



Emerald™ Specification v2.1.0 COM Test Updates

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SNIA Emerald™ Training

*SNIA Emerald Power Efficiency
Measurement Specification,*

Version 2.1

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COM Test Updates

- Edits – Text and equation clean-up
- Delta snapshots and RAID – No change
- Simpler thin provisioning test
- Enhanced compression data set types
- Allowance for larger de-dup and compression data sets

COM Test Updates

➤ Simpler thin provisioning test

- ◆ Realized that a more direct/simpler existence test was possible
- ◆ Attempt to allocate N LUNs of capacity M such that $N * M$ is greater than the total (pooled) usable space
- ◆ If successful, thin provisioning is an existing function

COM Test Updates

➤ Enhanced compression data set types

- ◆ V2.0.2 compressible test data set generator supports bit-level compression
- ◆ V2.1.0 compressible test data set generator supports bit-level and pattern-oriented compression for a wider range of SUT configurations

COM Test Updates

- ▶ Allowance for larger de-dup and compression data sets
 - ◆ Some SUT configurations require larger block sizes to activate de-duplication and/or compression functionality
 - ◆ V2.0.2 utilized 2GB data set test containers – Could be too small
 - ◆ V2.1.0 allows for the construction of test containers > 2GB using increments of 2GB irreducible data sets

COM Test Updates

- Example: 8GB data set for the de-duplication test
 - ◆ Create a test container of sufficient size
 - ◆ Add a 2GB dedupable data set
 - ◆ Add three 2GB irreducible data sets each with a different salt value
 - ◆ Different salt values assure the 6GB irreducible portion is collectively irreducible
 - ◆ Individual salt values could be prime numbers
 - ◆ Similar for compression test

COM Test Updates

Questions?

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Thank You