

# LSB 3.2

Desktop Updates

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# General Themes:

- Desktop interaction and interoperability
  - FreeDesktop.org standards
  - Provides standardized way to interact with the desktop environment of your choice from applications and packagers
- Font library completeness
  - Completes work began in LSB 3.1 with FontConfig and Pango libraries
  - Building-blocks for displaying internationalized text w/ modern font technology

# Why....?

- Major ISVs (Adobe) asked.
  - Recent article about FlashPlayer 9 release struggle summarizes the pain.
  - LSB 3.2 will attempt to provide a solution for at least the font rendering pain.
  - Provide a method for 3<sup>rd</sup> party software to install icons into desktops in a compatible and portable manner

# FreeDesktop

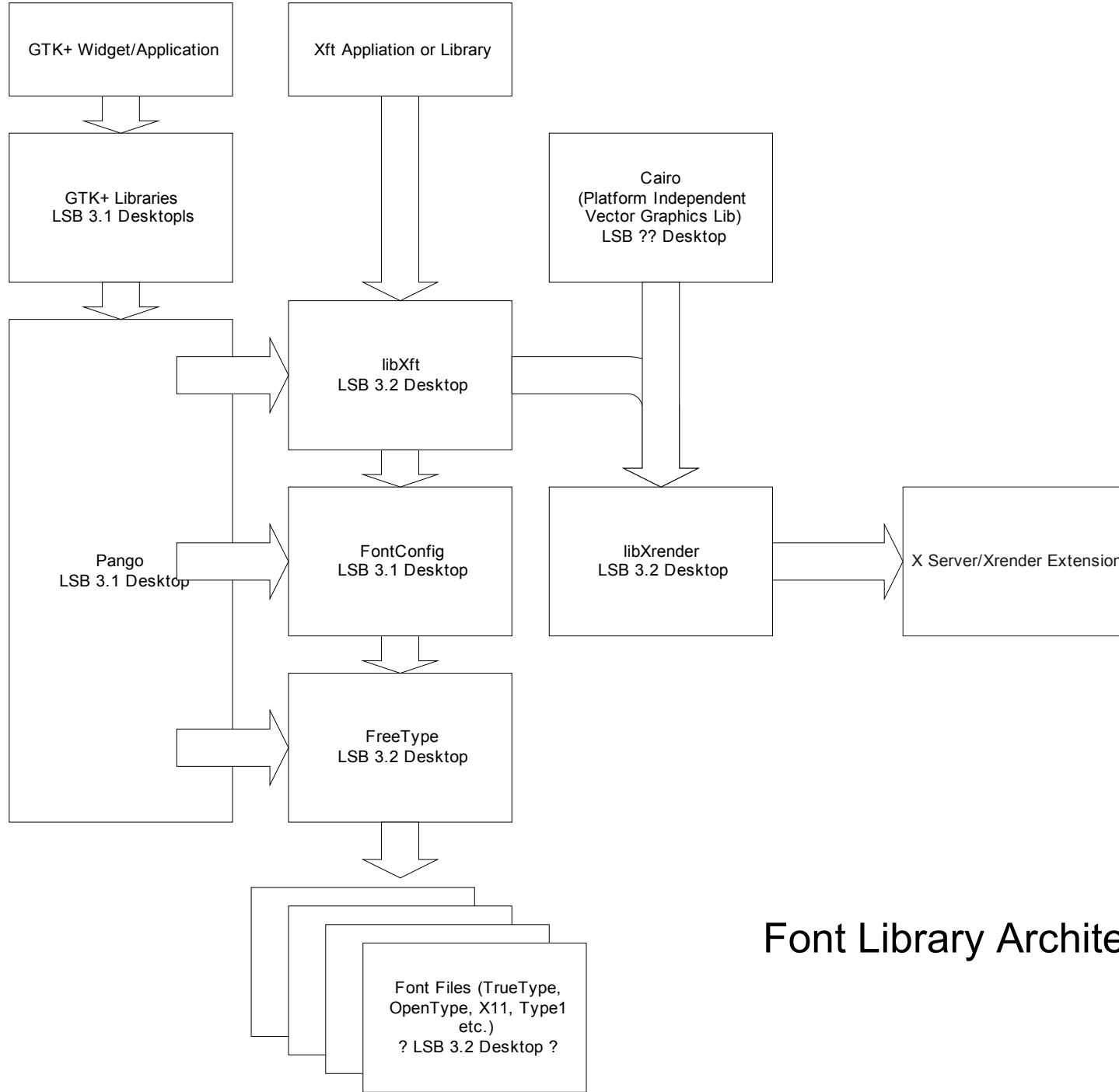
- Base Directory Spec
  - Defines where data and configuration files should be located
- Desktop Entry Spec
  - Defines how desktop entries are formatted
- Icon Theme Spec
  - LSB defines a base directory for installing icons
- Menu Spec
  - Defines how menus are built from desktop entries

# FreeDesktop continued...

- Need for a common mime-type registry, spec agreed upon, but supporting implementations not yet common between the desktop communities.
- XDG-utils not included, due to major distro not yet including it, but potentially helpful in automating many aspects of spec compliance from package installers.

# Font Libraries

- FreeType
  - TrueType & OpenType fonts, plus about 9 other font formats
- XRender
  - Provides Porter-Duff image compositing to X
  - Allows abstraction between display hardware and rendering applications.
- Xft2
  - binds FreeType, FontConfig, and XRender into a XLib font interface replacement



## Font Library Architecture

# Testing Strategy

- XRender
  - Utilize existing rendercheck suite
  - Validates rendering correctness, but does not validate display correctness
- FreeType
  - Develop FreeType semantic unit tests using set of test-supplied fonts (<http://www.nongnu.org/freetype>)
  - Will not be validating rendering correctness

# Testing Strategy Continued...

- Xft
  - Develop Xft semantic unit tests
  - Develop Xft Rendering bitmap comparison correctness test using test supplied fonts and a sampling of UTF-8 strings.
  - Provides additional coverage for FontConfig as well (FontConfig grew out of earlier Xft library)

# Great! But...

- It would be nice to actually be able to count on some fonts being present now that I can render them.
  - Avoids needing to ship fonts with your application
  - Guarantees that internationalized applications will work as expected on any LSB Desktop certified distribution (i.e. no 'default character glyphs' when displaying Unicode text)

# Would like some feedback on fonts

- Issues:
  - X11 fonts are defacto and possible pragmatic solution,
    - cover the 1<sup>st</sup> multilingual Unicode plane
    - but not pretty...
  - Free TrueType/OpenType fonts are available, but somewhat fragmented – is there a clear de-facto set that covers Unicode?
  - What level of standardization is appropriate?
    - Font named 'X' exists?
    - Font named 'X' exists and contains glyphs for some range of Unicode?

# Thanks

Feedback to: [tracyx.e.camp@intel.com](mailto:tracyx.e.camp@intel.com)