Why Asia must seize the IPv6 initiative

By **PAUL WILSON**

IT is barely past the first quarter of the calendar year and 2011 is already shaping up to be a year of milestones in the ongoing history of the Internet.

It is a fact that changes occurring in the Internet community now will have far-reaching effects for Internet service providers and network operators across the Asia-Pacific region.

However, while some are heralding the new state of affairs as an "IPocalypse", the truth is that the exhaustion of available version 4 Internet Protocol addresses is an opportunity for the Asia-Pacific region to take the lead in the deployment of what others are calling the "Internet 2.0".

It already seems a long time ago when, in early February, the Internet Assigned Numbers Authority (IANA) distributed the last available blocks of IPv4 (Internet Protocol version 4) addresses.

These remnants of the global address pool were shared equally among the Regional Internet Registries, which, like Asia Pacific Network Information Centre (APNIC), are responsible for the distribution of numeric Internet resources to operators in their respective regions.

It took just 10 short weeks before APNIC allocated the last of its available addresses to regional operators. Not all addresses were distributed.

In preparation for this inevitable event, the Asia-Pacific Internet community agreed on a policy which will see the last 16 million or so addresses distributed under severe austerity measures.

This "Final /8" policy marked a major change in resource allocation policy for the Asia-Pacific region. From April 15, the region's network operators were put on IPv4 rations.

Most of these remaining resources are effectively being held in reserve. Each APNIC Member organisation is only able to qualify for a maximum of 1,024 IPv4 addresses.

Such a small number of addresses is only effectively useful for extremely small network deployments and is designed to provide IPv4 numbers to be used as essential connectivity with next-generation IPv6 addresses.

The policy also effectively builds a reserve of addresses to allow new market entrants to obtain a small address block well into the future, thereby removing what would be unreasonable barriers to market entry created by the scarcity of this important public resource.

The difference IPv6 makes

This Internet milestone makes one thing crystal clear: IPv6 deployment is no longer an optional upgrade, it is mandatory for business continuity.

The Asia-Pacific region's accelerating Internet uptake can only be sustained through the deployment of IPv6 networks that interconnect with the legacy IPv4 Internet that we know today as critical global infrastructure.

Essentially, IPv6 means more unique addresses than IPv4. This translates to potentially more smart devices that can connect to the Internet.

While there is a direct and immediate effect on the efficiency of network configuration, IPv6 may also give rise to innovative solutions and services which were simply not possible in the restricted era of IPv4 addressing.

The past decade was full of talk about how the Internet will deliver innovative solutions to modern problems. These implementations will finally be possible with IPv6's vast address space.

The future has arrived in the Asia-Pacific region more quickly than in the rest of the world.

Home to the world's largest populations, fastest-growing economies, and emerging infocomm technology powerhouses – there is no reason why the Asia-Pacific region should not lead the world by example with a big push for IPv6 transition, starting immediately.

Make haste

To maintain the explosive growth in the region's highly-populated, maturing economies, such as China and India, and to underwrite smaller economies with low Internet penetration, such as some Pacific Island nations, IPv6 is mission critical.

However, there are costs to IPv6 deployment, in terms of infrastructure upgrades and training. With IPv4 addresses being freely-available until recently, coupled with the lack of users, network operators or service providers have not faced a pressing need to make IPv6 investments. This is no longer the case.

This preamble to a new era is quickly coming to an end. Regional IPv4 exhaustion marked the end of the early adoption period and IPv6 technology is about to be forced into the mainstream, sending this migration well beyond the technical community.

We now have the choice to take a long term view and seize this opportunity to become the first "IPv6-enabled region". If we are to succeed in this initiative, we must keep the current momentum strong.

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