

# Update from Belgian IPv6 Council

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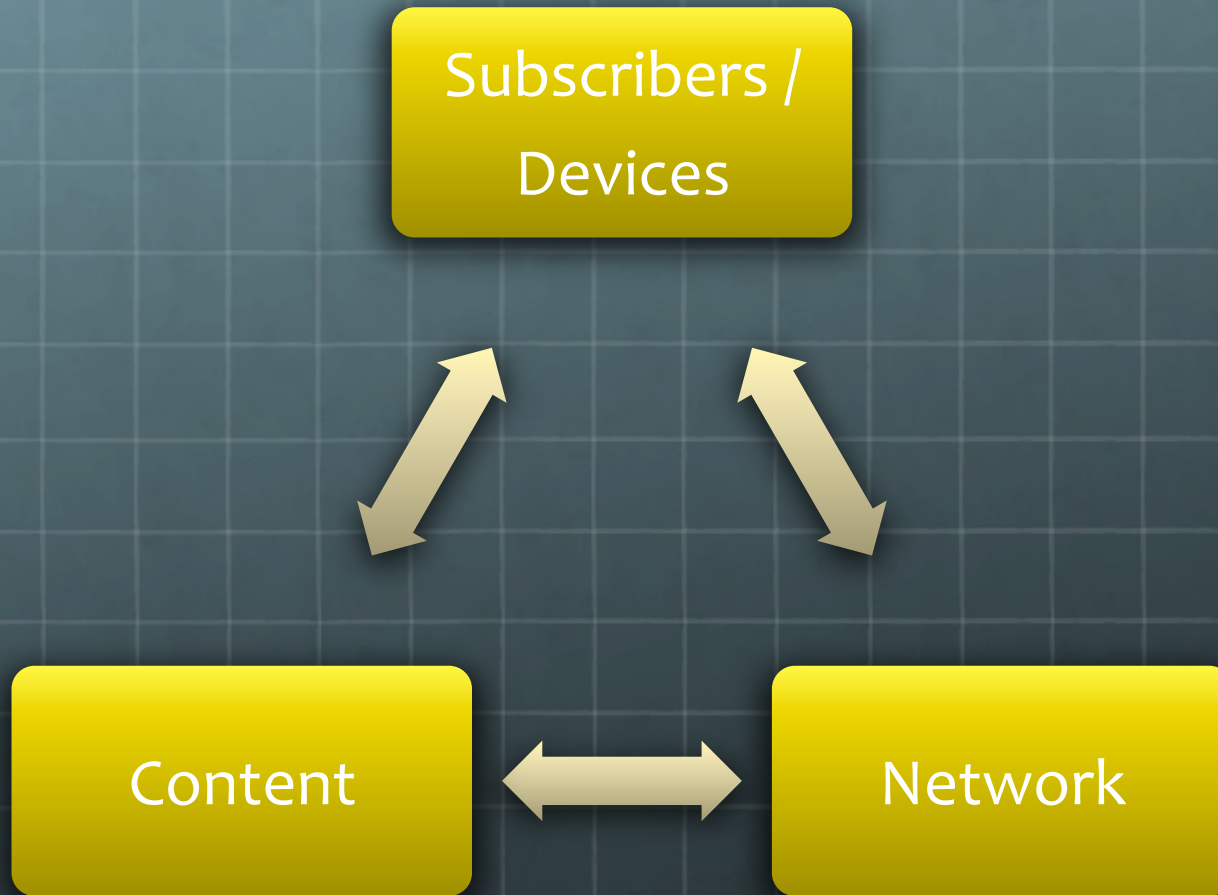
# ISP Belgian landscape

- 🌐 One national xDSL provider: Proximus (ex-Belgacom) with wholesale service
- 🌐 Two cable providers: VOO (French speaking), Telenet (Dutch speaking part of Liberty Global)

