



OpenSolaris 2009.06 Engineering Plans

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Agenda

Time	Topics
8:00-8:05 am PT	Welcome
8:05-8:25 am PT	Sun OpenSolaris 2009.06 Overview & Updates
8:25-8:35 am PT	Crossbow Overview
8:35-8:45 am PT	COMSTAR Update
8:45-9:00 am PT	OGB update
9:00-9:10 am PT	Website Transition Update
9:10-9:25 am PT	Open Development Infrastructure Project Update
9:25-9:40 am PT	Source Juicer /Apps of Steel Software Porting Content
9:40-9:55 am PT	User Group Spotlight
9:55-10:00 am PT	Upcoming Events – OpenSolaris @ Community One, OpenSolaris Community Summit

Overview

- Highlights (p4-14)
 - Installation, Packaging, HW & Driver support, User Experience, Networking and Storage
- Familiarization with Linux (p15)
- Java Platform and Middleware (p16)
- Web Stack Project & Developer Stack (p17-18)
- Power management (p19)
- Accessibility and Repositories (p20)
- Future Planning (p21-27)

Highlights

- SPARC new platform and support
 - IPS phat packages support
- Automated Installer supported version
- HW/Driver support
- Package Manager GUI
- Desktop user experience enhancement
- Networking
 - Network Virtualization (Crossbow)
- Storage

Hardware/Driver Support

- Nehalem launched March 31, 2009
 - New options in power management combined with Solaris real time observability allow customers to maximize performance and energy efficiency
 - Solaris brings an enterprise class OS to the latest Intel Xeon 5500 systems
- Device Detection Utility 1.2
 - GUI enhancement
 - SPARC support
- 2643 laptops certified
- HW Compatibility List
 - <http://www.sun.com/bigadmin/hcl/>

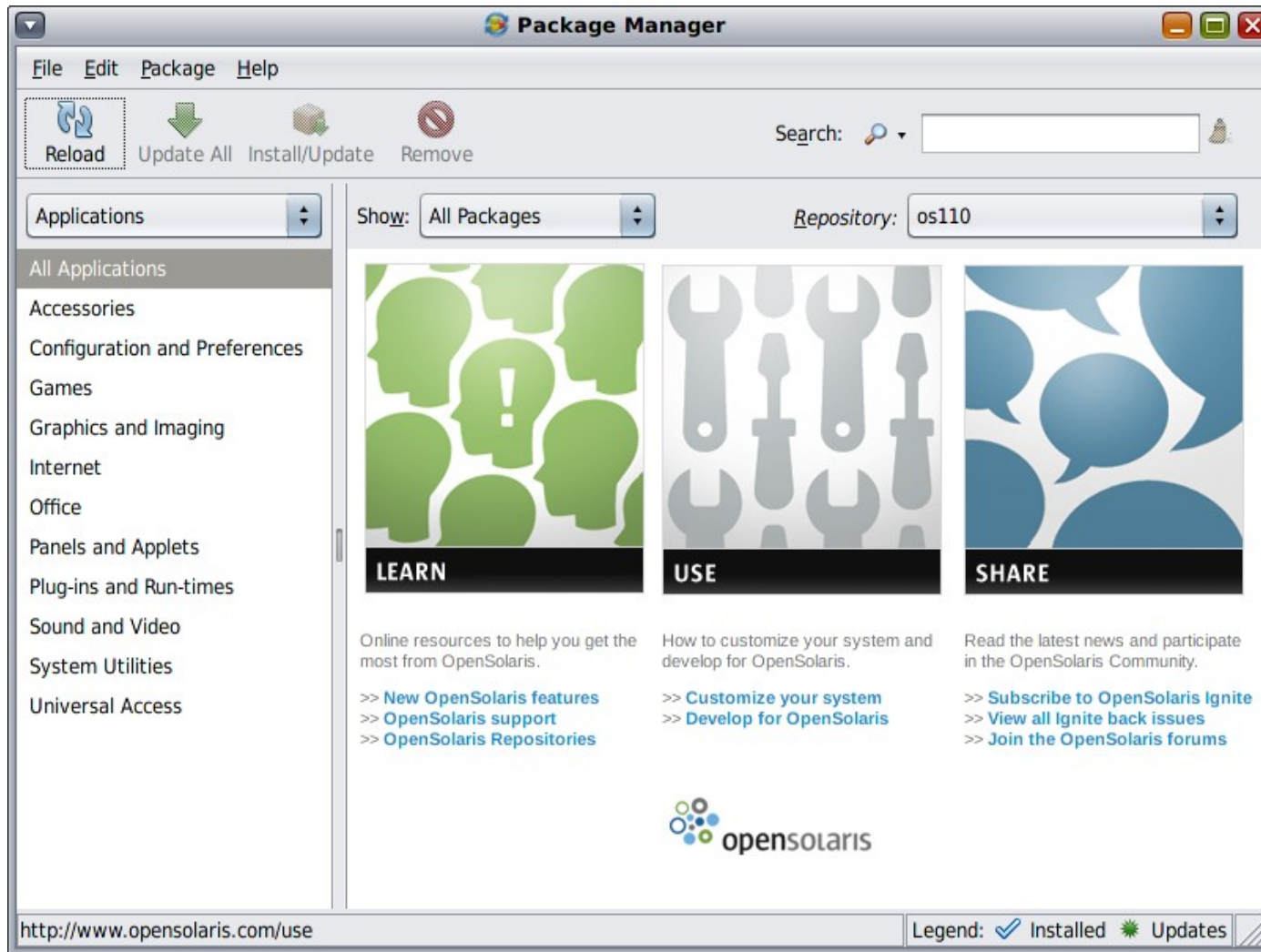
Hardware/Driver Support (cont.)

