



Business Transformation One Step at a Time

OMB 2012 RECAP

Agenda



- OMB 2012 Review
- NIST adoption metrics
- Another view of government adoption



“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.” - OMB 2010 IPv6 Memorandum

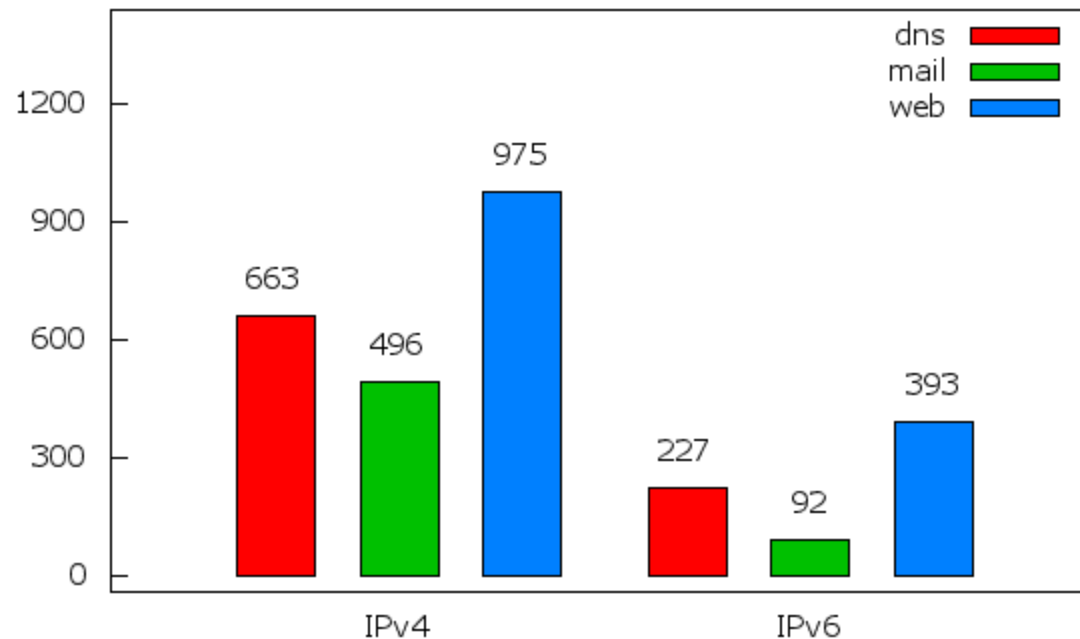
- All network services provided to the general public over the Internet must be accessible via both IPv6 and IPv4
 - External web (HTTP)
 - Email (SMTP)
 - Domain name system (DNS) services
- Internal network services and external services only accessible over a VPN or with a login and password are not required to support IPv6.

Source: [Federal Government Adoption of IPv6 FAQ](#)

Current Status As Measured by NIST



USG Unique Configured Service Interfaces for 2013.04.18
- 1367 Domains Measured -



