

Doc No: SC22/WG21/N3094
PL22.16/10-0084
Date: 2010-04-09
Project: JTC1.22.32
Reply to: Stefanus Du Toit
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Minutes of PL22.16 Meeting, March 08, 2010 (Revision 2)

Note: this document revises N3080/10-0070, correcting the text of “Other Motion 2”.

1. Opening activities

Clamage called the meeting to order at 09:00 (UTC-5) on Monday, March 08, 2010.

1.1 Opening comments

1.2 Introductions

Clamage had the attendees introduce themselves.

1.3 Meeting guidelines (Anti-Trust)

Clamage reviewed the patent disclosure rules.

The following materials were displayed without any further interpretation or discussion:

<http://www.incits.org/inatrust.htm>

<http://www.incits.org/call.htm>

http://www.incits.org/pat_slides.pdf

1.4 Membership, voting rights, and procedures for the meeting

Clamage reviewed the rules for membership and voting rights. Clamage explained that the group was returning to previous voting procedures of having PL22.16 voting members vote, then taking a separate WG21 vote amongst voting national bodies, with the US international representative casting the US vote. This change was to take place after the group had previously been holding votes by counting attending members and delegates.

T. Plauger indicated her wish to have a roll call for every such vote.

Clamage explained that the group had been planning on issuing a second Committee Draft at this meeting, followed by a Final Committee Draft at a later time, based on concerns as to what the quality of the draft would be at this meeting. He went on to explain that given the work progress so far, the group expected the draft to be in good enough shape to aim for a Final Committee Draft at this meeting.

Hedquist asked whether there was documentation supporting this change in schedule from the SC22 Secretariat. Sutter confirmed that such documentation existed. Discussion ensued regarding the procedure necessary to complete a Final Committee Draft in time.

Sutter explained the coordination of the ballot that would be taken for such a draft, and stated that the appropriate people involved are ready to do so. He went on to state that assuming such a draft could be produced within about two weeks after the meeting, which he stated was the goal of the committee, the balloting process could start roughly on March 31 and complete before the next meeting in Rapperswil.

Hinnant asked whether, once in FCD state, the group is allowed to fix issues not related to ballot comments, and specifically asked what the group should do if non-ballot comment related issues are found. Sutter responded that it was still acceptable and expected of the group to make fixes to the draft, whether related to a ballot comment or not.

Spicer asked whether comments attached to Yes votes in the ballot must be addressed. Sutter confirmed that this was the case.

1.5 Agenda review and approval

Clamage presented the agenda (document [PL22.16/09-0204 = WG21/N3014](#)).

Motion to approve the agenda:

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| Mover: Hedquist |
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| Secunder: T. Plauger |
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A roll call was requested:

| PL22.16 Vote (Motion to approve the agenda) | |
|----------------------------------------------------|-------------|
| PL22.16 Member | Vote |

| PL22.16 Vote (Motion to approve the agenda) | |
|----------------------------------------------------|-------------|
| PL22.16 Member | Vote |
| Apple | Yes |
| Bloomberg | Yes |
| CERT | Yes |
| Cisco | Yes |
| Dinkumware | Yes |
| EDG | Yes |
| Fermilab | Yes |
| Gimpel | Yes |
| Google | Yes |
| HP | Yes |
| IBM | Yes |
| Intel | Yes |
| Microsoft | Yes |
| Oracle | Yes |
| Perennial | Yes |
| Plum Hall | Yes |
| Red Hat | Yes |
| Seymour | Yes |
| Texas A&M | Yes |
| Zephyr Associates | Yes |

| WG21 Vote (Motion to approve the agenda) | |
|-------------------------------------------------|---|
| In favor: | 8 |
| Against: | 0 |
| Abstain: | 0 |

Motion passed with unanimous consent.

1.6 Distribution of position papers, WG progress reports, WG work plans for the week, and other documents that were not distributed before the meeting.

Each of the Working Group chairs presented their plans for the coming week.

Core Working Group (CWG)

Adamczyk presented the working group status for the core group and reviewed the issues related to NB comments to be processed during the meeting. He also reviewed

a list of papers not directly related to NB comments that might nonetheless be reviewed during the meeting once NB comments had been processed.

Library Working Group (LWG)

Hinnant reviewed the past progress on LWG issue processing, and the project status of LWG open issues based on issues that were marked Tentatively NAD and Tentatively Ready between meetings. Hinnant summarized that there are a number of NB comment related open issues that would still need to be addressed, but noted that he did not expect this to be problematic given the nature of the remaining issues.

Evolution Working Group (EWG)

Stroustrup indicated that EWG would not be meeting this week and that there was no need for a status report.

