

Open Source and Sun May 2007

Vassilis Boulogiorgos
Software Practice Leader
Greece, Balkans & Adriatic Sea



One statement in perspective...

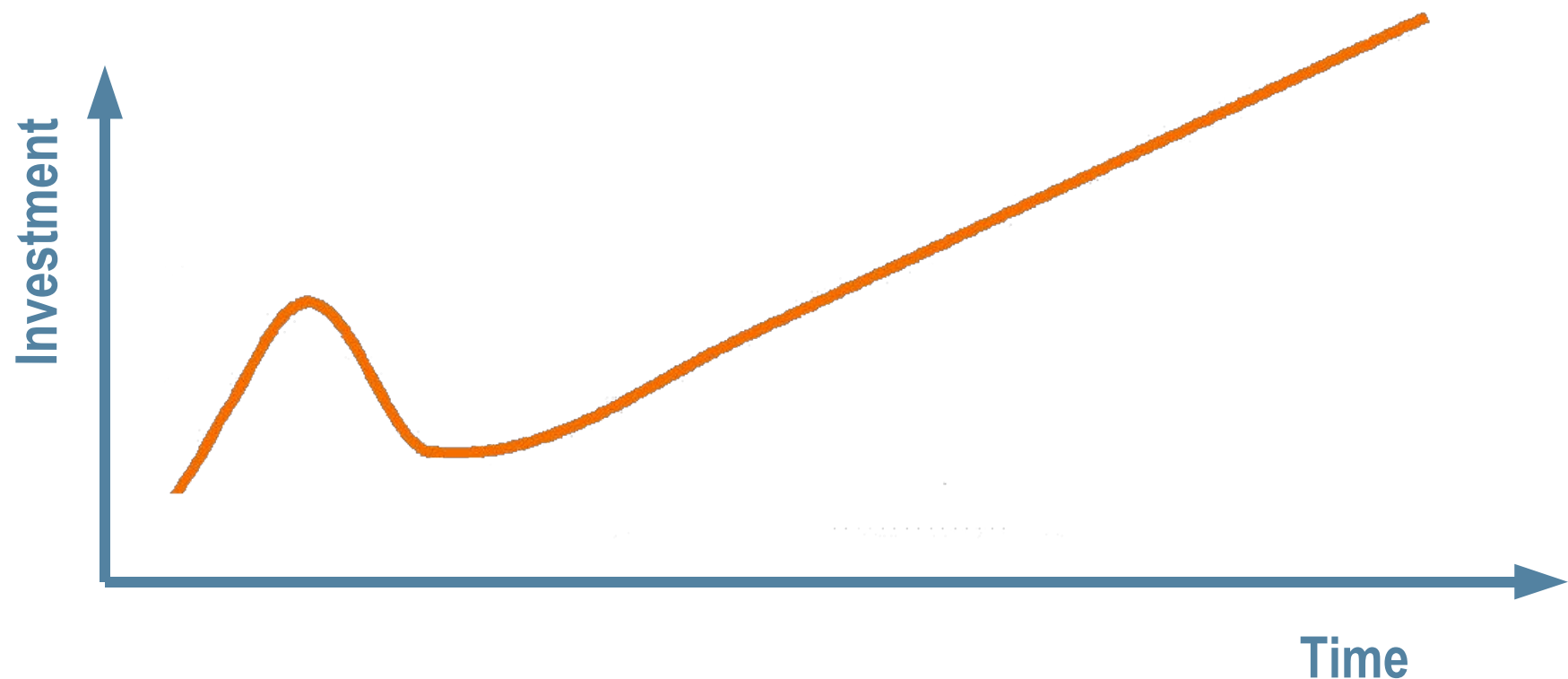
Perspectives

“Every software asset we produce is open source. If it isn't today, it will be pretty damn quickly.”

Jonathan Schwartz
CEO, Sun Microsystems
January 2007

About Open Source

Investment Patterns in Industrial Technology



Software Market 3.0

Acquisition

Deployment

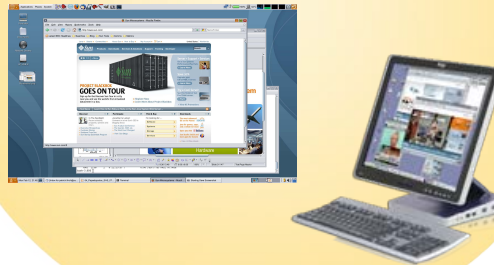
c.1970-1980

**1.0 Indivisible
from hardware**



c.1980-2000

**2.0 Sold
unbundled**



c.2000-

**3.0 Pay at
the point
of value**



What is Open Source?

