

Template for comments and secretariat observations

Date:2016-11-12	Document: SC22 WG21 N4616	Project: 19568
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MB/ NC ¹	Line number	Clause/ Subclause	Paragraph/ Figure/Table	Type of comment ²	Comments	Proposed change	Observations of the secretariat
FI 2 001				Te	All open library issues concerning this TS should be resolved.	As LWG sees fit.	ACCEPT WITH MODIFICATION The following outstanding LWG issues were considered: #2417 - Will not resolve #2518 - Resolve #2521 - Resolve #2525 - Resolve #2527 - Resolve #2561 - Will not resolve #2564 - Will not resolve #2568 - Resolve #2570 - Resolve #2588 - Resolve #2733 - Resolve #2745 - Resolve #2750 - Resolve
FR 2 002		01.06	Table 2	Te	Modify table 2 so that it is clear what has been added/modified respect to v1, and what fixes have been applied?	Modify the table	REJECT There is no consensus to adopt this change.
FI 3 003		05.03 optional for object types [optional.obje ct]		Te	Specifically, LWG issue 2451 “[fund.ts.v2] optional<T> should ‘forward’ T’s implicit conversions” should be resolved. There is a proposed resolution which has been implemented.	Apply the proposed resolution of the issue, with necessary changes/amendments by LWG.	ACCEPT
FI 4 004		06.04 Non- member functions		Te	Specifically, 2509 “[fund.ts.v2] any_cast doesn’t work with rvalue reference targets and cannot move with a value target” should be resolved.	Apply the proposed resolution of the issue, with necessary changes/amendments by LWG.	ACCEPT

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		[any.nonmembers]			There is a proposed resolution which has been implemented.		
FI 5 005		07.08 basic_string_ view string operations [string.view.ops]	Paragraph 1	Te	It has been suggested on many forums that rather than have string_view convert to a string via a conversion operator, it would be better to have that conversion as a converting constructor of string.	Consider replacing the string_view's conversion operator to string with a new string constructor that takes a string_view.	REJECT There is no consensus to adopt this change.
GB 2 006		08.02.1.3	p4, p8, p12	Ed	shared_ptr casts [memory.smartptr.shared.cast] use the phrase "The seemingly equivalent expression" in notes to the three paragraphs. It is arguable whether the phrases do seem 'equivalent'.	Replace the phrase 'seemingly equivalent' with 'related' or 'similar'.	ACCEPT
GB 3 007		08.10		Te	The constructor to monotonic_buffer_resource that takes size_t initial_size and memory_resource* upstream does not actually allocate anything, simply prepares for the first allocation. In latency-sensitive environments it would be good to be able to pre-allocate from the upstream resource at, or shortly after, construction of the monotonic_buffer_resource. The overloads taking both buffer and buffer_size do provide a way to pre-allocate, but the monotonic_buffer_resource does not own the buffer so additional management is required to ensure the buffer is deallocated when the monotonic_buffer_resource is destroyed.	Either changing the specified constructor to actually allocate a buffer from the memory_resource, or providing some way to cause an allocation from the memory_resource.	REJECT There is no consensus to make this change.
FR3 008		08.12		Te	Some interfaces in the standard could benefit from observer_ptr usage. Has the replacement of those interfaces (or adding new	Give answer	REJECT There is no consensus to make this change.

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					<p>versions) been studied?</p> <p>For instance, in 27.5.5.3/5 [basic.ios.members] <code>basic_streambuf<charT,traits>* rdbuf() const;</code> Should be replaced by: <code>observer_ptr<basic_streambuf<charT,traits>></code> <code>rdbuf() const;</code></p> <p>Or, in 20.9.1.2.4/3 [unique.ptr.single.observers] pointer <code>get() const noexcept;</code> Should be replaced by <code>observer_ptr<T> get() const noexcept;</code> (with the good definition of T related to the typedef /pointer/)</p>		
FI 1 009		08.12 Non- owning pointers [memory.obs erver.ptr]		Te	The type <code>observer_ptr</code> has a misleading name. It doesn't observe anything. The committee already had better names suggested for it, but the name it chose is non-descriptive and inconsistent with other library pointer types.	Rename <code>observer_ptr</code> to <code>non_owning_ptr</code> , or alternatively <code>exempt_ptr</code> . Then the name fits into the others: <code>unique</code> , <code>shared</code> , <code>weak</code> , <code>non_owning/exempt</code> ; the name describes the ownership semantics, or in the case of a <code>non_owning_ptr</code> , the lack of them.	REJECT There is no consensus to adopt this change.
JP 010		13.01.2	1	te	<p>By the current definition, <code>gcd((int64_t)1234, (int32_t)-2147483648)</code> is ill-formed (because 2147483648 is not representable as a value of <code>int32_t</code>.)</p> <p>We want to change this case to be well-formed. As long as both <code> m </code> and <code> n </code> are representable as values of the common type, absolute values can be calculated without causing unspecified behavior, by converting 'm' and 'n' to the common type before taking the negation.</p>	<i>Requires:</i> <code> m shall be representable as a value of type M and n shall be representable as a value of type N</code> <code> m </code> and <code> n </code> shall be representable as a value of <code>common_type_t<M,N></code> .	ACCEPT
JP		13.01.3	1	te	ditto	ditto	ACCEPT

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011							
FR1 012		All	All	Ge	<p>Add the new C++17 library features that don't depend on any C++17 language feature to Fundamental V2, as e.g</p> <ul style="list-style-type: none"> • as_const, • bool_constant, • invoke, • non-member size/empty/data • common_type/iterator_traits • shared_mutex <p>All these are useful features that C++14 users can profit of.</p>	Add the features to the document	REJECT
GB 1 013		Many		Te	Inconsistent use of 'using' and 'typedef' in the proposed wording.	The newer syntax with 'using' is clearer and should be preferred, except where compatibility with the existing published standard is required.	ACCEPT
GB 4 014		Many		Ge	The BSI would like to ensure that outstanding issues on the LWG issues lists are all considered before the final TS is produced.		<p>ACCEPT WITH MODIFICATION</p> <p>The following outstanding LWG issues were considered:</p> <ul style="list-style-type: none"> #2417 - Will not resolve #2518 - Resolve #2521 - Resolve #2525 - Resolve #2527 - Resolve #2561 - Will not resolve #2564 - Will not resolve #2568 - Resolve #2570 - Resolve

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							#2588 - Resolve #2733 - Resolve #2745 - Resolve #2750 - Resolve

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