WG21 Report

Sutter gave the WG21 report and presented the schedule set out at the June 2008 meeting in Sophia Antopolis. He pointed out that the group was only one meeting behind the original schedule, and stated that this was thanks to a great deal of effort especially over the last three months. He reviewed the major stages of the documented that have been completed and are upcoming. He noted that while JTC1 is making changes to the drafting process, these changes were not expected to have an effect on C++0x.

Sutter reviewed the current projects in progress: revising C++ (14882), the Decimal Floating Point TR (24733), and the Special Math functions (29124). Sutter pointed out that the Special Math FCD had had only editorial comments, and therefore it was possible to publish the standard without an FDIS. He stated that there were plans to do so in the absence of any proposals to the contrary.

Sutter introduced Jon Benito (from WG14) and Rex Jaeschke (SC22 chair) who were both in attendance.

Sutter explained that in the past, Sunday evening meetings would be held for purely administrative discussions that did not require the entire group to be present. He stated that this was being replaced with telephone conferences taking place six times a year, and pointed to document N3017 for the details of the first meeting. Sutter reiterated that these meetings were intended only for procedural, as opposed to technical, discussions.

T. Plauger asked who constituted the attendees of these administrative meetings. Sutter answered that officially, anyone who was traditionally at the Sunday evening meetings would be invited. He added that for the past unofficial meetings, heads of delegations were also invited.

Sutter reminded anyone that if they wished to call into these meetings, they should speak to their corresponding Head of Delegation first.

Meredith asked whether there was an intent to return to two meetings per year. Sutter responded that the six phone conferences per year were intended to match the mailing schedule. He stated that the current plan was to continue to hold three meetings in 2011, but that there was a possibility of changing this, and that there had been some interest in doing so.

Plum asked whether a US TAG meeting was being held this week to choose the delegation. Hedquist responded that such a meeting had been previously held in Santa Cruz. Plum asked where the list of delegates could be found, to which Hedquist answered that the list could be found in the TAG minutes, which have been passed on to the Secretariat. He suggested that interested parties should ask him directly for the list if they need it in the meantime.

T. Plauger asked what the definition of TAG minutes were. Hedquist responded that these minutes pertained to meetings consisting only of the TAG. T. Plauger continued, asking whether Hedquist was responsible for the production of these minutes, which Hedquist confirmed.

Plum requested that the delegation list should be posted in an accessible place, such as the project Wiki. Hedquist answered that this would require Secretariat approval, even though, as Plum pointed out, these lists were not secret. Sutter stated that in the past, Heads of Delegation had sent him lists which he then managed. Nelson noted that historically this list was part of the member list, and was removed when the voting method was changed. He noted that he could add this list back to the member list.

1.7 Approval of the minutes of the previous meeting

Du Toit noted that a committee member had asked him by electronic mail to point out a small mistake in the previous minutes, namely the accidental use of "Pre-Rapperswil Mailing" in place of "Pre-Pittsburgh Mailing".

Motion to approve the minutes (document [PL22.16/09-0193 = WG21/N3003](#)):

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| Mover: Hedquist |
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Seconded: Caves

A roll call was requested:

| PL22.16 Vote (Motion to approve the minutes) | |
|-----------------------------------------------------|-------------|
| PL22.16 Member | Vote |
| Apple | Yes |
| CERT | Yes |
| Cisco | Yes |
| Dinkumware | Yes |
| EDG | Yes |
| Fermilab | Yes |
| Gimpel | Yes |
| Google | Yes |
| HP | Yes |
| IBM | Yes |
| Intel | Yes |
| Microsoft | Yes |
| Oracle | Yes |
| Perennial | Yes |
| Plum Hall | Yes |
| Red Hat | Yes |
| Seymour | Yes |
| Texas A&M | Yes |
| Zephyr Associates | Yes |

| WG21 Vote (Motion to approve the minutes) | |
|--------------------------------------------------|---|
| In favor: | 8 |
| Opposed: | 0 |
| Abstain: | 0 |

Motion passed with unanimous consent.

1.8 Liaison reports

Benito provided an update on the activities of WG14.

Plum provided an update on the activities of WG23.

Plum provided an update on the activities of PL22.

Jaeschke provided an updated on the activities of SC22.

1.9 Editor's report

The editor's report is document [PL22.16/10-0026 = WG21/N3036](#). Becker reviewed the state of the document with the group.

The group voted to accept N3035 as the latest working draft to be used as a basis for work.

