



LSB Infrastructure: Software Systems

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About the LSB Infrastructure Program

- Started in September 2006
- Contractor: Institute for System Programming of the Russian Academy of Sciences (ISP RAS), Moscow, Russia
- People from the Linux Verification Center, which is a part of ISP RAS





Long Term Program Goals

- Attract various parties to the LSB community (ISVs, distribution vendors, upstream developers).
- Make LSB certification more inviting.
- Provide uniform infrastructure for contributing to LSB.
- Ensure LSB delivers real value in solving compatibility problems.



Program Areas

- **Infrastructure SW Systems**

- Main LSB Database & Scripts
- LSB Navigator
- LSB Certification System
- Test Execution Frameworks (ATK / DTK Managers)

- **New Tests for LSB Interfaces**

- 3 grades of quality – shallow, normal, deep.
- 3 Test Development Frameworks

- **Investigation and Analytical Tasks**



LSB Database & Scripts (1)

- 7 releases of database & scripts
- Schema redesign:
 - **17** new tables
 - **5** obsolete tables dropped
 - **15** tables redesigned significantly
 - **10** tables redesigned
- Legacy data clean up in many tables:
 - Over **1500** records fixed
 - Over **5800** irrelevant records removed
 - About **36500** missing records added
- A lot of new info populated (hundreds of thousands records).

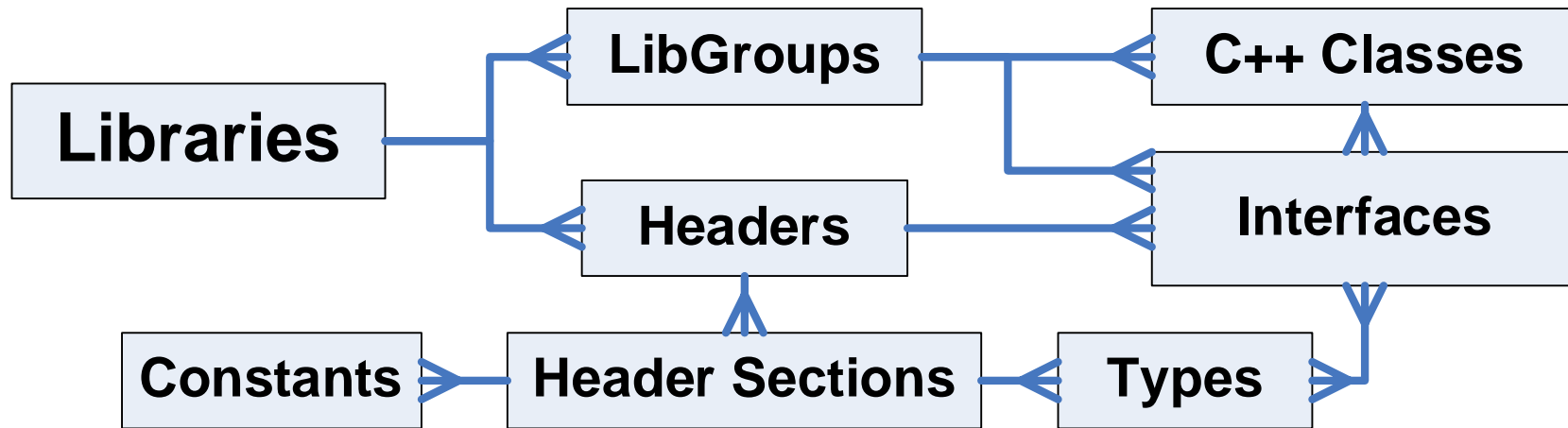
● ● ● | LSB Database & Scripts (2)

- **35** distinct problem types discovered and fixed in legacy data (those registered in public Bugzilla).
- Over **170** issues fixed that were registered in the internal problem tracking system for the DB component.
- Script updates:
 - **40** scripts have been modified / improved.
- Official list of changes is at:
http://ispras.linux-foundation.org/index.php/LSB_Database_Updates
- A series of fixes yet to be done...

