EVOLUTION

The Department of Veterans Affairs IPv6 Newsletter
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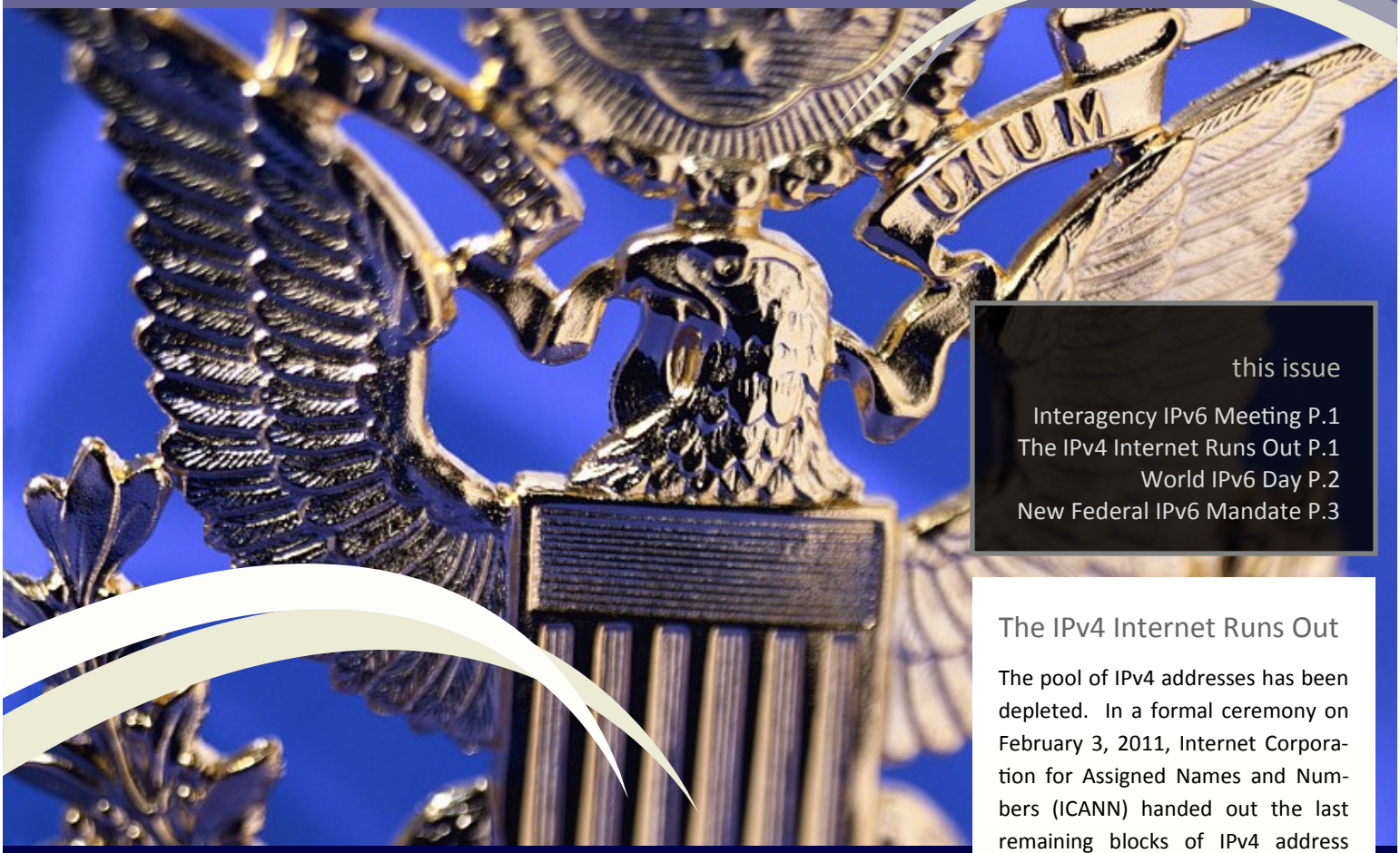

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VA Hosts Largest Interagency IPv6 Meeting To Date

Despite weather difficulties in Washington on mornings of February 2 & 3, 2011, 60-70 Attendees from 39 Organizations (Including 25 Government Agencies) heard 18 speakers present guidance, practices and lessons learned regarding the Federal Agency IPv6 transition activities at the Interagency IPv6 Meeting. The conference was held at the VHA National Conference Center in Crystal City, Virginia. The Interagency IPv6 Meetings are sponsored by the VA, and hosted by the VA IPv6 Steering Committee. It is an opportunity for agency staff to:

