THC-IPV6 News

#1 IPv6 Hackers Meeting

Marc “van Hauser” Heuse

Hello, my name is …

Short thc-ipv6 summary

Bla bla bla ☺

The first IPv6/ICMPv6 attack toolkit

Today: 60 tools

Scanning Tools!

- Alive Scanning:
  - Alive scanning techniques: alive6
  - ICMPv6 Inverse Lookup: inverse_lookup6
  - ICMPv6 Node Query: node_query6
- DNS enumeration:
  - Brute: dnsdict6
  - Reverse: dnsrevenum6
  - DNSSEC: dnssecwalk
- Local Discovery:
  - NS: detect-new-ip6
  - Sniff: passive_discovery6
- Tracerouter: trace6
- Helper tools: address6

Man-in-the-Middle Spoofing Tools!

- ICMPv6 Redirects: redir6, redirsniff6
- NDP: parasite6, fake_advertise6
- RA: fake_router6, fake_router26
- DHCPv6: fake_dhcps6
- DNS: fake_dns6d
- Mobility: fake_mipv6

Denial-of-Service Tools!

- flood_advertise6
- flood_dhcpc6
- flood_mld6
- flood_mld26
- flood_mldrouter6
- flood_redirect6
- flood_router6
- flood_router26
- flood_solicitate6
- denial6
- dos-new-ip6
- exploit6
- fake_advertise6
- kill_router6
- ndpexhaust6
- ndpexhaust26
- rsmurf6
- sendpees6
- sendpeesmp6
- smurf6
- thcsyn6

Testing Tools!

- Extension headers + ICMPv6: implementation6
- Fragmentation: fragmentation6
- Firewall filtering: firewall6
- ICMPv6: randicmp6
- Fuzzer: fuzz_ip6

More Tools!

- covert_send6 + covert_send6d
- detect_sniffer6
- dump_router6
- inject_alive6
- thcping6
- toobig6
- four2six
- fake_dnsupdate6
- fake_mld26
- fake_mld6
- fake_mldrouter6
- fake_pim6
- fake_solicitate6

Little known feature:

INJECTION

Injecting into:

