Reducing the impact of IXP maintenance

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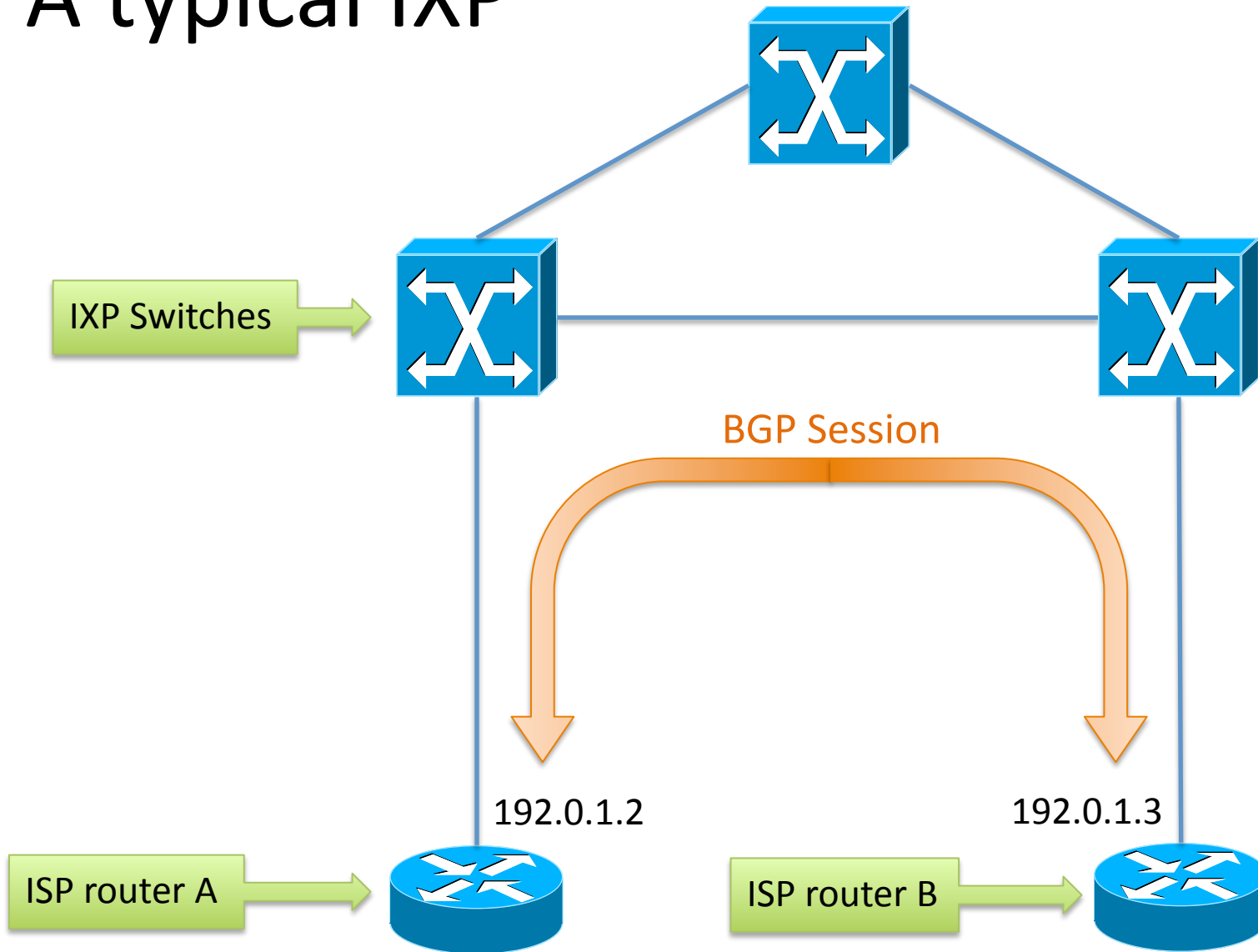
will@lonap.net
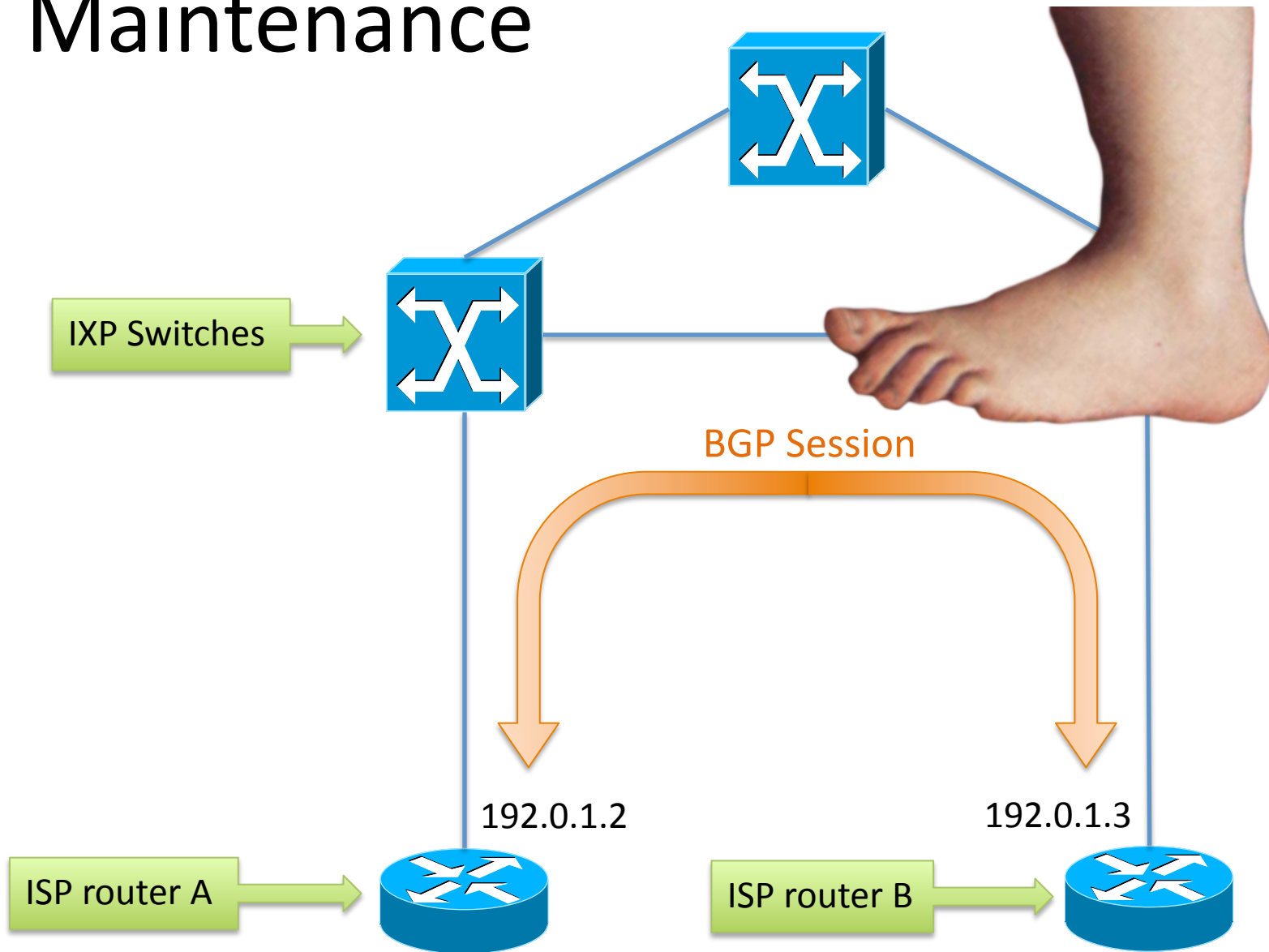
LONAP
London Access Point