- ⇒ Collaborate and share IPv6 lessons learned with other federal agencies
- ⇒ Establish IPv6 corporate knowledge contacts
- ⇒ Stay current with the IPv6 technology curve
- ⇒ Gain knowledge of IPv6 government mandates
- ⇒ Identify business requirements and contracting solutions for IPv6
- ⇒ Prepare for proper dual-stack deployment
- ⇒ Ensure future network technology planning

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The IPv4 Internet Runs Out

The pool of IPv4 addresses has been depleted. In a formal ceremony on February 3, 2011, Internet Corporation for Assigned Names and Numbers (ICANN) handed out the last remaining blocks of IPv4 address space to the five Regional Internet Registries (RIRs). This means that once the RIRs hand out their limited supply of addresses, there are no more IPv4 addresses to be allocated.

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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.

World IPv6 Day to Occur on June 8, 2011.

The Department of Veterans Affairs Leads the Federal IPv6 Community by Being the First Agency to Sign-Up for World IPv6 Day

World IPv6 Day is on Wednesday, June 8, 2011. On that day, major Internet content and network providers will offer their services over IPv6 for a 24-hour period. The Internet Society (ISOC) conceived of World IPv6 Day to provide the global Internet community with a "Test Flight Day to motivate organizations across the industry". These organizations, including Internet Service Providers, hardware makers, operating system vendors and web companies will prepare their services for IPv6, thus ensuring a more successful and smooth transition as IPv4 addresses run out.

ISOC is a nonprofit organization, founded in 1992, that provides leadership in Internet related standards, education and policy. They are also the organizational home for the Internet Engineering Task Force (IETF) which developed the standards for IPv6.

While numerous content providers support IPv6 today, many do so on alternative domains such as ipv6.google.com, or limit IPv6 access to only select networks that have gone through specific IPv6 performance testing. World IPv6 Day will provide a single day where network owners and content providers can come together to make IPv6 generally available on a global basis. Upon completion of World IPv6 Day, many organizations are expected to keep IPv6 permanently enabled, or speed up the production roll-out of their IPv6 service.

The Department of Veterans Affairs (VA) has been a leader in the Federal IPv6 space since 2005, and was the first agency to sign up for World IPv6 Day. Understanding the importance of this event, VA accelerated their plans for making www.VA.gov IPv6-enabled in order to participate in this critical event. Other Federal agencies that are now signed up to participate as well include: United States Census Bureau, National Technical Information Service, United States Office of Personnel Management, National Telecommunications and Information Administration, United States Federal Aviation Administration, National Library of Medicine, US General Services Administration, US Department of the Treasury, US Department of Education, Idaho National Laboratory, US Department of Agriculture, US Department of State, Bureau of Public Affairs, and the US Department of the Interior.

Anyone can easily support IPv6 testing from their own home. If your home Internet Service Provider is not participating in World IPv6 Day, several IPv6 tunneling sites have been established to provide IPv6 connectivity directly to your home network or computer. Note that it is against VA security policy to establish unapproved tunnels on Departmental networks. Free accounts are available from Global IPv6 Tunnel Broker networks at the following sites:

⇒ http://tunnelbroker.net/

⇒ http://gogonet.gogo6.com/page/freenet6-ipv6-services

⇒ http://www.sixxs.net/

Test your IPv6 connectivity by going to http://test-ipv6.com/.

To date, 224 organizations have signed up for World IPv6 Day or have already made their website IPv6 enabled, including Yahoo!, Google, Facebook, Cisco, Juniper Networks, Vonage, Hurricane Labs, Internet2, as well as, many colleges and universities.

For more information on World IPv6 Day go to http://isoc.org/wp/worldipv6day/.

Interagency IPv6 Meeting

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Day one of the meeting was dedicated to Federal Agency activities. Presentations were provided on NIST Guidance for Transition, how to construct IPv6 acquisition profiles (these define requirements for IPv6 supporting products), and the results of DREN testing of network and security products.

On day two, the NETWORX carriers and vendors of network and security products were invited to provide brief, technical presentations on the projected schedule for updating their products with certified IPv6 capability. Later, the carriers and vendors were assembled on panels with a Federal moderator discussing their respective IPv6 roadmaps and, at the end, entertaining questions.

Finally, on the second day, a live webcast of "The Beginning of the End of the IPv4 Era" was shown that detailed the allocation and presentation of the last of the IPv4 address sets by NRO/ICANN for an Internet that is continuing to expand at a tremendous rate.

