Some IPv6 related issues seen on the AMS-IX peering platform

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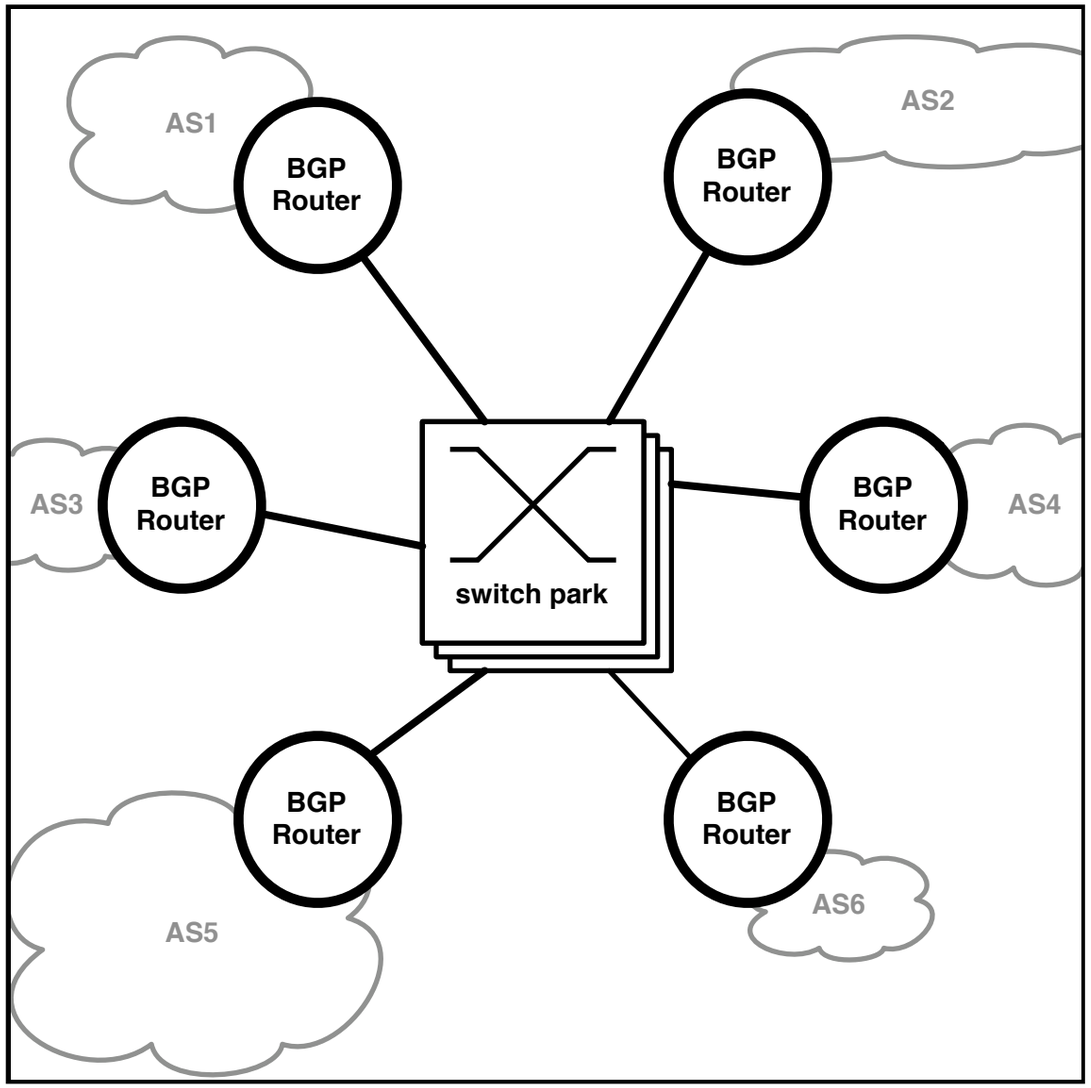
Introduction



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- We only do layer-2, so what is this presentation about?