DNS

25.5%

Mail

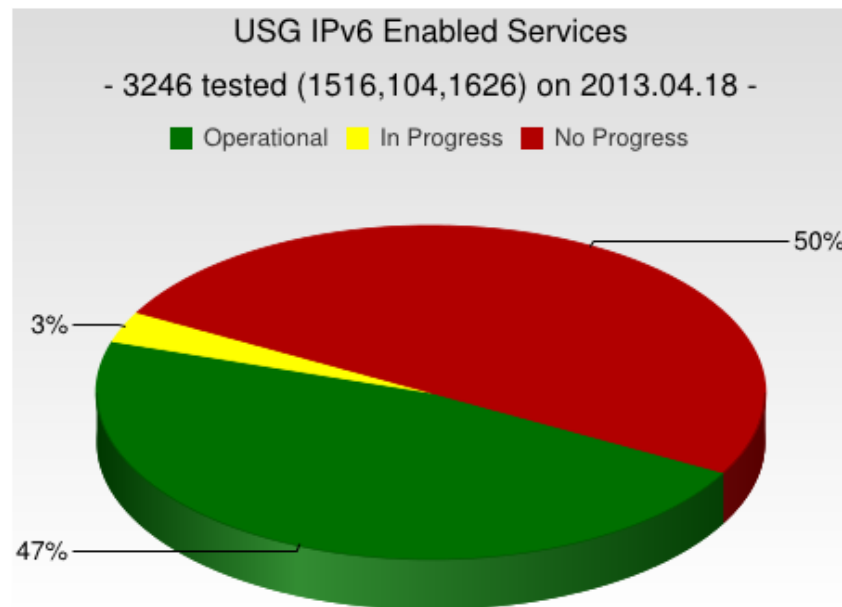
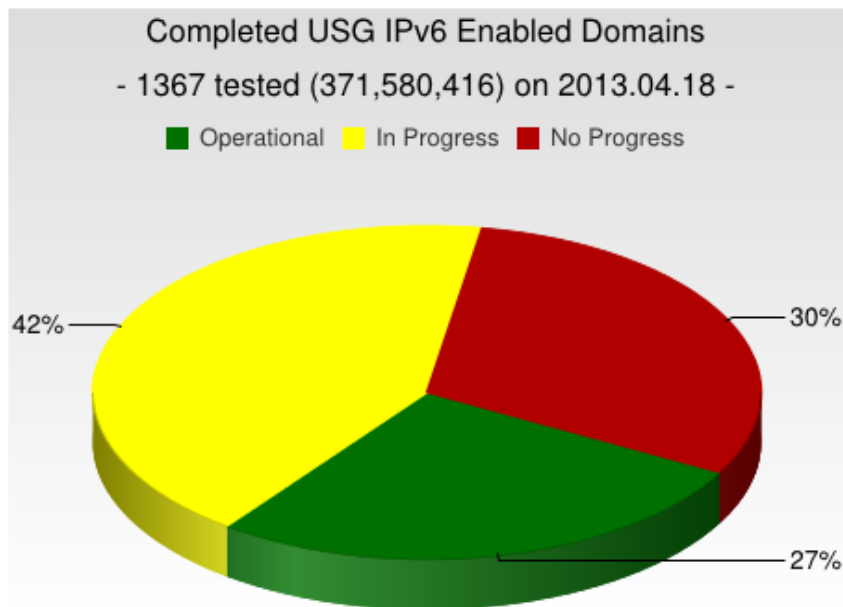
15.6%

Web

28.7%

Source: <http://fedv6-deployment.antd.nist.gov/cgi-bin/generate-gov>

NIST IPv6 Snapshot



USG IPv6 Enabled Domains
- 1367 tested on 2013.04.18 -

Source: <http://fedv6-deployment.antd.nist.gov/snap-all.html>

Another Data Driven Perspective on Federal Adoption



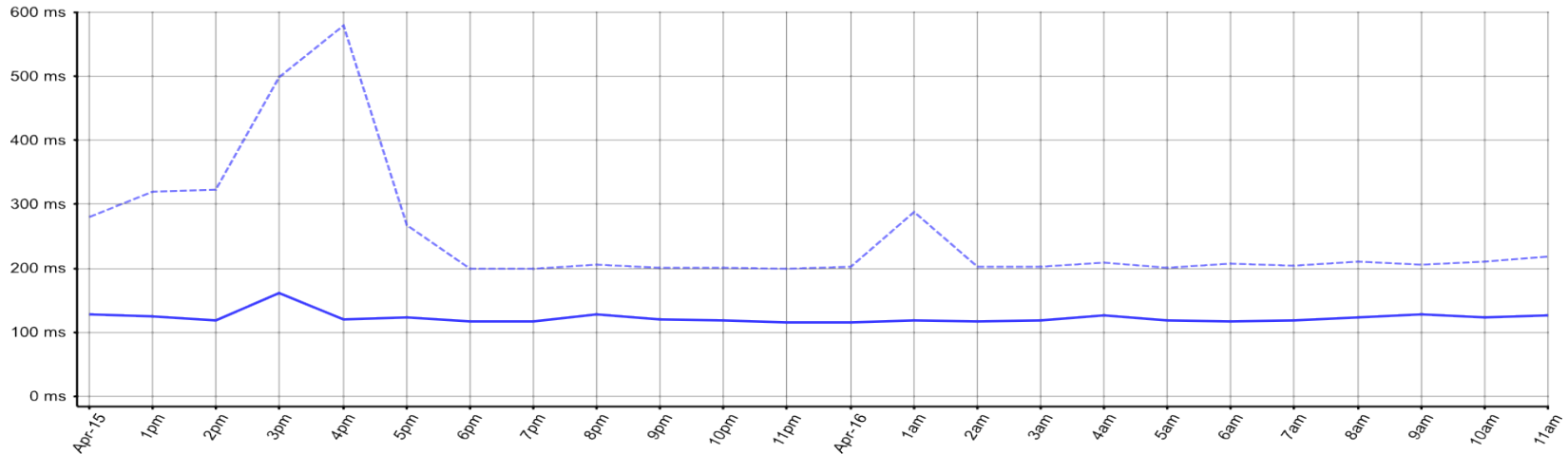
- IPv6 Sonar – web performance metrics
 - See Ciprian Popoviciu’s presentation for more information
- IPv6 Enablement tracked
<http://usgv6-deploymon.antd.nist.gov/cgi-bin/generate-gov>
- Selected 50 agencies listed “GREEN” for IPv6 enabled web service
- Took 2x 24hours samples

