

Contents

	Foreword
	Introduction
1	Scope
2	Normative references
3	Terms, definitions and abbreviated terms
3.1	Terms and definitions
3.2	Abbreviated terms
4	Applicability of Server Energy Effectiveness Metric (SEEM)
4.1	General
4.2	Applicability of SERTv2
4.3	Determination of applicability for an “implementer-specified” metric
5	Determination of Server Energy Effectiveness Metric (SEEM)
5.1	General
5.2	Power supply requirements
5.3	SERTv2 active state energy effectiveness metric
5.4	Determination of “implementer-specified” metrics
5.4.1	General
5.4.2	“Implementer-specified” active state metrics
5.4.3	“Implementer-specified” idle state metric
5.4.3.1	General
5.4.3.2	Requirements for creation of an idle state metric
6	SEEM implementation
6.1	General
6.2	Implementation steps for SEEM
6.3	Implementation steps for SERTv2
6.4	Implementation steps for “implementer-specified” metrics
6.5	Threshold selection
7	Server testing
7.1	Configuration
7.2	Environment
7.3	Power analyser calibration requirement
7.4	Power requirements
7.5	SEEM idle state power test method
7.6	Testing Variance
7.6.1	General
7.6.2	Software Testing Variance Specification
7.6.2.1	SERTv2 Software Testing Variance
7.6.2.2	“Implementer-specified” Software Testing Variance
7.6.3	SEEM Hardware Testing Variance Specification
7.7	Technical support
7.7.1	Technical support requirements
7.7.2	SPEC SERTv2 technical support
7.8	Server product family and special configuration testing
7.8.1	General
7.8.2	Single configuration testing
7.8.3	SERTv2 product family and special configurations

7.8.3.1	General
7.8.3.2	High-end configuration
7.8.3.3	Low-end configuration
7.8.3.4	Typical configuration
7.8.3.5	Blade and multi-node testing
7.8.3.6	Expansion APA testing
7.8.4	Product family and special configurations for “implementer-specified” metrics
7.9	“Implementer-specified” metric creation testing
7.9.1	General
7.9.2	Functionality and reproducibility testing
7.9.3	Real-world energy savings testing
8	Reporting SEEM
8.1	Server categories
8.1.1	General
8.1.2	SERTv2 server category definitions
8.1.2.1	General
8.1.2.2	Resilient servers
8.1.2.2.1	General
8.1.2.2.2	Processor RAS
8.1.2.2.3	System recovery and resiliency
8.1.2.2.4	Power supply RAS
8.1.2.2.5	Thermal and cooling RAS
8.1.3	“Implementer-specified” metric server categories
8.2	Documentation
8.2.1	General
8.2.2	Implementation documentation
8.2.2.1	General
8.2.2.2	Implementer’s compliance report for SERTv2
8.2.2.3	Implementer’s compliance report for “implementer-specified” metrics
8.2.2.4	SERTv2 metric reporting specification
8.2.2.5	“Implementer-specified” metric reporting specification
8.2.3	SEEM end user documentation
8.2.3.1	General
8.2.3.2	SEEM end user documentation
8.2.3.3	SERTv2 end user documentation
8.2.3.4	“Implementer-specified” metric SEEM end user documentation
9	Minor update acceptance testing
9.1	General
9.2	SEEM minor update testing and requirements
9.2.1	SEEM component versions
9.2.2	Power analysers
9.2.2.1	General
9.2.2.2	General power analyser requirements
9.2.2.3	Simultaneous measurements test
9.2.2.4	Pulse acceptance test
9.2.2.5	Server-specific power analyser requirements
9.2.3	Temperature sensors
9.3	SERTv2 minor update testing and requirements
9.3.1	General
9.3.2	SERTv2 Component versions
9.3.3	SERTv2
9.3.4	PTDaemon
9.3.5	SERTv2 Client Configuration XML
9.3.5.1	General
9.3.5.2	JVM flag requirements
9.3.5.3	SERTv2 Invalid messages
9.3.5.3.1	General
9.3.5.3.2	Group A Invalid messages
9.3.5.3.3	Group B Invalid messages
9.3.5.4	CPU and software compliance test plans
9.3.5.4.1	General
9.3.5.4.2	Compliance tests

- 9.3.5.4.2.1 General
- 9.3.5.4.2.2 Validity and variance test
- 9.3.5.4.2.3 CPU socket test
- 9.3.5.4.2.4 CPU frequency test
- 9.3.5.4.2.5 CPU core count test
- 9.3.5.4.2.6 Memory size test
- 9.3.5.4.2.7 Memory frequency test
- 9.3.5.4.2.8 Storage quantity test
- 9.3.5.4.2.9 Storage technology test
- 9.3.5.4.3 Compliance test plans
 - 9.3.5.4.3.1 General
 - 9.3.5.4.3.2 Software minor update compliance test plan
 - 9.3.5.4.3.3 Software compliance test plan
 - 9.3.5.4.3.4 CPU model compliance test plan
 - 9.3.5.4.3.5 CPU architecture compliance test plan
 - 9.3.5.4.3.6 CPU compliance test plan
- 9.4 “Implementer-specified” metric minor update requirements

Annex A (normative) SERTv2 pre-approved CPU architectures, operating systems, and Java Virtual Machines (JVMs)

Annex B (normative) SEEM pre-approved power analysers and temperature sensors

Annex C (normative) SERTv2 required documentation fields

Annex D (normative) Deployed power assessment

- D.1 General
- D.2 Deployed power calculations
- D.3 Deployed power visualization
 - D.3.1 Charting deployed power
 - D.3.2 Creating a deployed power ranking table
- D.4 Deployed power analysis
 - D.4.1 General
 - D.4.2 Interpreting deployed power chart results
 - D.4.3 Interpreting deployed power ranking tables

Page count: 71