EVOLUTION

The Department of Veterans Affairs IPv6 Newsletter

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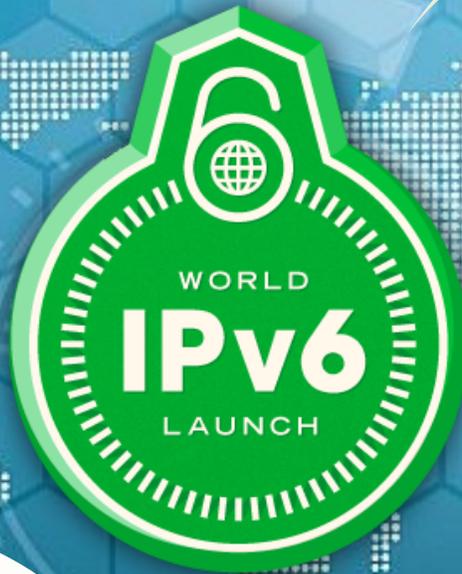
World IPv6 Launch

For one day last year, June 8, 2011, IPv6 was brought to the world stage by the public enablement of IPv6 across many businesses and government entities around the world, through World IPv6 Day. After the official day was over, many organizations left IPv6 turned on, while others disabled the protocol, opting to spend more time in planning their overall enablement of the protocol. This year, World IPv6 Launch on June 6, 2012, is intended to motivate organizations across the industry, including Internet service providers (ISPs), hardware makers, and web companies, to prepare for, and permanently enable, Internet Protocol version 6 (IPv6) on their products and services. This transition is necessary because the Internet Protocol version 4 (IPv4) address space has run out.

The intent of World IPv6 Launch is to underscore the industry commitment to, and deployment of, IPv6 on the Internet, with ISPs, home networking equipment manufacturers and web companies around the world permanently enabling IPv6 within their products and services.

Specific Goals for World IPv6 Launch Include:

This Issue

In this issue of Evolution, we spotlight World IPv6 Launch on June 8th, 2012. We also give some more details on the IPv6 training being offered prior to the Inter-Agency Meeting on June 16-17. We also give updates on progress with the transition and the largest acquisition of an IPv6 address block by a civilian agency.

What is IPv6

IPv6 is the next generation Internet protocol developed by the Internet community to replace the current IPv4 protocol. IPv6 provides an almost unlimited amount of address space and has been developed to meet the requirements and performance of today's businesses, governments, and consumers. While IPv4 and IPv6 can operate on the same network, they are not directly interoperable.

**Get ready in time:
Use the resources on the web!**

World IPv6 Launch
Moving Forward

- ISPs participating in the World IPv6 Launch will enable IPv6 for enough users so that at least 1% of their residential wire line subscribers who visit participating websites will do so using IPv6;

- Participating home networking equipment manufacturers will enable IPv6 by default through their range of home router products; and

- Web companies participating in World IPv6 Launch will enable IPv6 on their main websites permanently.

The goal is to reach 1% of all Internet users accessing Internet service using IPv6 by June 2012. In many cases, users may need to upgrade or replace hardware and software, such as operating systems or home routers, in order to use IPv6. Over time, as users upgrade, IPv6 adoption will increase without any changes in the ISP's service or equipment.

World IPv6 Launch will be a focal point, bringing existing transition efforts and industry players together, working towards the common goal of permanently deploying IPv6 on the global Internet. By acting together on the World IPv6 Launch, ISPs, web companies, and equipment vendors are able to cooperatively address common challenges.

Most Internet users will not be affected by this event. Internet users should enjoy uninterrupted service. In rare cases, users may still experience connectivity issues when visiting participating Websites. Users can visit an IPv6 test site to check if their connectivity will be impacted. If the test indicates a problem, they can disable IPv6 or ask their ISPs to help fix the problem. A more detailed network connectivity check is also available.

As ISPs enable IPv6, and home gateway products support it, users at home with modern operating systems and devices will start using IPv6 automatically. Some of the most common computers that will support IPv6 will be the ones running Windows Vista, Windows 7, and Mac OS X 10.7. Home wireless routers and gateways vary by manufacturer. Everyone will need to check with the manufacturer to see if they support IPv6 or if a wireless router upgrade will be necessary.

Every Internet user is encouraged to take the time and participate in World IPv6 Launch if they are able. Additional information can be found by visiting http://www.worldipv6launch.org.

Spring Interagency Meeting: Training

Based on lessons learned and a top down approach, the two-day training will be offered that will expose the attendees to the new protocols and what agencies need to be aware of throughout the transition.

Five major training topics will be offered at this event:

- Transition,
- Security,
- Troubleshooting,
- Interconnectivity, and
- Marketing IPv6 in the Organization.

The first day of the training will focus on the "Why IPv6", and will address the impact from an organizational perspective, its mission and line of business, and lastly the impact on the environment of Operations. Relevant information, such as Mandates, Directives, and the impact on internal and external services will be discussed.