Avg Performance 24 Hours Profile – Very Good



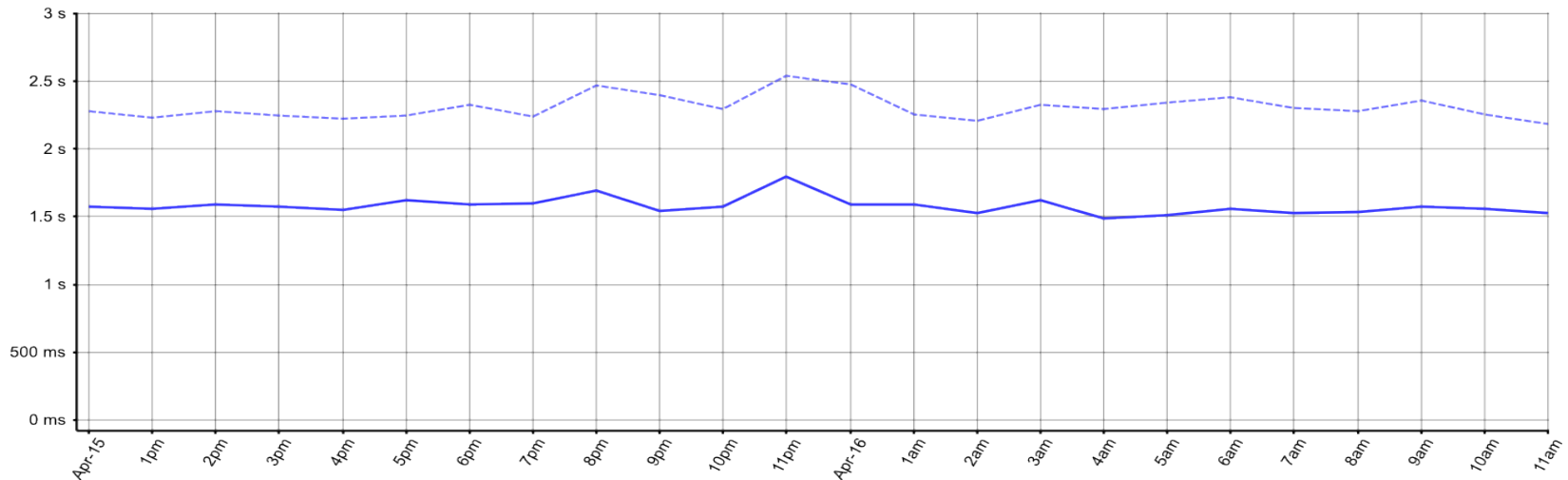
Latency Comparison

