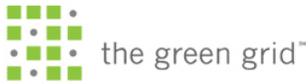


Recommendations from The Green Grid to:  
ENERGY STAR® for Large Networking Equipment Draft 1 Specification



ENERGY STAR® for Large Networking Equipment Draft 1 Specification  
Feedback and Recommendations (M)

The Green Grid Association, a consortium of industry-leading companies, welcomes the opportunity to comment on topics under consideration for the ENERGY STAR for Large Network Equipment specification.

## Introduction

As a consortium of information technology providers, consumers, and other stakeholders, The Green Grid seeks to improve the energy efficiency of data centers around the globe. The association takes a holistic and comprehensive approach to data center efficiency and understands that developing the ENERGY STAR® for Large Network Equipment Version 1.0 represents a significant challenge, one which requires cooperation among a wide range of industry principals. Participants in The Green Grid include such diverse companies as major data center networking equipment manufacturers, server and storage equipment manufacturers, major software providers, and large data center end users/owners.

## Summary

The Green Grid appreciates the EPA's investigations and considerations of comments from some industry members during the early stages of the project. The Green Grid is providing comments and recommendations on the Draft 2 Version 1.0 ENERGY STAR® LNE test method. Some of these comments may be similar to individual responses provided to the EPA by member companies, but represent the consensus opinion of the Green Grid participants in the process.

The Green Grid is dedicated to improving the energy efficiency of data centers and recognizes the importance of large networking equipment to this effort. The Green Grid has a body of work covering all aspects of data center efficiency including components and interactions at the broader system level. The Green Grid is concerned that the Energy Star program for Large Network Equipment should have a beneficial effect on the energy efficiency of data centers; however there is a real possibility that some approaches that minimize the energy consumption of single systems may adversely affect the efficiency of the data center as a whole.

The Green Grid offers its assistance and technical expertise to develop and refine future versions of this specification. We hope these comments and recommendations will aid in the management of an effective and timely program.

## Response to specific Questions:

### ***SNE vs LNE Differentiation***

The Green Grid members have spent considerable time discussing the issues surrounding Small Networking Equipment (SNE) vs Large Networking Equipment (LNE) differentiation and have come to the conclusion that whatever method is used will leave both enterprise and consumer grade products in one of these specifications. It is the preference of the Green Grid that this be limited to only one of the two specifications and that the SNE specification is the preferred location where this overlap should occur.

This is in large part the reasoning behind the following recommended definition for Large Networking Equipment.

Large Networking equipment contain one of the following Features:

- Contains more than 11 physical ports
- Total aggregate port throughput is greater than 12 Gb/s

And all of the following features:

- Product is rack Mountable

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- Supports Network Management Protocols such as SNMP (...)

## **Modular Products**

The draft 1 specification used a definition for a modular product that was dependent upon more than half of the available number of physical network ports being swappable. It was further complicated by a physical port being only those ports supporting wired connections. These requirements made it very problematic for a manufacturer to determine whether or not a product should be considered modular as the final determination was dependent upon customer choice and may not be known prior to actual installation in the customer facility. The Green Grid proposes the following definition for modular products as a replacement for the existing one.

1. Modular product is a product which can accept modules.
  - a. Module Definition:

A plug in device, not used alone, which can add/change the type of network connections, increase/decrease the number of ports, and add/remove additional functionality for a product. Modules include but are not limited to:

    - i. Line cards
    - ii. Port adapters
    - iii. Network adapters
  - b. The following devices are not modules:
    - i. Pluggable Transceivers, such as SFP, SFP+, or XFP and similar
    - ii. Modular power supplies

## **Conclusion**

The Green Grid fully supports the development of the ENERGY STAR for Large Networking Equipment Version 1.0 specification. EPA's collaborative development with all industry stakeholders should result in a well-constructed specification and should allow rapid resolution of concerns raised.

The Green Grid will continue to collect industry-wide inputs to work with the EPA in developing the ENERGY STAR programs on ICT equipment. Please feel free to contact us on any concerns or questions in the development of the specifications or the implementation of the program.