

THE *Open* GROUP



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**Boundaryless Information Flow**  
**Open Source in the Enterprise**

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*Boundaryless  
Information Flow*

## Open Source: Integration

### Avoiding Divergence

### The Role of Certification and Testing

# Open Source Integration

## *Avoiding Divergence The Role of Certification & Testing*

THE *Open* GROUP

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# Introduction

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- ❑ If you're introducing Open Source solutions to your corporate enterprise for the first time, you may find yourself encountering additional challenges.

# Challenges for integration into the enterprise

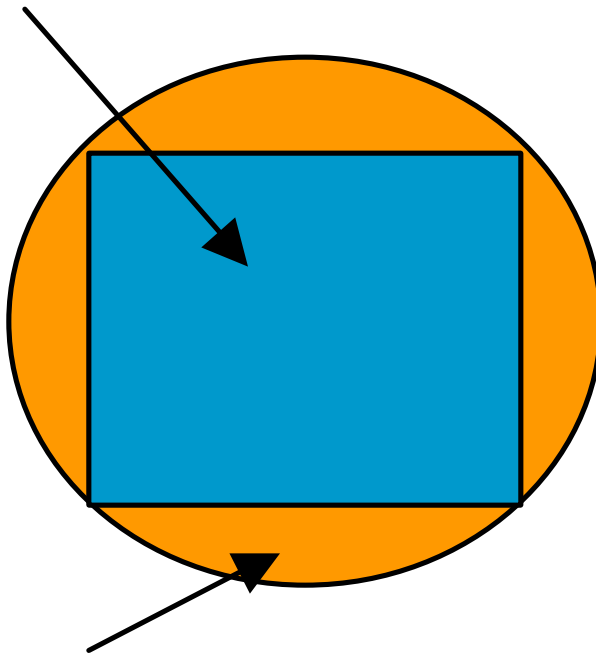
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- ❑ How do you manage the change?
- ❑ How can you be sure of compatibility and interoperability?
- ❑ How can you be sure you do not lose the benefits of Open Source Software (OSS)?
- ❑ How to avoid fragmentation of solutions?

# The Need for Standardization

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Standardized Functionality



Private Product Specific Functionality

- Standardized “square” peg in the round hole
  - “bits where change is not interesting”
  - Where the benefits of commonality outweigh the value of differences
  - Where we can achieve economies of scale, including interoperability

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# Case Study

## GNU/Linux and LSB Certification *Avoiding Divergence*

# GNU/Linux: The Need for Standardization

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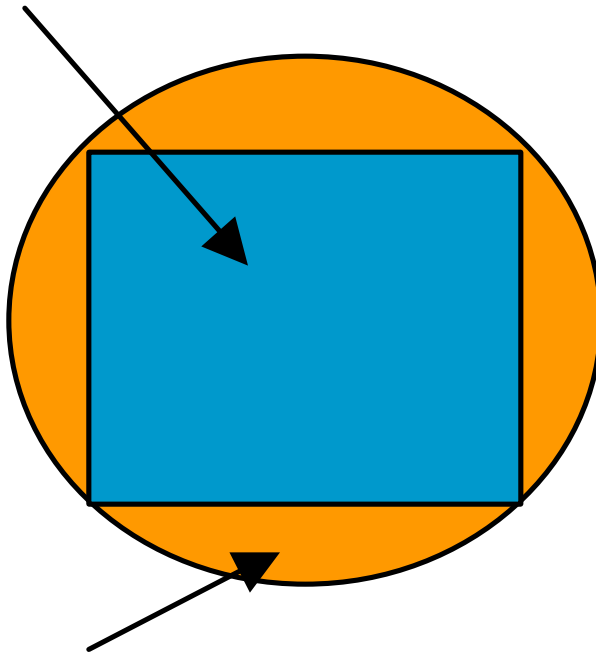
- ❑ One of the key advantages of using GNU/Linux is its customizability.
- ❑ Problem -- with so many different distributions of GNU/Linux -- all evolving rapidly over time -- developers can't always be sure that the applications they build will run well with every version.



