

ISO/IEC JTC 1/SC 22

Programming languages, their environments and system software interfaces

Secretariat: ANSI (United States)

Document type: Meeting Report

Title: SC 22 Plenary Meeting Report, September 2014, Madrid, Spain

Status: For information.

Date of document: 2014-10-03

Source: SC 22 Secretary

Expected action: INFO

Email of secretary: mpeacock@ansi.org

Committee URL: <http://isotc.iso.org/livelink/livelink/open/jtc1sc22>

**Final Resolutions of the
8-9 September 2014, JTC 1 SC 22 Meeting,
Madrid, Spain**

Resolution 14-01: Republishing of ISO/IEC TR 10182:1993 and ISO/IEC TR 14369:1999

JTC 1 SC 22 notes that the following technical reports were withdrawn by ISO CS:

- ISO/IEC TR 10182:1993, Programming languages, their environments and system software interfaces - Guidelines for language bindings; and
- ISO/IEC TR 14369:1999, Programming languages, their environments and system software interfaces - Guidelines for the preparation of Language-Independent Service Specifications (LISS)

Both documents have been subject to several periodic reviews, most recently in 2013. The results of this review for these documents are in SC 22 N 4863 and SC 22 N 4868. In both cases the result of the periodic review was to confirm.

SC 22 instructs its Secretary to ask ISO CS the following questions and report back to SC 22:

1. What are the reasons for removal of these documents from the list?
2. Are there other SC 22 originated documents that were removed for the same reason?
3. Why was the removal not reported back to SC 22?

SC 22 instructs its Secretary to request that ISO CS republish both of these technical reports.

Unanimous

Resolution 14-02: Linux Standard Implementation Study Group

Taking into consideration SC 22 Plenary Resolution 13-04, JTC 1 SC 22 resolves to:

1. Defer implementation of Resolution 13-04 for one calendar year until the 2015 Plenary.
2. Create a Linux Standard Implementation Study Group to:
 - a. Explore, with the Linux Foundation and other organizations as appropriate, acceptable ways that SC 22 could revise the IS 23360 series, Linux Standard Base, so that it is current with the publicly available standard.
 - b. Explore, with the Linux Foundation and other organizations as appropriate, acceptable ways that SC 22 can maintain the IS 23360 series, Linux Standard

Base, so that it remains current with the publicly available standard on an ongoing basis.

- c. Consider and report on substantive issues such as intellectual property rights in addition to the technical issues of maintaining the standard.

The Linux Standard Implementation Study Group will be led by Dr. Yong Woo Lee (Korea).

The membership of the Linux Standard Implementation Study Group includes the following:

Keld Simonsen (Denmark)
Delegate from Canada
Ulrich Neumerkel (Austria)
Zhifeng Chen (China)
Willem Wakker (Netherlands)
Rod Grealish (UK)

The SC 22 Secretary will issue a call for additional members of this Study Group by 26 September 2014. The initial meeting of the Linux Standard Implementation Study Group will be held before 8 December 2014.

A final report will be submitted before 14 August 2015 for review by National Bodies and Liaisons prior to the SC 22 Plenary on 14-15 September 2015.

Unanimous

Resolution 14-03: Revision of SD 1 – Operating Rules for ISO/IEC JTC 1/SC 22, Section 1.1

JTC 1 SC 22 approves the following replacement for Section 1.1, *Requesting a Letter Ballot instead of a Plenary Resolution*:

When any given resolution is being voted on at a Plenary, a P Member may request that the resolution be made the subject of a letter ballot instead. If at least one additional P Member supports having the letter ballot, such a request shall result in a letter ballot being issued instead of a vote taken at the Plenary.

