

Lessons from World IPv6 Day and the way forward

Study Case: TELKOM Indonesia

**APNIC 32, Busan, South Korea
Aug 30th 2011**

WIDEX (World IPv6 Day, Ethernet workshop & eXhibition)



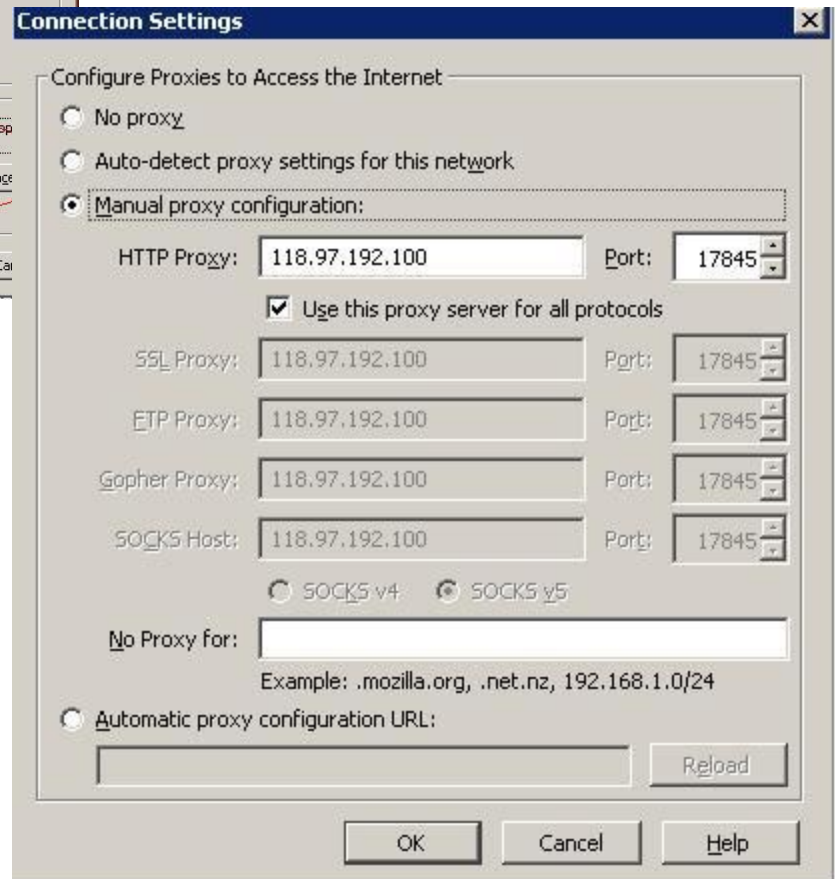
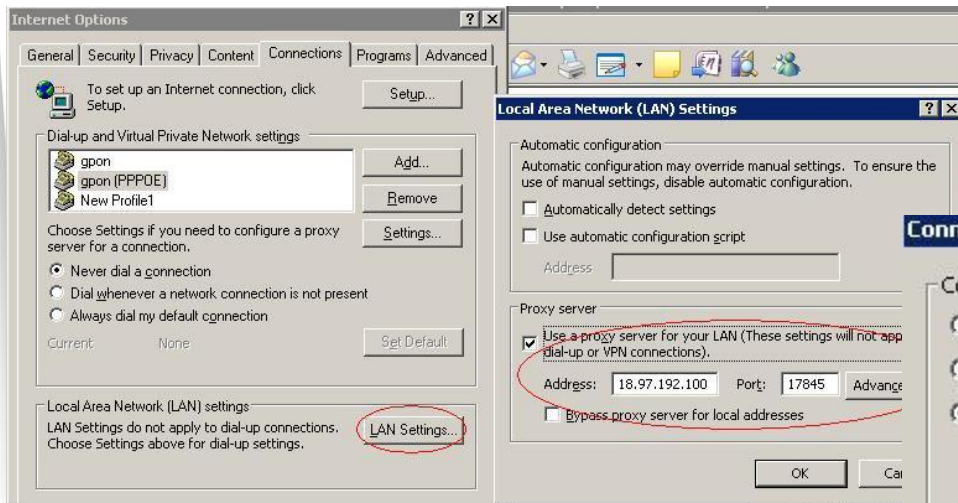
WIDEX (World IPv6 Day, Ethernet workshop & eXhibition)

Day-1: Presentation & Demo IPv6 Ready Devices from Juniper Networks, Alcatel-Lucent, Cisco, Huawei, IVIO. This session was attended by ISPs, academics and government officials

Day-2: World IPv6 Day in Action

- IPv6 Proxy (open for public)
- IPv6 Tunnel (open for TELKOM customer)
- 3 IPv6 Ready Websites

Proxy IPv6



test-ipv6.com

Test IPv6 | FAQ | IPv6 Day | Local Times | Mirrors

Test your IPv6 connectivity.

