

The Free Standards Group

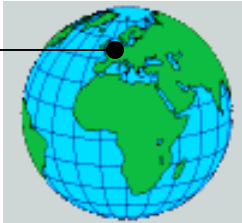
Building the Foundations for Open Source

The Free Standards Group

Open Source Software's
biggest challenge is *variation*

- *Variation in core system*
- *Variation in localization*

Linux Distributions Worldwide

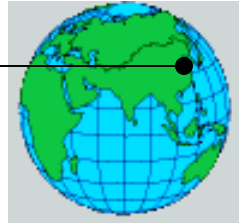


Debian

Mandrake

SuSE

SOT Linux

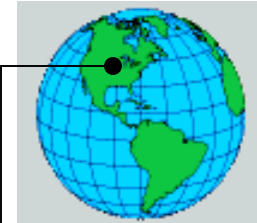


Miracle

Red Flag

Sun Wah

Turbolinux



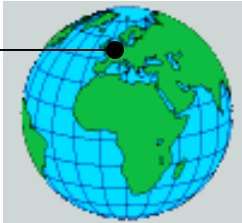
Conectiva

Debian

MSC

Red Hat

Linux Distributions Worldwide

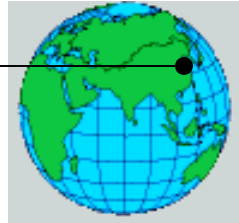


Debian
2.4, 2.2, 2.0

Mandrake
8.0, 7.2, 7.0

SuSE
7.2, 7.1, 6.0

SOT Linux
2001, 2000

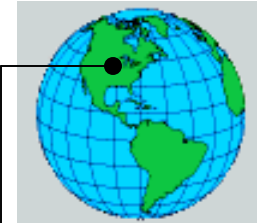


Miracle
1.1, 1.0

Red Flag
2.0, 1.1, 1.0

Sun Wah
2.0, 1.1, 1.0

Turbolinux
7.0, 6.5, 6.1



Conectiva
6.0, 5.0, 4.0

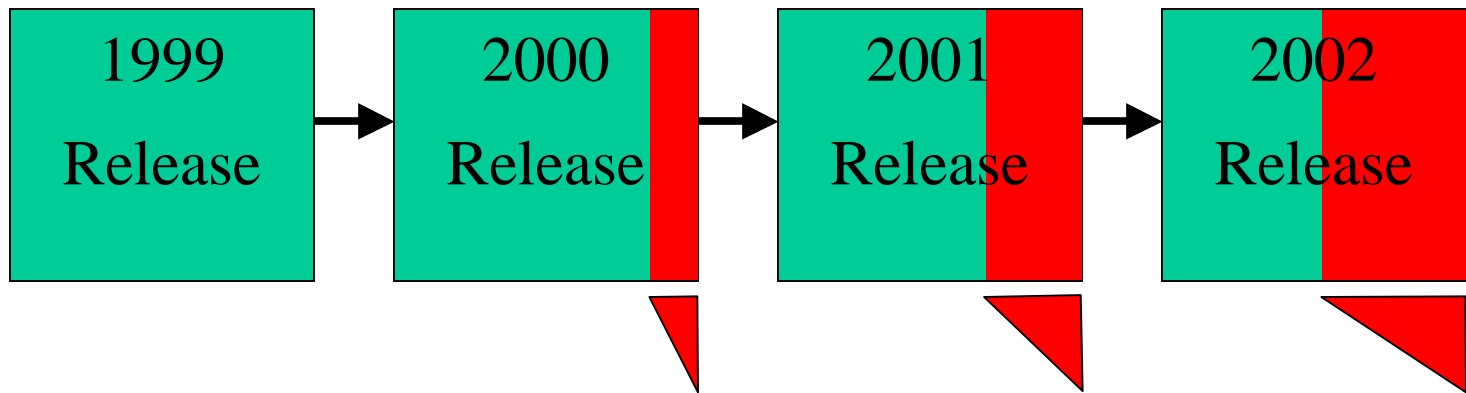
Debian
2.4, 2.2, 2.0

MSC
2001, 2002

Red Hat
7.1, 7.0, 6.2

Linux pre-LSB Certification: Each with their own variations

Linux Distribution “X”



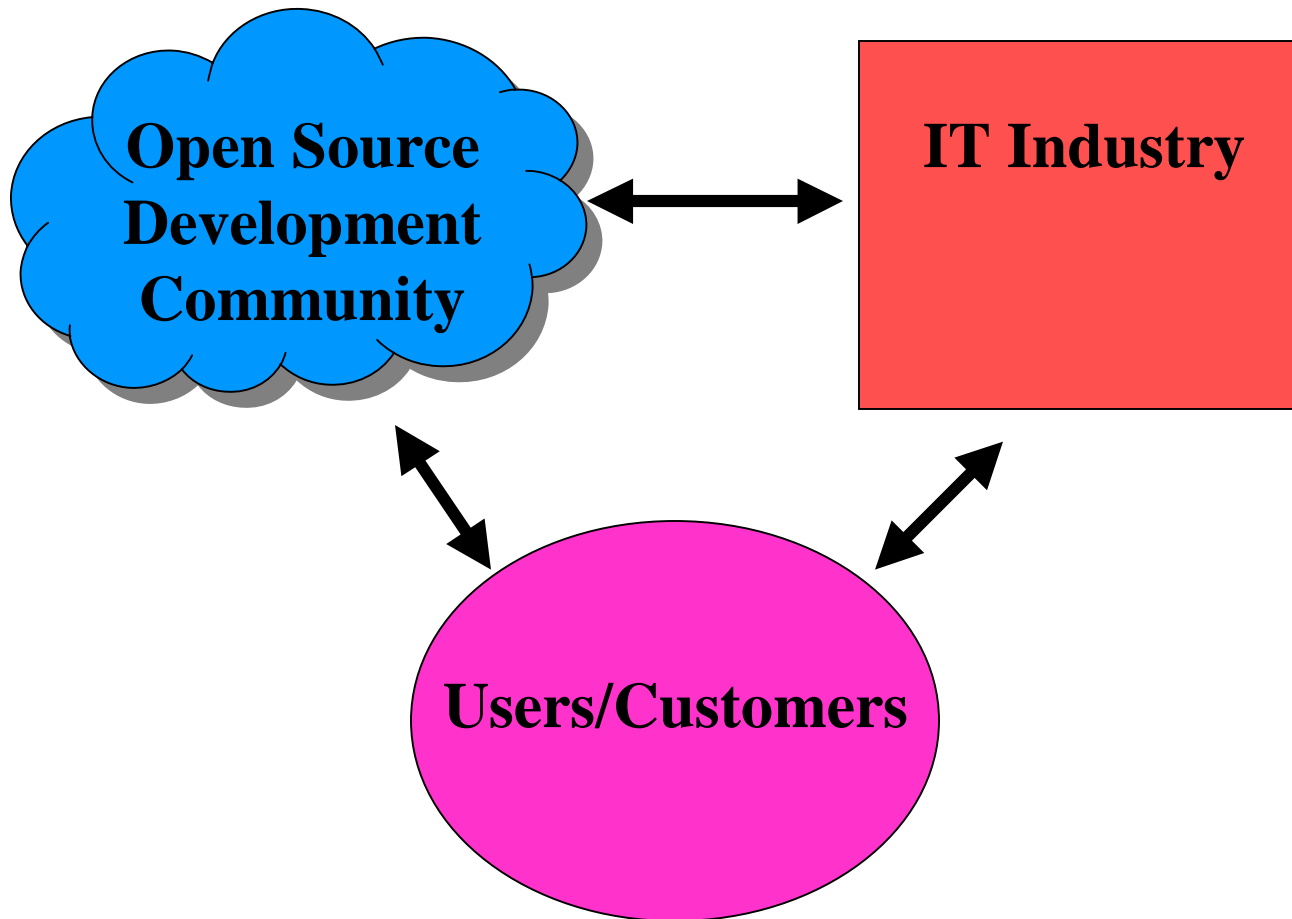
Dissimilar variations from
previous product release

Variations are typical in kernel, core libraries core commands, language enabling, translation, etc.

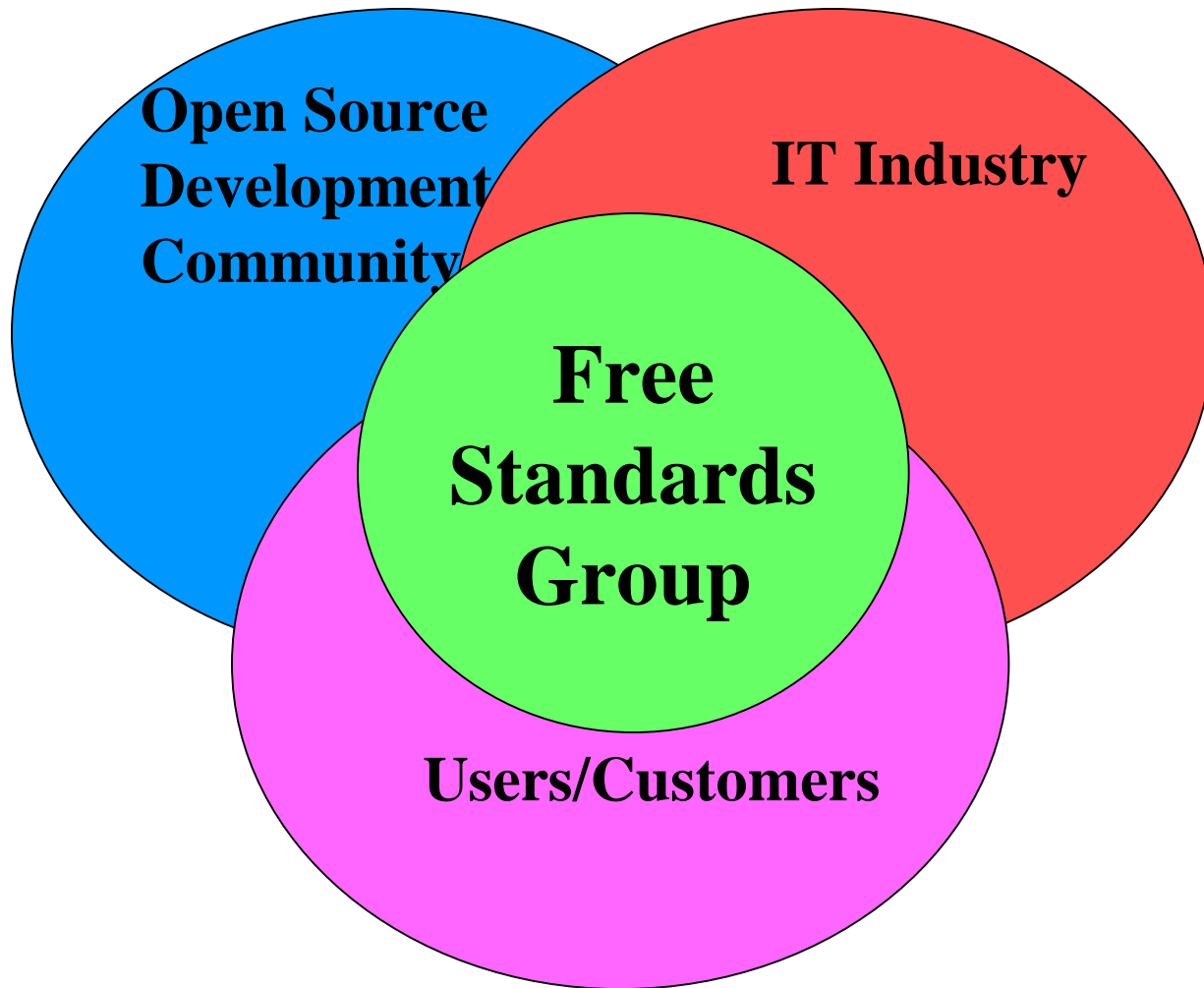
The Solution

- The Free Standards Group
 - A member based, California nonprofit corporation
 - Creating standards for the unified base of Linux
 - Bridging the needs of the Free and Open Source Development Community and IT Industry
 - Setting the foundation for the next stage of Linux growth: **Mission Critical Solutions, Commercial Applications and The Desktop**