This will lead into a more technical discussion, such as the basic structure of the protocol, and an overview of IPv6 address space and how to manage this new paradigm. Services such as DNS and DHCPv6 will be addressed and how the VA is handling the implementation of such services.

The second day of training will be an in depth overview of the features and operational complexities of IPv6. Mullticast, Mobility and how to achieve Security parity, will take center stage. Security issues introduced by the IPv6 Transition mechanism, IPSec and Reconnaissance will be some of the topics along with Threat review and mitigation. For more information or announcement information, please visit **http://interagency.auspextech.com/home** or email the coordinator at **robert.meeker@va.gov**.

VA Meets the OMB 2012 IPv6 Milestone

The recent newsletters have described the overall success of the VA IPv6 Transition Program. VA's success in meeting the 2012 OMB Milestone for the enablement of IPv6 on public facing services has been achieved. However, there are more details to the effort than just the top-level monitoring or metrics. While VA is identified as the domain owner for only 9 top-level websites (or domains), there are almost 600 websites that are identified as subdomains to va.gov. To accomplish compliance with the 2012 OMB Mandate, the IPv6 PMTO worked alongside other VA teams to ensure that these websites were also IPv6 enabled.

In addition to the websites, the VA teams worked together to ensure that services such as DNSSEC, E-mail and DNS were IPv6 capable. This effort helped improve security for both IPv4 and IPv6 traffic (DNSSEC) and ensured that VA websites and services were locatable by the agency DNS services.

On March 12, 2012, VA had an opportunity to report on progress directly to OMB as part of a series of meetings that OMB had with the CIO of every federal government agency. VA was able to report that 99% of the VA public facing services support IPv6 in compliance with the OMB Mandates.

The VA IPv6 Program Management Transition Office (PMTO) identified the remaining 1% of domains as being hosted or supported externally to VA. The PMTO worked diligently with the domain business owners, the Network Security Operations Center (NSOC) and the outsourced vendor to develop a plan to make each IPv6 operational. Each service had to be individually addressed with a special-case workaround.

Mr. Steve Prizchalski, the VA IPv6 Transition Manager, was pleased to provide OMB a report in April, 2012 that VA is the first Agency to meet the OMB 2012 IPv6 Milestone.

VA Gets /24

In March 2012, VA received confirmation from the American Registry for Internet Numbers (ARIN) that VA was approved for a /24 address space for IPv6 addresses. This represents the largest IPv6 allocation provided to any US Civilian Agency. This allocation was a result of many hours on the part of the VA IPv6 Steering Committee and the IPv6 Program Management Transition Office (PMTO), and other VA personnel, in a dedicated effort to justify the VA request to ARIN. VA was the first applicant for such a large address space under its new IPv6 allocation procedures. ARIN was aware of the fact that the application would set precedent to future applications.

As one of the next steps in the transition to IPv6, members of the IPv6 Steering Committee and the PMTO will be working with the /24 address space to develop an addressing plan that will support the VA IPv6 implementation for both the short and long terms. Applying industry standard practices customized to the VA network, the addressing plan will make it possible to implement IPv6 across the enterprise in an organized manner that will ensure functionality, maintain security, and be scalable to accommodate future technologies.

The /24 address space will ensure that enough unique addresses will be available within VA for future growth and technologies. One of the applications where consideration for so many addresses would be applicable would be the use of RFID chips to inventory and locate equipment, supplies, or patients.

The IPv6 Q&A Corner

Q: What does the /24 mean to VA?

The Internet is a critical component for VA to communicate with staff, contractors, the healthcare community and most importantly veterans. With the depletion of IPv4 addresses in 2011, it is clear that within the next 18 – 24 months there will be IPv6 only users (including veterans) on the Internet. This trend will continue to grow exponentially until a predominant number of Internet users are IPv6 only. Without IPv6, VA will not be able to leverage the Internet to continue offering services such as veterans home care, remote telehealth, veterans remote training, teleworking or access to benefits services.

VA IPv6 Steering Committee

Steve Pirzchalski
Chairman & VA IPv6 Transition Lead

Wes Crum
IPv6 Transition & Pilots

Derrick Evans
IPv6 Security

John DelTognoArmanasco
IPv6 Addressing

Rick Shew and Juan Adames
IPv6 Training

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Upcoming IPv6 Related Events

2012 North American IPv6 Summit
April 9-11, 2012 Denver, CO

InterAgency IPv6 Meeting
April 18-19, 2012 Charleston, SC

World IPv6 Launch
June 6, 2012 http://www.worldipv6launch.org/

Contact the VA IPv6 Program Office

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Get more information on VA's IPv6 efforts at:
http://vaww.netops.oit.va.gov/IPv6.asp
http://itloportal.va.gov/sites/ipv6/default.aspx