

open



USE



IMPROVE



EVANGELIZE

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The OpenSolaris Story

Jim Grisanzio
Community Manager, OpenSolaris
Sun Microsystems
Tokyo, Japan



opensolaris™

It's all about the **code** and the **community**
and the **market** that results from all those
people working on all that code.

Site Administrator

Edit this page
 Manage children
 Manage attachments

Add a page
 Find user accounts
 Add user account
 Housekeeping
 Edit site

Site Editor

There are no Site Editor options available for this page.

About OpenSolaris

Project Overview
 FAQ Center
 Roadmap
 Governance/CAB
 Site Map

Communities

Portal
 Nevada Project
 All Communities

Projects

Portal
 All Projects

Code

Source Browser
 Download
 Bug Database

Connect

Register
 Discussions
 Blogs
 Announcements
 Events
 News
 Related Links

```

static int
open(int startfd, char **frames, int filemode, int createmode)
{
    struct pathnames prc;
    vnode_t *vp, *ndp;
    file_t *fp, *stafp;
    enum vtype type;
    int error;
    int fd;
    vnode_t *vnode;
    proc_t *p = proc;

    if (startfd == DEV0) {
        /* Regular file */
        /* Regular file */
        startp = &RAI;
    } else {
        /* Make sure we have a valid request.
         * We want either a real FD or AT_FDCMD.
         */
        if (startfd != AT_FDCMD && startfd == NULL) {
            error = EINVAL;
            goto out;
        }
    }

    if (copyin(frames, &startchar, sizeof(char))
        return (set_errno(EFAULT));
}

```

What is the OpenSolaris Project?

The OpenSolaris project is an open source community and a place for collaboration and conversation around OpenSolaris technology.

The community represents a wide variety of people around the world, including developers adding functionality to the system or customizing the technology for new applications and platforms; system administrators implementing Solaris technology in data centers; educators and students researching operating systems in universities; and new users exploring the technology and discovering that OpenSolaris offers new opportunities.

The OpenSolaris source code is already cutting edge, but innovation happens everywhere so we welcome your involvement. Here's what our community has to offer:



Start by taking a look at our [project overview](#) and [Roadmap](#). (If you're looking for information about the Solaris Operating System, [go over here](#)).



Join dozens of lively [discussion forums](#) for conversations on almost any topic. You may wish to [subscribe](#) to [opensolaris-announce](#), if you're a new member. Or join the fray in [opensolaris-discuss](#). You can also join the conversation via [IRC](#) on irc.freenode.net [#opensolaris](#).



Visit our [Community Portal](#) to learn all about how to get involved. Or check in on [Nevada](#).



Access our [Projects Portal](#) to explore active projects we're hosting.



[Download](#) the source, BFU archives and tools you'll need. HTTP and Torrent downloads are offered.



Explore the source using our "wicked fast" code browser: [OpenGrok](#)

By the Numbers

Check out the community [code contributions](#). Find [community stats](#).

Squawk

Lively conversation at [opensolaris-discuss](#)
[\[subscribe\]](#)

IRC at irc.freenode.net
[#opensolaris](#)

Buttons and Banners[GET OPENSOLARIS](#)

Get cool buttons and ribbons for your blog or website!

The Perfect Combination



Perfect Opportunity to **Build a Community**

- Sun executives – expand the Solaris market, drive Solaris into new markets, sell more systems and services.
- Solaris engineers – engage developers outside the company, share code, improve an already great system.
- Solaris market and community – see the code, optimize apps, contribute to Solaris development, create ports and distros.

Sun's Community Experience

If Sun ever transitions from a hardware company to be a consulting company ... best practices for open sourcing are something it could sell.

-- Nat Torkington, O'Reilly Media, 7/06



NFS

Java DB

Roller



PROJECT
LOOKING GLASS

SPARC

UNIX SVR4



THE Open GROUP

XML



OpenOffice.org



OpenSPARC™

opensolaris™

The Code

OpenSolaris Source Today

- ♦ **The most important code at Sun:** Solaris kernel, networking, libraries, commands.
- ♦ Top Solaris features: DTrace, Zones, ZFS ...
- ♦ 10 million lines, 35k files at main launch.
- ♦ Builds with free tools: gcc, Sun Studio.
- ♦ Code refreshed every week.

