

Verizon Business to Deploy Next-Generation Internet Protocol Across Company's Global Public IP Network

IPv6 Enables New Services, Applications for Global Organizations

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BASKING RIDGE, N.J. - With almost two decades of experience building one of the most expansive Internet backbones in the world, Verizon Business is using its engineering expertise to deploy the Internet's next-generation protocol, known as IPv6, on the company's public IP network worldwide.

The deployment, expected to be completed during the next 18 months, will permit companies to fully integrate to IPv6, which offers many more Internet addresses than the current IPv4 standard. More IP addresses will be needed as use of the Internet grows, including the expected connections of additional "smart" devices as well as radio transponders for shipping. The federal government has already ordered its agencies become IPv6-capable by June of 2008.

Verizon Business, which began its first phase of deploying IPv6 - known as Internet Protocol Version 6 -- on the public IP network in 2004, will complete the North America region in 2008 and move into the Asia-Pacific and European regions from late 2008 to 2009. The company will operate both IPv6 and IPv4, in what is known as a "dual stack" arrangement, on its multi protocol label switching (MPLS) network core. The company also has deployed IPv6 throughout its network access points (peering facilities) where Internet service providers exchange traffic.

"Verizon Business is among the first global providers to move to an IPv6-enabled public IP infrastructure," said Mike Marcellin, vice president of product marketing for Verizon Business. "While IPv6 has been a hot topic among service providers, government agencies and enterprise business customers, many entities are just beginning to research the information needed for their migration strategy. With our knowledge and expertise, Verizon Business is ready to help its customers plan and administer the complex move from IPv4 to IPv6."

Growing Need for More IP Addresses

Driving this transformation is the need for more IP address space, especially as the use of the Internet grows. In addition to business needs and computer connections to the Internet, it is expected there will be a demand for other "smart" devices such as refrigerators, washing machines and other routine appliances with the ability to connect to the Internet, enabling consumers to monitor and control these devices remotely.

IPv6 will offer advantages over the current IPv4 standard including new IP applications, improved network configuration, security, scalability, mobility, and enhanced administration and manageability.

"These advantages are key, and our customers should consider each one separately as they create their IPv6 deployment strategies," said Marcellin. "Our approach to the IPv6 transition is more than just a network technology solution. Our engineering teams are looking at the entire Verizon Business organization to ensure we have covered all issues across the services, networking and IP portfolio -- essentially anything touching the IPv6 migration for our customers."

When IPv4 was developed more than three decades ago, it was designed to facilitate communications among research laboratories, universities and government labs, and to accommodate about 4 billion potential Internet addresses. As more and more devices connect to the Internet -- including billions of mobile phones, personal digital assistants (PDAs) and radio frequency identification (RFID) transponders -- the IPv4 address space will ultimately be used up.

Seeing the need for additional Internet address space, network scalability and additional security, Internet network engineers began work in the early 1990s to develop the next-generation protocol that resulted in the IPv6 standards that many are beginning to implement on global networks today.

"Some customers will want to migrate to IPv6 while supporting the legacy IPv4 protocol, and we can help facilitate this by advising customers how to smooth the transition to a dual stack configuration of IPv4 and IPv6," said Daniel Awduche, a Verizon Business Fellow who manages the global Internet engineering organization. "Deployment of IPv6 on the Verizon Business global public IP network is being carefully orchestrated and allows for co-existence of both protocol versions."

"We are fully committed to helping our customers work through all the technical issues as they transition to IPv6. Our goal is to help customers plan for a systematic and cost-effective migration approach. We do not view this as an overnight event, but rather a process that will occur over a period of time," said Awduche.

Verizon Business Pioneers IPv6

Verizon Business is a pioneer in developing and delivering IPv6 capabilities to the market. In the mid-1990s, Verizon Business (as the former MCI) developed a high-speed network called vBNS (very high performance backbone network service). This network, which later evolved to vBNS+, was one of the first to deploy IPv6 in 1998, and became the second network in North America to be allocated production IPv6 address space from the American Registry for Internet Numbers (ARIN) to be used for live production traffic. Today, U.S. government agencies can use the vBNS+ network to transport IPv6 traffic.

Verizon Business is working with the U.S. federal government to help the agencies meet the Office of Management and Budget's IPv6-mandated requirements.

"We've gained a tremendous amount of experience and competence working with IPv6 during the past decade, and that is helping us meet our customers' network needs today," said Awduche. "We've implemented IPv6 on vBNS+, our Internet peering facilities and across an overlay network for the public Internet."

"Our active involvement in the Internet Engineering Task Force (IETF) developing standards, our ongoing participation with IPv6 test beds like Moonv6, and our experience helping enterprise and government customers make the IPv4 to IPv6 transition keep Verizon Business at the forefront of IP evolution," said Awduche.

About Verizon Business

Verizon Business, a unit of Verizon Communications (NYSE: VZ), is a leading provider of advanced communications and information technology (IT) solutions to large business and government customers worldwide. Combining unsurpassed global network reach with advanced communications, security and other professional service capabilities, Verizon Business delivers innovative and seamless business solutions to customers around the world. For more information, visit www.verizonbusiness.com.

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