Minutes of PL22.16 Meeting, March 21, 2011

Chair: Stephen D. Clamage

Secretary: Stefanus Du Toit

1. Opening activities

Clamage called the meeting to order at 10:00 (UTC+1) on Monday, March 21, 2011.

1.1 Opening comments, welcome from host

The host welcomed the attendees and provided some organizational information.

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/pat_slides.pdf

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

1.4 Membership, voting rights, and procedures for the meeting

Clamage reviewed the rules for membership and voting rights. Nelson reviewed guidelines for filling in the attendance sheet.

Clamage noted that 8 WG21 National Body delegations were present:

Canada, Finland, France, Netherlands, Spain, Switzerland, UK, US

1.5 Agenda review and approval

Clamage presented the agenda (document PL22.16/10-0210 = WG21/N3220).

Motion to approve the agenda:

Moved by: Hedquist

Seconded by: Clark

PL22.16		WG21	
In favor:	23	In favor:	8
Opposed:	0	Opposed:	0
Abstain:	0	Abstain:	0

1.6 WG progress reports and work plans for the week

Sutter reviewed the rules for the current state of the draft standard. He explained that several straw votes would be taken on the most controversial issues – removal of certain features - in order to determine whether discussions should be had in order to increase consensus.

The straw polls were taken and technical discussion took place.

Progress Reports

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

1.7 Approval of the minutes of the previous meeting

Motion to approve the minutes (N3212/N3213)

Moved by: Du Toit

Seconded by: Liber

PL22.16		WG21	
In favor:	23	In favor:	8

Opposed:		Opposed:	
Abstain:		Abstain:	

1.8 Liaison reports

WG14 Report

Plum reported that the technical details remaining were almost exclusively in Concurrency.

Clamage asked what the current status of the C standard was.

Plum stated that it was about ready to go out for the DIS.

P.J. Plauger said he felt the C committee had tried very hard, especially in atomics, to reconcile the C standard with where WG21 thought atomics were going in C++. He hoped, therefore, that this committee would aim to make this work.

WG23 Report

Hedquist noted that WG23 was meeting this week in Madrid as well.

1.9 Editor's report

Becker reported that N3242 had all the Batavia changes. He noted that the primary difference in N3242 was structural, rearranging clause 20 in Library, and also improving the index.

Motion to approve document N3242 as current working draft

Moved by: Plauger

Seconded by: Meredith

PL22.16		WG21	
In favor:	23	In favor:	8
Opposed:		Opposed:	
Abstain:		Abstain:	

1.10 New business requiring actions by the committee

There was 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 and Library, possibly Concurrency, Evolution).

The group broke up to meet in separate working group sessions.

Tuesday, March 22, 9:30am-6:30pm

4. WG sessions continue.

Wednesday, March 23, 9:30am-6:30pm

5. WG sessions continue.

Thursday, March 24, 9:30am-6:30pm

6. WG sessions continue.

Friday, March 25, 9:30am–1:00pm

7. WG sessions continue.

Friday, March 25, 2:30pm–6:30pm

8. General session.

8.1 WG status and progress reports.

Core Working Group

Adamczyk presented the Core Working Group status.

Library Working Group

Meredith reviewed the motions proposed and the status of the Library Working Group.

8.2 Presentation and discussion of proposed responses to public comments. Straw votes taken.

Straw polls were taken and discussions took place.

~~9. WG sessions continue~~

~~10. WG sessions continue~~

11. Review of the meeting

Clamage stated that the current agenda called for working groups in the morning and a final session to finish the process. He explained that it had been set up that way because the group did not think they would have enough time, but instead everything got done. He suggested that one option was to meet tomorrow morning, and another was to meet now.

Applause ensued.

Clamage stated that the only concern was people who were planning to be here tomorrow and were not here today.

Plum said that based on the current straw polls it would not affect the outcome.

Clamage asked whether there was anyone who needed to spend time with their parent body before returning to vote. No-one spoke up.

Kruegler asked whether anything could change otherwise. Clamage answered that it could only if new information came up, which was unlikely.

Sutter said that there were several requests to use the time in the morning, but after seeing the votes, he was convinced we could conclude today.

Meredith said that LWG would continue to work regardless, to determine future plans for a TR. Clamage responded that that was acceptable.

Joly said that it would be quite interesting to have some discussions about the future, if it were at all possible.

Sutter said he had planned on doing that, and was ready to do it now.

Orr said that members of the BSI panel may want to discuss before tomorrow. Clamage responded that Orr would need to determine whether that was a serious objection or not.

Plum said that, on the point about having had a published agenda, it had never been objected to a WG finishing early on procedural grounds and was commonly done.

