IEEE STANDARDS ASSOCIATION

IEEE

IEEE Conformity Assessment Program Introduction for TSN

IEEE Conformity Assessment Program (ICAP)

January 2019

ICAP Introduction

The IEEE Standard's Lifecycle

The IEEE Conformity Assessment Program **(ICAP)** is part of Standards Implementation within an IEEE Standard's Lifecycle.

Conformity Assessment can take the form of Product Certification, Commissioning, Interoperability, Accreditation, etc.

Benefits of Conformity Assessment

- **What is Conformity Assessment?**
  - Conformity Assessment is the process or processes that are used to demonstrate that a product or service meets specified requirements (set forth in Standards, Test Plans, etc.)
- **Conformity Assessment Benefits**
  - Provides manufacturers a proven method of demonstrating compliance to the requirements
  - Empowers the end-user to make better purchasing decisions
  - Benefits the supplier as products can quickly gain market acceptance
  - Increases the likelihood of a stable technology in the market with robust products
- **Conformity Assessment Activities Include:**
  - Conformance, Commissioning, Interoperability, Inspection, Accreditation
  - Test Suite Specification development
  - “Catch-all” term to address range of test-related activities

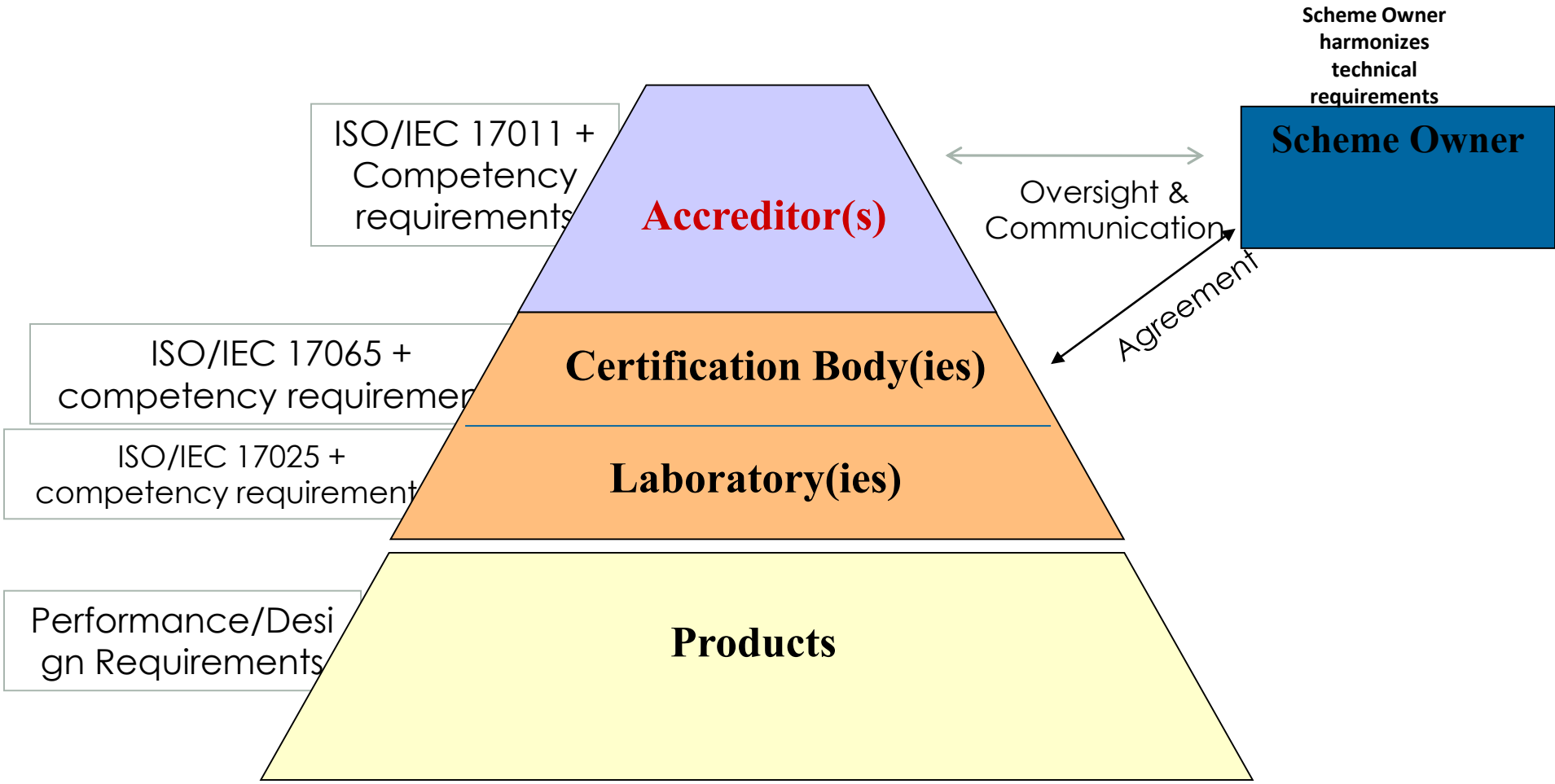
Types of Conformity Assessment

- 1st Party / Suppliers Declaration of Conformity (SDOC)
  - Self Declaration ; Companies conduct their own testing
- 2nd Party Conformity Assessment
  - Conformity assessment conducted by the end purchaser of products (e.g., Service Providers) to ensure purchased products are deemed compliant or interoperable
- 3rd Party Conformity Assessment
  - Conformity assessment being determined by an independent body.

