

Native IPv6

Results and statistics

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Who are we ?

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- Small Dutch ISP
- 100% daughter of KPN NV
- 270k DSL subscribers
- ...and we run IPv6

History

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- See earlier presentations at RIPE 58 and RIPE 59
- Closed pilot in May 2009
- Open pilot in March 2010

IPv6 as a standard offering

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- Announced August 26th, 2010
- Feature is opt-in
 - No experience with it on support
 - We don't want any surprises
 - CPE firmware still beta
- Available for all current residential DSL products
 - Covers 80% of the install base
 - Business offering being worked on
 - Legacy products excluded (RFC1483)

Keep it simple

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- Login onto the self service portal
- Push a button
- Flash or replace CPE
- Be done

Activating it (1/2)

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IPV6

XS4ALL geeft IPv6 adressen uit naast uw IPv4 adres. Met de nieuwe IPv6-reeks zijn in tegenstelling tot de oude IPv4 adressen tot in de verre toekomst genoeg IP-adressen beschikbaar. Meer informatie op de [IPv6 pagina](#).

Indien u geen IPv6 meer wilt schakel IPv6 dan uit in het modem.

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Verbindingen

Gebruikersnaam	IPV4 adres	IPV6 adres
njal	82.95.204.	geen

Activeer IPV6

The button

Activating it (2/2)

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IPV6

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Verbindingen

IPV6 adres geactiveerd.

Gebruikersnaam

nja

IPV4 adres

82.95.204.

IPV6 adres

2001:980:1 e::/48



The results



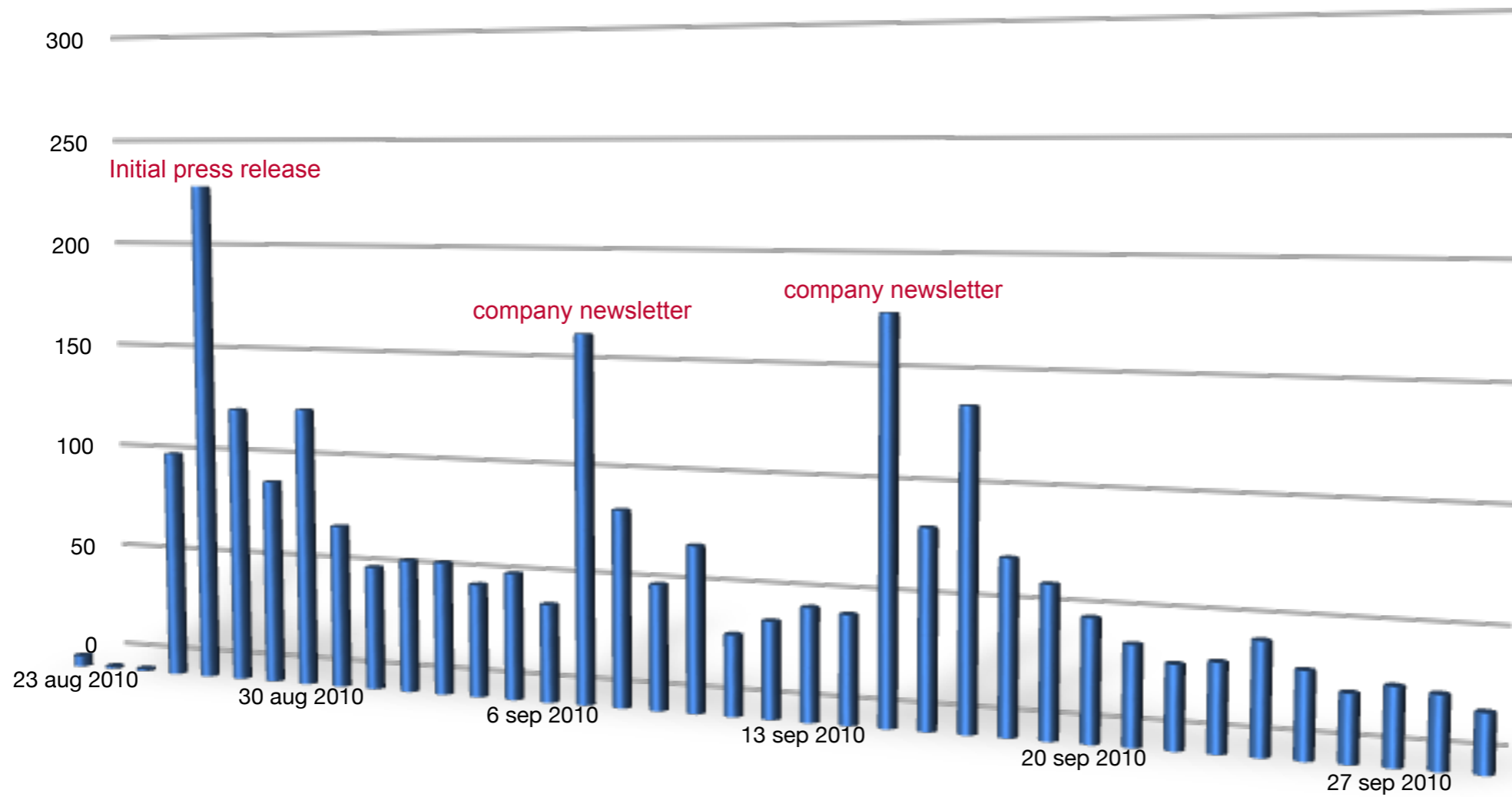
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Activations per day