Motion to approve the latest Working Draft (document [PL22.16/10-0025 = WG21/N3035](#)):

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| Mover: Becker |
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| Seconded: Hinnant |
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A roll call was requested:

| PL22.16 Vote (Motion to approve the working draft) | |
|-----------------------------------------------------------|-------------|
| PL22.16 Member | Vote |
| Apple | Yes |
| CERT | Yes |
| Cisco | Yes |
| Dinkumware | Yes |
| EDG | Yes |
| Fermilab | Yes |
| Gimpel | Yes |
| Google | Yes |
| HP | Yes |
| IBM | Yes |
| Intel | Yes |
| Microsoft | Yes |
| Oracle | Yes |
| Perennial | Yes |
| Plum Hall | Yes |
| Red Hat | Yes |
| Seymour | Yes |
| Texas A&M | Yes |
| Zephyr Associates | Yes |

| WG21 Vote (Motion to approve the working draft) | |
|--------------------------------------------------------|---|
| In favor: | 8 |
| Opposed: | 0 |
| Abstain: | 0 |

Motion passed with unanimous consent.

1.10 New business requiring actions by the committee

No new business.

2. Organize subgroups, establish working procedures.

Clamage announced that those present would be breaking up into working groups until Friday. He noted that the committee was in recess until then.

3. WG sessions (Core, Library, Performance, Evolution).

4. WG sessions continue.

5. WG sessions continue.

6. WG sessions continue.

7. WG sessions continue.

8. General session.

8.1 WG status and progress reports.

Core Working Group

See 11.1 below.

Library Working Group

See 11.1 below.

8.2 Presentation and discussion of DRs ready to be voted on. Straw polls taken.

See 11.1 below.

9. WG sessions continue

10. WG sessions continue
11. Review of the meeting

Clamage called the meeting to order.

47 attendees were present, including 40 PL22.16 members representing 24 member organizations. 21 member organizations had voting representatives attending during the final day of the meeting.

11.1 Motions.

CWG Motions

CWG Motion 1:

Move we apply the resolutions of the following issues from [N3026](#) to the C++0X Working Paper:

[408](#) [490](#) [493](#) [541](#) [561](#) [625](#) [638](#) [642](#) [701](#) [710](#) [722](#) [734](#) [740](#) [744](#) [760](#) [765](#) [777](#) [788](#) [793](#) [799](#) [808](#) [810](#) [811](#) [812](#) [817](#) [823](#) [828](#) [845](#) [847](#) [853](#) [869](#) [880](#) [886](#) [887](#) [891](#) [899](#) [904](#) [905](#) [906](#) [913](#) [922](#) [923](#) [927](#) [931](#) [932](#) [935](#) [942](#) [946](#) [953](#) [955](#) [956](#) [957](#) [959](#) [960](#) [961](#) [962](#) [963](#) [965](#) [966](#) [969](#) [970](#) [973](#) [976](#) [978](#) [980](#) [983](#) [984](#) [986](#) [988](#) [989](#) [995](#) [999](#) [1000](#)

This is all issues marked "ready" or "tentatively ready," with the exception of issues 570, 633, 667, 861, 872, 919, 920, and 964 for a total of 40 issues in ready status and 33 in tentatively ready status.

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| Mover: Adamczyk |
| Secunder: Hedquist |

| PL22.16 Vote (CWG Motion 1) | |
|------------------------------------|-----------|
| In favor: | Unanimous |
| Opposed: | |
| Abstain: | |

| WG21 Vote (CWG Motion 1) | |
|---------------------------------|---|
| In favor: | 8 |
| Opposed: | 0 |
| Abstain: | 0 |

Motion passed with unanimous consent.

CWG Motion 2:

Move we apply the resolution of the following issue from [N3026](#) to the C++0X Working Paper:

[787](#)

This is one issue marked "review".

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|---------------------------|
| Mover: Adamczyk |
| Secunder: Hedquist |

| PL22.16 Vote (CWG Motion 2) | |
|------------------------------------|-----------|
| In favor: | Unanimous |
| Opposed: | |
| Abstain: | |

| WG21 Vote (CWG Motion 2) | |
|---------------------------------|---|
| In favor: | 8 |
| Opposed: | 0 |
| Abstain: | 0 |

Motion passed with unanimous consent.

CWG Motion 3:

Move we apply the following to the C++0X Working Paper:

- [N3064](#) "Core issue 374: Explicit specialization outside a template's parent (revision 1)"

- [N2993](#) "Expanding the meaning of variable" (addresses core issues 570 and 633)
- [N3079](#) "Redrafting: issues 667, 861, 990, 818" (also includes resolutions for core issues 919 and 920)

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| Mover: Adamczyk |
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| Secunder: Hedquist |
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| PL22.16 Vote (CWG Motion 3) | |
|------------------------------------|-----------|
| In favor: | Unanimous |
| Opposed: | |
| Abstain: | |

| WG21 Vote (CWG Motion 3) | |
|---------------------------------|---|
| In favor: | 8 |
| Opposed: | 0 |
| Abstain: | 0 |

Motion passed with unanimous consent.

