AN INTERVIEW WITH CHIARO NETWORK'S KEN LEWIS
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By Alan Beck, Editor-in-Chief

HPCwire interviewed Chiaro Network's CEO Ken Lewis about his company's latest announcements regarding their high-end routing platform and involvement with future grid technology.

HPCwire: So what are you announcing?

Lewis: We are officially launching our revolutionary high-end routing platform Enstara that utilizes transforming technologies to help solve the problems of speed, reliability and scalability, as well as the "crisis of cost," that network providers are facing.

We are also announcing that The California Institute for Telecommunications and Information Technology [Cal-(IT)2] has selected Chiaro Networks as a partner to supply the high-end routing platform for "OptIPuter," a next-generation optical grid that furthers the concept of communication and computer consolidation. Chiaro joins other Institute partners that include IBM and Telcordia Technologies.

HPCwire: Why did [Cal-(IT)2] select the Chiaro routing platform?

Lewis: The Chiaro routing platform and the transforming technologies that it is based upon were developed for the concept of a strategic global infrastructure, and, therefore, it provides functionality and cost containment features that are not available on other routers. It allows network providers to consolidate to fewer and simpler networks. An equally important consideration is its leading-edge optical switching technologies that allow for a combination of large port count and fast switching speeds that have previously not been available in a single device.

In many ways, the Enstara routing platform acts like a computer system. It is programmable with 24/7 reliability and virtual partitions. Plus it converges the local, wide and storage area network environments.

The unique capabilities of the Enstara routing platform have been made possible by Chiaro's multi-disciplinary staff with vast experience in networking, supercomputing, telecommunications and photonics.

HPCwire: What do you mean by "crisis of cost?"

Lewis: The "crisis of cost" is driven by the complexity of operating multiple, parallel networks. Within these networks, there are tiered/duplicated network elements that further increase complexity and cost. Even with the complexity, network providers do not have the scalability and reliability to meet the increasing requirements for IP networks, especially those like OptIPuter that are designed to support data-intensive scientific research and collaboration. It is imperative that providers consolidate to fewer and simpler networks with greater functionality. Enstara is the first
carrier-class routing platform that allows network providers to achieve this combination of consolidation and functionality.

HPCwire: What is OPA and STAR?

Lewis: Optical Phased Array (OPA) and STateful Assured Routing (STAR) are two key enabling technologies of Enstara. OPA is the world's first all-optical switching fabric that offers scalability and nanosecond switching speeds. Previous optical switching technologies were categorized as either small and fast, or large and slow. The combined attributes of large port count and fast switching speeds have not been possible in a single device. The Chiaro OPA switching technology now makes this possible. The switch works on the well-know principle of constructive and destructive interfering patterns. The switch is completely solid state and has no moving parts. A key attribute of the switch is the headroom it provides in router scalability. The initial application within the router operates a 10 Gb/s per port, but the switch has been validated at 160 Gb/s capacity per switch port. For more detailed information, please see the white paper on Chiaro's web site at http://www.chiaro.com.

STAR is an integral component of Chiaro's high-availability router platform that allows for orders of magnitude increase in reliability over today's generation of routers. The business level impact that STAR resents is that carriers can now operate cost effective, high performance backbones, which do not degrade with hardware, software, or maintenance activities. The IP backbone reliability increases from STAR based systems will allow carriers to migrate legacy services currently running over multiple networks to a more cost effective packet networks as well as enabling new services. For example, when there is a switchover between route control processors, STAR provides a superior approach to either the Non-Stop Forwarding or Graceful Restart. STAR is fundamental if IP networks are to achieve "Five 9s" availability. With STAR in place, IP networks can absorb critical traffic types, enabling network consolidation and its attendant cost advantages for both service providers and their customers.

HPCwire: Why is this significant?

Lewis: This is significant because the Enstara platform eliminates the typical 18-month replacement cycle for network routers and replaces it with equipment that provides seven years of scalability and reliability. This means substantial capital and operation expenditure savings never before available.

HPCwire: Whom is your product targeted to?

Lewis: All service providers such as Tier 1 carriers and CLECs as well as private and international networks. There are also applications for grid networks, and we just announced involvement with Larry Smarr's OptIPuter.

HPCwire: We haven't heard a lot about Chiaro until now ... why?

Lewis: Our focus has remained on developing a routing platform that reduces IP network complexity and takes a major leap forward in benefits such as scalability and reliability, thus offering significant economic advantages to service providers. While publicly we've seemed quiet, behind the scenes Chiaro has been exhaustively working with key customers to ensure that we have the feature set and value proposition required in today's networking dynamic.

HPCwire: What's coming up on the horizon for Chiaro?

Lewis: We've just launched our high-end routing platform and announced our involvement with Cal-IT²'s OptIPuter. We're experiencing incredible momentum with our company and product, and are preparing for additional service provider announcements in the new year.

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