

SNIA Emerald™ Recognized Tester Program Overview



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SNIA Emerald™ Training

*SNIA Emerald™ Power Efficiency
Measurement Specification*

Version 3.0

February-March 2018

SNIA Green Storage Overview

SNIA Initiative where SNIA members collaborate on market requirements, education, alliances, and events to promote energy efficient storage and the SNIA Emerald Program

Green
Storage
Initiative
(GSI)

SNIA
Emerald™
Program

SNIA program to promote usage by vendors and test labs the SNIA Emerald Test Specification and for IT professionals to reference energy usage metrics for storage vendor products to aid storage system procurement planning and optimization of IT storage operations

Green Storage
Technical Working
Group (TWG)

SNIA committee of technical storage system experts defining storage system energy measurement methodology, energy usage-related metrics, technical specifications, and best practices



SNIA Emerald™ Power Efficiency Measurement Specification



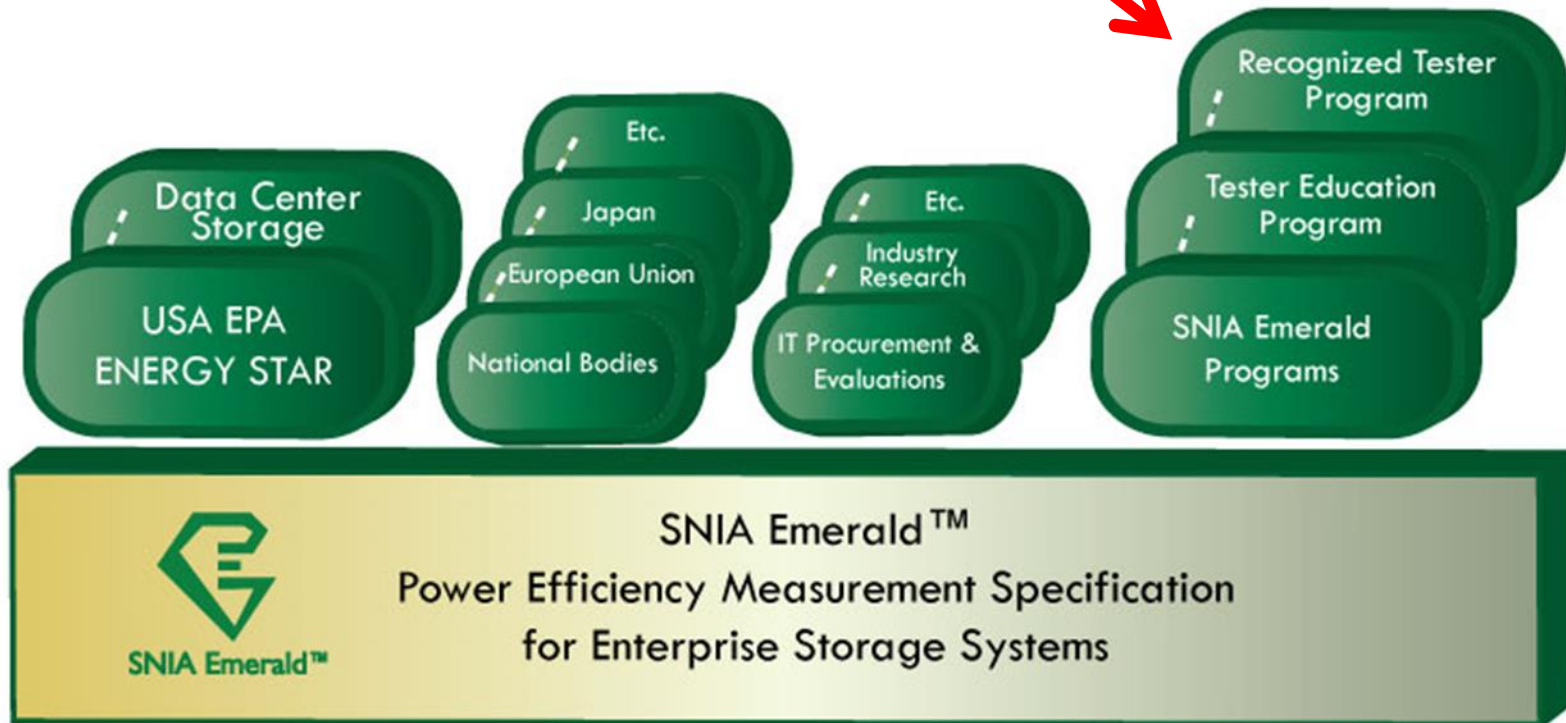
- ◆ **Taxonomy:** An industry-wide means of segmenting storage system products that span the range from consumer solutions to enterprise configurations. Used to categorize test results.
- ◆ **Test Methodology:** A detailed and consistent means of testing various types of storage systems with load generators and power measurement instruments.
- ◆ **Test Metrics - Idle Measurement Test:** **capacity/watt**
Storage system is configured, powered up, connected to one or more hosts and capable of satisfying externally initiated, application-level initiated IO requests within normal response time constraints, but no such IO requests are being submitted.
- ◆ **Test Metrics - Active Measurement Tests:** **performance/watt**
Storage system is in an “active” state processing externally initiated, application-level requests for data transfer between host(s) and the storage system.
 - ◆ 4 corners + hot band - Block IO
 - ◆ 4 application workloads – Filer IO
- ◆ **Capacity Optimization:** The specification addresses determining whether the storage system supports energy-saving storage capacity optimizations, including features such as deduplication and thin provisioning.