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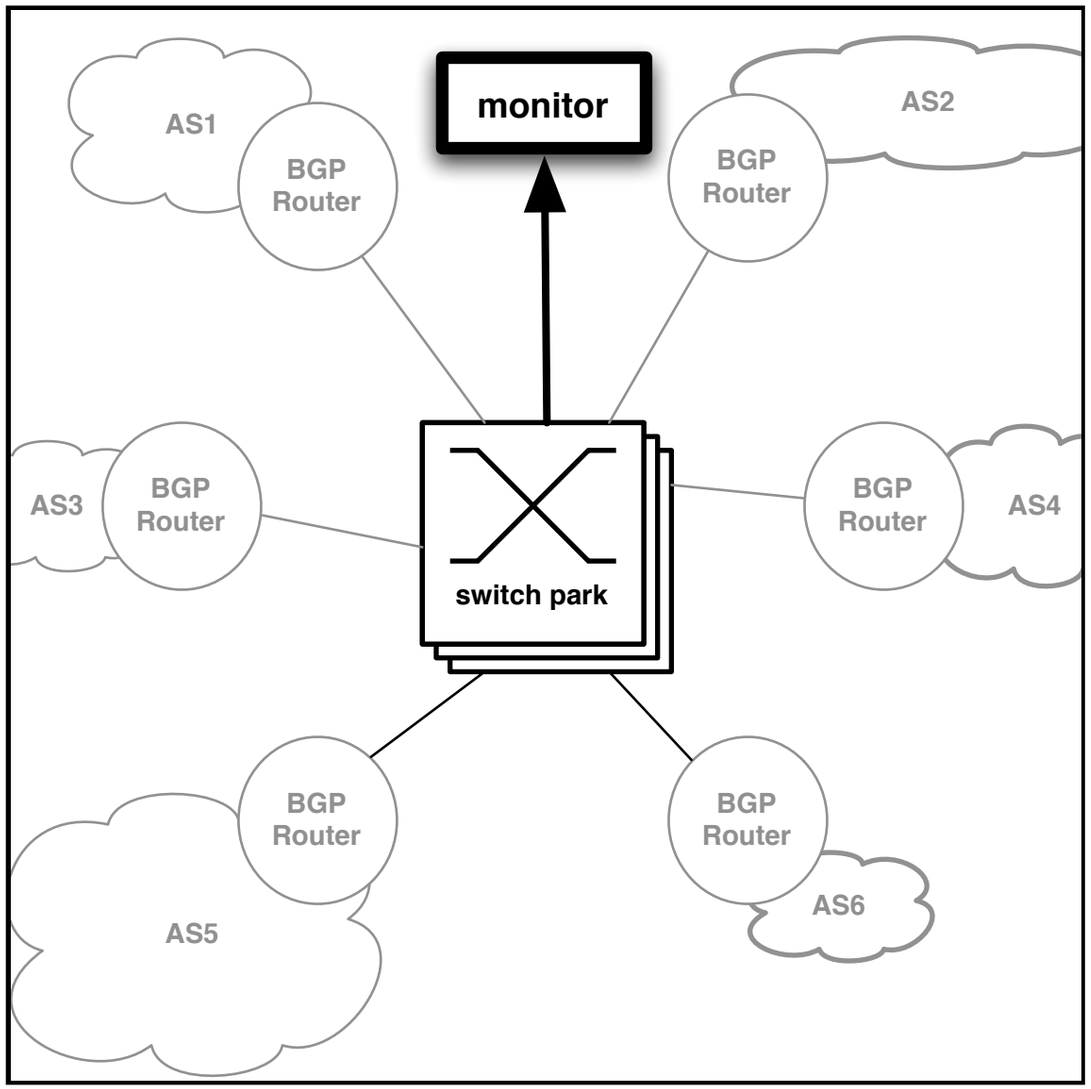

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