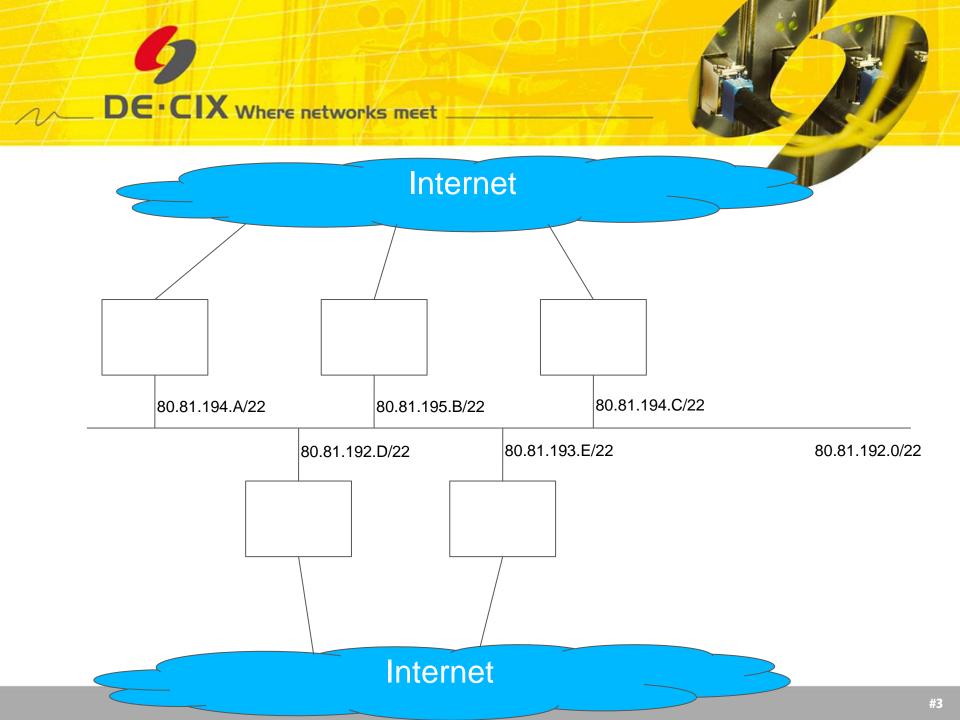


Proxy-Arp considered harmful

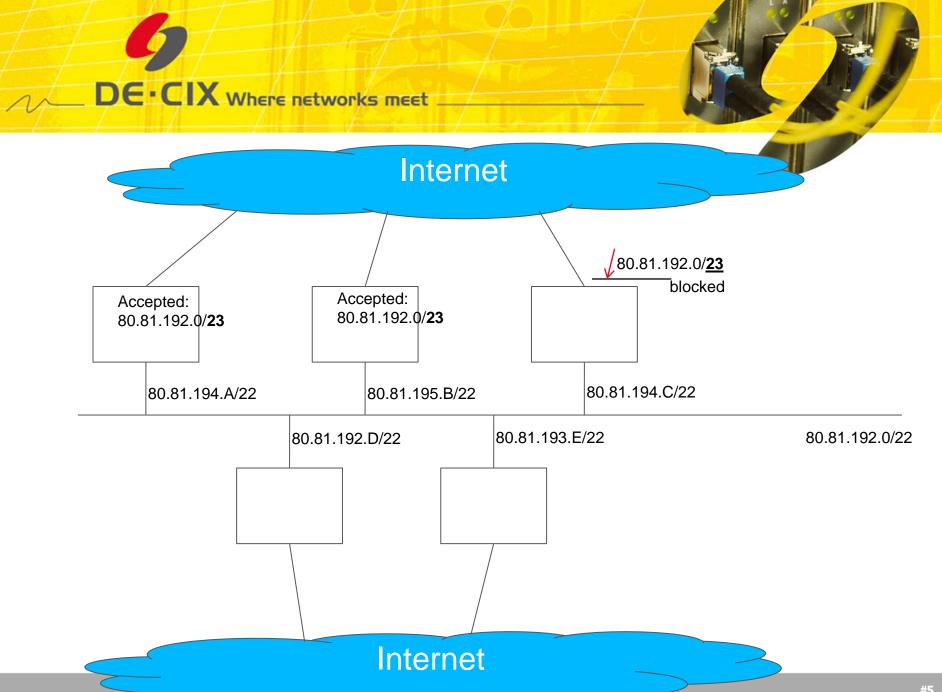
2011-11-03 RIPE63 - EIX Working Group

Wolfgang Tremmel **Director Support** wolfgang.tremmel@de-cix.net





DE-CIX Where networks meet Internet 80.81.192.0/<u>23</u> √80.81.192.0/<u>23</u> 80.81.192.0/<u>23</u> 80.81.194.C/22 80.81.194.A/22 80.81.195.B/22 80.81.193.E/22 80.81.192.D/22 80.81.192.0/22 Internet



DE-CIX Where networks meet Internet 80.81.192.0/<u>23</u> blocked Accepted: Accepted: 80.81.192.**0/23** 80.81.192.0/23 80.81.194.C/22 80.81.194.A/22 80.81.195.B/22 80.81.192.D/22 80.81.193.E/22 80.81.192.0/22 ARP-Request: Who has 80.81.193.1? Internet

DE-CIX Where networks meet Internet No proxy-arp 80.81.192.0/<u>23</u> blocked Accepted: Accepted: 80.81.192.**0/23** 80.81.192.0/**23** 80.81.194.C/22 80.81.194.A/22 80.81.195.B/22 80.81.192.D/22 80.81.193.E/22 80.81.192.0/22 ARP-Request: Who has 80.81.193.1? Internet

DE-CIX Where networks meet Internet Send Traffic for No proxy-arp 80.81.193.1 to 80.81.192.0/<u>23</u> me! blocked Accepted: Accepted: 80.81.192.**0**/**23** 80.81.192.0/23 80.81.194.C/22 80.81.194.A/22 80.81.195.B/22 80.81.193.E/22 80.81.192.0/22 80.81.192.D/22 ARP-Request: Who has 80.81.193.1?

Internet





Proxy-ARP: a history

- RFC 1027: "Using ARP to Implement Transparent Subnet Gateways"
 - 1987: A network with 100 hosts was considered large
 - Repeaters were common
 - Subnetting was "the new thing"
 - Proxy-Arp was a solution for connecting networks in which hosts were not aware of subnetting
- Proxy-Arp "on" as default in Cisco IOS since version 9 at least
- Do we still need this?





DE-CIX: Lessons learned

- Before the incidend we only tested proxy-arp when new customers connected
- Configuration changes went unnoticed
- Now:
 - We test all connected customers for proxy-arp every 10 minutes
 - In case we find one:
 - 24/7 support gets a message
 - Customer is notified
 - Customer port gets shut down
 - As soon customer confirmes he has turned off proxy-arp he gets re-enabled

DE-CIX Where networks meet

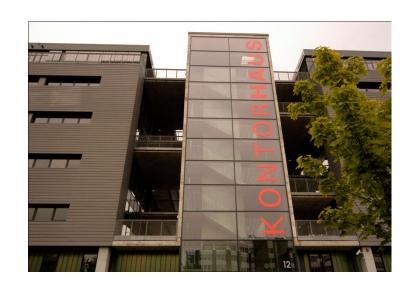


Thank you

Join DE-CIX now!

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