



## Case Study – Lessons Learned - HP

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### SNIA Emerald™ Training

*SNIA Emerald Power Efficiency  
Measurement Specification,  
for use in EPA ENERGY STAR®*

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# Lessons learned by HP

- ❖ Testing took much longer than initially anticipated. HP will track testing costs per certified configuration
- ❖ Tight test planning is essential to minimize physical configuration / set-up changes
- ❖ Obtaining a fully-configured, production-grade unit for testing can be expensive. The testing takes too long to “borrow” a unit for test.
- ❖ Changing from one test point to another can take several days due to need to re-format drives and system. Systems are not necessarily designed to vary HDD configurations quickly
- ❖ Modeling tools can minimize the number of test points needed, and obviously the more accurate the modeler the fewer the test points
- ❖ Be aware of the performance characteristics of your product... The highest response time may not yield the highest throughput
- ❖ Large configs take forever to fill. When to start pwr log

# Lessons learned by HP

- ◆ Keep track of all collected test point results on graphical plots, e.g., of Metric vs. Drive type-count
- ◆ It's not easy or practical to create new model nos. for each qualified ES configuration (at least not for HP)
- ◆ Data submission forms are complex and what is required in some data fields is not always clear. We went through several drafts before we were sure we completed the form correctly.
- ◆ User oriented software would greatly reduce chances of error, misinterpretation, and confusion for those new to Energy Star®:
  - ◆ **Inputs:** vdbench + powermeter outputs + user system configuration inputs
  - ◆ **Outputs:** Emerald TDR / EPA submission documents .