OpenSolaris Source Tomorrow

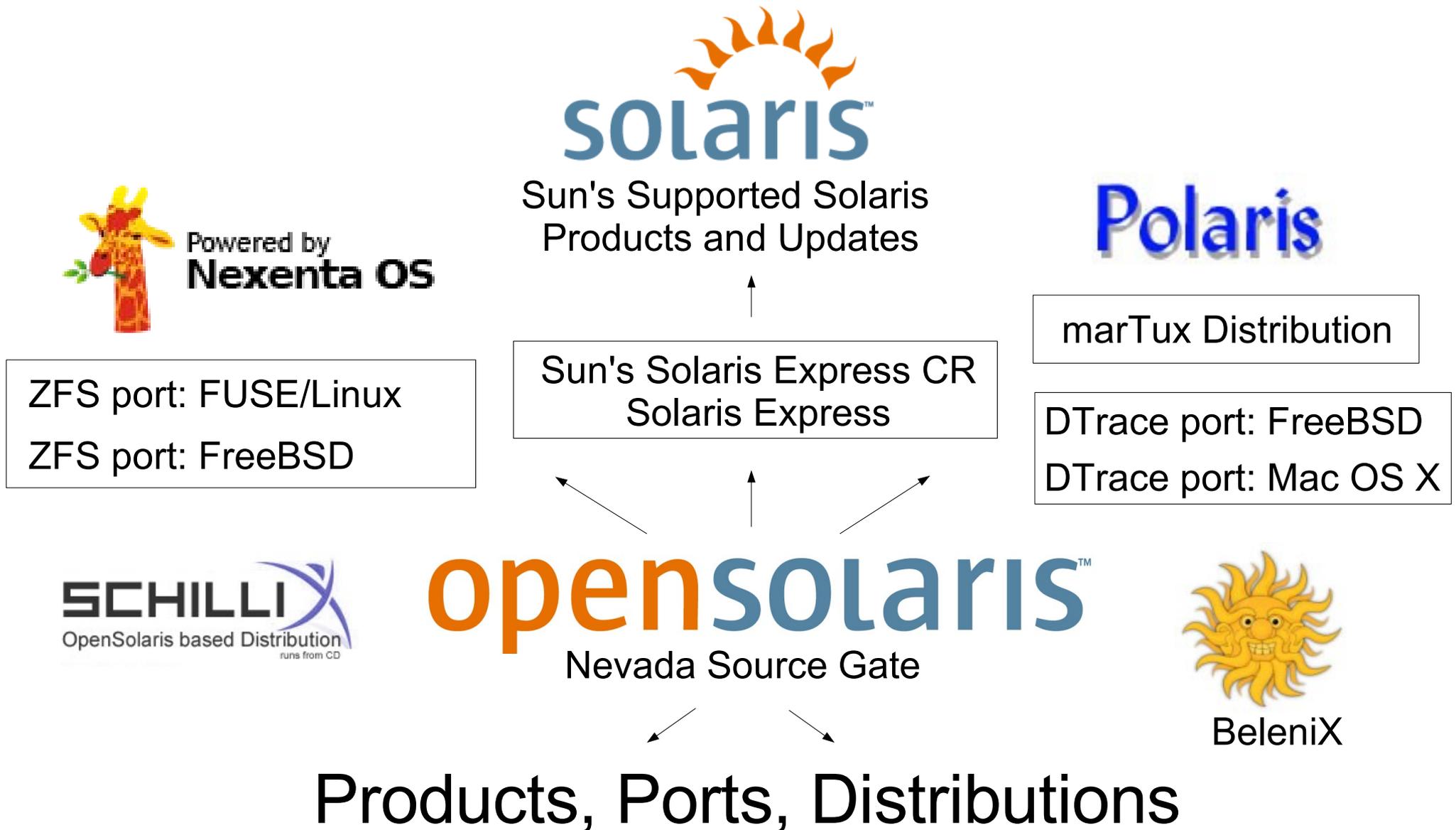
- ♦ More code, workflow tools, build/test farms, admin/install, docs, man pages ...
- ♦ **SCM: Main gate moves external.**
- ♦ Code refreshed every day.



The screenshot shows the OpenSolaris website interface. The top section is titled "opensolaris" and includes a search bar and navigation links. Below this, there is a section for "OpenSolaris Sources" with a list of subdirectories and their descriptions. The bottom section is titled "OpenSolaris Download Center" and features a table of available packages.

Package Name	Platform	Version	Size
opensolaris-2008.08.01	amd64	2008.08.01	1.2 GB
opensolaris-2008.08.01	i386	2008.08.01	1.2 GB
opensolaris-2008.08.01	sparc64	2008.08.01	1.2 GB
opensolaris-2008.08.01	sparc64	2008.08.01	1.2 GB

Creating a Market



A Simple Strategy

open

open communications & open development

Transforming a market into a community using open communications and open development

- **Engineers** driving strategy and building the community.
- Engaging Solaris communities, developers, sys admins, customers, ISVs, partners, universities, users ...
- Technical experience, personal expression, and voice are all important to build a community based on merit and reputation.

A Little Pilot

Started Small

- ♦ Mandate: **get the code out early.**
- ♦ Source analysis, license, business, governance, development.
- ♦ 3 months of feedback sessions begin with engineers at ISVs, partners, customers, universities, OSS communities.

Kept it Small, Let it Grow

- ♦ **Conversations** led to pilot recruiting -- BOFs, keynotes, group & 1/1 meetings, OSCON, LISA, USENIX, KDE, JDS, Gnome, Apache, OO.o, x86, Blastwave, SunFreeware, Gentoo.
- ♦ 9 months, NDA, 145 people, 10 lists, 7K messages, buildable code, tools, docs.
- ♦ Results: dev/gov models began, exec sessions, distros/ports, board election, fixed bugs, tested builds, wrote articles ...

