

**Business Plan and Convener's Report**  
**ISO/IEC JTC1/SC22/WG14 (The Programming Language C)**

Document:  
ISO/IEC JTC1/SC22/WG14 N1245

Date:  
2007-07-31

PERIOD COVERED:  
July 2006 - July 2007

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## **1. MANAGEMENT SUMMARY**

### **1.1. JTC1/SC22/WG14 STATEMENT OF SCOPE**

Development and maintenance of ISO/IEC Standards related to the programming language C.

### **1.2. PROJECT REPORT**

#### **1.2.1. COMPLETED PROJECTS**

JTC1.22.20.01 – Programming Language C (Revision of ISO/IEC 9899:1990), this project was delivered by the publishing of ISO/IEC 9899:1999.

JTC1 NP 18037, Extensions for the programming language C to support embedded processors. This is a Technical Report type II.

JTC1 NP 19769, Specification for Additional Character Data Types to the Programming Language C. This is a Technical Report type II.

JTC1 NP 24731, Extensions to the C Library, — Part I: Bounds-checking interfaces. This is a Technical Report type II.

### 1.2.2. PROJECTS UNDERWAY

JTC1 NP 24732, Extensions for the programming language C to support decimal floating point arithmetic. This is a Technical Report type II.

JTC1 NP 24747, Extensions for the C Standard Library to Support Mathematical Special Functions. This is a Technical Report type II.<sup>1</sup>

JTC1 NP 24731, Extensions to the C Library – Part 2: Dynamic Allocation Functions. This is a Technical Report type II.

### 1.2.3. CANCELLED PROJECTS

None over this period.

### 1.2.4. COOPERATION and COMPETITION

Where appropriate, WG14 has established active liaisons with other SC22 working groups. There is no apparent direct competition with any other current SC22 working group.

## 2. PERIOD REVIEW

### 2.1. MARKET REQUIREMENTS

WG14 feels that it responded to user community pressure and to implementers concerns when the ISO/IEC 9899:1995 standard was updated on schedule. WG14 believes that the ISO/IEC 9899:1999 standard answers many concerns and keeps the International Standard for the C programming language current with today's programming trends and market.

WG14 believes the newly published TR 18037 and TR 19769, and the ongoing work on TR 24731 Part I and Part II and the work on TR 24732 address important issues that benefit the entire C community.

### 2.2. ACHIEVEMENTS

- WG14 has worked on Defect Reports; keeping the Defect Report Log current for the 9899:1999 Standard.
- WG14 has worked on all the Defect Reports filed for TR 18037; the Defect Report Log for TR 18037 is current.
- The text for DTR 24731 Part I has been forwarded for publication.
- The text for PDTR 24731 Part II passed the registration ballot, see SC22 N4176
- The TR 24732 passed the registration ballot, see SC22 N4141 and the DTR has been forwarded to JTC 1, see N8645.
- The text for PDTR 24747 registration ballot was successful, see SC22 N4109 and N4162.

### 2.3. RESOURCES

WG14 meets two times per year in co-located technical sessions with the US committee NCITS J11. Over the past several years, WG14 has timed its technical sessions to coincide with WG21, allowing those technical experts that would like to attend both technical sessions the opportunity

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<sup>1</sup> See ballot SC 22 N4201, if successful this project will produce an IS

to do so without extra travel. The WG14 Convener would like to thank the WG21 Convener for the extended effort it takes to coordinate common meeting locations and liaison between the two working groups. Thirteen countries participate by attending these meetings or by being involved in the technical discussions that take place over the reflector. The countries are: Australia, Canada, Denmark, France, Germany, Ireland, Japan, Netherlands, Norway, Russia, Sweden, UK, and the USA.

WG14 has been monitoring the cross-language standards activities, and are using the ISO/IEC JTC 1/WG20 guidelines on extended characters. WG14 has also keeps apprised of the requirements of the LIA-1, 2 standards.

WG14 liaison appointments are:

Group	Name	Person assigned
WG11	Language Independent Datatypes	Willem Wakker
WG21	C++	Group liaison assigned <sup>2</sup>
FSG	Free Standard Group	Nick Stoughton
OWG:V	Vulnerabilities	Tom Plum

### 3. FOCUS NEXT WORK PERIOD

WG14 will focus on:

- work item JTC1 NP 24732, a type II technical report; see SC22 N3720, N3740 and N4060,
- work item JTC1 NP 24747, a type II technical report, see SC22 N3814, and N4201,
- work item JTC1 NP 24731 Part II, a type II technical report, see SC22 N4176.

The Committee has discussed several other possible new work items, but plans to finish at least one of the current Technical Reports before starting a new project. The other items identified are:

1. Conformance
2. Sequence Points
3. Time
4. Concurrency

#### 3.1. DELIVERABLES

None.

#### 3.2. STRATEGIES

WG14 believes that routine handling will suffice to complete the progress desired.

#### 3.3. RISKS

No problems are anticipated.

#### 3.4. OPPORTUNITIES

None.

