

Deployment Plans Behind Larger IPv6 Allocations

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Allocations & Inputs Received

- Many thanks for those inputs !
 - Of course, non-confidential issues only included here
- In order to prepare this presentation, we have received inputs from:
 - Charles Bovy – Vodafone (NL)
 - 2001:1600::/31 allocated on 02/09/2003
 - ???? – Sunrise (CH)
 - 2001:1700::/27 allocated on 24/11/2003
 - More big allocations coming, waiting for IANA ...
 - DoD (Michael Brig):



Vodafone Libertel Background

- Vodafone Libertel is a telecommunications operator based in the Netherlands, part of the Vodafone Plc group
- Vodafone Libertel operates on GSM mobile communications, holds a 3G UMTS license for deployment within the country and also provides IP services to its customers over the Internet
- Vodafone Libertel operates nationwide in the Netherlands
- Vodafone Libertel currently provides IPv4 services to corporate customers, VPN customers, internal networks and services, and internet access to its Mobile users via 2.5G GPRS and 3G UMTS
- The total number of its mobile subscribers is currently of 3.4 million

Vodafone GIN

- GIN stands for Global IP Network
 - Is the IP network between the Vodafone operators
- Besides the national IP backbone, Vodafone Libertel is responsible for the Global IP Network
- The Vodafone GIN interconnects the local Vodafone operator's national IP networks
- The Vodafone GIN is operated by Vodafone Netherlands located in Maastricht, The Netherlands

Vodafone & IPv6

- Currently Vodafone Libertel is participating in an IPv6 trial network with other Vodafone operators and intends to provide IPv6 production services in the near future on the mobile 3G sectors
- Vodafone NL holds a /31 IPv6 range
 - /32 is for the Vodafone NL company
 - /32 is for the Vodafone GIN network
- The IPv6 addressing policy of Vodafone advises to have for each Vodafone operator a /32
 - Within each operator the same addressing scheme can be used
 - The IPv6 addressing policy document describes this scheme
 - Note that is not mandatory

Vodafone & IPv6/3G UMTS

- Currently Vodafone NL has launched the 3G UMTS service
 - IPv6 is not yet used for this service
 - Plans exists to roll-out IPv6 over the IP-backbone of Vodafone NL and Vodafone GIN
- User-traffic over IPv6 is not yet scheduled
 - A lot of dependencies on other systems (GGSN, etc.)
- The idea is that we prefer each operator in each country request an own IPv6 allocation:
 - (larger) operators do not want to be dependent of Vodafone GIN regarding internet connectivity
 - In the future parts of Vodafone Plc could be sold which affects a renumbering
 - Some operators already have an allocation
 - Some political issues

Vodafone & IPv6 Customers

- According to the 3GPP specs each mobile device needs a minimum of a /64
- For corporate users/networks mobile devices a /48 can be assigned
- Personal area networks (PANs) can be attached to the mobile device

Vodafone Interviewed ;-)

1. When do you expect every Vodafone operator to request news prefixes ?
 - Each Vodafone operator needs to become LIR to get a IPv6 prefix. Some operators already have: Portugal, Germany, etc.
2. Do you believe a /32 will be enough for every operator ?
 - I think a /32 will be enough. It depends on the allocations to customers. Regarding the specs a /64 is sufficient for a customer.
3. What do you mean with IPv6 roll-out over the IP-backbone ?
 - Currently the IP backbone network is IPv4-only. In the near future the backbone of Vodafone NL and Vodafone GIN needs to support IPv6.
4. You will use dual stack or only IPv6 ?
 - I think we will use both.
5. Have you already decided (if required in some points in the network) to use any specific transition mechanism ?
 - Not yet. We have tested NAT-PT, but I think dual stack proxies are used in the future as well.

Vodafone Interviewed ;-) (cont.)

6. Any "possible" or intended schedule for IPv6 usage in 3G for user-traffic ?
(or is only depending on GGSN, etc. availability with IPv6)
 - Confidential ?
7. Do you feel IPv6 is important for 3G, or you do this only because standards mandate it ?
 - Whenever Peer-2-peer communication is necessary for a broad public, IPv6 is necessary. Especially when IPv4 addresses are rare.
8. What is your position about the usage of IPv4 with IMS ? It make sense for you using private address space, or it will break something and make more difficult to provide new applications and services ?
 - Interworking with other operators is hard to do when using private address space.
9. Are you already considering any specific IPv6 applications or services ?
 - Not yet as far as I know.

US DoD

- The plan is to get the big allocation with hopefully some additional reserve to uniquely identify the DoD on the IPv6 Internet versus many parts of the DoD identifying themselves independently
 - There are lots of good ramifications to this and a few negatives also
- It is anticipate we will give back our current IPv6 allocations when this happens
- Our “BIG” allocation should be larger than /21 ?
- Our current networks can't fit into anything like a /32

Thanks !

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- Madrid 2004 Global IPv6 Summit, more info soon at:
<http://www.ipv6-es.com>