“The Community”



The Solution



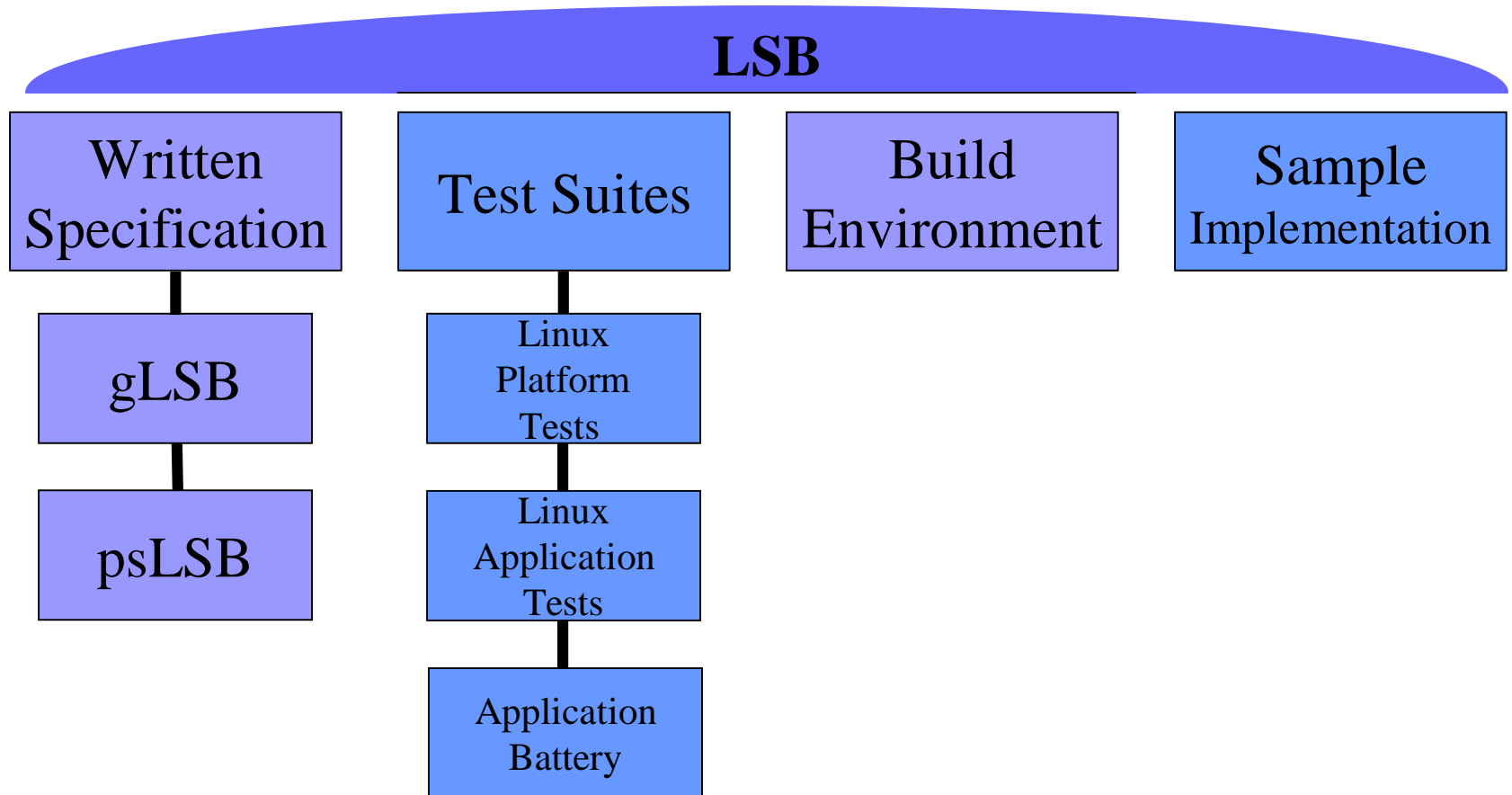
What We Deliver: LSB

- A formal comprehensive behavioral description of the Linux system and a method for proving it
 - Guides and verifies both operating system *and* applications
 - Developed and adopted by the Open Source development community
 - Supported by IT industry leaders
 - Demanded by large IT customers

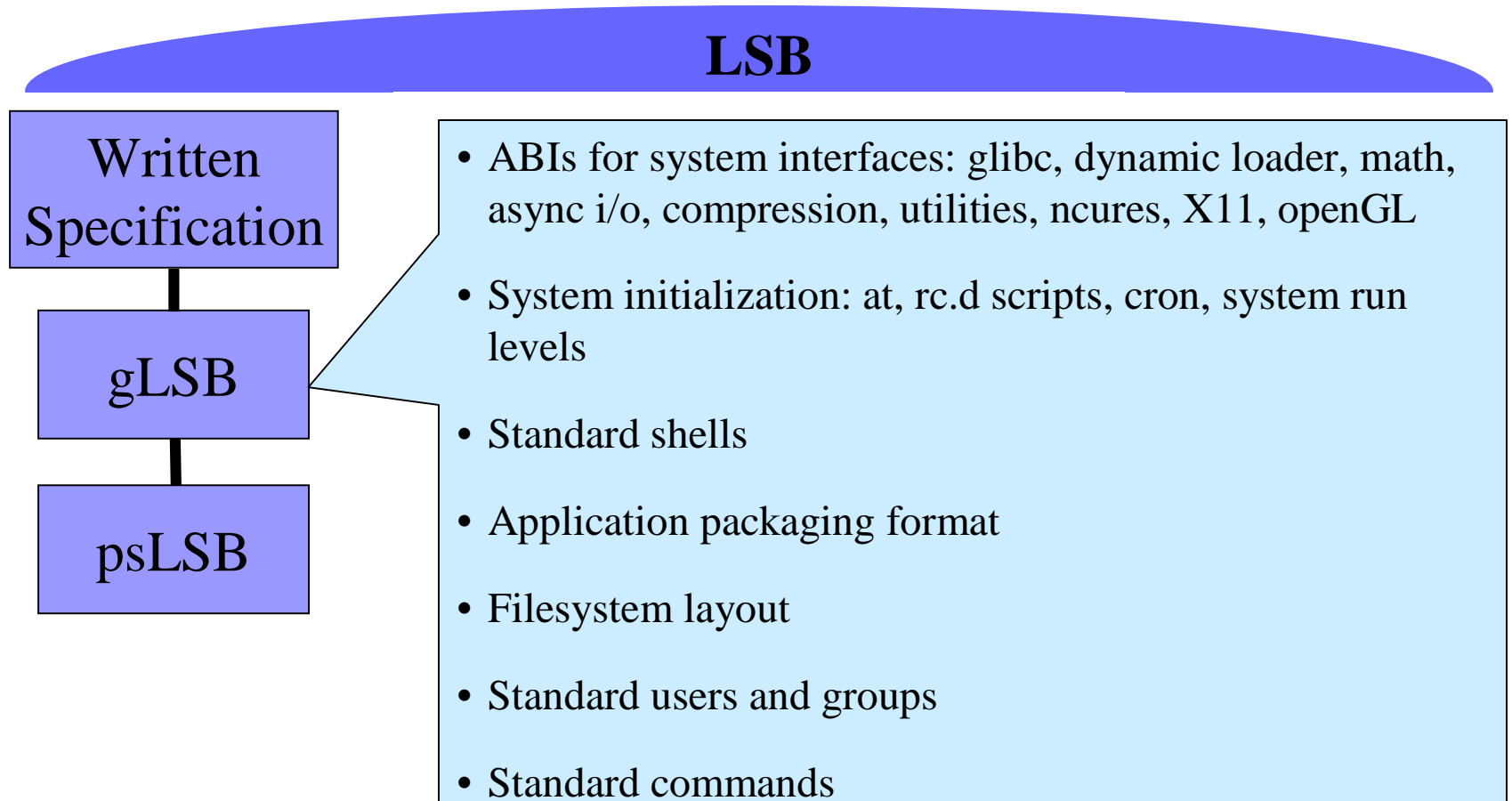
What We Deliver: LSB

- Built on existing standards
 - ELF & TIS 1.2
 - FHS 2.1
 - ISO C90 & C99
 - LFS 1.5
 - POSIX.1
 - POSIX.2
 - SUS-CURSES, XBD, XCU, XNS, XSH
 - X base interface standards

