the copy performance can be significantly improved by allowing more packets to be in transit. With this strategy, the round trip time to send a packet and receive an

acknowledgement does not limit throughput because many packets are allowed to be in transit. The limit for the amount of data that could be in transit is determined by the `tcp_recv_hiwat` setting. However, this strategy only works if the bandwidth is large enough that data in the link does not impact the new data sent. If the bandwidth is not large enough, there is little advantage in increasing the TCP receive window size.

The following table shows the improvements measured using a high bandwidth connection with latencies between 50-200 milliseconds:

<code>tcp_recv_hiwat</code> Setting	Performance Improvement of Oracle Solaris 10 1/13 Compared to Previous Oracle Solaris Release
256 KB	3X
512 KB	5X
1024 KB	8X

By default, `tcp_recv_hiwat` is set to 48 KB in Oracle Solaris 10. This value is optimized for 100 MB networks. For Oracle Solaris 11, the default value was increased to 128 KB to optimize for 1 GB LANs. Neither of those buffer size choices show any appreciable difference in performance between Oracle Solaris 10 1/13 and Oracle Solaris 10 8/11 for high-latency or high-bandwidth networks. You can see meaningful improvements in speed when the TCP receive window buffer is set to 256 KB.

Increasing the `tcp_recv_hiwat`:

- Increases the TCP receive buffer requirements for every receiver on the system.
- Impacts every TCP sender because they likely will need to buffer that much data due to the length of time to receive packet acknowledgements.
- Puts additional load on the route between senders and receiver to handle the increased traffic enabled by increasing the buffer window size.

For more benchmark details, see https://blogs.oracle.com/BestPerf/entry/20130208_solaris_scp.

Additional observations:

- `sftp(1)` demonstrated similar performance improvements as it also uses `ssh`.
- `tcp_recv_hiwat` is a system wide setting that typically only the administrator can influence.
- You can also increase the value of the `-recvpipe` option in the `route(1M)` utility as an alternative per-connection tuning facility. See http://docs.oracle.com/cd/E23823_01/html/817-0404/chapter4-64.html#scrolltoc.

File System Enhancement

This section describes a file system enhancement in this release.

ZFS Features and Changes

This section summarizes new features in the ZFS file system for this release. For more information about these new features, see *Oracle Solaris ZFS Administration Guide*.

- **ZFS command usage enhancements** – The `zfs` and `zpool` commands have a `help` subcommand that you can use to provide more information about the `zfs` and `zpool` subcommands and their supported options. For example:

```
# zfs help
The following commands are supported:
allow      clone      create    destroy   diff      get
groupspace help      hold      holds     inherit   list
mount      promote   receive   release   rename    rollback
send       set       share     snapshot  unallow   unmount
unshare    upgrade   userspace
```

```
# zpool help
The following commands are supported:
add      attach  clear  create  destroy  detach  export  get
help     history import  iostat  list     offline online  remove
replace  scrub   set    split   status   upgrade
```

To see more information, run `zfs help` or `zpool help` with a command. For example:

```
# zfs help create
usage:
        create [-p] [-o property=value] ... <filesystem>
        create [-ps] [-b blocksize] [-o property=value] ... -V <size> <volume>

# zpool help attach
usage:
        attach [-f] <pool> <device> <new-device>
```

For more information, see the `zfs(1M)` and `zpool(1M)` man pages.

- **ZFS `aclmode` property enhancements** – The `aclmode` property determines how the ACL permissions on a file are modified during a `chmod` operation. This property has been reintroduced with the following property values:
 - `discard` – A file system with an `aclmode` property of `discard` deletes all ACL entries that do not represent the mode of the file. This is the default value.
 - `mask` – A file system with an `aclmode` property of `mask` reduces user or group permissions. The permissions are reduced such that they are no greater than the group permission bits unless it is a user entry that has the same UID as the owner of the file or directory. In this case, the ACL permissions are reduced so that they are no greater than owner permission bits. The mask value also preserves the ACL across mode changes, provided an explicit ACL set operation has not been performed.

- `passthrough` - A file system with an `aclmode` property of `passthrough` indicates that no changes are made to the ACL other than generating the necessary ACL entries to represent the new mode of the file or directory.