CWG Motion 4:

Move we apply [N3049](#) "Core issues 743 and 950: Additional decltype(...) uses (revision 1)" to the C++0X Working Paper.

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| Mover: Adamczyk |
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| Secunder: Hedquist |
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| PL22.16 Vote (CWG Motion 4) | |
|------------------------------------|----|
| In favor: | 19 |
| Opposed: | 0 |
| Abstain: | 2 |

| WG21 Vote (CWG Motion 4) | |
|---------------------------------|---|
| In favor: | 8 |
| Opposed: | 0 |
| Abstain: | 0 |

Motion passed.

CWG Motion 5:

Move we apply [N3067](#) "Core issue 951: Various Attribute Issues (revision 1)" to the C++0X Working Paper.

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| Mover: Adamczyk |
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| Secunder: Hedquist |
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| PL22.16 Vote (CWG Motion 5) | |
|------------------------------------|----|
| In favor: | 19 |
| Opposed: | 0 |
| Abstain: | 2 |

| WG21 Vote (CWG Motion 5) | |
|---------------------------------|---|
| In favor: | 7 |
| Opposed: | 0 |
| Abstain: | 1 |

Motion passed.

CWG Motion 6:

Move we apply [N3063](#) "Core issue 968: Disambiguating [] (revision 1)" to the C++0X Working Paper.

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| Mover: Adamczyk |
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| Secunder: Hedquist |
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| PL22.16 Vote (CWG Motion 6) | |
|------------------------------------|----|
| In favor: | 16 |
| Opposed: | 3 |
| Abstain: | 2 |

| WG21 Vote (CWG Motion 6) | |
|---------------------------------|---|
| In favor: | 7 |
| Opposed: | 0 |
| Abstain: | 1 |

Motion passed.

CWG Motion 7:

Move we apply [N3077](#) "Alternative approach to Raw String issues" (includes the resolutions for core issues [789](#) and [872](#)) to the C++0X Working Paper.

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| Mover: Adamczyk |
| Second: Hedquist |

| PL22.16 Vote (CWG Motion 7) | |
|------------------------------------|----|
| In favor: | 18 |
| Opposed: | 0 |
| Abstain: | 3 |

| WG21 Vote (CWG Motion 7) | |
|---------------------------------|---|
| In favor: | 8 |
| Opposed: | 0 |
| Abstain: | 0 |

Motion passed.

CWG Motion 8:

Move we apply [N3052](#) "Converting Lambdas to Function Pointers" to the C++0X Working Paper.

Mover: Adamczyk

Secunder: Hedquist

| PL22.16 Vote (CWG Motion 8) | |
|------------------------------------|-----------|
| In favor: | Unanimous |
| Opposed: | |
| Abstain: | |

| WG21 Vote (CWG Motion 8) | |
|---------------------------------|---|
| In favor: | 8 |
| Opposed: | 0 |
| Abstain: | 0 |

Motion passed.

CWG Motion 9:

Move we apply [N3055](#) "A Taxonomy of Expression Value Categories" (includes the resolution for core issue [858](#)) to the C++0X Working Paper.

Mover: Adamczyk

Secunder: Hedquist

| PL22.16 Vote (CWG Motion 9) | |
|------------------------------------|-----------|
| In favor: | Unanimous |
| Opposed: | |
| Abstain: | |

| WG21 Vote (CWG Motion 9) | |
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| WG21 Vote (CWG Motion 9) | |
|---------------------------------|---|
| In favor: | 8 |
| Opposed: | 0 |
| Abstain: | 0 |

Motion passed.

CWG Motion 10:

Move we apply [N3078](#) "Constexpr functions with reference parameters" to the C++0X Working Paper.

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| Mover: Adamczyk |
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| Secunder: Hedquist |
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| PL22.16 Vote (CWG Motion 10) | |
|-------------------------------------|----|
| In favor: | 19 |
| Opposed: | 0 |
| Abstain: | 2 |

| WG21 Vote (CWG Motion 10) | |
|----------------------------------|---|
| In favor: | 8 |
| Opposed: | 0 |
| Abstain: | 0 |

Motion passed.

CWG Motion 11:

Move we apply [N3053](#) "Defining Move Special Member Functions" to the C++0X Working Paper.

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| Mover: Adamczyk |
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| Secunder: Hedquist |
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| PL22.16 Vote (CWG Motion 11) | |
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| In favor: | Unanimous |
| Opposed: | |
| Abstain: | |

| WG21 Vote (CWG Motion 11) | |
|----------------------------------|---|
| In favor: | 8 |
| Opposed: | 0 |
| Abstain: | 0 |

Motion passed with unanimous consent.

