



## OpenIndiana, Illumos, and the OpenSolaris Community 16th March 2011

Alasdair Lumsden - [al@everycity.co.uk](mailto:al@everycity.co.uk)  
EveryCity Managed Hosting



# Who is Alasdair Lumsden?

- LOSUG Chairperson
- Dayjob is EveryCity Managed Hosting (Founder + CTO)
- Open Source Evangelist
- Solaris Junkie
- Founder of OpenIndiana

# Overview

1. OpenIndiana is born
2. Illumos
3. Constructing OpenIndiana
4. The Community
5. T-Shirt Raffle and Free DVDs!

# Part I

# OpenIndiana is Born

# OpenSolaris History

- In, March 2010 the binary releases of OpenSolaris stalled
- Due to forthcoming release of "OpenSolaris 2010.1H"
- Source code still being made available
- However, 2010.1H comes, and goes.. no new OpenSolaris



# OpenSolaris History (cont..)

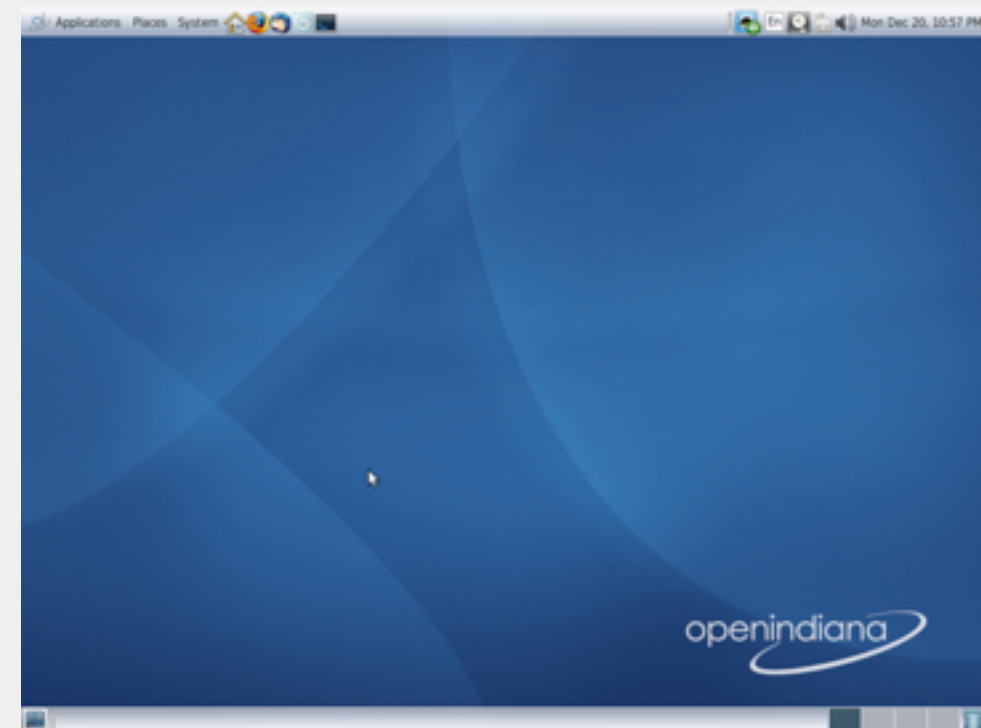
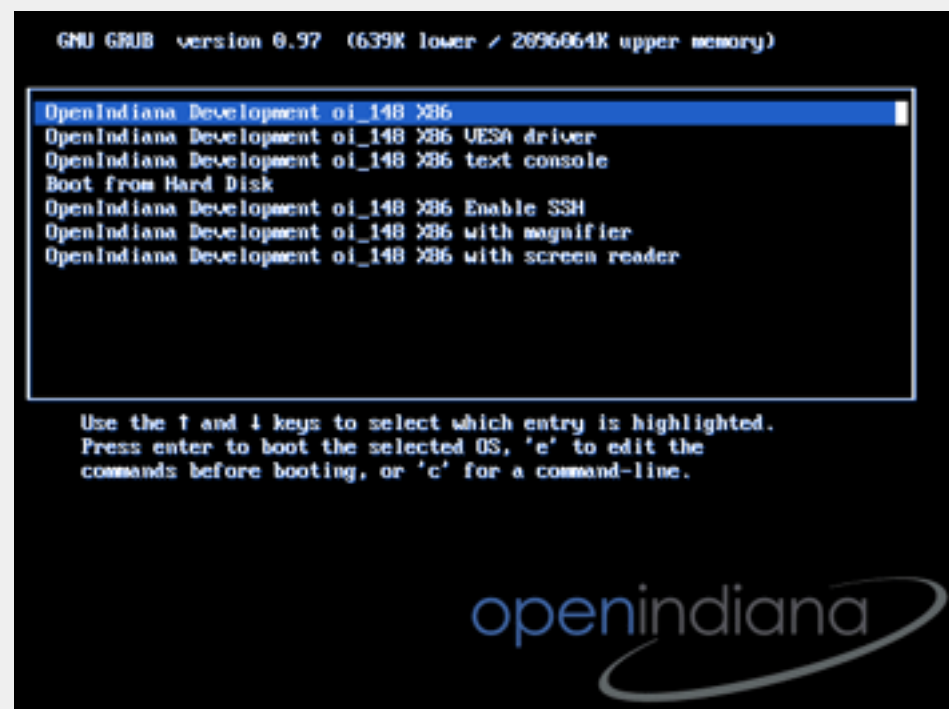
- OpenIndiana's story begins in July 2010
- I host an OpenSolaris Hackathon in London
- It becomes evident the community could build the source
- Work begins..