Recognized Tester Program

- Available now for V2.0.2/2.1 Block IO since 2014
- Starting with V3.0, will also distinguish testing method(s) recognized/demonstrated with Lab Listing
 - ◆ Block , File
- Available Q2 2018 for V3.0 Block IO
- Assessing industry interest for V3.0 File IO

SNIA Emerald™ Program

RTP = Recognized Tester Program



ENERGY STAR

Data Center Storage Submissions

<http://www.energystar.gov/productfinder/product/certified-data-center-storage>

ENERGY STAR Certified

Data Center Storage

Visit the Data Center Storage page for usage tips and buying guidelines.

 **CHANGE**
product category

As of Feb 2018

Filter Your Results

180 Records Found

Sort by:

Brand Name ▾



 filter by keyword

Product Type

- ☐ Online 2 (52)
- ☐ Online 3 (95)
- ☐ Online 4 (33)
- ☒ Do not filter

Brand Name

- ☐ DELL (41)
- ☐ Dell EMC (13)
- ☐ Dot Hill Systems Corp. (9)
- ☐ EMC VNX5400 (1)
- ☐ EMC VNX5600 (1)
- ☐ EMC VNX5800 (1)
- ☐ EMC VNX7600 (1)

[Show more](#)

Storage Controller Configuration

- ☐ Scale-Out Storage (30)
- ☐ Scale-Up Storage (150)

D

- ☐ DELL (41)
- ☐ Dell EMC (13)
- ☐ Dot Hill Systems Corp. (9)

E

- ☐ EMC VNX5400 (1)
- ☐ EMC VNX5600 (1)
- ☐ EMC VNX5800 (1)
- ☐ EMC VNX7600 (1)

H

- ☐ Hewlett Packard (4)
- ☐ Hewlett Packard Enterprise (4)
- ☐ Hitachi (2)
- ☐ HP (1)

- ☐ HP StoreServ (5)
- ☐ HPE 3PAR StoreServ (5)
- ☐ HPE StoreVirtual 3200 (1)
- ☐ HUAWEI (1)

I

- ☐ IBM (7)

L

- ☐ Lenovo (15)
- ☐ Lenovo Ltd. (8)

N

- ☐ NEC; HITACHI (1)
- ☐ NEC; Storage Engine; Scale Logic, Inc. (1)

- ☐ NetApp, Inc (37)
- ☐ NetApp, Inc. (6)

P

- ☐ Pure Storage (1)
- ☐ Pure Storage, Inc. (2)

S

- ☐ Seagate (8)
- ☐ Storage Engine (1)