# IPv6 Council of Belgium

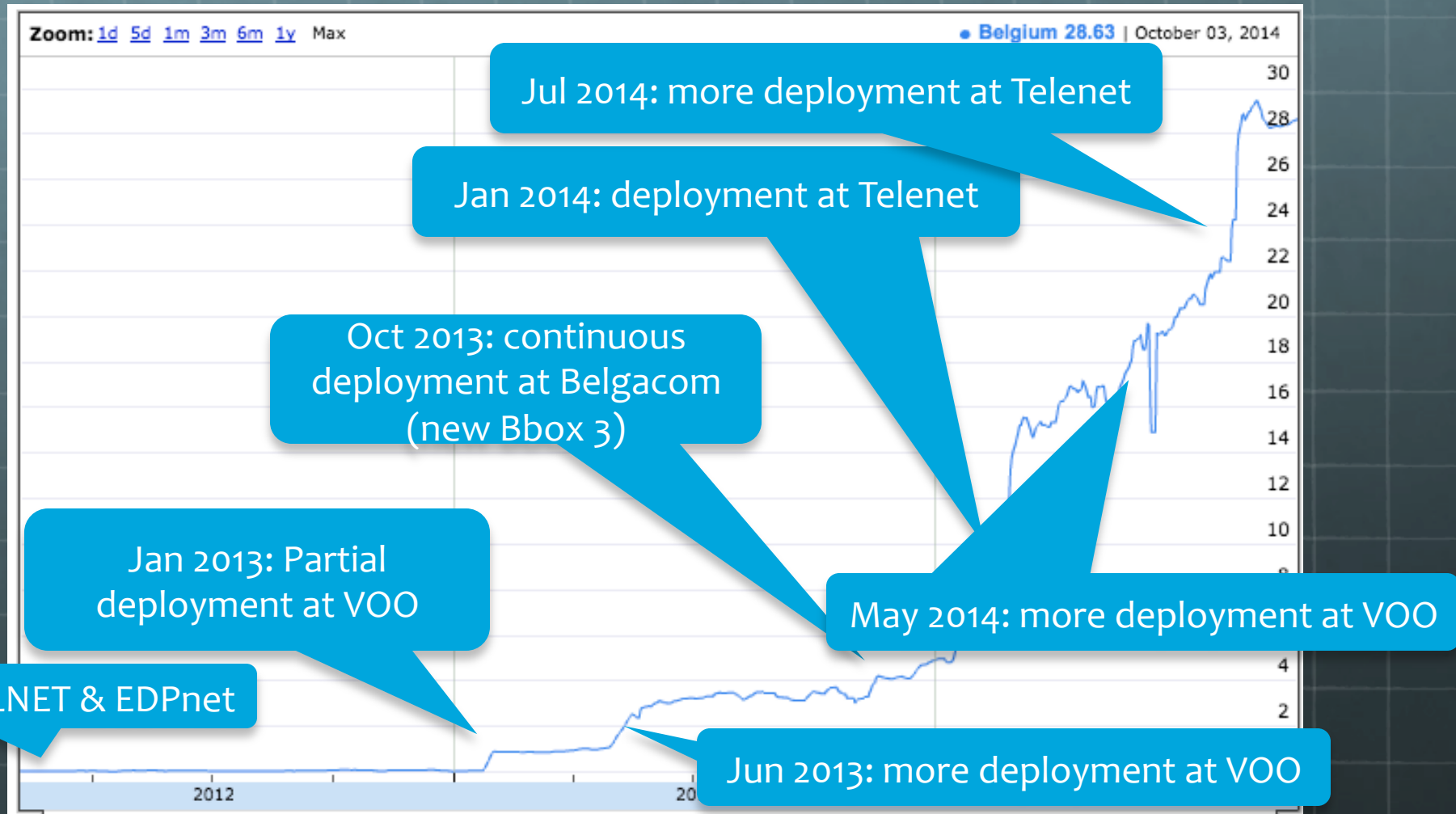
- [www.ipv6council.be](http://www.ipv6council.be)
- 2 +2 'core' members
- Mailing list for discussion
  - Mainly used to announce news
- Two meetings per year (about 40 people)
  - Competing ISP are present => building trust & info sharing
  - Social event at the end => enforce community spirit
- Free membership & admission to the event
  - Not always good: no money = no value
    - Hidden sponsoring of the after-meeting 'party'