Summary | Tests Run | Technical Info | Share Results / Contact

- Your IPv4 address on the public Internet appears to be 118.97.192.100
- Your IPv6 address on the public Internet appears to be 2001:4488:4:221c:c4ff:feeb:e60e
- We have detected that you are using a proxy. This means we are testing your proxy server, not your computer. Proxy details (as reported by your proxy 'Via' header):
Via: 1.1 localhost (squid/3.1.6)
- [World IPv6 day](#) is June 8th, 2011. **No problems are anticipated for you** with this browser, at this location. [\[more info\]](#)
- Congratulations! You appear to have both IPv4 and IPv6 Internet working. If a publisher publishes to IPv6, your browser will connect using IPv6. Your browser prefers IPv6 over IPv4 when given the choice (this is the expected outcome).
- Your DNS server (possibly run by your ISP) appears to have IPv6 Internet access.

Your readiness scores

10/10 for your IPv4 stability and readiness, when publishers offer both IPv4 and IPv6

10/10 for your IPv6 stability and readiness, when publishers are forced to go IPv6 only

Click to see [test data](#)

(Updated server side IPv6 readiness stats)

Like 6,000 people like this. Be the first of your friends. Tweet 2,770

74	Seznam.cz	www.mapy.cz www.novinky.cz www.super.cz www.firmy.cz
77	Telkom Indonesia	www.telkom.co.id www.plasa.com www.telkomspeedy.com
78	hTrack	www.htrack.com
79	LUNS Ltd.	www.luns.net.uk
80	A10 Networks	http://www.a10networks.com/
81	Radius Gateway	www.radiusgateway.com

IPv6-test-flight-blue.png | IPv6-badge-blue-12.png

ip6-test.com/validate.php

ipv6 test

Happy World IPv6 day !

connection test | speed test | ping test | **website test** | statistics | api | forum NEW

IPv6 Ready Websites


IPv6 validation for **v6.telkomspeedy.com**


Checking for AAAA DNS record ✔ 2001:4488:4:600d::6


Checking for IPv6 web server ✔ Apache/2.2.15 (Red Hat)