V

- ☐ Veritas (2)
- ☐ Veritas Technologies LLC (1)

Compare

Compare

Compare

Recognized Tester Program (RTP)



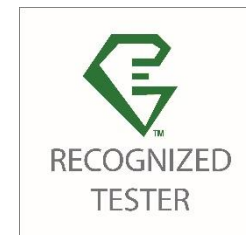
- Recognize organizations that have demonstrated proficiency in performing testing in accordance with the SNIA Emerald Specification
 - ◆ Testing service vendors
 - ◆ Independent labs
 - ◆ Manufacturers' in-house test teams
- Leverage SNIA Emerald™ training
- Build global ecosystem of quality testers
- Nominal Fee to enroll; awarded Certificate; SNIA Emerald Program website listing
- Complimentary, not duplicative, of regulatory body lab requirements



Recognized Tester Program Web URLs



- Overview - <http://www.snia.org/emerald/rtp-overview>
 - ◆ Program Description
 - ◆ FAQ
- Application - email: emerald@snia.org
 - ◆ Order Form
- Testers - <http://www.snia.org/emerald/rtp-testers>
 - ◆ List of Recognized Testers and Audited Taxonomy Categories
 - ◆ Site specific
 - › Acme Labs, www.acmelabsinc.com , Online 2,3,4
123 JFK Blvd, Los Angeles, CA 98456, USA



Recognized Testers



RECOGNIZED TESTER PROGRAM



The Recognized Tester Program (RTP) is a new SNIA Emerald™ program component to recognize professional testing services who performing SNIA Emerald™ Testing Methods, Procedures, and Results.

The program activity consists of a SNIA auditor and review team who audits the testing service's test facility, test equipment, test personnel, methods, and test results. Upon meeting program criteria, the testing service's RTP applicant will be awarded a Recognized Tester certification and a SNIA Emerald™ RTP website.



The following organizations are acknowledged as SNIA Emerald™ Recognized Testers.

SNIA EMERALD™ POWER EFFICIENCY MEASUREMENT SPECIFICATION VERSION 2.0.2

Organization			Taxonomy Class / Levels
Demartek, LLC	Golden, CO USA		Online 2.3.4

Further information:

[View FAQ](#)

