Terminology for Energy Efficiency Network Management

draft-bclp-green-terminology-05

IETF GREEN Interim Meeting 10/06/2025

on behalf of Team (Qin Wu, Gen Chen, Mohamed Boucadair, Luis Contreras, Marisol Palmero, Shailesh Prabhu)

Recap

- Presented in IETF 121, IETF 122,IETF 123 and 1st interim meeting since IETF 122
  - Receive majority support during adoption poll in these meetings
  - Thanks Shailesh,Benoit, Emile, Carlos, and many others for valuable review.

- The github has been setup for terminology draft
  - https://github.com/billwuqin/draft-bclp-green-terminology
  - Open issues can be tracked here
    - https://github.com/billwuqin/draft-bclp-green-terminology/issues
- In the latest interim before Montreal, chairs agree to kick off adoption call on this work.

Document Status

- The latest version is v-05, changes compared to v-04 presented in IETF 123
  - Add Shailesh Prabhu as contributor.
  - Add one new definition on Service Level Energy Efficiency (SLEE).
  - Add one new definition on Energy-Aware Intent
  - Update Device Level Energy Efficiency definition and Component Level Energy Efficiency
    - Clarify their relation with system level and sub-system level.

New Definition: SLEE

- Service Level Energy Efficiency (SLEE):
  - Denotes the total energy consumption attributed to delivering a specific service or application within a network segment. SLEE enables operators to measure and report the per-service energy footprint, providing valuable insights for operational benchmarking, and capacity planning.

New Definition: Energy-Aware Intent Definition

- Energy Aware Intent:
  - A declarative, technology-agnostic expression of an energy-related operational objective for the network. Unlike imperative configurations that specify exactly how to achieve a result, an energy-aware intent focuses on what energy behavior is desired (e.g., minimize power consumption or optimize energy-to-throughput ratios), leaving the system to determine the best enforcement method.
  - Energy-aware intents ([RFC9315]) are interpreted by network management or orchestration systems, which translate them into actionable control logic, such as powering down interfaces, reducing link speeds. These intents enable policy-driven, automated, and potentially closed-loop energy optimization aligned with business goals.

Next Step

- Setup WG github for this work
  - Keep track of open issues and make them transparent to WG members

- Continue to align with other GREEN Work such as Use case, Framework and YANG Data Model