- ● ● |  **Navigator**

- **A web system for LSB community**
 - Information about LSB
 - Information about Linux ecosystem
 - Upstream components
 - Distributions
 - Applications
 - LSB workgroup services
- **A part of Linux Developer Network (LDN)**
- **The main LSB database is behind**
- **Live version:**
 - <http://linux-foundation.org/navigator/>

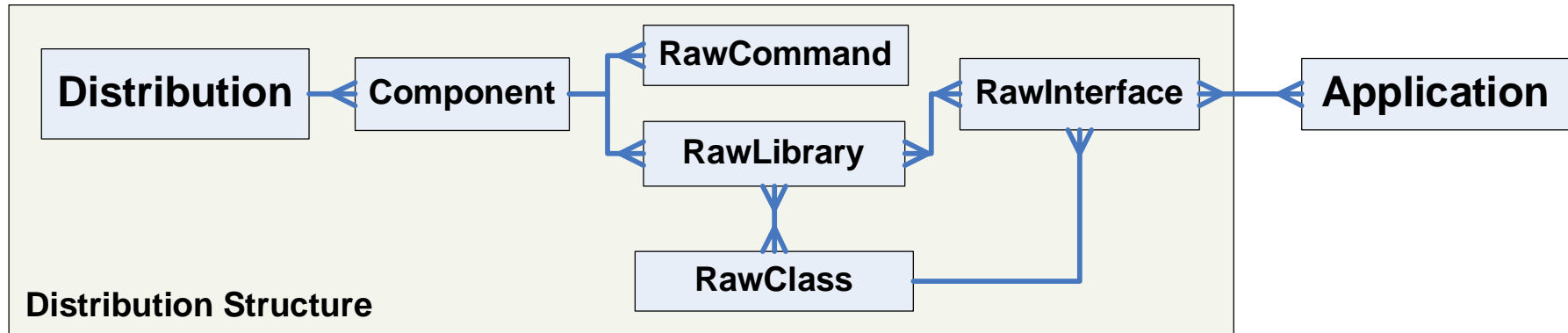
- LSB Navigator: LSB ABI Elements



Libraries	44
LibGroups	221
Headers	465
Header Sections	882

Classes	969
Interfaces	36102
Types	4533
Constants	6088

LSB Navigator: Distro & Apps



- **17** distributions uploaded
- **250** applications uploaded
- To be many more with time...

OpenSUSE 10.2 on x86-64

Components	52 (list...)
Libraries	247 (list...)
Commands	414 (list...)
Classes	2085 (list...)
Interfaces	58249 (list...)

- ● ● | **LSB Navigator:
Workgroup Services**

- **Statistics on LSB evolution**
- **Test Coverage Analysis**
- **Registry of Referenced Standards**
- **Admin:**
 - **Add new records**
 - **Edit existing records**
 - **Consistency queries**

Live Demo...



LSB Navigator Plans

- **Improve the current functionality**
(better cosmetics, easier interface, advanced filters, more interlinks, more information and embedded expandable summaries, etc.) – 68 open issues in the current issues tracker
- **Add new major components:**
 - **Test Suites Configuration Management**
 - **LSB Futures Tracker**
 - **LSB Module Import Control Center**
 - **Community Import Control Center**



Test Execution Frameworks

- **DTK Manager** – for execution and results analysis of **distribution** tests.
 - autotest and various test suites underneath
- **ATK Manager** – for execution and results analysis of **application** tests.
 - appchk underneath



ATK / DTK Managers' Top Level Features

- Selection of tests to run
- Executing tests and monitoring progress
- User friendly test results in colorful and interactive HTML reports.
- Results history register.
- Context links to web resources (Navigator, Wiki).
- Integration with the certification system.



DTK Manager Plans (1)

- Easier to use interface:
 - Redesign custom test selection screen
 - Enable using multiple versions of tests for the same LSB version.
 - Enable customizing parameters for each test suite (now user cannot change the defaults).
- Improve the reports:
 - Add links to source code of the failed test case.
 - Add links to the specification text assertion.
 - Add links to particular place in detailed journal.

● ● ● | DTK Manager Plans (2)