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 :







```
<!-- IPv6-test.com button BEGIN -->
<a href='http://ip6-test.com/validate.php?url=referer'><img src='http://ip6-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.

Speedy
IPv6



Welcome

Anda mengakses halaman ini
dari IPv6

IP Anda:

2001:4488:4:2:21c:c4ff:feeb:e60e

Ikuti Semarak World IPv6 Day

Berhadiah iPad di: v6.telkomspeedy.com.

Mulai Kuis

Join kami di facebook.com/v6telkom



Quiz & FB Fans-Page

Promote your Facebook Page with the Contact Importer for Pages
Already have a list of customers, members or email subscribers? Use the Contact Importer tool to upload your list, find them on Facebook, and let them know about your Facebook Page.

[Import Contacts](#)

Telkom World IPV6 Day

Community · [Edit Info](#)



Wall Telkom World IPV6 Day · Everyone (Most Recent) ▾

Share: [Status](#) [Photo](#) [Link](#) [Video](#) [Question](#)

Write something...

Telkom World IPV6 Day
Momod mengucapkan selamat kepada Farid Sadak dan Nursandhi..
1,460 Impressions · 0.55% Feedback
August 19 at 8:04pm · Like · Comment

Home Profile Find Friends Account ▾

Wall
Hidden Posts
Info
Photos
EDIT

About [Edit](#)
Partisipasi Telkom dalam World IPv6 Day 8 Juni 2011

1,585
like this