Sutter noted that, in fact, WG21 had done this previously in Sofia-Antipolis.

Spicer said that some folks might want to spend time other ways rather than show up tomorrow just to have a vote.

Clamage asked for any objections to conclude the meeting without break. There were none.

11.1 Motions

Core Motions

Motion 1
Move we apply the resolutions of all issues in "Ready" and "Tentatively Ready" status
from N3236 (except for issues 355, 1060, 1151, 1197, 1199, and 1207, which are covered by papers
in motions below) to the C++0X Working Paper.
- **Ready:** 573 981 1022 1071 1073 1080 1081 1094 1111 1120 1135 1136 1137 1140 1145 114 9 1167 1187 1193 1198 1208
- **Tentatively Ready:** 407 572 696 938 993 1030 1044 1054 1068 1091 1096 1099 1100 1170 1181 1191 12 01 1218 1240

Moved by: Adamczyk.

Seconded by: Hedquist.

PL22.16		WG21	
In favor:	23	In favor:	8

Opposed:	0	Opposed:	0
Abstain:	0	Abstain:	0

Motion 2

Move we apply N3259 "Core Issue 355: Global-scope :: in elaborated-type-specifier" to the C++0X Working Paper.

Moved by: Adamczyk.

Seconded by: Hedquist.

PL22.16		**WG21**	
In favor:	23	In favor:	8
Opposed:	0	Opposed:	0
Abstain:	0	Abstain:	0

Motion 3

Move we apply N3260 "Consolidated corrections for a cluster of constexpr concerns" to the C++0X Working Paper (covers issues 1060, 1100, and 1197).

Moved by: Adamczyk.

Seconded by: Hedquist.

PL22.16		**WG21**	
In favor:	23	In favor:	8
Opposed:	0	Opposed:	0
Abstain:	0	Abstain:	0

Motion 4

Move we apply N3262 "Additional Core Language Issue Resolutions for Madrid" to the C++0X Working Paper (covers 65 core issues with mostly small edits, including 1151).

Moved by: Adamczyk.

Seconded by: Hedquist.

PL22.16		WG21	
In favor:	23	In favor:	8
Opposed:	0	Opposed:	0
Abstain:	0	Abstain:	0

Motion 5
Move we apply N3268 "static_assert and list-initialization in constexpr functions" to the C++0X Working Paper (covers issues 837 and 898).

Moved by: Adamczyk.

Seconded by: Hedquist.

PL22.16		WG21	
In favor:	23	In favor:	8
Opposed:	0	Opposed:	0
Abstain:	0	Abstain:	0

Motion 6
Move we apply N3270 "Variadic Templates: Wording for Core Issues 778, 1182, and 1183" to the C++0X Working Paper.

Moved by: Adamczyk.

Seconded by: Hedquist.

PL22.16		WG21	
In favor:	23	In favor:	8
Opposed:	0	Opposed:	0
Abstain:	0	Abstain:	0

Motion 7
Move we apply N3271 "Wording for Range-Based For Loop (Option #5)" to the C++0X Working Paper.

Moved by: Adamczyk.

Seconded by: Hedquist.

PL22.16		WG21	
In favor:	23	In favor:	8
Opposed:	0	Opposed:	0
Abstain:	0	Abstain:	0

Motion 8
Move we apply N3272 "Follow-up on override control" to the C++0X Working Paper.

Moved by: Adamczyk.

Seconded by: Hedquist.

PL22.16		WG21	
In favor:	23	In favor:	8
Opposed:	0	Opposed:	0
Abstain:	0	Abstain:	0

Motion 9
Move we apply N3276 "US22/DE9 Revisited: Decltype and Call Expressions" to the C++0X Working Paper.

Moved by: Adamczyk.

Seconded by: Hedquist.

PL22.16		WG21	
In favor:	23	In favor:	8
Opposed:	0	Opposed:	0
Abstain:	0	Abstain:	0

Motion 10
Move we apply N3277 "Core issues 1194/1195/1199: References and constexpr" to the C++0X Working Paper.

Moved by: Adamczyk.

Seconded by: Hedquist.

PL22.16		WG21	
In favor:	23	In favor:	8
Opposed:	0	Opposed:	0
Abstain:	0	Abstain:	0

Motion 11
Move we apply N3281 "Partial ordering of variadic class template partial specializations" to the C++0X Working Paper (covers core issue 692).

Moved by: Adamczyk.

Seconded by: Hedquist.