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Number of IPv6 activations



Activations (2)

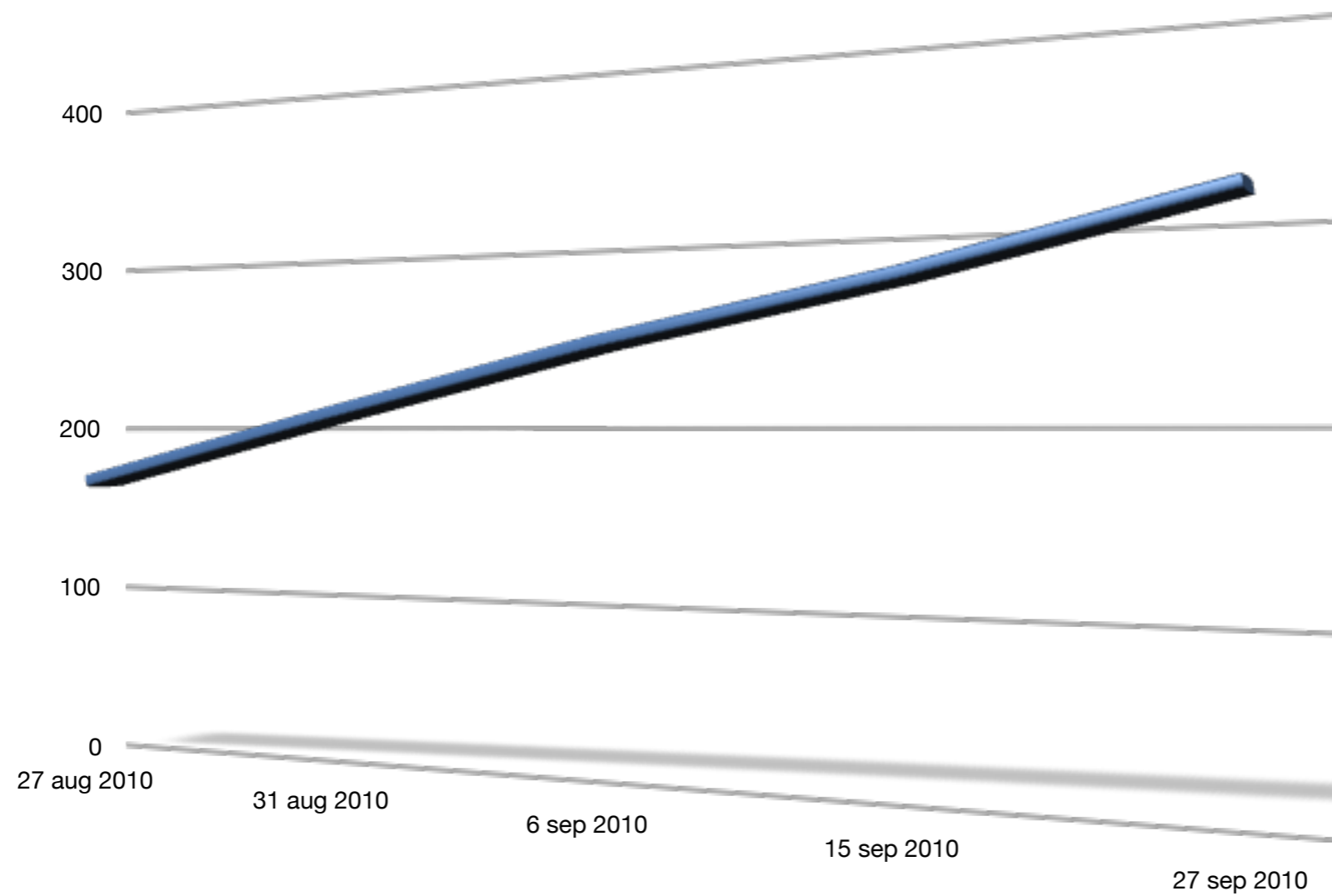
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- Every time we make noise, people activate
- Up to November 14th
 - 4048 people activated IPv6 (1.5 % base)
 - Average 45 per day
 - Last 30 days still at 25/day
 - Without much advertising
 - Press coverage does the trick

