

Study Group Meeting #2

Ian McIntosh, Leonardo MW Ltd.



Compliance with IEEE Standards Policies and Procedures

Subclause 5.2.1 of the *IEEE-SA Standards Board Bylaws* states, "While participating in IEEE standards development activities, all participants...shall act in accordance with all applicable laws (nation-based and international), the IEEE Code of Ethics, and with IEEE Standards policies and procedures."

The contributor acknowledges and accepts that this contribution is subject to

- The IEEE Standards copyright policy as stated in the *IEEE-SA Standards Board Bylaws*, section 7, <http://standards.ieee.org/develop/policies/bylaws/sect6-7.html#7>, and the *IEEE-SA Standards Board Operations Manual*, section 6.1, <http://standards.ieee.org/develop/policies/opman/sect6.html>
- The IEEE Standards patent policy as stated in the *IEEE-SA Standards Board Bylaws*, section 6, <http://standards.ieee.org/guides/bylaws/sect6-7.html#6>, and the *IEEE-SA Standards Board Operations Manual*, section 6.3, <http://standards.ieee.org/develop/policies/opman/sect6.html>

**IEEE [TBD]
System Test Access Management
Ian McIntosh (interim chair)**

Study Group Meeting #2

Date: 2017-08-16

Author(s):

| Name | Affiliation | Phone [optional] | Email [optional] |
|--------------|--------------------|-------------------------|-------------------------|
| Ian McIntosh | Leonardo MW Ltd. | | |
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Agenda

1. Roll Call
2. IEEE Patent Slides
3. Review and approve previous minutes:
4. Review open action items
5. Discussion Topics
6. Key Takeaways from today's meeting
7. Glossary terms from this meeting
8. Topic for next meeting
9. Schedule next meeting
10. Reminders
11. Any other business
12. List new action items
13. Adjourn

Instructions for the WG Chair

The IEEE-SA strongly recommends that at each WG meeting the chair or a designee:

- Show slides #1 through #4 of this presentation
- Advise the WG attendees that:
 - The IEEE's patent policy is described in Clause 6 of the *IEEE-SA Standards Board Bylaws*;
 - Early identification of patent claims which may be essential for the use of standards under development is strongly encouraged;
 - There may be Essential Patent Claims of which the IEEE is not aware. Additionally, neither the IEEE, the WG, nor the WG chair can ensure the accuracy or completeness of any assurance or whether any such assurance is, in fact, of a Patent Claim that is essential for the use of the standard under development.
- Instruct the WG Secretary to record in the minutes of the relevant WG meeting:
 - That the foregoing information was provided and that slides 1 through 4 (and this slide 0, if applicable) were shown;
 - That the chair or designee provided an opportunity for participants to identify patent claim(s)/patent application claim(s) and/or the holder of patent claim(s)/patent application claim(s) of which the participant is personally aware and that may be essential for the use of that standard
 - Any responses that were given, specifically the patent claim(s)/patent application claim(s) and/or the holder of the patent claim(s)/patent application claim(s) that were identified (if any) and by whom.
- The WG Chair shall ensure that a request is made to any identified holders of potential essential patent claim(s) to complete and submit a Letter of Assurance.
- It is recommended that the WG chair review the guidance in *IEEE-SA Standards Board Operations Manual* 6.3.5 and in FAQs 14 and 15 on inclusion of potential Essential Patent Claims by incorporation or by reference.

Note: **WG** includes Working Groups, Task Groups, and other standards-developing committees with a PAR approved by the IEEE-SA Standards Board.

Participants, Patents, and Duty to Inform

All participants in this meeting have certain obligations under the IEEE-SA Patent Policy.