A Community Launch

An Open, Rolling Launch

- Early 04: Sun execs talk openly about opening Solaris.
- June 04: Jonathan Schwartz announces formal intent in China.
- Engineers talking OpenSolaris in keynotes, BOFs, blogs and Pilot community encouraged to blog (even with NDA).
- January 05: First site opened, DTrace released, announced license and intention to form board. 7K sign up.
- April 05: Board members announced. First meeting held.
- **June 05: Open. 150+ engineers blog tours of code.**

Keep Launching

- Post launch: 20+ releases (9 Solaris consolidations)
OpenGrok, ZFS, BrandZ, JDS, NWS, SFW, 8 docs books, X system, Companion CD, new projects, and parts of globalization, DevPro, and install packaging tools ...

A Community Snapshot

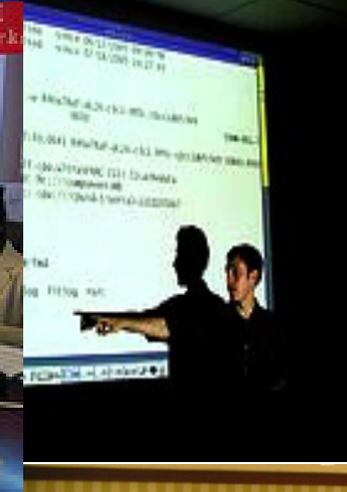
In Just 1 Year

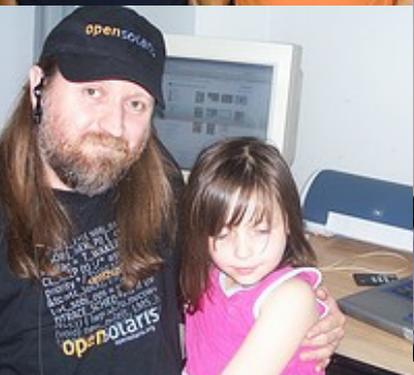
- ♦ 16,000 community members.
- ♦ 46 projects, 40 communities, 38 user groups
- ♦ Hundreds of blogs, active IRC community, millions of web visitors.
- ♦ **Charter, Governance, Development Process, SCM**
- ♦ OpenSolaris taught at 40+ universities with course materials on opensolaris.org. Translations underway.
- ♦ Contributing code; creating ports/distros; learning the code; influencing gov/dev proposals and design processes, engaging in technical conversations, presenting at conferences ...

The Future ...

- ♦ Planning for diversity – developers, admins, users, writers, testers, professors, students ...



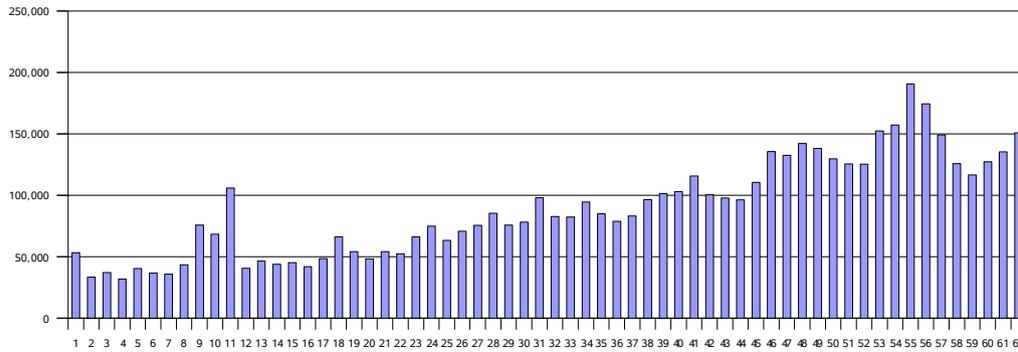




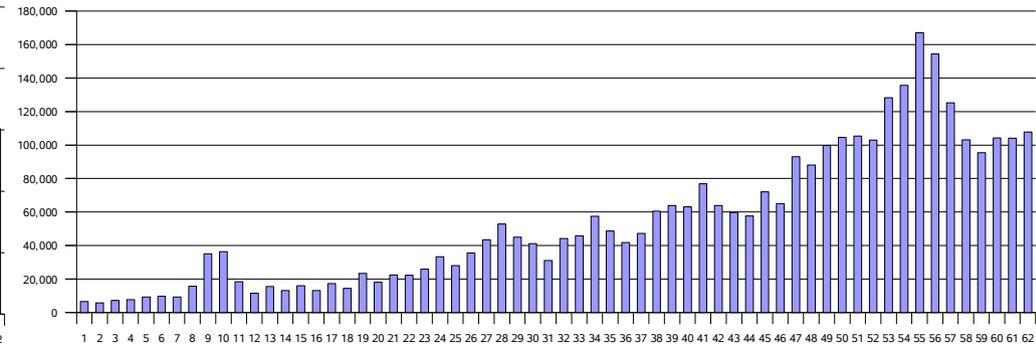
Everyone's Talking ...

