Expanding the Rights in SD-8

Document number: P1919R2
Date: 2020-01-08
Project: Programming Language C++, Library Evolution Working Group
Reply-to: Nevin “☺” Liber, nliber@anl.gov

Table of Contents

Change History ......................................................................................................................... 1
   R2 ........................................................................................................................................ 1
   R1 ........................................................................................................................................ 1
Introduction ............................................................................................................................. 1
Motivation and Scope ............................................................................................................... 2
   Add new names to namespace std ..................................................................................... 2
Impact on the Standard .......................................................................................................... 2
Design Decisions .................................................................................................................... 2
Technical Specifications ........................................................................................................ 2
Acknowledgements ............................................................................................................... 2
References ............................................................................................................................... 3

Change History

R2
   • Changed “Inline variables” to “Variables

R1
Incorporate the changes discussed in LEWG in Belfast:
   • Change “namespace std” to “namespace std and sub-namespaces”
   • Add inline variables to the list of entities

Introduction
The rights enumerated in the 2018-08-02 version of SD-8 (Standard Library Compatibility) are a great start, but are not sufficient. This proposal expands upon those rights.
**Motivation and Scope**
The rights enumerated in "Rights the Standard Library Reserves for Itself" is a great start, but is not sufficient to cover what we already assume. Here is an attempt to expand on those rights.

*Add new names to namespace std*

We own more than one namespace, and we should reserve the right to add names to any of those namespaces and to any entity within those namespaces.

**Impact on the Standard**
No direct impact.

**Design Decisions**
Entities within reserved namespaces are things that are in the domain of the standard library.

**Technical Specifications**
Replace the first three bullet items with:

- Add new names to namespace std, any namespace reserved for future standardization as per [namespace.future], and any sub-namespaces of those namespaces
- Add new names to any entity within any reserved namespace, including but not limited to
  - Functions (this includes new member functions and overloads to existing functions)
  - Enumerations
  - Namespaces
  - Aliases (using, typedef, etc.)
  - Classes (struct/class/union)
  - Concepts
  - Variables

**Acknowledgements**
Thanks to Titus Winters for encouraging me to write this. Thanks to Roger Orr and BSI for pointing out that “Inline Variables” should just be “Variables”.
This was supported by the Exascale Computing Project (17-SC-20-SC), a collaborative effort of two U.S. Department of Energy organizations (Office of Science and the National Nuclear Security Administration) responsible for the planning and preparation of a capable exascale ecosystem, including software, applications, hardware, advanced system engineering, and early testbed platforms, in support of the nation's exascale computing imperative. Additionally, this research used resources of the Argonne Leadership Computing Facility, which is a DOE Office of Science User Facility supported under Contract DE-AC02-06CH11357.

References
SD-8: Standard Library Compatibility