- Participants [Note: Quoted text excerpted from IEEE-SA Standards Board Bylaws subclause 6.2]:
 - “Shall inform the IEEE (or cause the IEEE to be informed)” of the identity of each “holder of any potential Essential Patent Claims of which they are personally aware” if the claims are owned or controlled by the participant or the entity the participant is from, employed by, or otherwise represents
 - “Should inform the IEEE (or cause the IEEE to be informed)” of the identity of “any other holders of potential Essential Patent Claims” (that is, third parties that are not affiliated with the participant, with the participant’s employer, or with anyone else that the participant is from or otherwise represents)
- The above does not apply if the patent claim is already the subject of an Accepted Letter of Assurance that applies to the proposed standard(s) under consideration by this group
- Early identification of holders of potential Essential Patent Claims is strongly encouraged
- No duty to perform a patent search

Patent Related Links

All participants should be familiar with their obligations under the IEEE-SA Policies & Procedures for standards development.

Patent Policy is stated in these sources:

IEEE-SA Standards Boards Bylaws

<http://standards.ieee.org/develop/policies/bylaws/sect6-7.html#6>

IEEE-SA Standards Board Operations Manual

<http://standards.ieee.org/develop/policies/opman/sect6.html#6.3>

Material about the patent policy is available at

<http://standards.ieee.org/about/sasb/patcom/materials.html>

If you have questions, contact the IEEE-SA Standards Board Patent Committee Administrator at patcom@ieee.org or visit <http://standards.ieee.org/about/sasb/patcom/index.html>

This slide set is available at
<https://development.standards.ieee.org/myproject/Public/mytools/mob/slideset.ppt>



Call for Potentially Essential Patents

- If anyone in this meeting is personally aware of the holder of any patent claims that are potentially essential to implementation of the proposed standard(s) under consideration by this group and that are not already the subject of an Accepted Letter of Assurance:
 - Either speak up now or
 - Provide the chair of this group with the identity of the holder(s) of any and all such claims as soon as possible or
 - Cause an LOA to be submitted

Other Guidelines for IEEE WG Meetings

- **All IEEE-SA standards meetings shall be conducted in compliance with all applicable laws, including antitrust and competition laws.**
 - **Don't discuss the interpretation, validity, or essentiality of patents/patent claims.**
 - **Don't discuss specific license rates, terms, or conditions.**
 - Relative costs, including licensing costs of essential patent claims, of different technical approaches may be discussed in standards development meetings.
 - Technical considerations remain primary focus
 - **Don't discuss or engage in the fixing of product prices, allocation of customers, or division of sales markets.**
 - **Don't discuss the status or substance of ongoing or threatened litigation.**
 - **Don't be silent if inappropriate topics are discussed ... do formally object.**

See *IEEE-SA Standards Board Operations Manual*, clause 5.3.10 and “Promoting Competition and Innovation: What You Need to Know about the IEEE Standards Association’s Antitrust and Competition Policy” for more details.

Study Group Guidelines

Link to guidelines: <http://files.sjtag.org/StudyGroup/studygrp.pdf>

Purpose:

- 1) To determine whether sufficient interest and resources exist to develop an IEEE draft standard, and
- 2) If so, to develop a draft PAR for the proposed project.

Consider:

- Potential market acceptance of the standards project, including technical feasibility
- Relationship to related standards, if known, including its distinct identity from other projects
- Viable volunteer leadership and participation
- Realistic scope and objectives
- Opportunity to establish new areas of expertise within the Sponsor

As study group, we should not be attempting to solve the problems we identify...

It is our task to frame the problems, in the form of a PAR, that a working group will tackle.

ITC Poster Abstract (draft)

SJTAG is now the System Test Access Management Study Group

In 2005, the SJTAG (System JTAG) Initiative Group was formed to explore how to solve the problems of applying IEEE 1149.1 boundary scan within complex, multi-board systems. Over time, and with the advent of technologies like System-on-Chip (SOC) and stacked die, it was realised that the definition of a “system” was much broader than the original view. It has been further recognised that testing at higher assembly levels often requires that other interfaces, such as I2C or SPI, are used in addition to IEEE 1149.1, along with extensions, such as IEEE 1687. The key issues becomes how these interfaces are managed and how the control and data flows are co-ordinated during test.

