



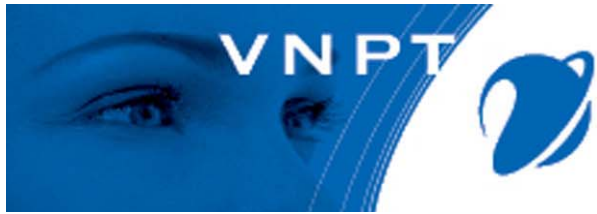
TẬP ĐOÀN BƯU CHÍNH VIỄN THÔNG VIỆT NAM
Vietnam Posts and Telecommunications Group

VNPT's IPv6 implementation plan from 2011 to 2020

Hà nội, 31st May 2012



Cuộc sống đích thực



Contents

- Current VNPT network equipment's ability to support IPv6
- VNPT's overall plan to implement IPv6 from 2011 to 2020



Current status of VNPT's network equipment to support IPv6

- ✓ Almost all CPEs don't support IPv6
- ✓ VNPT's IP backbone/Metro Ethernet network support full-IPv6.
- ✓ 3G network infrastructure: partially supports depending on IPv6 services' demand.
- ✓ 4G trial: supports IPv6.



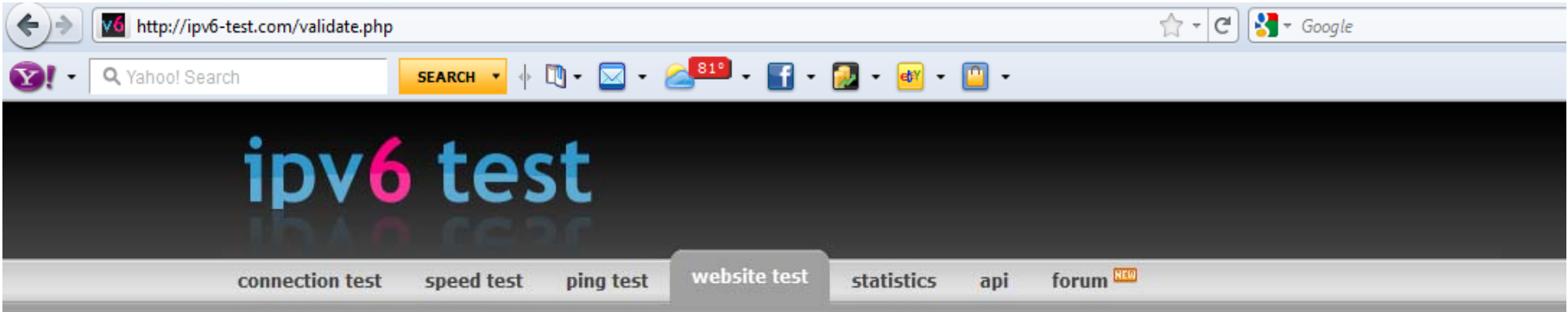
Researches and IPv6 trial in VNPT:

- ✓ VDC (a subsidiary company of VNPT) 2003: Implemented IPv6 trial in Viet Nam and connected to IPv6 international network – a branch of a Viet Nam national scientific subject.
- ✓ VNNIC 2004: Cooperated with IXPs and ISPs to implement IPv6 trial on VNNIC's network – a scientific subject of MIC (Ministry of Information and Communication)
- ✓ 2008-2009 VNNIC: Built IPv6 training program for IXPs and ISPs; trained some IPv6 courses.
- ✓ Other activities:
 - Received a /32 block of IPv6 address from VNNIC:
2001:0ee0::/32
 - Participated in IPv6 World Day 8th June 2011.
 - VDC is ready to provide IPv6 services to customers:
 - Web, email, FTP, DNS,...
 - IPv6 leased line Internet.



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IPv6 validation for **vnpt.com.vn**

Checking for AAAA DNS record	✓	2001:ee0:1000::1000
Checking for IPv6 web server	✓	Microsoft-IIS/6.0

Congratulations, your website is IPv6 ready !

You can help raise awareness and show your commitment to IPv6 deployment to your users, by adding an IPv6-test validator button to your site :

- 
- 
- 

```
<a href='http://ipv6-test.com/validate.php?url=referer'><img src='http://ipv6-test.com/button-ipv6-big.png' alt='ipv6 ready' title='ipv6 ready' border='0' /></a>
<!-- IPv6-test.com button END -->
```

paste the code above into your website source code to add the chosen button.



Technology and technique

- ✓ Technology:
 - IPv6 was standardized and ready to use.
 - Many operators implemented IPv6 on their networks.
- ✓ National policy: favorable for implementing in Viet Nam.
- ✓ IPv6 implementation technique for ISP:
 - Dual Stack:
 - Requires network elements and services fully support IPv4 and IPv6.
 - Tunnel:
 - 6RD
 - Provides IPv6 to users quickly base on current IPv4 network.
 - Suitable for network having low traffic IPv6 services.
 - Dual Stack Lite
 - Difficult to implement on current running network.
 - Dual Stack is recommended to change to Dual Stack Lite when IPv6 traffic is much more than IPv4 traffic.
 - DS Lite is not standardized.
 - Network Address Translation (NAT) technique



VNPT's IPv6 implementation plan from 2011 to 2020

Year	National IPv6 plan	VNPT's IPv6 plan
2011		
2012	Preparation	Preparation
2013		
2014	Start	Trial
2015		
2016		
2017	Change	Change
2018		
2019		
2020		
2020		Complete



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Preparation

Year 2011				Year 2012			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Build the plan							
		Evaluate current network					
		Build and develop VNPT's IPv6 network infrastructure					
			Technical trial				
			Popularize about IPv6 to customers				
					Build VNPT's internal standards for network equipment to support IPv6		
					Issue VNPT's IPv6 trial plan		
			Deploy IPV6 LAB				
			Build IPv6 business model				
		Research IPv6 solution in LTE					
		Train IPv6 technical staff and business staff					
		Do some researches on IPv6					



Trial

Year 2013				Year 2014			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Complete implementing IPv6 on basic elements of IP backbone network	Provide trial IPv6 High Speed Internet service to customers			Complete IPv6 backbone network			
	Provide trial IPv6 email, website,...to customers			Evaluate trial results and build plan to officially implement IPv6 on VNPT network			
	Perform trial IPv6 L3 VPN, LTE,...			Provide trial IPv6 L3 VPN,...			
Evaluate and adjust IPv6 LAB							
Research on IPv6 QoS, Sec, NMS							
Train the IPv6 technical and business staff							
International cooperation, technology transfer							



Change

Year 2015				Year 2017			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Transport network fully support IPv4 and IPv6	Official launch IPv6 High Speed Internet, VPN, LTE and evaluate services						
	Research on other IPv6 services: IPTV, VOIP, VOICE TDM, TELE CONFERENCE						
Continue researching on technologies related with IPv6							
Train IPv6 technical and business staff							
International cooperation, technology transfer							



Complete

Year 2018				Year 2020			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Improve network and continue evaluating IPv6 services							
Optimize network resource after implementing IPv6							
Continue researching on technologies related with IPv6							
Continue training IPv6 technical and business staff							



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Thank you!

