

PAR FORM

PAR Status: New PAR (Unapproved PAR)

PAR Approval Date: 0000-00-00

PAR Signature Page on File: No

1. Assigned Project Number: 1666

2. Sponsor Date of Request: 2004-07-13

3. Type of Document: Standard for

4. Title of Document:

Draft: Standard System C Language Reference Manual

5. Life Cycle: Full-Use

6. Type of Project:

6a. Is this an update to an existing PAR? No

6b. The Project is a: New Standard

7. Working Group Information:

Name of Working Group: SystemC Standardization WG

Approximate Number of Expected Working Group Members:50

8. Contact information for Working Group Chair:

Name of Working Group Chair: Victor Berman

Telephone: 978-262-6560 **FAX:** 978-252-3630

Email: vberman@cadence.com

9. Contact information for Co-Chair/Official Reporter, Project Editor or Document Custodian if different from the Working Group Chair:

Name of Co-Chair/Official Reporter, Project Editor or Document Custodian:

Telephone: **FAX:**

Email:

10. Contact information for Sponsoring Society or Standards Coordinating Committee:

Name of Sponsoring Society and Committee: Computer Society Design Automation

Name of Sponsoring Committee Chair: Peter Ashenden

Telephone: +61883397532 **FAX:** +61883392616

Email: peter@ashenden.com.au

Name of Liaison Rep. (if different from the Sponsor Chair):

Telephone: **FAX:**

Email:

Name of Co-Sponsoring Society and Committee: Corporate Advisory Group

Name of Co-Sponsoring Committee Chair: Chuck Adams

Telephone: 914-765-4382 **FAX:** 914-765-4420

Email: wcadams@us.ibm.com

Name of Liaison Rep. (if different from the Sponsor Chair):

Telephone: **FAX:**

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11. The Type of ballot is: Entity Sponsor Ballot

Expected Date of Submission for Initial Sponsor Ballot: 2005-03-01

12. Fill in Projected Completion Date for Submittal to RevCom: 2005-09-01

Explanation for Modified PAR that completion date is being extended past the original four-year life of the PAR:

13. Scope of Proposed Project:

This standard defines SystemC as an ANSI standard C++ class library for system and hardware design.

Is the completion of this document contingent upon the completion of another document? No

14. Purpose of Proposed Project:

The purpose of this project is to provide a C++-based standard for designers and architects who need to address complex systems that are a hybrid between hardware and software.

14a. Reason for the standardization project:

As the electronics industry builds more complex systems involving large numbers of components including software, there is an increasing need for a design language that can manage the complexity and size of these systems. SystemC provides a mechanism for managing this complexity with its facility for modeling hardware and software together at multiple levels of abstraction. This capability is not available in traditional hardware description languages. Stakeholders for this project are Electronic Design Automation (EDA) companies that implement the technology, Integrated Circuit (IC) suppliers who use the technology, and end users who build systems based on the technology.

15. Intellectual Property:

Has the sponsor reviewed the IEEE patent policy with the working group? Yes

Is the sponsor aware of copyrights relevant to this project? Yes

Copyright is currently held by The Open SystemC Initiative (OSCI). It will be transferred to IEEE.

Is the sponsor aware of trademarks relevant to this project? Yes

The SystemC trademark is owned by OSCI. It will be made available for use at no charge.

Is the sponsor aware of possible registration of objects or numbers due to this project? No

16. Are there other documents or projects with a similar scope? Yes**Similar Scope Project Information:**

There are others languages including VHDL (P1076 - Standard VHDL Language Reference Manual), Verilog (P1364 - Verilog Hardware Description Language), SystemVerilog (P1800 - Standard for SystemVerilog: Unified Hardware Design, Specification and Verification Language) and 'e' (P1647 - Standard for the Functional Verification Language 'e') that are used for designing hardware systems. The current project differs from these in that the SystemC language emphasizes the architectural and software aspects of design rather than the implementation aspects emphasized in VHDL and Verilog. One aspect of this project is to provide information for interfacing between this new standard and the existing standards so that they can interoperate effectively. The intent is to broaden the usability of these standards, not replace them. There are a number of other system level design projects (Ptolemy, UML, SDL, SpecC, Matlab, etc.) but none of these provide a C++ class library for system design. In addition, many these have C++ code generation capabilities, which permit interoperability with SystemC.

17. Is there potential for this document (in part or in whole) to be adopted by another national , regional or international organization? Yes

If yes, please answer the following questions:

Which International Organization/Committee? IEC TC93 WG2

International Contact Alex N Zamfirescu

Information?

ASC

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18. If the project will result in any health, safety, or environmental guidance that affects or applies to human health or safety, please explain in five sentences or less.

19. Additional Explanatory Notes: (Item Number and Explanation)