

LSB Infrastructure Program: Testing Efforts

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LSB 3.1 Test Coverage

	Shallow	Normal
■ Total –	16.4%	9.5%
□ QT (3 & 4) –	3.7%	0.8%
□ Sub Total (no qt) –	38.7%	24.8%
■ Core –	33.3%	27.7%
■ C++ –	21.5%	6.3%
■ Desktop (no qt) –	44.7%	29.7%



LSB Testing Strategy

- Three grades of testing quality
 - Shallow
 - Normal
 - Deep
- Stage 1: Cover all testable interfaces at least by shallow tests

Normal Tests

- glib (830 of 832 interfaces)
- gmodule (8 of 8 interfaces)
- gthread (2 of 2 interfaces)
- atk (222 of 222 interfaces)
- fontconfig (132 of 160 interfaces)

LSB 3.2 Test Coverage*

	Normal:	3.1	3.2
■ Total –		9.5%	13,5%
□ QT (3 & 4) –		0.8%	0.8%
□ Sub Total (no qt) –		24.8%	35.1%
■ Core –		27.7%	26.6%
■ C++ –		6.3%	6.3%
■ Desktop (no qt) –		29.7%	44.9%

* Including newly-added libraries and interfaces

LSB 3.2 Test Coverage*

	Shallow:	3.1	3.2
■ Total –		16.4%	49.7%
<input type="checkbox"/> QT (3 & 4) –		3.7%	50.7%
<input type="checkbox"/> Sub Total (no qt) –		38.7%	48.0%
■ Core –		33.3%	31.9%
■ C++ –		21.5%	21.5%
■ Desktop (no qt) –		44.7%	58.6%

* Including newly-added libraries and interfaces



Question 1: Data Interfaces

Shall we track test coverage of data interfaces?

Question 2: C++ Testing

There are NOT needs to test:

- thunks
- guard variables
- typeid
- private interfaces

There are needs to test:

- public interfaces
- protected interfaces



The Problem

Tests detect problems

Test development detects problems

Problems

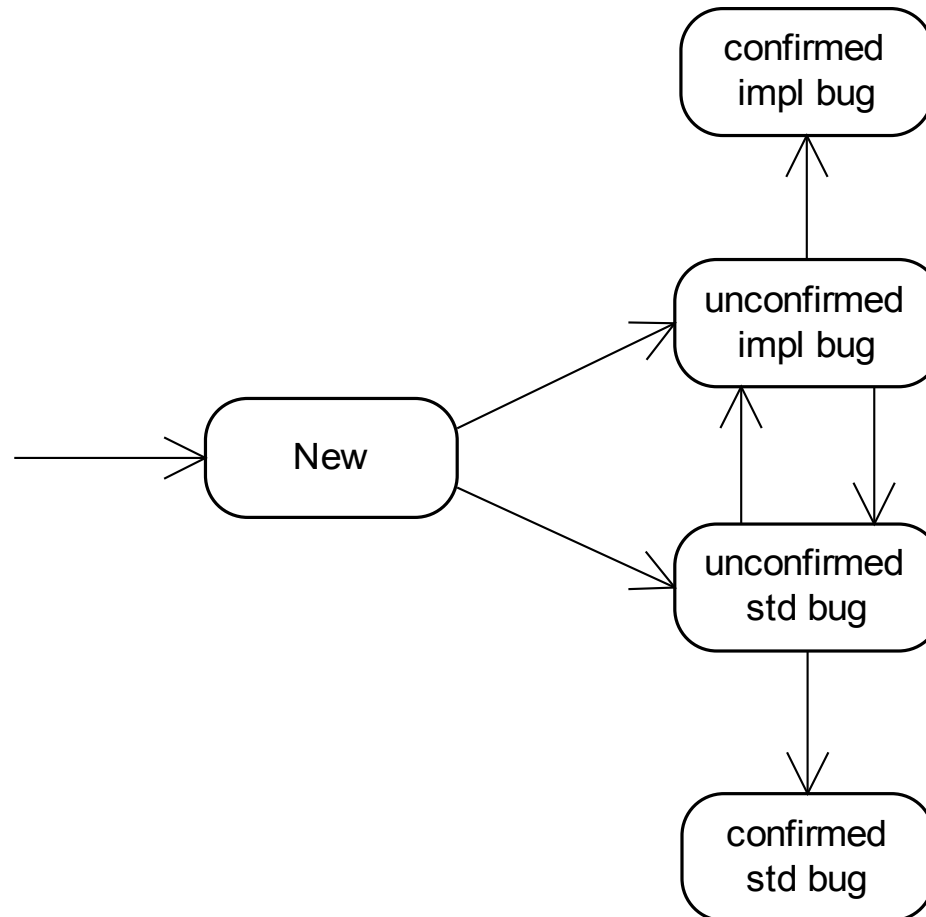
Problems

```
graph TD; A[Problems] --- B[Problems in implementation (34)]; A --- C[Problems in standard (71)];
```