Source

```
static void
vdev RAIDZ_reconstruct_q(raidz_map_t *rm, int x)
uint64_t *dst, *src, xcount,
ccount, count, mask, i;
uint8_t *b;
int c, j, exp;
xcount = rm-
>rm_col[x].rc_size / sizeof
(src[0]);
ASSERT(xcount <= rm-
>rm_col[VDEV_RAIDZ_Q].rc_siz
e / sizeof (src
```

Binary

```
011011010010000001100010011011110111010
101111001011000010110111001110100001011
100000110100001010000011010000101001010
100011010000110010100100000011011010110
100101101110011001000010000001100010011
011110110011101100111011011000110010101
110011001110110010000001110111011010000
110111100100111011100110010000001100010
011001010110100001101001011011100110010
000100000011101000110100001100101001000
000110011101101111011001110110011101101
10001100101011100110011111010000110110
110001100001011010010111001001110110011
011110111100101100001011011100111010000
111010001000000100100100100111011011010
01000000110001001101111011101010111001
011000010110111001110100001011100000110
110011001110110010000001110111011010000
110111100100111011100110010000001100010
```

OSI Definition

1. Free Redistribution of Code
2. Source Code Available
3. Allows Derived Works
4. Allows Integrity of Author's Source Code
5. No Discrimination Against Persons or Groups
6. No Discrimination Against Fields of Endeavor
7. Distribution of License with Code
8. License Must Not Be Specific to a Product
9. License Must Not Restrict Other Software
10. License Must Be Technology-Neutral



- Shared source code
- Publicly available
- For the use and benefit of all without favour

