



Steps to the SNIA Emerald™ RTP Program

Foreword

The SNIA Emerald™ Recognized Tester Program serves to recognize testing laboratories that have demonstrated proficiency in testing the power efficiency of storage system products using the methodology defined by the SNIA Emerald™ Power Efficiency Measurement Specification. This program recognizes test laboratories/services that have demonstrated process, test methods, and understanding of the Emerald Specification to consistently generate results by following the SNIA Emerald™ Specification.

A laboratory that is acknowledged by the SNIA Emerald™ RTP joins a growing list of specialized testing partners that are contributing to the drive for more energy efficient data centers.

Recognition under the SNIA Emerald™ RTP will demonstrate to business partners and potential customers that the laboratory values quality and that steps have been taken to ensure that testing results are accurate, consistent with industry specifications, and reliable.

This brochure, Steps to the SNIA EMERALD™ RTP Program, was created by the SNIA Green Storage Initiative to give laboratories interested in seeking SNIA Emerald™ RTP recognition a clear understanding of the complete process. This document outlines the process SNIA (GSI) uses to validate test laboratories conformance to the program. We hope that this material will provide insight and assistance in taking the necessary next steps towards applying for RTP status.

Benefits of recognition

The RTP program is used to assess the competency and consistency of testing procedures in conformance with the Emerald specification. By having a facility recognized by the RTP, the applicant will see a range of business benefits.

One of the main advantages is that the applicant's facility and personnel will gain industry recognition for their commitment to quality, competency and consistent reliable results. Acknowledgement by the RTP is an objective way to assure the applicant's customers that they have demonstrated technical competence in providing reliable and accurate test results in conformance with the specification. Accreditation is objective, because SNIA is an independent third party which performs the assessments to verify whether internal processes are meeting all of the requirements of the SNIA Emerald™ specification. This independent assessment is important to the customer, because it is an unbiased recognition that the facility and testing methods are performing at the highest level.

Furthermore, when the company achieves SNIA Emerald™ RTP status, the company and its services will be promoted through the SNIA Emerald™ website and the RTP status can be used in advertising and promotional literature to show current and potential customers that the laboratory is committed to quality, and has demonstrated consistency and technical competency to perform testing services.

The SNIA Emerald™ RTP Program can help develop a more efficient and reliable testing system, fewer customer complaints and a strong competitive differentiator in the storage industry.

