



ENERGY STAR

Data Center Storage

Version 2.0





Agenda

- Implementation Schedule
- Major Changes from Version 1.0 to Version 2.0
- QPX Form Changes
- Submission Process

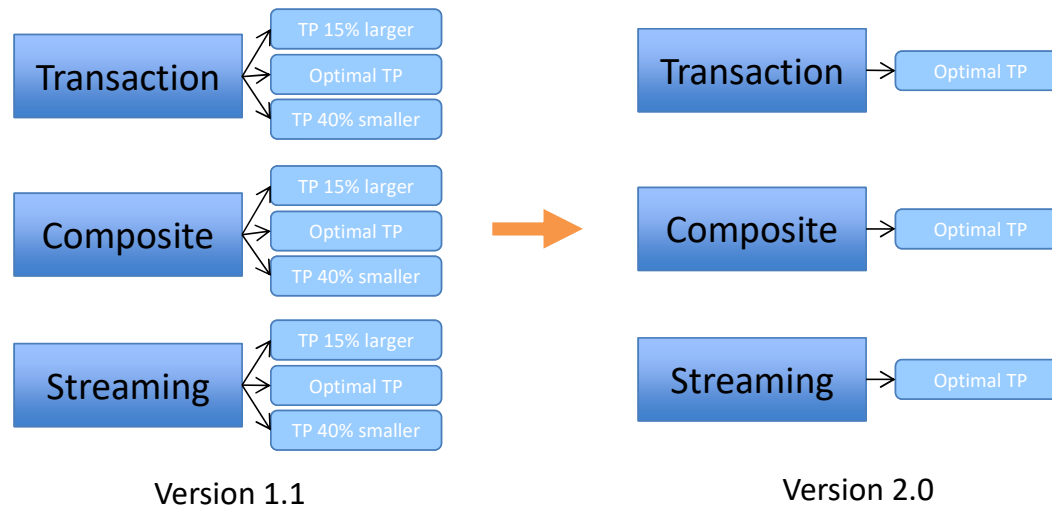


Implementation Schedule

- May 28, 2020 – Final Version 2.0 specification completed.
- June 17, 2020 – Date where CBs were set up to certify products. Testing and certifying to new specification allowed at this time.
- November 2, 2020 – CBs will be instructed to no longer accept Version 1.0/1.1 products for certification.
- March 15, 2021 – Version 2.0 is effective. Only those products certified to Version 2.0 will be on the ENERGY STAR certified product list.

Simplification of Product Families and Testing Requirements

- Result of proposed changes are:
 - Reduction in number of testing configurations from 3 per workload type certified to 1, for a maximum of three tests for 3 workload types for products with both Block and File I/O capability, versus the previous maximum of 9





Overview of Data Center Storage Criteria

- ENERGY STAR added criteria for two different types of workloads:
 - Transaction
 - Streaming
- These levels took into account market conditions and stakeholder feedback to target the appropriate products per workload type.

Table 3: Active State Requirements for Block I/O Storage Products

Workload Type	Specific Workload Test	Minimum Performance/Watt Ratio	Applicable Units of Ratio
Transaction	Hot Band	28.0	IOPS/watt
Streaming	Sequential Read	2.3	MiBS/watt
Streaming	Sequential Write	1.5	MiBS/watt



COMs

- Updated the COMs requirements for Online 2, 3, 4 to require additional COMs to be made available.
- Retained the same number of COM features, based on stakeholder feedback.

Table 3: Recognized COM Features

Feature	Verification Requirement
COM: Thin Provisioning	SNIA verification test
COM: Data Deduplication	SNIA verification test
COM: Compression	SNIA verification test
COM: Delta Snapshots	SNIA verification test

Table 4: COM Requirements for Online 2, 3, and 4 Systems

Storage Product Category	Minimum number of COMs required to be made available
Online 2	0
Online 3	1
Online 4	1

Table 5: COM Requirements for Online 2, 3, and 4 Systems

Storage Product Category	Minimum number of COMs required to be made available
Online 2	1
Online 3	2
Online 4	3



QPX Form Changes

- The ENERGY STAR QPX is the form that is used by the CB to submit the product into our system and get the product uploaded to the ENERGY STAR certified product list.
- We review this form after each specification revision to ensure that we are collecting the appropriate information to inform ourselves and customers about the products on the certified product list.
- The point of emphasis for this review was reducing the number of fields to account for the simplification of testing.
- This was achieved and there is far less information required for submission than in the Version 1.0 and Version 1.1 QPX forms.



Resubmission Process

- Products certified to Version 1.0/1.1 that meet the new criteria, must be recertified to Version 2.0.
 - If not, they will no longer appear on the ENERGY STAR certified product list as of March 15.
- Recommend that you connect with your Certification Body to discuss getting products recertified.
 - Recommend doing this as early as you are comfortable doing to ensure there are no issues in March 2021.



Thank You!

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Please find CB Resources at:
www.energystar.gov/CBresources