P1801

Submitter Email: gary.delp@gmail.com
Type of Project: Revision to IEEE Standard 1801-2009
PAR Request Date: 04-Jun-2009
PAR Approval Date: 11-Sep-2009
PAR Expiration Date: 31-Dec-2013
Status: PAR for a Revision to an existing IEEE Standard 1801-2009
Project Record: 1801

1.1 Project Number: P1801
1.2 Type of Document: Standard
1.3 Life Cycle: Full Use

2.1 Title: Standard for Design and Verification of Low Power Integrated Circuits
Old Title: IEEE Standard for Design and Verification of Low Power Integrated Circuits

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3.2 Sponsoring Society and Committee: IEEE Computer Society/Design Automation (C/DA)
Contact Information for Sponsor Chair
Name: Victor Berman
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Contact Information for Standards Representative
None

4.1 Type of Ballot: Entity
4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot: 06/2011
4.3 Projected Completion Date for Submittal to RevCom: 10/2011

5.1 Approximate number of entities expected to be actively involved in the development of this project: 10
5.2 Scope: This standard establishes a format used to define the low power design intent for electronic systems and electronic intellectual property. The format provides the ability to specify the supply network, switches, isolation, retention and other aspects relevant to power management of an electronic system. The standard defines the relationship between the low power design specification and the logic design specification captured via other formats (e.g., standard hardware description languages).
Old Scope: This standard establishes a format used to define the low power design intent for electronic systems and electronic intellectual property. The format provides the ability to specify the supply network, switches, isolation, retention and other aspects relevant to power management of an electronic system. The standard defines the relationship between the low power design specification and the logic design specification captured via other formats (e.g., standard hardware description languages).

5.3 Is the completion of this standard dependent upon the completion of another standard: No
5.4 Purpose: The standard provides portability of low power design specifications that can be used with a variety of commercial products throughout an electronic system design, analysis, verification and implementation.
Old Purpose: The standard provides portability of low power design specifications that can be used with a variety of commercial products throughout an electronic system design, analysis, verification and implementation.
flow

5.5 Need for the Project: As electronics manufacturing process technology has advanced, power management has become a dominant factor in electronic system optimization. The industry has employed new design techniques to reduce static and dynamic energy consumption. These techniques are not possible to capture in existing standard hardware description languages such as SystemVerilog (IEEE Std-1800), Verilog (IEEE Std-1364) and VHDL (IEC/IEEE Std-61691-1-1) which support logic design specification but not the specification of low power design intent. The standard format replaces non-portable proprietary formats and eliminates the need for specifying the same information multiple times in non-standard formats -- a common source for errors in the design flow. The standard allows the electronics industry to design chips and systems that consume less power and generate less heat accruing economic and ecological benefits. This project will update IEEE Std 1801-2009 based on learning from the use of the standard.

5.6 Stakeholders for the Standard: Electronics systems designers of systems-on-chips (e.g., networking and mobile communications), processor providers (e.g., servers and laptops), silicon vendors and manufacturers, providers of intellectual property and vendors of electronic design automation software all have a vested interest in an industry standard for low power design specification.

Intellectual Property

6.1.a. Is the Sponsor aware of any copyright permissions needed for this project?: No
6.1.b. Is the Sponsor aware of possible registration activity related to this project?: No

7.1 Are there other standards or projects with a similar scope?: Yes
If Yes please explain: Si2 has developed an alternative specification, the Common Power Format. It is possible that proposals will be made to P1801 will simplify interoperability; however the details of interoperability are outside of the scope of the work of the group. Some members of the working group are also in the Si2 group.

and answer the following

Sponsor Organization: SI2
Project/Standard Number: CPF 1.1 with Errata 08-apr-
Project/Standard Date: 08-Apr-2009
Project/Standard Title: CPF 1.1 Common Power Format

7.2 International Activities
a. Adoption
Is there potential for this standard (in part or in whole) to be adopted by another national, regional or international organization?: Yes
Organization: IEC
Technical Committee Name: Component, circuit and system description languages
Technical Committee Number: IEC TC93
Contact Name: Dennis B. Brophy
Phone: 503-685-0893
Email: dennisb@model.com
b. Joint Development
Is it the intent to develop this document jointly with another organization?: No
c. Harmonization
Are you aware of another organization that may be interested in portions of this document in their standardization development efforts?: No

8.1 Additional Explanatory Notes (Item Number and Explanation):