For more information, see [Chapter 7, “Using ACLs and Attributes to Protect Oracle Solaris ZFS Files,”](#) in *Oracle Solaris ZFS Administration Guide*.

- **ZFS diff enhancements** – The `zfs diff` command provides an enumeration option, `-e`, to identify all the files that were added or modified between two snapshots. The generated output identifies all files added but does not provide possible deletions. For example:

```
# zfs diff -e tank/testuser@yesterday tank/testuser@now
+      /tank/testuser/
+      /tank/testuser/file.1
```

You can also use the `-o` option to identify and display selected fields, as shown in the following example:

```
# zfs diff -e -o size -o name tank/testuser@yesterday tank/testuser@now
+      7      /tank/testuser/
+      206695 /tank/testuser/file.1
```

- **ZFS snapshot alias** – The `zfs snapshot` command has a `snap` alias that provides an abbreviated syntax for this command. For example:

```
# zfs snap -r users/home@snap1
```

Otherwise, you need to provide the actual ZFS command name, as shown in the following example.

```
# zfs snapshot -r users/home@snap1
```

Device Management Enhancement

This section describes a device management enhancement in this release.

x86: SATA Support for ATA Pass Through Commands

The ATA Pass Through commands in the Serial ATA (SATA) module are enhanced to send arbitrary ATA commands to the attached SATA devices.

When the physical device is a SATA drive, the SCSI commands must be translated to ATA commands. The ATA Pass Through feature allows an arbitrary ATA command to be sent to the drive by using the SCSI commands. This enhancement allows applications and kernel modules to send arbitrary ATA commands to the attached SATA devices.

For more information, see the `sata(7D)` and `uscsi(7I)` man pages.

System Performance Enhancement

This section describes a system performance enhancement in this release.

x86: AMD XOP and FMA Support

The Oracle Solaris 10 1/13 release supports the AMD XOP and FMA instruction sets. The AMD XOP and FMA instruction sets are extensions to the streaming SIMD extensions (SSE) and advanced vector extensions (AVX) instruction sets. The AMD XOP and FMA instruction sets help to improve performance of tasks such as audio or video processing, simulations, financial analysis, and 3D modeling.

For more information, see http://support.amd.com/us/Processor_TechDocs/26568_APM_v4.pdf.

System Resources Enhancement

This section describes a system resources enhancement in this release.

SPARC: 64-bit: Increased CRC32c Algorithm Performance in the iSCSI Initiator

On the SPARC T4 platform, the CRC32c algorithm in the iSCSI initiator automatically uses the SPARC T4 CRC32C instruction for enhanced performance. This enhancement provides the following benefits:

- Decreases the CPU usage when the CRC checksum is applied on the iSCSI data transfer
- Increases data throughput for iSCSI traffic

For more information about the T4 CRC instruction, see *SPARC T4 Processor Offload Engine for Crypto Instructions*.

Freeware Enhancements

This section describes freeware enhancements in this release.

Evince 2.30.3

Starting with the Oracle Solaris 10 1/13 release, Evince 2.30.3 is the default PDF viewer in the Oracle Solaris 10 OS. Evince 2.30.3 is a GNOME document viewer and supports the following file formats:

- PDF
- PostScript

Evince 2.30.3 provides the following features:

- Integrated search to display results and highlight results on a page
- Page thumbnails to show quick reference in a document
- Index information displayed in a tree format
- Print documents

For more information, see <http://projects.gnome.org/evince/>.

GNU Make 3.82

GNU Make, a utility that automatically builds executable programs and libraries, is upgraded to version 3.82.

GNU Make 3.82 provides the following enhancements:

- Single-shell invocation by using the `.ONESHELL` target
- Improved pattern search

For more information, see the `make(1)` man page and the <https://www.gnu.org/software/make/> web site.

GNU gettext Utility

The Oracle Solaris 10 1/13 release supports the GNU `gettext` utility, which provides a framework to generate multilingual messages. The GNU `gettext` utility provides the following features to support message catalogs:

- Set of conventions about how programs should be written to support message catalogs
- Directory and file-naming structure for the message catalogs
- Runtime library to support the retrieval of translated messages
- Stand-alone programs to tweak the sets of translatable or already translated strings

For more information, see the `gettext(1)` man page and the <https://www.gnu.org/software/gettext/> web site.