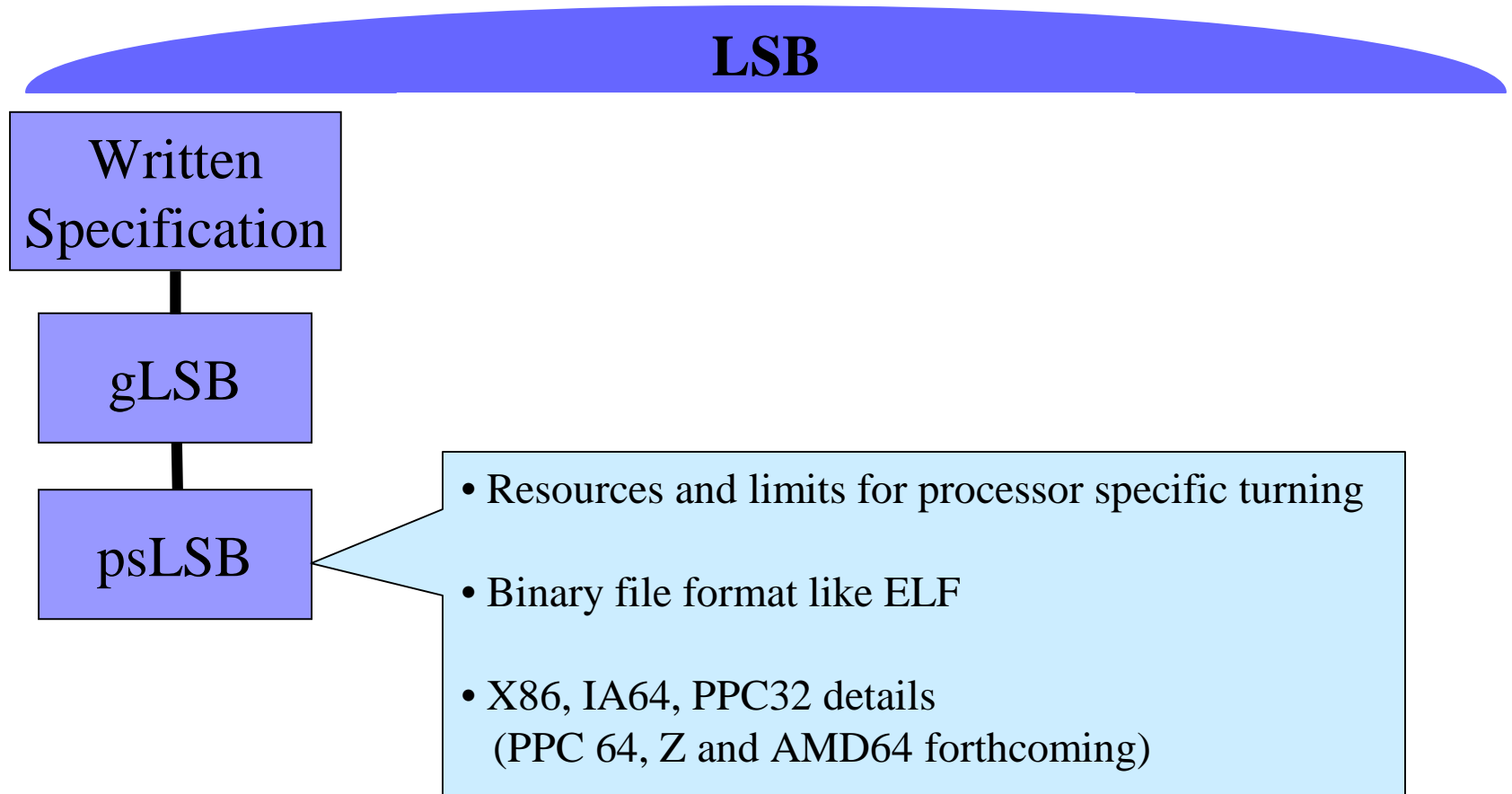
LSB: The Details



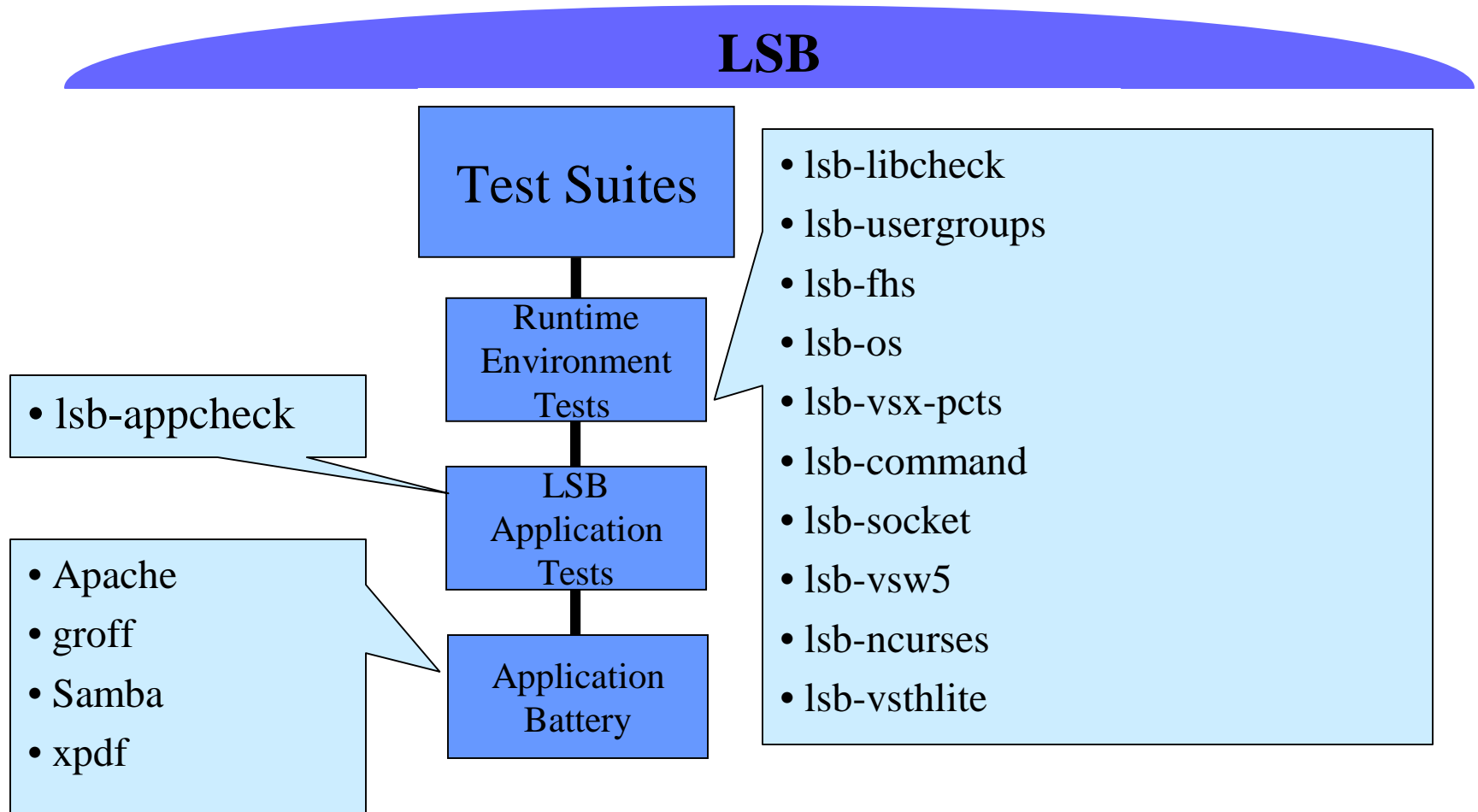
LSB: The Details



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LSB

- Tools and files to facilitate properly building an LSB compliant application
- Fast path for ISVs to build LSB Certifiable products

Build
Environment

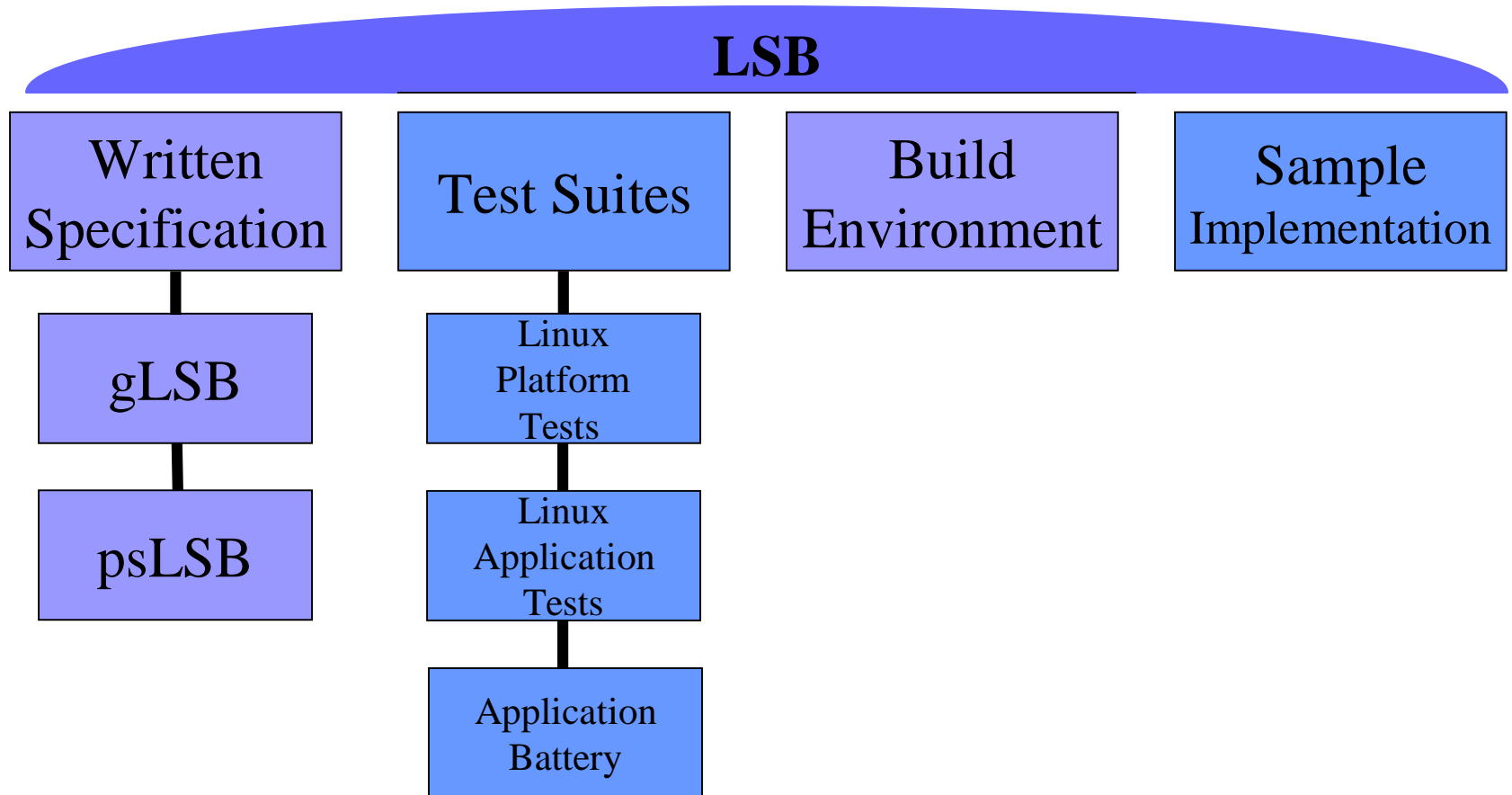
LSB: The Details

LSB

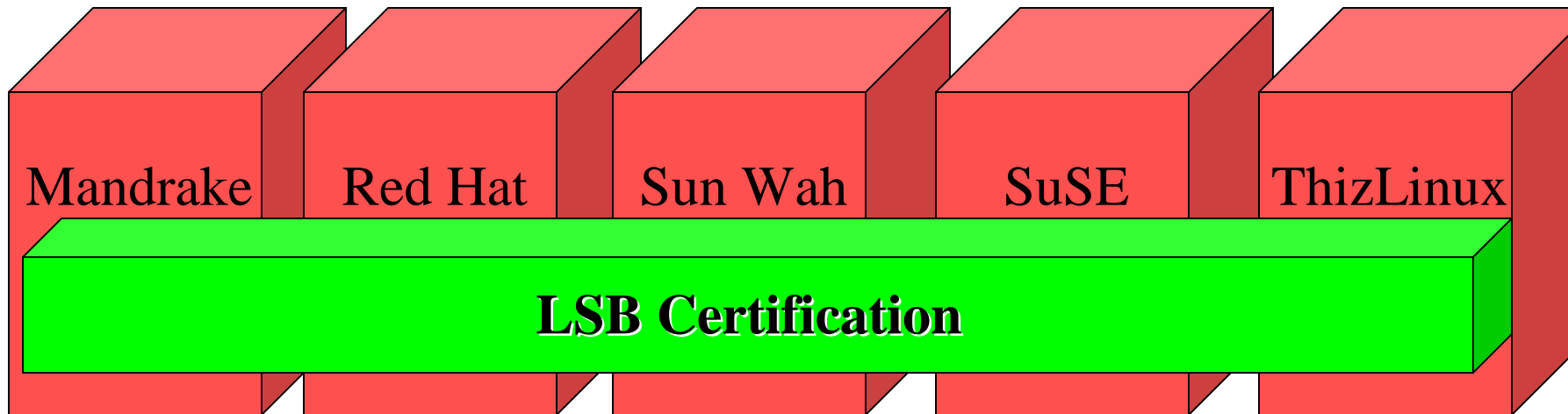
Sample Implementation

- Minimal runtime LSB system that can be used to run applications and test suites
- Used for validation of spec, tests, and applications
- The SI can be used in one of three modes:
 1. chroot to existing system
 2. bootable into a UML based virtual system
 3. bootable on real hardware