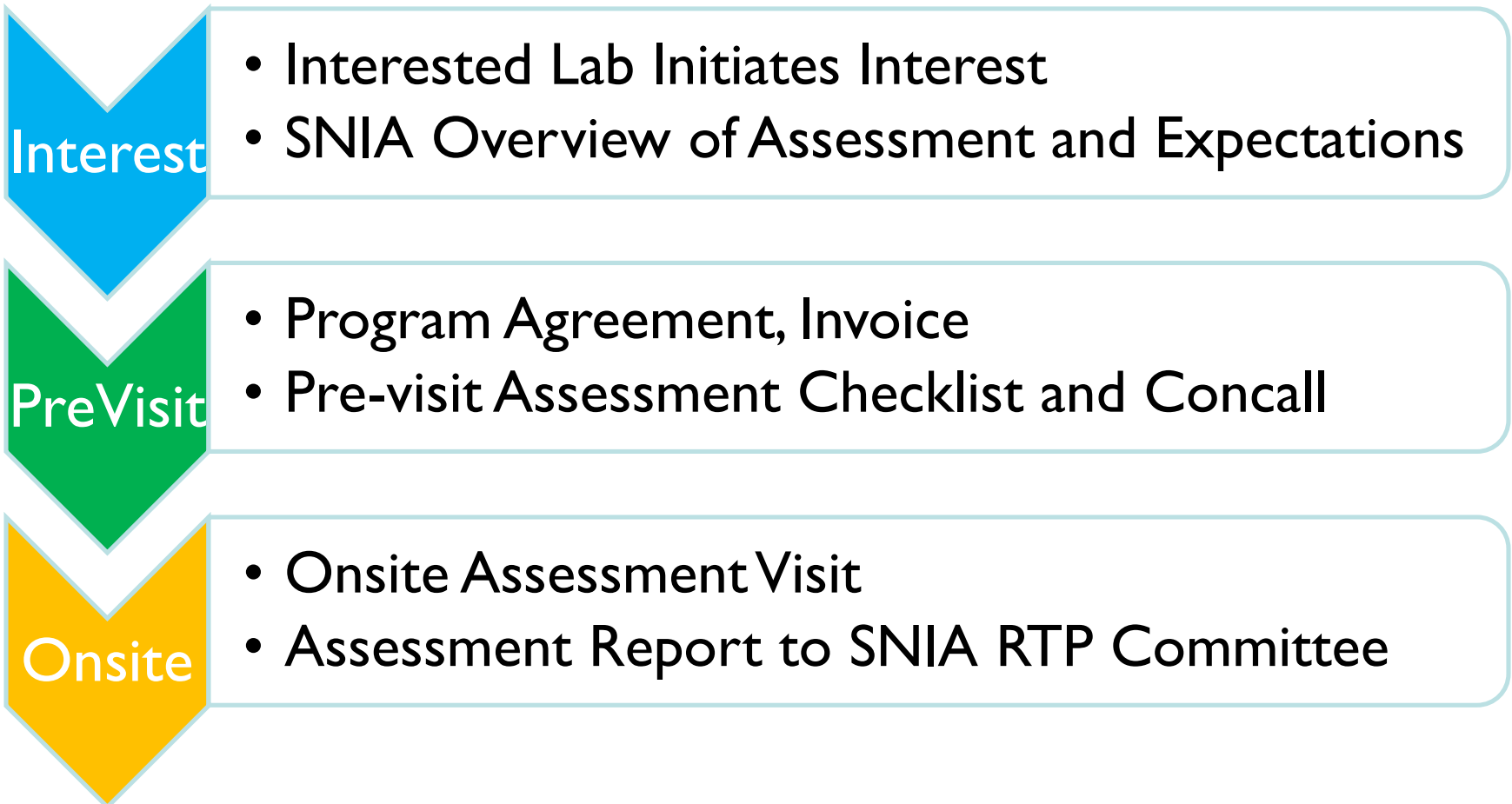
[View presentation](#)

[Steps to the RTP - An introduction to the program](#)



