Minutes of ISO WG21 Meeting, April 29, 2001

1. Opening and introductions

Koenig called the meeting to order on Sunday, April 29, 2001 at 6:00pm. Plum will take the chair when he arrives.

Discussion of who may attend this meeting took place. Erwin Unruh is not an officia lly accredited member of the German delegation, and there may in fact be no German delegation at this meeting. Erwin has attended as HOD for Germany at previous meetings. Likewise, Vollmann is not an officially accredited member for Switzerland, and Simonsen may not be an accredited member for Norway. Koenig has decided to defer any decision with respect to these persons' attendance to Plum, as Plum is the convener and is expected to arrive soon.

1.1 Welcome from host

Kristoffersen welcomed WG21 members to the meeting. Directions to the Danish Standards building were discussed.

Koenig discussed the possibility of pooling taxis to the building, and the costs of this were calculated. Kehoe discussed the possibility of hiring a bus to transport WG21 members to the Danish Standards building. The cost of such a bus for the week is 8125 DKK. Simonsen mentioned that larger taxis are available that can accommodate 8 riders. Benito and Stroustrup suggested that public transit is inexpensive and fast, and that people should not underestimate that alternative.

Kristoffersen indicated that the Danish Standards building is available to us until as late an hour as is required by the committee. The building's doors will be locked at 4:00pm, but we may stay until any hour after that.

1.2 Roll call of technical experts

Plum returned. Plum indicated that a Russian delegation (Sergeev and Polokhaine) will be attending this week's J16 meeting, but that they may not have been informed as to the location of this WG21 meeting.

Attendance:

Tom Plum	Convener	
Robert Klarer	Canada	HOD
Jamie Schmeiser	Canada	
Jan Kristoffersen	Denmark	HOD
Georges Schumacher	France	HOD
Erwin Unruh	Germany	HOD
J C Van Winkel	Holland	HOD
Brendan Kehoe	Ireland	HOD
Seiji Hayashida	Japan	
Ichiro Koshida	Japan	HOD
Keld Simonsen	Norway	HOD
Detlef Vollmann	Switzerland	HOD
Francis Glassborow	UK	HOD
Lois Goldthwaite	UK	
Mark Radford	UK	
Matt Austern	USA	
Jon Benito	USA	
Steve Clamage	USA	
Andrew Koenig	USA	
William Miller	USA	
Clark Nelson	USA	HOD
Bjarne Stroustrup	USA	

1.3 Select meeting chair

Plum was selected as chair.

1.4 Select meeting secretary

Klarer was selected as meeting secretary.

1.5 Select language

English was selected as the language for this meeting. Plum expressed the appreciation of the native English speakers to the non-native English speakers for the latter's forbearance.

1.6 Adopt agenda

Plum observed that the Library TR proposal was not indicated in the meeting agenda. Plum added discussion of this proposal to item 3 of the agenda. There was no objection expressed by any WG21 member.

Van Winkel observed the absence from the agenda of discussion of a proposed new appendix enumerating all undefined and implementation defined behaviors that are described in the existing standard. Such an appendix was formally requested by Holland. Goldthwaite observed that the number of uses of the phrases "undefined" and "implementation defined" in the standard number in the thousands. Plum emphasized the importance of our seriously considering official requests from national bodies. Plum noted, however, that such an appendix introduces redundancy to the standard, since the information is already available in the existing document, and the document is available in an easily searchable softcopy format. Stroustrup observed that many critics and users of C++ would like to see the number of undefined and implementation defined behaviors in the standard reduced in future standardization efforts. Stroustrup recommended that WG21's response to this request be that this work will be considered as a part of the ongoing work of refining the specification of C++. Glassborow suggested that a list of the type that has been requested would be useful to the committee, as it would assist in the removal of gratuitous undefined behaviors. Plum added this item to the agenda for new business.

Simonsen observed that WG21 does not have an agenda item for the press release announcing the results of this meeting. Plum added this item to the agenda for new business.

1.7 Select drafting committee

Austern, Van Winkel, and Sutter were named as members of the drafting committee. Klarer will substitute for Sutter should he be unable to participate. Van Winkel will chair.

Simonsen recommended that the drafting committee compose the press release. Glassborow and others suggested that the skills of a drafting committee are not necessarily the skills that are required to compose a press release.

1.8 Approve minutes from previous meeting

Minutes were approved without objections.

1.9 Review action items from previous meeting

No action items from the previous meeting remain.

1.10 Recognize documents

No documents remain to be recognized.

2. Status, liaison and action item reports

Status reports will be deferred until tomorrow morning.

Plum reported that there is an interest among JTC1 and SC22 in reducing costs and reorganizing their structure. One proposal that was considered was permitting companies to participate in SC22 committees at the O level.