150 Mail Lists & Jive Discussion Forums

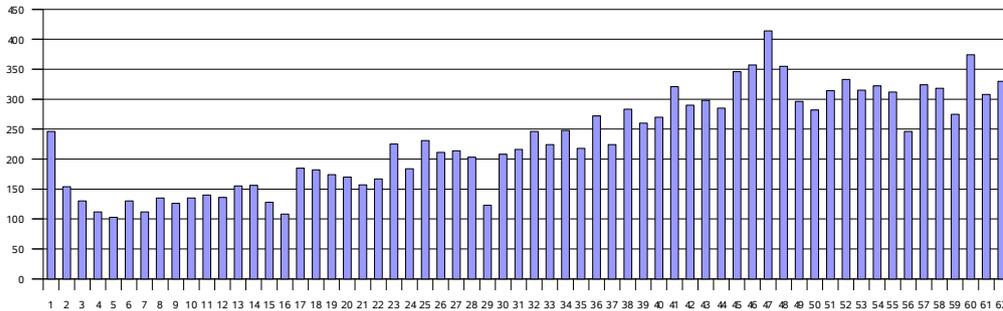
Total Views: 6 million



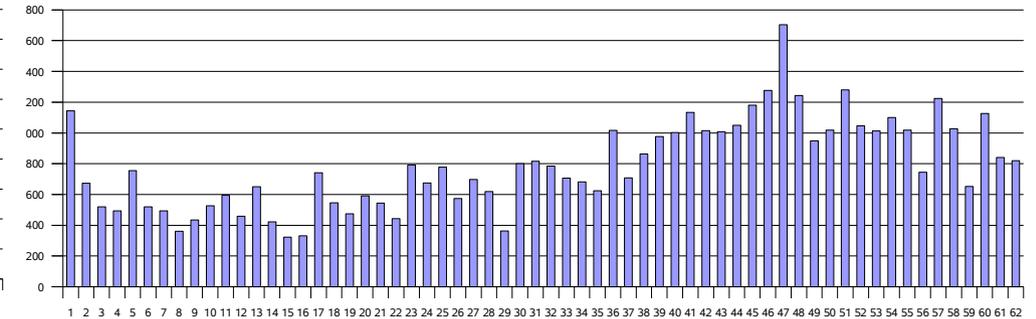
Unique Visitors: 3.4 million



Topics: 14,300



Messages: 53,000

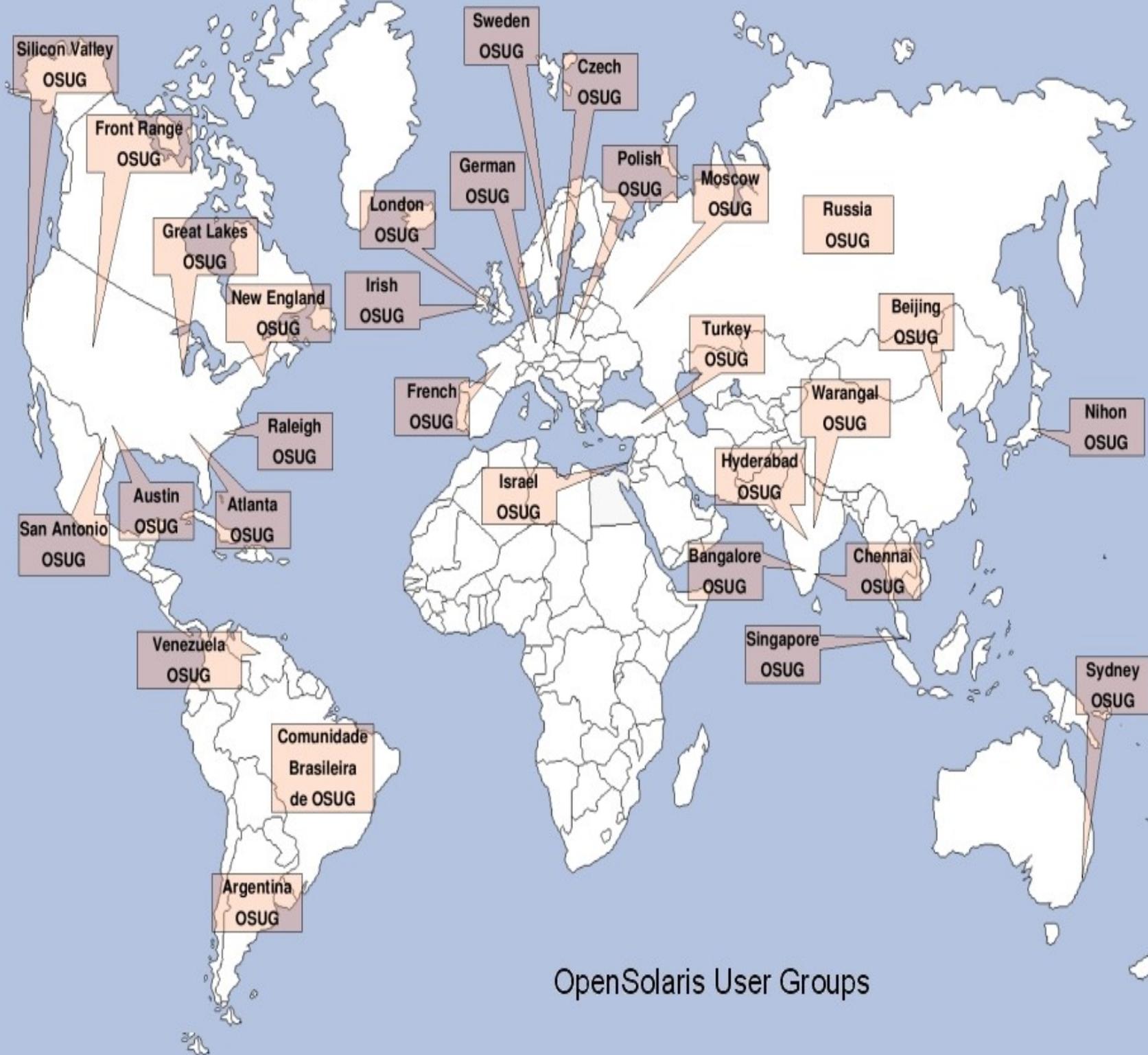


Countries visiting the forums since launch



Countries visiting the website since launch





OpenSolaris User Groups

opensolaris

Distributions, Communities, Projects and Code Releases The First Year



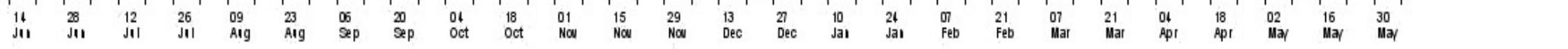
- SchilliX
- SolarisExpress
- Academic and Research
- Community Advisory Board (CAB)
- Documentation
- DTrace
- Internationalization and Localization
- Marketing
- Modular Debugger (MDB)
- Networking
- Nevada Development
- NFS
- Observability
- Performance
- Service Management Facility (smf(5))
- Solaris Volume Manager
- Testing
- Tools
- Unix File Systems (UFS)
- X Window System
- Zones
- Fault Management
- OS/Net Consolidation
- User Groups
- Desktop
- Security
- OpenSolaris Printing
- Chinese Users

- Distribution
- Community
- Project
- Code Release



- NexentaOS
- Laptop
- ZFS
- Approachability
- Device Drivers
- BrandZ
- JDS Consolidation
- DevPro Consolidation: SCCS, make(binaries)
- OpenGrok Project
- ZFS Project: integrated into ON build 27
- BrandZ Project
- JDS Consolidation

- Companion - /opt/sw: Free and Open Source software
- Duckwater: Simplified name services management
- mart-UX
- Muskoka: An open repository for OpenSolaris
- OpenGrok
- Dtrace Provider for NFSv4 project opened
- Nemo: A Framework for Key Management Framework
- Reno - LoginProcess High-Performance Networking
- Sparks: name service switch/nscd enhancements
- Network Auto-Magic
- ZFS on disk encryption support
- Resource Management
- Korn Shell 93 integration/migration project
- Crossbow: Network Virtualization and Resource Control
- OpenSolaris Content Project