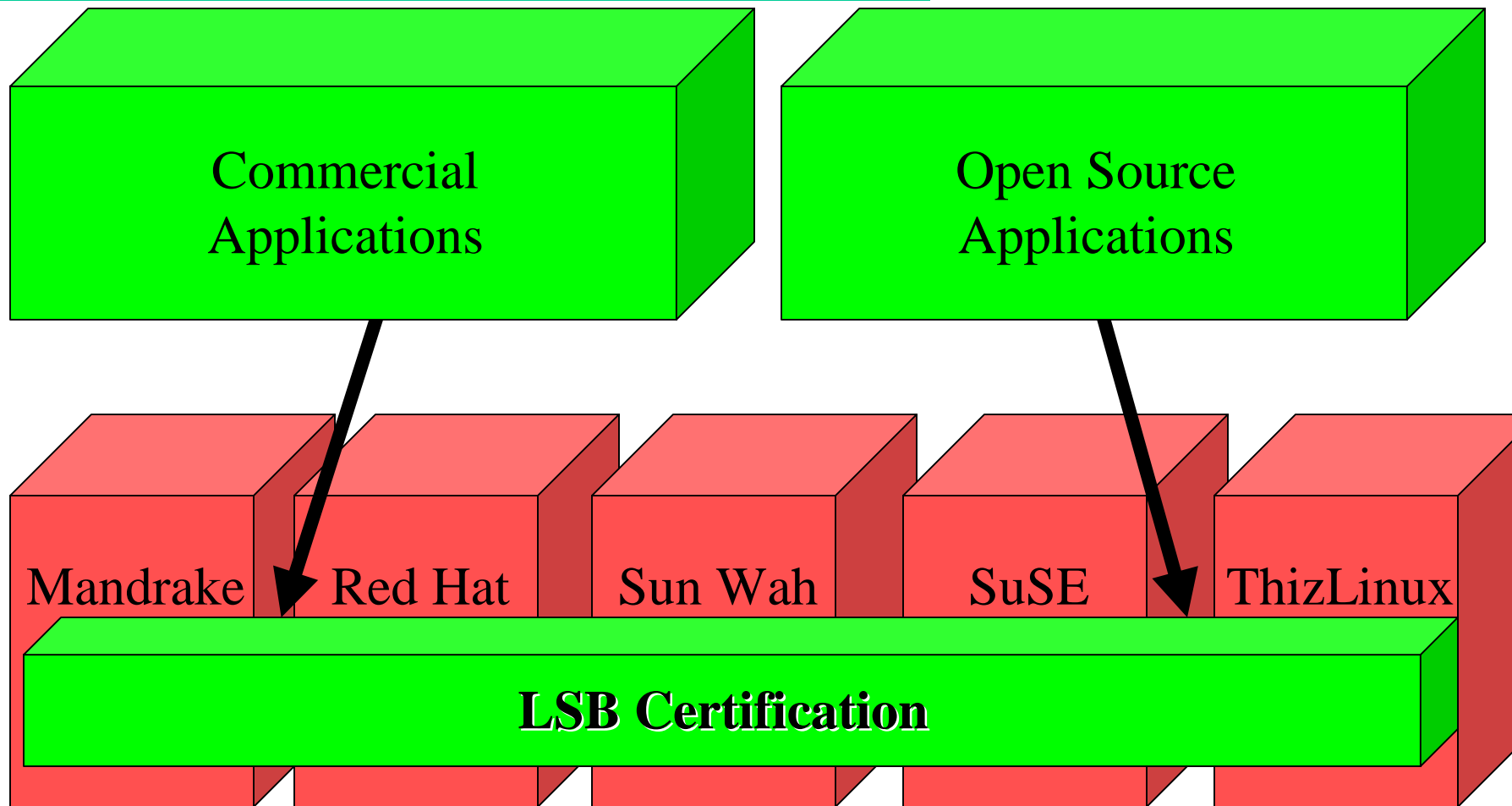
LSB: The Details



LSB: Binary Commonality Layer



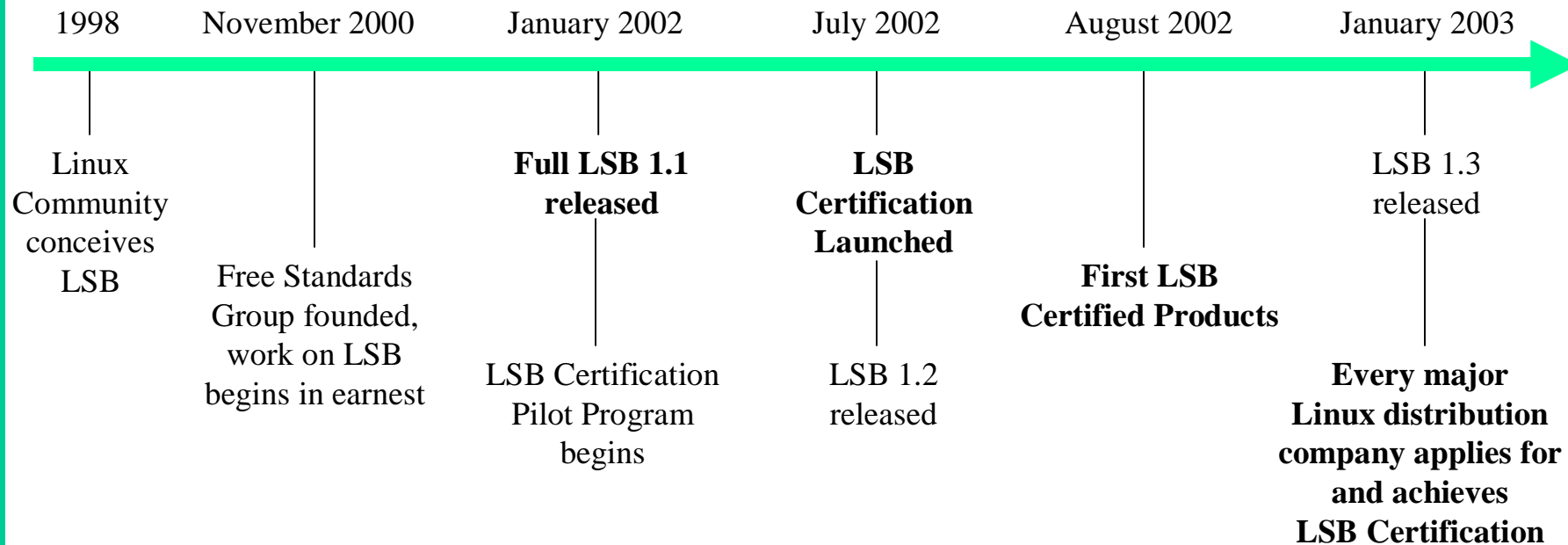
LSB: An *Adopted* Binary Commonality Layer



30 + Certified!

- ★ **Conectiva Linux Enterprise Edition**
- ★ **MSC.Linux 2002**
- ★ **Mandrake Linux ProSuite 8.2 & 9.0**
- ★ **Progeny Componentized Linux 1.3 (Debian)**
- ★ **Red Hat Linux 7.3, 8.0, 9.0**
- ★ **Red Hat Linux Advanced Server 2.1**
- ★ **Red Hat Enterprise Linux 3 for IA64, iSeries and pSeries, S/390 x86, zSeries**
- ★ **SuSE Linux 8.0 , 8.1, 8.2, 9.0**
- ★ **SuSE Linux Desktop 1.0**
- ★ **SuSE Linux Enterprise Server 8 for IA64, iSeries and pSeries, S/390, x86**
- ★ **UnitedLinux 1.0**
- ★ **UnitedLinux 1.0 for IA64**
- ★ **Sun Wah Linux Desktop 3.0**
- ★ **Caldera OpenLinux Server Release 3.1.1**
- ★ **SCO Linux Server 4.0**
- ★ **ThizLinux Desktop 7.0**
- ★ **Turbolinux Enterprise Server 8**

LSB: The History



LSB: Technical Expansion

- LSB 2.0
 - C++
 - Fortran
 - FHS 2.3
 - Uplift to SUSv3
 - Add new library ABIs and commands (per ISV's)
 - Tests for X11, pThreads, VSClite, gettext, PAM, wchar, ncurses
 - Refinement of all newly added items

LSB: Technical Expansion

- LSB 2.0
 - Seven architectures
 - AMD64, IA64, PPC32, PPC64, X86, S390, S390X
 - Ongoing LSB Tools and Development Environment work
 - New shell checker, archive checker, package builder
 - Continue to refine modularization of the LSB to be easy framework for other technical and marketing efforts