# GNU/Linux: The Need for Standardization (2)

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LSB Standardized Interfaces



GNU/Linux Private Interfaces

- The Free Standards Group addresses this through the development of the Linux Standard Base (LSB) specifications
- LSB helps you to *write once, run on any GNU/Linux platform*

# The Linux Standard Base

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- The LSB is developed by a large community of developers
  - A collaboration between OSS developers, vendor and IT user community.
- The LSB develops and promotes a set of standards that increase binary compatibility among GNU/Linux distributions

# Benefits for Application Writers

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- ❑ When you write software against the LSB specifications, you can be confident that it will run well on all LSB-compliant systems.
- ❑ The LSB also provides written specifications, test suites and build tools that make it easier for you to write applications that work on LSB Certified platforms.

# Benefits for Systems Developers

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- ❑ The LSB gives you a clear set of specifications to keep in mind as you're building your GNU/Linux distribution.
- ❑ It also provides test suites that help you determine if your environment is LSB compliant.

# LSB Certification

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- Standardizes the base platform for the GNU/Linux operating system
- Uses Open Source test suites
- Web-based certification
- Certification developed and operated by The Open Group

# Objectives

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- ❑ Meet the needs of the Development Community and Linux Industry
- ❑ Easy access to program
- ❑ Widespread awareness and adoption

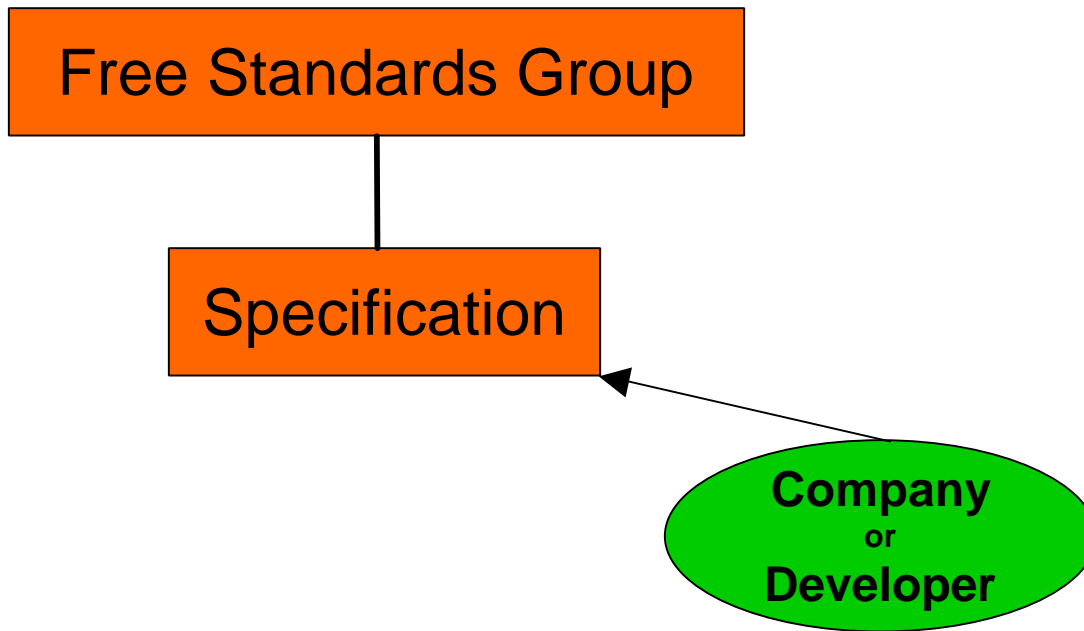
# Easy Access to the Program

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- ❑ Easy access to specifications and test tools
- ❑ All tools freely available under Open Source licenses
- ❑ Open to everyone, not just OSS
- ❑ *Three simple steps to certification...*