- Additional wireless drivers support
 - ZYD wifi driver
 - Zyd driver supports WiFi adapters based on ZyDAS ZD1211/ZD1211B chip sets.
 - RUM wifi driver
 - Rum driver supports WiFi adapters based on Ralink RT2501/RT2601/RT73USB chip sets.
- Additional suspend/resume support
 - RAL, ZYD
 - Users now can suspend and resume their laptops without unplugging the WiFi adapters.

User Experience Enhancement

- Package Manager front page
- Package Manager performance improvement
 - 1,000% improvement in startup time
 - Install time reduced from minutes to seconds in many cases
- Search across multiple repositories
- *Start Page* which can be automatically updated
- 1 Click Web Install

User Experience Enhancement (cont.)



User Experience Enhancement (cont.)

○ Package Manager

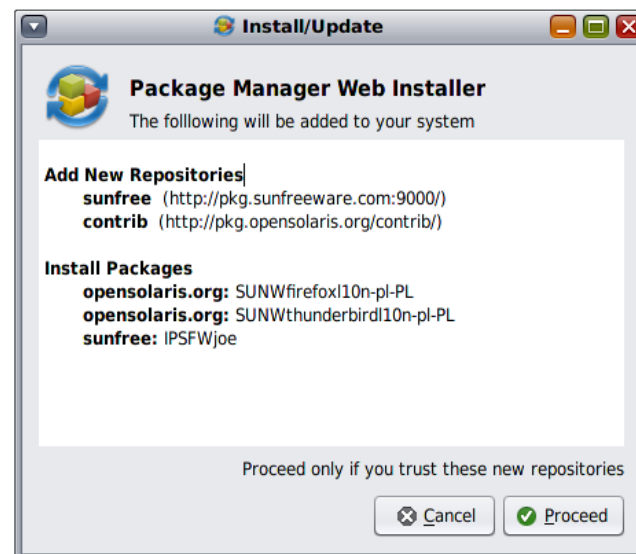
- Categories
- Repo additions
- Streamlined install

○ Coolstart

- Option out of graphical boot, one-way only

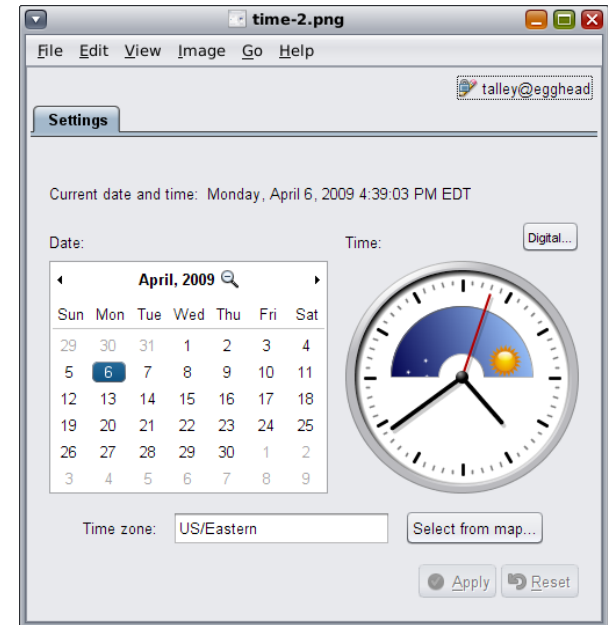
○ Timeslider

- Simplified slider– removes no-change snapshots
- Manual creation/deletion of snapshots



User Experience Enhancement (cont.)

- Xorg 1.5
- Visual Panels
 - Time & Date tool
 - New Apache UI
- Device Driver Utility 1.2



Networking

- Crossbow Network Virtualization and Resource Management
 - Provides virtualization elements- VNICs, Etherstubs (switches) plus VLAN support.
 - Provides setting limits for network bandwidth, priorities, and assigned CPU resources
 - Reduces latency and increases throughput especially on high load networks dominated by small packet traffic.
 - Integrates with dumb and smart NICs
 - List of supported smart NICs at:
<http://www.opensolaris.org/os/project/crossbow/topics/nic>

Networking (cont.)

○ Volo

- Provides non-STREAMS-based sockets for improved performance and reduced latency of sockets-based applications.
- Provides a kernel framework for plugging in new socket types (e.g., from third parties).
- Provides a kernel sockets API that simplifies and enhances kernel network programming.

