On the Genesis of an IEEE TTTC Technical Activities Committee

A Short History of the Board Test Technical Activities Committee (BTTAC), formerly know as the Board Test Action Group (BTAG).

Ben Bennetts, BTTAC Chairman

Outline

At ITC 2001, a small group of board design, board test and board DFT practitioners got together and bemoaned the fact that ITC was no longer catering for the needs of the board test community.   Just about every activity at ITC was focused on chip test requirements. Consequently, we decided we had two choices: continue moaning or do something about it.   We decided on the latter.   The result is the IEEE TTTC Board Test Technical Activities Committee (BTTAC) formed from an *ad hoc* organisation called the Board Test Action Group (BTAG).   This article outlines what we did and how we managed to establish the BTTAC.

History of the Board Test Action Group (BTAG)

Following the ITC 2001 discussion, the first thing we did was to organize a 1-day Board Test Workshop (BTW) to be attached to the back-end of ITC 2002.   ITC encourages "hot topic" workshops and is an ideal place to start a new activity to assess the real interest.   The first BTW was sponsored by TTTC to (a) help in the organization and (b) accept the financial risk.

Over 50 people registered for the BTW 2002.   This is more than enough to demonstrate a future need for something more substantial.   Accordingly, we decided to go for something bigger and better at ITC 2003 but we needed an identity.   In the tradition of JTAG, QTAG and CTAG we decided upon the name Board Test Action Group (BTAG).   The initial membership was less than 10 people but, between us, we established an e-mail list of other known practitioners in the board test world and grew the organization to over 50 professionals.   The real purpose of this group was to give us the authority to approach the ITC Steering Committee (ITCSC) with a raft of ideas for increasing the board test activities at ITC 2003, and beyond.   Our proposals, presented at an ITCSC planning meeting late 2002 included the following:

- More front-end tutorials on board and system test topics;
- More papers on board and system test topics;
- Two panels on board and system test topics;
- Embedded lecture-series tutorials on board and system test topics; and in particular;
- Second Board Test Workshop at the back-end of ITC 2003.

ITC 2003 Response

The ITCSC accepted all of our proposals for ITC 2003, including some fairly controversial ideas based on up-grading high-quality BTW 2003 papers into mainstream ITC 2003 paper sessions. To my knowledge, this is unprecedented and would not have working without a very high spirit of cooperation between the ITC 2003 General Chair (Tony Ambler) and Program Chair (Gordon Roberts), backed up by the other members of the ITCSC.   In the event, six papers were upgraded to full ITC papers and BTW 2003 itself was attended by over 60 people.   In addition, we ran many other activities within the framework of ITC: see below.   Our intention was to make sure that every day there was something of interest to board test practitioners.

BTAG — ITC03 Board Test Track: At a Glance

	Day 1 (9/28)	Day 2 (9/29)	Day 3 (9/30)	Day 4 (10/1)	Day 5 (10/2)	Day 6 (10/3)
8:00 – 9:30	Board Test Tutorial 1 **ICT, FPT, MDA, AXI, AOI**	Board Test Tutorial 2 **1149.1 applications**	ITC Plenary Session	19. Board Test Lecture Series **1149.6 AC-EXTEST Standard**	43. Board Test Lecture Series **Extending 1149.1 into the backplane**	BTW03 Sessions on: 1149.1 Other board test issues Flash programming
10:30 – 12:00			ITC Exhibition Opens	25. Board Test Papers **AC Interconnect**	49. Board Test Papers **Other Aspects of Board Test**	Multi-board system test
13:30 – 15:00			7. Board Test Lecture Series **PXI, the future of test?**	31. Board Test Papers **Advances in testing µP motherb'ds**	P10. Board Test Panel 2 **3G Wireless Test**	Panel on The Future of Flying Probe Testers
16:00 – 18:00			13. Board Test Papers **1149.1 Applications**	37. Board Test Papers **Testing multi-board systems**	BTW03 Keynote from Dan Henes, Celestica	
19:00 – 20:30			P5. Board Test Panel 1 **PXI**		Sessions on: 1149.4 Board test mix	

Converting BTAG into BTTAC

ITC 2003 was a success for the board test community.   It was clear that we had touched a nerve and that there was sufficient interest and innovative development in board test to continue the initiative.   The question now was "how best to continue?".   ITCSC rules allow new "hot topic" workshops to be attached to ITC for only two years.   BTW 2004, if we decided to hold it, would have to be free-standing.   Also, we felt the need to formalize the *ad hoc* BTAG organization.   Consequently, we applied to the TTTC to become properly registered as a Technical Activities Committee.   The application was accepted early 2004.   More information about the current aims and objectives of BTTAC can be found at http://tab.computer.org/tttc/Activities/board.html

In addition, we decided to tap into the European board test community by organizing a 1-day back-end board test workshop at DATE (held in February, 2004 in Paris).   This event, although smaller than the US-based BTW events, attracted just under 30 participants.

Future Events

We are continuing our efforts to maintain the interest in board test at ITC and at other events. We will be running the third BTW in Fort Collins in September 2004, http://www.molesystems.com/BTW04/   .   We do not expect quite as many people as attended the earlier BTWs but there is now a nucleus of enthusiastic volunteers to more-or-less ensure that the workshop will attract a critical mass of 25, or higher, participants.

In addition, we plan to repeat the 1-day European satellite event in May 2005, this time attached to the 2005 European Test Symposium in Tallinn, Estonia, http://sise.ttu.ee/ati/ETS/

Longer Term Challenges

To start an initiative such as BTAG/BTTAC requires a lot of hard work by a number of volunteers. So far, we have succeeded in creating a momentum, aided and abetted by the ITCSC and also by other events such as DATE, but the future challenges are still daunting. Budgets for travel to international events are always limited and we are starting to look at using web-based seminar techniques as an alternative or supplementary to the more usual face-to-face events, such as workshops and conferences.

In addition, we have yet to make good contact with board test professionals in the Asia-Pacific countries plus we are looking at other ideas to expand and communicate more effectively e.g. use of chat rooms, newsletters, articles, sponsored tutorials, solicitation of conference papers, development of more embedded tutorials, provocative panel suggestions, participation from newer segments of the market (e.g. Electronic Manufacturing Services), cooperation with the trade press and general publicity, etc. But, two things are clear. It takes hard work and dedication to make all this happen and, ultimately, it requires assistance from an organization such as the IEEE TTTC.

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