PL22.16		WG21	
In favor:	23	In favor:	8
Opposed:	0	Opposed:	0
Abstain:	0	Abstain:	0

Motion 12
Move we apply N3282 "Type of class member in trailing-return-type/Member access transformation in unevaluated operands" to the C++0X Working Paper (covers core issues 1017 and 1207).

Moved by: Adamczyk.

Seconded by: Hedquist.

PL22.16		WG21	
In favor:	23	In favor:	8

Opposed:	0	Opposed:	0
Abstain:	0	Abstain:	0

Motion 13
Move we apply N3283 "Dependent Bases and the Current Instantiation: Wording for Core Issue 1043" to the C++0X Working Paper.

Moved by: Adamczyk.

Seconded by: Hedquist.

PL22.16		**WG21**	
In favor:	23	In favor:	8
Opposed:	0	Opposed:	0
Abstain:	0	Abstain:	0

Library Motions

Motion 1
Move we apply the resolutions to the following Ready issues from N3245 to the C++0X Working Paper:
1332, 1385, 1408, 1418, 1420, 1438

Moved by: Meredith.

Seconded by: Hedquist.

PL22.16		**WG21**	
In favor:	23	In favor:	8
Opposed:	0	Opposed:	0
Abstain:	0	Abstain:	0

Note that these issues address NB comments CH-1, GB-88, GB-99, GB-103, GB-113, GB-115, US-2, and US-126.
Motion 2

Move we apply the resolutions to the following Tentatively Ready issues from N3245 to the C++0X Working Paper:
1215, 1253, 1310, 1474, 1478, 1479, 1480, 1494, 1497, 1514, 1524
Note that these issues address NB comments CH-1, CH-23, CH-30, US-2, GB-135, GB-137, US-165, US-175, US-179, US-190, and US-207.

Moved by: Meredith.

Seconded by: Hedquist.

PL22.16		**WG21**	
In favor:	23	In favor:	8
Opposed:	0	Opposed:	0
Abstain:	0	Abstain:	0

Motion 3
Move we apply the resolutions to the following Tentatively Ready issues from N3245 to the C++0X Working Paper:
2000, 2001, 2004, 2007, 2008, 2014, 2017, 2019, 2020, 2022, 2027, 2029, 2030, 2031, 2032
Note that these issues address defects discovered since the FCD went out to ballot, and do not relate to any specific NB comment.

Moved by: Meredith.

Seconded by: Hedquist.

PL22.16		**WG21**	
In favor:	23	In favor:	8
Opposed:	0	Opposed:	0
Abstain:	0	Abstain:	0

Motion 4
Move we apply the resolutions to the following issues, resolved this meeting, from N3284 to the C++0X Working Paper:
1252, 1279, 1349, 1401, 1448, 1487, 1525
Note that these issues address NB comments CH-1, CH-25, GB-65, GB-99, GB-117, GB-124, GB-136, US-2, and US-34.

Moved by: Meredith.

Seconded by: Hedquist.

PL22.16		WG21	
In favor:	23	In favor:	8
Opposed:	0	Opposed:	0
Abstain:	0	Abstain:	0

Motion 5
Move we apply the resolutions to the following issues, resolved this meeting, from N3284 to the C++0X Working Paper:
2041, 2042
Note that these issues address defects discovered since the FCD went out to ballot, and do not relate to any specific NB comment.

Moved by: Meredith.

Seconded by: Hedquist.

PL22.16		WG21	
In favor:	23	In favor:	8
Opposed:	0	Opposed:	0
Abstain:	0	Abstain:	0

Motion 6
Move we apply the proposed resolution from N3264, CH-18 and US-85: Clarifying the state of moved-from objects, to the C++0X Working Paper.

Moved by: Meredith.

Seconded by: Hedquist.

PL22.16		WG21	
In favor:	23	In favor:	8
Opposed:	0	Opposed:	0

Abstain:	0	Abstain:	0

Motion 7

Move we apply the proposed resolution from N3266, Proposed Resolution for CH 15: Double check copy and move semantics of classes due to new rules for default move constructors and assignment operators, to the C++0X Working Paper.

Moved by: Meredith.

Seconded by: Hedquist.

PL22.16		**WG21**	
In favor:	23	In favor:	8
Opposed:	0	Opposed:	0
Abstain:	0	Abstain:	0

Motion 8

Move we apply the proposed resolution from N3279, Conservative use of noexcept in the library, to the C++0X Working Paper.
Note that this reverts many applications of 'noexcept' at the last meeting. A 'Throws: Nothing' clause was restored only in the cases where that guarantee was in the pre-noexcept wording. This means some function contracts may have changed since the previous WP, such as std::align, by reverting to the contract in the FCD. This is only because there are no ballot comments requesting such changes, and 'Throws : Nothing' clauses are likely additions to the next TC.