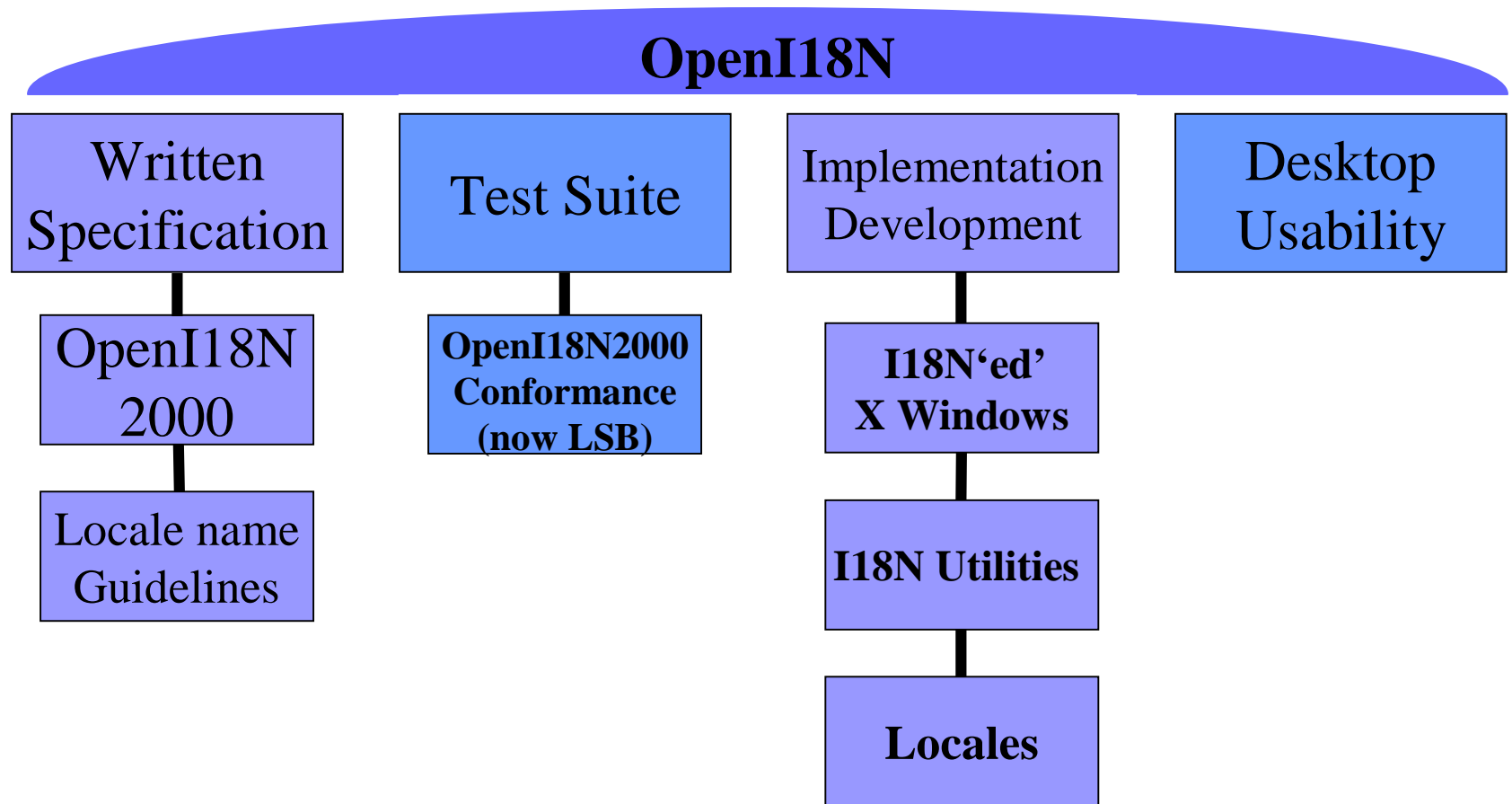
What We Deliver: OpenI18N

- The Globalization of Linux
 - An application platform functionality for Linux to be used worldwide with native language and other cultural support
 - Level 1 integrated into LSB
 - Supplies true support for application and platform localization for over 250 locales
 - Includes specification, test suites and localization guides
 - Greater Asian and Indic scripts support this year
 - Official Big 5 standard submission to government

What We Deliver: OpenI18N

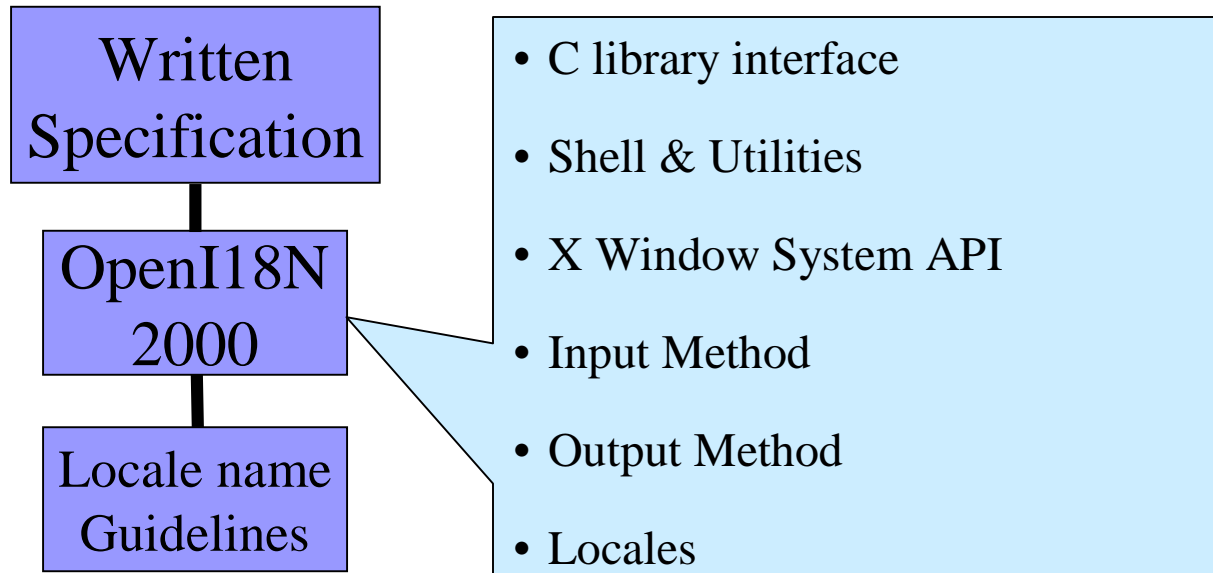
- Built on existing standards
 - LSB (POSIX.1 & 2, ISO C & C99, XCU5, XDB5, XSH5, XCURSES4.2, X11R6, etc.)
 - ICU & ICU4J
 - Perl 5.6
 - Java
 - Unicode 3.0
 - ISO 10646-1, 639, 3166-1
 - ISO 8859-1, 2, 5, 7, 9, 13, 15
 - IANA-Charset-Registry

