p1410r0 - Remove deprecated strstream

Peter Sommerlad

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Target:	C++20 or C++23

1   Introduction

Streams have been the oldest part of the C++ standard library and especially strstreams that can use pre-allocated buffers have been deprecated for a long time now, waiting for a replacement. p0407, p0408 and p0448 provide together a modern complete replacement for strstream. This paper provides wording for actually removing it from appendix D and referring to its removal in appendix C. If p0408 (that includes p0407) and p0448 are accepted for C++20 then this paper can either be applied for C++20 or as some propose applied for C++23. I personally believe time is ripe for C++20, but I let LEWG or the full committee decide.

2   Impact on the standard

This section is relative to n4791 which is current at the time of the writing.

2.1   provide wording for difference in Appendix C

Depending on approval standard add the following paragraph to section [diff.cpp17.depr] (or [diff.cpp20.depr] when that exists). The editorial guidance now is relative to n4791.

Add a new paragraph in [diff.cpp17.depr] before p.7 as follows:

[1] **Change:** Remove deprecated `char *` streams
Rationale: The introduction of span streams [span.streams] and the provisioning of efficient access to the underlying buffer of string streams [string.streams] provide better alternatives for the use cases of `char *` streams. The latter have been deprecated in all revisions of this international standard.
Effect on original feature: A valid C++ 2017 program that relies on the deprecated `char *` stream classes may fail to compile. In cases where the underlying `strstreambuf` is allows writing

and its `strstate` bitmask has `allocated` or `dynamic` set, classes from [string.streams] should be used instead. In other cases either classes from [span.streams] or [string.streams] can be used to achieve its functionality with equivalent performance.

2.2   Remove deprecated `char *` streams from Appendix D

Remove all of Appendix D.8 [depr.str.strstreams]