# The Internet Triangle Relationship





# IPv6 Subscribers in Belgium



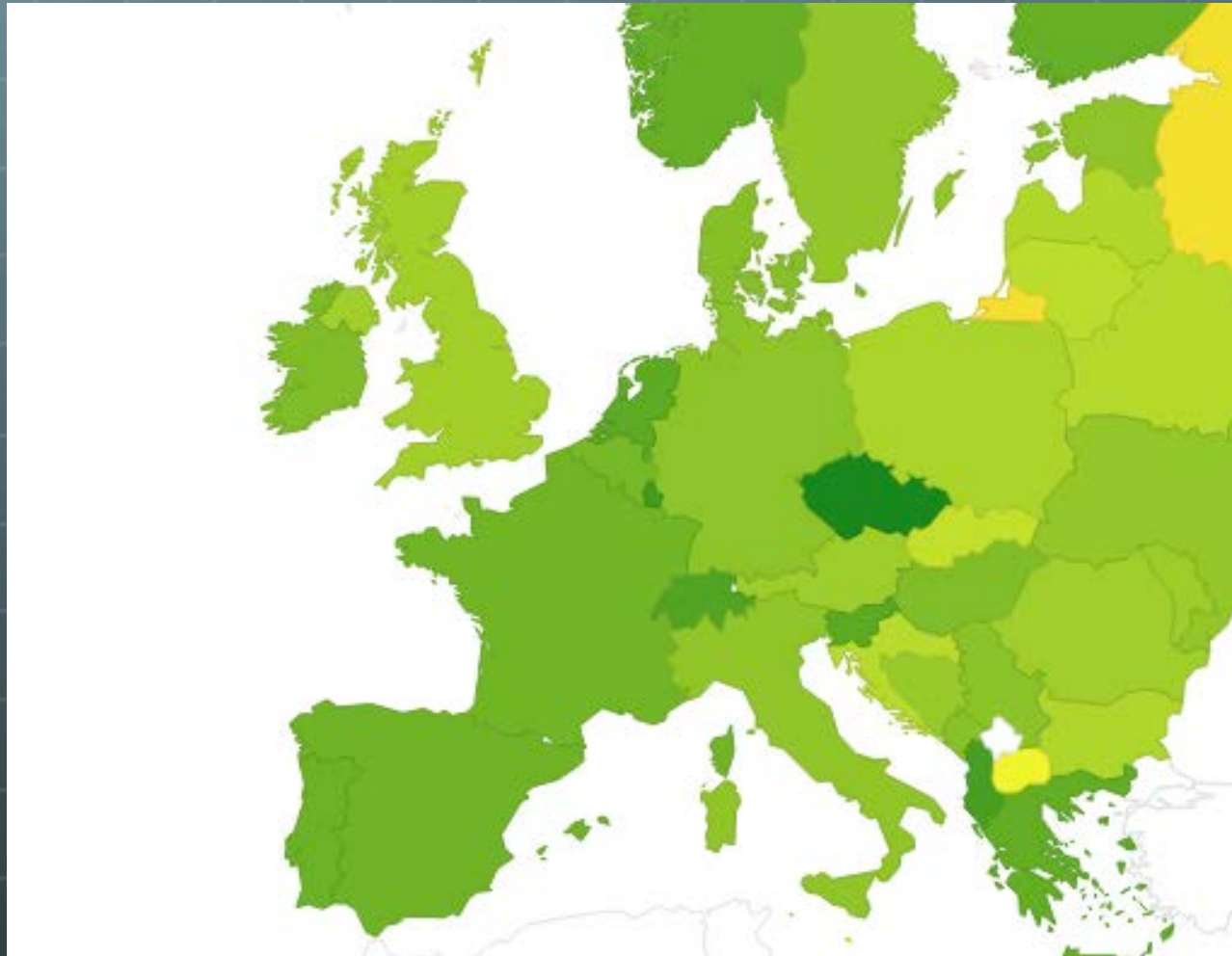
# What Went Well in Belgium

- Early collaboration BIPT, IPv6 Council, FPS Economy (federal public service)
  - [www.bipt.be](http://www.bipt.be) (regulator) on IPv6 since May 2011
  - [www.beltug.be](http://www.beltug.be) (telecom user) on IPv6 since June 2013
  - Workshop organized May 2011 with ICC, BELTUG, FPS, Agoria
- Framework around IPv4 address sharing (CGN = Carrier Grade NAT)
  - CGN has impact on security and user experience
  - Consensus in Belgium around 16:1 sharing ratio
  - AFAIK based on FCCU (cyber-police) / BIPT / ISP Association
  - This is now an example in the Internet community

# Room for Improvements

- No Belgian mobile providers...
  - Albeit pilot projects were announced last week
- IPv6 prefix should be stable and not change daily
- *Default security posture is to block all inbound traffic*

# Web Servers Location






<http://6lab.cisco.com/stats/>



# Top Web Content Providers

Rank	Country	Sample	Green
1	 <a href="#">Czech Republic</a>	50	42.0% (21)
2	 <a href="#">Slovenia</a>	50	32.0% (16)
3	 <a href="#">United States of America</a>	50	28.0% (14)
4	 <a href="#">Singapore</a>	50	20.0% (10)
5	 <a href="#">Switzerland</a>	50	20.0% (10)
6	 <a href="#">Norway</a>	50	18.0% (9)
7	 <a href="#">Brazil</a>	50	18.0% (9)
8	 <a href="#">Azerbaijan</a>	50	18.0% (9)
9	 <a href="#">Montenegro</a>	50	16.0% (8)
10	 <a href="#">Reunion</a>	50	16.0% (8)

42	 <a href="#">Malaysia</a>	50	8.0% (4)
43	 <a href="#">Belgium</a>	50	8.0% (4)
44	 <a href="#">Taiwan</a>	50	8.0% (4)

