

Traceability and PMU

Yi-hua Tang

Quantum Measurements Division

National Institute of Standards and Technology

Gaithersburg, MD 20899, USA

yi-hua.tang@nist.gov

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- NIST is an non-regulatory federal government research institute .
- Mission: To promote U.S. innovation and industrial competitiveness by advancing **measurement science, standards, and technology** in ways that enhance economic security and improve our quality of life.
- NIST **Synchrophasor Laboratory** is created for research and development related to Phasor Measurement Unit (PMU).
- NIST supports and facilitates activities of PMU conformity testing, C37.118.1-2011 compliance and accreditation.
- NIST is organizing a **PMU round robin** to test the consistency of PMU calibration systems.

Traceability

- What is “metrological traceability”?

Property of a measurement result whereby the result can be related to a reference through a documented unbroken chain of calibrations, each contributing to the measurement uncertainty.

- Why is traceability important?

Quality assurance.

- Who is responsible for supporting claim of the the traceability?

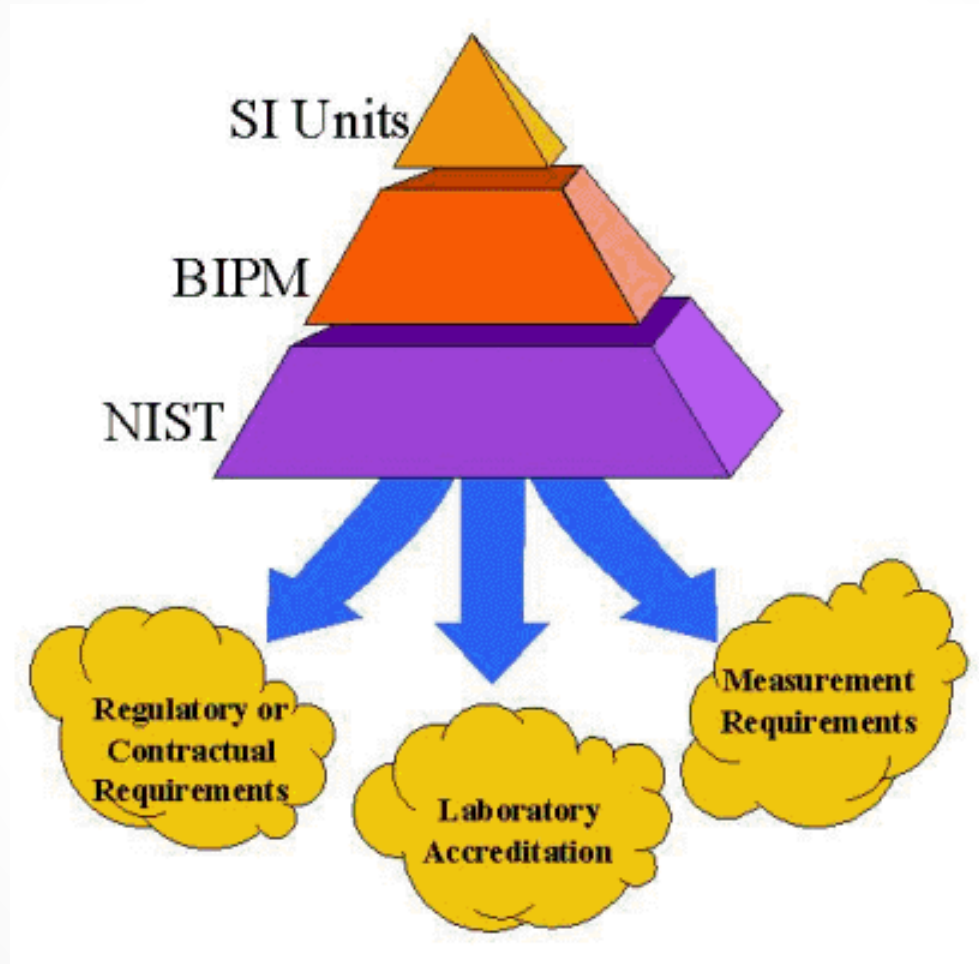
The provider of the result of a measurement.

- How is traceability realized for PMU calibration?

<http://www.nist.gov/traceability>

<http://www.bipm.org/en/bipm/calibrations/traceability.html>

Calibration Hierarchy



PMU Round Robin

- a. Goal: test the capability of PMU calibration systems being deployed
- b. Pivot lab (NIST)
 - scheduling
 - data collection
 - data analysis
 - report

PMU Round Robin (continue)

c. Define the measurement parameters (IEEE C37.118.1)

- Interoperability
- Steady state test
- Dynamic test
- Performance classes: P class and M class
- Temperature impact to PMU
- Latency test
- Full test or partial test?

PMU Round Robin (continue)

- d. Protocol
- e. Participant coordinator
- f. Financial responsibility
- g. Confidentiality

Contact: yi-hua.tang@nist.gov (301-975-4691)