What is an IXP?

- A switched fabric for interconnecting networks
- BGP is the control plane for network operators to signal reachability
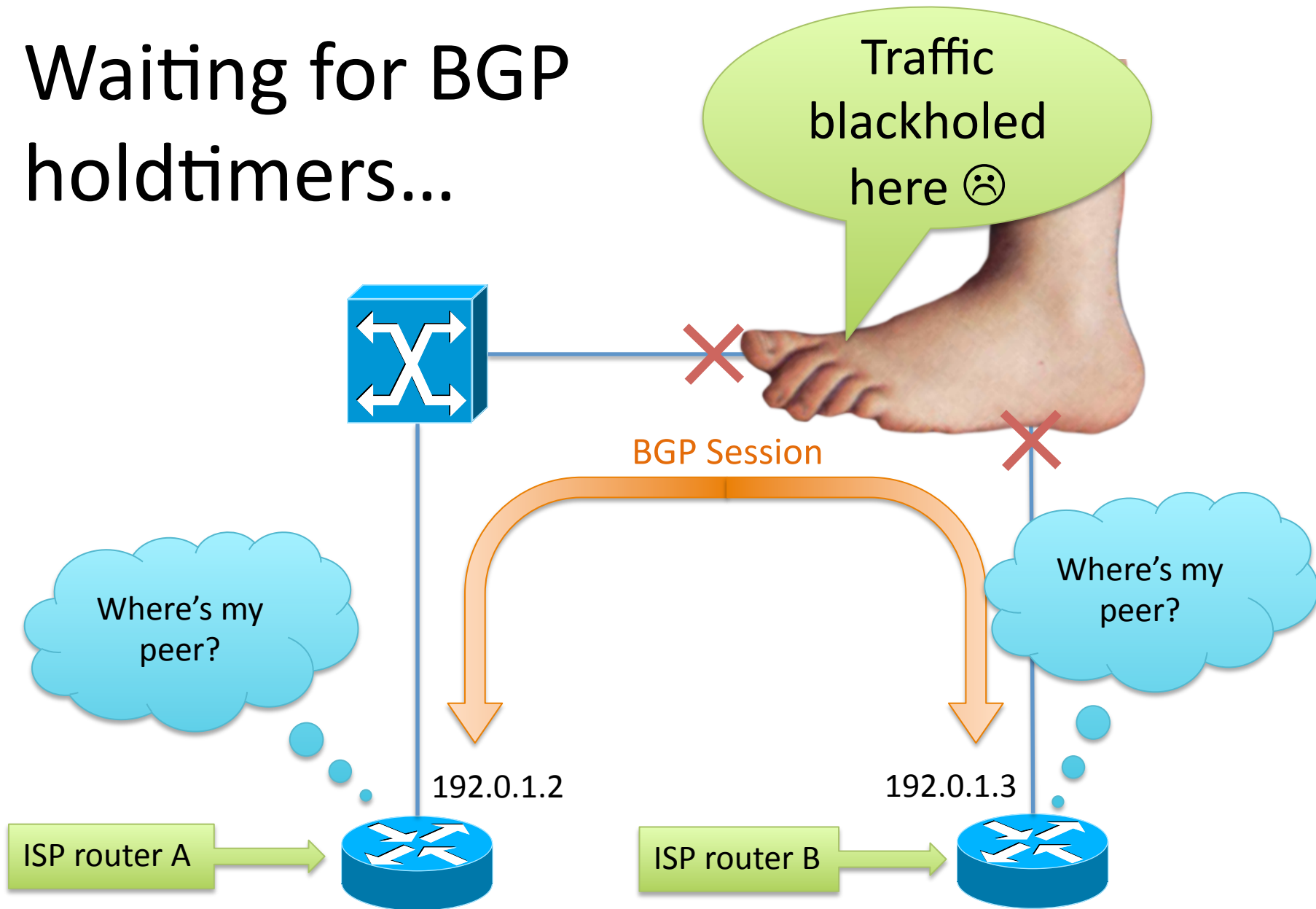- What happens to production traffic when an IXP operator does maintenance?

A typical IXP

IXP Switches

BGP Session

192.0.1.2

192.0.1.3

ISP router A

ISP router B

Maintenance

IXP Switches

BGP Session

192.0.1.2

192.0.1.3

ISP router A

ISP router B

Waiting for BGP holdtimers...

Traffic blackholed here ☹

BGP Session

Where's my peer?

Where's my peer?

192.0.1.2

192.0.1.3

ISP router A

ISP router B

90 to 180 seconds later….

