



**IEEE DASC P1076.1 Working Group**  
<http://www.eda-twiki.org/vhdl-ams/>

**Working Group Meeting**  
**March 15, 2017**

Ernst Christen  
 WG Chair  
[christen.1858@comcast.net](mailto:christen.1858@comcast.net)

**Agenda**

- ◆ **Call to order**
- ◆ **Approval of agenda**
- ◆ **Administrative issues**
  - Minutes of February 8, 2017 meeting
  - IEEE patent policy
  - Time line to approval by IEEE
- ◆ **IEEE ballot**
  - Result of WG vote
  - Mandatory Editorial Coordination
  - Forming of Ballot pool
- ◆ **Next meeting**
- ◆ **AOB**
- ◆ **Adjourn**

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**Administrative Issues**

- ◆ **Approval of WG meeting minutes**
  - [Meeting of February 8, 2017](#)
  - Available at <http://www.eda-twiki.org/vhdl-ams/>
- ◆ **Review of IEEE patent policy**
  - <http://standards.ieee.org/board/pat/pat-slideset.pdf>
- ◆ **Handling of copyrighted material**
  - No response from Synopsys, therefore we will remove all references to package STD\_LOGIC\_TEXTIO from the draft document and the attached files

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**Time Line**

#	Task	Depends on	Start Date	Duration	End Date
1	Reviews				
2	Copyright Permission Letter Synopsys missing		7/2016	10w	10/2016
3	Completion of draft LRM and packages				2/10
4	Approval of draft standard by WG	3	2/4/12	4w	3/4/12
5	Document preparation for ballot	3	2/4/12		
6	Mandatory Editorial Coordination Includes resolving LRM formatting	2, 3, 4, 5	3/4/20		3/31/9
7	Formation of ballot pool	3, 4	3/4/20	30d	4/4/19
8	First ballot	6, 7	4/4/26	1m	5/4/26
9	Public review	6, 7	4/4/26	2m	6/4/26
10	Ballot resolution	8, 9	5/4/26	6w	7/1
11	Recirculation ballot	10	7/1	2w	7/14
12	Preparation for RevCom	10	7/1		
13	Submission to RevCom	10, 11, 12			7/28
14	RevCom	13	9/7		9/7
15	PAR expires				12/31

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## WG Vote to Approve Draft Document

### ◆ Requires

- Approval by 2/3 of voters
- Response of majority of Voting Members

### ◆ Received

- 4 requests to download draft document
  - Steve Grout, Yaseen Zaidi, Sameer Kher, Tom Kazmierski
- 5 votes, all affirmative
  - No comments
- Responses of 4 voting members, of a total of 4

⇒ **Draft document has been approved**



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## Mandatory Editorial Coordination

### ◆ Required prior to the start of a Sponsor Ballot

- Ensures conformance with IEEE requirements

### ◆ Material required

- Draft document
- Collateral files
- Copyright Permission Letters

### ◆ Review will

- Reduce the number of recirculations
- Help to avoid delays in approval or possible rejection at RevCom
- Get us in contact with IEEE Editorial staff
  - Resolve issue how to distinguish 1076 and 1076.1 material

### ◆ Draft checklist



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## P1076.1-201x Draft Status

### ◆ New draft LRM version D1.1

- [http://www.eda-twiki.org/twiki/pub/P10761/P10761201XLRMEditing/1076.1-201x-draft\\_D1.1.pdf](http://www.eda-twiki.org/twiki/pub/P10761/P10761201XLRMEditing/1076.1-201x-draft_D1.1.pdf)
- Content is mostly that of version D1.0, with the following differences:
  - References to package STD\_LOGIC\_TEXTIO removed
    - LCS 201x-25 STD\_LOGIC\_TEXTIO (not yet approved)
  - Various formatting inconsistencies fixed: dashed lists, line spacing, list item vs. regular text
- Should this document include tracing information?
  - No, it should be formatted as we want the final document to be?

### ◆ Collateral files

- Removed package STD\_LOGIC\_TEXTIO

### ◆ Copyright Permission Letters

- Available are Accellera, Cadence, Kodak



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## Forming of Ballot Pool

### ◆ Initiated by Chair through IEEE myProject

- Submit text of invitation and some additional information

### ◆ Ballot Pool requirements

- IEEE-SA members, or people paying per-ballot fee
- Pool members must indicate their interest (e.g. producer, user)
- No interest category can comprise more than 1/3 of pool
- Invitation usually open for 30 days (15 minimum)
- Individual balloting groups should have at least 10 members

### ◆ WG members are not pool members unless they take action

### ◆ Once formed, ballot pool cannot change through duration of ballot

### ◆ Issue

- P1076 started forming their ballot pool on 2/13, ending 3/15



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## P1076 Invitation

The IEEE Computer Society Society/Standard for VHDL Language Reference Manual invites you to participate in the Revision Sponsor Ballot for: P1076

Title: Standard for VHDL Language Reference Manual

Scope: This standard defines the syntax and semantics of the VHSIC Hardware Description Language (VHDL).