www.dren.mil

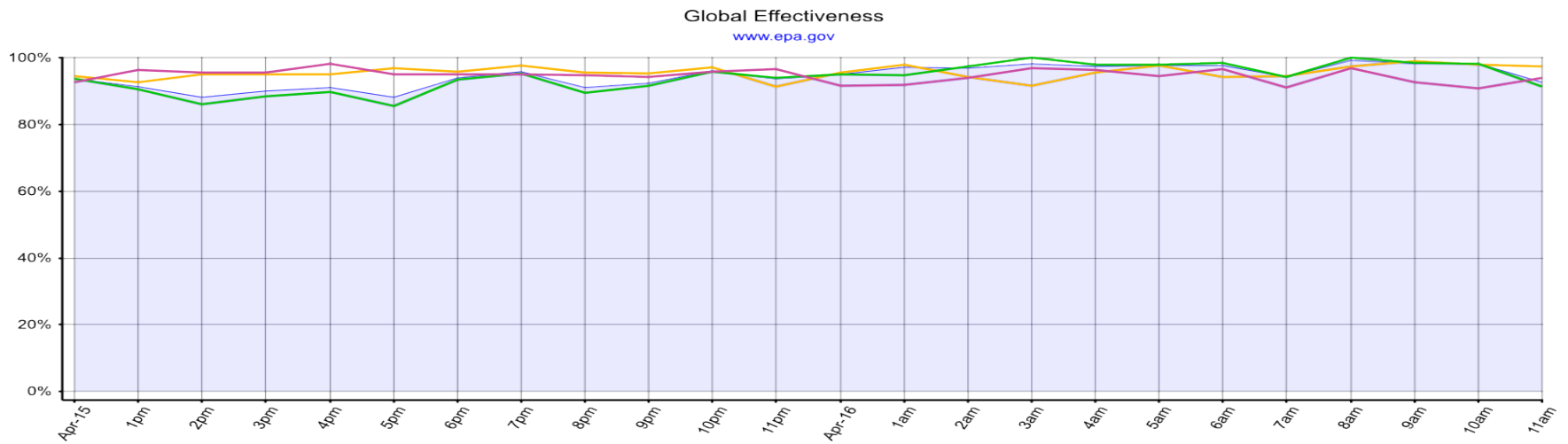
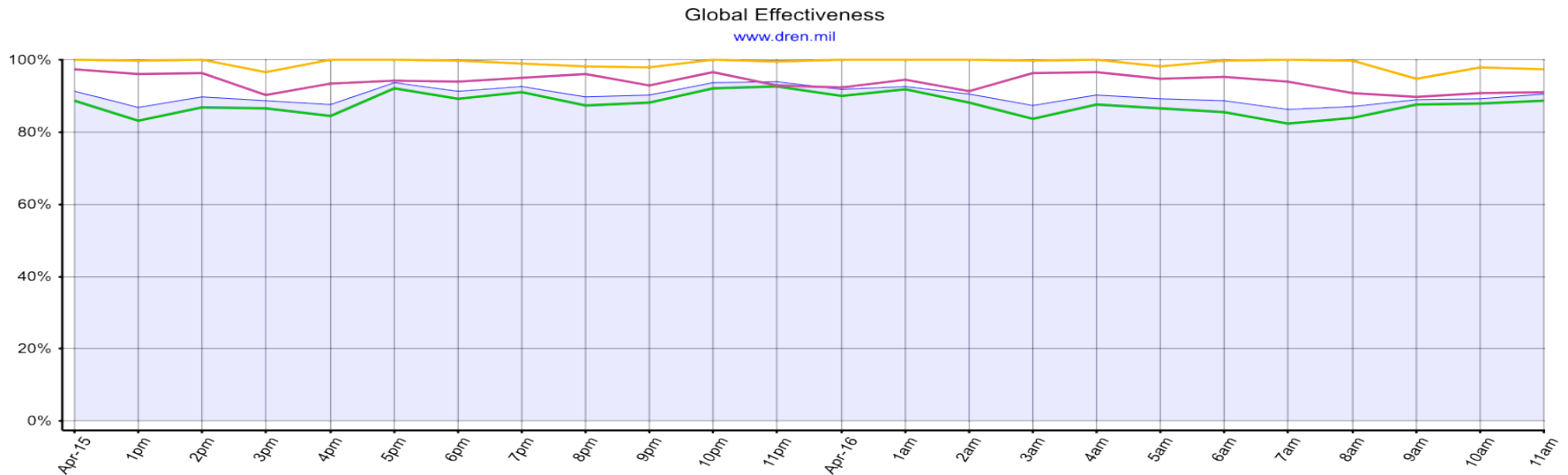