# Specification

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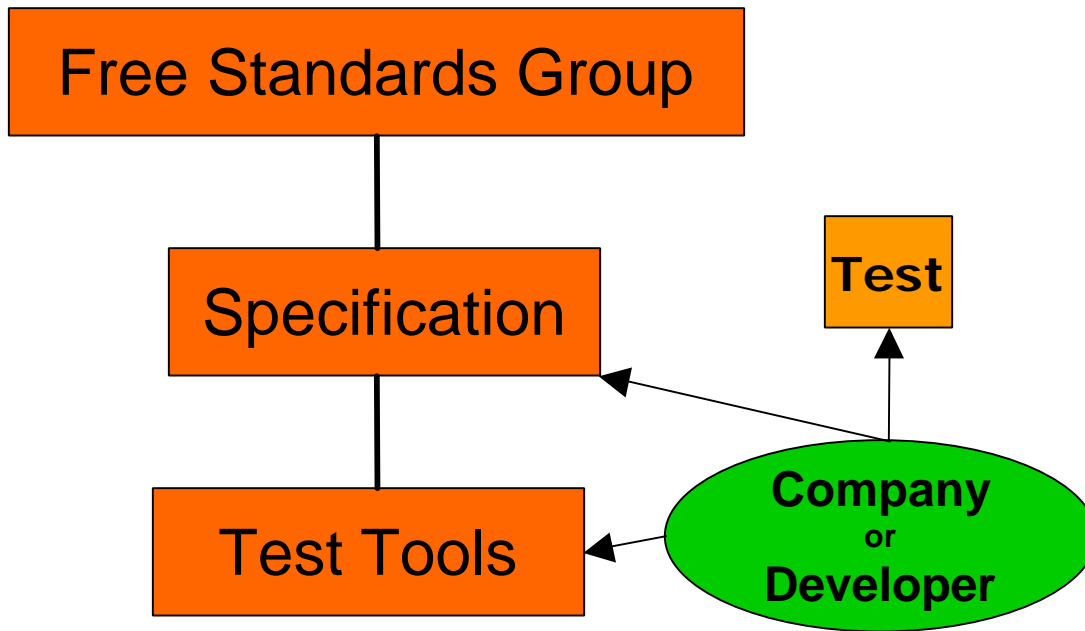


Developer downloads Specification



# Test

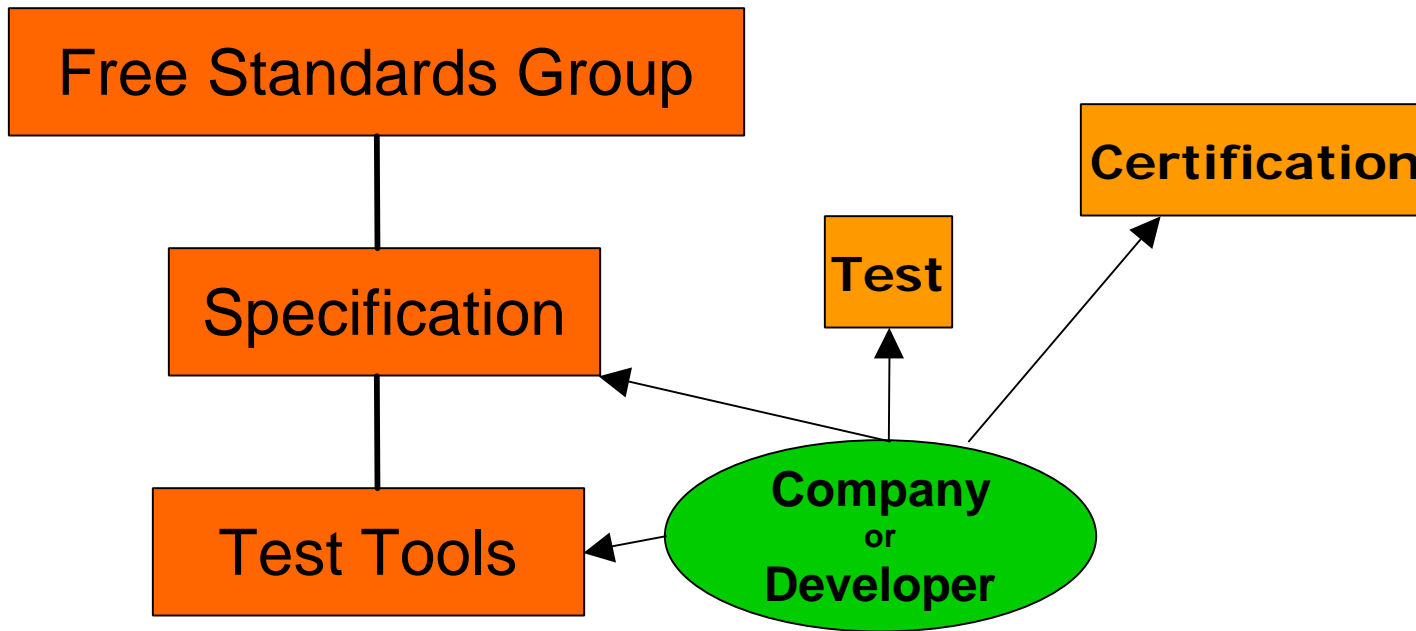
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Developer tests their application or GNU/ Linux distribution