OpenI18N: The Details

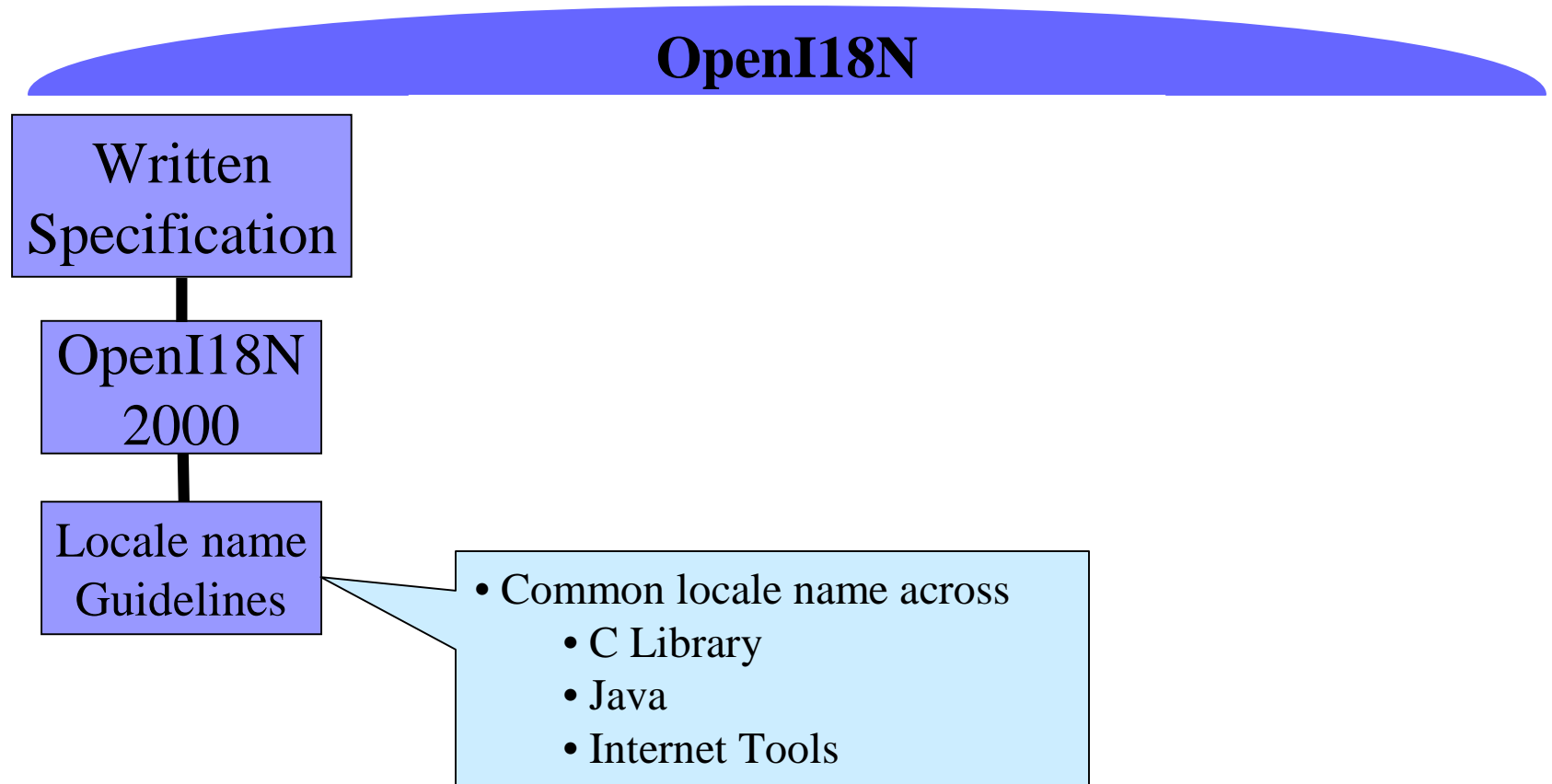


OpenI18N: The Details

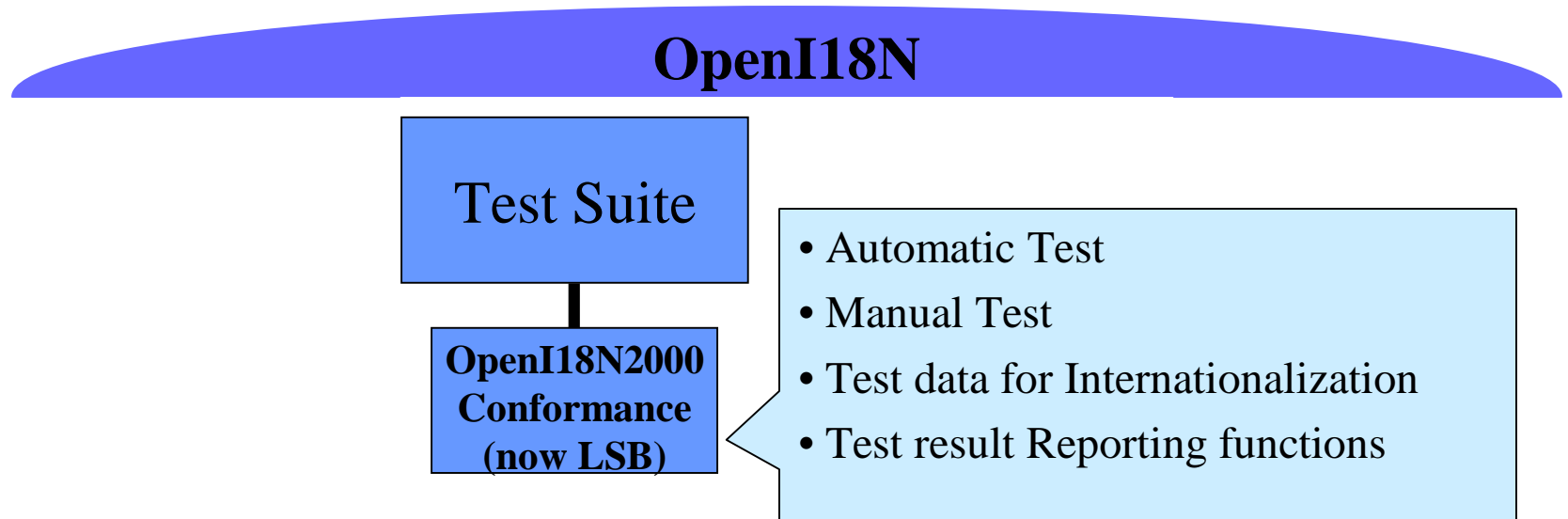
OpenI18N



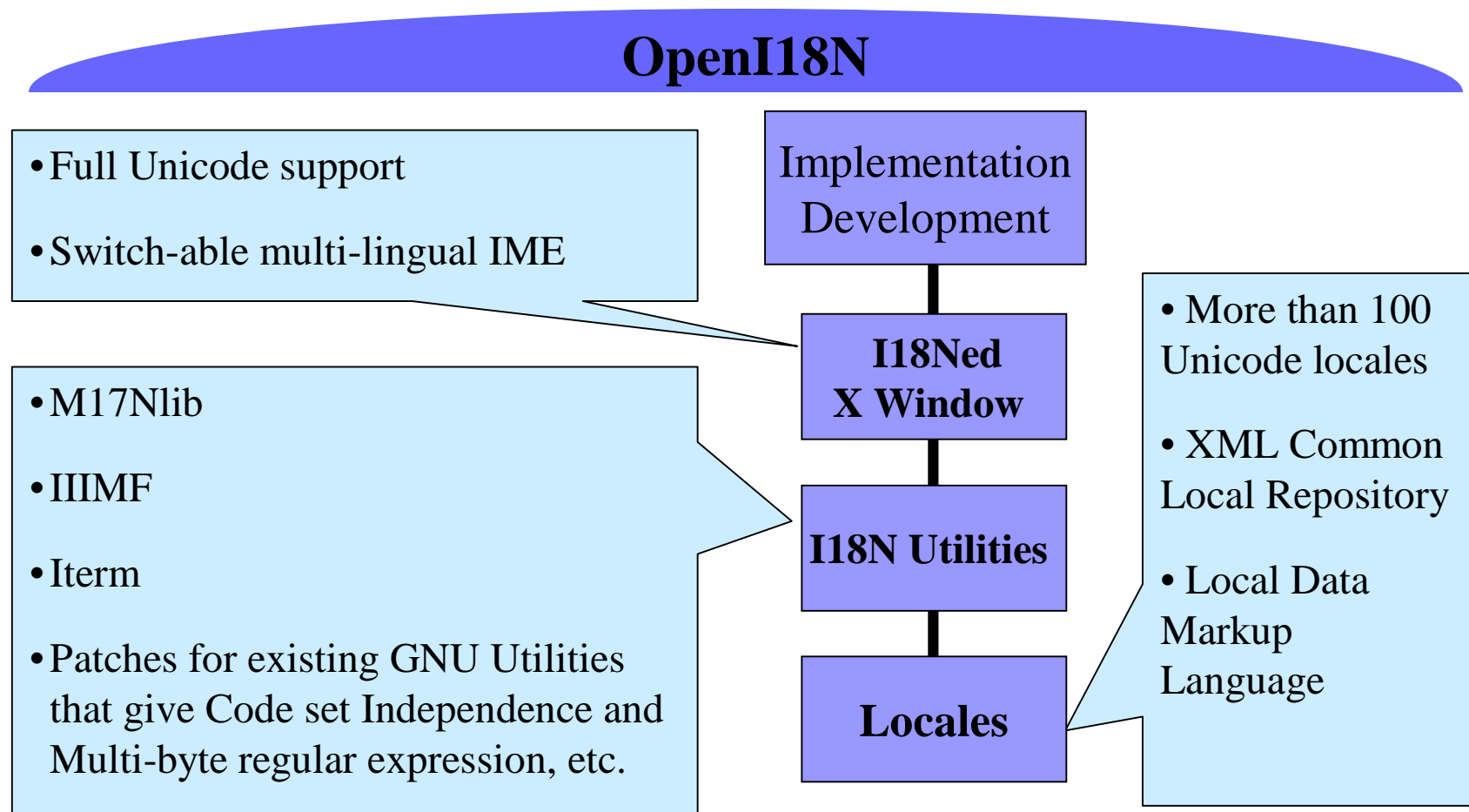
OpenI18N: The Details



OpenI18N: The Details



OpenI18N: The Details



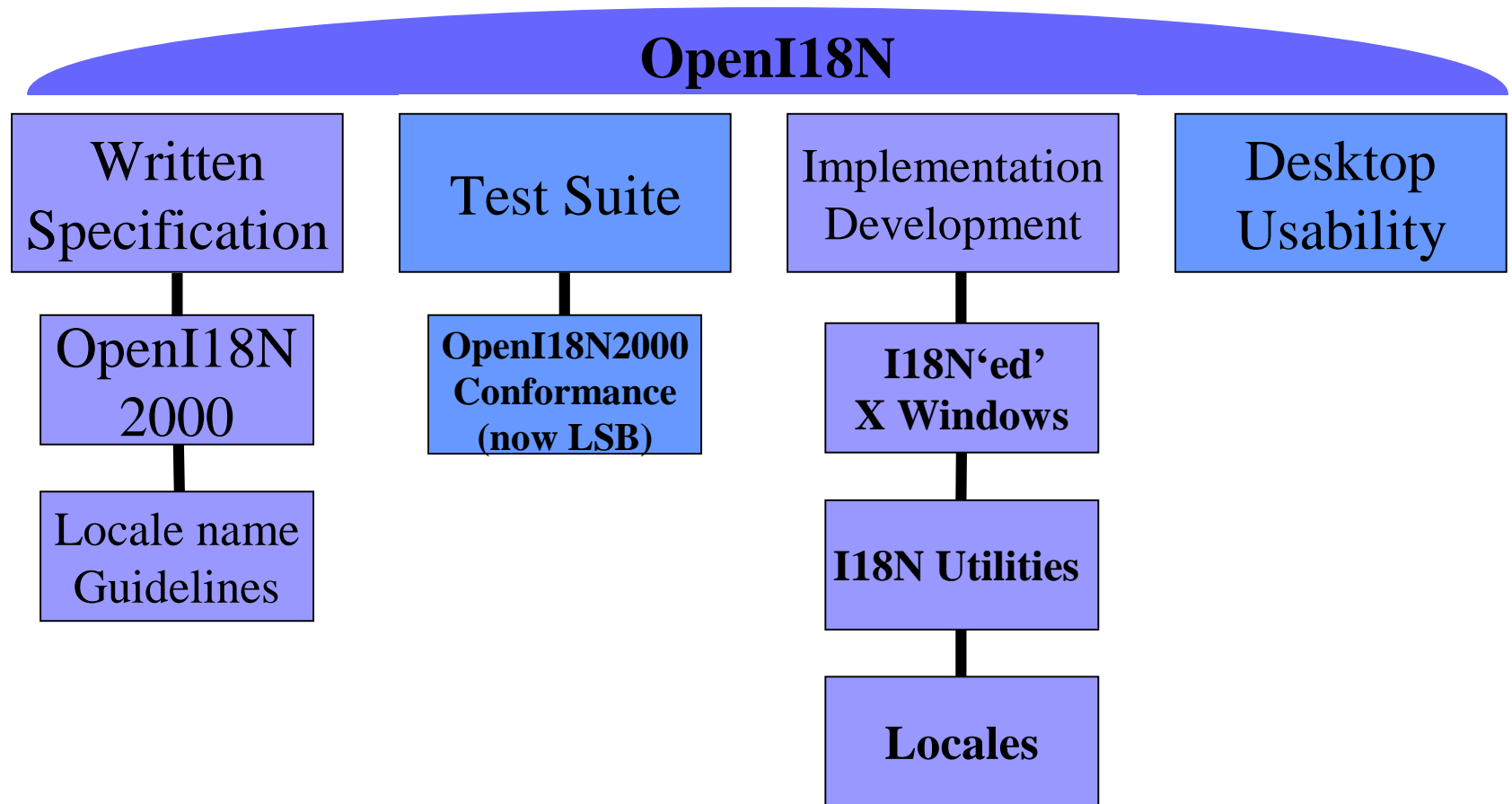
OpenI18N: The Details

OpenI18N

- Front Office/documentation handling
- Input Method(including keyboard mapping)
- Printing
- Presentation, especially fonts
- UTF-8, migration from legacy encodings.
- Migration from legacy clients
- Translation
- Translation support utility
- Typesetting
- Help management
- Output Methods

Desktop
Usability

OpenI18N: The Details



OpenI18N: Technical Expansion

- **Desktop Usability**

- Front Office/documentation handling
 - Address Document portability issues
- Input Method (including keymapping)
 - Advanced platform independent multilingual input methods
 - Advance IM APIs
 - Compatible user model (i.e. keymapping etc.)
- Printing
 - Compatible user model (i.e. keymapping etc.)

OpenI18N: Technical Expansion

- **Desktop Usability**
 - Presentation, especially fonts
 - Compatible multilingual fonts
 - Inventory list of usable glyph code range of fonts
 - Font choosing mechanism w/ M17N awareness
 - Font name mapping of different platforms
 - UTF-8, migration from legacy encodings
 - Standards, guideline, migration tools

OpenI18N: Technical Expansion

- **Desktop Usability**

- Migration from legacy clients
 - Client side transitioning tools (anticipated end user experience, Access VBA?, i.e. java script?)
 - Server side transitioning tools (VBA -> J2EE)
- Translation
 - Translation management tools
 - Translators collaboration (and forum)
 - Disseminate standard process (e.g QA on translation)
 - Translation memory/glossary sharing

OpenI18N: Technical Expansion

- **Desktop Usability**
 - Typesetting
 - Disseminate knowledge about script in developers community.
 - Help management
 - Develop I18N framework for topic context sensitive L10N contents

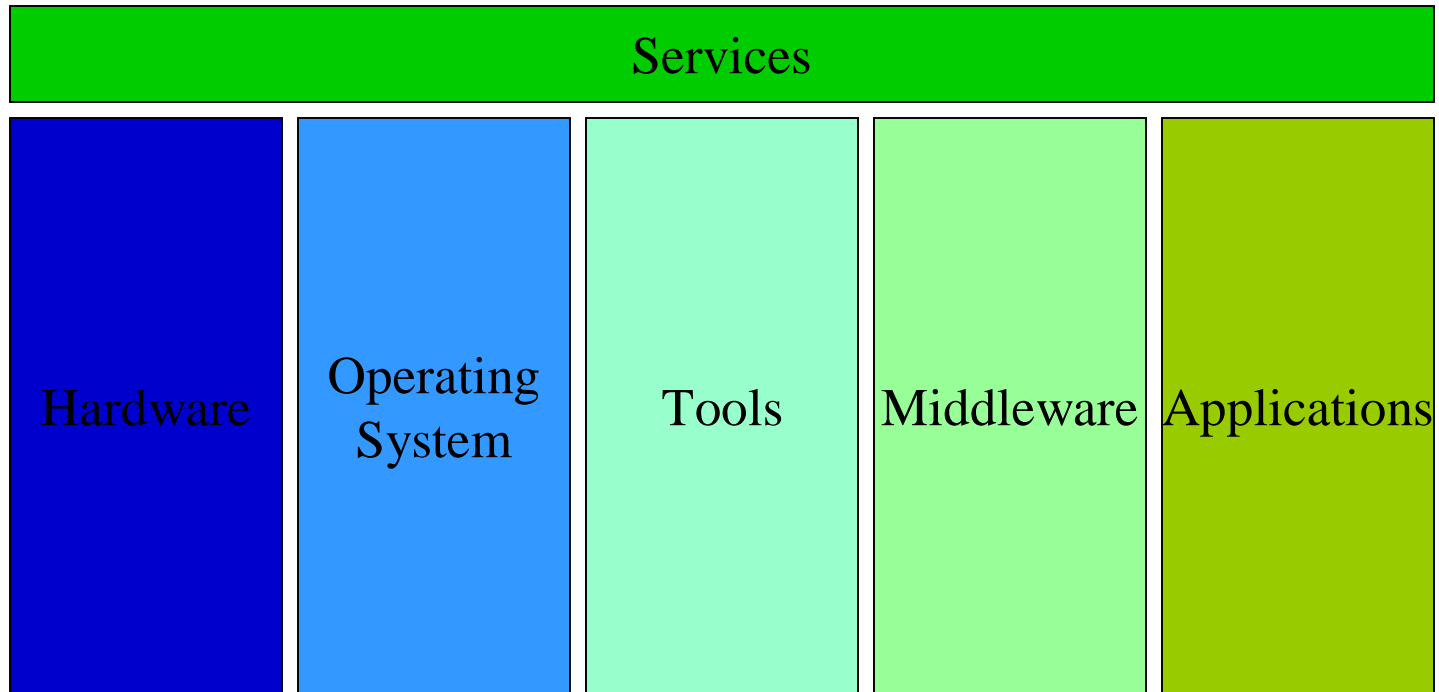
OpenI18N: Technical Expansion

- **Desktop Usability**
 - Output Methods
 - Development of more inclusive output method framework
 - Text readout engine and I18N Framework.
 - Digital divide due to insufficient language support
 - Disseminate I18N/L10N

