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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- 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
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- 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
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- 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
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❖ 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
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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
Questions?
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Thank You