The Meeting program, and copies of all the presentations, will be available on the IPv6 website on the VA Intranet.

The next Interagency Meeting is scheduled for October 11-13, 2011 at the VHA National Conference Center in Crystal City, Virginia.

New Federal IPv6 Mandates for 2012 and 2014

On September 28, 2010, Vivek Kundra, the Federal Chief Information Officer, issued a Memorandum for all Chief Information Officers of Executive Departments and Agencies titled "Transition to IPv6" directing the CIOs to accomplish the following:

⇒ Upgrade public/external facing servers and services (e.g. web, email, DNS, ISP services, etc.) to operationally use native IPv6 by the end of FY 2012:

⇒ Upgrade internal client applications that communicate with public Internet servers and supporting enterprise networks to operationally use native IPv6 by the end of FY 2014;

⇒ Designate an IPv6 Transition Manager to serve as the person responsible for leading the agency's IPv6 transition activities, and liaison with the wider Federal IPv6 effort as necessary; and,

⇒ Ensure agency procurements of networked IT comply with FAR requirements for use of the USGv6 Profile and Test Program for the completeness and quality of their IPv6 capabilities.

This means that the VA, like all other Federal Agencies, must be able to support access to their internal websites and Domain Name System servers by both IPv4 and IPv6 Internet users by September 30, 2012. The VA email systems must be able to communicate with external mail servers that communicate using IPv6, while continuing to support communications with IPv4 external mail servers. In addition, other services supported by VA over the Internet, such as video, will need to be made IPv6 operational by the 2012 date.

When asked what this means for the VA, Steven Pirzchalski, the VA IPv6 Transition Manager since 2006, replied, "You will see much more emphasis on the deployment of IPv6 into both the infrastructure and the external gateways. The planning and testing completed by the Transition Office over the last several years has prepared VA for this mandate, and put us in a position to exceed the Federal CIO dates. You can expect to see announcements over the next six months regarding the VA's IPv6 implementation progress."

IPv4 Internet Runs Out

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While ICANN is the international body that manages the overall Internet names and numbers infrastructure, IP addresses are distributed to the RIRs which are then allocated to Internet Service Providers in their region.

VA and other federal agencies obtained their IPv6 addresses blocks from the American Registry for Internet Numbers (ARIN), who is the RIR for North America.

With the last allocation of IPv4 address space, the RIRs are expected to begin running out of their existing pool soon, and will not have any reserves to work from.

APNIC (Asia) is expected to run out of IPv4 addresses as early as this summer, with RIPE (Europe) and ARIN following soon behind.

AFRINIC (Africa) and LACNIC (Central and South America) will run out a short-time later.

Many of the RIRs have been strongly encouraging their members to quickly transition to IPv6 or face the consequences of not having any more globally routable IP addresses.

The IPv6 Q&A Corner

Q: Why is IPv6 important to VA?

IPv6 is the successor to the current Internet Protocol (IPv4), and, therefore, all future Internet communications will occur over IPv6. With the depletion of the IPv4 address space, IPv6 only users, and veterans in particular, are expected to begin appearing in the next 18 months.

As the VA continues to reach more and more of the veteran community over the Internet, it will be critical for the VA to use IPv6 to reach veterans who no longer have access to IPv4.

In addition to ensuring continued service to our nation's veterans, transitioning to IPv6 is a directive from OMB.

VA IPv6 Steering Committee

Steve Pirzchalski
Chairman & VA IPv6 Transition Lead

Wes Crum
IPv6 Transition & Pilots

Juan Adames
IPv6 Security

John DelTognoArmanasco
IPv6 Addressing

Rick Shew
IPv6 Training

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Upcoming IPv6 Related Events

Light Reading's IPv6 2011: The Time is Now!
July 14, 2011 New York City, NY

SANS Security Impact of IPv6 Summit
July 15-16, 2011 Washington, DC

Digital Government Institute: Government IPv6
A Roadmap to Meeting the OMB Directive and Successfully Implementing IPv6 in Your Agency
August 30-31, 2011 Washington, DC

Internet2 Fall Member Conference
October 3-8, 2011 Raleigh, NC

VA Interagency IPv6 Meeting
October 11-13, 2011 Washington, DC

Contact the VA IPv6 Program Office

Derrick Evans: derrick.evans@va.gov (202) 560-7299

Ralph McDonald: ralph.mcdonald@va.gov (301) 427-2179

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