RIPE 47: IPv6 WG

27 January 2004

Hotel Krasnapolsky, Amsterdam

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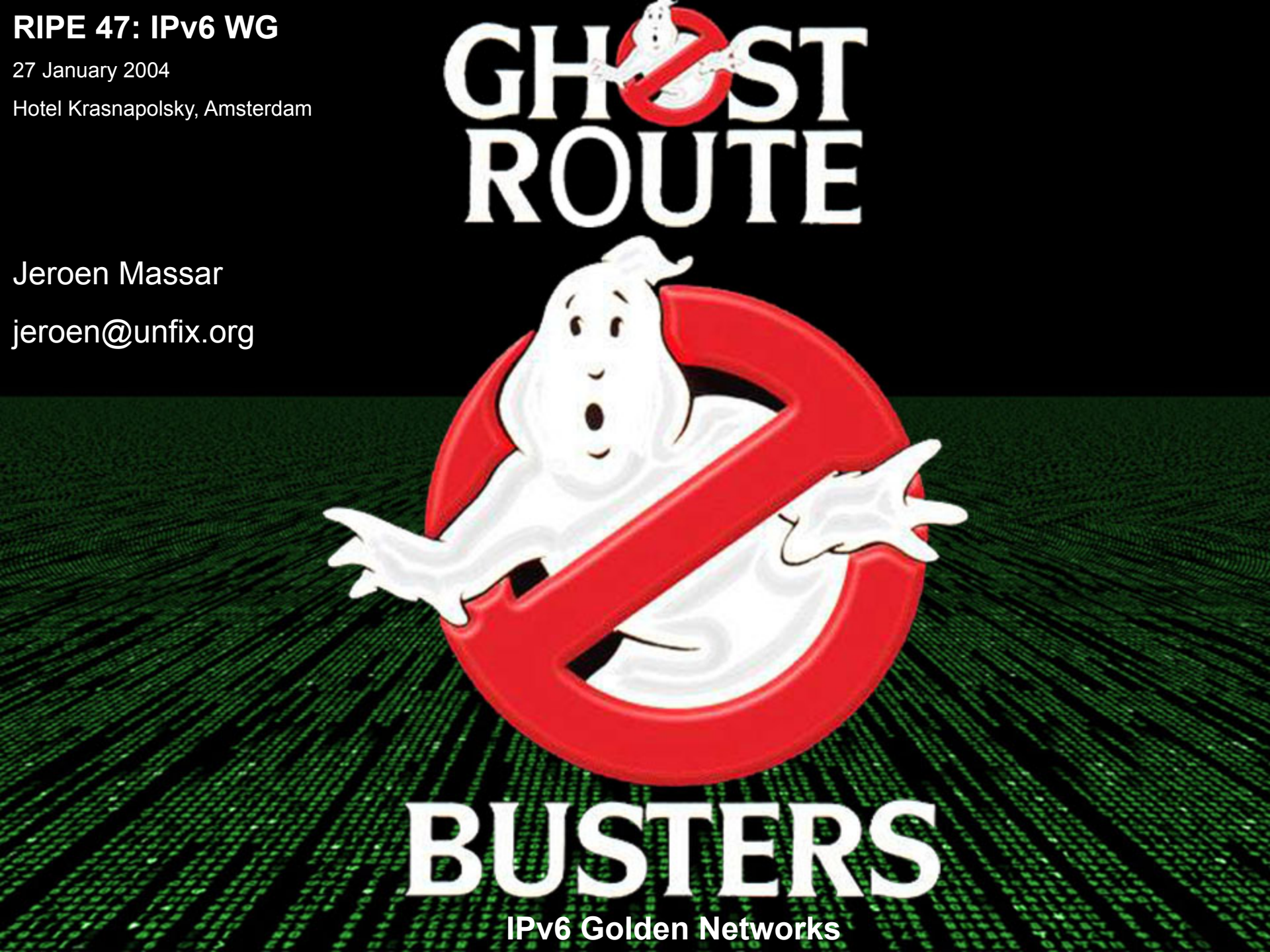


