

TGG Request to Reinstate ISO Benchmark in CNIS Server Standard April 11, 2023

# INTRODUCTION / Exec Summary

The Green Grid (TGG) is delighted to continue to work with CNIS and was very encouraged to learn that the US BIS restrictions on the ISO/IEC 21836:2020 test method (SPEC SERT) has been resolved, and now all companies can license, get updates to, and soon participate in the development of the benchmark.

Based on this change, TGG strongly recommends CNIS to allow ISO/IEC 21836:2020 test method and thresholds to co-exist alongside the BenchSEE benchmark for all 3 grades in all cases. This has many advantages to China, Chinese OEMs, customers, the environmental quality and the entire worldwide server industry.

While TGG does not include all of our previously submitted comments on this topic, we do include a summary of the most important reasons for this change and specific recommended changes to the CNIS Standard. We sincerely hope CNIS will make these critical improvements which will reap many benefits for years to come.

In addition, over the last two years TGG had also submitted many comments pertaining to server standard and BenchSEE benchmark tool improvement. TGG hopes CNIS will review and make changes to make the standard and benchmarking tool more robust.

# Reasons Including SPEC SERT is Critical

TGG believes that following the positive US BIS ruling, there are many advantages of explicitly including SERT in the CNIS regulation, including:

- Test tool alignment with all other worldwide server energy efficiency regulations and programs,

including Japan Top Runner for computer servers, EU Lot 9, UK Ecodesign, US ENERGY STAR, German Blue Angel, and India’s TEC (draft)

and green labels like TCO and EPEAT.

- Adding flexibility that Chinese server manufacturers can use SERT to test both servers for the China

market and the Japan, US, EU, UK market, significantly reducing test duration.

- Lessening the burden that BenchSEE has to support all types and versions of server CPU

Architectures, JVMs and OSes. Continually updating benchmark to be compatible with the newest CPU

architectures and software stacks is difficult, and if both BenchSEE and SERT are included in the

regulation, SPEC SERT could be used if there are any cases BenchSEE does not support a specific CPU

or OS. If only BenchSEE was allowed, then any server with a CPU or OSes not supported by BenchSEE

would be excluded from being sold in the Chinese market. See the full list of SERT supported platforms at: <https://www.spec.org/sert2/SERT-JVM_Options-2.0.html>.

Note: In response to requests by Chinese server stakeholders, SPEC is adding support for new

temperature sensors in an upcoming release, and as an example of how SPEC is open to

supporting new CPU architectures from Chinese OEMs, in the SERT 2.0.4 version which also added new support for ARM CPUs from Ampere, Fujitsu, and Marvell.

- SPEC SERT suite also has a refined process for new servers to get supported before launch to ensure the SPEC SERT suite works on the new server at launch and there is not a delay in the server being able to be sold.

- Making the Chinese regulation ISO/IEC 21836:2020 compliant, aligned with the rest of the global

regulations

- Allowing use of the largest number of power analyzers and temperature sensors available for any

server benchmark.

- For each generation of CNIS’ regulation, allowing use of benchmark results collected by the rest of

the government programs to set thresholds (ex. TGG’s SERT 2.x database of over 800 results), instead of having to collect all results locally.

- Allows some comparability between calculations of server energy savings in China with the rest of the

world

# Proposed Changes to CNIS standard

Based on the update to the US BIS restrictions on use of the ISO 21836 test method and all the above listed advantages of including the ISO test method, TGG proposes making the following changes to the CNIS Server Standard.

**Details on proposed changes to Table 3:**

1) The selected SERT thresholds have a similar server pass rate as the Table 2 BenchSEE pass rates specified in Section 4 Table 2, as calculated in TGG’s BenchSEE database. For Grade 3, TGG adjusted the previously proposed thresholds to better align with the server pass rate of CNIS’ updated BenchSEE thresholds.

2) TGG did not have enough SERT results on one and two sockets Tower servers, so to calculate the proposed Tower limits, TGG applied CNIS’ ratios between rack and tower servers in Table 2.

The TGG spreadsheet where the proposed values for Table 3 were calculated, is available upon request.

Proposed updates to the CNIS standard Section 5

**Proposed Text:**

5　Minimum Allowable Values of Energy Efficiency

As an alternative, the Server Efficiency Rating Tool (SERT) specified in ISO/IEC 21836:2020 may be used to test the energy efficiency of all servers in scope.

**Proposed Marked-Up Text (changes or additions highlighted):**

5　Minimum Allowable Values of Energy Efficiency

~~If it is impossible to use the Benchmark of Server Energy Efficiency tool (BenchSEE) to test the energy efficiency of a server,~~ As an alternative, the Server Efficiency Rating Tool (SERT) specified in ISO/IEC 21836:2020 may be ~~selected~~ used to test the energy efficiency of all servers in scope.

Proposed updates to Table 3

**Table 3 Minimum allowable values of energy efficiency for servers when using the server efficiency rating tool (SERT) specified in ISO/IEC 21836:2020**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Server type | | Grade 1 | Grade 2 | Grade 3 |
| Tower | 1-socket | 19.0 | 7.7 | 2.9 |
| 2-socket | 24.2 | 7.6 | 4.9 |
| Rack | 1-socket | 21.4 | 12.3 | 4.9 |
| 2-socket | 28.2 | 11.4 | 8.2 |