



The C++ standards committee wants YOU!

# Boosting Libraries to Standard C++

How to propose a library for standardization and shepherd the proposal through the C++ committee process

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**Please interrupt with Questions!**

# Session Coverage

- Tutorial: How to successfully propose a library for C++ standardization
- Recruit: Volunteers for writing proposals, reading drafts, tracking progress
- Discussion: Miscellaneous gems from Boost proposal?

# Background on the committee

# Committee Overview

- The Standards Committee is all volunteer.
- Nothing happens without written proposal.
- They need Boost library proposals!
- They will help you with your proposal!
- If you enjoy & learn from Boost & BoostCon/C++Now, you will probably enjoy & learn from the standardization process.



The C++ standards committee ~~wants~~ needs YOU!

# Resources

- Committee: [www.open-std.org/jtc1/sc22/wg21/](http://www.open-std.org/jtc1/sc22/wg21/)
- C++11 Standard:  
[www.open-std.org/jtc1/sc22/wg21/docs/papers/2012](http://www.open-std.org/jtc1/sc22/wg21/docs/papers/2012)  
Find Working Draft, Standard for Programming Language C++ with highest N number. (e.g. N3376)
- LWG home: [cplusplus.github.com/LWG/](http://cplusplus.github.com/LWG/)
  - Call For Library Proposals
  - Library Proposal Status Report
- Standardese:  
[github.com/cplusplus/draft/wiki/Standards-Wording-1](http://github.com/cplusplus/draft/wiki/Standards-Wording-1)





# How to get help

Discussion Group:

ISO C++ standard library – proposals

[googlegroups.com/a/isocpp.org](https://googlegroups.com/a/isocpp.org)

# Revised ISO Terminology

- **International Standard (IS)** – Full baked standards such as C++11 itself.
- **Technical Specification (TS)** – Formerly Type 2 Technical Reports, like TR1. Best for things not quite ready for full standardization.
- **Technical Report (TR)** – Formerly Type 3 Technical Reports. Informative, such as the Performance TR.
- **Study Group (SG)** – Sub-group within the committee setup to deal with a specific topic or TS

# Revised LWG Procedures

- Multiple Library TSs are being developed in parallel. Each ships when ready. Some may be topic oriented (Networking, Filesystem), others may contain unrelated material that happens to be ready about the same time.
- Target decision (C++1y, TS, or even IS) is deferred.
- Willing to accept proposals without standardese (i.e. working paper wording).

# Revised LWG Procedures

- No changes to existing standard library headers until C++1y.

Steps you go through

# Overview of the Steps

- Preparation and planning.
- Write and submit initial proposal
- Revise proposal based on feedback
- Proposal added to a working paper
- Monitor issues affecting proposal
- Publication of TS/IS

[look at [any-proposal.html](#)]



# Aside: Why Bother?

- Wider library scrutiny and acceptance
- Reduced long term maintenance
- Good way to get involved with C++ committee
- Learning experience
- Professional development

# One size doesn't fit all

- Weight of proposal should match weight of library
- Front matter
- Is existing practice really needed?

# The Initial Proposal

- What should and shouldn't go into it
- Proposed wording (standardese) or not?

# Presenting a proposal

- In person at a committee meeting
  - Ensures a knowledgeable presentation
  - Wide bandwidth feedback
  - Private feedback
  - Meetings are endlessly interesting
- Via a champion who will stand in for you at committee meetings
- See  
[www.boost.org/community/committee.html](http://www.boost.org/community/committee.html)

# How to write library standardese

- Your library's reference docs are almost there!
- 17.5 Method of description (Informative)
- 17.6 Library-wide requirements
- “Shall” versus “should”, “must”, “will”
- Understand difference between normative and informative text.

# Standardese Text

- Normative text
- Informative (i.e. non-normative)
  - Notes: [*Note: ... --end note*]
  - Example: [*Example: ... --end example*]
  - Footnote: *Best to avoid footnotes.*

# Standardese dos and don'ts

- Use “shall” to indicate mandated behavior.  
“The type shall meet the CopyConstructible requirement.”
- Use symbolic references to the standard.  
[swappable.requirements] not 17.6.3.2
- Dates must be in ISO format: 2012-05-07
- Never circulate a draft with an N number (N1234). Use D number instead (D1234)

# Non-Normative Text

Text that doesn't add to the specification is called “non-normative” or .

- Notes
- Examples
- Footnotes



# Volunteers

- To work on specific proposals
- To review drafts
- To monitor status
- To act as champions

Thank you!