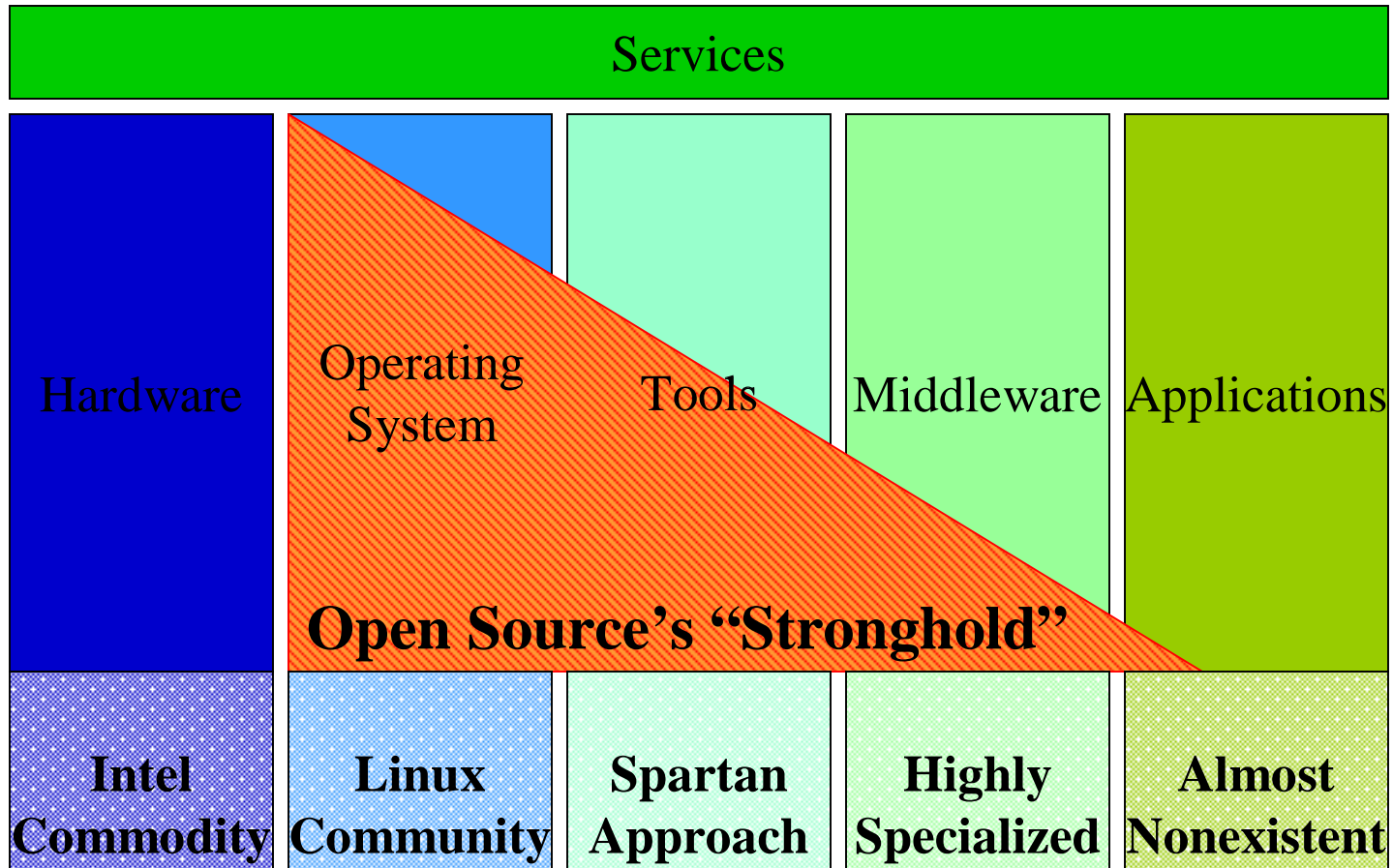
Other Standards Workgroups

- **Accessibility**
 - Developing standards to enable comprehensive universal access to computer systems, applications, and services
- **LANANA**
 - The Linux Assigned Names and Numbers Authority
- **OpenPrinting**
 - Printing implementations and standards built on open source software

The Stack

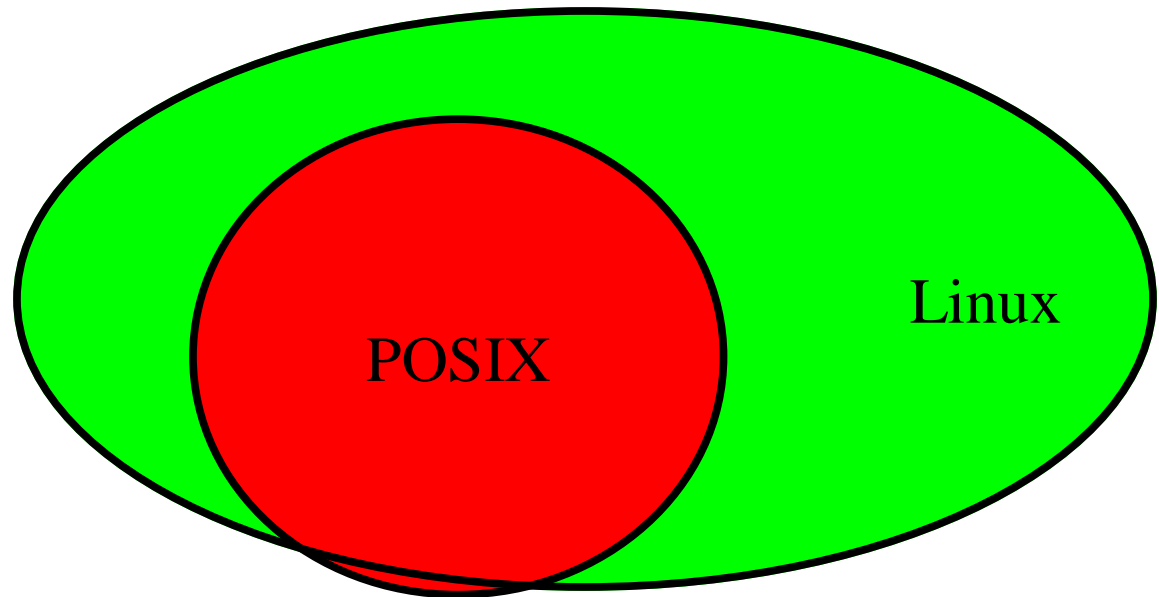


Where is Free & Open Source?