# OpenSolaris gets the axe

- One month later in August, a bombshell
- A leaked memo confirms: OpenSolaris is dead
- Illumos launched on August 3rd
- On August 16th, OS/Net source tap closed by Oracle
- Now it's serious.

## OpenIndiana enters..

- The following month, OpenIndiana is born
- oi\_147 debuts September 14th 2010





# So what is OpenIndiana?

- A “spork” of OpenSolaris
- A distribution you can install and use
- Open Source Software
- Ultimate aim is to “*become the defacto OpenSolaris distribution installed on production servers where security and bug fixes are required free of charge*”
- But most importantly, **a community**

# How does it compare to S I I X?

- OpenIndiana is a drop in replacement for Solaris I I Express
- Made from the same source code
- It's Open Source (free as in free speech)
- It's free to use (free as in free beer)

# Why is OpenIndiana Important?

- Solaris 11 Express is a commercial OS
  - *Only free for test & development*
- Solaris 11 is primarily a closed source OS
  - *Cannot obtain the source to the kernel*
  - *Cannot modify the OS*

# Why is Open Source important?

- Transparency; Freedom; Choice
- Software Industry vs Software Society
- Has powered our "Information Revolution"
- ***Self determinism***

# Why is OpenIndiana Important?

- Solaris is now a commercial UNIX aimed at enterprise
- "Legacy", "proprietary"... *"obsolete"*?
- Many of my peers use Linux and exclaim "Isn't Solaris dead yet?"
- Not in enterprise, but everywhere else, it may as well be



“I predict that Illumos will be just as irrelevant as Solaris has been for the last few years. Legacy.”

Adrian Cockroft - Netflix  
(Former Technical Lead for Performance  
Engineering Group - Sun Microsystems)

# Why your contribution matters

- That's why OpenIndiana is important
- More importantly, that's why your contribution matters
- It is our last opportunity to save Solaris from obscurity
- We won't let Solaris fade into the night, not without a fight
- Switch to Linux? Over our dead body.

# Does OpenIndiana compete with Oracle Solaris?

- No! We view the two products as complimentary
- Oracle Solaris is aimed firmly at *enterprise*
  - Combined hardware/software support contract
- OpenIndiana aims at the "Linux" end of the market
  - End users that want "free as in beer, free as in speech"

# Part 2

# Illumos

# What is Illumos?

- A fork of "OS/Net" - the kernel and core userland
- Created by Garrett D'Amore - ex Sun Kernel Engineer
- OS/Net source no longer available from Oracle
- So Illumos is the community's source of OS/Net



# Illumos Contributors

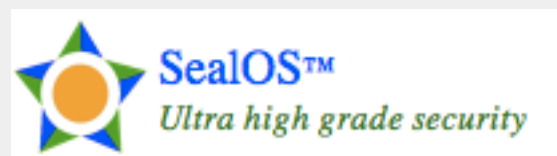
- Garrett D'Amore (Nexenta) - Ex Sun - Wrote "Boomer" sound system
- Bryan Cantrill (Joyent) - Ex Sun - Helped write DTrace
- Bill Moore (Nexenta) - Ex Sun - Helped create ZFS
- Dan McDonald (Nexenta) - Ex Sun - Project lead for IPSec in Solaris
- Eric Schrock (Delphix) - Ex Sun - Sun Unified storage architect
- Gordon Ross (Nexenta) - Ex Sun - Project Lead on CIFS
- Richard Lowe - Long time OpenSolaris contributor
- Roland Mainz - Project lead of ksh93 integration
- Damian Wojslaw - Software Poters project, OpenSolaris
- Albert Lee - (Nexenta) - Long standing OpenSolaris community member





## Illumos Consumers

- OpenIndiana
- Nexenta
- Schillix
- Belenix
- StormOS
- SealOS
- Joyent



# What have Illumos done since the fork?

- ***Over 151 commits since launch***
- Replaced closed libc il8n code
- Replaced closed locales with open ones
- Replaced closed tools (tr, tail, xpg4/sh, sed, od etc)
- New open drivers (eg. iprb)
- Removal of Perl 5.8.4
- Python no longer needed for base OS
- - beadm & ZFS tools rewritten in C
- ZFS/SCSI UNMAP support

# What does Illumos hold for the future?

- More open drivers (eg. mpt)
- Open IKEv1 IPSEC, new IKEv2 support
- Open NFS Lock Manager
- Better ZFS ACL support
- ZFS & COMSTAR Bugfixes & Performance Improvements
- Booting with the GCC compiled code
- The sky's the limit!