GNU IDN Library

The Oracle Solaris 10 1/13 release supports the GNU internationalizing domain names (IDN) library. The GNU IDN library (Libidn) is an implementation of the Stringprep, Punycode, and internationalizing domain names in applications (IDNA) specifications. You can encode and decode internationalized domain names by using the GNU IDN Library.

For more information, see <http://www.gnu.org/software/libidn/> and the `idn(1M)` man page.

Ghostscript 9.00

Ghostscript is upgraded to version 9.00. Ghostscript 9.00, a major new release, is a security and bug fix upgrade of Ghostscript 8.64. Version 9.00 is licensed under GPLv3.

You can use Ghostscript to perform the following functions:

- Rasterization of page description language files for displaying or printing document pages
- Conversion between PostScript and PDF files

For more information, see the Ghostscript web site at <http://www.ghostscript.com/>.

gzip 1.4

gzip, an application used for file compression, is upgraded to version 1.4. This version fixes several bugs.

For more information, see the `gzip(1)` man page and the project web site at <https://www.gnu.org/software/gzip/>.

Jakarta Tomcat 5.5

The Oracle Solaris 10 1/13 OS supports Jakarta Tomcat 5.5.

For more information, see <https://tomcat.apache.org/>.

Lightning 1.0

Lightning 1.0, an extension to include calendar and scheduling functionality in Mozilla Thunderbird, has been included in this Oracle Solaris release. Lightning 1.0 provides the following features:

- The ability to accept or decline events and tasks directly by using the Context menu
- Event creation by using click and drag with a full calendar schedule
- Multiple alarm setting for a single event
- Alarm sorting in the Reminder window
- Calendar view and task view in different tabs
- Support for Web Calendar Access Protocol 3.0 (WCAP)
- Improved performance of the CalDAV webdav - sync invalid anchor

For more information, see <https://www.mozilla.org/projects/calendar/lightning/>.

rsync

rsync, a local and remote file-copying tool, has been integrated in the Oracle Solaris 10 1/13 release.

For more information, see the `rsync(1)` man page and the project web site at <https://rsync.samba.org/>.

Samba 3.6.8

Samba, which provides file and print services to Server Message Block/Common Internet File System (SMB/CIFS) clients, is upgraded to version 3.6.8.

Samba 3.6.8 provides the following enhancements:

- Security fixes
- Improved security defaults
- Fully functional SMB2 support
- Production ready VFS ACL modules

For more information, see <https://www.samba.org/>.

Sendmail 8.14.5

Sendmail, a utility that is used for internet network email routing, is upgraded to version 8.14.5. This version fixes several bugs.

For more information, see http://www.sendmail.com/sm/open_source/download/8.14.5/.

Thunderbird 10 ESR

Thunderbird 10 ESR has been integrated in Oracle Solaris 10 1/13. Thunderbird 10 is the first release of the Thunderbird email application under the Extended Support Release (ESR) policy. Thunderbird ESR is intended for groups that maintain the desktop environment in large organizations.

Thunderbird 10 ESR provides the following enhancements:

- New ability to search the Internet
- Improvements to email search
- Better keyboard handling for attachments
- New search and find shortcuts
- Platform improvements to the address book
- Several security, platform, and user interface fixes

For more information, see <http://www.mozilla.org/en-US/thunderbird/organizations/>.

Firefox 10 ESR

Firefox 10 ESR has been integrated in Oracle Solaris 10 1/13. Firefox 10 is the first release of the Firefox browser application under the Extended Support Release (ESR) policy. Firefox ESR is intended for groups that maintain the desktop environment in large organizations.

Firefox 10 ESR provides the following enhancements:

- Several security and stability fixes
- Add-ons installed by third party programs are now disabled by default
- Most add-ons are now compatible with new versions of Firefox by default
- The forward button is now hidden until you navigate back
- Performance and memory handling improvements when using <audio> and <video> elements
- Support for HTML5 context menus and WebSocket

For more information, see <http://www.mozilla.org/en-US/firefox/organizations/>.

wxWidgets

wxWidgets, a widget toolkit and tools library that is used for creating graphical user interfaces, is delivered as a stand-alone package.