Latency Comparison

www.epa.gov



IPv6 Effectiveness 24 Hours Profile – Very Good

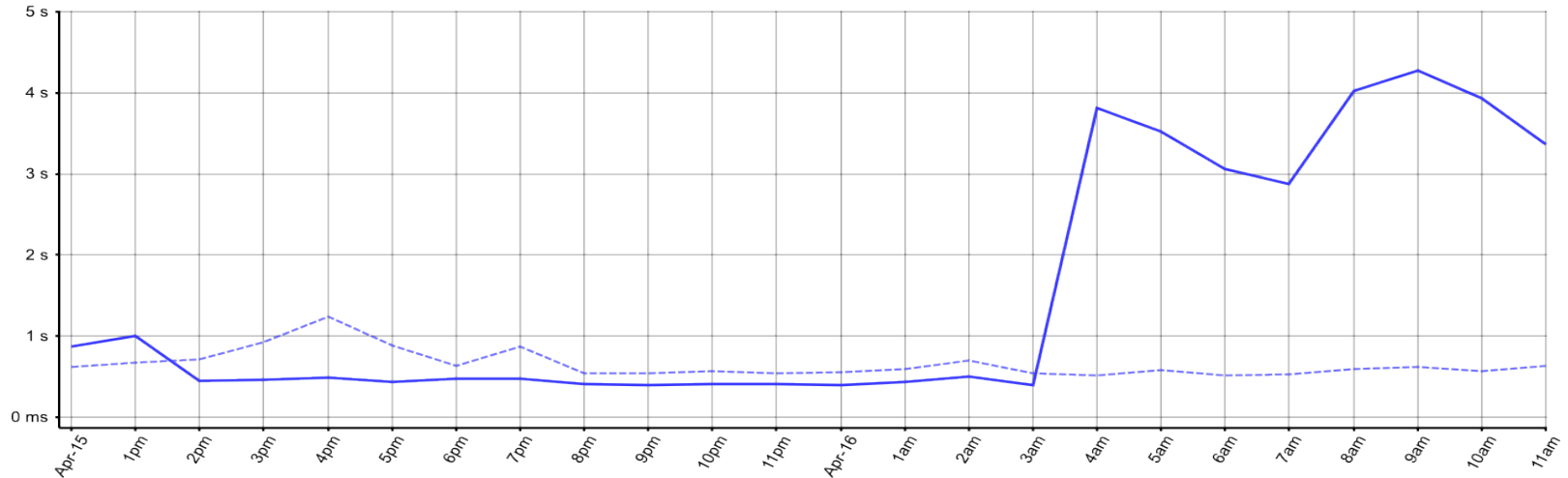


Global North America Europe Asia

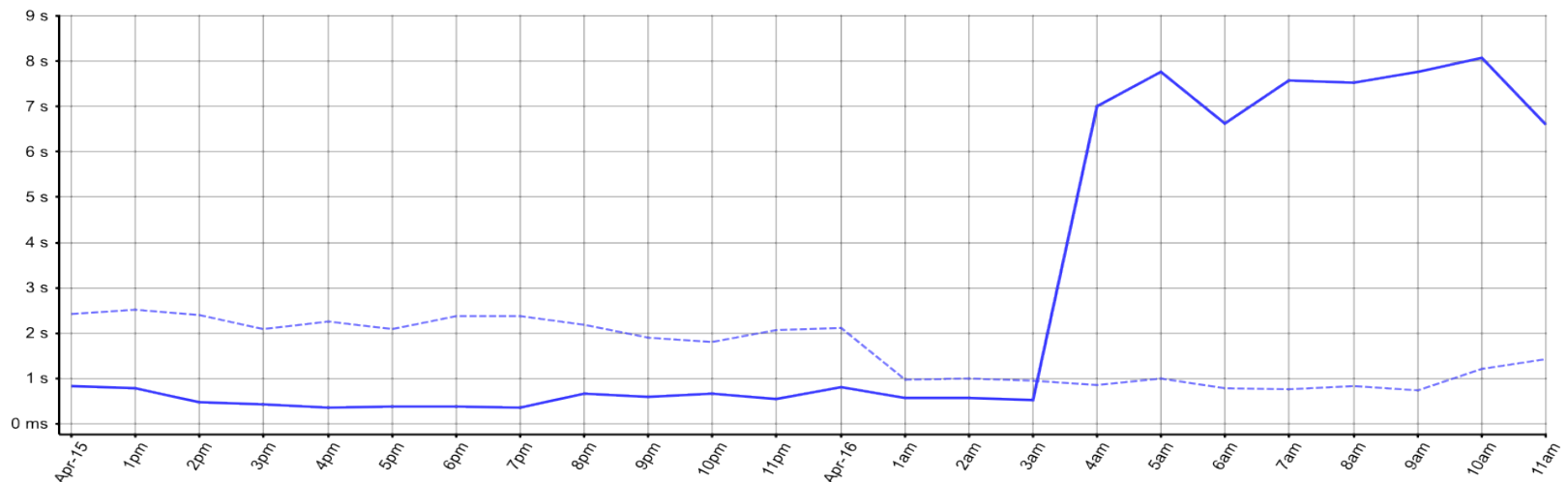
Avg Performance 24 Hours Profile – ...