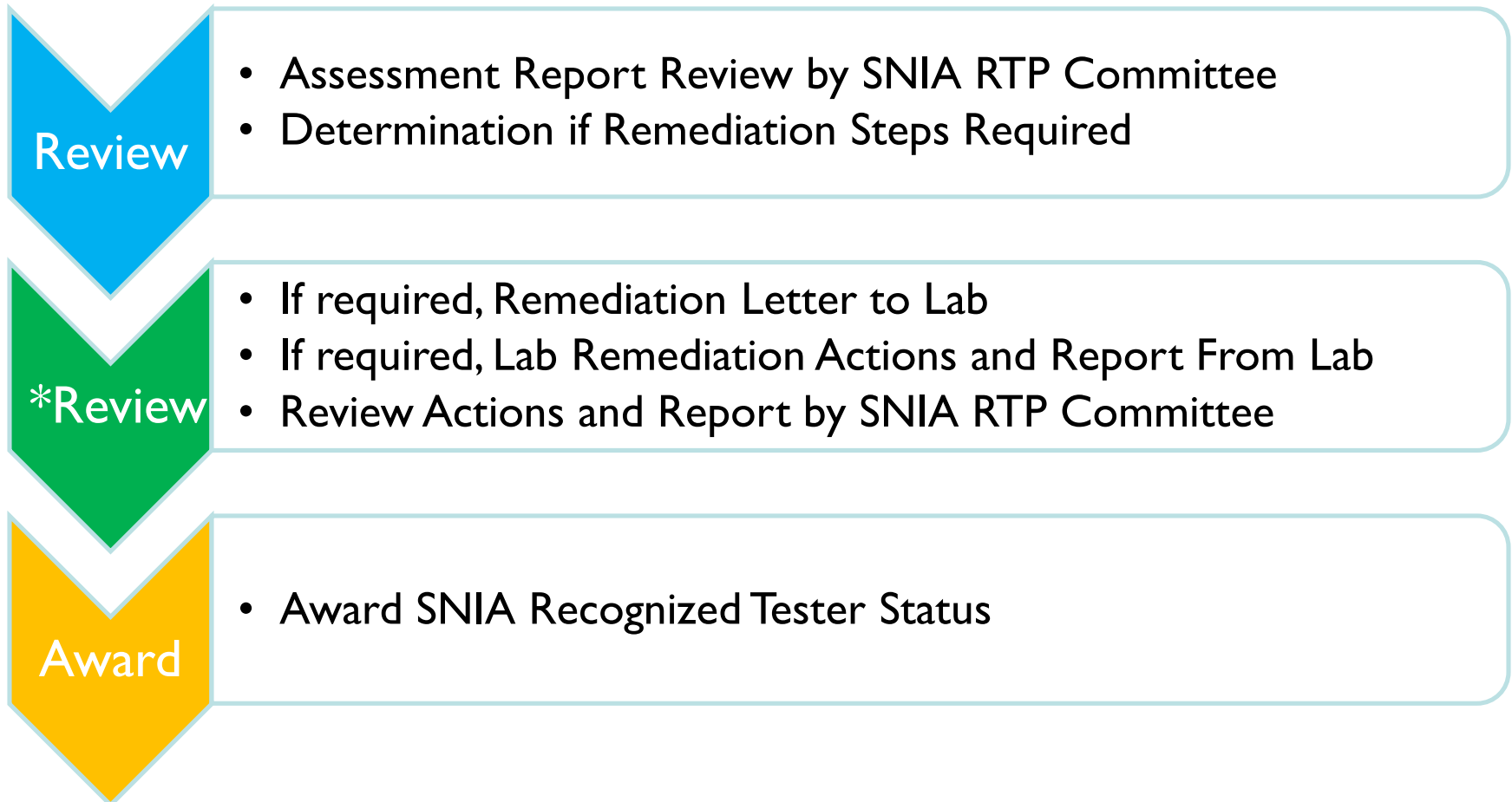
RTP Process Steps 1-3

First Time Applicant



RTP Process Steps 4-6

First Time Applicant



Program Overview

A few details

➤ Estimated time to complete Steps 1-6

- ◆ 2-5 months based on application, payment, site readiness, and if remediation is required

➤ Program Fees

- ◆ \$12,000 + travel for Initial on-site review
 - 10% discount for GSI members; 5% SNIA members
- ◆ \$6K, \$9K, or \$12K+ travel for renewals, taxonomy class add-ons
 - \$1K application fee to assess level of effort; applied towards total fee



Program Overview

A few details, continued...

➤ Confidentiality

- ◆ Observations, materials and data collected
- ◆ Assessment report
- ◆ Remediation

➤ Promotion and Communication

- ◆ SNIA Emerald Newsletter/Bulletin/Website
- ◆ Mutually agreed other industry promotion
- ◆ Outreach to storage industry

➤ Time Duration for Recognition

- ◆ 3 years
- ◆ Renew, up-level, expand



➤ SNIA Green Storage Initiative

- ◆ <http://www.snia.org/forums/green>
- ◆ Green storage tutorials, white papers, and alliances

➤ SNIA Emerald™ Program

- ◆ <http://sniaemerald.com>
- ◆ SNIA Emerald Test Specification
- ◆ Comprehensive online technical training
- ◆ Storage vendor product listing with measured energy usage metrics

➤ USA EPA ENERGYSTAR Data Center Storage

- ◆ Specification: <https://energystar.gov/products/specs/node/144>
- ◆ Storage vendor product listing with measured metrics
 - › <https://data.energystar.gov/Active-Specifications/ENERGY-STAR-Certified-Data-Center-Storage/gqtf-hp7x?>

Summary

- A complimentary program to build an ecosystem of verified testers
- Not required to be a tester for SNIA Emerald or EPA ENERGY STAR
- Validates capabilities to run SNIA Emerald tests, generate/analyze data test results, and complete reports
- No interdependencies with ISO 17025 for test facility
- No interdependencies with EPA registered test labs

Questions ?



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