



25 Gb/s Ethernet over a single lane for server interconnect Call for Interest

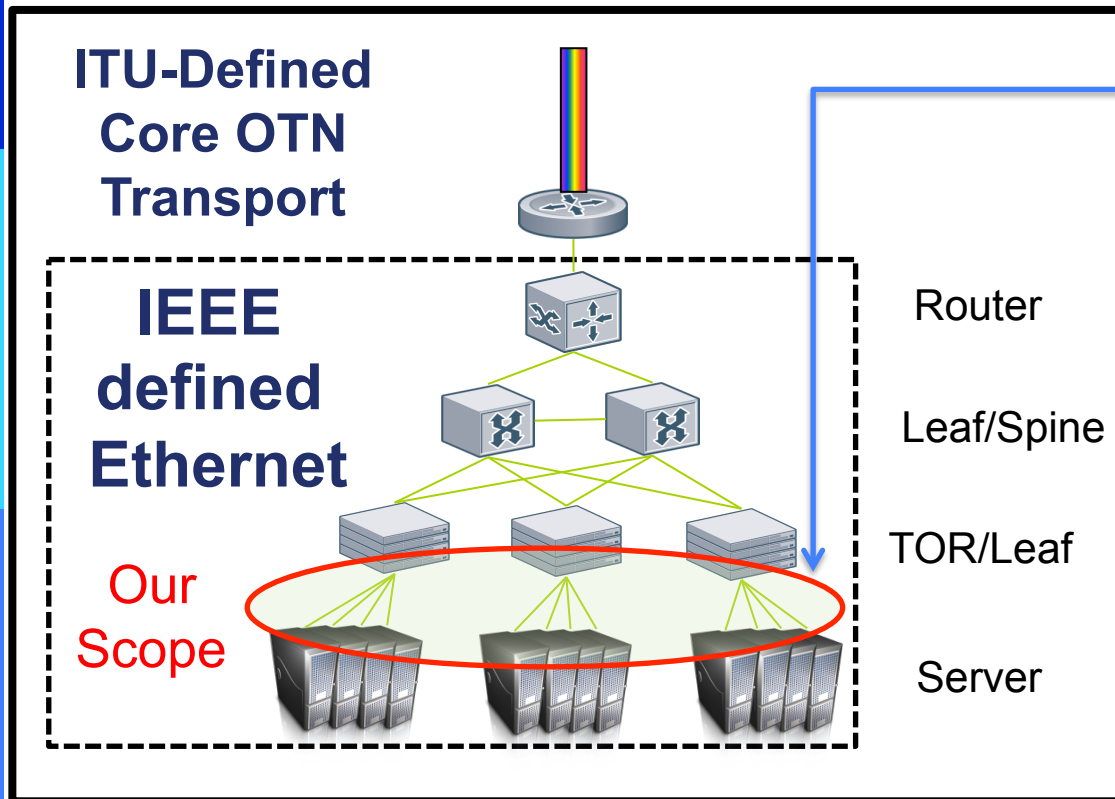
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IEEE 802.3 Working Group
San Diego, CA
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Overview: 25 Gb/s Ethernet Motivation

- Provide cost optimized server interconnect capability beyond 10G
- Provide a 25Gb/s MAC rate that:
 - Leverages single-lane 25Gb/s physical layer technology developed to support 100GbE
 - Maximize efficiency of server to access switch interconnect

Web-scale data centers and cloud based services are presented as leading applications

What Are We Talking About?



Leading Application Space for 25Gb/s Ethernet

- Optimized interconnect from servers to first-level networking equipment (i.e. ToR, access layer, leaf...)
- A single-lane 25Gb/s Ethernet interface provides the opportunity for optimum cost-performance server interconnect

Why Now?

- Web-scale data centers and cloud based services need
 - Servers with >10GbE capability
 - Cost sensitive for nearer-term deployment
- Industry has recognized the need & solution
 - Switching & PHY silicon under development
 - Formation of 25GbE Consortium targeting cloud-scale networks
- 25Gb/s technology standardized, developed, productized for 100GbE can be leveraged now!
 - There are no 40Gb/s single lane standardization efforts under way
- The Ethernet Ecosystem has been very successful
 - Open and common specifications
 - Ensured Interoperability
 - Security of development investment

Logistics

An overview presentation session will be given to support consensus building:

- Date - Tuesday, July 15th
- Time - 6:30 to 8pm
- Location – Seaport FGH ballroom
- CFI Presentation: http://www.ieee802.org/3/cfi/request_0714_1.html

Request to form Study Group will occur during closing
5 802.3 WG Plenary on Thursday

Call for Interest

A Call for Interest in forming a Study Group to study the need for an amendment to the IEEE 802.3 standard to specify 25 Gb/s Ethernet over a single lane for server interconnect applications.

Based on this study, the outputs will be (i) a recommendation to the IEEE 802.3 Working Group if such an amendment is required and (ii) if so, a PAR, 5 Criteria and Objectives in support of a project to develop the amendment.



Thank You

IEEE 802.3

25Gb/s Ethernet: the original CFI request

The use of Top of Rack 4x10Gb/s breakout using 40Gb/s interfaces has become very popular over the last few years in hyper-scale data centers and cloud services providers. As these data centers prepare to transition to 100Gb/s Ethernet, there is an expectation to use the 100Gb/s 4x25Gb/s interface specified in IEEE P802.3bj and IEEE P802.3bm as effectively as is done with the 4x10Gb/s 40Gb/s Ethernet interface.

Efficient and effective data center and cloud architectures would utilize the 25Gb/s technology within the 4x25Gb/s 100Gb/s interface technology and enable breakout to single lane 25Gb/s interfaces. At this time, there is no ability for data centers and cloud services providers to enable this network efficiency without a common specification for 25Gb/s Ethernet.

This Call For Interest is a request for the formation of a study group to 1) explore enhancements that take advantage of interfaces within IEEE P802.3bj and IEEE P802.3bm to provide a single lane 25Gb/s Ethernet specification for server interconnects, and 2) the market requirements supporting the server-TOR application of a 25Gb/s Ethernet interface.

IEEE 802.3 http://www.ieee802.org/3/cfi/request_0714_1.html