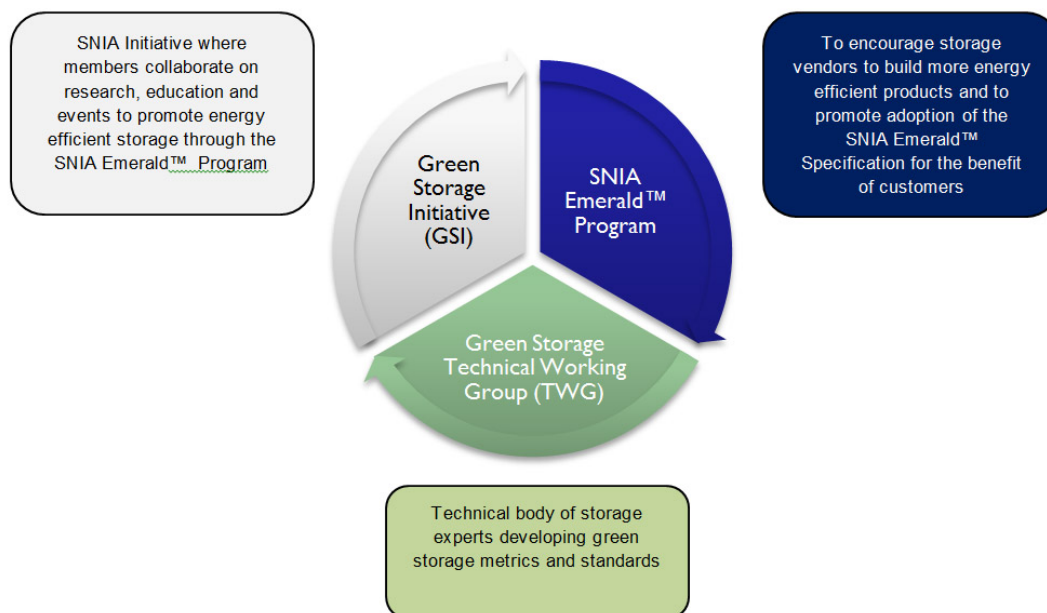
SNIA Emerald™ Recognized Tester Program

Introduction

The Storage Networking Industry Association's (SNIA) Green Storage Initiative (GSI) is dedicated to advancing energy efficiency and conservation in all networked storage technologies toward the goal of minimizing the environmental impact of data storage operations. The SNIA's Green Storage activities take place in two separate working bodies, the SNIA Green Storage Technical Working Group (TWG) and the Green Storage Initiative. The GSI is responsible for managing the SNIA Emerald™ Program, providing input and guidance to the Green Storage TWG, and directing the marketing of energy efficiency activities within the SNIA and the storage networking industry.

The GSI's Mission:

- Conduct research on power and cooling issues confronting storage administrators
- Educate the vendor and user communities about the importance of power conservation in shared storage environments
- Leverage the SNIA and partner conferences to focus attention on energy efficiency for networked storage infrastructures
- Provide input to the SNIA Green Storage TWG on requirements for green storage metrics and standards
- Provide external advocacy and support for the technical work of the SNIA Green Storage TWG



The SNIA Emerald™ Program

The SNIA Emerald™ Program is a vendor-neutral, public service to the storage industry and end users that is sponsored and operated by the SNIA GSI. The program supports the use and evolution of the SNIA Emerald Power Efficiency Measurement Specification and the publication and use of product test data based on the Specification. The measurement procedure and test metrics are documented in the SNIA Emerald™ Power Efficiency Specification, which was developed, released, and is maintained by the Green Storage TWG under the guidance of the GSI.

SNIA Emerald™ Recognized Tester Program

The program provides a standardized way of reporting vendor-performed test results that characterize the various aspects of storage system energy usage and efficiency. Those test results—which are based on performance under different workload metrics—are combined with other power-related information about storage systems and their components. The Program offers a common repository, accessible to the public, where test results are presented in a consistent format that can be used to help determine facility power usage and efficiency for data storage solutions, as well as the costs to operate such systems.

The EPA ENERGY STAR Data Center Storage Program is based on the methodology defined in the Specification and offers another vehicle for publication of product test results created in accordance with the Specification.

The SNIA Emerald™ Program started with input gathered from the storage industry, end users, and multiple international government agencies and is targeted at multiple audiences. They include:

- Storage vendors
- Companies evaluating the energy efficiency of storage systems as a component of their purchasing strategy
- Facility managers looking for help determining power requirements for their data centers
- National agencies developing recommendations and guidelines for Green IT
- Independent IT testing services performing work on behalf of all of these audiences.

RTP program

The RTP program was launched by GSI to recognize commercial and manufacturer testing laboratories and services that demonstrate competence in performing test/measurement of storage equipment in conformance with the SNIA Emerald™ Power Efficiency Specification. Laboratories that have been recognized by this program have demonstrated test methods, procedures and generated results that are consistent with the Emerald Specification.

