InteropNet Shows IPv6 Network in Action

DNS and DHCP management solution for IPv4 and IPv6 signals readiness for service provider and enterprise migration.

Case Study

Customer Name: **Interop Las Vegas**
Location: **Las Vegas, Nevada**

Business Impact

- Conference deployed dual-stack IPv4 and IPv6 network
- DHCP service was completely transparent to users
- Demonstration of WLAN simulated a company transition to IPv6
- Second demonstration of WLAN revealed hurdles to IPv6-only networks

Business Challenge

Using tools from some of the world's most innovative vendors including Cisco, volunteer engineers built the 2011 InteropNet, the core infrastructure that delivered reliable, high-speed networking, voice, and video services for exhibitors, conference rooms, and thousands of Interop attendees.

In light of IPv4 address exhaustion, a key goal for this year's Las Vegas conference was running a dual-stack IPv4 and IPv6 network as well as an IPv6-only network, and demonstrating deployment scenarios and strategies to help service providers and large enterprise networks achieve IPv6 compliance, something all organizations must soon do.

The challenge was providing a reliable dual-stack Dynamic Host Configuration Protocol (DHCP)v4 and DHCPv6 service, which assigns IP addresses to devices, across a heterogeneous, multivendor network. This service included supporting both wireless (laptops, tablets) and infrastructure (telephony, video conferencing) devices, accommodating devices that did not yet support DHCPv6, and sending Domain Name System (DNS) updates to the third-party server providing the DNS service for the show.

Both as an industry statement and to help ensure a great experience on the show floor, it was imperative that the IPv6 infrastructure work flawlessly.

Solution and Results

InteropNet's engineers deployed Cisco® Network Registrar, which provides integrated DNS and DHCP services and supports IPv4 and IPv6. A first for InteropNet, the dual-stack IPv4 and IPv6 network was completely transparent to attendees. IPv6 traffic automatically traversed the IPv6 network, while all other traffic used the IPv4 network. The DHCP server detected nearly 10,000 devices. Of these, over 13 percent were IPv6-only, and users of these devices, including IPv6 phones, reported no problems accessing network services.

InteropNet also created two IPv6 demonstration WLANS. The first, an IPv6 network with NAT64 translating between IPv6 hosts and IPv4 networks, showed attendees what transitioning to IPv6 might be like for a network operator. The second WLAN, a pure IPv6 network without NAT64 translation, showed attendees the obstacles to deploying an IPv6-only network today. For example, Windows XP computers could not resolve DNS addresses in the IPv6-only network.

With the help of Cisco Network Registrar, InteropNet achieved its goals of creating a robust dual-stack IPv4 and IPv6 network, helping ensure a positive experience for show attendees, and providing a "hands-on" IPv6 learning environment.

> "InteropNet provided powerful, innovative DHCP services for both IPv4 and IPv6 for conference attendees, helping to demonstrate that service providers and enterprises can confidently begin their transition to IPv6."
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> — Glenn Evans, InteropNet Lead Engineer, UMB TechWeb (Producer of Interop)

Call to Action

For more information on how Cisco Network Registrar can help your organization become IPv6 ready, visit http://cisco.com/go/cnr, contact your local Cisco account representative, or send an email to ask-cnr@external.cisco.com.

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