Telkom World IPV6 Day on Facebook Mobile

Admins (8) [?] [See All](#)

- [Use Facebook as Telkom World IPV6 Day](#)
- [Notifications 3 ▾](#)
- [Promote with an Ad](#)
- [View Insights](#)
- [Invite Friends](#)

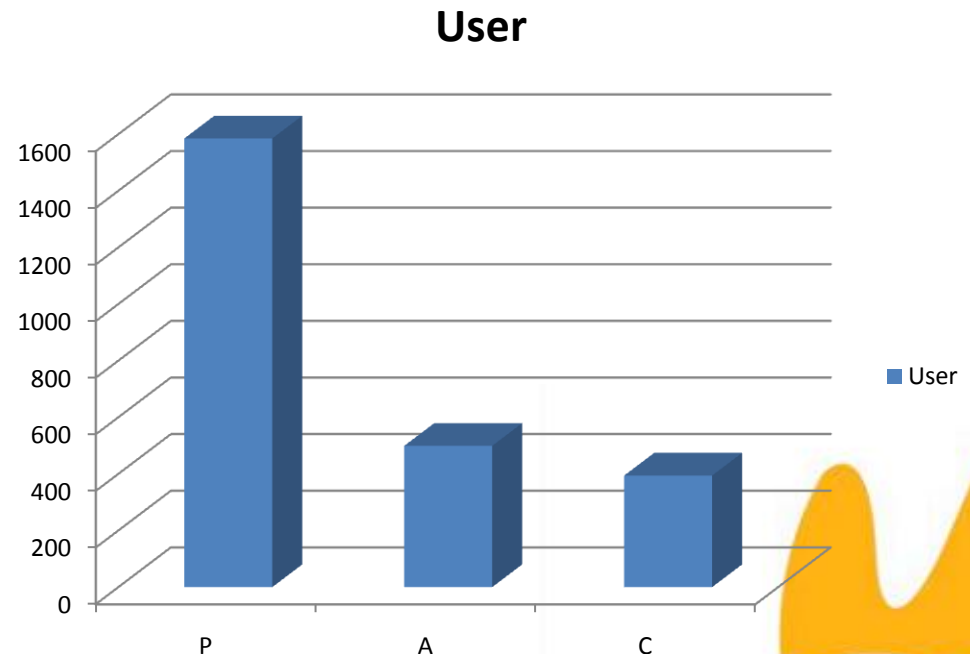
You and Telkom World IPV6 Day

Measurements:

1. More than 12000 visit www.telkomspeedy.com (more than 400000 until 9th July)
2. 7925 users used proxy IPv6 (79119 until 9th September)
3. 114 users used tunnel (more than 1500 until 9th July)
4. 91,5% windows, 4% MacOs, 1,5% Linux, 3% other
5. Still under 10% of TELKOM Broadband Users

Active User Quiz & Fans-Page

status	User	%
P	1585	100%
A	499	31%