Virtuous Cycle Model of Open Source

Initial Contribution

- > **Requires** ownership
- > Many possible motivations

Code

Source Code
Commons

Use of Source

- > **Controlled** by License
- > Open to all
- > OSI Compatible

Developer
Communities

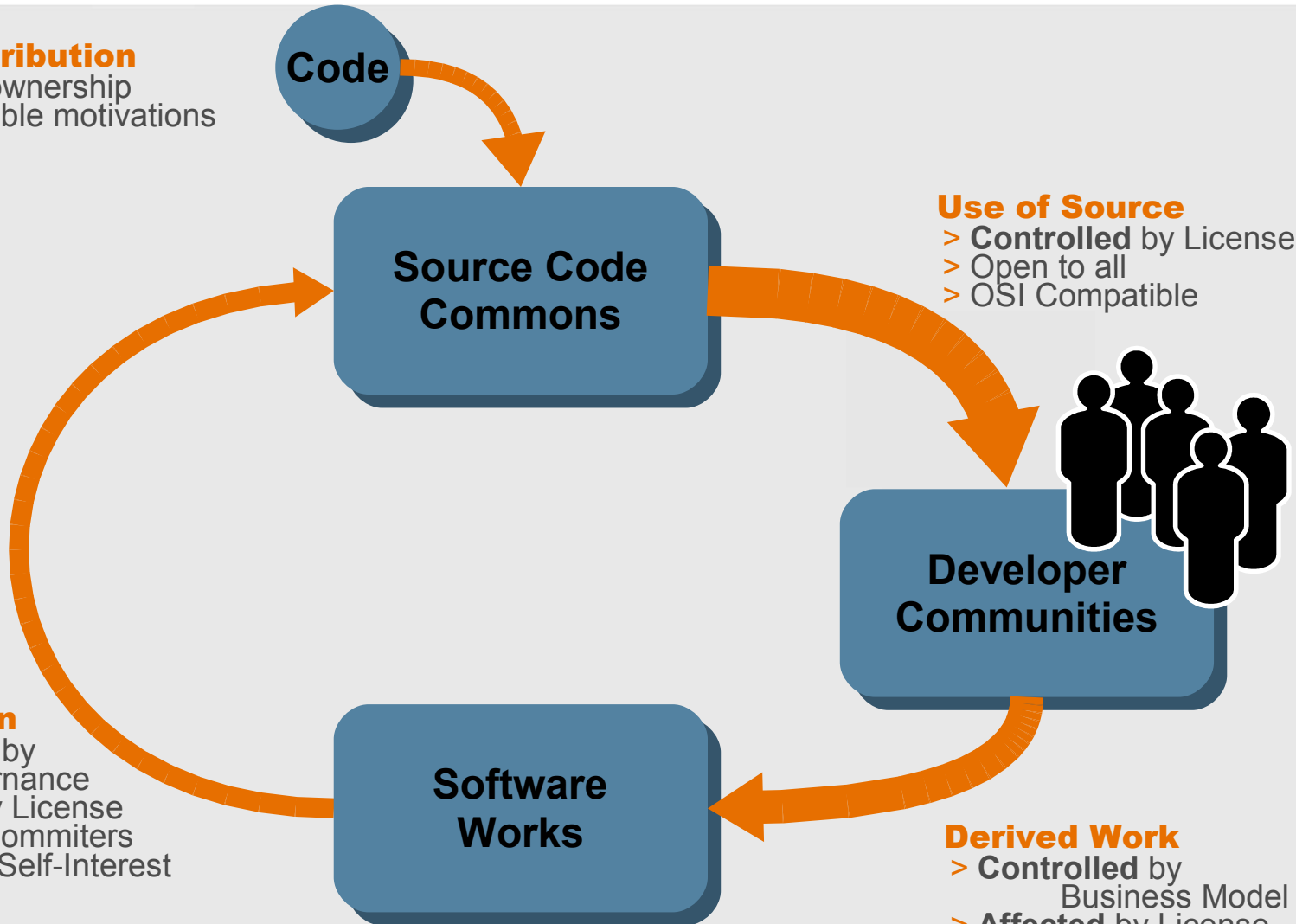
Software
Works

Contribution

- > **Controlled** by Governance
- > **Affected** by License
- > **Gated** by Committers
- > **Fuelled** by Self-Interest

Derived Work

- > **Controlled** by Business Model
- > **Affected** by License
- > **Affected** by Governance



Open Source Licensing

The three main categories:

A. Unrestrictive Licenses

“Attribution” licenses

Fewest requirements,
unrestricted scope of use.

Unrestricted development
of derived works

Examples:

Apache: JXTA, Jini

BSD: Sun Labs (various)

B. File-Based Licenses

Community fostering
licenses

Files derived from
common files must be
shared with the commons.

Other derived works may
be licensed in any
manner.

Examples:

CDDL: OpenSolaris,
GlassFish, NetBeans
MPL

C. Project-Based Licenses

Project fostering licenses

Most requirements: seeks
to propagate open source.

All work (including derived
works) must be shared
with the commons.

Examples:

GPL: OpenJDK,
OpenSPARC, GlassFish
LGPL: OpenOffice

Sun and Open Source

Sun's Business

We Drive
Participation

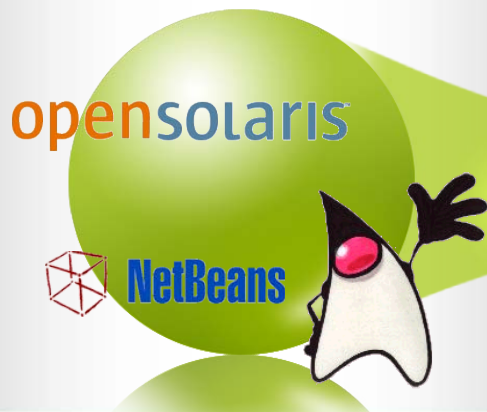
On the
Network

To Drive
Revenue



Sun's Open Source Strategy

Developer Preference



- More core developers
- More deploying developers
- More partners

User Preference



- Free to use
- More platform choice
- More suppliers
- Larger user community

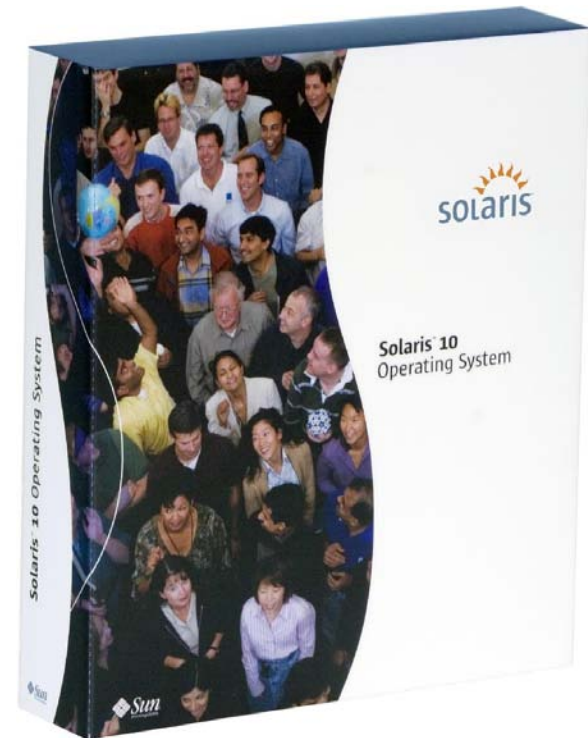
Value Proposition



- Business Deployment
- Sun's target market
- Binary distribution
- Pay for value

