

# *Enabling The Vision:* Deployment Of An Open Architecture Tester

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# Agenda

- Problem Statement
- The Vision
- Timeline and Current State
- Key Accomplishments
- Key Challenges
- The Path Forward

# Problem Statement

- Equipment Reuse & Capability Scaling
- Dynamic Product Requirements
- Shrinking Test Development Time
- Aggressive Equipment Ramps

# A typical tester selection process would not be enough...

- ...we needed a dramatic shift in equipment procurement practices to:
  - Reduce equipment development investment and cycle time
  - Reduce capital investment, sourcing just what is needed
  - Eliminate repeated platform conversions and associated retraining
- While maintaining a competitive environment

# The Vision

- Enable a modular, open platform architecture that:
  - Minimizes infrastructure costs
  - Maximizes performance scaling
  - Encapsulates instrument IP and functionality
  - Enables incremental enhancements
- Ultimately, transform the test system to be part of the facility and focus on the instrumentation

## What “OA” is...

- A framework for test capability development
- A definition of instrument boundaries to enable interoperability
- A functioning industry level effort to promote standards managed by an independent consortium

## And what “OA” is NOT...

- A specific tester from a specific test supplier
- Stifling innovation
- An effort to eliminate competition

# Timeline

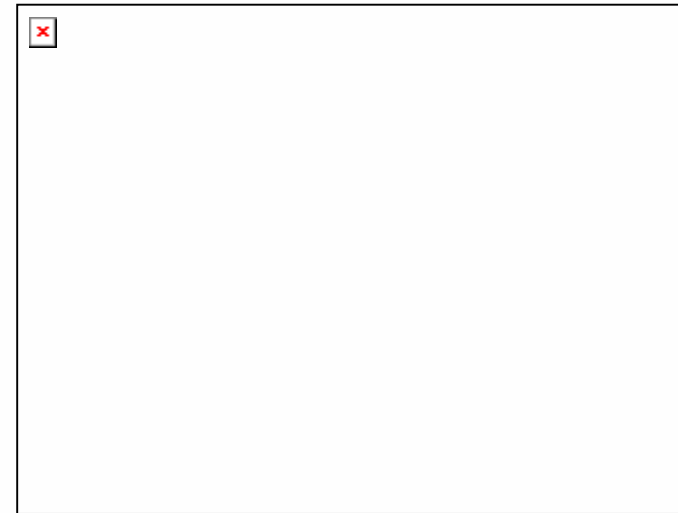
- Conceptual Whitepaper Feb 2002
- Supplier Selection Apr 2002
- Prototype Delivery Sep 2003
- Production Ramp Dec 2003

**Concept to prototype in 18 months**

**Prototype to production in 4 months**

# Current State

- Fastest test equipment production ramp in Intel history
  - >150 tools and >7,000 slots deployed
  - First 3<sup>rd</sup> party module undergoing integration



# Key Accomplishments

- Long platform life
- New capability development
- Low cost

# Long Platform Life

- 10+ year platform lifetime a requirement from conception
  - Key limiters identified and managed as a part of architectural definition
  - Critical attributes tied to instrument, not the slot
- No performance scaling limiters identified to date

# New Capability Development

- Encapsulation of functions into instruments drives different development approaches
  - Reduced development effort and throughput time
  - Ability to leverage individual supplier core competencies and strengths
- Third party development programs have commenced and will deploy in 2005

# Low Cost

- Investment is tied to the instrumentation, NOT the tester
  - Dramatically reduced infrastructure costs
  - Enhanced configurability
  - Improved test parallelism
- Competing well with traditional high end as well as targeted reduced function testers

# Key Challenges

- Configuration management
- Commercial agreements
- Software environment

# Configuration Management

- Configuration management must strike a balance between dollars and flexibility
- Qualified combinations of hardware and software components must be guaranteed
- Asset management now must comprehend individual instruments

# Commercial Agreements

- Instrument procurement is disruptive to existing commercial methods
  - Integration & Qualification
  - Service and support
  - Spares
- Many opportunities for third party services to emerge as the ecosystem matures

# Software Environment

- The single most challenging area is software
  - Enabling well integrated extensions
  - Full flexibility to take advantage of unique capabilities of each instrument while leveraging core capabilities
- Software framework definition and development continues to be a key learning area

# The Path Forward

- OA and the STC are gaining significant momentum
- Must continue to develop the ecosystem and refine the business models
- Drive deployment of slots and instrumentation will follow