C	394	25%

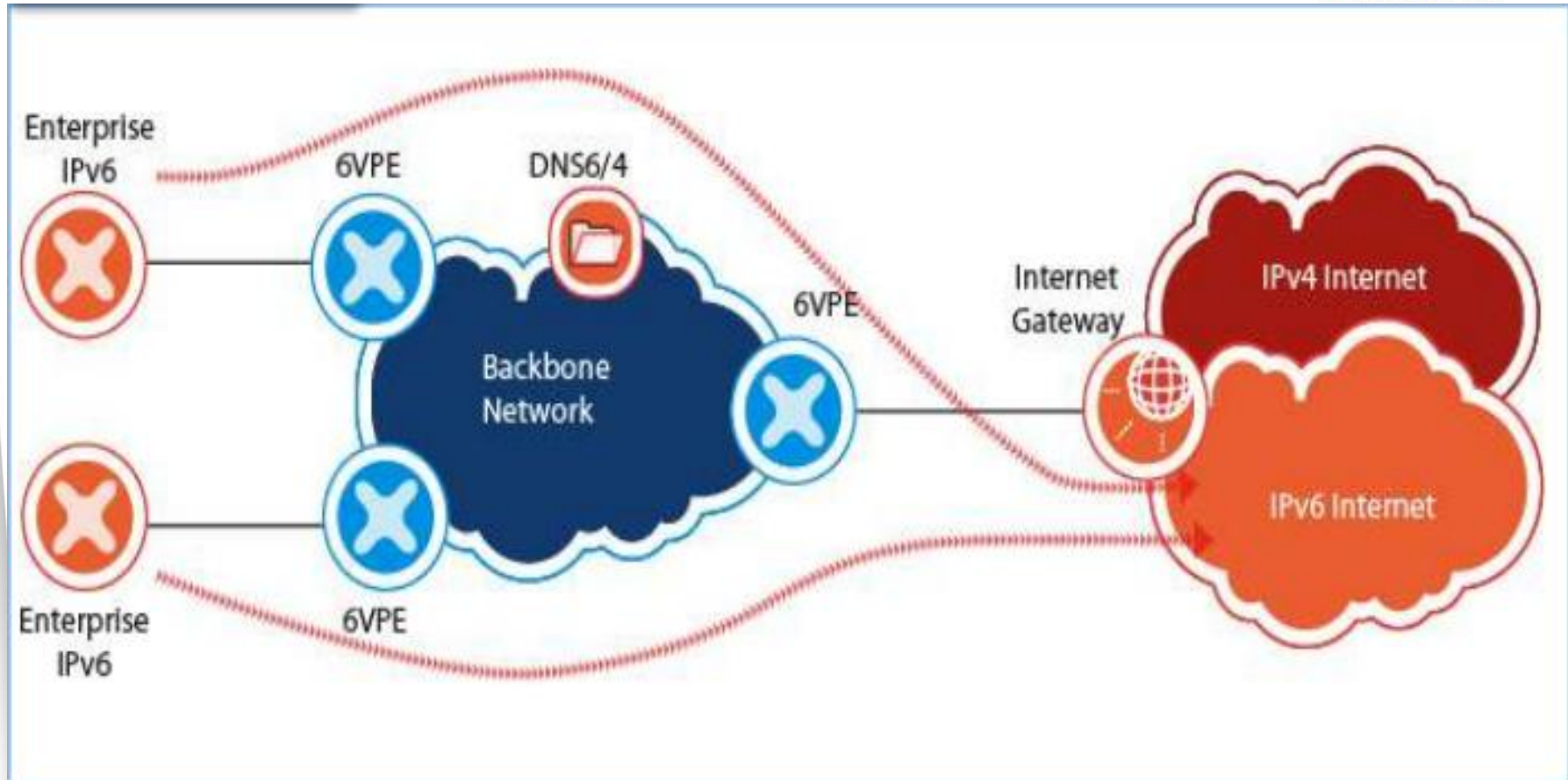


Telkom IPv6 Preparation

- Enterprise Solution
- Native-Retail Solution
- Tunnel-Retail Solution
- NAT-Retail Solution

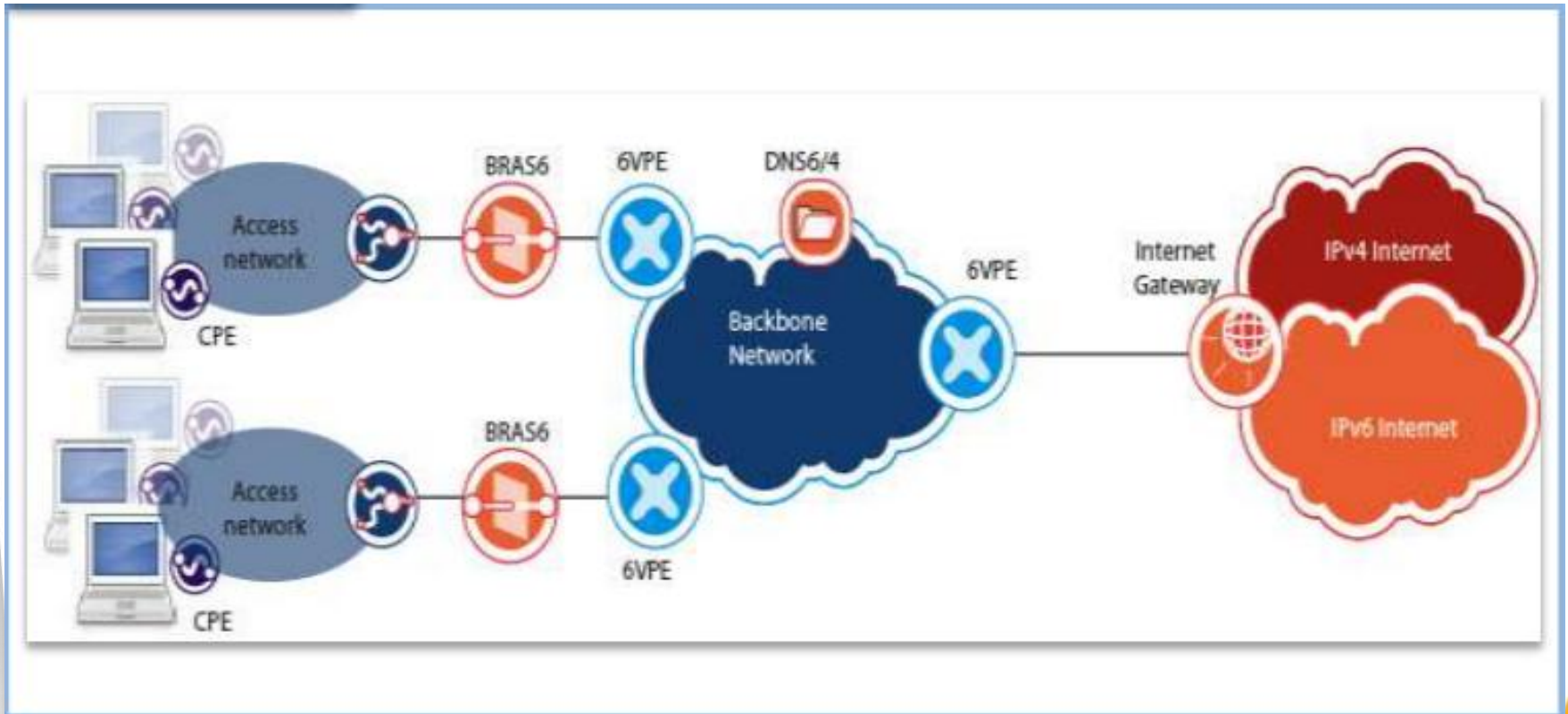


Enterprise Solution



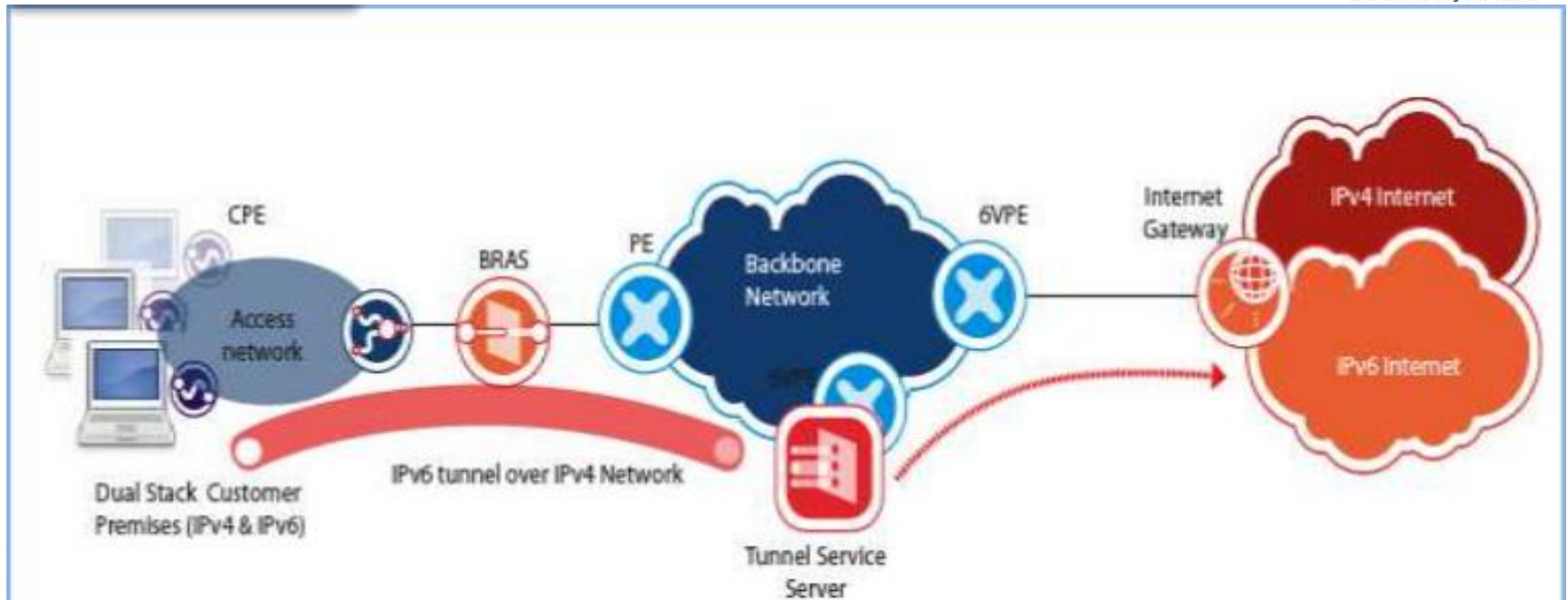
Client – 6VPE – Dual Stack GW

Native-Retail Solution



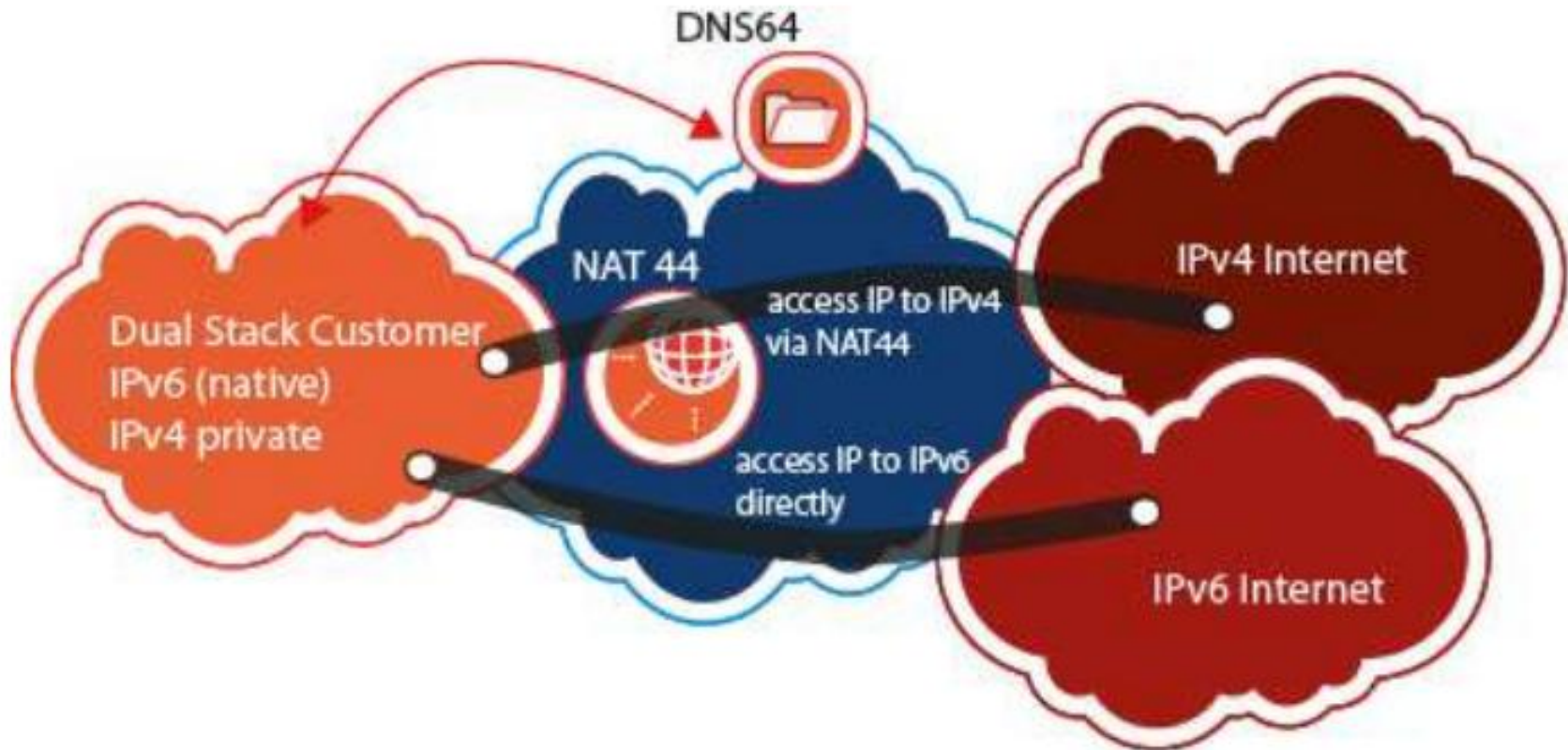
End to End IPv6

Tunnel-Retail Solution



Tunnel for IPv4 customer

NAT-Retail Solution



NAT for IPv4 resources

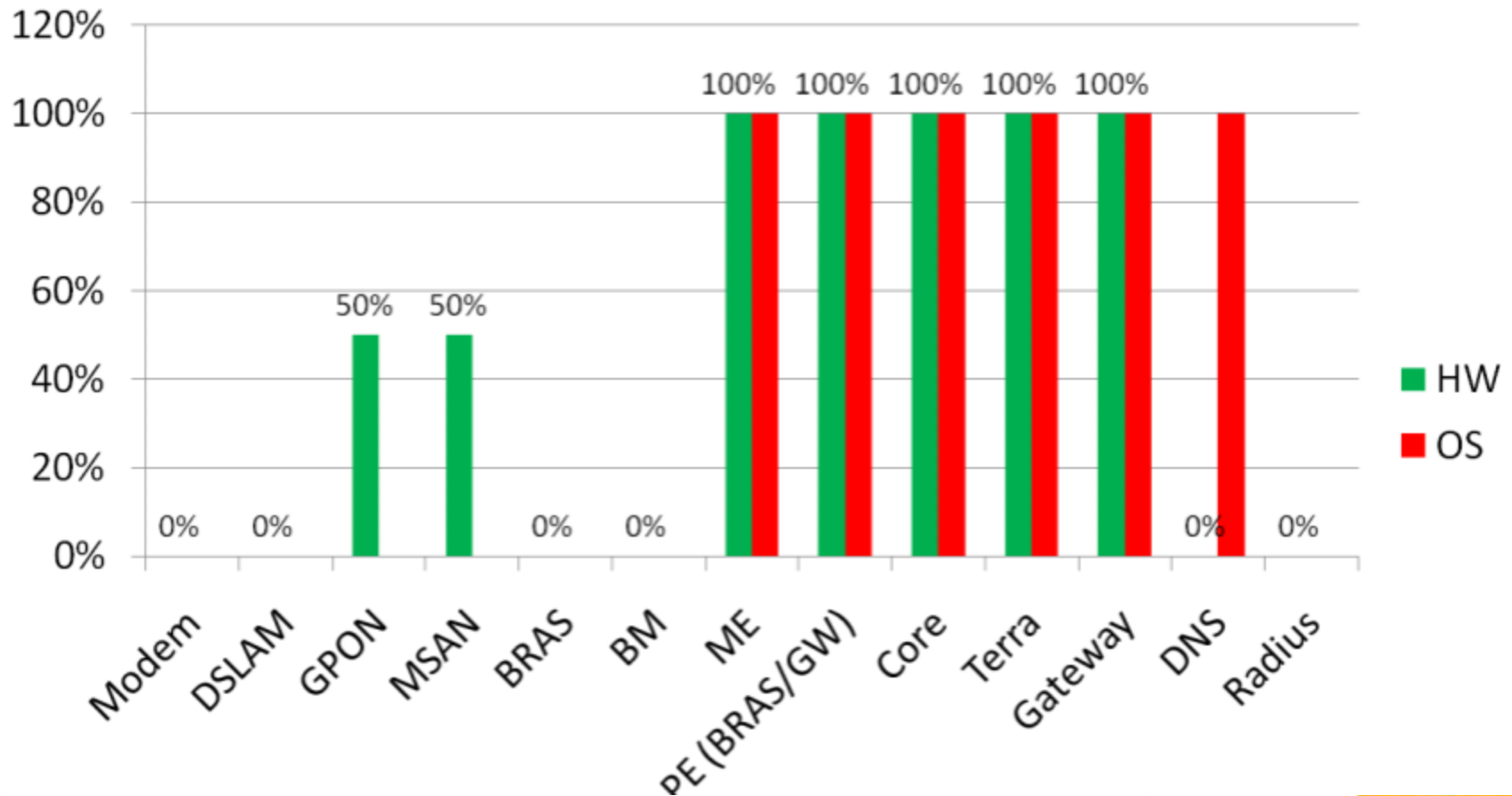
Native IPv6 Requirement

Group	Elemen	Requirement
Terminal	OS	IPv6 Client, Client DNS v6 DHCPv6, PPPoE v6 (Optional)
