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Foreword

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This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 39, *Sustainability, IT & Data Centres*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

The global economy is now totally reliant on information and communication technologies (ICT) and the associated generation, transmission, dissemination, computation and storage of digital data. While the internet backbone carries the traffic, it is data centres which find themselves at the nodes and hubs of a wide variety of both private enterprise and shared/collocation facilities. With the large and continually increasing data capacity demands placed on data centres worldwide, efficient use of data centre energy is an extremely important strategy for managing environmental, cost, electrical grid capacity and other impacts.

The ISO/IEC 30134 series specifies data centre energy effectiveness key performance indicators (KPI) to help data centre operators measure and improve specific aspects of data centre energy effectiveness. ISO/IEC 30134-4 in particular defines a method to measure the peak capacity and utilization of servers operating in a data centre using operator selected benchmarks. However, it does not provide a method for comparing individual server energy effectiveness across data centres, and as stated in ISO/IEC 30134-4, "should not be used to set regulations for a data centre or individual server". There is stakeholder demand for an international standard to measure the energy effectiveness of servers before procurement and installation, particularly for use in worldwide server energy effectiveness regulations and programmes.

This document provides a server energy effectiveness metric (SEEM) to measure and report the energy effectiveness of specific server designs and configurations. This document will be useful to stakeholders, including vendors, users and governments, from the design verification testing phase all the way through conformance verification, procurement and operation. Organizations that wish to establish conformance or reporting programmes will find that the test methods and scoring specified in this document will save them significant time and effort in implementing such programmes. Standardization across such programmes will allow vendors to comply to stakeholder requirements more quickly and efficiently.

For applicable servers, this document builds upon the widely adopted Server Efficiency Rating Tool (SERT™)[1)] suite developed by the Standard Performance Evaluation Corporation (SPEC®)[2)] benchmark consortium, as the energy effectiveness metric and test method. For servers where SERT is not applicable, this document provides requirements for the creation of alternate server energy effectiveness metrics, referred to as "implementer-specified" metrics.

1) SERT is a trademark of the Standard Performance Evaluation Corporation. This information is given for the convenience of users of this document. References to SERT do not constitute an endorsement by ISO/IEC.

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Information technology — Data centres — Server energy effectiveness metric

1 Scope

This document specifies a measurement method to assess and report the energy effectiveness of a computer server. This document does not set any pass/fail criteria for servers.

2 Normative references

There are no normative references in this document.

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