IEEE Conformity Assessment Program (ICAP) for SIEPON

Raz Gabe

Vice Chair

SIEPON Conformity Assessment Steering Group

26 June 2014

Denver, Colorado

Why Does SIEPON need a Conformity Assessment Program?

❖ Conformity assessment is the accepted way of demonstrating that a product adheres to a standard

❖ Opportunity for participants to demonstrate adherence to Testing requirements

❖ IEEE 1904.1 standards based

❖ New Technology – Instill consumer or end-user confidence

❖ Supports free flow of SIEPON related products and services across national boundaries

❖ Increased adoption

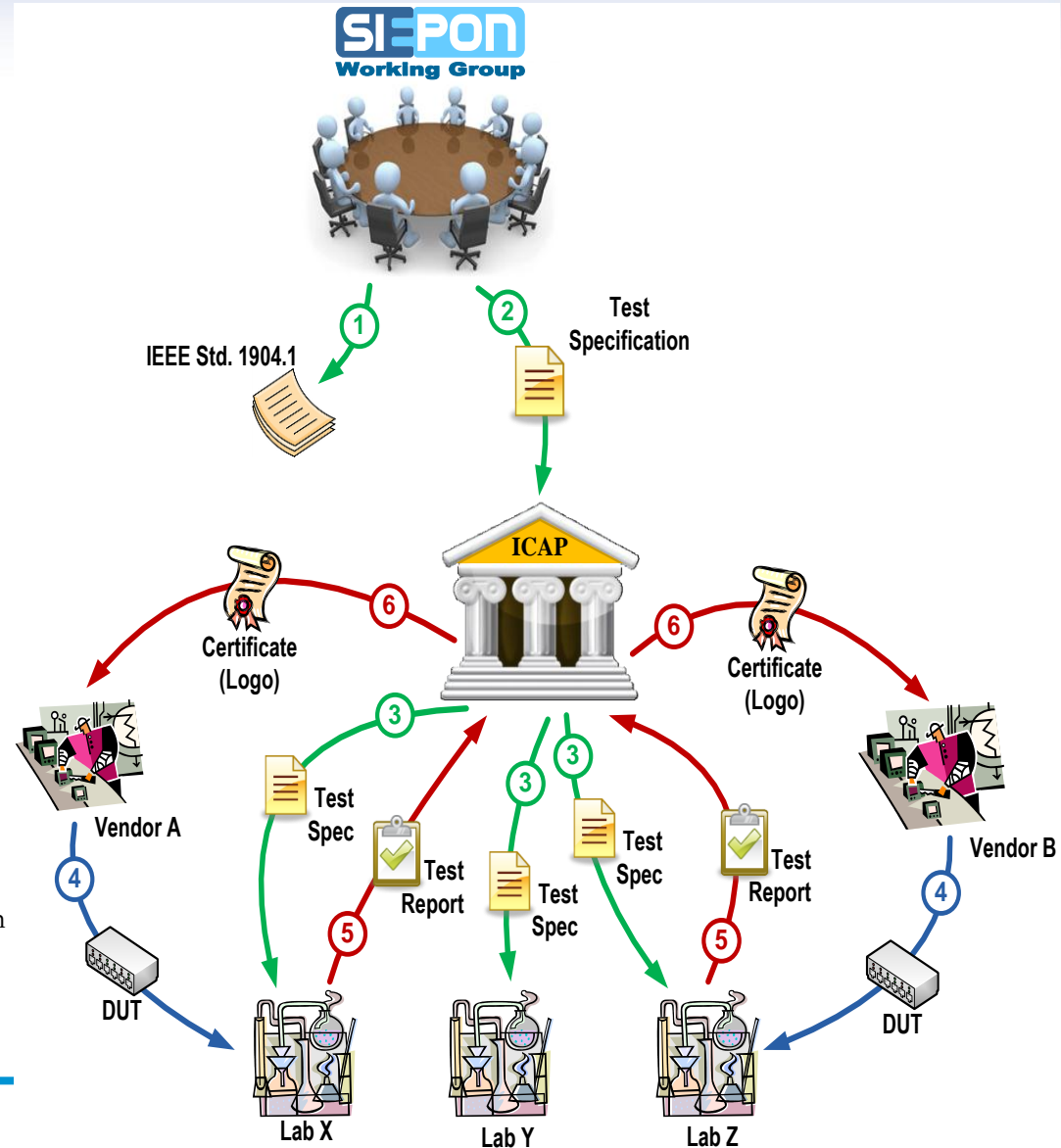**ICAP**

SIEPON Test cases

- ❖ SIEPON Working Group shifted its focus to test cases development
  - ❖ Three separate documents, one for each package
  - ❖ OLT and ONU tests are included
  - ❖ SIEPON specification is very detailed ➔ tiered approach to test-case development