Networking (cont.)

○ IP Observability

- Snoop loopback interface for observing traffics, able to snoop on virtual paths as well as real ones.
- Ability to observe inter, intra-zone traffic
- Allows observability of IP traffic from within shared-stack zones, which wasn't possible before.

○ Clearview IPMP rearchitecture

- IPMP now works transparently with any sockets-based application, is easier to administer and observe.
- IPMP now inter-operates seamlessly with other core networking features such as routing, packet filtering, and DHCP.

Storage

- COMSTAR iSCSI
 - iSCSI boot for x86
 - iSCSI SPARC
- CIFS
 - AD Cross Forrest Trust
 - Shadow Copy
 - Ipv6
 - Oplocks
- Automatic data migration for ZFS

Familiarization with Linux

○ 2009.06

- cmake 2.4.8
- foomatic-db
- git 1.5.4.3
- grails 1.0.3
- gvim 7.1 (aka vim 7.1)
- lua (multi-paradigm language)
- My SQL 5.1
- Ruby 1.8.7
- SBLIM CIM Client v1.3.7
- NetXen 1GB/10GB NIC driver
- openldap 1.2
- quilt 0.47
- webalizer 2.20-01
- graphic boot updates

Java Platform and Middleware

- JDK 6u13
- JavaFX
- OpenDS v1.2
- GlassFish 2.1
- OpenMQ 4.1

Web Stack Project

- Web Stack Project repository
 - `http://pkg.opensolaris.org/webstack/`
- Contains early access builds of supported packages in development
- Packages are removed once they migrate to the stable repository. Examples:
 - MySQL 5.1 in `/webstack` in 9/08, moved to `/dev` in 3/09
 - Drupal in `/webstack` as of today, will move to `/contrib` in the near future
- Also contains experimental/proof of concept pkgs which the Web Stack product may formally pick up
 - Examples: varnish, nginx

Developer Stack

- SPARC Easy Button
- Sun Studio/Studio Express 3/09
- GNU Developer Collections 4.3.2
- NetBeans 6.5.1
- Eclipse 3.4.2
- ClusterTools 8.1
- Exuberant Ctags 5.7
- Python 2.6
- NetBeans plugin to create DTrace probes

Power Management

- Enhanced Suspend/Resume Support
 - Many more machines supported (laptops and desktops)
- Power Aware Dispatcher
 - More responsive power savings based on scheduling load – better SpecPower results.
- Intel Deep C-State support
- Intel Turbo Mode Observability
- Intel T-States support for passive cooling

Accessibility and Repositories

○ Accessibility

- Accessible Install
- Firefox support WAI ARIA*
- IPS UI accessibility improvement

○ Repositories

- `http://pkg.opensolaris.org/pending`
- `http://pkg.opensolaris.org/contrib`
- `http://pkg.sun.com/register`
- Support repository for contract customers
- Extra repository for encumbered packages

Future Planning

○ Installation

- SPARC interactive Install
- Profile based install from repositories
- Hybrid install
 - Install from repo on disk
- Extended partition support

Future Planning (cont.)

- Packaging
 - Publication APIs
 - Package Refactoring
 - Offline IPS support
 - On-disk format
 - Peer to Peer
 - Caching/CDN
- Gnome 2.26 updates
- Firefox 4.1
- Flash v11

Future Planning (cont.)

○ Multimedia

OpenSolaris now supports a more rich set of GStreamer-based multimedia applications, including Mozilla Songbird 0.6 and Rhythmbox. Continue to work on:

- Adding Coherence Python module to add UPnP support
- Integration of OSS for better audio driver support
- Integration of exciting applications that use OSS interfaces such as audacity
- Adding interesting multimedia programs such as jokosher, pitivi, Istanbul, taglib

Future Planning (cont.)

○ Network Virtualization

- Further integration with OS virtualization technologies (Zones, xVM, LDOMs)
- Better leverage of NICs virtualization capabilities on the hardware
- Support of richer flows description
- Security features for Virtual Machines to protect the network from misbehaving guests (anti spoofing features, etc)
- Project Crossbow ongoing enhancement and future planning on opensolaris.org/os/project/crossbow/Features/

Future Planning (cont.)

- Solaris on XEN performance enhancement
 - Improve IO performance for xVM guest domains. Will leverage VT features to ensure domain isolation.
- CIFS
 - MS Management Console Support
 - MS Security Enhancements
 - Access-Based Enumeration
 - DFS Namespaces (Standalone)
 - CIFS Performance Enhancements

Future Planning (cont.)

○ ZFS

- Deduplication
- User quotas
- Access-based enumeration
- Snapshot reference counting
- Dynamic LUN expansion

○ Cloud Computing

- Ability to save to cloud and push/work from cloud in the end user backoffice programs and developer tools

Future Planning (cont.)

- CMT Active Power Management
- Power Management
 - Tickless Clock Architecture
 - Disk Power States w/ZFS
 - x86 Suspend to Disk
 - Power Management Usability Improvements
 - Support for system wide PM Policy



Thank You!

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