



ethernet alliance



# Twenty-five

has never looked so good



Gilda Foss, Vice President, Ethernet Alliance Board of Directors, NetApp.

IF THERE WERE A POPULARITY CONTEST in the world of Ethernet present day, 25 GbE would rise to the top of the list of the cool kids. There has been a lot of discussion around 25 Gbe, and for good reason too. In a nutshell, it allows the largest jump in Ethernet performance in the data center for

the smallest jump in price while enhancing server performance and applications.

A consortium formed around five months ago to develop a 25 Gigabit Ethernet specification with plans to have 25 Gbps switches shipping in about two years.

The 25 Gigabit Ethernet Consortium has been created to essentially accelerate a solution for cloud scale data centers and as someone who serves on the Board of the Ethernet Alliance, topics like this are of the utmost importance to me. The mission of the Ethernet Alliance is to promote industry

awareness, acceptance and advancement of technology and products based on, or dependent upon, both existing and emerging IEEE 802 Ethernet standards and their management. Since this Alliance accelerates industry adoption and removes barriers to market entry, discussing the merits of the 25 Gigabit Ethernet Consortium and IEEE 802.3 25 GB/s Study Group are imperative and very relevant to my role.

To comprehend the inspiration and motivation behind this support for 25 GbE we need to definitely examine the use

cases in the cloud. Essentially, this effort all started with the industry wanting to create four-lane quad links with a 10GbE base giving us 40 GbE as a result. Since the data is extended across all four links, we are left with a true and real 40 GbE link. Now, the 25 Gbps links used in 100 GbE present day are smart alternatives to 10 GbE, being speedier for a comparatively small increase in cost.

Cloud Service Providers are taking notice of this and the need for a standard that can capitalize on the single-link performance boost that 100 GbE has given us. Furthermore, 25 GbE makes a lot of sense for Cloud Service Providers as a next step for in-rack connectivity with the price curve

similar to that of 10 GbE and the endpoint of commodity pricing.

It all started with Arista Networks, Broadcom, Google, Mellanox Technologies and Microsoft working on specifications for 25 GbE, all the while having a goal of making the cost

of 25 GbE eventually equal to 10 GbE. This effort has gained momentum and enthusiasm rapidly and, since its launch in July 2014, the consortium's ranks have grown to include big names in networking like Dell, Cisco, Juniper Networks and Brocade. These major customer companies that have jumped on board have certainly made this group an eclectic crew of super-smart heavy hitters.

In July 2014, the IEEE 802.3 Ethernet Working Group approved the formation of a Study Group for 25Gb/s Ethernet. This group is focusing on 25GbE over a single lane for server interconnects and is essentially modifying the server roadmap established by the IEEE 802.3ba 40 Gigabit and 100 Gigabit Ethernet task force that Ethernet Alliance Chairman, John D'Ambrosia chaired.

There has been much focus and attention in the networking press about 25Gb/s Ethernet

and 802.3 already has completed standards for 40Gb/s and 100Gb/s and is currently working on 400Gb/s as well. (Coincidentally, John D'Ambrosia also chairs the IEEE P802.3bs 400GbE Task Force.) "The 25GbE specs will reduce the cost per bit from a capex and opex perspective for today's cloud-scale and tomorrow's enterprise data centers. A 25GbE server interconnect can reduce the number of top-of-rack switches by more than a factor of three, lowering power and cooling costs," John D'Ambrosia, Chief Ethernet Evangelist, CTO Office, Dell & Ethernet Alliance Chairman.

The Ethernet Alliance, a global consortium dedicated to the continued success and advancement of existing and emerging IEEE 802 Ethernet standards and will be presenting a new webinar in December 2014 titled "Ethernet 103: Introduction to 25 Gb/s Ethernet". This webinar is designed to provide attendees with in-depth insight into 25 Gigabit Ethernet (25GbE) and will be presented by a panel of Ethernet industry experts. Panelists will offer an introduction to the 25GbE speed, including potential markets, deployment architectures, standards, and more. You can view this webinar on the Ethernet Alliance Channel at <https://www.brighttalk.com/channel/6205>.

For more information about the Ethernet Alliance visit their website at: [www.ethernetalliance.org](http://www.ethernetalliance.org)

“

To comprehend the inspiration and motivation behind this support for 25 GbE we need to definitely examine the use cases in the cloud. Essentially, this effort all started with the industry wanting to create four-lane quad links with a 10GbE base giving us 40 GbE as a result

”