# Certification

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Developer certifies their application or GNU/ Linux distribution

# LSB Certification Program Principles

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- ❑ Clear and well-defined:
  - certification policy
  - processes for achieving and maintaining certification
  - based on industry best practice.
  
- ❑ Conformance requirements drawn from LSB Specification based on existing practice

# The Vendor Guarantee

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- ❑ Vendor guarantee of conformance to specifications.
  - Vendor 'Warrants & Represents'
  - By the LSB Trademark License
- ❑ This guarantee ensures that:
  - Products conform to a specification
  - Products remain conformant throughout the life of the product's registration
  - Any non-conformance will be fixed in a timely manner

# LSB Product Types

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- Product Types that can be (currently) certified
  - LSB Runtime Environment Certification
    - For platforms providing services that conform to the LSB specifications.
  - LSB Application Certification
    - For applications conforming to the LSB specifications.
    - LSB applications are the consumers of the services provided by LSB Runtime Environments.
  - Internationalized Runtime Environment

# Advantages of Certified Products

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- ❑ For Procurers/Users/Integrators:
  - Assurance of conformance and interoperability
  - A vendor warranty
- ❑ For System Vendors:
  - Known conformance level
  - Larger marketplace for certified products

# Summary

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- LSB Certified GNU/Linux products
  - helps to assure your organization that the total cost of ownership (TCO) of introducing GNU/Linux products into your organization will remain low over the long term.
  - give you assurance that GNU/Linux applications will run out of the box.
  - help you avoid lock-in with any one vendor.
  - make life easier for systems administrators.

# LSB Certified Products

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Conectiva Linux Enterprise Edition Powered  
by UnitedLinux v1.0

MSC.Linux 2002 (November)

Mandrake Linux ProSuite 8.2 + first update  
CD

Mandrake Linux ProSuite 9.0

Red Hat Linux 7.3 with glibc 2.2.5-39+kernel  
2.4.18-10 or later

Red Hat Linux 8.0

Red Hat Linux 9

Red Hat Linux Advanced Server 2.1 with  
updates

SuSE Linux 8.0 Professional + aaa\_base and  
Kernel Update

SuSE Linux 8.1

SuSE Linux 8.2

SuSE Linux Desktop 1.0

SuSE Linux Enterprise Server 8 for IPF  
powered by UnitedLinux

SuSE Linux Enterprise Server 8 powered by  
UnitedLinux

UnitedLinux 1.0

UnitedLinux 1.0 (IA64)

Sun Wah Linux Desktop 3.0 (LSB 1.2)

Sun Wah Linux Desktop 3.0 (LSB 1.3)

Caldera OpenLinux Server Release 3.1.1 with  
lsb-1.1-2 package

SCO Linux Server 4.0, Powered by  
UnitedLinux

ThizLinux Desktop 7.0

Turbolinux Enterprise Server 8 powered by  
UnitedLinux

Data as of Sep 1 2003



# Summing Up

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- ❑ Certification for LSB addresses the need to reduce fragmentation for GNU/Linux
- ❑ Similar approaches could be taken for other open source products

# Panel Discussion

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- ❑ What are the common success factors?
- ❑ What other areas of FOSS would benefit from certification?