Unanimous

Resolution 14-04: Revision of SD 1 – Operating Rules for ISO/IEC JTC 1/SC 22, Section 1.2

JTC 1 SC 22 approves the following replacement for Section 1.2, *Multiple Candidates for a WG Convenorship*:

When a WG Convenorship becomes vacant and the JTC 1 Procedures for nominating a new Convenor have been followed and multiple NBs have each nominated a candidate, the Convenorship shall be assigned to the candidate whose NB currently has the fewest SC 22 Convenors. In the event of a tie, the Convenor shall be selected by a vote to resolve the tie. (In the case of multiple nominees, their sponsoring NBs are encouraged to see if they can work out an arrangement that avoids a vote.)

Unanimous

Resolution 14-05: Authorization to Initiate a PDAM Ballot for ISO/IEC 13211-2

JTC 1 SC 22 instructs its Secretary to initiate a PDAM ballot for ISO/IEC 13211-2, *Programming languages - Prolog – Part 2: Modules*, upon receipt of the text from the Project Editor.

Unanimous

Resolution 14-06: Confirmation of JTC 1 SC 22 External Liaison Officers

JTC 1 SC 22 confirms the following external liaison officers:

- Ecma International, Mr. Rex Jaeschke
- Linux Foundation, Mr. Nick Stoughton, Mr. Keld Simonsen and Dr. Yong Woo Lee

JTC 1 SC 22 instructs its Secretary to inform JTC 1, ITTF and each liaison organization of this decision.

Unanimous

Resolution 14-07: Confirmation of Organizational Representatives to the Austin Joint Working Group

JTC 1 SC 22 confirms Mr. Nick Stoughton as its Organizational Representative to the Austin Joint Working Group for a period of one year. JTC 1 SC 22 confirms Mr. Keld Simonsen as its alternate Organizational Representative for a period of one year. The Organizational Representatives are requested to make JTC 1 SC 22 aware of any forthcoming submissions to JTC 1 SC 22 prior to any ballot initiation and to report any concerns or recommendations on any matter concerning POSIX.

Unanimous

Resolution 14-08: Confirmation of Internal Liaison Officers and Representatives

JTC 1 SC 22 confirms the following internal liaison officers and representatives:

Liaison Officers

- ISO TC 37, Terminology and other language and content resources, Mr. Keld Simonsen
- JTC 1 SC 2, Coded character sets, Mr. Mike Ksar
- JTC 1 SC 7, Software and systems engineering, Dr. Yong Woo Lee
- JTC 1 SC 27, IT Security techniques, Dr. Tom Plum

Representative

- JTC 1 SWG-Directives, Mr. Stephen Michell

JTC 1 SC 22 instructs its Secretary to inform JTC 1, ITTF and each committee of this decision.

Unanimous

Resolution 14-09: SC 22 Chair Re-Appointment

JTC 1 SC 22 endorses Mr. Rex Jaeschke as SC 22 Chair for an additional three-year term of office (through 2017 Plenary). The SC 22 Secretary is instructed to forward this endorsement to JTC 1 for approval.

Abstention (Canada and Italy)

Resolution 14-10: Officer Appointments

JTC 1 SC 22 approves the following Working Group Convenor appointments (for a three-year term):

- Mr. John Reid, WG 5, Fortran
- Mr. David Keaton, WG 14, C

Unanimous

Resolution 14-11: Appointment of Acting Convenor

JTC 1 SC 22 supports the appointment of Mr. Stephen Michell as the Acting Convenor of WG 23. SC 22 instructs its Secretary to issue a three-month formal call for WG 23 Convenor by 19 September 2014.

Unanimous

Resolution 14-12: Standards for 2014 Periodic Review

JTC 1 SC 22 recommends to JTC 1 that at the end of the review period, the following standards be stabilized:

ISO/IEC 9496:2003

CHILL -- The ITU-T programming language

ISO/IEC 10514-2:1998

Information technology -- Programming languages -- Part 2: Generics Modula-2

ISO/IEC 10514-3:1998

Information technology -- Programming languages -- Part 3: Object Oriented Modula-2

ISO/IEC 13719-1:1998

Information technology -- Portable Common Tool Environment (PCTE) -- Part 1:
Abstract specification

ISO/IEC 13719-2:1998

Information technology -- Portable Common Tool Environment (PCTE) -- Part 2: C
programming language binding

