IPv6 CPE Device Development and Deployment

APNIC 32 – Busan, South Korea
Aug. 30th 2011
IPv4/IPv6 Transition

- IPv6 will not take over overnight.
- Different ISP might have a different strategy in offering IPv6 service.

Current Stage

- IPv4 plays a leading role
- IPv6 plays a leading role
- IPv4 and IPv6 co-existence
D-Link Participation in World IPv6 Day

World IPv6 Day and D-Link IPv6 Readiness
Sponsored by the Internet Society (ISOC), major web providers and other industry players will come together to enable IPv6 on their sites for 24 hours on June 8, 2011. D-Link will participate in the World IPv6 Day to discover and address any potential issue as well as raise awareness of the need for IPv6 readiness. The goal is to motivate organizations across the industry to take steps towards the commercialization of IPv6 – to prepare their services for IPv6 and ensure a successful transition.

Need Help Getting Ready?
If the transition to IPv6 seems like something that will impact your business, please visit contact D-Link at 888.331.8686 or getmore@dlink.com.

D-Link has been a designer and implementer of IPv6 since 2005 and has interaction with the "IPv6 Ready Phase II" certification and logo. D-Link is the first to routers.

D-Link is a member of the IPv6 Ready Logo Program – the IPv6 Ready

PARTICIPATING WEBSITES
See below for other participating organisations

<table>
<thead>
<tr>
<th>Show</th>
<th>Participants</th>
<th>IPv6 Page</th>
<th>Participating Websites</th>
</tr>
</thead>
<tbody>
<tr>
<td>151</td>
<td>0-day Clothing</td>
<td><a href="http://www.zerodayclothing.com">www.zerodayclothing.com</a></td>
<td></td>
</tr>
<tr>
<td>152</td>
<td>North Carolina State University</td>
<td><a href="http://www.ncsu.edu">www.ncsu.edu</a></td>
<td></td>
</tr>
<tr>
<td>154</td>
<td>Georgian College of A. A. &amp; T.</td>
<td><a href="http://www.georgianc.on.ca">www.georgianc.on.ca</a></td>
<td></td>
</tr>
<tr>
<td>155</td>
<td>D-Link Systems</td>
<td><a href="http://www.dlink.com">www.dlink.com</a></td>
<td></td>
</tr>
<tr>
<td>156</td>
<td>Louisiana State University</td>
<td><a href="http://www.lsu.edu">www.lsu.edu</a></td>
<td></td>
</tr>
<tr>
<td>157</td>
<td>Chameleon</td>
<td><a href="http://www.chameleon.eu">www.chameleon.eu</a></td>
<td></td>
</tr>
</tbody>
</table>

http://www.dlink.com/ipv6
DEVELOPMENT
D-Link IPv6 Development

- 2003/12  Receive the first IPv6 Ready Logo (Phase-1)
- 2006/5   Receive the first IPv6 Ready Logo (Phase-2)
- 2008/7   Ship the first IPv6 Ready CPE to the retail
- 2010/5   Participate Cablelabs’ IPv6 Interop Event
- 2011/5   Participate and pass UNH-IOL IPv6 Interop Test Program
- 2011/5   Received the first IPv6 Ready Logo (DHCPv6 Server)
- 2006 – 2011 More than 23 consumer Router and AP devices are certified with IPv6 Ready Logo Phase-2

*http://interop.ipv6.org.tw/TaiwanIPv6ReadyLogoListPhase2.htm
UNH-IOL IPv6 CE test Event

CE Router Tested List

The routers listed below have demonstrated their commitment to support World IPv6 Day - 8 June 2011 by performing IPv6 testing at the UNH-IOL. See below for test specification information.

This list contains information about CE Router Products that have performed the IPv6 Ready Logo CE Router Interoperability Test Scenario at the UNH-IOL.

CE Router Logo Information (Launch Date November 2011):
- Requires 100% pass for both Conformance and Interoperability Test Specifications
- Conformance Test Specification Status: Public Release July 2011
- Interoperability Test Scenario Status: Released as above

The following devices performed all the test cases successfully.

<table>
<thead>
<tr>
<th>Company</th>
<th>Product</th>
<th>Product Version</th>
<th>Test Scenario Version</th>
<th>Date Listed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broadcom</td>
<td>BCM 93380 WRG</td>
<td>5.5.5alpha0</td>
<td>1.0.0.0.0b4</td>
<td>5/31/11</td>
</tr>
<tr>
<td>D-Link</td>
<td>DIR-652</td>
<td>v.1.5</td>
<td>1.0.0.0.0b4</td>
<td>5/31/11</td>
</tr>
</tbody>
</table>

http://www.iol.uhn.edu/services/testing/ipv6/groupetest/may_09_2011/
D-Link Router IPv6 Support

- **Tunneling**
  - IPv6 in IPv4 Tunneling
  - 6to4 Tunneling
  - 6rd Tunneling
    - DHCP Option for 6rd
  - Teredo passthrough

- **Native Dual Stack**
  - Static IPv6 and route
  - DHCPv6 / DHCPv6-PD
  - Autoconfiguration
  - IPv6 over PPP

- **DS-Lite (Dual-Stack Lite)**
  - DHCPv6 Option for DS-Lite
D-Link Router IPv6 Support

- Web IPv6 Diagnostic Tool
- IPv6 Firewall
- IPv6 Static Route
- IPv6 RA Option for RDNS
- IPv6 RA Option for DNSSL
- IPv6 LLMNR and Bonjour
- DHCP-PD in LAN
- ULA Support
- IPv6 DDNS*
- TR-069/TR-181i2
- Simple Security
- IPv6 UPnP Support

*Powered by DynDNS
D-Link True Gigabit Connectivity

- D-Link drives wire-speed IPv6 routing performance into homes.
- Up to 2Gbps IPv4 NAT/IPv6 Routing performance in selected models.
Promote IPv6 to Home Users

- D-Link drives IPv6 into retail markets and promotes IPv6 directly to home users.
- Most completed IPv6 support, in high-end models as well as entry-level models.
- More than 10,000,000 units of D-Link IPv6 ready routers have been sold.
IPv6 Field Deployments

- IPv6 is no longer an advanced research, it is for REAL!

