Nephos 6
Business Transformation One Step at a Time

OMB 2012 RECAP
Agenda

• OMB 2012 Review
• NIST adoption metrics
• Another view of government adoption
OMB IPv6 2012 Requirements

“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 (STMP)
  - 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 -

<table>
<thead>
<tr>
<th>Service</th>
<th>IPv4</th>
<th>IPv6</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNS</td>
<td>663</td>
<td></td>
</tr>
<tr>
<td>Mail</td>
<td>496</td>
<td>227</td>
</tr>
<tr>
<td>Web</td>
<td></td>
<td>393</td>
</tr>
</tbody>
</table>

DNS: 25.5%  Mail: 15.6%  Web: 28.7%

Source: [http://fedv6-deployment.antd.nist.gov/cgi-bin/generate-gov](http://fedv6-deployment.antd.nist.gov/cgi-bin/generate-gov)
NIST IPv6 Snapshot

Completed USG IPv6 Enabled Domains
- 1367 tested (371,580,416) on 2013.04.18 -

- Operational
- In Progress
- No Progress

42%  30%  27%

USG IPv6 Enabled Services
- 3246 tested (1516,104,1626) on 2013.04.18 -

- Operational
- In Progress
- No Progress

50%  47%  3%

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
IPv6 Effectiveness 24 Hours Profile – Very Good
Avg Performance 24 Hours Profile – ...

Latency Comparison
www.doi.gov

Latency Comparison
www.dhs.gov
IPv6 Effectiveness 24 Hours Profile – …

Global Effectiveness

www.dol.gov

Global Effectiveness

www.dhs.gov

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Gov Websites IPv6 Deployment Observations

IPv6 Infrastructure

- SP 20%
- Self 22%
- CDN 58%

- 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
THANK YOU