- Multiprotocol project launched
- Ethernet bridge module for Solaris
- Quagga Routing Protocol Suite Project Launched
- Visual Panels
- SFW Nevada
- Games on OpenSolaris
- Tamarack: Removable Media Enhancements
- Polaris (Power PC)
- Fuse on Solaris
- Appliances
- SVR4 Packaging
- Storage
- ClearView Network Interface
- Solaris iSCSI Target
- GNU Solaris
- Immigrants
- Winchester: Schema mapping
- Architecture Process and Tools
- Installation and Packaging
- Chime Visualization Tool for DTrace
- Systems Administrators
- DevPro Consolidation: libmtsk (binaries)
- Documentation Consolidation: 2 manuals
- Network Storage Consolidation
- Documentation Consolidation: 2 manuals
- SFW Consolidation
- X Window System Consolidation
- DevPro Consolidation: C version media Lib
- Install Consolidation: packaging tools
- DevPro Consolidation: libm
- Globalization Consolidation



Early Contributions

Presentations

University Courses

Articles, Books

Five Distributions

DTrace Port: FreeBSD

Documentation

Gentoo Portage Port

DTrace Port: Mac OS

ZFS Port: FUSE/Linux

Google SoC Participation

Screencasts

Podcasts, Evangelism

Graphics, Photos

PowerPC Port

DTrace Scripts

OpenSolaris on iMac

DTrace Port: FreeBSD

Design Specifications

ZFS Port: FreeBSD

Conferences, UG's

Source code contributed to projects and integrated into kernel via request-sponsor program

Weaving it all Together

License
grants rights

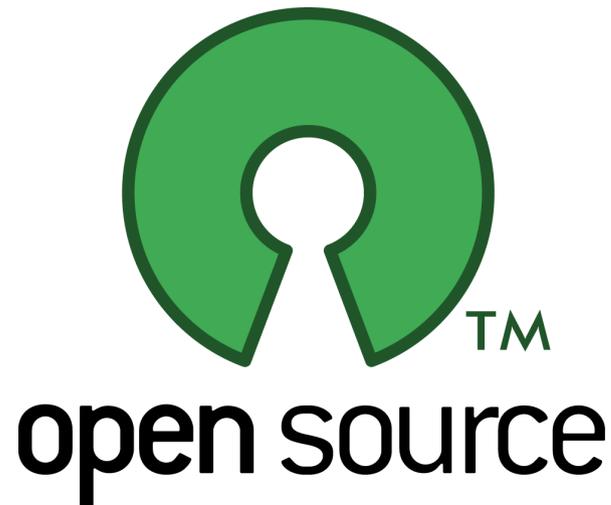
Infrastructure
enables open development



opensolaris™
community

Governance
fosters independence and meritocracy

An Open License



Common Distribution and Development License

- All licensing strategies considered, OSI approval a must.
- CDDL the best option for Solaris, perfect middle ground.
- Needed to be mixable with other licenses.
- Able to help **grow the OpenSolaris community.**