For more information, see <http://wxwidgets.org/>.

New Device Support

This section describes new devices that have been added in this release.

x86: Support for the Xen Virtual Block Device in the xdf Driver

The `xdf` driver supports the Xen virtual block device (XVD) on an x86-based Oracle VM Server. With XVD support, the maximum disk number in a single Oracle VM instance is increased up to the maximum number supported by Oracle VM Server. As a result, your Oracle VM instance can be configured with additional virtual disks.

The number of virtual disks that can be configured is dependent on your version of Oracle VM Server for x86. Refer to *Oracle VM Server Release Notes for x86* for the maximum number of supported disks.

Support for New Device in the bnx Driver

The `bnx` driver supports the Broadcom BCM57712 NetXtreme II 10 Gigabit Ethernet adapter.

Driver Enhancements

This section describes the driver enhancements in this release.

SR-IOV Support for `igbvf` and `igb` Drivers

The `igbvf` and `igb` drivers support the single root I/O virtualization (SR-IOV) specification on the Intel i350 Gigabit Network Controller.

SR-IOV Support for the `ixgbev` driver

The `ixgbev` driver supports the SR-IOV specification on the Intel x540 10 Gigabit Network Controller.

`sxge` Driver Support

The Oracle Solaris 10 1/13 release supports the `sxge` Ethernet driver for Oracle's Sun Blade 6000 Virtualized 40 GbE network express module (NEM).

Oracle's Sun Blade 6000 Virtualized 40 GbE NEM is a multipurpose connectivity module for Sun Blade 6000 modular system from Oracle. The NEM provides network and storage connectivity between the blades in a Sun Blade 6000 modular system chassis and external devices. The NEM supports connection to external devices through 1 GbE pass-through port and 40 GbE small form-factor pluggable (SFP+) ports. The NEM also supports Oracle's Sun ASIC Dual 10 GbE network interface card (NIC) virtualization and Oracle's Sun Blade X6270 M3 server module.

USB 3.0 Support

The Oracle Solaris 10 1/13 release supports the USB 3.0 specification. A new USB host controller driver, `xhci`, is integrated in Oracle Solaris. Mass storage devices and the USB hub that support USB 3.0 can both work in the USB 3.0 mode when they are connected with eXtensible host controller interface (xHCI) ports. All the other legacy USB devices other than the USB audio and video devices continue to work when they are connected to xHCI ports.

The data transfer speed in USB 3.0 is three to five times faster than USB 2.0. On an x86 system, the maximum speed of USB 3.0 is 150 MBps during a read/write on a USB 3.0 mass storage device. On a SPARC system, the maximum speed is 50 MBps.

Note – Data transfer speeds may vary depending on the hardware that you use.

For more information, see the `xhci(7D)` and `usba(7D)` man pages.

Additional Software Enhancements

This section describes additional software enhancements in this release.

SPARC: 64-bit: Memory DR Support on Migrated Domains

Starting with the Oracle Solaris 10 1/13 release, you can perform memory dynamic reconfiguration (DR) on migrated domains. This enhancement enables you to add new memory to the migrated guests without rebooting the guest domain.

For more information, see *Oracle VM Server for SPARC 2.2 Administration Guide*.

x86: Fault Proxy Between the Service Processor and Host

All faults identified by the Fault Management Architecture (FMA) on an Oracle Solaris host can be remotely viewed and managed from the service processor in the same way as with the local service processor faults. This feature enables users to view and manage proxy faults along with the local faults.

Note – This feature is available only on x86 platforms from Oracle such as Sun Fire X4170 M3 Server, Sun Fire X4270 M3 Server, and Sun Blade X6270 M3 Server.

Fibre Channel Adapter Header Files

The `/usr/include/sys/fibre-channel/` directory now contains fibre channel header files. These are included to support development and deployment of third party fibre channel HBA interface drivers with Oracle Solaris 10.