CWG Motion 12:

Move we apply [N3065](#) "Removing Export" to the C++0X Working Paper.

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| Mover: Adamczyk |
| Secunder: Hedquist |

| PL22.16 Vote (CWG Motion 12) | |
|-------------------------------------|----|
| In favor: | 21 |
| Opposed: | 0 |
| Abstain: | 0 |

| WG21 Vote (CWG Motion 12) | |
|----------------------------------|---|
| In favor: | 5 |
| Opposed: | 0 |
| Abstain: | 3 |

Motion passed.

LWG Motions

LWG Motion 1:

Move we apply the resolutions to the following issues from [N3018](#) to the C++0X Working Paper:

[296](#), [471](#), [473](#), [539](#), [556](#), [671](#), [676](#), [724](#), [727](#), [780](#), [811](#), [817](#), [835](#), [836](#), [854](#), [860](#), [861](#), [865](#), [870](#), [871](#), [872](#), [891](#), [893](#), [896](#), [900](#), [911](#), [920](#), [921](#), [929](#), [932](#), [939](#), [954](#), [957](#), [960](#), [962](#), [963](#), [967](#), [968](#), [974](#), [978](#), [983](#), [987](#), [999](#), [1011](#), [1030](#), [1033](#), [1071](#), [1079](#), [1094](#), [1095](#), [1098](#), [1100](#), [1104](#), [1108](#), [1110](#), [1113](#), [1114](#), [1123](#), [1126](#), [1130](#), [1131](#), [1133](#), [1134](#), [1135](#), [1136](#), [1137](#), [1138](#), [1144](#), [1152](#), [1157](#), [1170](#), [1177](#), [1180](#), [1182](#), [1189](#), [1192](#), [1193](#), [1194](#), [1195](#), [1197](#), [1199](#), [1204](#), [1205](#), [1208](#), [1209](#), [1216](#), [1218](#), [1220](#), [1221](#), [1222](#), [1227](#), [1231](#), [1237](#), [1241](#), [1245](#), [1247](#), [1250](#), [1254](#), [1255](#), [1256](#), [1257](#), [1261](#), [1262](#), [1264](#), [1267](#), [1270](#), [1271](#), [1276](#), [1277](#), [1280](#), [1284](#), [1285](#), [1286](#), [1287](#), [1288](#), [1293](#), [1298](#), [1299](#), [1303](#), [1306](#), [1309](#), [1312](#)

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| Mover: Hinnant |
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|---------------------------|
| Secunder: Hedquist |
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| PL22.16 Vote (LWG Motion 1) | |
|------------------------------------|-----------|
| In favor: | Unanimous |
| Opposed: | |
| Abstain: | |

| WG21 Vote (LWG Motion 1) | |
|---------------------------------|---|
| In favor: | 8 |
| Opposed: | 0 |
| Abstain: | 0 |

Motion passed with unanimous consent.

LWG Motion 2:

Move we apply the resolutions to the following issues from [N3054](#) to the C++0X Working Paper:

[427](#), [430](#), [704](#), [774](#), [819](#), [885](#), [1034](#), [1089](#), [1097](#), [1159](#)

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| Mover: Hinnant |
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Secunder: Hedquist

| PL22.16 Vote (LWG Motion 2) | |
|------------------------------------|-----------|
| In favor: | Unanimous |
| Opposed: | |
| Abstain: | |

| WG21 Vote (LWG Motion 2) | |
|---------------------------------|---|
| In favor: | 8 |
| Opposed: | 0 |
| Abstain: | 0 |

Motion passed with unanimous consent.

LWG Motion 3:

Move we apply the resolutions to the following issues from [N3054](#) to the C++0X Working Paper:

[1158](#)

Mover: Hinnant

Secunder: Hedquist

| PL22.16 Vote (LWG Motion 3) | |
|------------------------------------|-----------|
| In favor: | Unanimous |
| Opposed: | |
| Abstain: | |

| WG21 Vote (LWG Motion 3) | |
|---------------------------------|---|
| In favor: | 7 |
| Opposed: | 0 |
| Abstain: | 1 |

Motion passed.

LWG Motion 4:

Move we apply [N3056](#) Conceptless Random Number Generation in C++0X, version 2 to the C++0X Working Paper.

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| Mover: Hinnant |
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| Secunder: Hedquist |
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| PL22.16 Vote (LWG Motion 4) | |
|------------------------------------|-----------|
| In favor: | Unanimous |
| Opposed: | |
| Abstain: | |

| WG21 Vote (LWG Motion 4) | |
|---------------------------------|---|
| In favor: | 8 |
| Opposed: | 0 |
| Abstain: | 0 |

Motion passed with unanimous consent.