2.1 Small group status reports

Koenig reported on the status of the TC. Koenig was of the opinion that a document that merely listed changes to the text of the standard would be of little practical use. The concept of newly revised edition of the full standard presented the following problems:

1. It is not clear that this is officially acceptable as a TC.
2. If, due to human or computer error, there is an inconsistency between the change list and the revised standard document, it is unclear which of the two is normative.

Koenig reviewed a solution to this problem that he has begun to implement whereby a single source will be used to generate both the change list and the revised standard document. Benito mentioned that he, as chair of the C language standard committee, has recently issued a TC. He pointed out that changes, wherever they are listed, must be annotated with the page number in the standard document of the original text. Koenig indicated that he believed that page numbers could be generated under by the scheme that he envisions. Koenig mentioned that his single-source document generation scheme can be used to generate:

1. The original standard.
2. The TC change list.
3. An annotated standard that indicates, for each changed subclause, the original text and the modified text.
4. A revised standard that reflects the state of the C++ language specification once the TC has been applied to it.

2.2 Liaison Reports

2.2.1 SC22 report

2.2.2 SC22/WG11 (Binding Techniques) report

[defer to Monday session]

2.2.3 SC22/WG14 (C) repor t

[defer to Monday session]

2.2.4 SC22/WG15 (POSIX) report

[defer to Monday session]

2.2.5 SC22/WG20 (Internationalization) report

[defer to Monday session]

3. New business

Defect Report procedures

Status of RR and TC

Future meeting schedules

There was a concern about the cost of hotel accommodation at the Redmond meeting.

The Netherlands will be hosting the spring 2002 meeting in Curaçao. Information is available from Randy Marquez' web site.

Oracle is going to look for a meeting location on the east coast of the US for October 2002.

Spring of 2003: UK is possible.

2004: Norway is considering hosting in Oslo.

Plum raised the issue of whether the committee should return to its old schedule of meeting three times each year. Stroustrup noted that fu ture development of the C++ standard should be discussed before it can be known whether a third meeting each year will be necessary. Stroustrup specifically drew attention to a talk concerning the future of C++ that he will be conducting Tuesday night. Gla ssborow noted that plenty of work can be done in small groups using contemporary telecommunications technology, and that a thrice-yearly meeting schedule is not as necessary as it was several years ago.

Stroustrup recommended the use of ad hoc meetings of small groups that are interested in specific topics. Unruh expressed reservation about the use of ad hoc meetings, as he was concerned that they might tend to exclude certain members who cannot secure funding or permission to attend smaller, unofficial meetings.

Benito and Glassborow expressed a desire to request that the host of the Redmond meeting recommend alternate hotels in the Redmond area. Much discussion ensued. Glassborow, Simonsen, and Benito will work as a group to study cheaper alternatives to the Redmond meeting host's recommended hotel.

Performance TR status and planning

Performance TR Status:

Goldthwaite has noted that O'Riordan has done work to revise the TR document. The performance subgroup intends to have a document ready to be voted on for the next meeting in Redmond.

Library TR Status:

Austern indicates that a Type II technical report on topics that are of great interest to C++ programmers will be proposed in a request for a new work item. Hash maps and concurrency are two such topics. The TR is about pure extensions to the library. No changes to the existing library or core language will be considered for inclusion in the TR. However, specific extensions to the library will not be named in the request for a new work item; the committee would like to give itself latitude to consider as broad a range of extension proposals as possible.

Simonsen suggested that, if plans for a full revision of the standard made, then there is no need for a TR. Plum noted that what Simonsen suggested is a significant departure from what has been discussed at previous meetings, especially Toronto. Austern observed that one of the advantages of the TR is that it permits experimentation.

Portability Issues Annex to List Undefined and Implementation Defined Characteristics of standard C++:

Van Winkel remarked that he appreciated Stroustrup's comment that such a list could be prepared in the process of revision of the standard to remove undefined and implementation defined behaviors from the standard.

Press Release committee:

Simonsen and Glassborow volunteered to assist in the drafting of the press release. Simonsen will chair. Others will be invited at tomorrow's J16 meeting to participate.

There was extensive discussion about the need to encourage standard committee members to participate in discussions of C++, online and elsewhere, to promote better understanding of C++ and to dispel misunderstandings about it.

4. Review and approve resolutions and issues

5. Closing process

5.1 Select chair for next meeting

5.2 Establish next agenda

5.3 Future meetings

5.4 Future mailings

5.5 Assign document numbers

5.6 Review action items

5.7 Any other business

Mike Miller asked for guidance to the working group chairs with respect to the processing of DRs. Two DRs have been discovered by the Core Working Group that were resolved as of the Toronto meeting and whose resolutions do not

accurately reflect the intent of the committee. It was decided that no new DRs will be created for inclusion in the TC that was approved in Toronto.

5.8 Thanks to host

Kristoffersen was thanked. There was applause.

5.9 Adjournment

Meeting was adjourned.