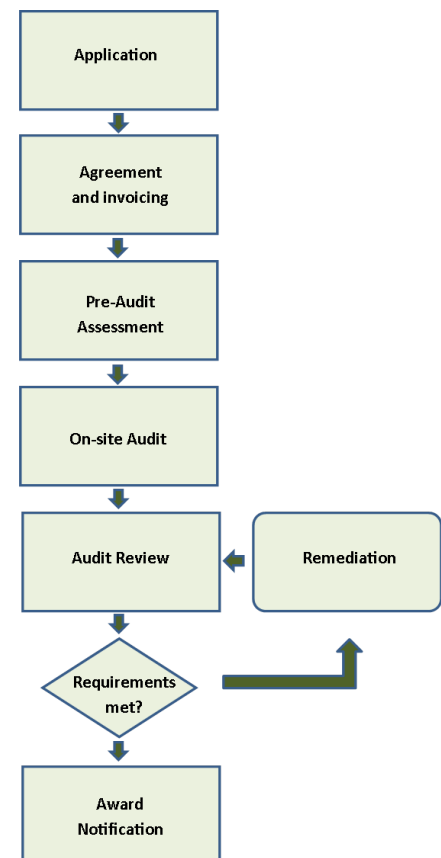
RTP Process

Process 1 - Applying for Assessment

An applicant/ test lab initiates the process to join the SNIA Recognized Tester Program by contacting the SNIA Emerald™ Director and requesting information through the SNIA Emerald™ website.

Process 2 - Response and provision of A&A/invoicing

The SNIA Director will respond with information about the program and will be able to answer any initial questions. An Application Agreement (A&A) and an Order Form will be sent to the applicant outlining the relationship between the applicant and SNIA. If the applicant wishes to proceed with recognition, they must sign the A&A agreement and complete the Order Form and return them to SNIA. Once the A&A and Order Form are fully executed by both parties, the process can begin. The Director will issue an invoice to the applicant for the program fee.



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Process 3 - Pre-audit Assessment

The pre-audit assessment review consists of a conference call and is used to verify the applicant understands the requirements and is ready for an on-site audit assessment.

The auditor/assessor will arrange the conference call to set expectations and collect some information needed prior to the on-site assessment. The primary personnel that will contribute to Emerald testing should be present. This conference call will cover all expectations of the on-site audit assessment and will determine that the applicant meets the requirements for taxonomy class it is applying for and has the basic understanding of the Emerald test.

Process 4 - Conduct the On-Site Audit/Assessment

The auditor will agree an on-site audit date with the applicant. The date chosen by the applicant should coincide with a storage system of the taxonomy class (for which recognition is sought) being available to demonstrate a test run. The on-site audit will not be any sooner than two weeks after the pre-visit conference call but should be within two months of the conference call.

The on-site audit will take place on one day and it is intended that the auditor/assessor can see as much of the process as possible. Since an Emerald test measurement can last longer than a day, expectations of the on-site visit must be established beforehand. During the onsite audit, the auditor will be witnessing the laboratory, the test configuration, the product set up for test, parts of the test, and the processing of test results as the applicant demonstrates a test in accordance with the Specification, of a storage system of the highest taxonomy category classification for which the applicant is applying to receive recognition.

Process 5 - Review of on-site audit/assessment

From the onsite visit observations and data collected, the auditor/assessor will generate a summary of the test lab visit. The evaluation of the lab visit is done by the RTP Team. The RTP Team will evaluate every fact collected or observed by the auditor/assessor on the merits of the test lab's ability to generate repeatable and reliable test results following the Emerald Specification.

The RTP team will decide based on the review process if the lab meets or does not meet the requirements to be recognized. If the lab did not meet expectations then the review team may define remediation steps for the test lab.

Process 6 - Remediation

If the lab meets many but not all of the requirements for recognition, the RTP review team will generate a list of items that need remediation, the corresponding corrective actions needed to remediate the nonconformity to the specification or the ability of the lab to generate repeatable/reliability Emerald metrics, and the evidence expected to demonstrate that the actions have been taken. The auditor/assessor will then generate a report identifying the remediation actions and requirements.

The applicant will receive the report from the RTP team on remediation actions and will have 45 business days from the sending of the remediation actions to complete the corrective actions and provide the requested evidence to the RTP team. The RTP team will review the corrective actions submitted and will decide if the applicant meets the requirements. If, for any reason, there is a disagreement regarding the corrective actions that cannot be resolved by discussion then there is a documented appeals process available.

