

The continued growth of the Internet of Things

By [Edward Lawrence](#)

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2016 was an interesting year for the local network service provider community, with several developments taking place around IPv6, and increased peering with international networks which have deployed in the region. 2017 is bound to be another exciting year for the industry, with new developments and trends arising.



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1. Accelerated uptake of IPv6

IPv6 is the latest version of the Internet Protocol, and features a vastly expanded address space to provide for the needs of the rapidly growing number of internet-connected services around the world. Uptake has been relatively slow, but seems to be improving as 2016 draws to a close.

IPv6 facilitates interconnectivity for the increasing number of connected devices and appliances from smartphones to automobiles, enabling the continued growth of the 'Internet of Things'.

Managed effectively, IPv6 allows the reduction of the amount of information stored on network devices to route packets to their destinations. Smaller routing information bases increase efficiencies and performance, and improve the overall costs of operating provider networks.

Because of the numerous benefits associated with IPv6, along with the limited useful lifespan of IPv4, industry professionals around the world are working with network owners of all kinds around the clock to improve adoption rates, and we expect to see significantly more uptake in Africa in 2017.

2. Network Automation

We also expect to see more software-defined networking (SDN) and network automation in 2017. Essentially, this means more efficiencies and control for those who own networking technology, and increased introduction of living, breathing networks.

This is in line with the changing wants and needs of the industry. An automated network uses certain IT controls to supervise and carry out everyday network management functions based on logical decisions. It can also reduce the time involved and simplify the provisioning process of any new devices connected to the network. These functions can range from basic functions to more advanced configurations, such as provisioning a new site with just a few clicks.

3. Peering in Africa

In 2016 we have worked toward increased peering, to connect networks in sub-Saharan Africa to various networks throughout the world. This has resulted in increased global content being made available in Africa.

We expect to see an increase in peering within and to Africa, as more international exchanges recognise the value that Africa holds, and international networks benefit from the growth in this market. This will result in lower rates and more peering locally in 2017.

4. Increased neutrality of the net

Net Neutrality is the principle that Internet service providers (ISPs) should enable access to all content and applications regardless of the source, and without favouring or blocking particular products or websites. Now that the transition of the Internet Assigned Numbers Authority (IANA) functions has been completed, implementing multi-stakeholder governance of the Internet, we expect to see increased net neutrality.

The best way to preserve Internet freedom post the transition is for the stakeholder community of businesses, technical experts, public interest groups, and individual Internet users to come together to ensure the protection and preservation of the Internet.

5. IPv10

The industry has already entered the planning phase for IPv10, as it will assist in solving the issue of allowing IPv6-only hosts to communicate with IPv4-only hosts, and vice versa.

We expect more industry professionals to become aware of the benefits of IPv10, and become interested in learning more about it, with a focus on skills development and innovation.

6. Increased BGP Network Security

The internet wasn't built with security in mind; it was built for communication purposes. Security is, however, of utmost importance today, as the internet houses critical business and personal information of its millions of users. Border Gateway Protocol (BGP), the routing protocol different networks use to find communication paths to each other, was also not designed with security in mind, and attackers are exploiting BGP vulnerabilities.

2017 will see increased industry focus on improving BGP security.

There has also been a push towards collaboration in the industry to improve the security and resilience of the global routing system. The Routing Resilience Manifesto initiative, underpinned by the "Mutually Agreed Norms for Routing Security (MANRS)" document that includes a set of actionable recommendations, aims at supporting this goal. We hope to see more focus toward this in 2017.

7. Balance in Costs

Lastly, there will be a focus towards costs being more realistic for the growth of the internet in Africa. Currently, there are providers who are charging exorbitant costs for bandwidth, which is having a negative effect on the growth of the local industry.

However, in markets like Europe, ISPs are struggling to cover operational costs, as their bandwidth has become too cheap. While some investment in infrastructure is still required locally, we expect to see a trend toward costs becoming more realistic, and with that more investment into the industry.

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