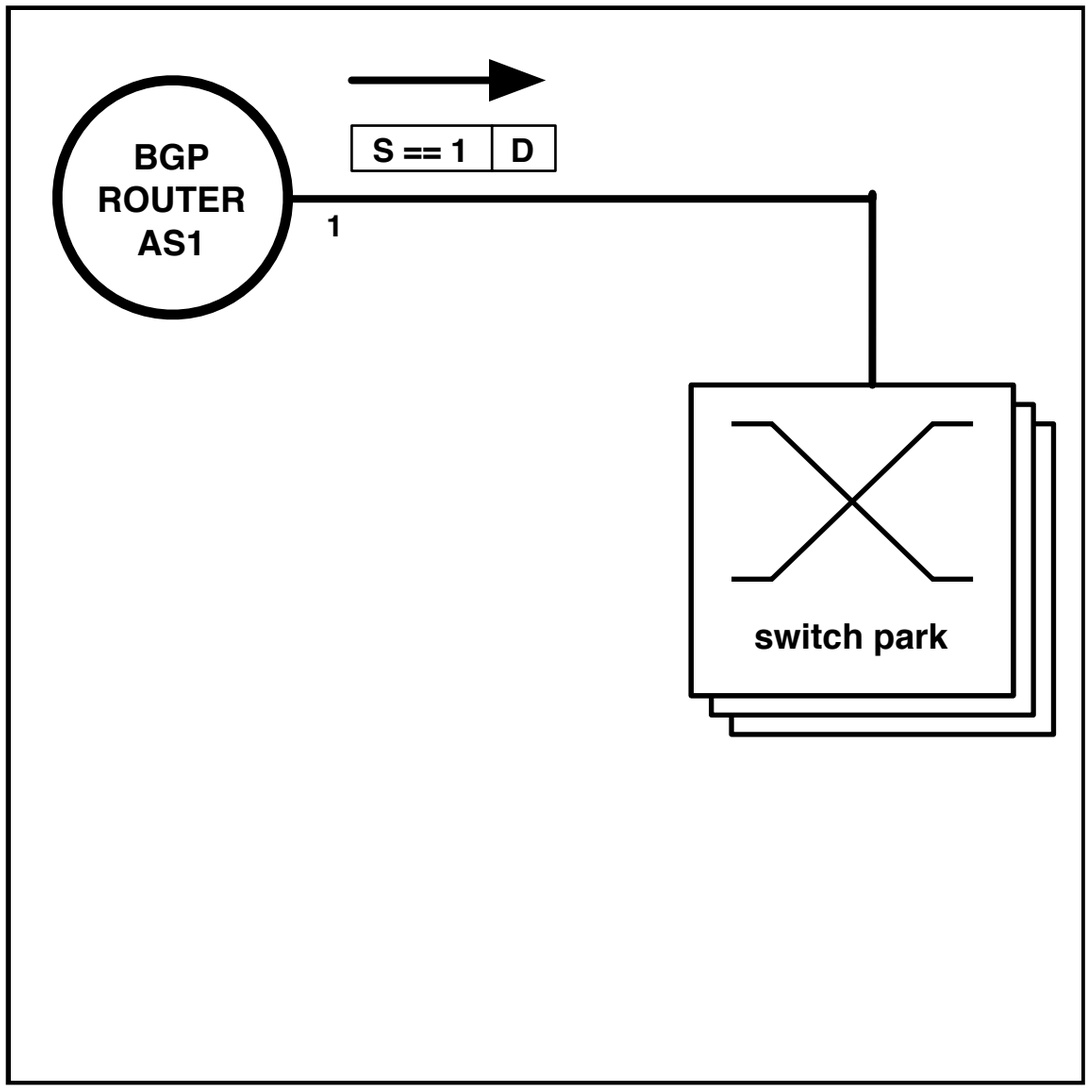

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- And it is about the things we see via port security feature.

