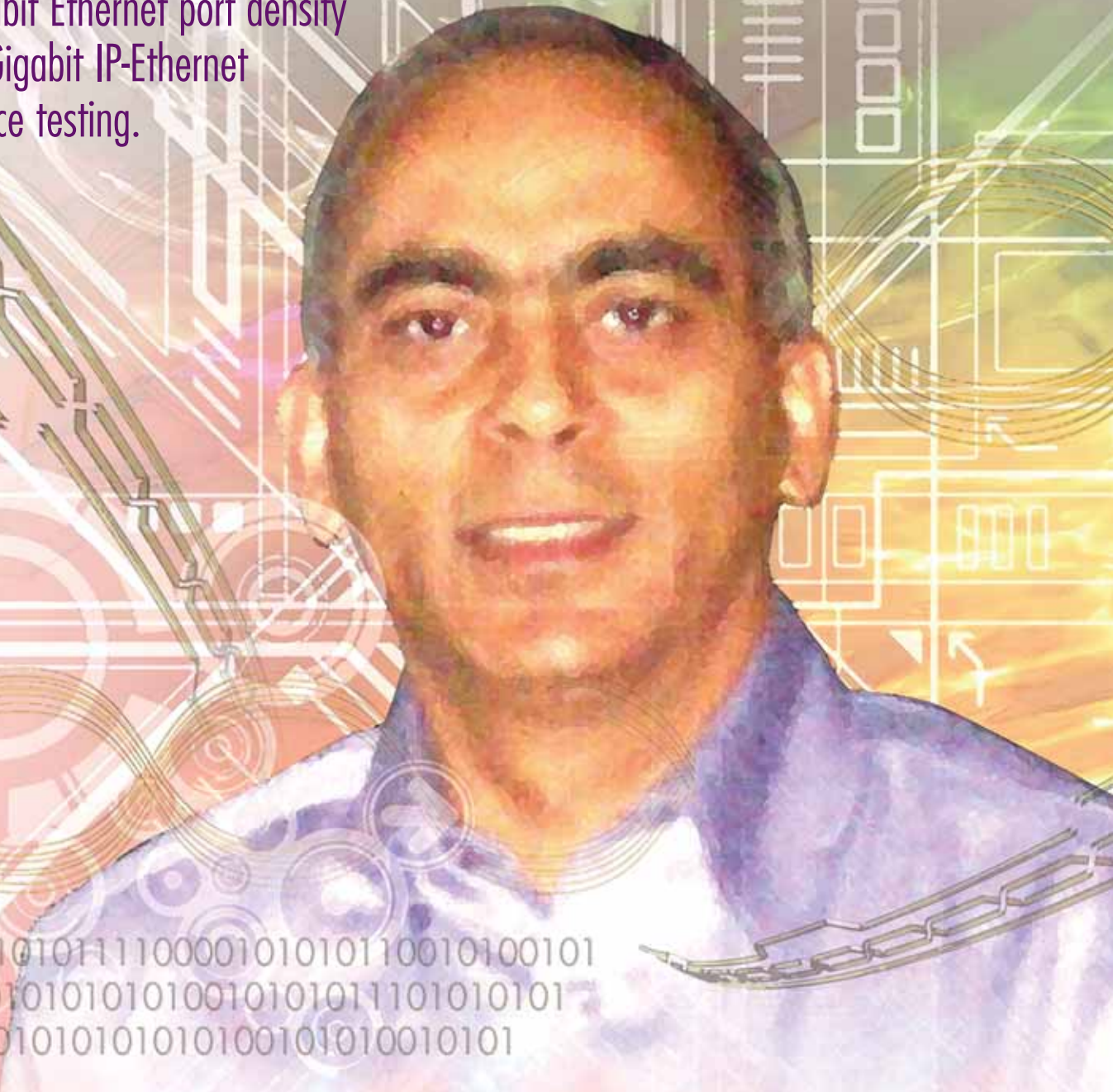


Ixia CEO Atul Bhatnagar: Calm in the Storm

Xilinx customer Ixia is pushing the limits of 10 Gigabit Ethernet port density and 100 Gigabit IP-Ethernet performance testing.



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Imagine the stress of having to design IP, high-speed Ethernet network devices, or an entirely new network before a standards body has even fully defined the next-generation network standard.

Now imagine that your company has to develop test equipment to help network design companies ensure that their designs comply with this not-yet-fully-defined next-generation network standard.

Ixia is one of those companies, but if its business is stressful, it certainly doesn't show on the face or in the demeanor of its president and CEO, Atul Bhatnagar.

Keys to the (iSim)City

Bhatnagar sits on a leather sofa in an ultra-modern meeting room in Ixia's Santa Clara, Calif., sales offices. The meeting room is adjacent to another glass-encased room, with several racks of testing equipment labeled "iSimCity."