A study group, sponsored by TTSC, has been formed to define the scope of a new standard to address these issues and to pave the way for the formation of a standards working group early in 2018. The study group title “System Test Access Management” was chosen in preference to System JTAG as it better describes the focus of the study group and helps to avoid any inference that it is directly bound to JTAG and IEEE 1149.1. As a study group, its role is not to find the solutions to the problems, but to propose which problems could be tackled by a new standard and to prepare a draft PAR in support.

It is likely, for such a broad subject, that a single standard will not be able to address all the relevant topics, and part of the study group’s conclusions may be to recommend the conduct of further studies into other potential standards.

JTAG Multidrop Bus

Multi-Drop Architecture (Full-Featured)

- Path Select and Gateway could be one device.
- JTAG PM could be direct μ Proc. IO pins.

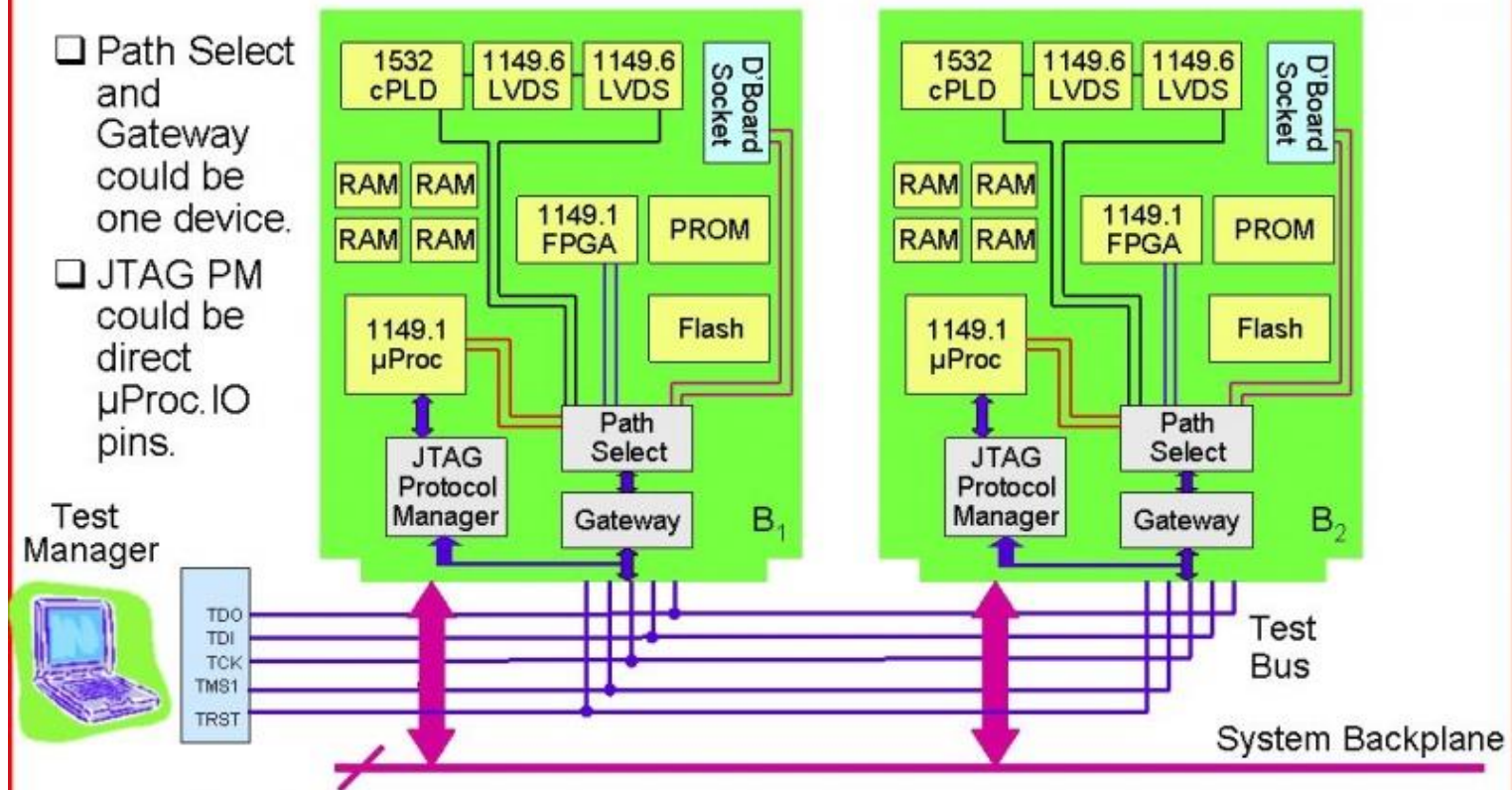
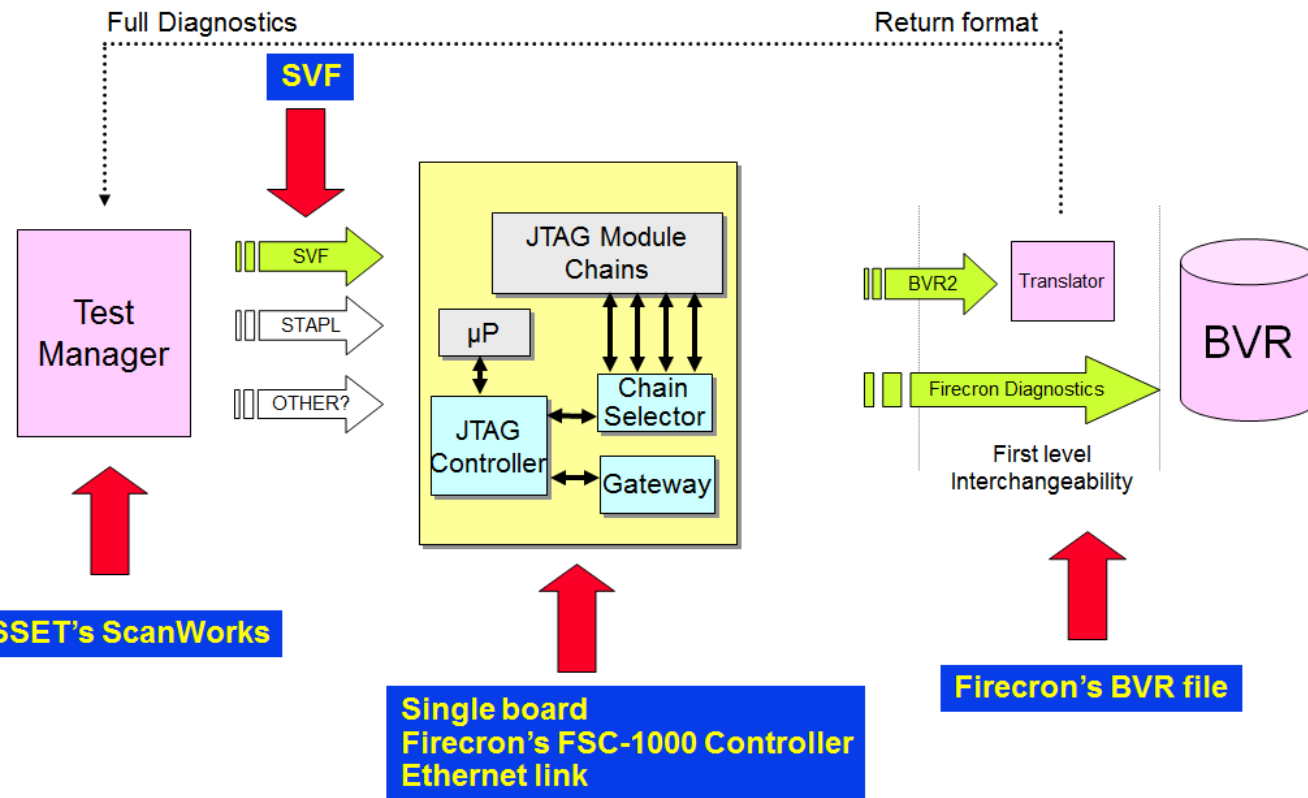