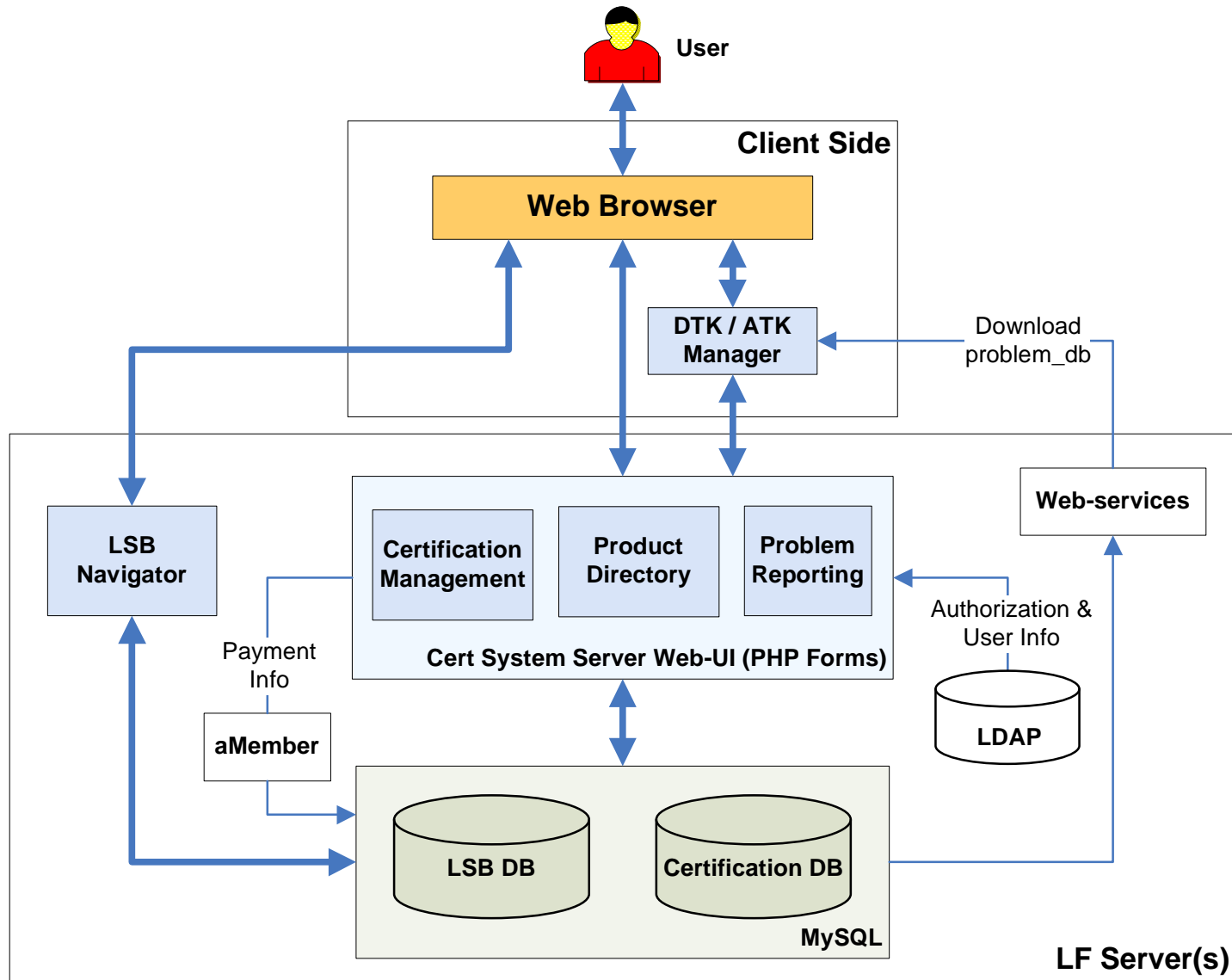
- Add mechanisms for FIP explanations.
- Enable fine grain control of the tests to run.
- Enable visual comparison of test reports.
- Integration with the Certification system.
- Integration with the Problem reporting system.
- Integration with the LSB Navigator.
- Technical things:
 - Deploy MANIFEST file stored at the LF server.
 - Use AJAX technology for advanced features.
 - Improve partitioning between DTK manager and the underlying autotest.



ATK Manager Plans

- Add **pkgchk** support.
- Develop **ATK Eclipse plug-in** (this may further evolve into a more general **LSB Eclipse plug-in** involving integration with LSB Navigator/LDN and in place LSB SDK usage).
- Deploy all the similar improvements like in DTK Manager, most important of which are:
 - Integration with the Certification system.
 - Integration with the Problem reporting system.
 - Integration with the LSB Navigator.

LSB Cert System Architecture





LSB 3.2 (September) Plans (1)

- New **DB** and **Navigator** Release

- 20-40 of features/issues to be implemented/fixed - a subset of all known and those to be discovered.
- More apps and distros.

- New **DTK Manager** Release

- 10-20 of pending features/issues to be implemented/fixed - a subset of all known and those to be discovered.
- Certification System Integration.



● ● ● | LSB 3.2 (September) Plans (2)

- Standalone web **ATK Manager** Beta
- The first basic version of the new **Certification System** (Certification Management part only).



More Info & Contacts

- o **Mailing list:**

 - lsb-infrastructure@lists.freestandards.org

- o **Project Wiki:**

 - <http://ispras.linux-foundation.org>

- o **Vladimir Rubanov**

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