ISO/IEC 13719-3:1998

Information technology -- Portable Common Tool Environment (PCTE) -- Part 3: Ada
programming language binding

ISO/IEC 13719-4:1998

Information technology -- Portable Common Tool Environment (PCTE) -- Part 4: IDL
binding (Interface Definition Language)

JTC 1 SC 22 recommends to JTC 1 that at the end of the review period, the following technical report and standard be confirmed:

ISO/IEC TR 19755:2003

Information technology -- Programming languages, their environments and system
software interfaces -- Object finalization for programming language COBOL

ISO/IEC 24747:2009

Information technology -- Programming languages, their environments and system
software interfaces -- Extensions to the C Library to support mathematical special
functions

Unanimous

Resolution 14-13: JTC 1 SC 22 Future Plenaries

JTC 1 SC 22 thanks the National Body of the U.S. for its offer to host the 2015 Plenary and is pleased to accept the offer. The Plenary is scheduled for 14-15 September 2015 in Kona, Hawaii, USA.

Future SC 22 Plenaries are tentatively planned as follows:

September 2016	Vienna, Austria
September 2017	London, UK

The above are subject to formal offers from the corresponding NBs.

Unanimous

Resolution 14-14: Appreciation: JTC 1 SC 22 Chair

JTC 1 SC 22 expresses its gratitude to its Chair, Mr. Rex Jaeschke, for his excellent leadership and guidance during the meeting and throughout the year.

Acclamation

Resolution 14-15: Appreciation: JTC 1 SC 22 Secretary

JTC 1 SC 22 expresses its appreciation to its Secretary, Ms. Marisa Peacock, for her excellent support during the meeting and throughout the year.

Acclamation

Resolution 14-16: Appreciation: JTC 1 SC 22/WG 14 and 23 Convenor

JTC 1 SC 22 notes with regret the retirement of John Benito as Convenor of WG 14 Programming Language C after 18 years and as Convenor of WG 23 Programming Language Vulnerabilities after his seven-year tenure. Throughout this time, John has graciously welcomed us to the metropolis of Santa Cruz, met us in frigid Ottawa, led us to Hawaii, and as the erstwhile leader in many, many locations. Throughout the time, John has provided strong and fair leadership, with an eye to the schedule and an ear to the participants.

John's leadership, persona and humor will be missed. SC 22 wishes John well in his retirement and enjoyment of his grandchildren.

Acclamation

Resolution 14-17: Appreciation: JTC 1 SC 22/WG 17 Convenor

JTC 1 SC 22 expresses its gratitude to Mr. Jonathan Hodgson for his years of hard work on behalf of JTC 1/SC 22/WG 17, Prolog, as Convenor and Project Editor. We appreciate his leadership and dedication to the work of WG 17. He is retiring from his Convenorship position but we look forward to his continued service as a Project Editor.

Acclamation

Resolution 14-18: Appreciation to Mr. Clark Nelson

JTC 1 SC 22 thanks Mr. Clark Nelson for his CPLEX presentation at the SC 22 Plenary.

Acclamation

Resolution 14-19: Appreciation: Webmaster

JTC 1 SC 22 expresses its gratitude to Mr. Keld Simonsen and the Technical University of Denmark for continuing to provide web and email support for JTC 1 SC 22 and several of its subgroups. Without this support, JTC 1 SC 22 and those subgroups would have had difficulty in the advancement of their work.

Acclamation

Resolution 14-20: Appreciation: Drafting Committee

JTC 1 SC 22 expresses its gratitude to the Drafting Committee:

- Mr. David Keaton (U.S.)
- Mr. Jim MacFie (Canada)
- Mr. Zhifeng Chen (China)
- Mr. Kiyoshi Ishihata (Japan)
- Dr. Yong Woo Lee (Korea)
- Mr. Keld Simonsen (Denmark)

for their work in the preparation of the meeting resolutions.