802.1q

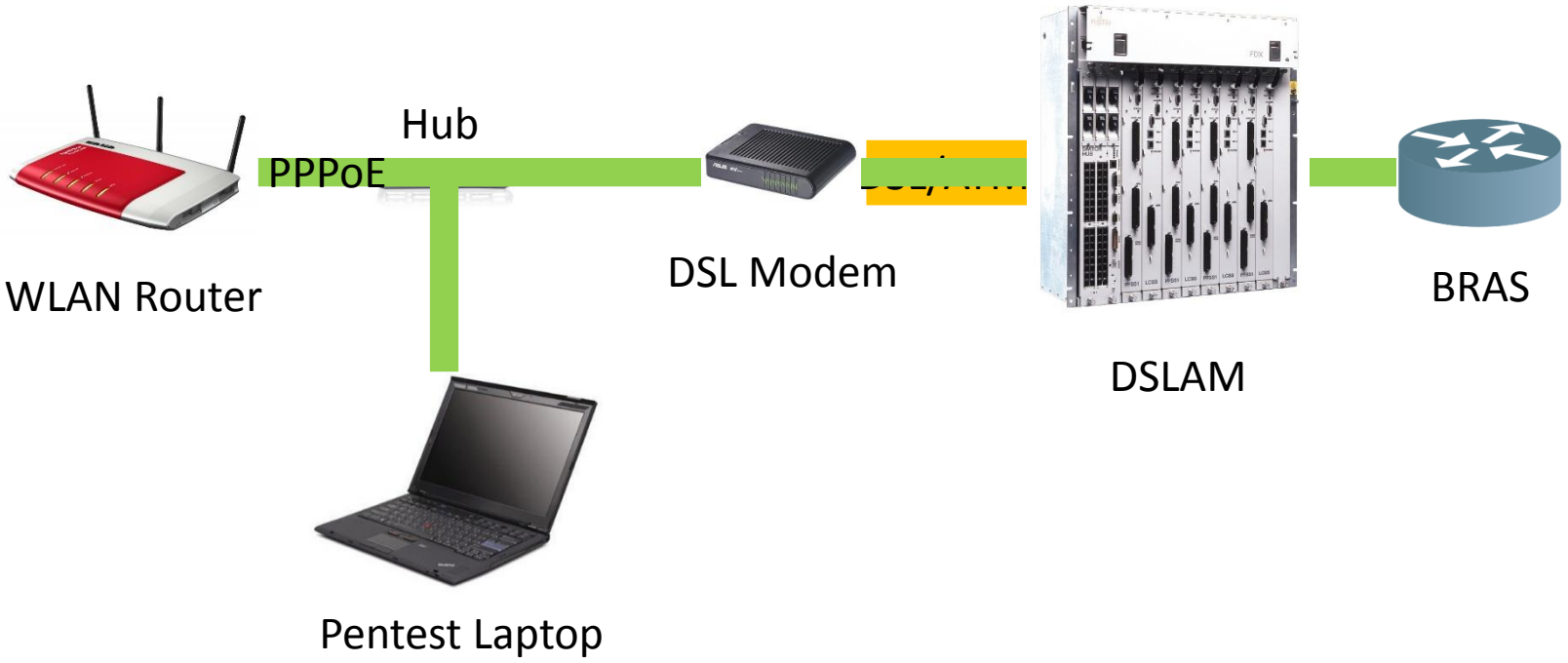
6in4

PPPoE

Why?

- Only way to test link-local BRAS security from subscriber line (PPPoE)
- Inject into tunnels that do not belong to you (6to4)
- Support environments with 802.1q VLANs

Setup for DSL PPPoE injection



Config by environment

- Set-up environment variable that describes the injection type and parameters

```
export THC_IPV6_xxx=value,value,value
```

- Then just run the thc-ipv6 commands normally

Config 802.1q

- THC_IPV6_VLAN=srcmac,dstmac,vlan-id
- e.g.

```
export THC_IPV6_VLAN=01:01:01:01:01:01,
02:02:02:02:02:02,1
```

Config PPPoE

- THC_IPV6_PPPoE=srcmac,dstmac,ppp-sessionid
- e.g.

```
export THC_IPV6_PPPOE=01:01:01:01:01:01,
02:02:02:02:02:02,0f2b
```

Config 6in4

- THC_IPV6_6IN4=srcmac,dstmac,src-ipv4,dst-ipv4
- e.g.

```
export THC_IPV6_6IN4=01:01:01:01:01:01,
02:02:02:02:02:02,1.1.1.1,2.2.2.2
```

Getting the information

- 802.1q

```
tcpdump -i eth0 -n -vvv -e ether proto 0x8100
```

- PPPoE

```
tcpdump -i eth0 -n -vvv -e ether proto 0x8864
```

- 6IN4

```
tcpdump -i eth0 -n -e ip proto 41
```

Running the tools

- Just run them
- You will always see the message

```
Information: PPPoE injection/sniffing activated
```

or

```
Information: 6in4 injection/sniffing activated
```

Important!

- Configure yourself the source IPv6 address that is needed!

Session keep-alive

- If you need to keep the PPPoE/6in4 session alive:

  ```
  inject_alive6 eth0
  ```

- Takes care of echo request/reply (PPP and ICMP)
- Checks changing of PPPoE sessionID

Tools that not work

parasite6 fake_solicitate6 fake_advertise6 connect6 detect_sniffer6 flood_advertise6 flood_solicitate6 inverse_lookup6 dnsdict6 dnsrevenum6 fake_dnsupdate6 fake_dhcps6 flood_dhcpc6

More information

- File HOWOTO-INJECT in the thc-ipv6 package

What's in upcoming v2.5

What's new in upcoming v2.5

- New: flood_redir6
  - flooding with ICMPv6 redirects
  - 10-35% traffic loss on high-end Cisco routers
- New: four2six
  - send an IPv4 packet via an 4to6 gateway

What's new in upcoming v2.5

- alive6:
  - Option -4 200.100.0/24 IPv4 address encoding scan option
- flood_router26:
  - more effectiveness against all vulnerable platforms ☺
- Small nice features for trace6, parasite6, fragmentation6 and randicmp6
- Many small changes to screen outputs, some changes to the library (IPv4 packet support) etc.

What do you think would be important tools and features that should be added?

Future

- More attack tools, e.g.
  - DHCPv6 client fuzzer
  - DHCPv6 server fuzzer
  - More configurable DHCPv6 fake server
  - More advances to scanning (alive6) and RA flooding (flood_router26)
  - More fragmentation weirdness tests
  - …

If you want to contribute – contact me ☺

Contact

Contact

Marc Heuse


+49 (0)177 961 15 60


+49 (0)30 37 30 97 26


mh@mh-sec.de


www.mh-sec.de


winsstrasse 68
d-10405 berlin

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