- ❖ Level-1 test cases
  - ❖ ONU authentication
  - ❖ Device and capability discovery
  - ❖ Data encryption
  - ❖ MAC aging function
  - ❖ UNI port loop detection
  - ❖ Performance monitoring
  - ❖ REPORT MPCP format
  - ❖ Remote ONU Tx power supply control
  - ❖ Software update
  - ❖ ONU/OLT TRx status monitoring
  - ❖ ONU/OLT Tunneling modes
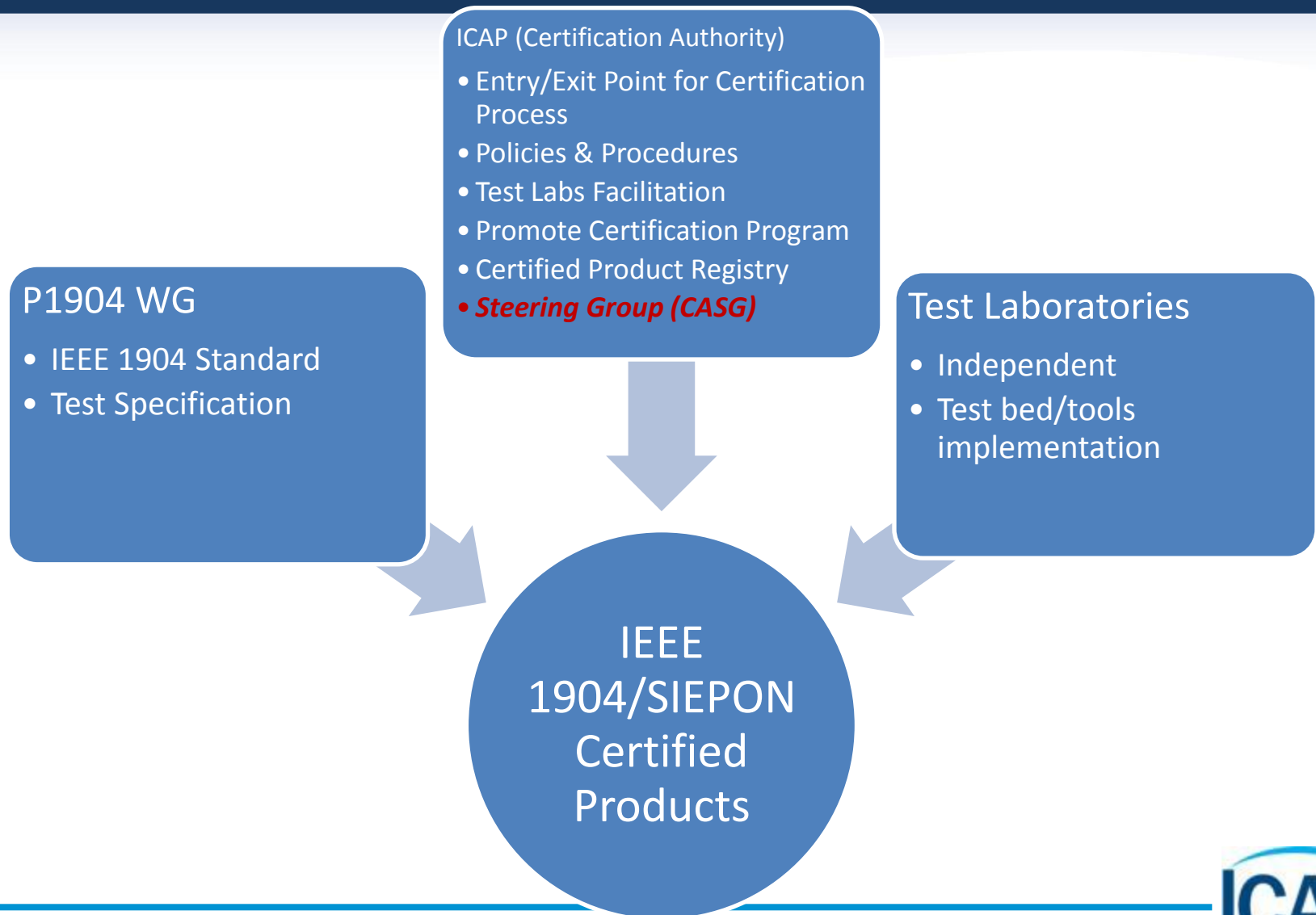 - ❖ ONU/OLT VLAN modes