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<sup>2</sup> Dinkumware, Intel, Metrowerks, Microsoft, Oracle, Plum Hall, Perennial, and Sun Microsystems.

### 3.5. WORK PROGRAM PRIORITIES

WG14 will concentrate on the work item NP 24731 and will work on the projects NP 24732 and NP 24747. WG14 will respond to any Defect Reports logged for the current ISO/IEC 9899:1999 Standard and the two published Technical Reports TR 18037 and TR 19769.

## 4. OTHER ITEMS

### 4.1. POSSIBLE ACTION REQUESTS AT FORTHCOMING PLENARY

WG 14 would like to republish the TR 18037 so that the published text reflects the defect reports. It is unclear how to accomplish this, so WG14 would like the plenary to advise us on how to proceed.

### 4.2. WG14 SUPPORTS SC22 N2718

WG14 supports the action requested in ISO/IEC JTC 1/SC22 N2718.

### 4.3. PROJECT EDITORS

The following individuals have been appointed project editors and backup project editors:

JTC1.22.20.01 Programming Language C (Revision of ISO/IEC 9899:1990)  
Larry Jones (Project Editor), Douglas Walls (Backup Project Editor)

JTC1 NP 18037 Extensions for the programming language C to support embedded processors.  
Willem Wakker (Project Editor), John Benito (Backup Project Editor)

JTC1 NP 19769 Specification for Additional Character Data Types to the Programming Language C.  
Nobuyoshi Mori (Project Editor), John Benito (Backup Project Editor)

JTC1 NP 24731 Extensions to the C Library, Part I: Bounds-checking interfaces  
Randy Meyers (Project Editor), P. J. Plauger (Backup Project Editor)

JTC1 NP 24732 Extensions for the programming language C to support decimal floating point arithmetic  
Edison Kwok (Project Editor), P. J. Plauger (Backup Project Editor)

JTC1 NP 24747 Extensions for the Standard Library of the Programming Language C to Support Mathematical Special Functions  
P. J. Plauger (Project Editor), John Benito (Backup Project Editor)

### 4.4. ELECTRONIC DOCUMENT DISTRIBUTION

WG14 has conducted some of its detailed technical discussion using email reflector provided by the Danish UNIX Users Group, Copenhagen University College of Engineering and Keld Simonsen.

WG14 also has an ftp and Web site provided by courtesy of the Copenhagen University College of Engineering, Danish UNIX Users Group and Keld Simonsen.

WG14 uses a secure wiki setup and maintained by Dinkumware, Ltd. This wiki is used for quick exchange of documents during and between meetings.

WG14 is now providing all the appropriate committee documents on the Committee Web site, eliminating the need for paper mailings.

#### 4.5. RECENT MEETINGS

05-09	Feb 1996	Irvine, CA USA	ANSI
24-28	Jun 1996	Amsterdam, NL	NEN
21-15	Oct 1996	Toronto, Canada	SCC, IBM
23-27	Jun 1997	London, UK	BSI, Plum Hall Europe
20-24	Oct 1997	Menlo Park, CA USA	ANSI, Sun Microsystems
02-06	Feb 1998	Frisco, CO USA	ANSI, Keaton Consulting
23-27	Jun 1998	Copenhagen, Denmark	Danish Standards
05-09	Oct 1998	Santa Cruz, CA USA	ANSI, SGI/Cray
01-05	Feb 1999	Portland, OR USA	ANSI, Intel Corp
21-24	Jun 1999	London, UK	BSI
18-23	Oct 1999	Kona, HI USA	ANSI, Plum Hall
10-14	Apr 2000	Tokyo, Japan	ITSCJ, NEC
16-20	Oct 2000	Toronto, Canada	SCC, IBM
23-27	Apr 2001	Copenhagen, Denmark	Danish Standards
16-20	Oct 2001	Redmond, WA USA	ANSI, Microsoft
15-19	Apr 2002	Curacao, Netherlands Antilles	NNI, Netherlands
14-20	Oct 2002	Santa Cruz, CA USA	ANSI, Dinkumware
31-04	Mar/Apr 2003	Oxford, UK	BSI, ACCU
21-24	Oct 2003	Kona, HI USA	ANSI, Plum Hall
29-02	Mar/Apr 2004	Sydney, Australia	SA, Whitesmiths, Dinkumware
25-29	Oct 2004	Redmond, WA USA	ANSI, Microsoft
04-08	Apr 2005	Lillehammer, Norway	SN, RAP, Dinkumware
25-28	Sep 2005	Mt Tremblant, Canada	SCC
27-31	Mar 2006	Berlin, Germany	DIN, SAP
23-27	Oct 2006	Portland, OR USA	ANSI, Intel Corp
23-26	Apr 2007	London, UK	BSI

#### 4.6. FUTURE MEETINGS

08-11	Oct 2007	Kona, HI USA	ANSI, Plum Hall
14-18	Apr 2008	Delft, Netherlands	NIN, ACE
	Oct 2008	Denver, CO USA	ANSI, Cisco Systems <sup>3</sup>

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<sup>3</sup> Location and date not set, trying to coordinate with WG21