ICAP utilized established International Standards for installation of CA programs

- Accreditation Bodies – ISO/IEC 17011
- Certification Bodies - ISO/IEC 17065
- Test Labs – ISO/IEC 17025

Conformity Assessment Certification Scheme – Single Scheme



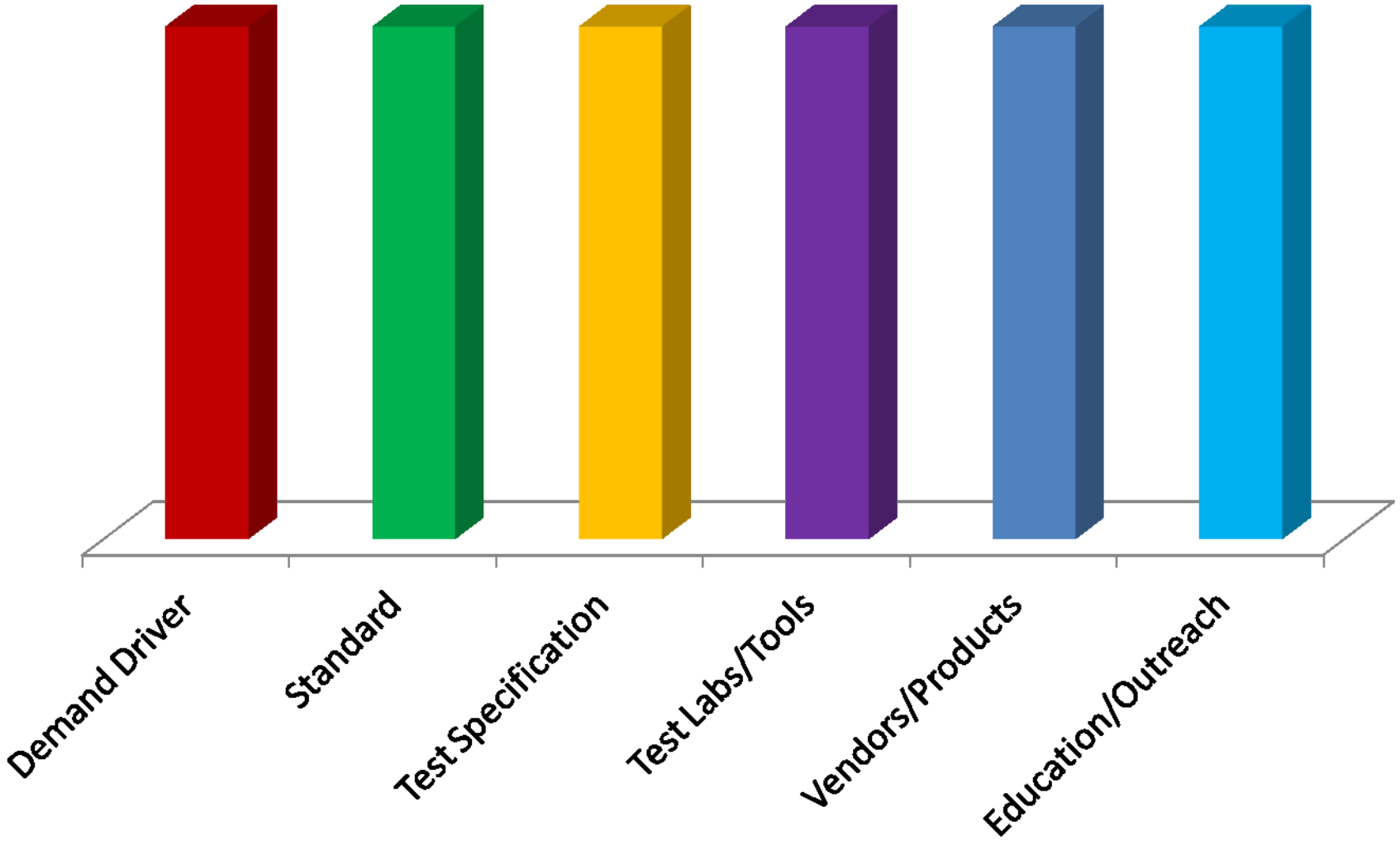
Courtesy of G.Gillerman @ NIST

IEEE – Conformity Assessment Program (ICAP)