Figure 3

SJTAG Proof of Concept Demo, 2006



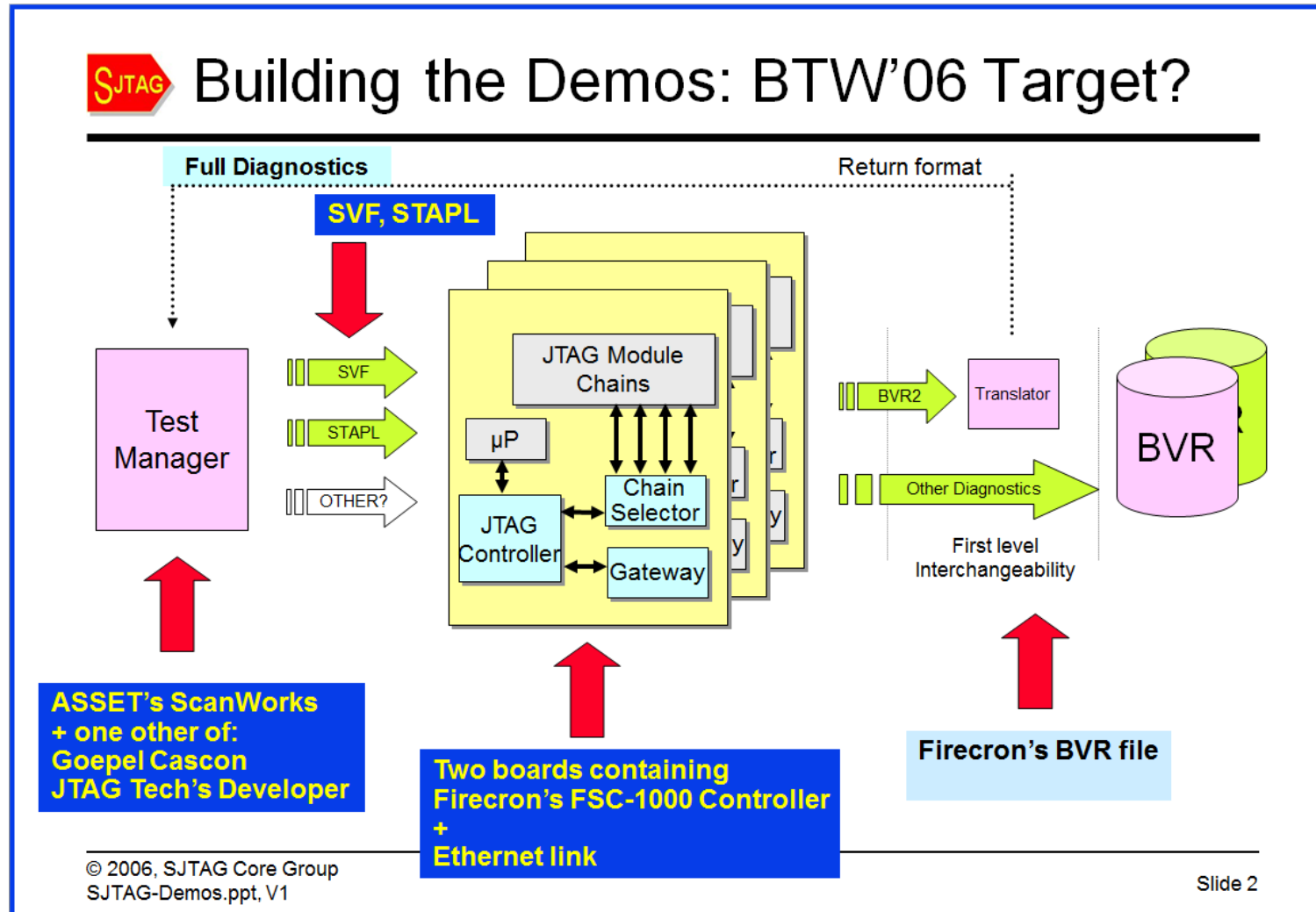
Demo 1: Shown at EBTW May 2006



© 2006, SJTAG Core Group
SJTAG-Demos.ppt, V1

Slide 1

SJTAG Proof of Concept Demo, 2006



IJTAG Engine, 2014

Michele Portolan, published in Design & Test, "Executing IJTAG: Are vectors enough?"

<http://ieeexplore.ieee.org/xpl/articleDetails.jsp?arnumber=6584739>

Demonstrated to group on November 2014

Created with IJTAG/IEEE 1687 in mind, but used ideas from SJTAG, showing that:

- Access Links and Data Links could be kept separate

- Path selection could be automated

Related to SJTAG Green Paper "A Tale of Two Domains: Explicit vs. Implicit Selection "

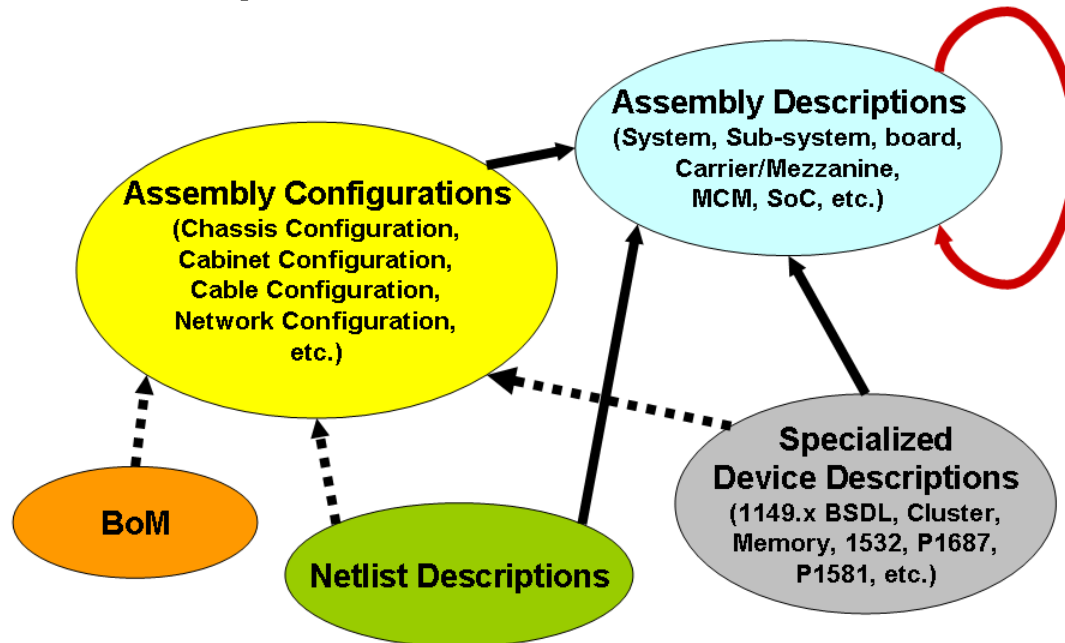
<http://www.sjtag.org/index.php/news/341-a-tale-of-two-domains-explicit-vs-implicit-selection>

System Data Elements

From forum thread:

<http://forums.sjtag.org/viewtopic.php?f=3&t=77>

System Data Elements



17/02/2009



SJTAG "Universe"

