



LSB Tools: Navigator & Application Testkit Manager

ISV Perspective



LSB Navigator: Overview

- **A web system for Linux developers:**
 - **Interactive version of LSB standard**
 - **Information about broad Linux ecosystem:**
 - **How many and which upstream components are in Linux?**
 - **What do modern distributions consist of?**
 - **What are external binary dependencies of real world applications?**
 - **LSB workgroup services**
- **A part of Linux Developer Network (LDN)**
- **The main LSB database is behind**
- **Live version: <http://linux-foundation.org/navigator/>**



LSB Navigator: Guide for Linux API / ABI

- **Interactive reference guide for Linux API / ABI elements:**
 - Searchable and browsable information about standardized and non-standardized Linux modules, libraries, interfaces, types, etc.
 - “Home pages” for individual elements:
 - ~1 700 000 interfaces
 - ~66 000 classes
 - ~6 000 libraries
 - ~14 000 Perl/Python modules
 - ~13 500 types
- **Given interface name, find out in 2 clicks:**
 - If the interface is in LSB or not
 - Recommendations on using the interface or any of its alternatives
 - Direct link to interface’s documentation
 - What libraries in which distributions provide the interface
 - How many applications use the interface
 - Which open source tests check the interface (can be used as interface usage examples)



LSB Navigator: Analyze Linux Distributions

- **See what elements modern Linux distributions consist of (particular versions on various HW platforms):**
 - Upstream components
 - Libraries
 - Commands
 - Interfaces
 - ...
- **Analyze and compare distributions:**
 - Statistics on Linux elements in each distribution
 - Which distributions provide / miss particular version of a component, library, command, interface, etc.
 - Take into account distribution differences when developing applications



LSB Navigator: Linux Application Analysis

- **See what Linux libraries and interfaces are used by real world applications:**
 - Interface “popularity” lists – how many applications use each interface (separately for LSB and non-LSB interfaces).
 - Similar “popularity” lists for libraries.
 - Help making decisions on standardization scope
- **Analyze applications:**
 - See what external libraries and interfaces are required and actually used by various applications.
 - See application “LSB compliance” rating list (by the number of non-LSB interfaces required by the applications).
- **Current statistics:**
 - **951** application entries (158 proprietary, 793 open source)
 - **30** proprietary vendors
 - **7** distribution repositories



LSB Application Testkit Manager

- **Technical:**
 - Web-UI based on embedded web-server
 - Both installable and unpack-and-run versions
- **Main features:**
 - Accepts application as a set of components: binaries & .so possibly in various directories or/and packed in .rpm / tar.gz (arbitrary mix).
 - Visualizes external dependencies (libraries and interfaces) of the application (internal dependencies between components are excluded).
 - For libraries, it highlights differences between *required* (DT_NEEDED) and *actually used* libraries.
- **Using results:**
 - Just local application analysis.
 - Submit info to the Linux Foundation to include in the Navigator.
 - Apply for LSB-compliance certification.