A Representative Board

OpenSolaris Governing Board

- ♦ Pilot election: R. Teer, A. Hopper elected after two months of nominations, discussion, voting.
- ♦ Sun CTO Office: S. Phipps, Chief Open Source Officer.
- ♦ Sun Solaris: C. Dik, Sr. Staff Engineer, security expert.
- ♦ OSS Community: R. Fielding, Co-founder, Apache.

Governance Based on Meritocracy

- ♦ **Charter ratified – fully enfranchising the community.**
- ♦ Governance being developed in the open: board roles and elections, decisions, conflict resolution, community membership, responsibilities, communities, projects, collaboration, meritocracy, transparency, contributions ...

Open Infrastructure

Long Term: Open Development Model

- **Opening development process and infrastructure.**
- Full transparency with putbacks from inside/outside the firewall.
- ARC history cases published.
- Non-Sun community members participating on review boards and in all phases of development.

First Step: Sun Sponsors

- 52 Sun Solaris engineers and 10 documentation writers working the process internally with 30 non-Sun contributors.
- 587 bugs reported, 211 submissions, **120 sponsored putbacks** with 52 in progress, 4 awaiting sponsor, 35 closed.
- First contribution 3 days after launch; integrated 2 weeks later!

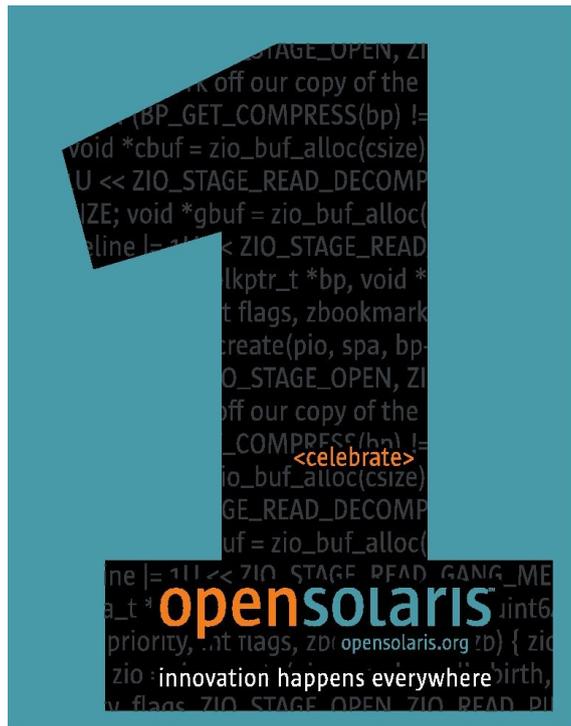
OpenSolaris Values



Performance, Availability, Security, Manageability,
Reliability, Compatibility, Serviceability,
Platform Neutrality

opensolaris™

Honesty, Openness, Independence,
Transparency, Quality, Respect



```

...io; /* * Work o
..._copy; if (BP_GET.
...ZE(bp); void *cbuf = zi
..._pipeline |= 1U << ZIO_STA
...A_GANGBLOCKSIZE; void *gbi
size); zio->io_pipeline |= 1U <<
ead(zio_t *pio, spa_t *spa, blkptr_t *bp, void *private, int priority, int flags, zbook
P_GET_LSIZE(bp)); zio = zio_create(pio, spa_t *spa, blkptr_t *bp, void *private, int priority, int flags, zbook
TYPE_READ, priority, flags, ZIO_STAGE_OPE

```

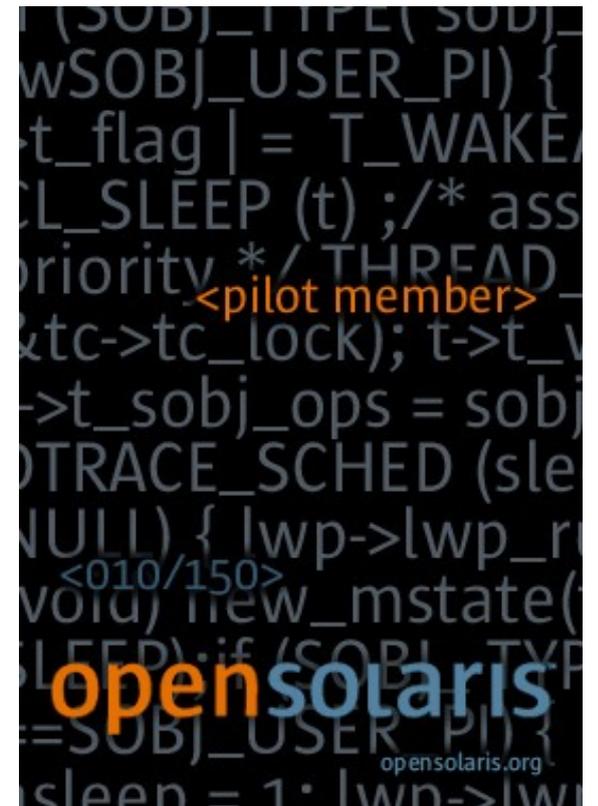
<celebrate>

- 33,000 Downloads
- 14,000 Members
- 100 Contributions
- 40 Communities
- 29 User Groups
- 28 Projects
- 5 Distributions
- 1 Year

