

# IEEE Design Automation Standards Committee (DASC) Annual Report for 2004

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## DASC Overview

The Design Automation Standards Committee is the sponsor responsible for standards in the area of Electronics Design Automation, that is computer languages, formats and software that engineers use for the design of electronic systems. Technical development of standards within DASC is undertaken within several working groups. The DASC Steering Committee oversees their operation. DASC liaises with IEC TC93/WG2 to facilitate adoption of IEEE design automation standards by IEC.

DASC is governed by a Steering Committee comprising the DASC officers, chairs of working groups and *ex officio* members. The Steering Committee met four times during the year, and conducted business by email between meetings.

## DASC Standards and Projects in 2004

The following new standards were approved:

- P1076.1.1 Standard VHDL Analog and Mixed-Signal Extensions - Packages for Multiple Energy Domain Support (*new standard project*)

The following revisions of standards were approved:

- 1076.6-2004 Standard for VHDL Register Transfer Level (RTL) Synthesis

The following standards were reaffirmed:

- 1499-1998 IEEE Standard Interface for Hardware Description Models of Electronic Components

The following standards were withdrawn:

- 1029.1-1998 IEEE Standard For VHDL Waveform and Vector Exchange (WAVES) to Support Design and Test Verification

The following new standards projects were approved:

- P1076 Standard VHDL Language Reference Manual (*revision of 1076-2002*)
- P1666 Standard System C Language Reference Manual (*jointly sponsored with CAG*)
- P1800 Standard for SystemVerilog: Unified Hardware Design, Specification and Verification Language (*jointly sponsored with CAG*)
- P1850 Standard for PSL: Property Specification Language (*jointly sponsored with CAG*)

The following PARs were revised:

- P1364 Standard for Verilog Hardware Description Language (*revision of 1364-2000, changed to entity balloting*)

The following PARs were withdrawn:

- P1076b Standard VHDL Language Reference Manual -- Simulation Run-Time Application Interface (*amendment to 1076-2002, subsumed into P1076*)
- P1164 (*revision of 1164-1993, subsumed into P1076*)
- P1577 Standard for Object-Oriented Extensions to IEEE Standard VHDL (*new standard project, subsumed into future revisions of 1076*)
- P1604 Standard for Inclusion of VHDL Library Units in the VHDL Library IEEE (*new standard project, subsumed into P1076*)

## **Activities and Events during 2004**

- Revised P&Ps adopted by DASC, approved by SAB and AudCom.
- Formed joint sponsorship committee with CAG for sponsoring entity-based projects. Committee comprises Chairs and Vice-Chairs of DASC and CAG. P&Ps approved by DASC and CAG, based on AudCom model P&P.
- Representation in formation of CAD Technical Council.
- Working with IEEE-SA on IEEE/IEC dual-logo process. A number of DASC standards are published as dual-logo standards.
- Liaison with IEC/TC93/WG2, JEITA, IBIS.

## **Issues and concerns**

- Dissemination of code from standards: IEEE-SA sees code as proprietary IP, but dissemination is needed for successful implementation of standards in tools. Discussions ongoing with IEEE-SA.
- Patent policy: DASC seeks to avoid inclusion of patented material unless patent holder agrees not to assert claims. IEEE-SA points out that claims can arise *post hoc*, and that DASC position is not viable. DASC policy currently under review.
- Impact of change of SAB P&Ps on DASC P&Ps, now that DASC not subject to SAB provisions for standards sponsorship. Changes to DASC P&Ps to be determined.
- Funding for conduct of sponsor business: Fees from DASC members do not cover administrative and travel expenses. Ongoing question of where funds should come from. This is distinct from funding of standards development costs in WGs.

## **Planned activities for 2005**

- VuSPEC publication of DASC standards and drafts.
- EDA Standards Workshop with IEEE-CS/DATC.
- Formalized relationship with Accellera.