

# IPv6 at XS4ALL

"The big delay"



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RIPE-59 Lisboa



## Agenda

- Who am I
- Why I'm here
- Pilot status
- A bit on CPE
- The delay
  - Organisational
  - Legal
  - CPE







## Company profile

- Oldest Dutch ISP, founded May 1st 1993
- Origins in Hacktic
- co-founder AMS-IX
- Ltd since 1996
- 100% KPN subsidiary since Dec 1998
- 200 employees
- 300.000 customers
- DSL, hosting and co-location



#### RIPE 58

XS4ALL

- Announced a working setup
- Issued a press release
- Started a small scale pilot
- Announced more to come at RIPE 59

#### Internet krijgt bijna oneindig adresboek

Van onze redactie economie

AMSTERDAM – Internet groeit zo snel, dat binnen twee jaar alle oude webadressen op zullen zijn. Gisteren sloot internetaanbieder Xs4all voor het eerst in Nederland een adsl-abonnee aan op een webadres dat volgens een nieuw, schier onuitputtelijk systeem werkt.

De huidige reeks internetadressen is naar verwachting over zevenhonderd dagen op. Dit betekent dat alle bijna vier miljard apparaten die nu met internet zijn verhonden een de omnummering, die de provider automatisch uitvoert in het adsl- of kabelmodem. "De klant moet er geen last van hebben," zegt woordvoerder Niels Huijbregts van Xs4all.

Het nieuwe adressysteem IPv6 is vrijwel onuitputtelijk. Terwijl het oude systeem maximaal 3,7 miljard adressen aan kan, zijn dit er in het nieuwe zo veel, dat iedere mens op aarde 50 quadriljard (een 5 met 28 nullen) adressen mag gebruiken.

Xs4all maakte de eerste nieuwe aansluiting gisteren bekend tijdens de internationale internetconferentie Ripe58 in Amsterdam. Ripe deelt de IP.nummers uit aan internetore

Het Parool 6 mei 2009



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#### Status October 2009

- Approx 40 'customers' entered
- Around 30 35 live
  - Configuration issues
  - Not being able to run services
  - No time (or simply being lazy)
- 'Customers' includes journalists/NCC staff/ vendors
- Infrastructure ready to roll!





## FRITZ!Box (AVM)

- ✓ Announced March 2009
- √ Works and is now public
- √ Recognizes IPv6 is essential
- Status still beta ('labor version')
- No (configurable) firewall
- No backport to older model (71xx)







#### Cisco 87x

- √ Works without any problems
- √ Fully configurable
- √ No real firewall but ACL works
- Reported issues on WIFI
- Requires some knowledge and expertise



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## Juniper netscreen (dsl)

- √ Should have IPv6 support
- Couldn't get it to work
- IPv6CP missing on PPPoA, broken on PPPoE
- DHCPv6-PD not clear
- Issued new hardware for test last week
- Test planned this month



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## Thomson (speedtouch)

- √ Beta ready for testing
- 789 and possibly 781
- PPPoE only at the moment
- Basics only
- Trying to plan a first test next week



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## Draytek

- ✓ Ran of with our specs...
- ...and never heard from them again







# So what's up?







## Operational issues





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#### Resources



- IPv6 is important
- Other projects are even more important
- dual-stack on Juniper E320 lowers maximum number of customers by 50%
- Still lacking provisioning tools



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## Support

- Need training
- Hard to create training material when stuff is still beta



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#### Sales

- Demand is still very low
- 3 requests this year from B2B
- hundreds from residential
- Coolness?

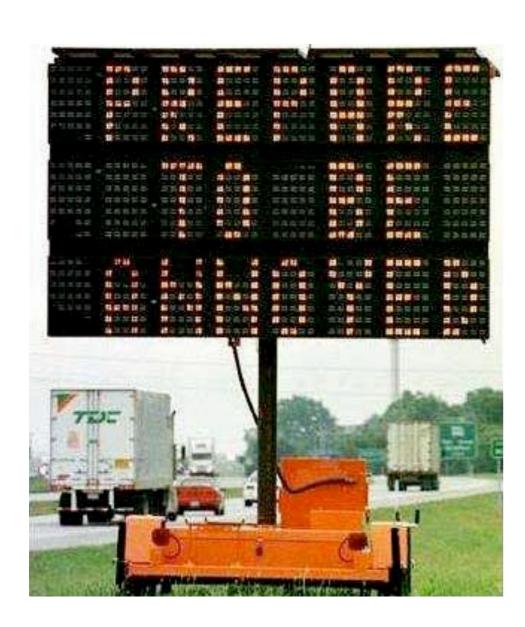


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## Legal





Disclaimer: this is based on Dutch Law, local situation might be different



## Lawful Intercept

- Specifies both v4 & v6
- Very small market
- Fine for non compliance can be as much as 10% of your yearly revenue





#### Centraal Informatiepunt Onderzoek Telecom (CIOT)



- Central database at the dept. of justice
  - phone numbers
  - email addresses
  - IP addresses (v4 & v6)
- Updates pushed out every 24 hours
- Accessible by every police employee (without a warrant)
- > 250.000 requests/month
- EU showcase so be carefull





#### Data retention

- Law passed
- Specification is being worked on
- Most likely will also define v4 and v6
- Impact unknown



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## Was it useful so far?





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#### Results after RIPE-58

- Print in 6 national newspapers
- Various international websites
- Been contacted by vendors
- Invited to various meetings and fora
- Helping other operators
- Talking to enterprises as well



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## You can't do it all by yourself

- Talk to eachother
- Share experiences
- Join eachother towards vendors
- Make the problem known to the public



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### Because you all love trains

- Noord Zuidlijn Amsterdam
- Original idea in 1968
- Referendum 1997 (result no)
- Decision to build in 2002
- Start build in 2003
- Estimated delivery in 2011









meer adressen.