

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460



OFFICE OF
AIR AND RADIATION

February 20, 2015,

Dear Large Network Equipment Stakeholder:

On January 30th, 2015, the U.S. Environment Protection Agency (EPA) and the U.S. Department of Energy (DOE) hosted a [meeting](#) to discuss the ENERGY STAR[®] Large Network Equipment (LNE) program. In acknowledgement of the complexity of LNE products, during that call, EPA proposed hosting a series of phone –based working sessions over the coming months to discuss key outstanding issues. With this letter, EPA is outlining the topics and timing for those conference calls. EPA welcomes stakeholder feedback on additional topics for discussing during the working calls.

In the first meeting on **March 6, 2015 from 12-2 PM Eastern Time**, EPA intends to focus on the separation of LNE vs. Small Network Equipment (SNE), as well as proposed product family structures for fixed and modular LNE products. To facilitate a meaningful discussion of these topics, EPA is sharing a proposed approach as well as discussion questions for each topic. These proposals are intended as a starting point to facilitate stakeholder discussion of paths forward for the ENERGY STAR program. Lastly, EPA is sharing, as a separate attachment, questions and a request for written feedback, regarding the testing of LNE.

Topics, Timing, and Registration for Working Sessions

Date/Time: March 6: 12 – 2 PM Eastern Time

Focus Areas: Changes to the current separation between LNE and SNE, Defining product family for both fixed and modular products

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

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.

If you would like to participate in the March meeting, [please register here](#). Subsequent meeting invites will be sent separately for the April and May meetings.

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Starting Point Proposals for March 6, 2015 Working Session

The Separation of LNE and SNE

The current separation between LNE and SNE is defined by placing products with 11 or fewer physical network ports, which are not rack mounted, and/or primarily provide wireless capability, into SNE. Products that meet the ENERGY STAR definitions of switches and routers that have 12 or more physical network ports or are rack mounted are currently proposed to be covered in Version 1.0 of the LNE program. EPA and stakeholders have acknowledged that there are products with functionality far exceeding what is typically needed in a home or small office application that are currently within the SNE scope. EPA is proposing the following approach to more effectively separate these two categories such that the ENERGY STAR bins align with customer needs, recognizing that there may not be a perfect solution at this time.

LNE products would include:

1. Covered product types with a combined total link capacity of all physical network ports in the product which is greater than or equal to 14 Gb/s; and/or
2. Covered product types which are rack mountable as shipped

Conversely, products types currently covered in the SNE program, which do not meet the criteria above, would remain in scope of SNE as applicable.

EPA has developed a supporting definition for this proposal:

- 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).

Questions for discussion:

1. EPA considered creating separate total link capacity criteria for both uplink and downlink ports, but ultimately found that a combined product level approach was simpler and produced the same result. EPA welcomes stakeholder feedback on whether additional granularity between uplink and downlink ports in this proposal structure is warranted.
2. Are there additional features or product characteristics that are comparable across products that can complement the proposal above to further capture products that appear like SNE at first glance, but may be a better fit in LNE? For example, products that may not meet the two criteria proposed above, but provide much more robust firewall or security functionality than typical SNE products.

Defining Product Family – Fixed LNE Products

EPA is striving to create a product family for fixed products that provides useful data for end-users and future specification development purposes, while also acknowledging testing burden concerns. EPA would like to avoid requiring testing of all configurations within a product family if possible. As a result, EPA is proposing the following family structure for fixed products, and encourages stakeholders to provide feedback on whether this proposal sufficiently captures the products covered within a family.

Product characteristics that would remain constant within a product family:

- Downlink port count
- Physical network downlink port type (e.g. copper vs. fiber vs. combo)

Product Family – Fixed Products: Family shall be composed of three configuration points:

1. Maximum configuration: Highest energy consuming configuration offered within the product family
2. Minimum configuration: Lowest energy consuming configuration offered within the product family
3. Representative configuration: A manufacturer selected configuration between the maximum and minimum configurations that is representative of a deployed configuration with high volume sales

As proposed, partners seeking product certification would submit energy, performance, and additional configuration characteristics data using the ENERGY STAR LNE test method for all three configurations. This information would provide end-users with an expected range of energy and performance behavior across the product family, with the representative configuration providing additional insight for configurations that are more common in the market. This proposal allows flexibility in pluggable uplink modules, organizing families by the truly fixed portion of the device, the downlink ports.

Questions for discussion:

1. Should multiple uplink options within a line of models be addressed more directly when defining a product family, and if so how?
2. Are additional configurations required to create a sufficient representation of the product family to benefit end-users?

Defining Product Family – Modular LNE Products

Similar to fixed products above, EPA would like to strike a balance between sufficient product data and testing burden when creating modular product families. The following steps are proposed to construct a modular product family:

1. Measure the throughput and power for a fully loaded chassis, populating the chassis with the most commonly sold module (module X) in the product family for testing.
2. Report various product level statistics of the configuration above for display on the ENERGY STAR website. This configuration would be considered the manufacturer defined representative configuration. These characteristics include data collected for all IT products, such as PSU info, chassis info, model info, etc.
3. Remove one module from the configuration above to find the power and throughput contribution of an individual module X. Report power and throughput data for module X.
4. Repeat steps 1 and 3 for each additional module offered in the product family without making any other changes to the chassis hardware. Total system throughput and power for each additional fully loaded chassis configuration (Step 2) may be optionally reported, but will not be required.

Proposed Data Output to be posted on the ENERGY STAR website:

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

Questions for discussion:

1. Are there suggested LNE specific chassis and product details that EPA should collect?
2. Are there specific module characteristic details that EPA should collect?

Stakeholders are encouraged to provide feedback on the specific concepts presented in this document, as well as any general comments, to largenetwork@energystar.gov **prior to the call on March 6**, to promote productive discussion during the call. Please direct specification related questions to Katharine Kaplan, EPA, at Kaplan.Katharine@epa.gov, or 202-343-9120; or John Clinger, ICF International, at John.Clinger@icfi.com, or 215-967-9407. EPA looks forward to working with stakeholders to find a successful path forward for these issues key to an ENERGY STAR LNE program.

Sincerely,

A handwritten signature in cursive script that reads "Katharine Kaplan". The signature is written in dark ink and includes a horizontal line at the end.

Katharine Kaplan
U.S. Environmental Protection Agency
Manager, ENERGY STAR Product Development and Program Admin