What Sun Sells: Added Value

- Sun's open source software is free at the point of acquisition:
 - > Zero-cost right-to-use (RTU)
- You pay for software at the point of value:
 - > Developer support
 - > Enterprise support
 - > Indemnification
 - > Training and education
- The more users the better
- Customers are users who purchase support

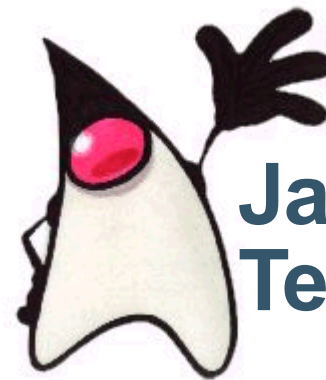


Sun's Leadership in Open Source

The Biggest Contributor to Free Software

- Commitment to open standards
- Sun has a public commitment to open all of our software.
- Contributions to Free Software throughout 90s and 00s
- Over a **\$2 billion** of innovation contributed to Free Software

opensolaris™



Java
Technology

OpenOffice.org



netBeans.ORG

Sun's Contribution to Linux

Rank	Company	Estimated \$ value
1	Sun Microsystems Inc	404 m
2	IBM Corp	116 m
3	Red Hat Corp	76 m
4	Silicon Graphics Corp	61 m
5	SAP AG	60 m
6	MySQL AB	45 m
7	Netscape Communications Corp	41 m
8	Ximian Inc	39 m
9	RealNetworks Inc	35 m
10	AT&T	34 m

Estimated Substitution Cost of Sun's contribution to Debian GNU/Linux

includes code in
GNOME
Linux kernel
Mozilla
OpenOffice.org
X.org
and other projects

Source: UNU-MERIT report for the European
Commission
“Economic impact of FLOSS on innovation
and competitiveness of the EU ICT sector”
January 2007

Sun's Contribution to FOSS

Project	Estimated \$ value
OpenJDK (Java SE)	399 m
GlassFish (Java EE)	193 m
Mobile & Embedded (Java ME)	248 m
OpenSolaris	236 m
NetBeans	75 m
OpenSPARC	408 m
GridEngine	24 m
Open SSO	21 m
LookingGlass	2 m
Sun's Contribution to GNU/Linux	404 m
Total	2 bn

**Estimated Substitution
Cost Sun's contribution to
Free and Open Source
Software**

**not exhaustive:
not all projects counted
some Java SE code still to be
released in 2007**
Method: COCOMO 1

Why Sun for open source?

Why Use Sun Open Source Software?

- Sun believes open source is **first class software**
 - > Same quality processes for open and proprietary code
 - > Sun offers warranty and indemnification for software built on open source projects
- Sun knows its code
 - > Huge diligence around open sourcing
 - > We require signed contributor agreements
- Sun protects its code
 - > Moves quickly on legal threats

Why Develop with Sun?