IPv6 Golden Networks

Ghost Route Hunter

GRH: Ghost Route Hunter

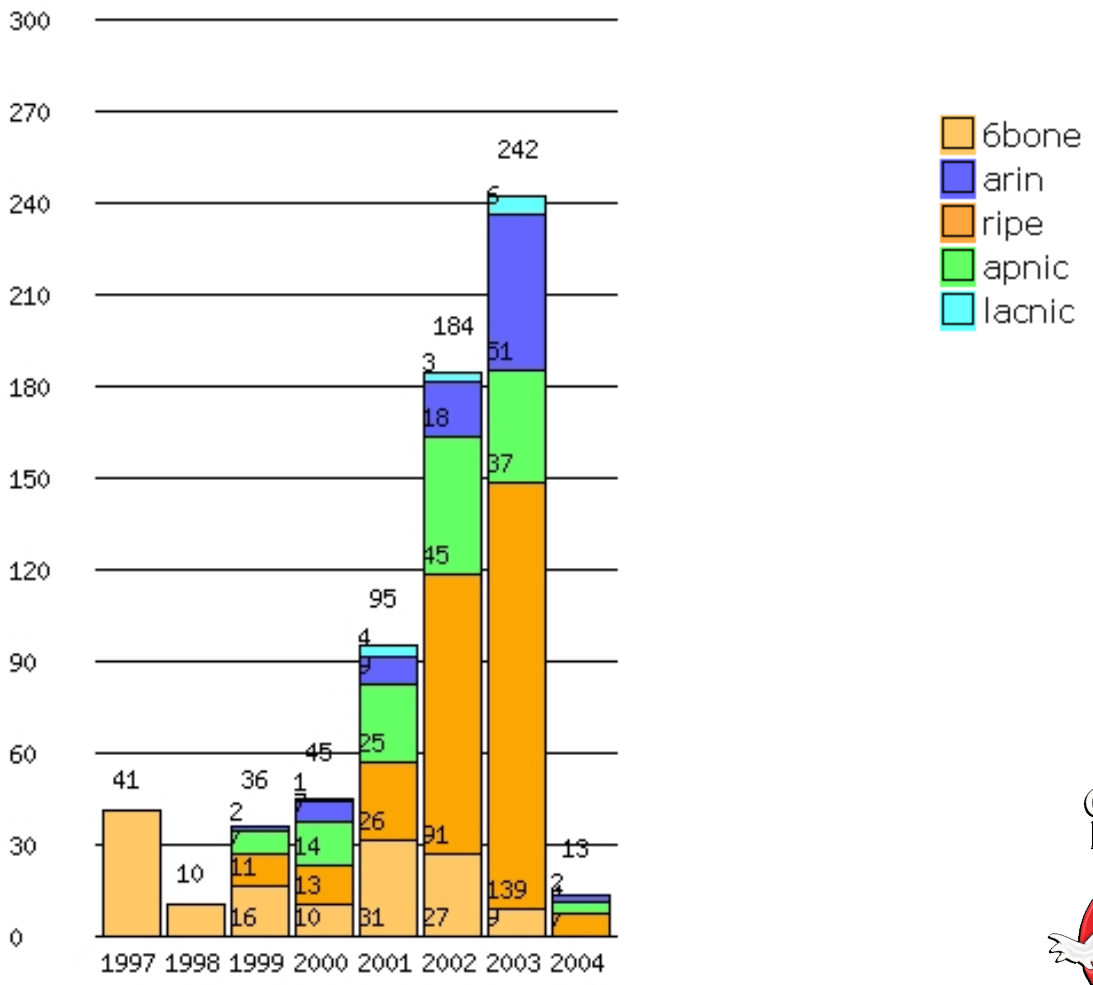
URL: http://www.sixxs.net/tools/grh/

Contact: info@sixxs.net

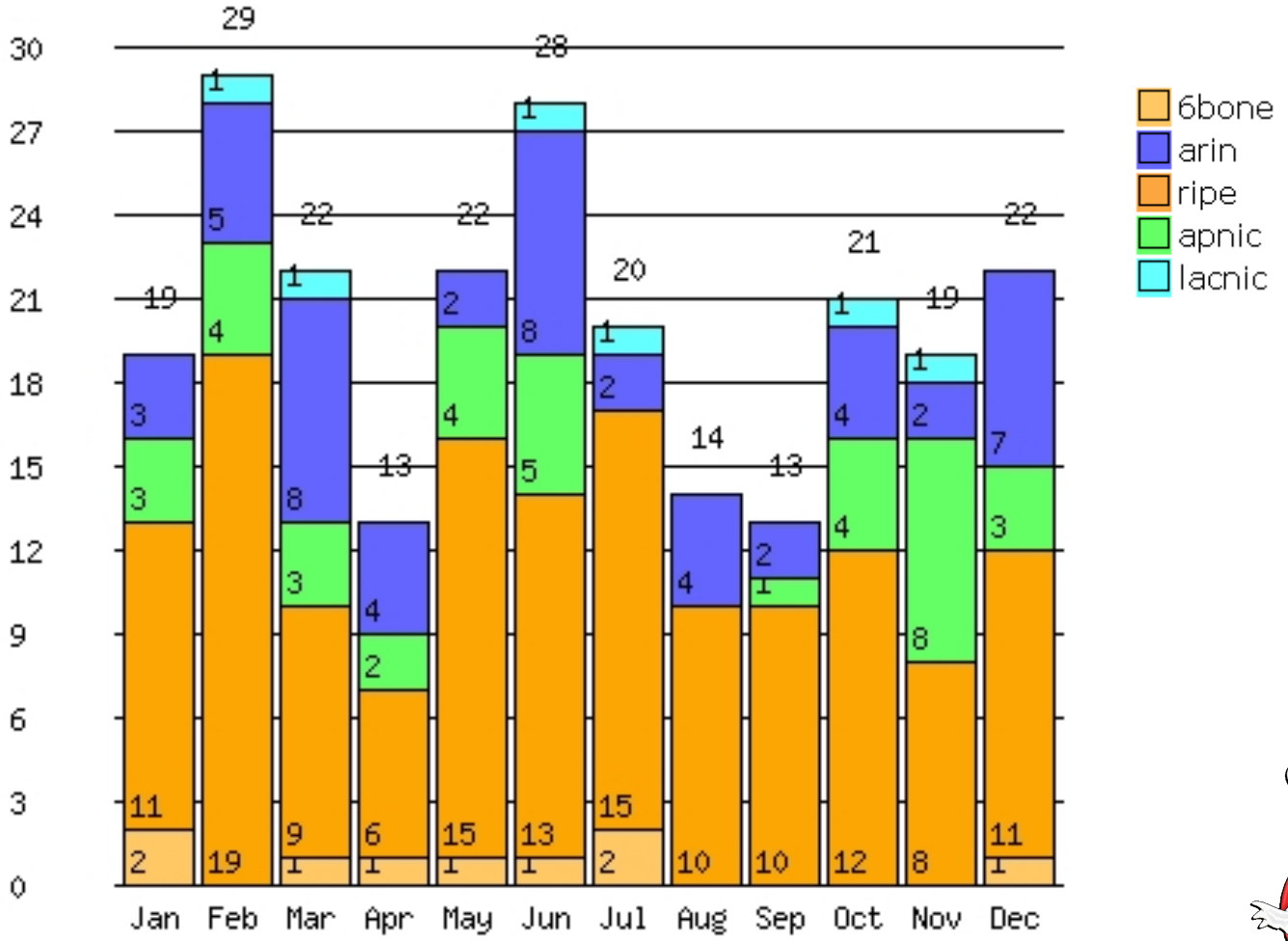
A tool for detecting and hunting down Ghost Routes in the IPv6 routing tables and displaying TLA availability.

More peers always wanted for a better view into the routing tables!

TLA allocations



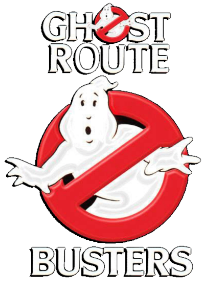
TLA allocations 2003



SixXS TLA report for RIPE region

The database currently holds 287 IPv6 TLA's.

105 (36.59%) IPv6 TLA's didn't have a routing entry.
182 (63.41%) networks are currently announced.
0 only announced a /35 while they have been assigned a /32.
5 (1.74%) announce both their /32 and their /35.

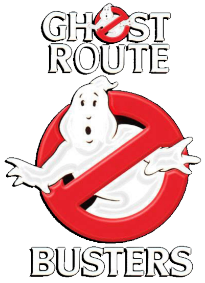


Documentation Prefix

2001:db8::/32

http://www.apnic.net/info/faq/ipv6-documentation-prefix-faq.html
http://www.ietf.org/internet-drafts/draft-huston-ipv6-documentation-prefix-01.txt

```
inet6num:       2001:0DB8::/32
