

# PAR FORM

**PAR Status:** New PAR

**PAR Approval Date:** 16 March 2006

**PAR Signature Page on File:** Yes

**1. Assigned Project Number:** P1687

**2. Sponsor Date of Request:** 2005-10-21

**3. Type of Document:** Standard for

**4. Title of Document:**

**Draft:** Standard for Access and Control of Instrumentation Embedded within a Semiconductor Device

**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:** Internal Joint Test Action Group

**Approximate Number of Expected Working Group Members:**25

**8. Contact information for Working Group Chair:**

**Name of Working Group Chair:** Kenneth Posse

**Telephone:** +1 970 223 2103 **FAX:**

**Email:** kepos@comcast.net

**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:** Al Crouch

**Telephone:** +1 512 632 1898 **FAX:**

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

**Name of Sponsoring Society and Committee:** IEEE Computer Society Test Technology

**Name of Sponsoring Committee Chair:** Rohit Kapur

**Telephone:** 650-584-1487 **FAX:** 650-584-4128

**Email:** rkapur@synopsys.com

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

**Telephone:** **FAX:**

**Email:**

**Name of Co-Sponsoring Society and Committee:**

**Name of Co-Sponsoring Committee Chair:**

**Telephone:** **FAX:**

**Email:**

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

**Telephone:** **FAX:**

**Email:**

**11. The Type of ballot is:** Individual Sponsor Ballot

**Expected Date of Submission for Initial Sponsor Ballot:** October 2007

**12. Projected Completion Date for Submittal to RevCom:** August 2008

**Target Extension Request Information for a Modified PAR whose completion date is being extended past the original four-year life of the PAR:**

**13. Scope of Proposed Project:**

This standard develops a methodology for access to embedded instrumentation without defining the instruments or their features themselves, via the IEEE 1149.1 Test Access Port (TAP) and additional signals that may be required. The elements of the methodology include a description language for the characteristics of the features and for communication with the features, and requirements for interfacing to the features.

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

**14. Purpose of Proposed Project:**

The IEEE 1149.1 standard specifies circuits to be embedded within a semiconductor device to support board test; namely, the Test Access Port (TAP), TAP Controller, and a number of internal registers. In practice the TAP and TAP Controller are being used for other functions well beyond boundary-scan in an ad-hoc manner across the industry to access a wide variety of embedded instruments. The purpose of the IJTAG initiative is to provide an extension to the IEEE 1149.1 standard specifically aimed at using the TAP to manage the configuration, operation, and collection of data from this embedded instrumentation circuitry.

**15. Reason for the Proposed Project:**

There exists the widespread use of embedded instrumentation (such as BIST Engines, Complex I/O Characterization and Calibration, Embedded Timing Instrumentation, etc.) each of which is accessed and managed by a variety of external instruments using a variety of mechanisms and protocols. Therefore, a need exists for standardization of these protocols in order to ensure an efficient and orderly methodology for the preparation of tests and the access and control of these embedded instruments. The stakeholders for this project are those who utilize this proposal either as designers or users.

**16. Intellectual Property:**

- a. **Has the IEEE-SA policy on intellectual property been presented to those responsible for preparing/submitting this PAR?** Yes 2005-05-01
- b. **Is the sponsor aware of copyright permissions needed for this project?** No
- c. **Is the sponsor aware of trademarks that apply to this project?** No
- d. **Is the sponsor aware of possible registration activity related to this project?** No

**17. Are there other documents or projects with a similar scope?** Yes

The "Open Core Protocol - International Partnership" (OCP-IP) consortium has proposed some similar capabilities. Though these proposals are of a similar nature, they do not currently overlap the IJTAG domain. However, the IJTAG vice-chair (Al Crouch) is a member of OCP-IP and is acting as a coordinator should any conflicts arise.

**Similar Scope Project Information:**

SimSP: OCP-IP SimProjNo: www.ocpip.org SimProjD: 19-Oct-2005 SimTitle: Open Core Protocol - International Partnership

**18. Is there potential for this document (in part or in whole) to be adopted by another national , regional or international organization?** Do not know at this time

**If yes, the following questions must be answered:**

**Organization Name?**

**Technical**

**Committee**

**International**

**Contact**

**Information?**

**19. Will this project result in any health, safety, or environmental guidance that affects or applies to human health or safety?** No

**If yes, please explain:**

**20. Sponsor Information**

a. Is the scope of this project within the approved/scope/definition of the Sponsor's Charter? Yes  
If no, please explain:

b. The Sponsor's procedures have been accepted by the IEEE-SA Standards Board Audit Committee? Yes

**21. Additional Explanatory Notes: (Item Number and Explanation)**

Item #13 - The title for IEEE Std 1149.1-2001 is IEEE Standard Test Access Port and Boundary Scan Architecture.