Modem	Modem ADSL	PPPoEv6
	Modem GPON	PPPoEv6
Akses	DSLAM	Transparant for : - PPPoEv6 - DHCPv6 (Optional)
	MSAN	Transparant for : - PPPoEv6 - DHCPv6 (Optional)
	GPON	Transparant for : - PPPoEv6 - DHCPv6 (Optional)
Transport Control	BRAS	PPPoEv6 DHCPv6 (Optional)
	BM (Bandwidth Management)	BMv6 ARMv6
Transport	ME (Metro Ethernet)	Transparant of : - E-line - E-LAN - E-tree

Requirement (contd)

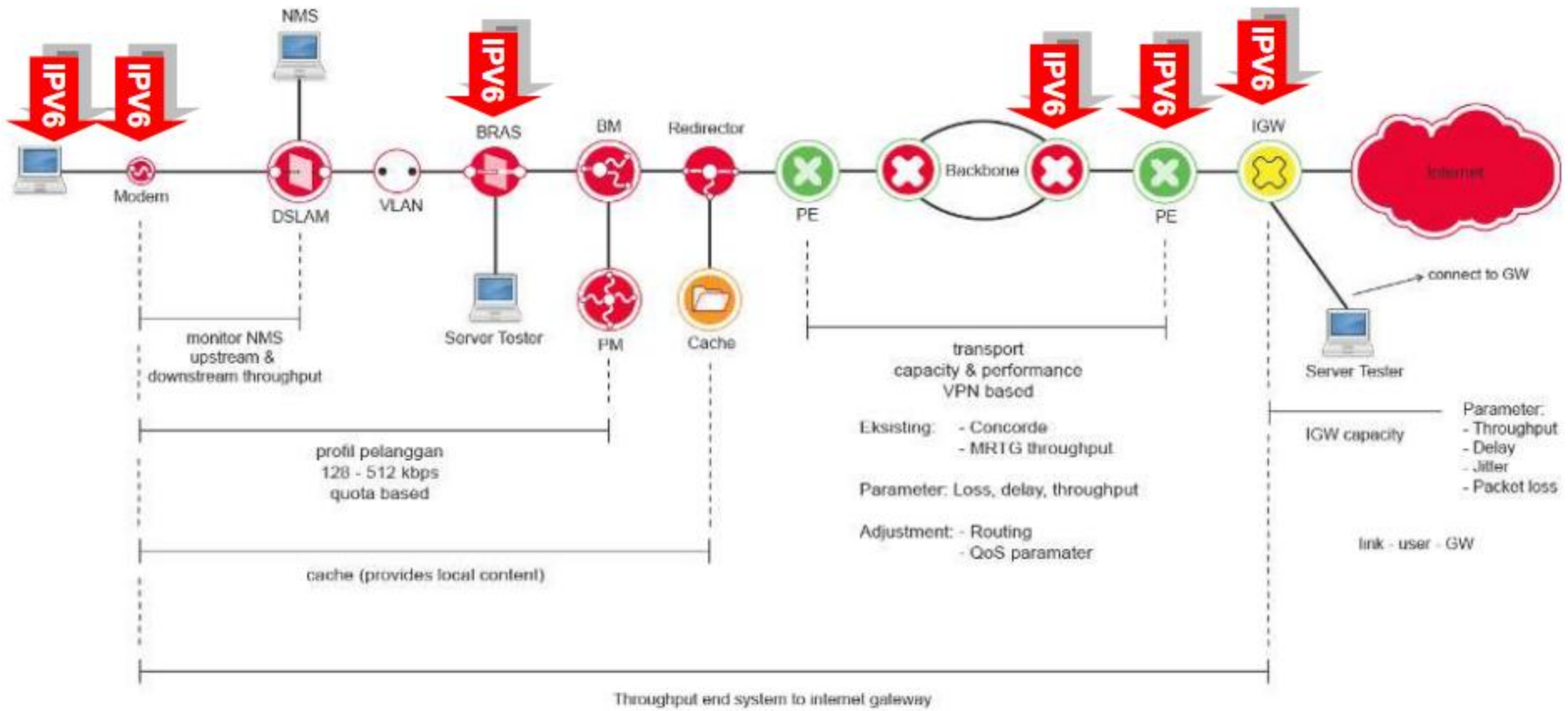
Group	Elemen	Requirement
PE	PE - BRAS	6VPE Dual Stack OSPFv3
	PE - GW	6VPE Dual Stack OSPFv3
	RR	OSPFv3
Core	Core	Transparant OSPFv3
	GW (Gateway)	OSPFv3 Dual Stack
Application Server	DNS	Dual Stack AAAA (DNSv6)
Application Server	Radius	Compatible to BRAS

Readiness Portrait



Roadmap

- Target 2013: *all-IPv6 ready End to End Network*



Infrastructure Roadmap

No	Perangkat	2011	2012	2013	2014-dst
1.	Internet Gateway (IGW)	Siap IPv6			
2.	PE layanan internet (astinet), PE BRAS, PE GW, PE peering, PE VPN services	Migrasi		Siap	
3.	IP transit	Siap IPv6			
4.	RR	Siap IPv6			
5.	IPv6-IPv4 Translation (Tunnel/NAT)	Impl		Siap	
6.	Radius, DNS	Migrasi		Siap	
7.	BM, PM & ARM, DPI dan cache server	Migrasi		Siap	
8.	Portal/content, hosting server, email server, (CE, Firewall, IPS, dll)	Migrasi		Siap	

- Thank You