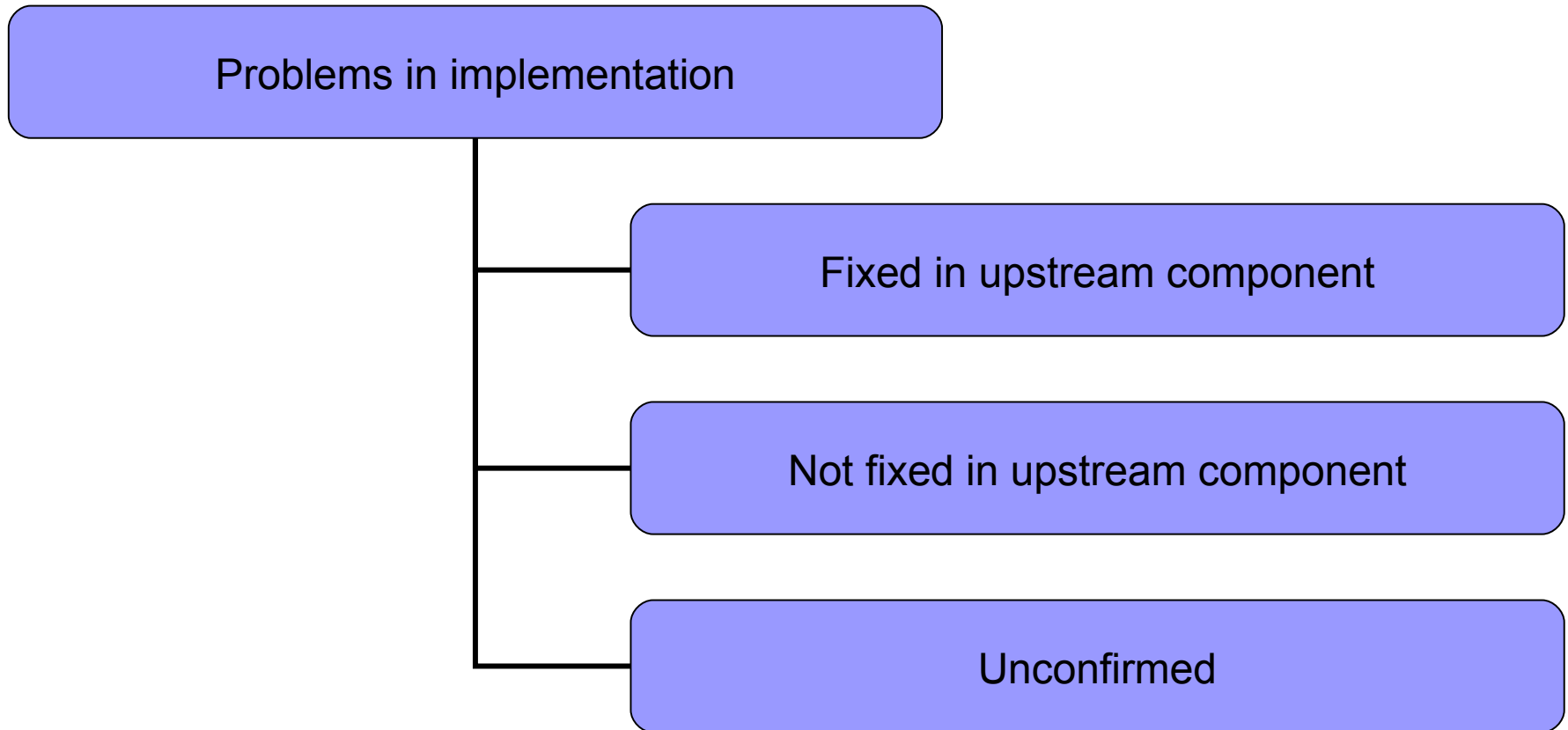
Problems in implementation (34)

Problems in standard (71)

Typical problem workflow



Problems in Implementation



Problems in Implementation (2)

Problems in implementation

```
graph TD; A[Problems in implementation] --- B[Existent in LSB X.Y]; A --- C[Not yet]
```

Existent in LSB X.Y

Not yet

Question 3:

Problems in Implementation

	Fixed	Not Fixed
Existent in LSB X.Y		
Not yet		

Question 3:

Problems in Implementation

Alternatives:

2. Exclude test case from the test suite
3. Require all newly certified distro fix the problem
4. Grant a waiver for the whole LSB X.Y certification program (with warning)
5. Document the problem in the LSB X.Y Update Z
6. ...

Fixed Problems in Implementation

Fixed problems:

- 1 in glibc
 - Red Hat Bugzilla, [2766](#)
- 2 in ncurses
 - mail list archive
- 2 in glib
 - Gnome Bugzilla [476849](#)
 - Gnome Bugzilla [476840](#)
- 1 in atk
 - Gnome Bugzilla [477763](#)

Problems in Standard

Problems in standard

```
graph TD; A[Problems in standard] --- B[LSB itself]; A --- C[Referenced standard]; A --- D[Frozen version of documentation]; A --- E[Latest version of documentation];
```

LSB itself

Referenced standard

Frozen version of documentation

Latest version of documentation



Latest Version of Documentation

- Uncontrollable major changes

For example:

- deprecation of some interfaces in fontconfig

Frozen Version of Documentation

Question 4:

- How to incorporate the correct changes in documentation?

For example:

- documentation of `g_get_language_names`
- `g_byte_array_free` returned value

Thank you!

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