What's In A Name?

illumos = illum + OS = “Light + OS”

Light as in coming from the Sun...
OS as in Operating System
Note: illumos not Illumos or IllumOS

“illumos” trademark application in review. Visual branding still under consideration.
Not All of OpenSolaris is Open Source

• Critical components closed source
  – libc_i18n (needed for working C library)
  – NFS lock manager
  – Portions of crypto framework
  – Numerous critical drivers (e.g. mpt)

• Presents challenges to downstream dependents
  – Nexenta, Belenix, SchilliX, etc.
  – See “Darwin” and “MacOS X” for the worst case
What's Good

• The Technology!
  – ZFS, DTrace, Crossbow, Zones, etc.

• The People
  – World class engineers!
  – Great community of enthusiasts
  – Vibrant ecosystem

• The Code is Open
  – Well most of it, at least
illuminos – the Project

- Derivative (child) of OS/Net (aka ON)
  - Solaris/OpenSolaris kernel and foundation
  - 100% ABI compatible with Solaris ON
  - Now a real fork of ON, but will merge when code available from Oracle

- No closed code
  - Open source libc, kernel, and drivers!

- Repository for other “experimental” innovations
  - Can accept changes from contributors that might not be acceptable to upstream
illumos – the Ecosystem

• illumos-gate is just ON
  – Focused on “Core Foundation Blocks”
  – Flagship project
• Expanding to host other affiliated projects
  – Umbrella organization
  – X11 components?
  – Desktop components?
  – C++ Runtime?
  – Distributions?
illuminos – the Community

- Stands independently from OpenSolaris
  - Can't be “shut down” or subverted by any corporate master
  - We “own” our own identity
  - Nexenta a major sponsor
  - Other sponsors lining up

- Community governed and run
  - Resources distributed
  - Meritocracy
  - “Just enough” governance
illumos – the Cast

- Existing community members
  - Very large audience
  - Smaller set of active contributors
  - Many community leaders
  - Growing all the time
  - Anyone can join in!
  - Critical mass!
illumos – Community Partners

- nexenta
- Joyent
- greenviolet
- BeleniX
- SCHILLiX
- berliOS
- everycity
Major Project Goals

- Self hosting SunOS derivative
- Fully Open Source
- 100% ABI compatible with Solaris
- No corporate dependencies
- Basis for other distributions
- To become the main center of innovation for the code
The 800 Pound Gorilla

- illumos was *not* meant as a competitor to “Solaris”
- Invitation was extended to Oracle to participate as a peer
- So far, no communication from Oracle
- Oracle has thus far not even acknowledged illumos project exists.
Hey, Who Turned off the Water?

- Surpise, the tap was turned off
  - There will be infrequent (perhaps very infrequent) source drops from Oracle
  - So far only ON seems affected
- For community contributed code, Oracle must provide source code with binaries
  - On major release boundaries
  - Very small minority of code is affected
No longer a Spoon or a Spork

• Effectively, Oracle told us to “fork off!”
• We have to handle our own sustaining
  – We have enough resources to do it!
  – Critical mass and growing
  – More help is desirable!
• We have the freedom to innovate
  – No longer constrained about merge headaches
  – Can contemplate larger changes
  – API & ABI compatibility still a fundamental goal
License Implications

- Given that corporate upstream is not interested in us...
- It seems to not make much sense to provide unique advantage to them and not to anyone else
- So, CDDL now the preferred license
- SCA requirement possibly dropped
- Or Contributor Agreement with illumos Foundation
illuminos Foundation

- To be a non-profit 501(c)3 organization
- Handles resources
  - IT, financial, brand/identity, possibly human
- Probably also handles coordination of marketing, community organization, etc.
- Some of the BoD are identified, will formally announce membership very soon
Administrative Council

- Stand-in for Board of Directors for now
- Initially appointed
  - Garrett D'Amore
  - 6 other members
- Non-technical matters only
  - IT resource management
  - To define code of conduct, etc.
  - May evolve into a full “Foundation Board” later
Developer Council

- Purely technical body
  - PSARC--
- Initial membership
  - Garrett D'Amore is Tech Lead
  - Bryan Cantrill, Jim Carlson, Adam Leventhal, Rich Lowe other members TBD
- Meritocracy based
- Consensus driven
  - Tech Lead is final arbiter if no consensus
Rules for Integration

• Usual quality guidelines for ON
  - cstyle
  - lint
  - Validated/tested code
  - Code reviews
  - “Approved by:” light-weight advocacy

• License restrictions
  - BSD or MIT (caveats)
  - CDDL
  - Other possibilities under investigation
Packaging

- illumos is not a distro.
  - There may be one at some point though
  - Binary ISO to be delivered with minimal bits needed to bootstrap a “real” distro

- Packaging “neutral”

- “IPS” manifests are “canonical” data
  - We can generate .deb from IPS
  - Extensible to generate RPM, SVR4, etc.
  - Will probably move to SVR4 binary format by “default”
Supported Hardware

- x86 and amd64
  - Driver support dependent
- VMware and VirtualBox
- SPARC
  - Dependent on platform and driver support
- Others
  - Anticipate integration of other architectures...
    s390, PowerPC, ARM are all possible.
Work Done So Far

- Replaced closed bits of libc (including full locale support)
- Replacements for various closed source utilities
- Replacements for some drivers
- It boots!
  - Still needs a few closed bits
  - But those will be replaced very soon with open equivalents
Work Remaining

- NFS/CIFS lock manager
- Full kcf module/daemon (crypto framework)
- Trusted Extensions (labeld)
- Many more drivers
- Further dependency resolution
- A lot of new innovations in the pipeline
- Probably many many other possibilities!
Resources

- **http://www.illumos.org/**
  - Website, defect tracking, source code, etc.
- **developer@lists.illumos.org**
  - Developer mailing list
- **discuss@lists.illumos.org**
  - General discussions
- **#illumos**
  - Illumos IRC channel (irc.freenode.net)
Demo!

Demonstration of the bits!!
Ask away!
Thank you for listening and watching!
Come join us at http://www.illumos.org !