

# **Characterization and Benchmarking Methodology for Power in Networking Devices**

**draft-cprjgf-bmwg-powerbench-04**

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**IETF122 BMWG meeting**

# Recap

- The benchmarking methodology is important tools which help vendors to test energy efficiency of their devices
  - the data traffic per unit of energy consumption across the network
- The following objectives can be served as follows :
  - **Objective 1:** Assessing “which system performs best” over a set of well defined scenarios.
  - **Objective 2:** Measuring the contribution of sub-systems to the overall system’s energy efficiency performance (micro-benchmark).
- The benchmarking methodology outlined in this draft focuses on both aspects.
  - Specifically, it aims to compare the energy efficiency for individual devices.

# Document History

- It was first introduced in IAB E-impact workshop and side meetings (Feb 2024)
  - Consider what is running on the device and which features are enabled besides selected throughput as weighted value (Marisol Palmero)
  - Consider to also work with other type of equipment (Toerless Eckert)
  - Consider how long it take for transition among different traffic load level (Alex Clemm)
- Presented in BMWG at IETF119, IETF120, IETF121
  - Suggestion to include more realistic scenario besides what is documented in ETSI Specification (Luis M. Contreras)
  - Clarifications on Traffic and Device Characterization (Gabor Lencse)

# Changes from -02 to -03 to -04

- The latest update includes the following changes compared to the previous versions:
  - New section on Replicability and Comparability.
  - Traffic can be provided as explicit traces to replay.
  - Snake testing is proposed as the simplest way to scale the number of ports involved in a test.
  - Redefinition of the "non-active" state of a router where
    - "Base" refers to the power drawn after a factory reset with no transceiver plugged in.
    - "Idle" refers to the router configured and all interfaces up, but without any traffic.
    - "Idle+" is the same as above with very low traffic volume (1 pps).

# Next Step

- The latest version is a good basis and now ready for adoption.
- Your additional comments and input are welcome!
- Chat with Diego Lopez (GREEN WG co-chair)
  - Alignment with GREEN WG