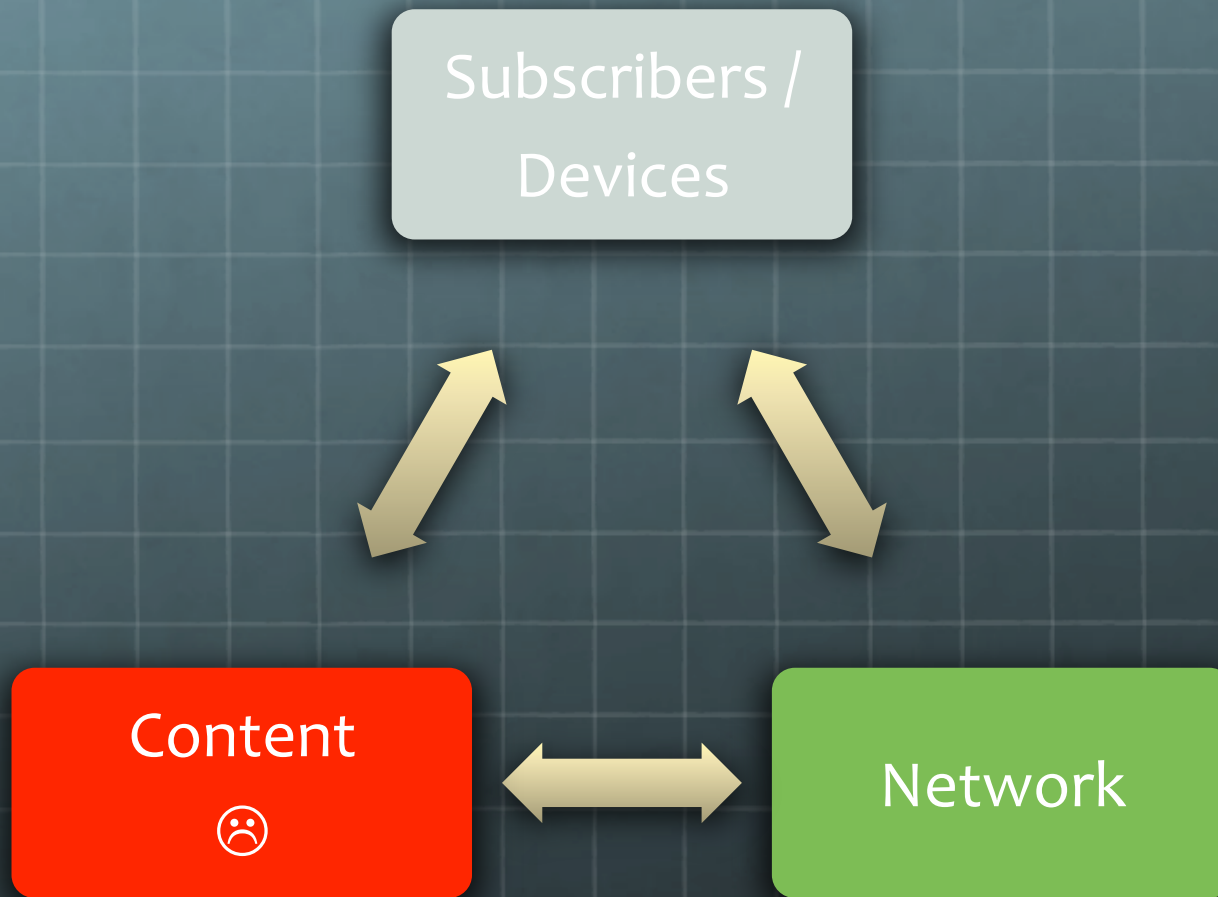
Content Distribution Network:  
Cloudflare mainly but also Akamai and others

<http://www.vyncke.org/ipv6status/>

# IPv6 Content in Belgium?

- 🌐 International content 😊
  - 🌐 Google, Facebook, Youtube, Netflix, Wikipedia, Yahoo, LinkedIn ...
- 🌐 **Little local content** 😞
  - 🌐 #13: [www.rtbef.be](http://www.rtbef.be) since 2010 (hosted in CH)
  - 🌐 #30: [IPv6.belgium.be](http://IPv6.belgium.be) (test mode)
  - 🌐 #45: [www.kuleuven.be](http://www.kuleuven.be) since 2011
  - 🌐 ... [www.bipt.be](http://www.bipt.be) ... [www.beltug.be](http://www.beltug.be) ... [www.spa-aviation.be](http://www.spa-aviation.be)

# The IPv6 Triangle Relationship





# The Tortoise and the Hare

- 🌐 Belgian had a head-start as the hare...
- 🌐 But, the winner is known at the end only and Belgium takes some rest...
- 🌐 **Mobile providers: no public plan**
- 🌐 **Content: nearly no major Belgian web sites**
  - 🌐 CDN (Akamai & co) makes it EASY!
  - 🌐 Security risk caused by CGN use