Moved by: Meredith.

Seconded by: Hedquist.

PL22.16		**WG21**	
In favor:	23	In favor:	8
Opposed:	0	Opposed:	0
Abstain:	0	Abstain:	0

Motion 9

Move we apply the proposed resolution from N3263 More on noexcept for the Containers Library, to the C++0X Working Paper.

Moved by: Meredith.

Seconded by: Hedquist.

PL22.16		WG21	
In favor:	23	In favor:	8
Opposed:	0	Opposed:	0
Abstain:	0	Abstain:	0

Motion 10
Move we apply the proposed resolution from N3280, C++ Freestanding and Conditionally Supported, to the C++0X Working Paper.

Moved by: Meredith.

Seconded by: Hedquist.

PL22.16		WG21	
In favor:	23	In favor:	8
Opposed:	0	Opposed:	0
Abstain:	0	Abstain:	0

Motion 11
Move we apply the proposed resolution from N3288, Compatibility with previous standard.

Moved by: Meredith.

Seconded by: Hedquist.

PL22.16		WG21	
In favor:	23	In favor:	8
Opposed:	0	Opposed:	0
Abstain:	0	Abstain:	0

Concurrency Motions

Motion 1
Move we apply N3278 Recent Concurrency Issue Resolutions.
This paper includes resolutions for library issues 964, 1364, 1457, 1460, 1502, 1507, 1515, 1526, 2023, 2024, 2025, 2034 and 2037. These changes address CH 1, US 2, CH 19, GB 130, US 154, US195, US 196, US 197, US 199, US 208, and GB 111.
This paper includes editorial changes for closed core working group issues 1176 and 1177. These changes address C1x compatibility.

Moved by: Crowl.

Seconded by: Hedquist.

PL22.16		WG21	
In favor:	23	In favor:	8
Opposed:	0	Opposed:	0
Abstain:	0	Abstain:	0

Motion 2
Move we apply paper N3251 noexcept for the Atomics Library. This paper addresses CH 16 and GB 60.

Moved by: Crowl.

Seconded by: Hedquist.

PL22.16		WG21	
In favor:	23	In favor:	8
Opposed:	0	Opposed:	0
Abstain:	0	Abstain:	0

Motion 3
Move we apply paper N3267 - A review of noexcept in the threads library (revised). This paper addresses CH 16 and GB 60.

Moved by: Crowl.

Seconded by: Hedquist.

PL22.16		WG21	
In favor:	23	In favor:	8
Opposed:	0	Opposed:	0
Abstain:	0	Abstain:	0

Other Motions

Motion 1
Move we appoint a review committee consisting of Steve Adamczyk and Alisdair Meredith to approve the Project Editor's updated Working Paper amended by the foregoing motions, and request the Convener to forward the approved Working Paper to ITTF for Final Draft International Standard (FDIS) Ballot.

Moved by: Sutter.

Seconded by: Hedquist.

PL22.16		WG21	
In favor:	21	In favor:	8
Opposed:	2	Opposed:	0
Abstain:	0	Abstain:	0

Pasted from <http://wiki.dinkumware.com/twiki/bin/view/Wg21madrid/FormalMotions>

Additional Motions

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

Clamage thanked Telefónica I+D for subsidizing the meals.

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

Clamage noted that there were no items for discussion.

11.3 Issues delayed until today.

Clamage reported that there were no issues delayed until today.

12. Plans for the future

12.1 Next and following meetings

Sutter presented the meeting schedule for upcoming meetings:

- August 15-19, 2011: Bloomington, Indiana, USA – Sponsored by University of Indiana
- March 2012 (estimated): Kona, Hawaii, USA – Sponsored by Plum Hall and Bloomberg
- September 2012 (estimated): Portland, Oregon, USA – Sponsored by Intel

Sutter noted that for these meetings we will revert to the 5-day rather than 6-day schedule.

Sutter noted that these meetings would be collocated with WG14 meetings.

Discussions on future meetings and plans ensued.

12.2 Mailings

Nelson reviewed the following mailing deadlines:

- Post-Madrid: April 8, 2011
- Pre-Bloomington: July 8, 2011

Discussion on what was in scope for future mailings ensued.

Halpern moved to thank the working group chairs: Steve Adamczyk, Alisdair Meredith, Lawrence Crowl. Du Toit seconded. Applause ensued.

Sutter stated that Becker had done a great deal of work, and unfortunately was out-going. He moved to thank Becker for his work. Applause and a standing ovation ensued.

13. Adjournment

Clamage asked whether there was any other business. There was no other business.

