



The Power of We™

# Getting ready for IP Version 6

## What is IPv6?

Because it became apparent in the early 1990s that the pool of internet addresses in IP version 4, the current addressing scheme, would not be enough, IPv6 was created. Additionally IPv4 also had a number of other drawbacks that meant a successor would be needed. As a result, the IETF (Internet Engineering Task Force) developed a successor, known as IP Version 6. IPv6 has a number of enhancements over IPv4, most importantly its increase in the address space from 32 bits to 128 bits. This gives IPv6 one billion, trillion times as many addresses as IPv4 to respond to future needs.

## How does this affect my organization?

The first organizations that will need to migrate to the new IPv6 addressing scheme are those directly involved in running the Internet, such as Internet Service Providers, or those with devices such as workstations and servers directly addressable from the Internet. A world IPv6 day has been organized for June 8th 2011 so organizations such as Yahoo, Google, and Facebook can test the technology. For many organizations (especially those that use network address translation or a proxy to access the Internet) the need to transition to IPv6 will be years away, if ever.

may be necessary. Devices such as Microsoft Windows and Apple MAC workstations and servers have also supported IPv6 for some time. So most organizations will be able to transition to IPv6 capable devices (if this has not happened already) as part of a natural refresh cycle.

It is important to understand that only those devices that actually take part in Layer 3 routing will be affected. Devices that merely switch packets at the Layer 2 Ethernet level require no change and will perform exactly the same with IPv6. In the future, when the organization has fully migrated to IPv6 (including network management), those devices that need to be managed or visible on a network map will need an IPv6 address for management.

## What should my organization do to prepare?

Because IPv6 has been around since 1998 there are already many companies whose products support it. Avaya is one of them. We have a wealth of experience in this area and can advise and guide customers through any transition that

## Avaya's Position

Avaya has pioneered network designs that feature the flexible deployment of both Layer 2 and Layer 3 services, fully optimized for individual requirements. This philosophy dramatically improves resiliency, and making networks simpler

With the news in February, 2011 that the last five blocks of IPv4 addresses had been issued, the original pool of internet addresses has run dry. By September 2011 those five blocks, each containing 16 million addresses, are expected to be depleted. Although this has happened sooner than predicted, it is not a surprise. A new protocol, IPv6, was developed to fill this gap. There is a plan for how to implement.



## About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit [www.avaya.com](http://www.avaya.com).

has the additional benefit of reducing costs. We contain the routing function to as few devices as possible. With the growing adoption of virtualization technologies, Avaya has further enhanced this strategy with the introduction of the Fabric Connect capability, a foundation component of the Avaya Virtual Enterprise Network Architecture framework. Through Fabric Connect we simplify the deployment of even larger or virtualized networks by increasing the deployment of flexible network services. Avaya's approach to network design will yield even more dividends for customers transitioning to IPv6 because fewer devices require updating (if any) and far fewer need to be reconfigured. In addition this approach will more easily allow a phased transition to IPv6, removing the risk of a 'big bang' approach.

## Avaya's Product Status

Avaya's product strategy is for a full implementation of IPv6 across its all product lines and to focus on IPv6 management and routing functions, as

appropriate. Our current status for data networking products as of December 2012 is shown in the following table.

## What should you do next?

Regardless of when the transition to IPv6 happens, it will come at a cost for every organization, even those with devices that already fully support it. Organizations that are forced or choose to make this move sooner will pay a premium. The advice to organizations is to think carefully about when a transition to IPv6 is necessary and put off this transition for as long as possible. By doing so these customers will be able to take advantage of increased IPv6 skills in the marketplace and lower cost devices as the IPv6 "industry" becomes a commodity.

For further information on IPv6 in general and Avaya's progress in delivering fully-featured IPv6-capable solutions, please visit our dedicated portal at: [www.avaya.com/ipv6](http://www.avaya.com/ipv6).

| Product  | Classification            | Typical Function                                   | IPv6 Management | IPv6 Routing      |
|----------|---------------------------|--|-----------------|-------------------|
| ERS 2500 | Stackable Ethernet Switch | Branch Office & entry-level Wiring Closet          | Yes             | No                |
| ERS 3500 | Stackable Ethernet Switch | Branch Office & entry-level Wiring Closet          | Yes             | No <sup>1</sup>   |
| ERS 4000 | Stackable Ethernet Switch | Enterprise Wiring Closet                           | Yes             | No <sup>1</sup>   |
| ERS 5000 | Stackable Ethernet Switch | High-end Wiring Closet, small Core & Server Switch | Yes             | Yes - 5600 models |
| ERS 8800 | Modular Ethernet Switch   | Large Campus Core                                  | Yes             | Yes               |
| VSP 7000 | Stackable Ethernet Switch | Top-of-Rack Server Switch                          | Yes             | No <sup>1</sup>   |
| VSP 9000 | Modular Ethernet Switch   | High capacity Core & Data Centre                   | Yes             | Yes               |
| SR 2330  | Unified Router            | Branch Office                                      | Yes             | Yes               |
| SR 4134  | Unified Router            | Regional Office                                    | Yes             | Yes               |

<sup>1</sup> Hardware is capable; software support is possible in a future release