Acclamation

Resolution 14-21: Appreciation: WebEx Manager

JTC 1 SC 22 expresses its gratitude to Mr. David Keaton for managing the WebEx capabilities for this meeting.

Acclamation

Resolution 14-22: Appreciation: Meeting Host

JTC 1 SC 22 expresses its gratitude to AENOR for hosting this meeting and providing excellent meeting facilities, catering and administration. JTC 1 SC 22 wishes especially to thank Dr. J. Daniel Garcia and Mr. Juan Antonio Jimenez Caballero for their help in organizing and planning this meeting and their assistance to JTC 1 SC 22 members at the meeting.

Acclamation

**TWENTY SEVENTH PLENARY MEETING OF ISO/IEC JTC 1/SC 22
8-9 September 2014, Madrid, Spain**

- 1. OPENING OF PLENARY MEETING
08:30 hours, Monday, 8 September 2014**
- 2. CHAIRMAN'S REMARKS**
- 3. ROLL CALL OF DELEGATES**
- 4. APPOINTMENT OF DRAFTING COMMITTEE**
- 5. ADOPTION OF THE AGENDA
DOCUMENT: SC 22 N 4970**
- 6. REPORT OF THE SECRETARY
DOCUMENT: SC 22 N 4952**
 - 6.1 SC 22 Project Information
DOCUMENT: SC 22 N 4960**
 - 6.2 Outstanding Actions From the Twenty Sixth Plenary
of SC 22
DOCUMENT: SC 22 N 4849**
 - 6.3 U.S. Endorsement of Mr. Rex Jaeschke as SC 22 Chair
for an Additional 3-Year Term of Office (through 2017)
DOCUMENT: SC 22 N 4922**
- 7. ACTIVITY REPORTS**
 - 7.1 National Body Reports
DOCUMENTS: SC 22 N 4939 (U.S.), 4940 (Netherlands),
4943 (UK), 4959 (Japan), 4967 (Korea)**

7.2 External Liaison Reports

**7.2.1 Ecma International (R. Jaeschke)
DOCUMENT: SC 22 N 4937**

**7.2.2 Linux Foundation (N. Stoughton/K. Simonsen/Y.
Woo Lee)**

7.3 Internal Liaison Reports

7.3.1 Liaison Officer from JTC 1/SC 2 (M. Ksar)

7.3.2 Liaison Officer from JTC 1/SC 7 (Y. Woo Lee)

**7.3.3 Liaison Officer from ISO/TC 37 (K. Simonsen)
DOCUMENT: SC 22 N 4969**

**7.3.4 JTC 1/SWG-Directives and SWG-Management
Report (S. Michell)
DOCUMENTS: SC 22 N 4929, 4930**

7.4 Reports from SC 22 Subgroups

**7.4.1 Austin Joint Working Group (N. Stoughton)/
Reconfirmation of SC 22 Organizational
Representative
DOCUMENT: SC 22 N 4934**

7.5 Report on JTC 1 Activities and Requests for Input (R. Jaeschke/M. Peacock)

**7.5.1 JTC 1 Plenary Report 2013
DOCUMENT: SC 22 N 4886**

**7.5.2 WG participation - What having experts, not
NB delegations to the Working Group, means to
you?
DOCUMENT: SC 22 N 4919**

**7.5.3 JTC 1 Special Working Group on Management
DOCUMENT: SC 22 N 4930**

- 8. **WG 23 Future Activity Discussion**
DOCUMENT: SC 22 N 4926, 4950, 4951

- 9. **SC 22 Management Issues**
DOCUMENTS: SC 22 N 4932 (Canadian Contribution),
4947 (SC 22 Chair Contribution), 4936 (SC
22 Chair Contribution on Virtual Meetings)

10. WORKING GROUP BUSINESS PLANS AND REPORTS
(Written reports to be submitted by Conveners before presentation. Presentation up to 15 minutes. Reports for this Plenary will include the Business Plan required by JTC 1.)