The acronym, VHSIC (Very High Speed Integrated Circuits), in the language's name comes from the U.S. government program that funded early work on the standard.

Purpose: VHDL is a formal notation intended for use in all phases of the creation of electronic systems. Since it is both machine and human readable, it supports the design, development, verification, synthesis, and testing of hardware designs; the communication of hardware design data; and the maintenance, modification, and procurement of hardware.

This document is intended for the implementers of tools supporting the language and the advanced users of the language.



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## Next Steps

### ◆ Technical and administrative work

- Mandatory Editorial Coordination (MEC)
- Formation of ballot pool
- Work with IEEE to
  - Get web site for packages
  - Allow packages to be shipped with a product

### ◆ Next meetings (announced at [www.eda-twiki.org/vhdl-ams/](http://www.eda-twiki.org/vhdl-ams/)):

- After MEC completes and ballot pool has been formed



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## P1076.1-201x Draft LRM Status: Per LCS (1)

LCS Nr.	Title	WG status	Clauses	Status
201x-01	External names	Approved	8.7	
201x-02	Simulation cycle	Approved	14.7.5	
201x-03	Architecture statements	Approved	3.3.3 11 14.5.3 Glossary	
201x-04	Types and natures	Revised	5	v2.1 integrated.
201x-05	Expressions	Approved	9	
201x-06	Sequential statements	Approved	10	
201x-07	Specifications	Revised	7	v1.1 integrated.
201x-08	Scope and visibility	Approved	12	
201x-09	Design units and their analysis	Approved	13	
201x-10	Lexical elements	Approved	15	
201x-11	Declarations	Approved	4.2.1 6 11.13 16.2.6	
201x-12	Design units	Revised	3 4	v2.1 integrated. v2.1 integrated.
201x-13	Predefined language environment	Revised	6 16	v2.1 integrated. v2.1 integrated.



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## P1076.1-201x Draft LRM Status: Per LCS (2)

LCS Nr.	Title	WG status	Clauses	Status
201x-14	Elaboration and execution	Approved	14	
201x-15	Standard tool directives	Approved	24	
201x-16	VHPI	Approved	Annex H 19	
201x-17	Integration of IEEE Std 1076.1.1	Approved	16	
201x-18	Resolution of IRs	Approved	Annex A Annex G Annex J 5 6 7	
201x-19	Frequency Domain Modeling	Approved	14 16	
201x-20	Quantities at ASP	Revised	14 16	v1.1 integrated. v1.1 integrated.
201x-21	Alternate Forms of Lapl. and Z-Dom. Transfer Functions	Revised	16	
201x-22	Clauses 1 and 2	Revised	1 2	v1.2 integrated. v1.2 integrated.
201x-23	Glossary	Submitted	Annex I	Integrated. Remaining issue with index markers.



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### P1076.1-201x Draft LRM Status: Per Clause

LRM clause	Notes
Frontmatter	Acknowledgements added
1. Overview	LCS 201x-22_v1.2 integrated.
2. Normative references	LCS 201x-22_v1.2 integrated.
3. Design entities and configurations	LCS 201x-12_v2.1 integrated.
4. Subprograms and packages	LCS 201x-12_v2.1 integrated.
5. Types and natures	
6. Declarations	
7. Specifications	LCS 201x-07_v1.1 integrated.
8. Names	
9. Expressions	
10. Sequential statements	
11. Architecture statements	
12. Scope and visibility	
13. Design units and their analysis	
14. Elaboration and execution	LCS 201x-20_v1.1 integrated.
15. Lexical elements	
16. Predefined language environment	LCS 201x-13_v2.1 and 201x-20_v1.1 integrated.
17-23. VHPI	
19. VHPI information model	
24. Standard tool directives	



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### P1076.1-201x Draft LRM Status: Per Annex

LRM annex	Version	Notes
A. Description of accompanying files		
B. VHPI header file		
C. Syntax summary		
D. Potentially nonportable constructs		
E. Changes from IEEE Std 1076.1, 2007 Edition		
F. Features under consideration for removal		
G. Guide to use of standard packages		
H. Guide to use of protect directives		
I. Glossary		LCS 201x-23 integrated.
J. Bibliography		



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### Mandatory Changes: LRM Clauses