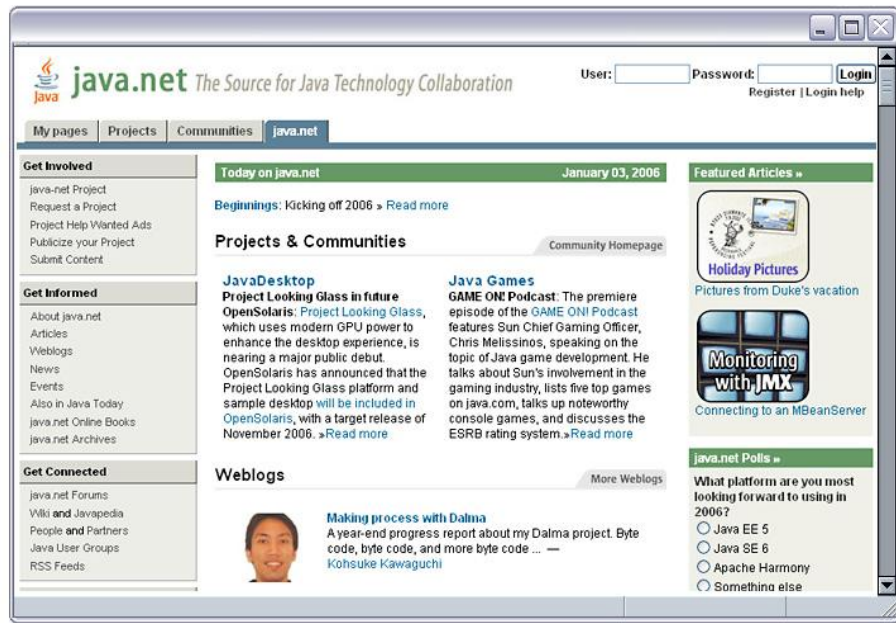
- Some of the best open source technology out there
- Responsible, fair, **OSI-approved** licensing
 - > Protection from patent exposure
 - > Record of community building
 - > Consolidated copyright ownership
- Ongoing commitment to transparent governance
 - > Open source ombudsman

Specific Projects at Sun

Free and Open Java Status

Flavour	Community	Status	Roadmap
Java SE	OpenJDK	First code released, Community launched at openjdk.dev.java.net	Fully buildable JDK By Summer 2007
Java ME	Mobile & Embedded	Code released Community launched at mobileandembedded.org	
Java EE	Glassfish	Code released Community live at glassfish.dev.java.net	

Java.net



The Java Developer Community's Watercooler

Over **200,000*** members
(2x growth in last year)

Over **2,500** Projects, 110 JUGs,
22 Communities

Home of JDK™ Project Glassfish,
Project Looking Glass,
Project Peabody

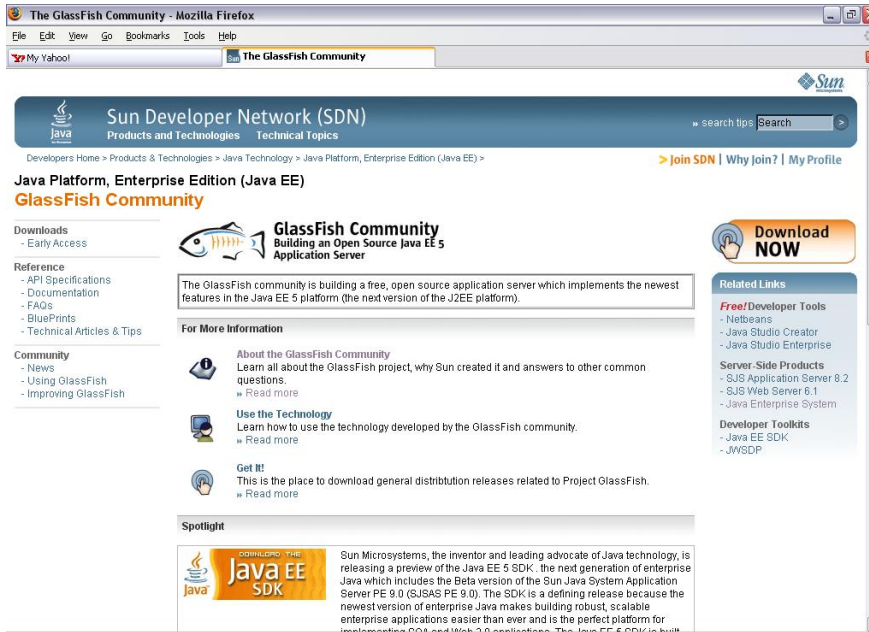
Tools, platform, technology,
education, games, ...

Community-building infrastructure

Key Java™ leaders participate

*Source: Sun 2/06 – See website for latest stats

GlassFish



Building a Java EE 5 open source application server

Over **1500** members and **400,000** downloads

Includes **Java EE 5**, **JWS DP** and other Web services technologies

GPL and CDDL license – Free to download and free to deploy

Builds best with NetBeans, available Eclipse plug-in

Basis for the Sun Java System Application Server PE 9

Java.sun.com/javaee/GlassFish

OpenSolaris



opensolaris™

40,000 Members

64 Community Projects,
BrandZ, DTrace, Solaris ZFS, Zones

42 User Groups Worldwide

260 Code Contributions

38,000 Downloads

5 OpenSolaris Distros Available:
Solaris, SchilliX, BeliniX, Mart-UX, Nexenta

2006 **Codie** "Best Open Source Solution"