Happy Anniversary!



“ otevřený 열린 مفتوح ανοικτό মুক্ত libre
 मुक्त öppen open פתוח 开放的
 開放的 オープン মুক্ত libero nyílt
 வெளிப்படை açık livre offen
 откритый



Growing Support ...

The project has been extremely successful in keeping to the original Solaris ethos while developing a strong OpenSolaris community. -- Peter Tribble, OpenSolaris developer, ZDNet, 5/13/06

The OpenSolaris community is thriving.

-- Stephen O'Grady, industry analyst, Redmonk, 3/28/06

The biggest, most obvious, and generally in your face, strategic enabler here is Sun's community development license. -- Paul Murphy, ZDNet Columnist, 6/21/06

Jonathan Schwartz was telling people that all Sun software would be open source, and the OpenSolaris folks were showing us how it could be done.

-- Dave Johnson, Java developer, 5/20/06

... and More Support

Solaris has attracted a vigorous developer community.

-- Charles Babcock, *InformationWeek*, 4/25/06

The OpenSolaris community has been highly successful. It is a direct conversation between Sun and its customers and partners. -- Stephen Walli, 4/26/06

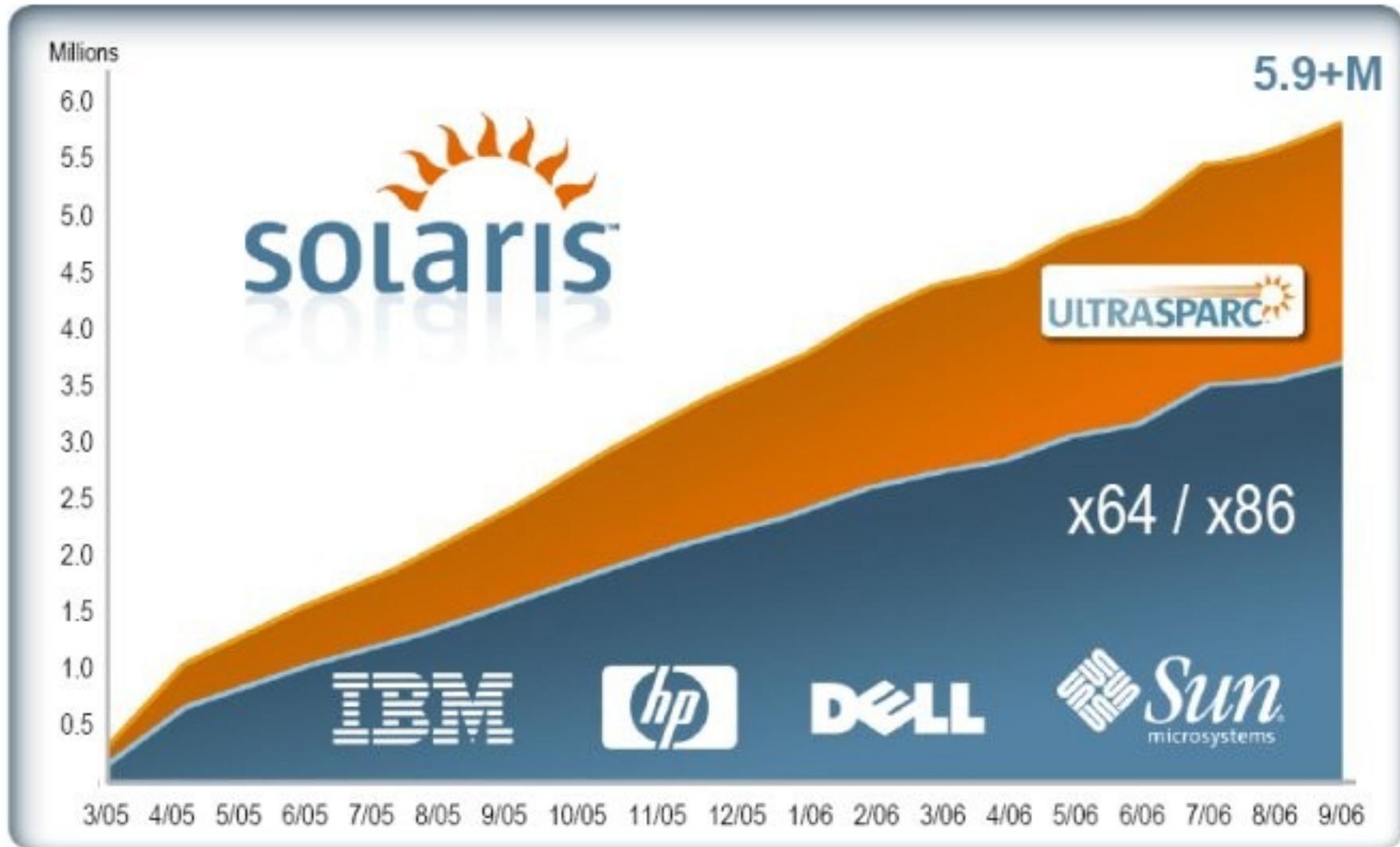
The move to OpenSolaris has been a good one.

