

Four IOstreams recommendations

Four IOstreams recommendations are proposed below, interspersed amid the minutes of the IOstreams ad-hoc group.

>Date: Thu, 23 May 1996 10:17:21 -0700
>From: clamage@pacific-88.Eng.Sun.COM (Steve Clamage)
>Message-Id: <199605231717.KAA14983@taumet.eng.sun.com>
>Subject: IOStreams working group recommendations
>X-Sun-Charset: ISO-8859-1
>
>To: C++ libraries mailing list
>Message c++std-lib-4709
>
>The following is a paper that will appear in the next mailing.

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> Doc No: X3J16/96-0096
> WG21/N0914
> Date: May 23, 1996
> Project: Programming Language C++
> Reply-To: Stephen D. Clamage
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>
>

>IOstreams WG recommendations

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> Re: IOstream issues list X3J16/96-0079 WG21/N0897 of May 15, 1996.
>
> Members of the IOstream library working group met informally on 21-22 May to review
>all the outstanding Chapter 27 issues. Recommendations of this group are given below.
>Each issue, except for those left open, was assigned to a person who will present a complete recommendation with WP language to the full IOstream working group at Stockholm.

...
>27-005 not_eof specification (TP)
>Recommend: Yields a value which is not equal to eof. The value is unspecified. (The WP
>requires that (not_eof(e)==e) if (e!=eof), and forces a change from existing practice. The
>recommendation allows existing implementations to remain unchanged.)

Revise description of char_traits::not_eof to specify ...

Yields a value which is not equal to eof. The value is otherwise unspecified.

>27-806 filebuf::seekoff description (TP)
>Recommend: Accept in principle the recommendations in the public comment. Eight-bit
>streams behave like stdio FILES. For wide streams, seeks are allowed provided the external
>file meets certain criteria to be worked out by TP.

Effects: If the stream is opened as a text file or has state-dependent conversions, the only permissible seeks are with zero offset relative to the beginning or current position of the file. Otherwise ... [copy text from basic_stringstream]

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Note: I don't find any special criteria for wide streams; binary streams are seekable just as for narrow streams. The catch is, there are no implied relationships between number of widechars read and seek position; the implementation can (and in many implementations does) use the same widechar<->multibyte encodings on a binary stream as on a text stream. But I'm not sure that this requires any WP wording.

>27-811 missing filebuf::sync (TP)

>Recommend: For output, perhaps adapt wording from C standard. (Intent is clear.) For >in/out, flush output then really seek to current file position. For input files, >implementation-defined.

[Rather than copying C wording, I'm pointing to it; something like this ...]

Effects: If pbase() is non-null, the characters between pbase() and pptr() are written to the stream; then the associated file is flushed (as if by calling std::fflush(file)).

>27-910 streampos type (TP)

>Recommend: Resolve as in issues list, and add streampos to <iosfwd>.

I.e.: Add back streampos, as being the pos_type used on streams instantiated on tiny characters. Replace all references to streampos by references to pos_type throughout the iostreams chapter. (When streams are instantiated on char, pos_type == streampos.) Add streampos to <iosfwd>.