2005 **Open Source World** Editor's Choice

2005 **InfoWorld** Innovators Award

2005 **MIT Young Innovator** Bryan Cantrill

Innovation Happens Everywhere

www.opensolaris.org

OpenOffice.org



More than **79 million** downloads

More than **1,250** thousand user surveys since October 2005

More than **53,000** mailing list subscriptions

More than **770** signed Joint Contributor Agreements

Over **100** active projects

Open Document Format (ODF)

ISO/IEC standard 26300:2006

Home of the leading
multi-platform open source office suite

OpenSPARC



OpenSPARC

First 64-bit, 32 Thread Architecture RTL code available under GPLv2 license

Community-driven ports of GNU/Linux to OpenSPARC, including **Ubuntu**, **Gentoo**

More than **4,000** downloads of the Verilog source code.

Inclusion of OpenSPARC as the “textbook” chip design at many universities

Broad support from Design Houses, Fab Companies and Tools companies

3rd Parties are discounting software to OpenSPARC members

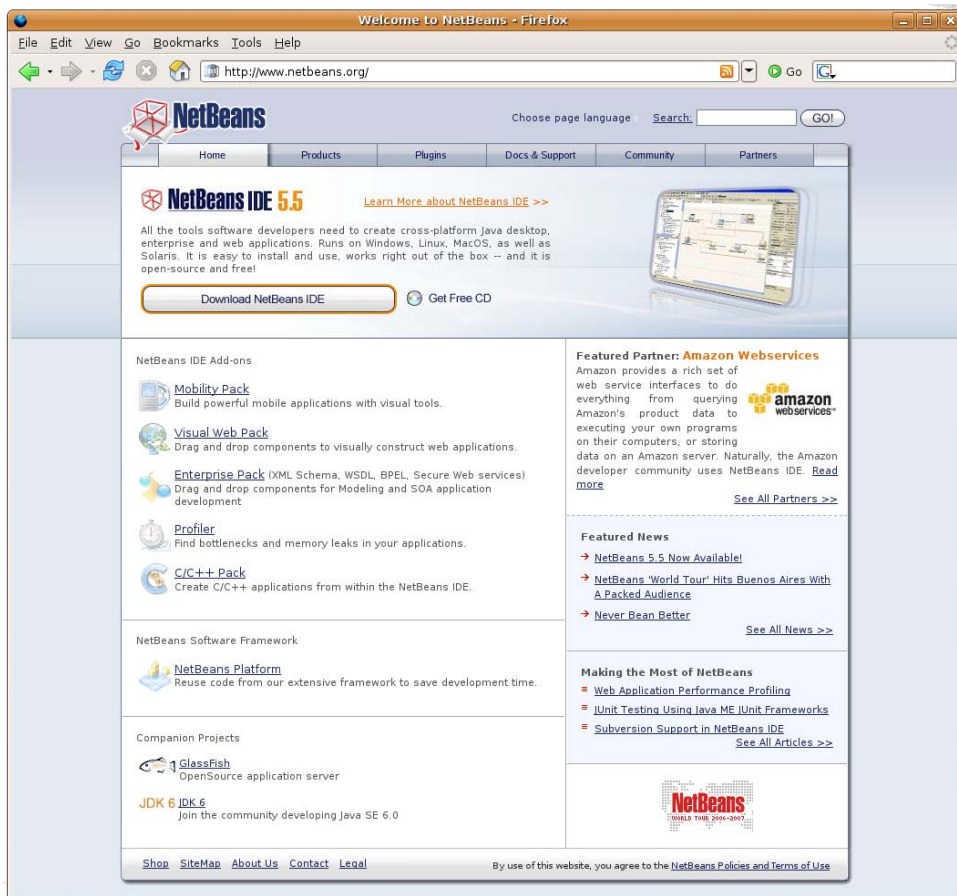


“Sun's decision to release Verilog source code for the UltraSPARC hardware design under a free software license is an historic step - Sun is showing its profound understanding of the forces shaping our technological future in making this decision.”

Eben Moglen

Software Freedom Law Centre

NetBeans



Over **10 M** IDE downloads and gaining momentum

Over **4 M** page views per month

Over **450 K** mailing list subscribers

Tripled active user base in the past two years

Over **100** partner endorsements



sun.com/opensource

Thank you!

Q & A

vassilis.boulogiorgos@sun.com
bboulo@sun.com