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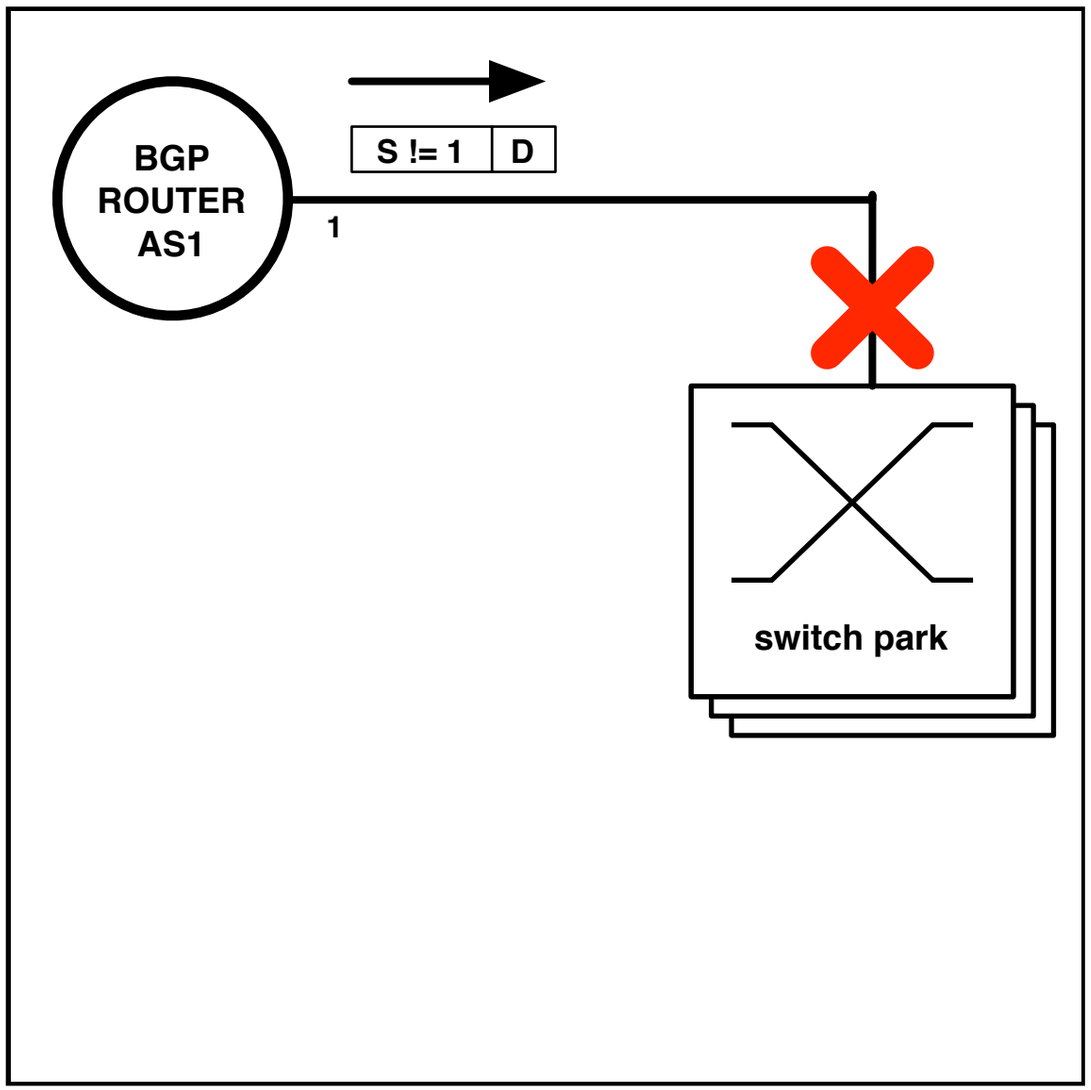

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- And it is about the things we see via port security feature.
  - We only allow one MAC address per port (loop-mitigation).
  - Port security blocks or shuts the port if any other source MAC address is seen.