Process 7 - Award Notification

Once the RTP team assess that the applicant meets the requirements to be recognized, a written notice will be given to the applicant stating the applicant has received recognition from the SNIA RTP. This declaration will state the applicant has met the requirements for SNIA to recognize the applicant as a recognized testing lab for the SNIA Emerald Program. The recognition will last for three years for the Specification version, taxonomy category and classifications observed.

Once the applicant receives recognition from SNIA Emerald™ RTP, the logo of the applicant will be placed up on the SNIA Emerald™ website and the applicant will be authorized to use the SNIA Emerald™ Recognized Tester logo.

Re-Recognition or update to recognition

The re-recognition process or an upgrade to an existing recognition is subject to an application fee and a quotation for the full assessment. If any lab wishes to be re-recognized or upgrade their recognition as detailed in the cases below, the applicant should contact the SNIA Emerald™ Director.

a. Re-recognition process

The RTP program will recognize a test/service lab for three years from the date the recognition letter is sent to the lab. After three years, the lab will need to contact SNIA Emerald™ for a new recognition cycle. The SNIA Emerald™ Director will contact the applicant as a reminder.

Initiation of an upgrade recognition

If the service or test/lab wishes to upgrade recognition, the applicant needs to provide details of the type of upgrade they are requesting. The applicant will be sent an Order Form (and a new A&A agreement if it has changed). Once the completed Order Form (and new A&A agreement, if applicable) is received by the SNIA, the re-assessment process will begin.

a. Major Emerald Specification update

If an update is made to the SNIA Emerald™ Measurement Specification and the recognized test lab wishes to be recognized for the new revision.

b. Upgrade or Addition of Taxonomy classification

If the recognized test lab/service wishes to upgrade the recognized taxonomy classification to higher levels.

c. Addition of a new SNIA Emerald™ Taxonomy category

If the recognized test/lab service wishes to add a new storage taxonomy category.

All above cases are subject to quotation.

Confidentiality

Except where required by law or statute, the RTP Program treats any information about the test labs process, personnel and activities that comes into its possession in the course of the recognition process as confidential. Remediation requests and responses are treated as confidential. The RTP team, consisting of the SNIA Emerald™ Director, auditor/assessor, and members of the review team undertake not to disclose such information to any third party without prior written consent of the applicant, and will be the only SNIA personnel to have access to any technical information submitted by the applicant.

Costs

Generally speaking, most accrediting bodies tend to charge a daily rate, so when it comes to overhead costs and travel expenses, things can get somewhat complicated. Some companies will quote a daily rate, and then add on extra charges for office preparation or other services. This creates confusion and presents an inaccurate picture of the total cost.

As a non-profit association, SNIA views the RTP as a cost recovery model and it is our intention to provide the highest quality of service at the lowest total cost to the organization. SNIA will always seek to minimize travel expenses associated with the recognition process and pass those on at cost.

Assessment Product Code and Description	SNIA GSI Member Price	SNIA Member Price	Non-SNIA Member Price
EmeraldRTP-RTP-A-01 Initial assessment	10% discount on non-member price plus travel	5% discount on non-member price plus travel	\$12,000 plus travel
EmeraldRTP-RTP-A-02 Renewal of existing assessment	\$1000 application fee. 10% discount on non-member price plus travel. Application fee applied to total amount	\$1000 application fee. 5% discount on non-member price plus travel fee. Application fee applied to total amount	\$1000 application fee. Based on review, \$6K, \$9K, or \$12K plus travel. Application fee applied to total amount
EmeraldRTP-RTP-A-03 Expansion of existing assessment	\$1000 application fee. 10% discount on non-member price plus travel. Application fee applied to total amount	\$1000 application fee. 5% discount on non-member price plus travel. Application fee applied to total amount	\$1000 application fee. Based on review, \$6K, \$9K, or \$12K plus travel. Application fee applied to total amount

Timescales

Just as cost estimates can vary, there is no set timeline for completing an assessment. Generally, the length of time required to complete an accreditation assessment is determined by the desired scope of the applicant and the efficiency of the test process. For a normal application an average time estimate would be approximately three months from initial application to final award.