Proximus IPv6 Status

update May 2018

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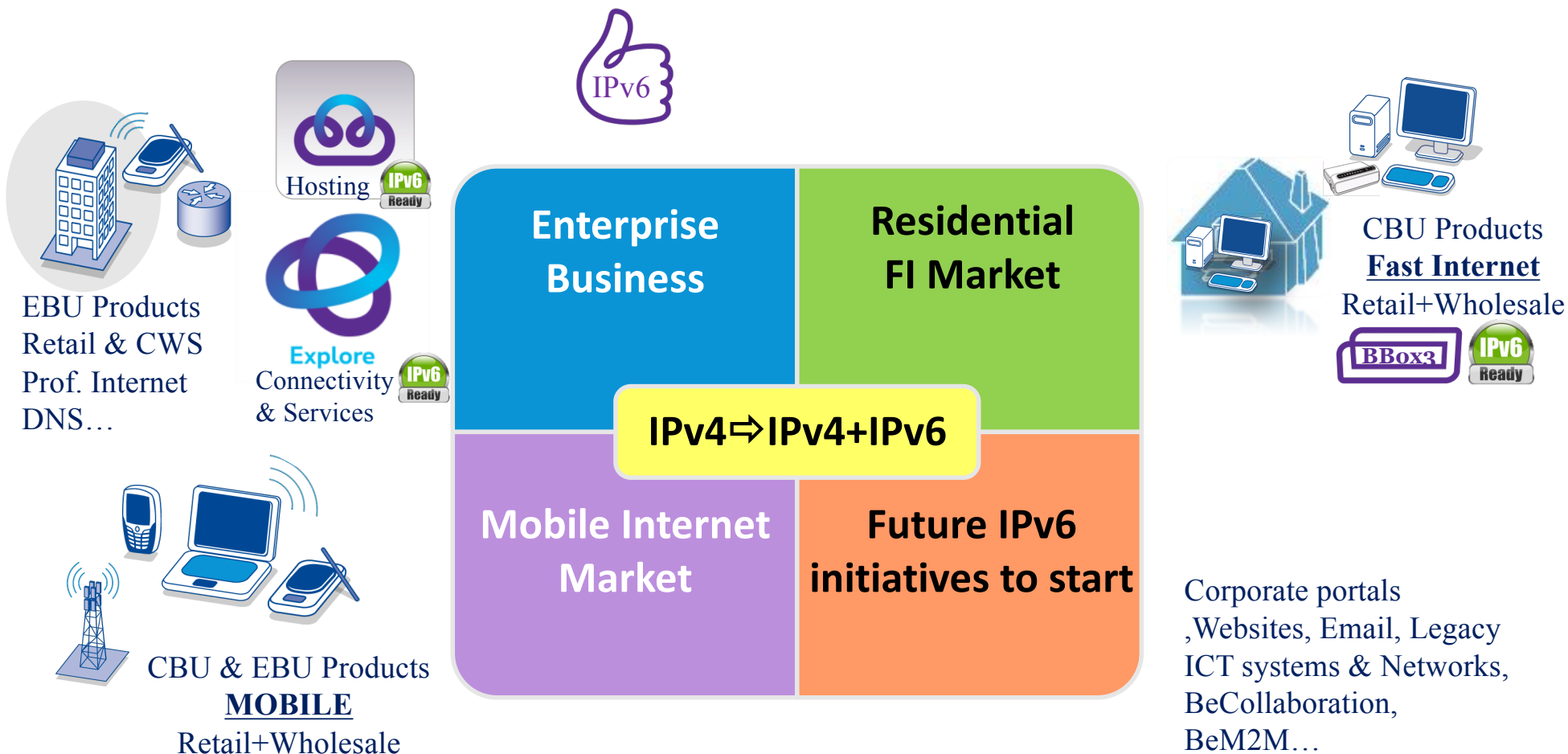
6 June 2018

1

Vision of the IPv6 Program

Guarantee IPv4 Internet business continuity & a smooth transition to the new IPv6 based Internet, products & services. The scope consists mainly of :

IPv6

Hosting
IPv6 Ready

EBU Products
Retail & CWS
Prof. Internet
DNS…

Explore
Connectivity
& Services
IPv6 Ready

CBU & EBU Products
MOBILE
Retail+Wholesale

Enterprise Business	Residential FI Market
IPv4 ⇨ IPv4+IPv6	
Mobile Internet Market	Future IPv6 initiatives to start

