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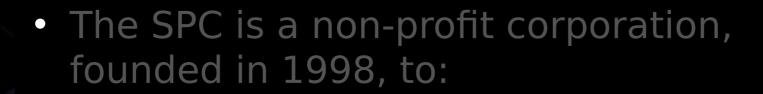In the New World, as in the Old:

TRUST... BUT **VERIFY**

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soda
foundation

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- The SPC is a non-profit corporation, founded in 1998, to:
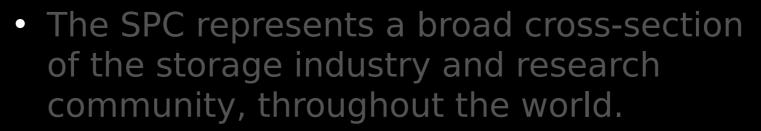
  - Define, standardize and promote industry-standard storage benchmarks.

  - Disseminate objective, verifiable performance, price-performance and energy use data produced by those benchmarks.

  - Assist developers, product managers and customers in the use of that data for planning and purchase decisions.

- The SPC represents a broad cross-section of the storage industry and research community, throughout the world.

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- The SPC's current portfolio of storage benchmarks includes:

  - **SPC-1** is focused on the I/O workload generated by OLTP application types.

  - **SPC-2** captures typical I/O workloads generated by sequential application types.

  - **Benchmark Extensions** enrich benchmark publications to capture common management and lifecycle tasks, including space optimization, system upgrades,

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Benchmark Tenets

- Recognizable:
  - Capture / Measure meaningful attributes and stresses *as they are seen in production*
  - Use terminology, values and ranges that your consumer expects
- Flexible:
  - Focus on broadly applicable measurement, *not the confirmation of a preferred answer*
  - Allow innovation while preserving comparability
- Scalable:
  - Avoid false limitations
  - Someone will *always* want to push past your *"no one will every..."* boundary
- Verifiable
  - Assertions are not PROOF
  - If it can't be verified and reproduced, its Benchmark Special, not Benchmark Result

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Workload : Benchmark :: Data : Knowledge

If you want to build a *Benchmark* rather than just a *Workload,* you will need:

- **Stimulus:** Portable, Supported Workload Generator

- **Methodology:** Consistent Comprehensive Test Methodology

- **Metrics:** Meaningful, Detailed Measurements and Comparisons

- **Disclosure:** Detailed, Public Disclosure, of Configuration, Techniques, Measurements and *Pricing*

- **Audit:** Peer-Reviewed, Audited Result to Strengthen the Brand, Defend Test Sponsors, and Reassure Customers

New World, Old Needs

- Hardware may be virtual – IOs are still real

  - On-Prem Testing is still real, and really important

  - However virtual the infrastructure, IOs must get done, Data must be preserved

- Vendor Choice Is Still a Choice

  - Component testing and validation remains real

  - One man's vendor is another man's customer -- testing maters *everywhere*

- Data Beats Conjecture

  - Tests are being run today in the lab *and* in the cloud

  - Consistent, well-defined tests provide consistent, easily defended decisions

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Where Now?

- Scalability: The same, but different
  - More data, time zones, users
  - Less direct control
- Metrics: SLA-driven storage demands new metrics
  - As hardware goes virtual, metrics are *more* important
  - Physical configuration / inventory no longer possible/relevant
  - Repeated measurements / On-going monitoring
- Methodology: Measurement is Management
  - What you can quantify, you can't verify

Message: *Trust, but Verify*

More Information

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