



LSB 4.0 Plans

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Agenda

- " **LSB 4.0 Project Plans**
- " **LSB SDK-NG**



LSB 4.0 Project Plans

- " **General philosophy**
- " **Library Uplifts**
- " **New Libraries**
- " **LSB Schedule**



General Philosophy

- " **LSB 4.0 will target current stable enterprise distributions, i.e. RHEL 5, SLES 10, Ubuntu Hardy Heron**
- " **Expanded library support will allow more applications to be able to use LSB 4.0 compared to previous LSB 3.x standards.**
 - Applications which only use symbols from LSB 3.x standards may choose to do so in order to support a wider range of distributions (i.e., RHEL 4, SLES 9, etc.)



Library Uplifts

- " **Glibc 2.4 (to support new interfaces, e.g., fdopendir, openat and other *at interfaces, inotify, ppoll/pselect, etc.)**
 - StackChecker support
 - Thread Local Storage support
- " **GTK+ libraries**
- " **OpenGL libraries**
- " **QT4**
- " **libstdc++**



New Libraries Candidates

- " **Openssl/libcrypto**
- " **LibGLU**
- " **Alsa (from trial-use to full standard)**
- " **Gstreamer**
- " **PulseAudio**
- " **Libcairo**
- " **OpenMPI**
- " **Others as required by ISV applications?**
 - We need to know what you need!



Java support

- " **Requested by many ISV's**
- " **Issues around Java certification of JVM's**
 - Current certification rules require specific certification of OS level; how to handle JVM's written to use the abstract LSB platform?
 - If we provide all of the symbols required by JVM's, will JVM providers create a Java certified JVM?
 - If an open-source JVM can be LSB certified, who pays for the certification costs?
- " **Should we instead require the LSB certified distribution to ship a Java certified JVM as part of the LSB Platform?**
- " **How much are ISV applications sensitive to specific JVM's. (i.e., must the JVM be from BEA, IBM, Sun, etc.?)**
 - For Java installers
 - For major enterprise applications (where traditionally the product ships with their own specific JVM)



LSB Schedule

- " **LSB 4.0 Design phase: Now – 4/11/08**
- " **LSB 4.0 Implementation phase: 4/11/08 – 8/1/08**
- " **LSB 4.0 Beta Release: 10/3/08**
- " **LSB 4.0 Release: 11/15/08**
- " **All Distributions Certified: 3/27/2009**



LSB SDK Tools

" **Build tools**

- lsb_cc

" **Testing/Certification tools**

- Application TestKit Manager
- appcheck
- LSB Sample Implementation



Next generation SDK tools

- " **Make it easier to build and test LSB applications**
- " **Provide LSB Sample Implementation in a wide variety of vehicles**
 - Packaged for all major desktop/enterprise distro's
 - Launchable from a desktop icon
 - Launchable via remote login (ssh) for automated test scenarios
 - VM Player. qemu, kvm images
- " **Build the LSB build tools on top of the SI**
 - Allow flexibility to start build environment as above (via remote ssh, via launching from the GUI desktop, etc.)



Using libraries not ready for the LSB

" **Sometimes libraries aren't ready for LSB**

- Not yet in all of the distributions
- Upstream library developers haven't committed to cast their interfaces in concrete yet

" **Ways of solving this problem**

- Don't use the library
- Statically link the library
 - But there can be copyright issues that prevent this
- Dynamic link against the library, and include a copy of that library with your product distribution
 - Can work for LGPL licensed libraries
 - Issues about distributing 3rd party libraries vis-a-vis security updates, etc.

" **We are looking for input about whether better tools support from the Linux Foundation would be helpful especially to enable the last option.**



More about the Linux Developer's Network

- " **We are working to refresh the Linux Developers Network web site**
 - A front door to people interested in the LSB
 - A place to promote the Linux platform in general
 - Forums for ISV developers who are seeking help about developing to the LSB or to Linux
 - Articles and tutorials for Linux/LSB development
- " **We would be interested in input in how to make the LDN more useful to you.**



Conclusion

- " **LSB 4.0 is designed to be more appropriate to ISV's than ever before**
- " **We need your input to make LSB 4.0 most appropriate for your products/development teams/customers**



Other ways of building LSB applications

" Main value provided by the LSB build environment

- Compile-time warning of interfaces not provided by the ISV
- Use of `/lib/ld-lsb.so.3` dynamic library loader instead of the normal `/lib/ld-linux.so.2`.
 - “Escape hatch” in case needed to fix LSB incompatibility in the standard distribution libraries
 - Normally just a symbolic link

" Other ways of creating LSB applications

- Manual specification of linker option
- Post-link modification of executable to use `ld-lsb.so.3` instead of `ld-linux.so.2`

" Other possibilities

- Change build tools so that LSB applications use `ld-linux.so.2` if `ld-lsb.so.3` is not found
- Drop use of `/lib/ld-lsb.so.3`

" What makes sense to ISV's?



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