netname:        IPV6-DOC-AP
descr:          IPv6 prefix for documentation purpose
country:        AP
admin-c:        HM20-AP
tech-c:         HM20-AP
status:         ALLOCATED PORTABLE
remarks:        This address range is to be used for documentaiton
remarks:        purpose only. For more informaiton please see
remarks:        http://www.apnic.net/info/faq/ipv6-documentation-prefix-faq.html
mnt-by:         APNIC-HM
changed:        hm-changed@apnic.net 20040115
source:         APNIC
```

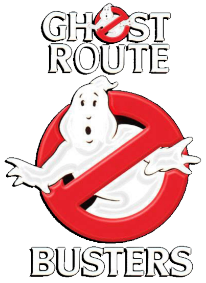


IPv6 Addresses

- **2000::/3 – current global unicast**

- **2001::/16 – RIR space (RIPE/ARIN/LACNIC/APNIC)**
- **3ffe::/16 – 6bone (going away 6/6/6)**

- **fe80::/10 – Link Local**
- **fec0::/10 – Site Local (deprecated)**
- **ff00::/8 – Multicast IPv6**



Exchange Points

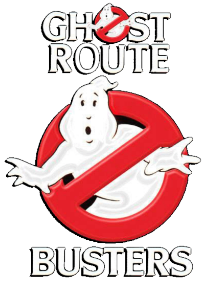
IPv6 Address Space Policy for Internet Exchange Points _

http://www.ripe.net/ripe/docs/ipv6-policy-ixp.html

"4.0 Warning: Networks assigned under this policy *may* not be globally routable."