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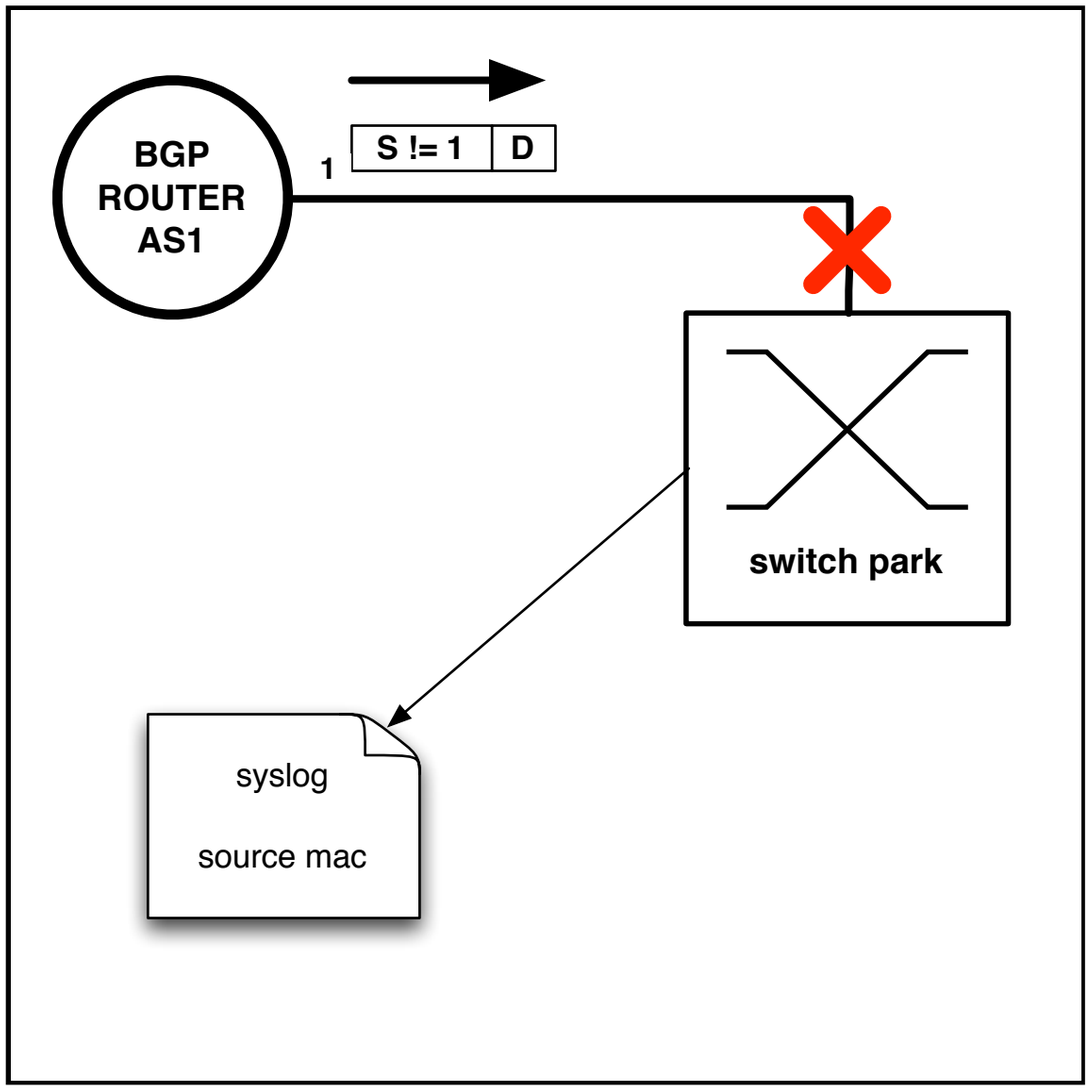

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- It is about the multicast and flooded traffic.
- And it is about the things we see via port security feature.
- We only allow one MAC address per port (loop-mitigation).
  - Port security blocks or shuts the port if any other source MAC address is seen.
  - Syslog message is generated.