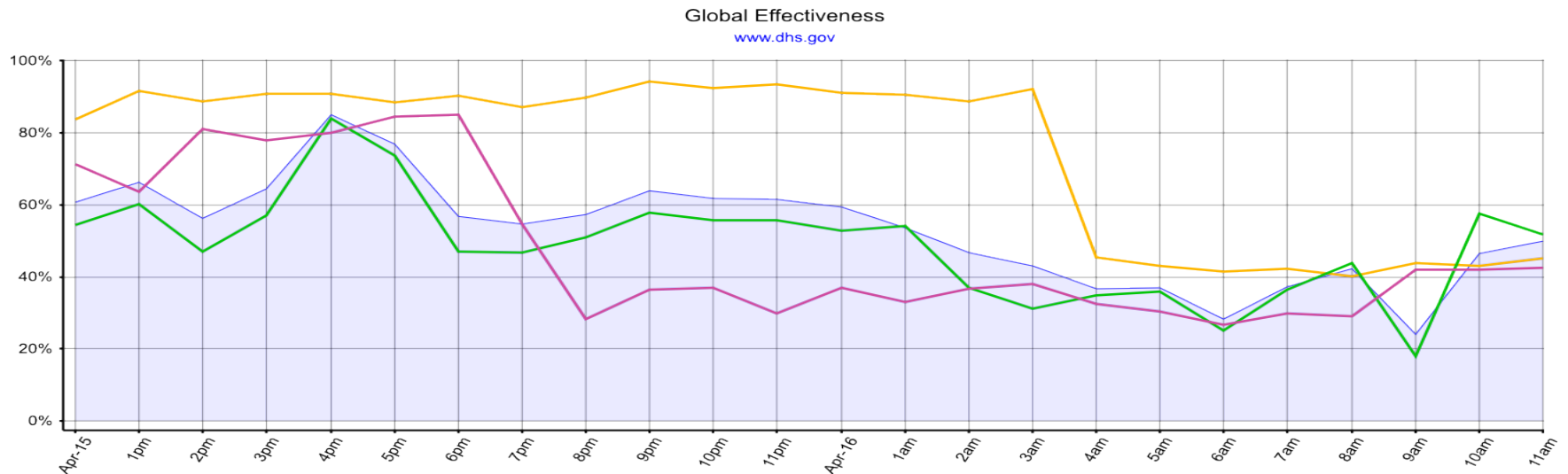
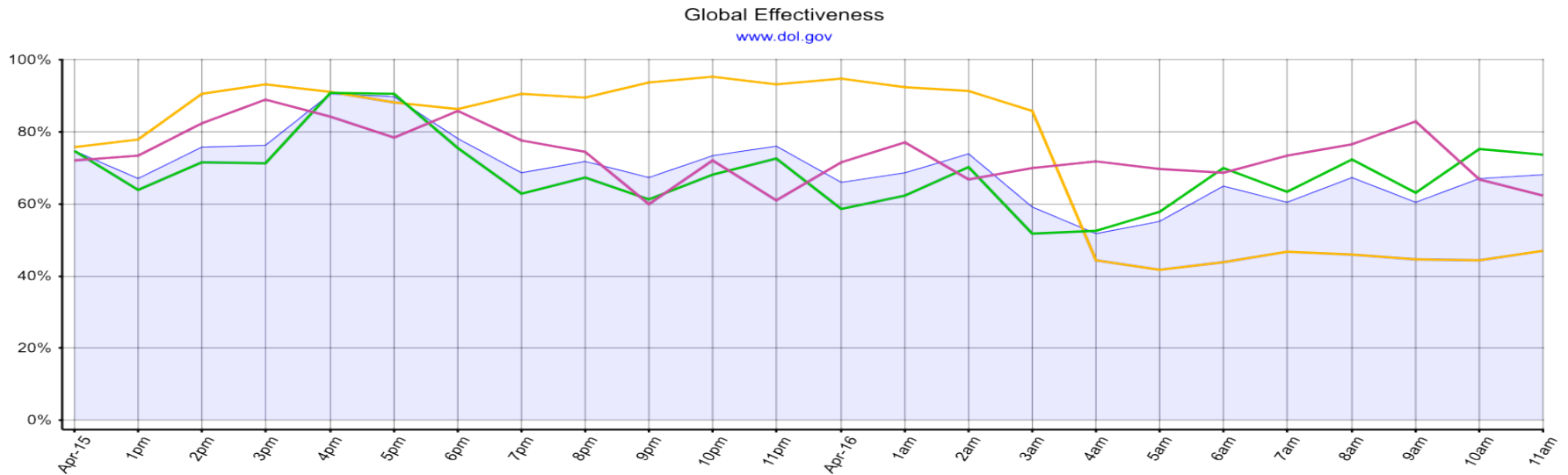
Latency Comparison
www.doi.gov