LWG Motion 5:

Move we apply [N3050](#), Allowing Move Constructors to Throw (Rev. 1) to the C++0X Working Paper.

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| Mover: Hinnant |
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| Secunder: Hedquist |
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| PL22.16 Vote (LWG Motion 5) | |
|------------------------------------|----|
| In favor: | 16 |
| Opposed: | 2 |
| Abstain: | 3 |

| WG21 Vote (LWG Motion 5) | |
|---------------------------------|---|
| In favor: | 7 |
| Opposed: | 0 |
| Abstain: | 1 |

Motion passed.

LWG Motion 6:

Move we apply [N3051](#), Deprecating Exception Specifications to the C++0X Working Paper.

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| Mover: Hinnant |
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| Secunder: Hedquist |
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| PL22.16 Vote (LWG Motion 6) | |
|------------------------------------|----|
| In favor: | 20 |
| Opposed: | 0 |
| Abstain: | 1 |

| WG21 Vote (LWG Motion 6) | |
|---------------------------------|---|
| In favor: | 8 |
| Opposed: | 0 |
| Abstain: | 0 |

Motion passed.

LWG Motion 7:

Move we apply [N3068](#) equality comparisons for unordered containers (rev 2) to the C++0X Working Paper.

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| Mover: Hinnant |
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| Secunder: Hedquist |
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| PL22.16 Vote (LWG Motion 7) | |
|------------------------------------|----|
| In favor: | 16 |
| Opposed: | 1 |
| Abstain: | 4 |

| WG21 Vote (LWG Motion 7) | |
|---------------------------------|---|
| In favor: | 8 |
| Opposed: | 0 |
| Abstain: | 0 |

Motion passed.

LWG Motion 8:

Move we apply [N3059](#), Proposal to simplify pair (rev 5.2) to the C++ 0x Working paper.

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| Mover: Hinnant |
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| Secunder: Hedquist |
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| PL22.16 Vote (LWG Motion 8) | |
|------------------------------------|-----------|
| In favor: | Unanimous |
| Opposed: | |
| Abstain: | |

| WG21 Vote (LWG Motion 8) | |
|---------------------------------|---|
| In favor: | 8 |
| Opposed: | 0 |
| Abstain: | 0 |

Motion passed with unanimous consent.

LWG Motion 9:

Move we apply [N3057](#), Proposal to add explicit initializers for atomics to the C++ 0x Working paper for compatibility between C++ and C. (WG21-WG14 liason.)

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| Mover: Hinnant |
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|---------------------------|
| Seconder: Hedquist |
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| PL22.16 Vote (LWG Motion 9) | |
|------------------------------------|-----------|
| In favor: | Unanimous |
| Opposed: | |
| Abstain: | |

| WG21 Vote (LWG Motion 9) | |
|---------------------------------|---|
| In favor: | 8 |
| Opposed: | 0 |
| Abstain: | 0 |

Motion passed with unanimous consent.

LWG Motion 10:

Move we apply [N3058](#), Futures and Async Cleanup (Rev.) to the C++0x Working Paper.

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| Mover: Hinnant |
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|---------------------------|
| Seconder: Hedquist |
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| PL22.16 Vote (LWG Motion 10) | |
|-------------------------------------|-----------|
| In favor: | Unanimous |
| Opposed: | |
| Abstain: | |

| WG21 Vote (LWG Motion 10) | |
|----------------------------------|---|
| In favor: | 8 |
| Opposed: | 0 |
| Abstain: | 0 |

Motion passed with unanimous consent.

LWG Motion 11:

Move that we apply [N3070](#), Handling Detached Threads and thread_local Variables to the C++0x Working Paper.

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| Mover: Hinnant |
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|---------------------------|
| Secunder: Hedquist |
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| PL22.16 Vote (LWG Motion 11) | |
|-------------------------------------|-----------|
| In favor: | Unanimous |
| Opposed: | |
| Abstain: | |

| WG21 Vote (LWG Motion 11) | |
|----------------------------------|---|
| In favor: | 8 |
| Opposed: | 0 |
| Abstain: | 0 |

Motion passed with unanimous consent.

LWG Motion 12:

Move that we apply [N3069](#) Various Threads Issues in the Library to the C++0x working paper.

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| Mover: Hinnant |
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| Secunder: Hedquist |
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| PL22.16 Vote (LWG Motion 12) | |
|-------------------------------------|-----------|
| In favor: | Unanimous |
| Opposed: | |
| Abstain: | |

| WG21 Vote (LWG Motion 12) | |
|----------------------------------|---|
| In favor: | 8 |
| Opposed: | 0 |
| Abstain: | 0 |

Motion passed with unanimous consent.