Syslog

```
mmm dd hh:mm:ss,edge-xxx-yyy edge-xxx-yyy.ams-ix.net, Port Security violation at interface e5/8, address 0601.2001.07f8, vlan 501
mmm dd hh:mm:ss,edge-xxx-yyy edge-xxx-yyy.ams-ix.net, Port Security violation at interface e3/4, address 0640.2001.07f8, vlan 501
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06xx.2001.07f8

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```
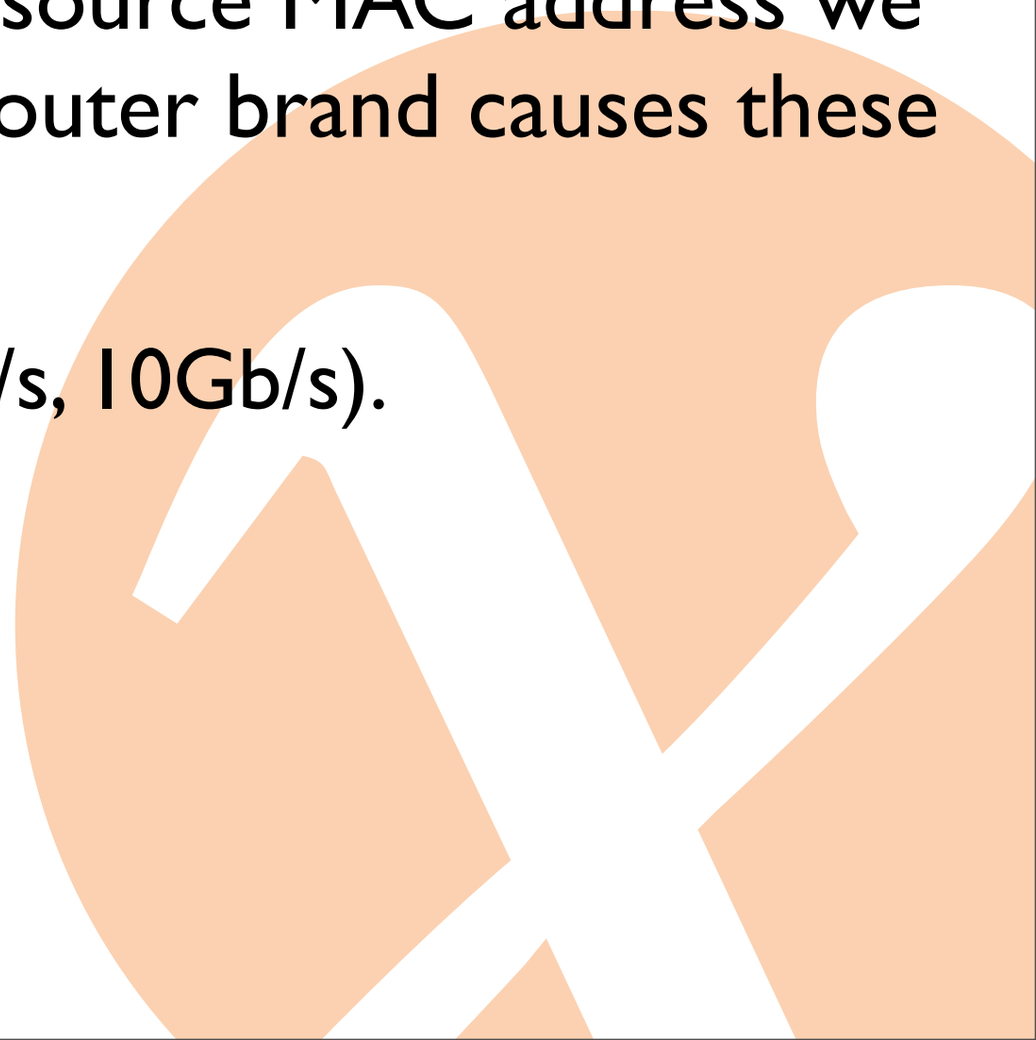

Switch and port

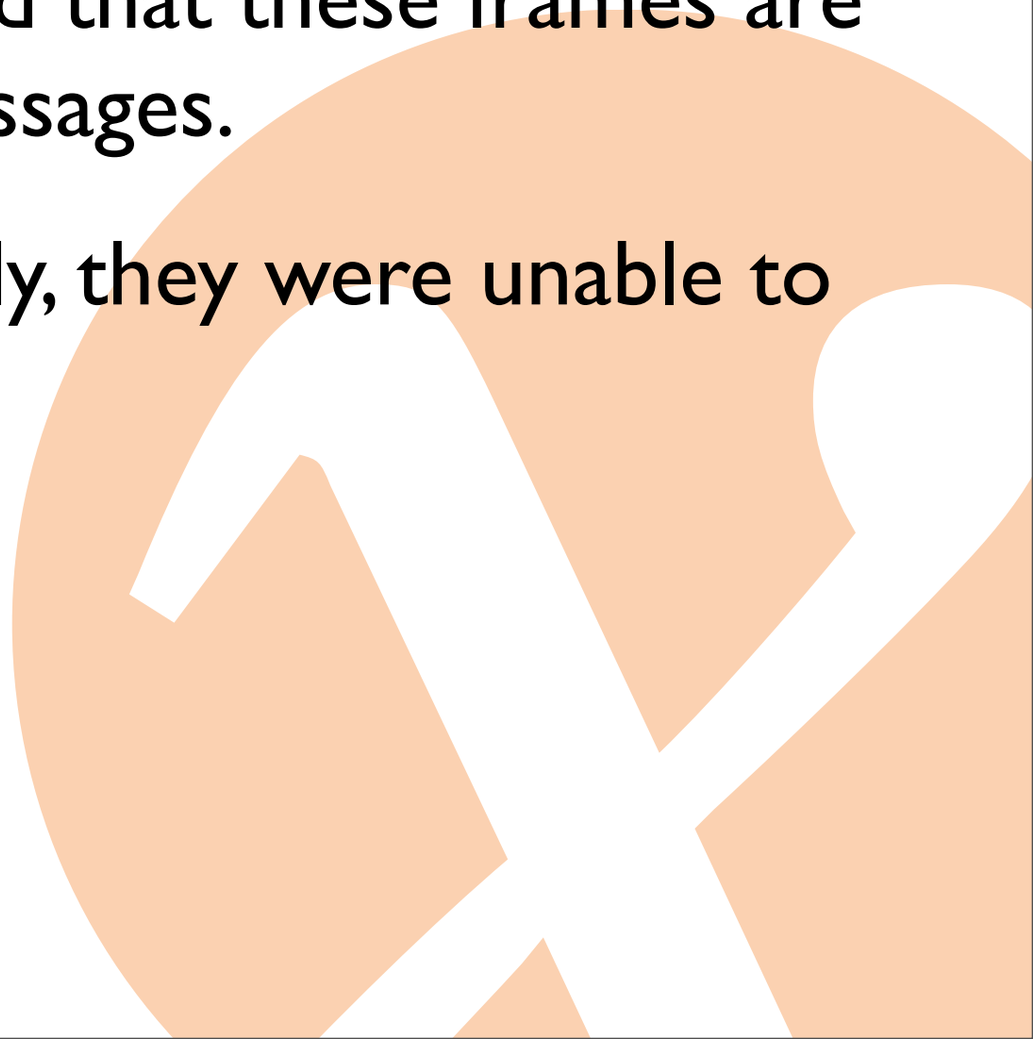
Typical port sec. violations

- Violating addresses look awfully like the our v6 peering LAN prefix.
- Via the ports and OUI of allowed source MAC address we determined that that only *one* router brand causes these violations.
  - All interface types (100Mb/s, 1Gb/s, 10Gb/s).
  - Only v6 enabled routers.