Snapshot of some programs:

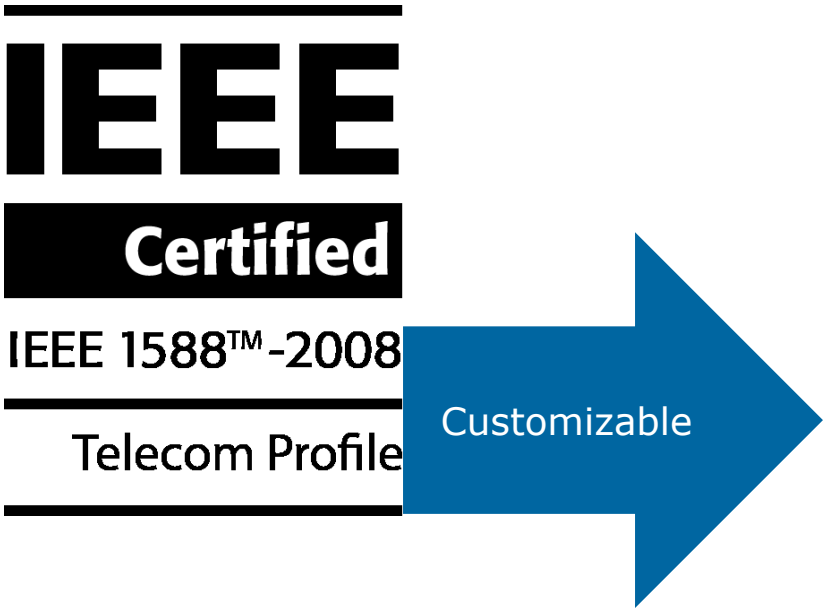
- Phasor Measurement Unit (PMU) – IEEE C37.118 & IEC/IEEE 60255-118-1
- Precision Time Protocol (PTP) Power Profile – IEEE C37.238 & IEC/IEEE 61850-9-3
- COMTRADE - IEC 60255-24 Ed 2.0 2013-04 / IEEE Std C37.111-2013
- Quality of Sensors in IoT Environements – IEEE P2510
- IEEE Nuclear Equipment Standards – IEC/IEEE P60780 – 323
- EV Charging – IEEE 2030.1.1

Pillars to a Successful Program



IEEE Certification Mark

- Use of the IEEE Certification mark is only through ICAP managed certification programs
  - Customizable for individuals programs by standard number and/or a short program description, i.e. Telecom, EV Charging, OpenFog, TSN, IEC/IEEE 60802, etc.
  - Programs are <u>not</u> required to utilize the "IEEE Certified " logo



Example: Certification Program Roles and Responsibilities

IEEE Working Group

- Develop Technical standard and requirements
- Define any additional metrics or profiles

IEEE/IEC CA Committee

- Develop Test Plan **(Not a stds Process)**
- Define required equipment specs
- Develop Certification Scheme (based on industry expectations)
- Develop test lab accreditation process
- Develop Certification process
- Develop certification registry, certification mark
- Develop and deploy marketing and brand awareness

Values of ICAP Certification

Convenience

- Intrinsic connection with IEEE-SA working groups and supporting staff
- Enable certification programs based on converging technologies that covers multiple technologies IEEE-SA works on
- **Flexible** – recognizes that certification needs varies from industry to industry

Credibility

- **Only ICAP certifications come with the IEEE Certification mark**
- IEEE maintained Certified Product Registry

Full-Spectrum Service

- Turnkey Certification Management program, including Conformance, Interoperability, Inspection, Accreditation
- ICAP strategically aligns with global expert test labs to provide the best level of testing and field evaluation support
- Legal and operational umbrella for testing & conformity assessment programs
- Test Suite & Specification Development – if not addressed in standard
- Self-Validation Suite Development
- Inspection and Verification
- Stakeholders Education and outreach

General Support to Committees

- Formation of a Conformity Assessment Steering Committee
  - Standalone or within existing structure
    - Representation from all stakeholders: vendors, end-users, regulators, integrators, etc.
  - Main Output of Committee
    - Comprehensive Test Plan for testing conformance to related Stds
    - Advise ICAP on Program Development
    - Assess and approve test tools
  - Main advocates for an IEEE TSN Certification Program
- What ICAP Provides
  - Legal & operational umbrella – including operating policy
  - Committee collaboration platform (iMeetCentral)
    - Teleconference and meeting support (via WebEx)
  - Dedicated Program Manager
    - Conformity Assessment Subject Matter Expert
  - Test Lab identification and auditing
  - Required Documents, logos and contracts (lab, certification) for program launch
  - Marketing Support as needed

Next Steps

- Formation of joint conformity assessment committee
  - Discussions are being planned between IEEE (ICAP) & IEC (IECEE) management
  - Committee structure – governance, membership
  - Program deliverables

Contact Information Page

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