Crowl moved to adjourn. Nelson seconded.

The meeting was adjourned at 18:03 (UTC+1) on Friday, March 25, 2011.

Attendance

Company/Organization	NB	Representative	Mon	Tue	Wed	Thu	Fri	Sat
Apple		Howard E. Hinnant	V	V	V	V	V	
Apple		Doug Gregor	A	A	A	A	A	
Bloomberg		John Lakos	V	V	V	V	V	
Bloomberg		Alisdair Meredith	A	A	A	A	A	
Bloomberg		Dietmar Kühl	A	A	A	A	A	
BoostPro Computing		Mat Marcus	V	V	V	V	V	
Carnegie Mellon University		David Svoboda	V	V	V	V	V	
Cisco Systems		Martin Sebor	V		V	V	V	
Dinkumware		P. J. Plauger	V	V	V	V	V	
Dinkumware		Tana Plauger	A	A	A	A	A	
Dinkumware		Christopher Walker	A	A		A		
DRW Holdings		Nevin Liber	V	V	V	V	V	
Edison Design Group		J. Stephen Adamczyk	V	V	V	V	V	
Edison Design Group		Jens Maurer	A	A	A	A	A	
Edison Design Group		William M. Miller	A	A	A	A	A	
Edison Design Group		John H. Spicer	A	A	A	A	A	
Edison Design Group		Daveed Vandevoorde	A	A	A	A	A	
Fujitsu Laboratories of America		Maarten Wiggers	A	A	A	A	A	
Gimpel Software		James Widman	V	V	V	V	V	
Google		Lawrence Crowl	V	V	V	V	V	
Google		James Dennett	A	A	A	A	A	
Google	NL	JC van Winkel	A	A	A	A	A	
Hewlett-Packard		Hans Boehm		V	V	V	V	
IBM	CA	Michael Wong	V	V	V	V	V	
Indiana University		Jeremiah Willcock	V	V	V	V	V	
Indiana University		Larisse Voufo	A	A	A		A	

Company/Organization	NB	Representative	Mon	Tue	Wed	Thu	Fri	Sat
Intel		Clark Nelson	V	V	V	V	V	
Intel		Pablo Halpern	A	A	A	A	A	
Intel	CA	Stefanus Du Toit	A	A	A	A	A	
Microsoft		Mark Hall	V	V	V	V	V	
Microsoft		Herb Sutter	A	A	A	A	A	
Oracle		Paolo Carlini	V	V	V	V		
Oracle		Stephen D. Clamage	A	A	A	A	A	
Perennial	US	Barry Hedquist	V	V	V	V	V	
Plum Hall		Thomas Plum	V	V	V	V	V	
Programming Research Group		Richard Corden	A	A	A	A	A	
Programming Research Group		Christof Meerwald	A	A	A	A	A	
Red Hat		Jason Merrill	V	V	V	V	V	
Red Hat		Benjamin Kosnik	A	A	A	A		
Riverbed Technology		Kyle Kloepper	V	V	V	V	V	
Roundhouse Consulting		Pete Becker	V	V	V	V	V	
Seymour		Bill Seymour	V	V	V	V	V	
Symantec		Mike Spertus	V	V	V			
Texas A&M University		Bjarne Stroustrup	A	A	A	A	A	
Texas A&M University		Jaakko Järvi	V	V	V	V	V	
PL22.16 Non-members								
BBVA	ES	Juan J Garcia De Soria				N		
BBVA	ES	Juan Morales				N		
Boost.org		Beman Dawes	N	N	N	N	N	
Bruker Daltonics	DE	Daniel Krügler	N	N	N	N	N	
Cambridge Unvirsity		Mark Batty	N	N	N			
HSR	CH	Peter Sommerlad	N	N	N	N		
Tool, S.A.	ES	Victor Merino				N		
University of Bergen, BLDL	NO	Magne Haveraaen				N	N	
University Carlos III	ES	J. Daniel Garcia	N	N	N		N	

Company/Organization	NB	Representative	Mon	Tue	Wed	Thu	Fri	Sat
University of Nice	FR	Jean-Paul Rigault	N	N	N	N	N	
Vollmann Engineering	CH	Detlef Vollmann	N	N	N	N	N	
	DE	Nicolai Josuttis	N	N	N	N		
	ES	Francisco Palomo-Lozano	N	N	N	N		
	ES	Joaquín M López Muñoz	N					
	FI	Ville Voutilainen	N	N	N	N	N	
	FR	Loïc Joly	N	N	N		N	
	UK	Roger Orr	N	N	N	N	N	
		Faisal Vali	N	N	N	N	N	