- 10.1 **WG 4 - COBOL (W. Takagi)**
DOCUMENT: SC 22 N 4958
- 10.2 **WG 5 - FORTRAN (J. Reid)**
DOCUMENT: SC 22 N 4957
- 10.3 **WG 9 - Ada (J. Tokar)**
DOCUMENT: SC 22 N 4961
- 10.4 **WG 14 - C (J. Benito)**
DOCUMENT: SC 22 N 4941
- 10.5 **WG 17 - Prolog (J. Hodgson)**
DOCUMENT: SC 22 N 4942
- 10.6 **WG 21 - C++ (H. Sutter)**
DOCUMENT: SC 22 N 4966
- 10.7 **WG 23 – Programming Language Vulnerabilities**
(T. Plum)
DOCUMENT: SC 22 N 4962

11. PROJECT EDITOR REPORTS

- 11.1 **Linux Standards Base (N. Stoughton)**
- 11.2 **ECMAScript (Allen Wirfs-Brock)**
DOCUMENT: SC 22 N 4937
- 11.3 **POSIX (A. Josey)**

- 11.4 DOCUMENT: SC 22 N 4935
C# Language (R. Jaeschke)
- 11.5 DOCUMENT: SC 22 N 4937
CLI (J. Marcey)
- 11.6 DOCUMENT: SC 22 N 4937
Eiffel (B. Meyer)
- 11.7 DOCUMENT: SC 22 N 4937
PL/I (J. Klensin)
- 11.8 CHILL
- 11.9 PASCAL (T. Hetherington)
- 11.10 M (K. Schell)
- 11.11 PCTE
DOCUMENT: SC 22 N 4937
- 11.12 JEFF
- 11.13 FORTH (J. Rible)
- 11.14 RUBY (Fast Track via Japan)

12. ITEMS FOR DISCUSSION

- 12.1 SC 22 Business Plan

13. SC 22 ADMINISTRATIVE ISSUES

- 13.1 Review of Five-Year Meeting Schedule

September 2015 Hawaii, USA

- 13.2 Review of Non-Progressing SC 22 Projects

- 13.3 Officer Appointments/Re-appointments/Internal and External Liaison Officers

- 13.3.1 WG 5 Fortran (J. Reid, UK)

- DOCUMENT: SC 22 N 4944

- 13.3.2 WG 14 C (J. Benito, USA)

- DOCUMENT: SC 22 N 4948

- 13.3.3 WG 17 Prolog (Vacant)

- DOCUMENT: SC 22 N 4938

- 13.3.4 Ecma International (R. Jaeschke)
- 13.3.5 Linux Foundation (N. Stoughton/
K. Simonsen/ Y. Woo Lee)
- 13.3.6 Austin Joint Working Group
(N. Stoughton)
- 13.3.7 Liaison Officer to JTC 1/SC 2
(M. Ksar)
- 13.3.8 Liaison Officer to JTC 1/SC 7
(Y. Woo Lee)
- 13.3.9 Liaison Officer from ISO/TC 37
(K. Simonsen)
- 13.3.10 JTC 1/SWG-Directives Participant (S.
Michell)

13.4 Review of Project Editor Endorsements

13.5 Standards for 2014 Periodic Review

ISO/IEC 9496:2003

CHILL -- The ITU-T programming language

ISO/IEC 10514-2:1998

**Information technology -- Programming languages -- Part
2: Generics Modula-2**

ISO/IEC 10514-3:1998

**Information technology -- Programming languages -- Part
3: Object Oriented Modula-2**

ISO/IEC 13719-1:1998

**Information technology -- Portable Common Tool
Environment (PCTE) -- Part 1: Abstract specification**

ISO/IEC 13719-2:1998

**Information technology -- Portable Common Tool
Environment (PCTE) -- Part 2: C programming language
binding**

ISO/IEC 13719-3:1998

Information technology -- Portable common tool environment (PCTE) -- Part 3: Ada programming language binding

ISO/IEC 13719-4:1998

Information technology -- Portable Common Tool Environment (PCTE) -- Part 4: IDL binding (Interface Definition Language)