ICAP

SIEPON certification process

1. IEEE Std. 1904.1 completed

2. Test Specification submitted to ICAP

3. ICAP distributes test spec to selected labs

4. Vendor submits equipment to one of the selected labs for testing

5. Lab submits test report to ICAP for review and certification

6. ICAP issues a certificate, grants logo usage rights, and adds device to a registry

ICAP = IEEE Conformance Assessment Program

Entities Roles

ICAP (Certification Authority)

- Entry/Exit Point for Certification Process
- Policies & Procedures
- Test Labs Facilitation
- Promote Certification Program
- Certified Product Registry
- *Steering Group (CASG)*

P1904 WG

- IEEE 1904 Standard
- Test Specification

Test Laboratories

- Independent
- Test bed/tools implementation

IEEE 1904/SIEPON Certified Products

ICAP

What's in it for test labs?

❖ SIEPON provides a very formal specification and comprehensive testing of many features.

  ❖ Negative testing to verify that DUTs handle error conditions as prescribed and without affecting other customers.

❖ Many tests will require specialized equipment

  ❖ PON Analyzer for 10G-EPON,

  ❖ OLT emulators,

  ❖ ONU emulators;

❖ By joining the SIEPON Conformance Program, test labs will have a venue to collaborate and share the cost of developing the necessary test equipment.

ICAP

What's in it for vendors?

❖ The SIEPON standard and ICAP Certification Program will reduce the EPON deployment barriers for operators who are not familiar with FTTx or EPON.

  ❖ The availability of SIEPON standard, test suites, and the certification program will free network operators from the burden of developing system-level specifications and interoperability testing procedures before they can deploy EPON;

  ❖ Reduced development cost and streamlined certification leads to higher volumes for vendors and lower cost to operators

❖ Reduced barriers to EPON deployments ➔ Increase in the EPON addressable market

ICAP

What's in it for operators?

- In the past, many operators spent resources on similar tasks:
    - Developing proprietary system-level specifications
    - Developing interoperability testing procedures
    - Maintaining personnel and labs for EPON testing

- For every new generation of technology, these tasks were repeated

- Now operators will be freed from these tasks
    - These activities will be performed under the umbrella of the IEEE
    - The cost of specification and test procedure development will be shared
    - The cost of test equipment development will be shared
    - Rigorous, uniform testing
    - Formal certification program backed by the IEEE

ICAP

Role of ICAP SIEPON Conformity Assessment Steering Group

❖ Entity based participation

    ❖ Comprising of Telecom Carriers, Vendors, Test Labs

❖ Major responsibilities will include

    ❖ Review & participate in creation of certification policy

    ❖ Determine compliance levels

    ❖ Act as advisors on test methods and interpretation of standards

    ❖ Test Lab Requirements/Audit Requirements

    ❖ Test Tool Validation

    ❖ Validate Test Report template

    ❖ Advisors on Marketing Initiatives

ICAP SIEPON-CASG Members

Carriers/MSOs	Testing Labs	Chipset/Equipment Vendors
Bright House Networks China Telecom NTT Japan	CableLabs RITT University of New Hampshire, Interoperability Lab	Broadcom Fujitsu Hitachi Oliver solutions Marvell NEC PMC-Sierra ZTE

SIEPON Brand Awareness

❖ Tested products will be awarded a certification mark

❖ The "SIEPON Certified" mark will convey trust in the device and the certification program.

❖ Drive to ensure that End-Users are committed to purchase certified products to minimize negative impact on the network

❖ Plugfests are planned to demonstrate interoperability

❖ Certified Product Registry to be maintained on ICAP Website

ICAP-SIEPON CASG Leadership

❖ CASG

    ❖ Chair: Ed Mallette (Bright House Networks)

    ❖ Vice Chair: Raz Gabe (PMC-Sierra)

❖ Membership is currently open to all Network & Cable Operators

    ❖ To Join, contact Ravi Subramaniam, Secretary, SIEPON CASG

    ❖ r.subramaniam@ieee.org

    ❖ Tel: 732-465-6421

Questions & Discussion