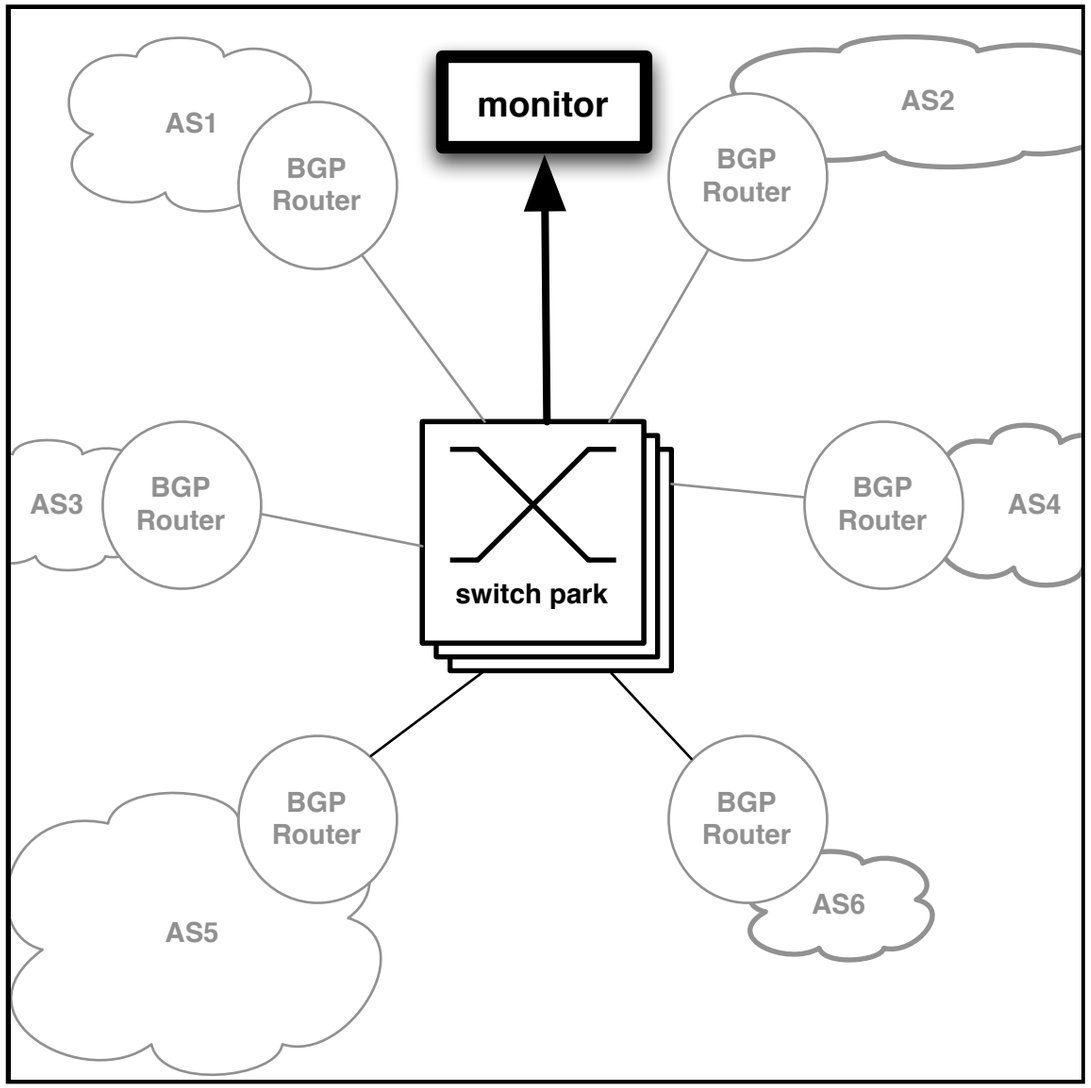


Typical port sec. violations

- Via syslog correlation we determined that these violations occur during the time some V6 peer(s) become unavailable.
- Capturing violating frames revealed that these frames are basically un-encapsulated BGP messages.
- We informed the vendor informally, they were unable to replicate this issue.
- Does not seem to be harmful.



Other issues #1



- Bursts of ICMPv6 ND with source MAC address of another member.
- Again specific for one router vendor.
- Does not seem to be harmful.
- More tomorrow (EIX).

Other issues #2

```
interface xx/yyy/zzz
 ipv6 address 2001:7F8:1::A5xx:xxxx:n/64
 ipv6 nd ra suppress
 no ipv6 mld router
 no ipv6 mfib forwarding
 no ipv6 pim
```

- Recently, bursts of ICMPv6 multicast multicast listener reports.
- Response on a ICMP6, multicast listener query.
- Cisco specific for routers doing IPv6 multicast routing in their own AS.
- Solution: **no ipv6 mld router** in interface context.

Conclusion

- Mostly harmless

That’s all

More tomorrow in the EIX
(perhaps)