

When 4 becomes 6...

World IPv6 Day showed us just how imminent the transition from IPv4 to IPv6 is. With every single business affected by the change, Nigel Titley, Easynet Transit and Peering Manager and chairman of 6::UK, looks at the considerations for IT managers wanting to ensure the change is smooth and successful.

At present, the internet is mainly running using IP version 4 (IPv4), but this is soon to change as IPv4 address space is rapidly running out. There aren't enough free addresses to meet demand beyond 2012 and as the protocol pushes closer and closer to full capacity even that might be a stretch. As highlighted by World IPv6 Day in June, the move to the next generation protocol, IP version 6 is imminent, and, with the last remaining IPv4 addresses already allocated, companies need to plan their move now. This is a potential disaster in the making. IPv6 typically takes 18 months to roll out and it's in businesses best interests to ensure their systems can cater for IPv6 traffic when it arrives. But this requires planning ahead – and starting to make progress towards the transition now. Yet, the British Computing Society (BCS) has said that most organisations are 'blissfully unaware' of the implications of the change to IPv6 and the steps they need to take to make sure that their businesses are still visible to the outside world over the new protocol.

The switch to IPv6 is a long procedure that will affect the fundamental parts of most business processes, including applications for email, payroll and supply chain management. A number of elements need to be considered – including reconfiguring the entire network infrastructure right from the start of the deployment. There are a number of differences between IPv4 and IPv6 that need to be considered and a simple switch over just won't work.

In fact, CIOs need to address a whole host of things that are generally taken for granted in existing IPv4 environments, but will fail to work once IPv6 is in place. This is particularly important for user network access policies and firewalls, which both need to be reconfigured in advance.

There is a great deal to take in, so here are a few steps IT managers and project teams across all organisations should consider before making the switch. These will not only help to minimise the pain and the cost, but will also make sure that your business performs as successfully – if not more so - on IPv6 as it currently does on IPv4.

- ▶ Think about security. When you make the transition, you will have to reconfigure your firewall. This is of utmost importance. After all, if you leave your firewall open, then you are susceptible to a breach. As IPv6 has been designed with improved communication in mind, all devices – whether an iPhone, tablet, laptop or PC - could have access to data that shouldn't be leaving the office building. Risks could also be introduced at the protocol level so the compatibility of the entire network infrastructure, plus software and patching must be up to date.
- ▶ Make sure the whole world can communicate with you via email. Does your messaging platform support IPv6? The way your company has email set up will have an effect on its approach to the transition. The compatibility for those who host their email on site will depend on the provider they use. For example, Microsoft Exchange 2007 and 2010 both have good IPv6 support when run on Windows Server 2008, while Zimbra does not yet officially support the new protocol. If in doubt, ask your provider. Meanwhile, if your

company has a hosted email platform, then making your email visible over IPv6 is a responsibility that lies with your service provider. As with websites and internet service providers (ISPs), if they are not looking to provision IPv6 in the near future you may need to look into working with providers who are.

- ▶ Investigate whether or not your current network provider offers IPv6 capabilities. The reason for this is twofold. Firstly, it will help them to realise that there is a demand for IPv6 that needs to be met, and secondly, it will help you decide whether or not you should be looking to work with a more capable network provider who can give you the consultancy and support needed to successfully make the transition. Consider outsourcing the hosting of your website and key applications to a specialist who can make it available over IPv6, rather than IPv4. If you don't already outsource your website, then outsourcing to a specialist might be an option to make the transition smoother (and it has a number of other benefits!) However, should you wish to keep your hosting on-site, you will need to configure your web server to serve IPv6 traffic as well as IPv4.
- ▶ Enlighten the business. All companies need to make the switch, whether they operate in the technology space or not, and for this reason all CEOs will have received a letter about the change. The network will affect everyone across the company, and, although the move is likely to be seamless, letting them know what's going on will get them to be more patient in light of any small issues.

These are the first steps to what will essentially be an 18 month roll-out. With help, implementing the new protocol is simple, but there are clear risks, especially bearing in mind compatibility and security issues. As highlighted on World IPv6 Day the industry and even the UK Government has seen the importance of a well thought-out changeover and will be making sure that everyone plays their part to make sure that the move is flawless. After all, the internet is inevitably expanding and businesses can help it grow by moving with the times. As long as they fully consider all aspects of the switch, they can successfully move over and safely stay fully communicative.

<http://www.6uk.org.uk/>

<http://www.ipv6actnow.org/>

http://www.getipv6.info/index.php/Main_Page

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