-- Bill Zeitler, *IBM's systems/technology group*, in *Cnet*, 4/25/06

They're pushing the envelope, said Tony Iams, an analyst at Ideas International, about Sun's aggressive research and development efforts for Solaris. -- *Cnet*, 4/25/06

They ... have the world's fastest growing open source community. -- Paul Murphy, *ZDNet*, 4/17/06

Solaris 10 OS License Growth



Cumulative Data



Join us and Participate

OpenSolaris Code

We have great code, and we are proud of that code.
But there's always room to contribute new code ...

OpenSolaris Community

The community leads this effort in every important way,
and we welcome your participation ...

OpenSolaris Market

The community is building a market around this code,
and there are more opportunities than we can imagine ...

open



USE



IMPROVE



EVANGELIZE

Thank you!

Jim Grisanzio

Engineering Community Manager, OpenSolaris

jim.grisanzio@sun.com | <http://blogs.sun.com/jimgris/>

photos: jim grisanzio, chandan, alan hargreaves, pets,
joey guo, cyril plisko, moinak ghosh, simon phipps, lisa week

user group and project charts: patrick finch

“open” artwork and icons: chandan: <http://blogs.sun.com/chandan>

“open(2) artwork: tim foster: <http://blogs.sun.com/timf/>

distros artwork: chandan: <http://www.flickr.com/photos/chandanlog/76005188/>



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πππ
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livre
ανοικτό
offen
otevřený
öppen
открытый
வெளிப்படை

Additional Information

OpenSolaris Resources

opensolaris <http://opensolaris.org/os/>
development process (draft) http://opensolaris.org/os/community/onnv/os_dev_process/
source code management <http://opensolaris.org/os/community/tools/scm/>
governance (draft) <http://opensolaris.org/os/community/cab/governance/>
charter <http://opensolaris.org/os/community/cab/charter/>
community <http://opensolaris.org/os/communities/>
projects <http://opensolaris.org/os/projects/>
code <http://opensolaris.org/os/downloads/>
code browser <http://cvs.opensolaris.org/source/>
contributing code <http://opensolaris.org/os/communities/participation/>
code contributions http://opensolaris.org/os/bug_reports/request_sponsor/
licensing opensolaris <http://opensolaris.org/os/licensing/> & <http://sun.com/cddl/>
licensing sun http://www.sun.com/software/opensource/whitepapers/free_open_licensing.pdf
open source at sun <http://sun.com/opensource/> & <http://sunsources.net/>
roadmap <http://opensolaris.org/os/about/roadmap/>
advisory board <http://opensolaris.org/os/community/cab/>
opensolaris blogs <http://opensolaris.org/os/blogs/>
sun blogs <http://blogs.sun.com/>
opening day blogs <http://opensolaris.org/os/blogs/?startDate=2005-06-14>
discussions <http://www.opensolaris.org/jive/index.jspa>
presentations http://opensolaris.org/os/community/os_user_groups/os-presentations/
sun solaris <http://sun.com/solaris/>
community photos <http://www.flickr.com/photos/tags/opensolaris>
community stats <http://opensolaris.org/os/community/marketing/metrics/latest/>
community newsletter <http://opensolaris.org/os/project/content/newsletter/>
open source projects sun contributes to <http://www.sun.com/software/opensource/learnmore.jsp>
sun in open source <http://sunsources.net> & <http://sun.com/opensource>
irc.freenode.net [#opensolaris](#)

Nihon OpenSolaris Community

Opportunities

- ♦ Translations and Original Content:
web site, starter kit, university education materials, articles, books ...
- ♦ Collaborate with other open source communities
- ♦ Establish relationships with government users
- ♦ Participate on opensolaris.org forums
- ♦ Collaborate with Sun customers and partners
- ♦ Engage university professors and students
- ♦ Start a Japanese OpenSolaris User Group
- ♦ Initiate a development project for an **open** Japanese Input Method
- ♦ Create new ports and distributions



China OpenSolaris Community

Opportunities

- ♦ Translations and Original Content:
web site, starter kit, university education materials, articles, books ...
- ♦ Collaborate with other open source communities
- ♦ Participate on opensolaris.org forums and lists
- ♦ Establish relationships with government users
- ♦ Collaborate with Sun customers and partners
- ♦ Engage university professors and students
- ♦ Grow Shanghai and Beijing user groups
- ♦ Initiate a development project for an **open** Chinese Input Method?
- ♦ Create new ports and distributions