Latency Comparison
www.dhs.gov



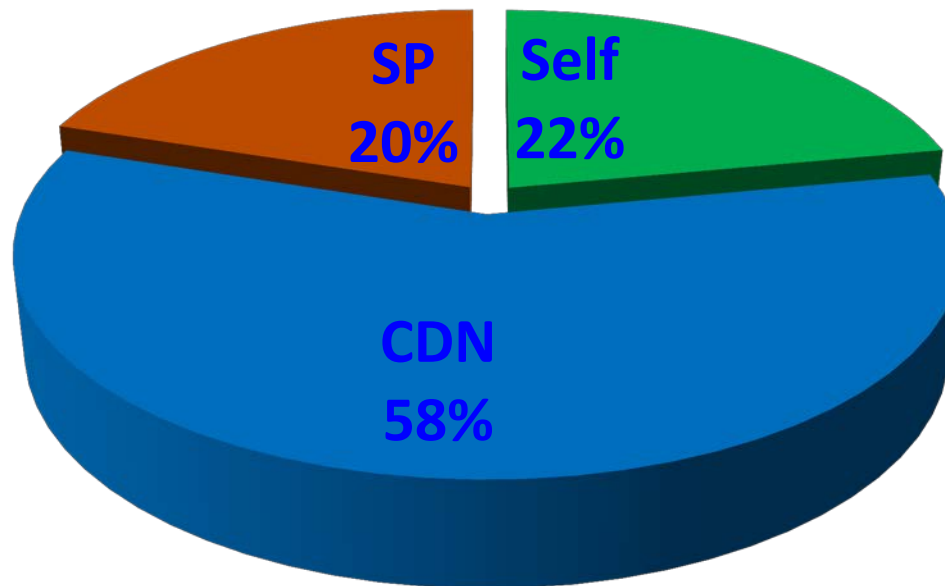
IPv6 Effectiveness 24 Hours Profile – ...