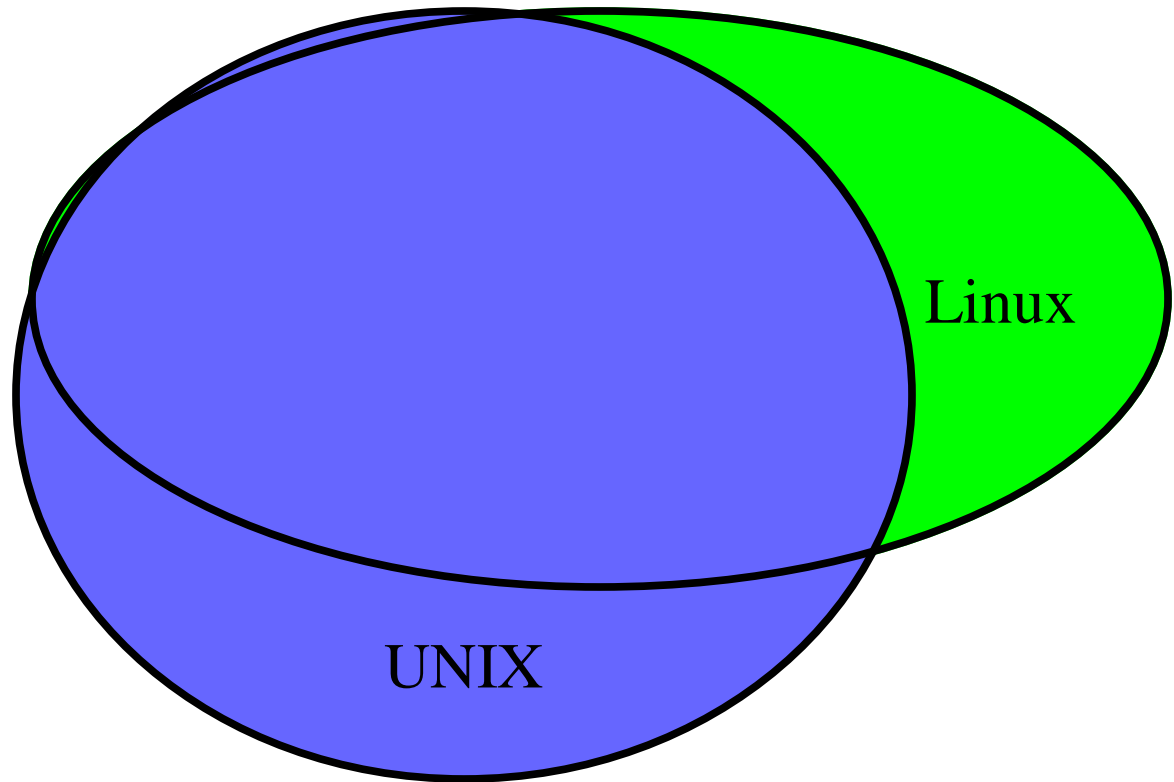
Linux, UNIX & POSIX

- Linux \neq POSIX



Linux, UNIX & POSIX

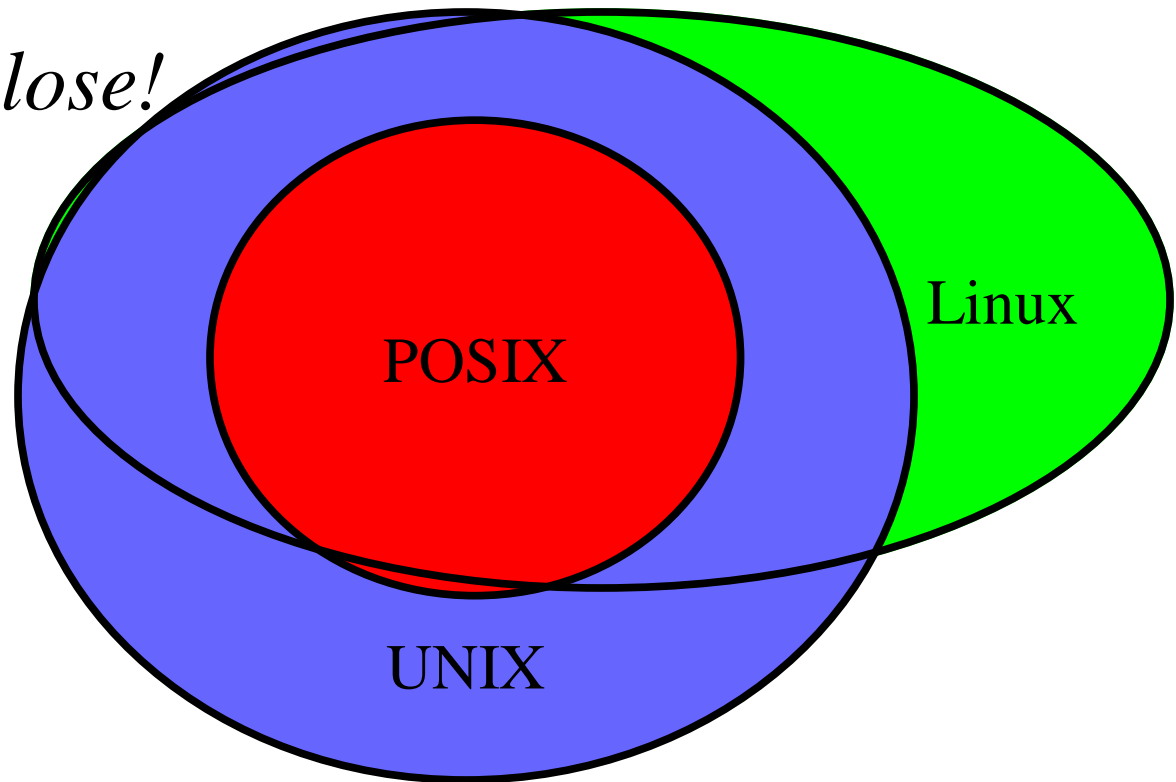
- Linux \neq UNIX



Linux, UNIX & POSIX

- Linux \neq POSIX
- Linux \neq UNIX

But it's real close!



Who is Supporting the Free Standards Group

AMD · Conectiva · Debian · Dell · HP · IBM

Intel · JLA · LI · LPI · MandrakeSoft

Miracle Linux · MontaVista · OADG · The

Open Group · OSDL · PPC Linux · Red Hat

Samba · SCO · SLAT · Sun · SuSE

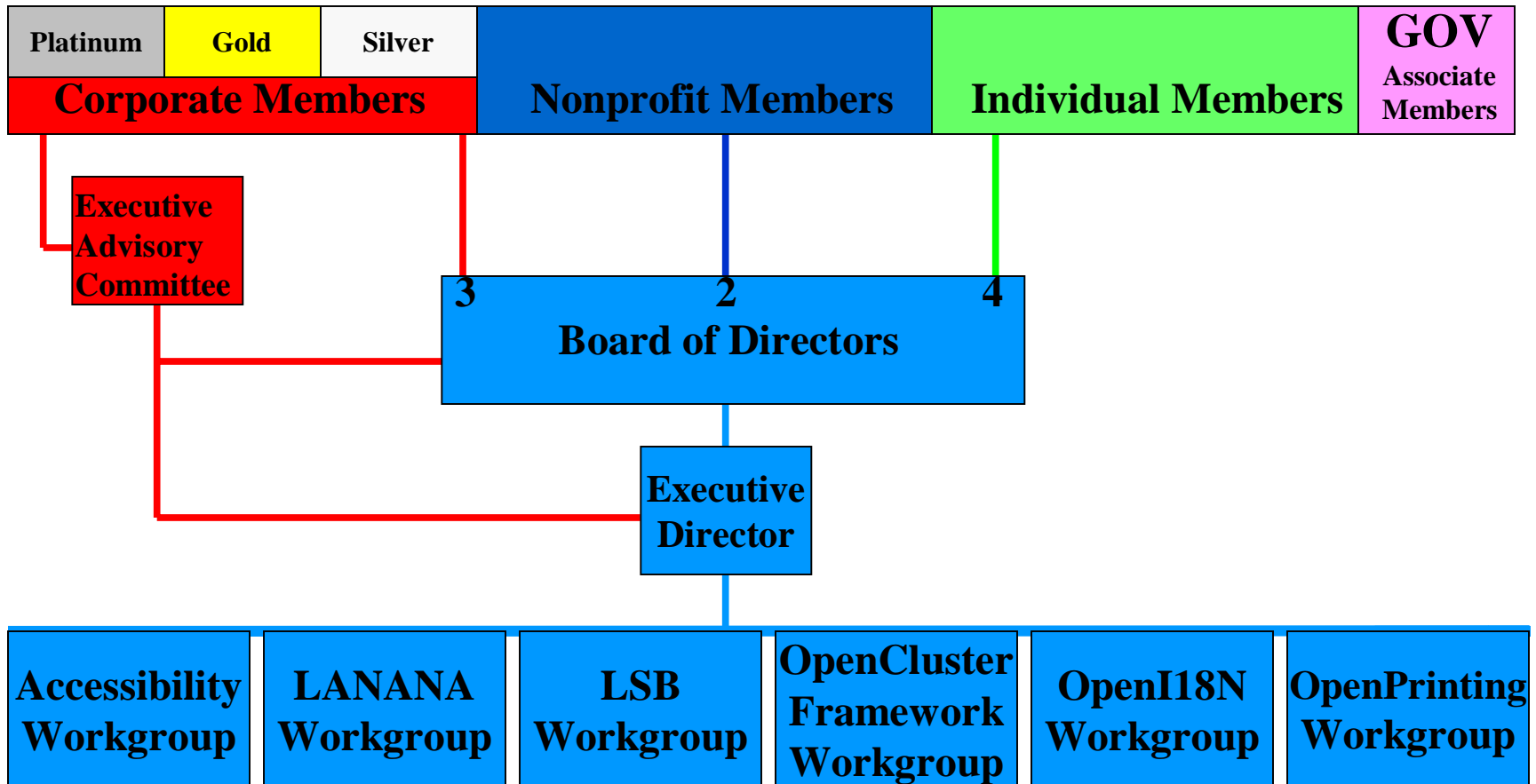
Turbolinux · USENIX · VA Software

Who is Supporting the Free Standards Group

“The Free Standards Group's efforts are an important component of the continued success of open source.”

Linus Torvalds

Organizational Chart



The Free Standards Group

- Bridging the needs of the Development Community and Linux Industry
- Creating Standards that are becoming the foundation for the next stage of Linux growth:

Mission Critical Solutions and Commercial Applications

- Developing and Managing Compliance, Certification and Branding Programs

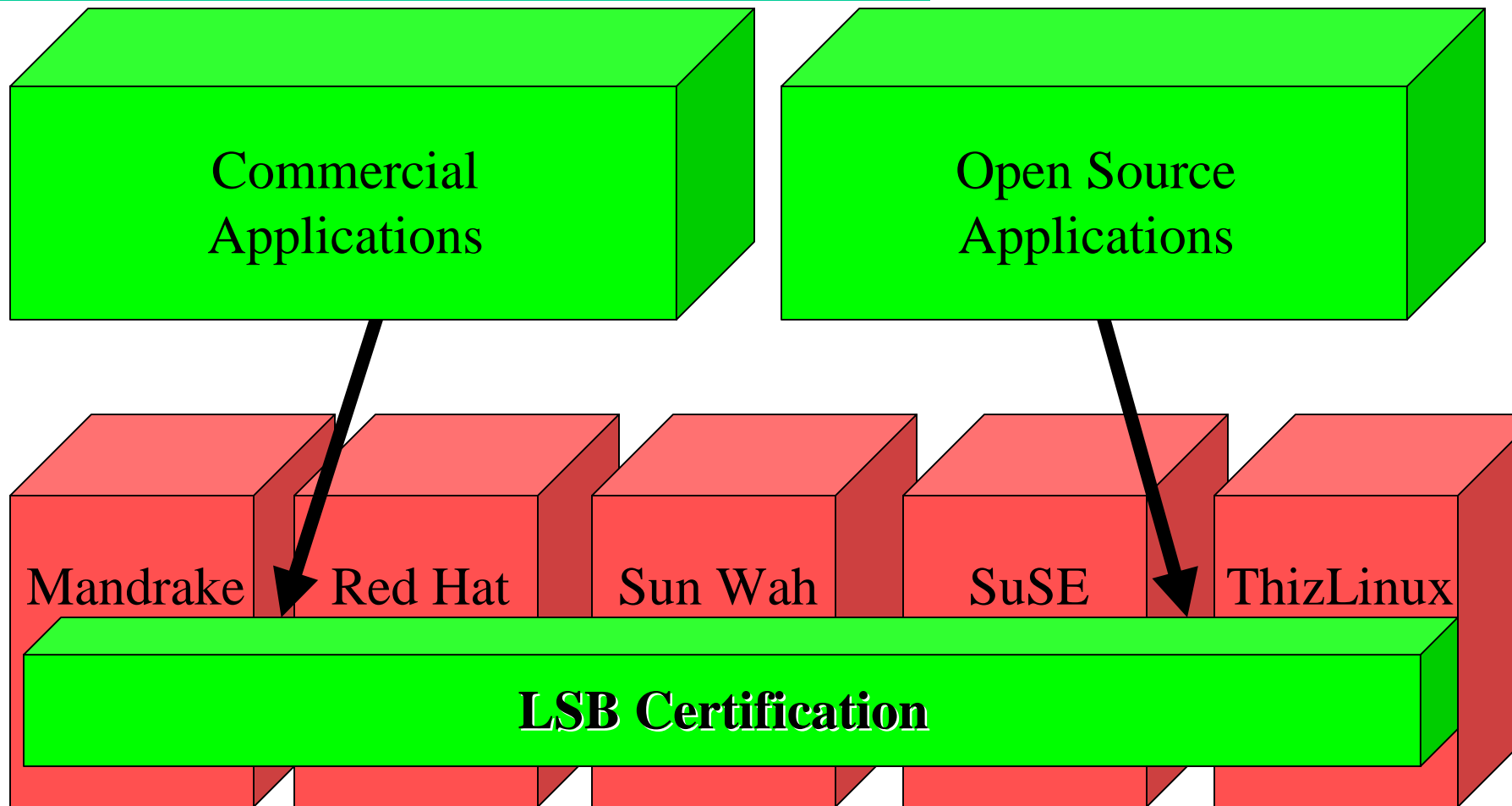
Recap

- Will Linux have another UNIX War?
(limited market growth, application vendor intolerance, platform vendor lock-in, customer confusion, etc.)

NO!

- LSB Certification = Adopted by every major Linux distribution vendor in the world
- LSB Certification = Binary Compatibility
(ISV's write once, run on any LSB Certified Linux)

LSB: An *Adopted* Binary Commonality Layer



The Free Standards Group

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The Free Standards Group