During our meeting, he calmly pointed to the room full of racks and said, "That's where we can simulate an entire city of a quarter of a million users of multimedia services. A service provider or network equipment manufacturer can bring their gear into this center and we'll hammer it with the load of a quarter million users – it will tell you if your gear can handle the load.

"We do a very realistic simulation of end users: a kid playing Halo on Xbox Live, a wife surfing the Internet, while you are watching HDTV. We can simulate all those end-user services per user and multiply that a quarter of a million times. Customers find it very useful." His customers are a who's who in the network infrastructure business: Cisco, Juniper, Nortel, and multiple worldwide carriers too.

"Learning Different Functions"

Bhatnagar originally hails from India, where in 1978 he received his bachelor's degree in electrical engineering from the Birla Institute of Technology and Science in Pilani. He came to United States in

1981 to obtain a master's degree, also in electrical engineering, from the University of New Mexico, and landed a job at Tektronix developing networking gear.

In 1985, he joined Hewlett-Packard (HP) and worked in the field of open systems networking for eight years. "One of the things I did at Hewlett-Packard was try to diversify myself by learning different functions," said Bhatnagar. "I worked at first in engineering; in product management and product marketing; and then in the quality groups. That's where I learned about software engineering, software quality, processes, and process management."

Bhatnagar then took an overseas assignment in Singapore, where he led HP's network management group. "I came back to

solutions, WLAN mobility solutions, Metro Ethernet technologies, and enterprise routers.

Bhatnagar's next position was head of product development at mobile convergence startup DiVitas Networks. In 2006, Ixia's board of directors tapped the well-spoken and broadly experienced comms veteran to be their new president and COO. Bhatnagar was named president and CEO in March 2008.

100 Gigabit Ethernet

Ixia specializes in Internet Protocol (IP) performance testing, 1 to 100 Gigabit Ethernet network simulation, and has recently entered the service verification business. "Ten years ago, when Ixia started,

"We showcased the first 100 Gigabit Ethernet line rate implementation – the first ever in the industry – with tremendous support and help from Xilinx. Together, Xilinx and Ixia are stretching the limits of technology and showcasing innovations, which will really further Ethernet penetration into carriers and network equipment manufacturers."

the U.S. and started working on a lot of innovative programs: next-generation Internet communications and new ways of using the Internet." In his last five years at HP, he worked as the division GM.

Over a span of 15 years at HP, Bhatnagar led the creation of the operation support systems (OSS) and business support systems (BSS) solutions for wireless service providers based on HP's OpenView architecture. His team was also responsible for networking services for all HP-UX-based workstations and minicomputers.

He left HP in 2000 and joined a company called Alteon Web Systems, creating next-generation Web Switches and security acceleration products. Alteon was acquired by Nortel in October of that same year. Bhatnagar served as vice president and general manager of the Enterprise Data Networks division of Nortel, where he was responsible for the design and marketing of a full range of Ethernet switches, security

we bet that IP and Ethernet would become dominant in communications," said Bhatnagar. "There were gobs of things we could have focused on, but we focused on this area, and as a result, we are the market-share leader in 1 and 10 Gigabit Ethernet testing solutions." Ixia intends to stay on top for the foreseeable future.

At NXTcomm08 in Las Vegas, Ixia announced the industry's first 100 Gigabit Ethernet implementation. "That's where Xilinx has been a very close partner," said Bhatnagar. "We showcased the first 100 Gigabit Ethernet line rate implementation – the first ever in the industry – with tremendous support and help from Xilinx. Together, Xilinx and Ixia are stretching the limits of technology and showcasing innovations, which will really further Ethernet penetration into carriers and network equipment manufacturers."

Why 100 Gigabit Ethernet? Bhatnagar explained that the proliferation of video

“Data centers are now deploying significant 10 Gigabit Ethernet switching and connectivity. The convergence of storage, data, voice, and video flowing over common plumbing is driving the adoption of 10 Gigabit Ethernet in data centers. The adoption of 10 Gigabit Ethernet will in turn drive the adoption of 100 Gigabit Ethernet in data centers.”

and multimedia over wired and wireless networks is escalating at such a pace that every carrier and large enterprise knows they will be running out of bandwidth every few years.

“The revolution continues,” Bhatnagar said. “Data centers are now deploying significant 10 Gigabit Ethernet switching and connectivity. The convergence of storage, data, voice, and video flowing over common plumbing is driving the adoption of 10 Gigabit Ethernet in data centers. The adoption of 10 Gigabit Ethernet will in turn drive the adoption of 100 Gigabit Ethernet in data centers.