2001:7f8::/32 (39) - 8 routes
2001:504::/30 (10) – No routes
2001:7fa::/32 (10) – No routes
59 in total

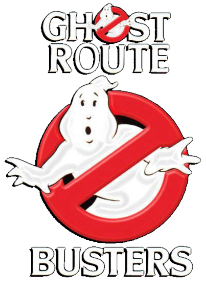
APNIC is going to lift routing restriction per 2004-03-19
http://www.apnic.net/docs/policy/proposals/prop-011-v001.html



Currently seen IX's

2001:7f8:1::/48	AMSIX
2001:7f8:2::/48	UK6IX
2001:7f8:4::/48	LINX
2001:7f8:5::/48	LIPEX
2001:7f8:8::/48	ECIX
2001:7f8:b::/48	MIX
2001:7f8:18::/48	INEX
2001:7f8:22::/48	F-IX

8 out of 39 allocated blocks

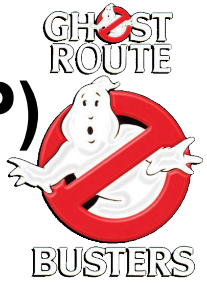


EP.net Exchanges

http://www.ep.net/policy.html

2001:478::/32 announced by AS6175 (Sprint)
Should only announce /48's.
Currently seen :
2001:478:65::/48
2001:478:9200::/48
both announced by AS4555 (EP)

Also seen: 2001:478::/45 from AS4555 (EP)



Micro Allocations

ARIN

http://www.arin.net/registration/ipv6/micro_alloc.html

2001:0504::/30

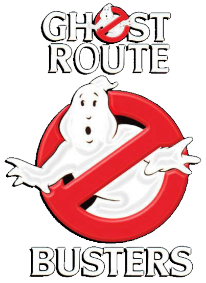
Exchange Points

10 at the moment

2001:0500::/30

Critical Infrastructure

4 at the moment



DNS servers

(http://www.root-servers.org)

2001:7fd::/32 – K

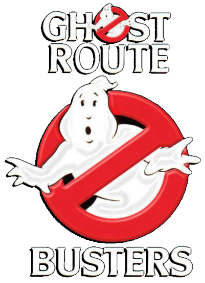
2001:7fe::/32 – I

2001:dc3::/32 – M

2001:500::/32 – ISC F + H

Others:

2001:dc4::/32 .jp



Filtering

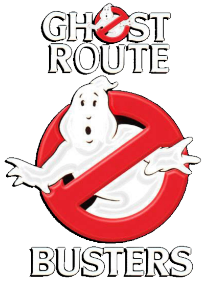
- **Very little filtering in the IPv6 world**
- **/64's announced and seen globally**
  - **bad aggregation leakages**

IPv6 Filter Recommendations by Gert Döring

http://www.space.net/~gert/RIPE/ipv6-filters.html

Minimal IPv6 Peering by Robert Kießling

http://ip6.de.easynet.net/ipv6-minimum-peering.txt



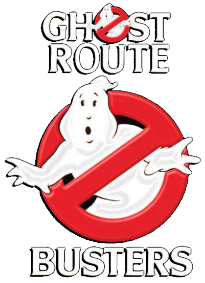
References

APNIC Proposals:
http://www.apnic.net/docs/policy/proposals/prop-011-v001.html

RIPE Smallest Assignments:
http://www.ripe.net/ripe/docs/smallest-alloc-sizes.html

ARIN's list of Micro Allocations:
http://www.arin.net/registration/ipv6/micro_alloc.html

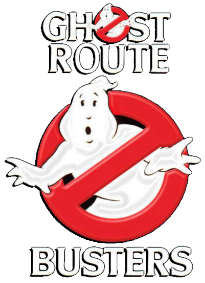
RIPE's list of IPv6 allocations:
http://www.ripe.net/ipv6/ipv6allocs.html



Questions?

http://www.sixxs.net/tools/grh/

Jeroen Massar

JRM1-RIPE

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