Gov Websites IPv6 Deployment Observations

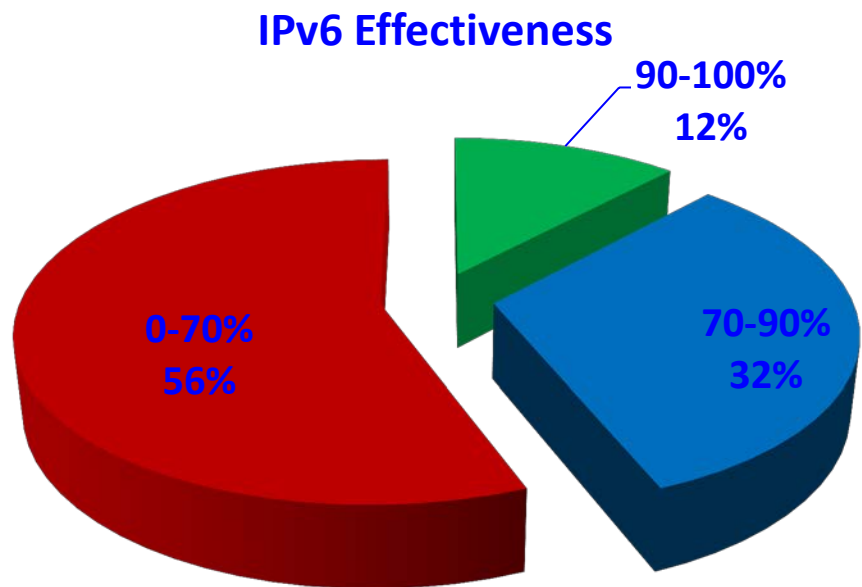
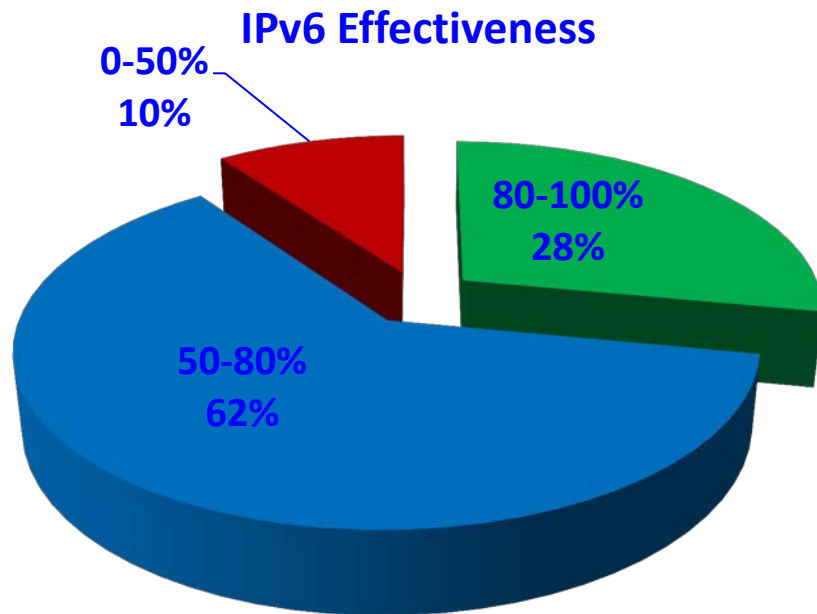


IPv6 Infrastructure



- Most IPv6 enablement is via CDN or CDN/ISP
- Self deployments have the highest IPv6 Effectiveness and the most stable IPv6 performance
- On average, the poorest IPv6 Effectiveness was for CDN based sites. CDN/ISP IPv6 enabled sites do better

IPv6 Effectiveness of Tested Gov Websites

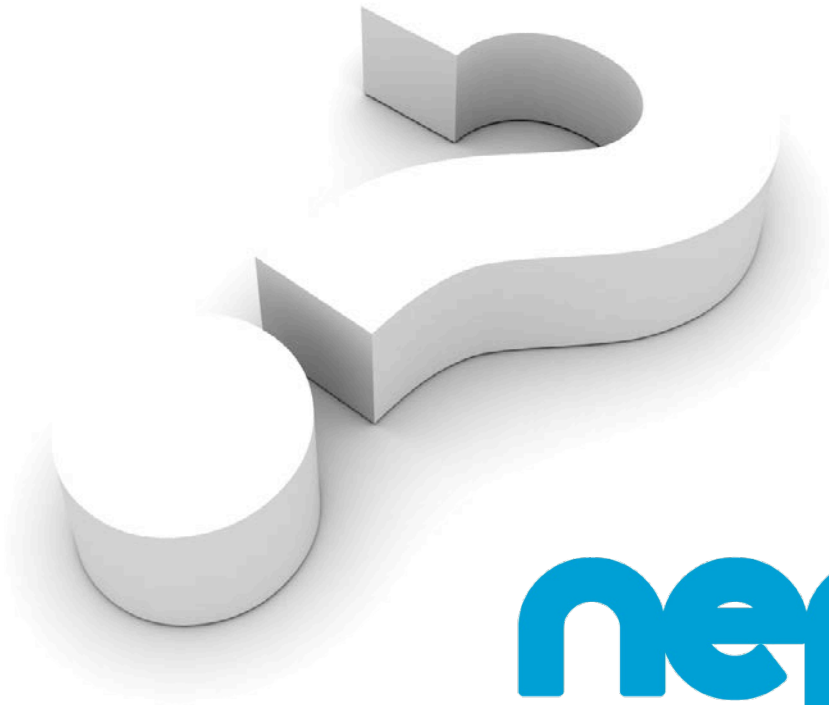


Increasing Expectations

Conclusion



- 1) We are not there yet
- 2) There are real implications to the “short path” approach to compliance
- 3) It is not just about “meeting the mandate” – needs to be also about doing it well



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THANK YOU