LWG Motion 13:

Move that we apply [N3072](#) Harmonizing Effects and Returns Elements in Clause 21 to the C++0x working paper.

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| Mover: Hinnant |
| Seconded: Hedquist |

| PL22.16 Vote (LWG Motion 13) | |
|-------------------------------------|-----------|
| In favor: | Unanimous |
| Opposed: | |
| Abstain: | |

| WG21 Vote (LWG Motion 13) | |
|----------------------------------|---|
| In favor: | 8 |
| Opposed: | 0 |
| Abstain: | 0 |

Motion passed with unanimous consent.

LWG Motion 14:

Move that we apply [N3066](#) Iterators in C++0x to the C++0x working paper.

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| Mover: Hinnant |
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| Seconded: Hedquist |
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|-------------------------------------|-----------|
| PL22.16 Vote (LWG Motion 14) | |
| In favor: | Unanimous |
| Opposed: | |
| Abstain: | |

| | |
|----------------------------------|---|
| WG21 Vote (LWG Motion 14) | |
| In favor: | 8 |
| Opposed: | 0 |
| Abstain: | 0 |

Motion passed with unanimous consent.

LWG Motion 15:

Move that we apply [N3048](#) Defining Swappable Requirements to the C++0x working paper.

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| Mover: Hinnant |
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| Seconded: Hedquist |
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|-------------------------------------|-----------|
| PL22.16 Vote (LWG Motion 15) | |
| In favor: | Unanimous |
| Opposed: | |
| Abstain: | |

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|----------------------------------|---|
| WG21 Vote (LWG Motion 15) | |
| In favor: | 8 |
| Opposed: | 0 |
| Abstain: | 0 |

Motion passed with unanimous consent.

LWG Motion 16:

Move that we apply [N3073](#) Specifying Pointer-Like Requirements (Revision 1) to the C++0x working paper.

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| Mover: Hinnant |
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| Second: Hedquist |
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| PL22.16 Vote (LWG Motion 16) | |
|-------------------------------------|-----------|
| In favor: | Unanimous |
| Opposed: | |
| Abstain: | |

| WG21 Vote (LWG Motion 16) | |
|----------------------------------|---|
| In favor: | 8 |
| Opposed: | 0 |
| Abstain: | 0 |

Motion passed with unanimous consent.

Other Motions

Other Motion 1:

Move we request the Convener to advance the Working Paper as amended by the foregoing motions to Final Committee Draft (FCD) Status, forward that draft to SC22 for FCD Ballot, and appoint a review committee consisting of Steve Adamczyk and Howard Hinnant to approve the Project Editor's updates to the Working Paper.

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| Mover: Halpern |
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| Second: Hedquist |
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A roll call was requested:

| PL22.16 Vote (Other Motion 1) | |
|--------------------------------------|-------------|
| PL22.16 Member | Vote |
| Apple | Yes |
| Bloomberg | Yes |
| BoostPro Computing | Yes |
| CERT | Yes |
| Dinkumware | Yes |
| EDG | Yes |
| Fermilab | Yes |
| Gimpel | Yes |
| Google | Yes |
| HP | Yes |
| IBM | Yes |
| Intel | Yes |
| Microsoft | Yes |
| Oracle | Yes |
| Perennial | Yes |
| Plum Hall | Yes |
| Red Hat | Yes |
| Seymour | Yes |
| Symantec | Yes |
| Texas A&M | Yes |
| Zephyr Associates | Yes |

| WG21 Vote (Other Motion 1) | |
|-----------------------------------|---|
| In favor: | 8 |
| Opposed: | 0 |
| Abstain: | 0 |

Motion passed with unanimous consent. Applause ensued.

Clamage thanked all those involved for a lot of very hard work.

Other Motion 2:

Move we request the Convener to request the SC22 Secretariat to submit [N3060](#) "Extensions to the C++ Library to Support Mathematical Special Functions" to ITTF for publication as an International Standard.

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| Mover: Brown |
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| Seconded: P.J. Plauger |
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| PL22.16 Vote (Other Motion 2) | |
| In favor: | Unanimous |
| Opposed: | |
| Abstain: | |

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|-----------------------------------|---|
| WG21 Vote (Other Motion 2) | |
| In favor: | 8 |
| Opposed: | 0 |
| Abstain: | 0 |

Motion passed with unanimous consent. Applause ensued.

Clamage extended his appreciate to those who worked on this project, notably Brown and P.J. Plauger.

Additional Motions

Brown moved to thank the host. Halpern seconded. Applause ensued.

Brown moved to extend a round of thanks to the committee chairs for their Yeomen's work, and to the scribes who he stated had taken some of the best minutes he had ever seen. Austern seconded. Applause ensued.

