



# ENERGY STAR<sup>®</sup>

## Large Network Equipment: Scope and Product Family Working Session

March 6, 2015

U.S. Environmental Protection Agency

# Agenda

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- Spec Discussion
  - Separation between SNE and LNE
  - Defining product family
    - Fixed Products
    - Modular Products
- Reminder of DOE open inquiry on test method

# Separation of LNE and SNE



- Current separation is:
  - SNE has  $\leq 11$  physical network ports
    - Also covers non-enterprise Wi-Fi products
  - LNE has  $> 11$  physical network ports
    - Does not cover products whose primary function is wireless
- Examples of non-residential products that are not covered or are covered non-ideally by either specification:
  - Enterprise access points
  - Higher end commercial switches and routers with fewer than 12 ports
  - Products that contain pluggable/modular adapters such as GBIC or SFP and have fewer than 12 ports

# LNE vs. SNE – EPA Proposal



- LNE products to include:
  - Covered product types with a combined total link capacity of all physical network ports in the product which is greater than or equal to 14Gb/s; and/or
  - Covered product types which are rack mountable
- Total Link Capacity:
  - The theoretical maximum amount of data transfer that a port can support measured at the physical layer and not the network IP layer (e.g. the total link capacity for a port whose highest data rate is 1000BASE-T would be 1Gb/s).

# Product Family – Fixed Products



- EPA Proposal:
  - Keep downlink port count and port type consistent within a family
    - Port type examples include copper, fiber, combination
  - Family composed of three configuration points:
    - Maximum – Highest energy consuming
    - Minimum – Lowest energy consuming
    - Representative – Manufacturer selected configuration between max and min that is representative of a deployed configuration with high sales volume

# Product Family - Modular



- EPA Proposal to construct a family:
  1. Measure throughput and power for fully loaded chassis, populating chassis with most common sold module “X”.
  2. Report various product level characteristics of the configuration in step 1 for display on ENERGY STAR website.
  3. Remove one module from configuration above to find power and throughput contribution for individual module “X” and report that information
  4. Repeat steps 1 and 3 (not 2) for each additional module offered without making any other changes to chassis hardware. Report module power and throughput data for each offered module

# Product Family - Modular



- Sample data collected:
  - Full system characteristics as well as power and performance data of the modular LNE product when fully populated with manufacturer selected most commonly sold module “X”
  - Per module throughput, power, and specific module characteristics for each module offered in the family:
    - Power, throughput, module details for module X
    - Power, throughput, module details for module A
    - Power, throughput, module details for module B
    - Etc.

# Reminder on Feedback for DOE



- DOE is looking for feedback on the following two test method issues:
  - Snaked Traffic Topology
  - Ambient Temperature Requirements
- Questions are outlined in memo on the LNE product webpage
- **Due date for written comments is March 13**

# Schedule for Upcoming Calls



- Date/Time: April 3: 12 – 2 PM Eastern Time
  - Focus Areas: Discuss any proposal outcomes from February call, Considerations for the inclusion of fiber optic ports into scope, Further discussion on methods to reduce testing burden on LNE products with many data ports
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- Date/Time: May 1: 12 – 2 PM Eastern Time
  - Focus Areas: Discuss any proposal outcomes from March call, Discuss any remaining issues in addressing “semi-modular” LNE products, Further discussion on fan settings and ambient temperature conditions during testing.

# Contact Information



Please send any additional comments to [largenetwork@energystar.gov](mailto:largenetwork@energystar.gov) or contact:

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Thank you for participating!

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