- **CANADA**
  - DIR-825
  - Xtreme N Dual Band Gigabit Router

- **USA**
  - DIR-825
  - Xtreme N Dual Band Gigabit Router
  - DIR-655
  - XTREME N Gigabit Router

- **GERMANY**
  - DIR-652
  - Gigabit Home Router
  - DIR-615
  - Wireless N Router

IPv6 Certified Router

IPv6 Support:

- All new shipping router models will all be “IPv6 Ready Phase II” certified.

IPv6 Ready Logo Phase II Certified Models:

- Certified

  DIR-300 B1
  Wireless 150

  DIR-600 A1
  Wireless N 150
  Home Router

  DIR-601 A1
  Wireless N 150

  DIR-615 C1/C2
  Wireless N Router

  DIR-615 E1/E2/E3/E4
  Wireless N Router

  DIR-652 A1
  Gigabit Home Router

  DIR-655 B1
  XTREME N
  Gigabit Router

  DIR-825 B1
  Xtreme N Dual Band
  Gigabit Router
IPv6 Certified Router (Cont.)

IPv6 Ready Logo Phase II Certified Models:

- **EBR-2310 C1 Ethernet Router**
- **DIR-632 A1 Wireless N 8-Port Router**
- **DIR-815 A1 Wireless N Dual Band Router**
- **DIR-657 HD Media Router 1000**

- **DIR-645 Whole Home Router 1000**
- **Q3/2011**
- **DIR-827 HD Media Router 2000**
- **DIR-835 N750 Router**
IPv6 Ready Access Point

IPv6 Support:

- New AP models will all be “IPv6 Ready Phase II” certified.

IPv6 Ready AP Roadmap:

- Certified
  - DAP-1350
  - DAP-1360
  - DHP-W306AV
  - DAP-2590

- Certified
  - DAP-1525
  - DAP-1522
  - DAP-2360
  - Q4/2011
  - DAP-1533
IPv6 Ready PowerLine

IPv6 Support:
- New wireless PowerLine models will all be “IPv6 Ready Phase II” certified.

IPv6 Ready PowerLine Roadmap:
- Certified
  - DHP-W306AV PowerLine AV
  - DHP-1320 A1 Wireless N PowerLine Router

- Q3/2011
  - DHP-1565 A1 Wireless N PowerLine Gigabit Router
IPv6 Ready NAS

IPv6 Ready NAS Roadmap:

- **Q3/2011**
  - DNS-345
  - 4-Bay Network Storage
  - 1.6 GHz CPU / 512MB RAM

- **Q4/2011**
  - DNS-325
  - 2-Bay Network Storage
  - 1.2 GHz CPU / 256MB RAM
  - DNS-320
  - 2-Bay Network Storage
  - 800MHz CPU / 128MB RAM
IPv6 Ready IPCam

IPv6 Ready IPCam Roadmap:

**Q3/2011**
- **DCS-6111**  
  - MPEG4, MJPEG  
  - VGA @ 30 fps  
  - PoE, 3GPP, 3-axis, IR
- **DCS-7110**  
  - H.264, MPEG4, MJPEG  
  - 720P @ 30 fps  
  - IR, IP66 (Outdoor)
- **DCS-3715**  
  - H.264, MPEG4, MJPEG  
  - 1080P @ 30fps  
  - SD slot

**Q4/2011**
- **DCS-6112**  
  - H.264, MPEG4, MJPEG  
  - 720P @ 30fps  
  - PoE, 3-axis, MicroSD slot
- **DCS-6113**  
  - H.264, MPEG4, MJPEG  
  - 720P @ 30fps  
  - PoE, 3-axis, MicroSD slot, IR
Hans, M.H. Liu  
Wireless & Router Product Division  
D-Link Corporation  
Tel. +886-2-6600-0123 ext. 5836  
Hans_Liu@dlink.com.tw

Claire, H.J. Cheng  
Wireless & Router Product Division  
D-Link Corporation  
Tel. +886-2-6600-0123 ext. 5829  
Claire_Cheng@dlink.com.tw
**Safe Harbor Statement**
The following is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions. The development, release, and timing of features or functionality described for D-Link products remains at the sole discretion of D-Link.

**Unpublished Work of D-Link Corp. All Rights Reserved.**
This work is an unpublished work and contains confidential, proprietary, and trade secret information of D-Link Corp. Access to this work is restricted to D-Link employees who have a need to know to perform tasks within the scope of their assignments. No part of this work may be practiced, performed, copied, distributed, revised, modified, translated, abridged, condensed, expanded, collected, or adapted without the prior written consent of D-Link Corp. Any use or exploitation of this work without authorization could subject the perpetrator to criminal and civil liability.

**General Disclaimer**
This document is not to be construed as a promise by any participating company to develop, deliver, or market a product. D-Link Corp., makes no representations or warranties with respect to the contents of this document, and specifically disclaims any express or implied warranties of merchantability or fitness for any particular purpose. Further, D-Link Corp., reserves the right to revise this document and to make changes to its content, at any time, without obligation to notify any person or entity of such revisions or changes. All D-Link marks referenced in this presentation are trademarks or registered trademarks of D-Link Corp. in the Taiwan and other countries. All third-party trademarks and images are the property of their respective owners.