ISO/IEC TR 19755:2003

Information technology -- Programming languages, their environments and system software interfaces -- Object finalization for programming language COBOL

ISO/IEC 24747:2009

Information technology -- Programming languages, their environments and system software interfaces -- Extensions to the C Library to support mathematical special functions

13.6 TRs Withdrawn by ISO – Republish via SC 22 Resolution?

TR Type1 ISO/IEC TR 10182:1993, Programming languages, their environments and system software interfaces -- Guidelines for language bindings

TR Type2 ISO/IEC TR 14369:1999, Programming languages, their environments and system software interfaces -- Guidelines for the preparation of Language-Independent Service Specifications (LISS)

14. OTHER BUSINESS

**14.1 SC 22 Standing Document on Procedures
DOCUMENT: SC 22 SD 1**

**14.2 SC 22 Standing Document on JTC 1 History
DOCUMENT: SC 22 SD 2**

**15. APPROVAL OF RESOLUTIONS AND STATEMENT OF
RESULTS**

**16. ADJOURNMENT
(no later than 19:00 hrs, Tuesday, 9 September 2014)**

Agenda Item	Subject	Action Taken
1	Opening of Plenary Meeting	N/A
2	Chairman's Remarks	N/A
3	Roll Call of Delegates	N/A
4	Appointment of Drafting Committee	Resolution 14-20
5	Adoption of the Agenda	The agenda was approved as written and is attached to this report.
6	Report of the Secretary	M. Peacock gave a verbal report (SC 22 N 4952)
6.1	SC 22 Project Information	M. Peacock gave a verbal report (SC 22 N 4960)
6.2	Outstanding Actions from 26 th SC 22 Plenary Meeting	M. Peacock gave a verbal report.
6.3	U.S. Endorsement of SC 22 Chair	Resolution 14-09
7	Activity Reports	
7.1	National Body Reports	N/A
7.2	External Liaison Reports	Resolution 14-02
7.3	Internal Liaison Reports	N/A
7.4	Reports from SC 22 Subgroups	Resolution 14-07
7.5	Report on JTC 1 Activity and Requests for Input	N/A
8	WG 23 Future Activity Discussion	Resolution 14-11
9	SC 22 Management Issues	Resolution 14-03, 14-04
10	WG Business Plans and Reports	Resolution 14-05
11	Project Editor Reports	N/A
12	Items for Discussion	
12.1	SC 22 Business Plan	N/A
13	SC 22 Administrative Issues	
13.1	Review of Five-Year Meeting Schedule	Resolution 14-13
13.2	Review of Non-Progressing SC 22 Projects	N/A
13.3	Officer Appointments/Re-appointments/Internal and External Liaison Officers	Resolution 14-06, 14-08, 14-10,
13.4	Review of Project Editor Endorsements	N/A
13.5	Standards for Periodic Review	Resolution 14-12
14	Other Business	
14.1	SC 22 Standing Document on Procedures	N/A
14.2	SC 22 Standing Document on JTC 1 History	N/A

Attendance List
JTC 1/SC 22 Plenary Meeting
Madrid, Spain
8-9 September 2014

Name	National Body/Organization	Email
REX JAESCHKE	Chair	rex@RexJaeschke.com
David Keaton	US HoD	dmk@dmk.com
Joyce Tokar	US. WG9	tokar@pyrrhusoft.com
Keld Simonsen	DK	ks@rap.dk
Stephen Mickell	Canada HoD	stephen.michelle@maurya.on.ca
Jim MacFie	Canada	jimacfie@microsoft.com
Kiyoshi Ishihata	Japan, HoD	ishihata@cs.meiji.ac.jp
Wataru Takagi	Japan, WG4	wataru.takagi.zc@hitachi.com
Ulrich Neumerkel	Austria, WG 17	Ulrich.Neumerkel@tuwien.ac.at

Name	National Body/Organization	Email
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MARISA Peacock	SC 22 Secretary	mpeacock@ANSI.org
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