Clause	Title	LCS	LRM Review
1	Overview of this Standard	201x-22, 25	Reviewed
2	Normative references	201x-22	Reviewed
3	Design entities and configurations	201x-03, 12	Reviewed
4	Subprograms and packages	201x-12	Reviewed
5	Types and natures	201x-04	Reviewed
6	Declarations	201x-11	Reviewed
7	Specifications	201x-07	Reviewed
8	Names	201x-01	Reviewed
9	Expressions	201x-05	Reviewed
10	Sequential statements	201x-06	Reviewed
11	Architecture statements	201x-03	Reviewed
12	Scope and visibility	201x-08	Reviewed
13	Design units and their analysis	201x-09	Reviewed
14	Elaboration and execution	201x-14, 02	Reviewed
15	Lexical elements	201x-10	Reviewed
16	Predefined language environment	201x-13, 17, 25	Reviewed
17-23	VHPI	201x-16	Reviewed
24	Standard tool directives	201x-15	Reviewed



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### Mandatory Changes: Annexes

Annex	Title	Status
A	Informative Description of accompanying files	201x-17 covers 1076.1.1, 25
B	Normative VHPI header file	Related to 201x-16
C	Informative Syntax summary	Reviewed in D0.2
D	Informative Potentially nonportable constructs	201x-24
E	Informative Changes from IEEE Std 1076.1-2007	201x-24
F	Informative Features under consideration for removal	No candidates
G	Informative Guide to use of standard packages	201x-17 covers 1076.1.1
H	Informative Guide to use of protect directives	201x-15
I	Informative Glossary	201x-23
J	Informative Bibliography	Reviewed in D0.2
K	Informative Index	Needs review



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### Status of LCSs

LCS	Title	LRM Clauses	Status	Review in LRM
201x-01	External names	8,7	Approved	Reviewed
201x-02	Simulation cycle	14.7.5	Approved	Reviewed
201x-03	Architecture statements	3.3.3, 11, 14.5.3	Approved	Reviewed
201x-04	Types and natures	5	Approved	Reviewed
201x-05	Expressions	9	Approved	Reviewed
201x-06	Sequential statements	10	Approved	Reviewed
201x-07	Specifications	7	Approved	Reviewed
201x-08	Scope and visibility	12	Approved	Reviewed
201x-09	Design units and their analysis	13	Approved	Reviewed
201x-10	Lexical elements	15	Approved	Reviewed
201x-11	Declarations	6, 11.13, 16.2.6	Approved	Reviewed
201x-12	Design units	3, 4	Approved	Reviewed
201x-13	Predefined language environment	16	Approved	Reviewed
201x-14	Elaboration and execution	14	Approved	Reviewed
201x-15	Standard tool directives	24	Approved	Reviewed
201x-16	VHPI	17-23	Approved	Reviewed
201x-17	Integration of IEEE Std 1076.1.1	Annex A, Annex G	Approved	Reviewed
201x-18	Resolution of IRs	5, 6, 7	Approved	Reviewed
201x-19	Frequency Domain Modeling	14	Approved	Reviewed
201x-20	Working with Quantities at an ASP	14, 16	Approved	Reviewed
201x-21	Alternate forms for transfer functions	16	Approved	Reviewed
201x-22	Introduction, Clauses 1 and 2	1, 2	Approved	Reviewed
201x-23	Glossary	Annex I	Approved	Reviewed
201x-24	Annexes D, E	Annexes D, E	Approved	Reviewed
201x-25	STD_LOGIC_TEXTIO	front matter, 16, A	Submitted	

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### Project Discussion: Other Projects

Project	Status	Review in LRM
Errata (IRs)	IRs 07.01...07.03: LCS 201x-18 Unfiled IR on Q'SLEW: Analyzed, incomplete	Reviewed No action
IEEE Std 1076.1.1 integration	LCS 201x-17	Reviewed
Table-driven modeling	Open Source	
Vector/Matrix operations	Open Source	
Frequency-domain modeling	LCS 201x-19	Reviewed
Minor enhancements	LCS 201x-20 Working with Quantities at an ASP LCS 201x-21 Alternate forms for 'LTF'/ZTF	Reviewed No action

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- ### Standard Collateral: Status of Packages
- ◆ Packages that are part of IEEE Std 1076-2008
    - No technical changes
    - None of the P1076.1 Copyright Permission Letters requires any acknowledgement in package
    - Package copyright left unchanged for now
  - ◆ Packages migrated from IEEE Std 1076.1.1-2011
    - Updated header in all packages
      - Uniform text
      - Uniform formatting
      - Copyright
    - Fixed erratum in package MATERIAL\_CONSTANTS
      - AMBIENT\_LUMINANCE → AMBIENT\_ILLUMINANCE
    - Created package body for package MATERIAL\_CONSTANTS
      - Informative
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