CBU Products
Fast Internet
Retail+Wholesale

BBox3
IPv6 Ready

Corporate portals ,Websites, Email, Legacy ICT systems & Networks, BeCollaboration, BeM2M…

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Status 24/05/2018

More than 80% of residential customers using dual stack Fast Internet

>1000 professional customers with IPv6 enabled cpe and dual stack

Ipv6 on Mobile Internet limited employee trial
        Dual stack
        On all access technologies (2G/3G/4G)
        Manual APN config (depending of your phone)

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Mobile Internet (2G/3G/4G)

Main driver : reduce impact & cost of CGN
=>but not a positive business case !!
Reduce load on CGN hardware => reduce cost

When part of the apps can work without ipv4 we hope that we can
free up the ipv4 address part of the sessions (DNS6!!)

Main challenges : Mobile chain is more complex than Fixed Internet
=> more components to make compliant & test => more risk of bugs

All tools for Service Desk operators have to be compliant before doing
larger scale trials

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Screenshot 1

🏠 ipv6-test.com [3] ⋮

ipv6 test ☰

IPv4 connectivity ↻

IPv4	Supported	❓
Address	109.139.203.239	❓
Hostname	None	❓
ISP	Proximus NV 🇧🇪	❓

IPv6 connectivity ↻

IPv6	Supported	❓
Address	2a02:a020:50:93:0:55:6756:ff01	❓
Type	Native IPv6	❓
SLAAC	No	❓
ICMP	Filtered	❓
Hostname	None	❓
ISP	Belgacom 🇧🇪	❓

Score ☰

Screenshot 2

ipv6 test

Score ☰

14 / 20

Browser ↻

Default	IPv6	❓
Fallback	No	❓

DNS ↻

DNS4 + IP6	Reachable	❓
DNS6 + IP4	Reachable	❓
DNS6 + IP6	Reachable	❓

More

Speed test »

Ping test »

Screenshot 3

✕ IPv6 test - IPv6 vs. IPv4 ...
ipv6-test.com 🔖 ⋮

ipv6 test ☰

🇫🇷 Roubaix, OVH (~ 85 km)

⬇ **Test again**

IPv4 speed

🇧🇪 81.169.107.56

ISP	Proximus
Speed	59.1 Mbit/s

IPv6 speed

🇧🇪 2a02:a020:70:9e:0:9:596e:cf01

ISP	Belgacom
Speed	93.4 Mbit/s

Your speed test results

IPv4 | 59.1 Mbit/s

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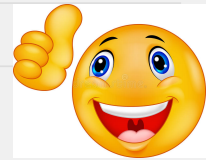
Some stats

25% of our total traffic is IPv6

For a dual stack customer approx. 36% of his traffic is IPv6.

Top sources of ipv6 traffic for our customers :

Apple
Facebook
Google / Youtube
Netflix
Microsoft
Amazon
+ Dropbox, Edgecast, Cloudflare, Fastly, ...

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Some stats (2)

Traffic sources : top 30 networks (AS numbers), excluding CDN servers

Work in progress

AS Number	%IPv4	%IPv6
Facebook-32934	25,39%	74,61%
M247-9009	54,20%	45,80%
Apple-714	56,60%	43,40%
Google-15169	57,61%	42,39%
CloudFlare-13335	59,82%	40,18%
Microsoft-8068	71,14%	28,86%
Edgecast-15133	81,49%	18,51%
Level3-3356	81,81%	18,19%
Netflix-2906	85,30%	14,70%
Microsoft-8075	86,74%	13,26%
Fastly-54113	91,84%	8,16%
Telenet-6848	92,19%	7,81%
Limelight-22822	93,12%	6,88%

Still a lot of work to do

AS Number	%IPv4	%IPv6
Akamai-20940	95,44%	4,56%
Amazon-16509	95,48%	4,52%
OVH-16276	96,05%	3,95%
Orange-3215	97,95%	2,05%
Leaseweb-60781	99,18%	0,82%
Online-12876	99,29%	0,71%
Datacamp-60068	99,62%	0,38%
Highwinds-20446	99,84%	0,16%
Worldstream-49981	99,95%	0,05%
Apple-6185	99,98%	0,02%
FirstColo-44066	99,99%	0,01%
Nforce-43350	100,00%	0,00%
Twitch-46489	100,00%	0,00%
Valve-32590	100,00%	0,00%
Cogent-174	100,00%	0,00%
Dailymotion-41690	100,00%	0,00%

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Questions ?