“At the same time, carriers are also looking at what will be the next-generation infrastructure technologies. 100 Gigabit Ethernet will play there as well. That’s a breakthrough project where Xilinx and Ixia worked together.”

The Four “E”s

Ixia’s continued success, said Bhatnagar, is driven by a company-wide adherence to four key values: energy, edge, execution, and ethics.

“Without energy, you don’t have the wherewithal to be a leader,” said Bhatnagar. “Whatever you do, you have to have a superior edge over your competition – you have to do it with excellence. Our third value is execution – you can have the best plans in the world, but if you don’t execute them, those plans are no good. And fourth is ethics: not just ethics in business dealings, but ethics in interpersonal relationships as well.”

Bhatnagar said that the company focuses on direct communications “to put all issues on the table and be direct in communications.” “We are very customer-focused and strive to create customer delight,” said Bhatnagar. “It’s encouraged all the way from engineering

to system testing to support to sales. We are very responsive to customers and our engineers go the extra mile if there is a way to make things happen.”

Growth Chart

Ixia’s adherence to these values has been key to making Ixia top in Gigabit Ethernet performance testing and analytics market share. But Bhatnagar said the company is not simply content to be

number one in 1 to 100 Gigabit Ethernet pre-deployment testing.

“Our priority now is to grow the company,” said Bhatnagar. “Up until now, we’ve been primarily focused on pre-deployment testing. Now we are going toward post-deployment service verification. How do we help customers run networks with quality? How do we bulletproof the networks with good monitoring and the right diagnostic tools?”

From Engineer to CEO and Many Roles in Between

Over Bhatnagar’s long career, he has played many roles in many companies, from engineer to CEO. He said during our interview that he made it a point to be open to taking on new roles and responsibilities throughout his career.

So what’s it like to be a CEO?

“As a CEO, you are a coach. Your goal is to develop all of the teams around you in such a way that there isn’t a weak spot,” said Bhatnagar. “You cannot do everything yourself and you have to surround yourself with people who in each function are better than you.

“As a CEO, I know how to do many functions, but you really want to hire people that are far superior in each of those functions. Then you have to make sure the team is working well, the employees are energized, the value system is in place, and that you have a sense of urgency in execution. By and large, the stronger the team, the more you can execute.

“It really comes down to all the key values. In our industry, you also have to have people believing in the mission. You have to constantly adapt and look at the trends, but the more you communicate and share your vision, the more it becomes your employees’ vision as well.”

Bhatnagar also notes that the job of CEO, like many other jobs, is very demanding on many fronts. And so when he does get time to unwind, he likes to hike. “I like to hike early in the morning before the family wakes up; it’s good exercise and it’s good thinking time,” said Bhatnagar. “I do it in the morning because it doesn’t take away time with the family. It’s important to spend time with your family – kids grow up too soon.”

Case in point: the company recently released a new technology called IxRave, which is a service verification product. “We’re already deploying it at a couple of carriers to provide diagnostics tools for the service professionals of these networks,” said Bhatnagar.

But while Ixia is investing in 100 Gigabit Ethernet-generation network testing, it’s also strengthening its play in 10 Gigabit Ethernet network testing, expecting that to continue to grow for the company. “We recently announced, with Xilinx cooperation, the industry’s highest density 10 Gigabit Ethernet testing solution, the IxYukon,” said Bhatnagar.

IxYukon has eight 10 Gigabit Ethernet ports per blade and 12 blades per chassis, totaling 96 layer 2 through 7 testing ports.

“It’s another example of our long partnership with Xilinx,” said Bhatnagar. “We are very proud of this partnership. We push the technology quite a bit and we admire and appreciate the help of Xilinx engineers in creating world-class solutions.

“As a company focused on network performance testing, we have to have our products ready to go three or four quarters before customers release their products. So we are always on the bleeding edge of the technology. We always adopt standards at an early stage to make sure that our testing tools are ready by the time customers are beginning to design their products.”

Ixia’s business is seemingly also a risky one, because sometimes it has to develop IP-Ethernet test tools before standards bodies have solidified the standards. “That’s where

FPGAs come into play,” said Bhatnagar. “With FPGA-based designs, we have the flexibility of adapting as markets are changing and as technology is changing and yet maintain the first-to-market advantage. And of course in our industry, the first-to-market advantage is a significant advantage.

“It’s amazing the amount of marketing you pick up when you move first. It’s always a good strategy to move first, pick up industry marketing, and be a thought leader – or at least viewed as such by the industry – versus spending gobs of marketing dollars later. If you are first, the industry does the marketing for you.”

The key to that, said Bhatnagar, is not being the first to promise the technology, but delivering the technology. And Ixia’s delivered. ●●●

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