# Part 3

# Constructing Ol

# What's in an OS?

- OpenSolaris was developed by different teams, working on what were named "Consolidations"

OS/Net

SFW  
(Sun Freeware)

Userland  
(Replaces SFW)

JDS  
(Java Desktop)

XNV  
(X Windows)

Others  
(pkg, caiman, etc)

# Source Availability

- Oracle closed OS/Net at onnv-147
- Future builds will use Illumos instead of OS/Net
- However everything else is still open
- We rebrand, build, and publish
- Current build is snv\_162
- Solaris 11 Express is snv\_151a

# How do Oracle feel about this?

- Sun opened Solaris, fostered a community, promoted alternative distributions
- Oracle would be naive to think they could undo this
- Regardless, Oracle already do this themselves!
  - Unbreakable Linux is a blatant clone of RHEL
- The alternative.. Linux? FreeBSD?

# Build Procedure Overview

- We build each of the consolidations
- This consists of checking out the source, rebranding, patching
- These are then distro-imported to a single IPS repo
- The contents are published to [pkg.openindiana.org](http://pkg.openindiana.org)
- Distribution Constructor then produces ISO images



# Challenges

- Now that we no longer have access to OS/Net, it gets harder
- The open consolidations have to be modified to work with Illumos
- Illumos has also diverged heavily from OS/Net
- The build systems Sun left us with are... not ideal
- We need continuous integration and automated builds

# OpenIndiana's Status

- Currently we provide a development release (/dev)
- This is completely stable, and works very well
- Many are using it in production
- Our next steps are to finish Illumos Integration
- We will then publish our first stable release

# Software Matters

- The OS is only as useful as the software that runs on it
- This is something Sun failed to address
- SIIX/OI are still miles behind Linux on the software front
- Oracle are not helping matters (Postgresql removal anyone?)
- However we intend to address this

# OpenIndiana Addon Consolidations

- Through the OLAC project, we will add software
- Server Software:
  - Exim, Postfix, Ruby, etc
- Multimedia Software:
  - ffmpeg, vlc, mplayer, etc
- As much as we can get maintainers for



# Security and Bug Fixes

- To compete with Linux, we need a stable branch with bug fixes and security updates, provided *free of charge*
- Our next development build will be based on snv\_151a
- This will have full Illumos integration
- Once the major bugs are fixed, we will publish to /stable
- We will then backport security and bug fixes for a subset of the packages

# Part 4

# The Community

# OpenIndiana and you

- OpenIndiana would not be here if it wasn't for the hard work of our contributors
- We have humble beginnings, and big ambitions
- The more contributors we get, the faster these ambitions can be realised

# We love Solaris!

- We believe strongly that Solaris is the best OS on the market
- We want Oracle to be successful with Solaris 11, and for it to flourish
- We also want OpenIndiana to be the best open flavour of it



# Our Community

- We are trying to foster a friendly community
- We want to bring OpenIndiana to as wide an audience as possible
- We want everyone to be able to contribute, and get involved
- **THIS MEANS YOU!**

# How you can help

- Right now more than anything we need:
  - Website Developers
  - Project Managers
  - Evangelists
  - Systems Administrators
- You really honestly don't have to know C!

# How helping OpenIndiana helps you

- Contributing to OI is a rewarding experience
- Thousands of people will use the things you have made
- You will learn a great deal about Solaris
- This looks great on your CV
- **It vastly improves your earning potential and career prospects. This cannot be understated.**

# How to get involved

- Mailing Lists: <http://openindiana.org/mailman>
- IRC: #openindiana and #oi-dev on irc.freenode.net
- Wiki: <http://wiki.openindiana.org>
- Twitter: @openindiana



# Weekly Meetings

- We have weekly meetings on **Tuesdays at 8pm GMT**
- These are held in #oi-meeting on [irc.freenode.net](http://irc.freenode.net)
- Why not come along and get involved

# Final Remarks

- Thank you to all those who have contributed to Illumos and OpenIndiana - without you, we wouldn't be here today
- Thank you to Sun Microsystems for their vision, and for their courage in open sourcing Solaris
- Thank you to Oracle for your commitment to Solaris
- Thank you to the UKOUG for their help running LOSUG