Clamage extended thanks to Becker for his excellent work as Project Editor. Applause ensued.

11.2 Review of action items, decisions made, and documents adopted by the committee

None.

11.3 Issues delayed until Saturday

None.

12. Plans for the future

12.1 Next and following meetings

Clamage reviewed the upcoming meetings. The following meetings were:

Aug 2-7, 2010 Rapperswil, Switzerland: HSR Hochschule für Technik

Nov 8-13, 2010 Batavia, IL, USA: Fermilab

12.2 Mailings

Nelson reported the following mailing deadlines:

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|------------------------|------------|
| post-meeting mailing | 2010-03-26 |
| pre-Rapperswil mailing | 2010-07-09 |

13. Adjournment

Motion to adjourn

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| Mover: P.J. Plauger |
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| Seconder: Hedquist |
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Unanimous consent.

Attendance

| Company/Organization | Representative | Mon | Tue | Wed | Thu | Fri | Sat |
|-----------------------------|-----------------------|------------|------------|------------|------------|------------|------------|
| Apple Computer | Howard E. Hinnant | V | V | V | V | V | V |
| Apple Computer | Doug Gregor | A | A | A | A | A | A |
| Bloomberg | John Lakos | V | V | V | V | A | |
| Bloomberg | Alisdair Meredith | A | A | A | A | V | V |
| Bloomberg | Dietmar Kuehl | A | A | A | A | A | |
| BoostPro Computing | David Abrahams | V | V | V | V | V | V |
| CERT | David Svoboda | V | V | V | V | V | V |
| CERT | Robert Seacord | A | A | A | A | | |
| Cisco Systems | Martin Sebor | V | V | V | V | | |
| Dawes | Beman G. Dawes | A | A | A | A | A | A |
| Dinkumware | P. J. Plauger | V | V | V | V | V | V |
| Dinkumware | Tana Plauger | A | A | A | A | A | A |
| Edison Design Group | J. Stephen Adamczyk | V | V | V | V | V | V |
| Edison Design Group | Jens Maurer | A | A | A | A | A | A |
| Edison Design Group | William M. Miller | A | A | A | A | A | A |
| Edison Design Group | John H. Spicer | A | A | A | A | A | A |
| Edison Design Group | Daveed Vandevoorde | A | A | A | A | A | A |
| Fermi Nat. Accelerator Lab | Walter E. Brown | V | V | V | V | V | V |
| Gimpel Software | James Widman | V | V | V | V | V | V |
| Gimpel Software | James Gimpel | A | A | A | | | |
| Google | Matthew Austern | V | V | V | V | V | V |
| Google | Lawrence Cowl | A | A | A | A | A | A |
| Hewlett-Packard | Hans Boehm | V | V | V | V | V | V |
| IBM | Paul E. McKenney | | A | A | A | | |
| IBM | Michael Wong | V | V | V | V | V | V |
| Intel | Clark Nelson | V | V | V | V | V | V |
| Intel | Pablo Halpern | A | A | A | A | A | A |
| Intel | Stefanus Du Toit | A | A | A | A | A | A |
| Microsoft | Jonathan Caves | V | V | V | V | V | V |

| Company/Organization | Representative | Mon | Tue | Wed | Thu | Fri | Sat |
|-----------------------------|-----------------------|------------|------------|------------|------------|------------|------------|
| Microsoft | Herb Sutter | A | | A | A | A | A |
| Oracle | Paolo Carlini | V | V | V | V | V | V |
| Oracle | Stephen D. Clamage | A | A | A | A | A | A |
| Perennial | Barry Hedquist | V | V | V | V | V | V |
| Plum Hall | Thomas Plum | V | V | V | V | V | V |
| Red Hat | Jason Merrill | V | V | V | V | V | V |
| Roundhouse Consulting | Pete Becker | A | A | A | A | A | A |
| Seymour | Bill Seymour | V | V | V | V | V | V |
| Symantec | Mike Spertus | V | | V | V | | |
| Texas A&M | Bjarne Stroustrup | V | V | V | V | V | V |
| Zephyr Associates | Thomas Witt | V | V | V | V | V | V |
| PL22.16 Non-members | | | | | | | |
| HSR | Peter Sommerlad | N | N | N | N | N | N |
| Ixonos Plc. | Ville Voutilainen | N | N | N | N | N | N |
| University Carlos III | J. Daniel Garcia | N | N | N | N | N | N |
| Vollmann Engineering | Detlef Vollmann | N | N | N | N | N | N |
| | Nicolai Josuttis | N | N | N | N | N | N |
| SC22 Chair | Rex Jaeschke | N | | | | | |
| WG14 | John Benito | N | | | | | |