Customers online

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Number of active leases



Customers online

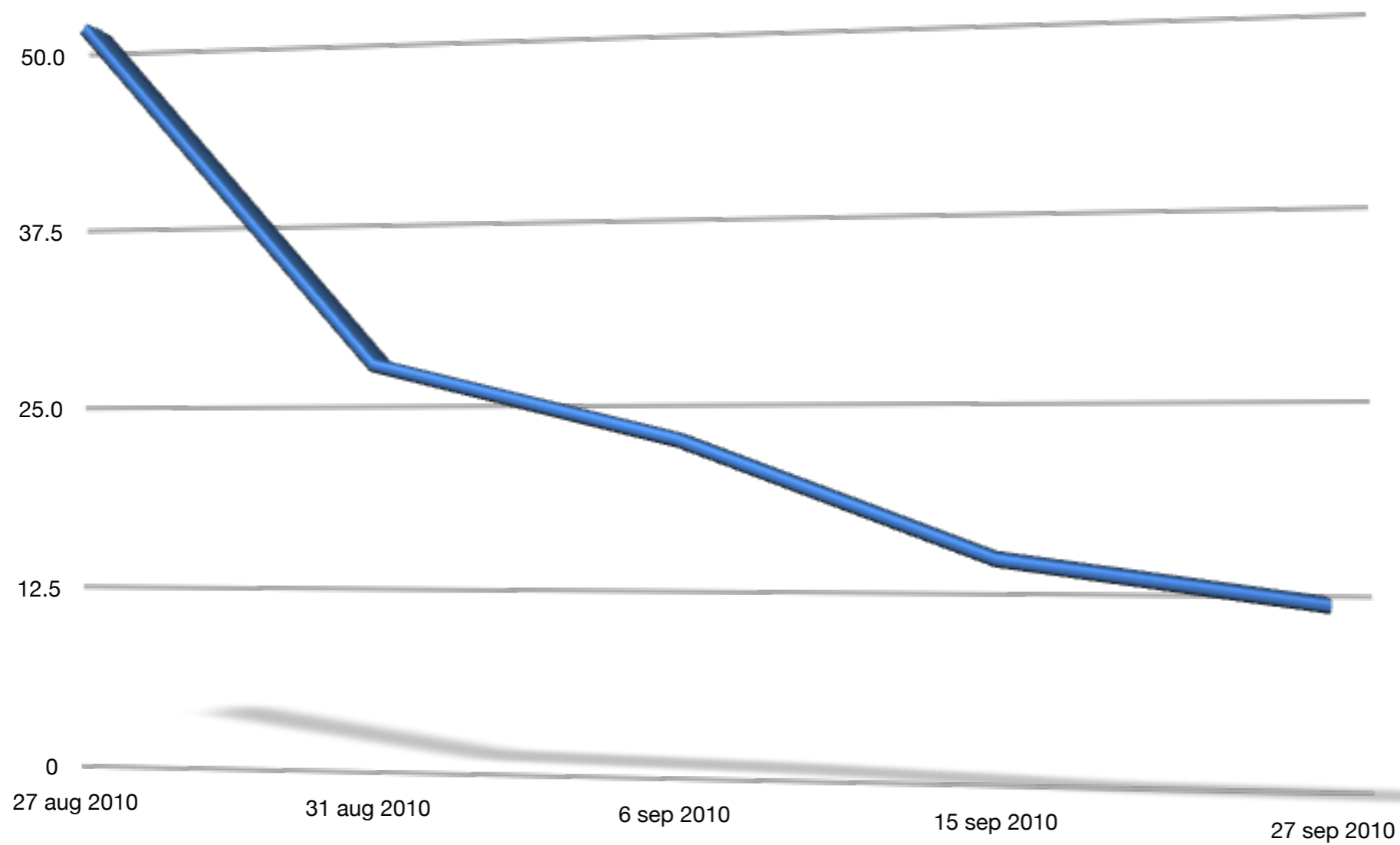
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- Taken from DHCPv6 lease table
- Not automated, so irregular interval
 - Aug 31st: 208
 - Sep 15th: 276
 - Sep 27th: 313
 - Oct 22nd: 359
 - Nov 24th: 426
- Number of customers is slowly growing

Activated vs Online

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Percentage of customers online



Statistics November 24th

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- 4048 people activated
- 426 active leases
- Only 10.5 % has working IPv6
 - Approx 3500 people 'missing' :(
 - But we haven't received 3500 calls :)

Causes for this

- People only realize they need a new modem after pushing the button.
- Or they are lazy and forget about it.
- Modems available upon contract renewal, so not everybody can get one (yet).
- Some firmwares default to 6to4 (invisible)
- Firmware for the supplied modem is broken
 - Works for VDSL2
 - Doesn't work for ADSL
 - Vendor is trying to solve this

Conclusions

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- If you tell customers they need IPv6, a certain number will go out and get it.
- But they don't want to spent much effort
 - They either can't tell wether it's working
 - Or they can't be bothered with it
- Don't roll based on a beta firmware
 - Things can and probably will break
 - Can you really trust your vendor to deliver ?

Fixes ?

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- More noise about the world ending ?
- Exclusive content to push them to get it working ?
- Default off instead of 6to4 ?
- Push the vendor to deliver

Questions ?



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meer adressen.