IXP Switches

BGP Session

Holdtimer expired

Holdtimer expired

192.0.1.2

192.0.1.3

ISP router A

ISP router B
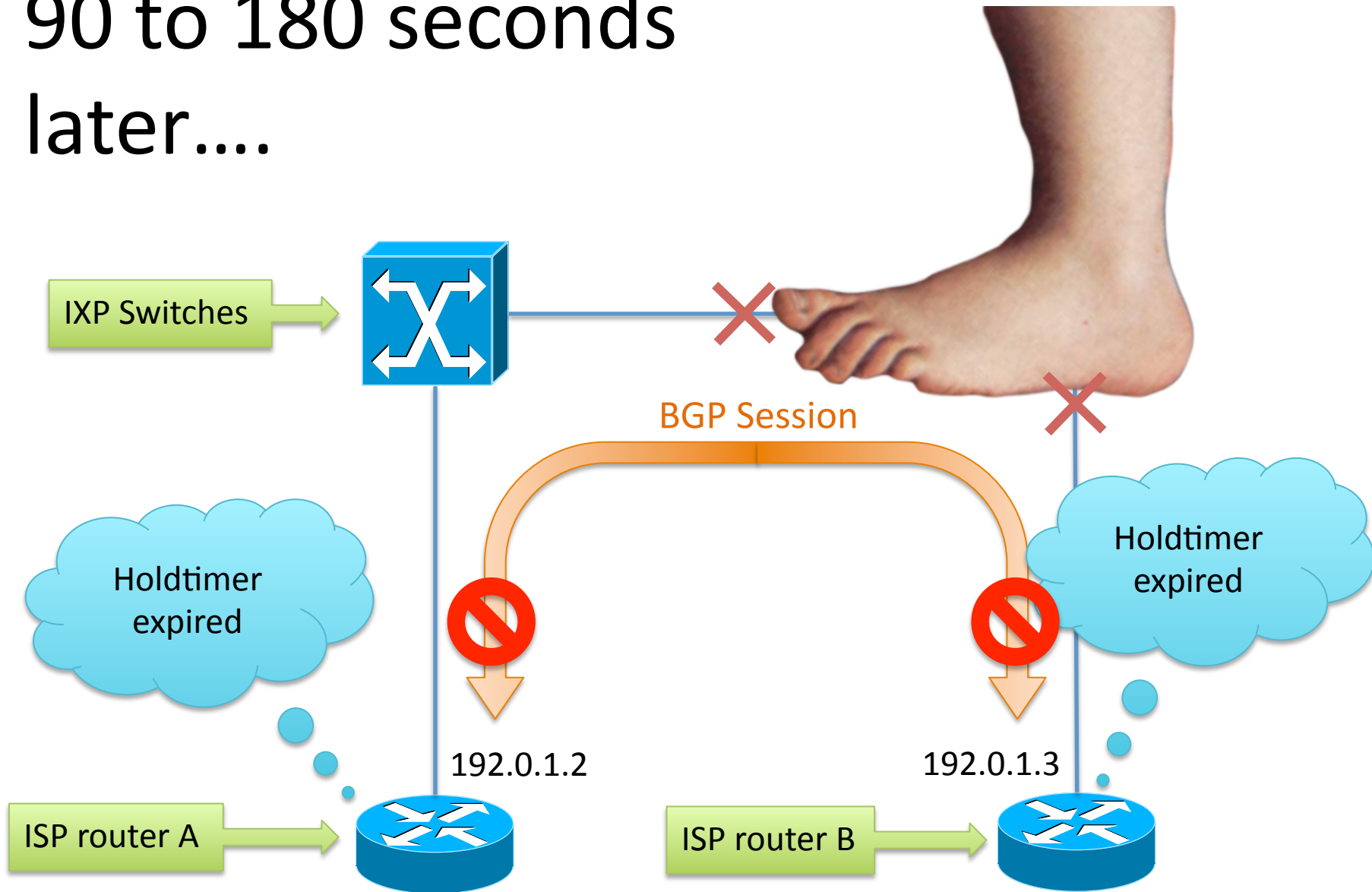
Improving the experience

- In many cases, IXP switch maintenance causes 90seconds+ blackholing of production traffic

- We are doing things the wrong way round!

- **Solution:**

  1. At the start of the maintenance window, tear down the control plane!

  2. Wait for traffic to diminish (3-5 minutes)

  3. Now do your maintenance

- How to tear down the control plane? Answer: L4 ACLs on IXP port!

L4 ACLs on IXP

```
entry DenyBGPv4e {
  if {
    source-address 5.57.80.0/22;
    protocol tcp;
    source-port 179;
  } then {
    deny;
  }
}

entry DenyBGPv4i {
  if {
    source-address 5.57.80.0/22;
    protocol tcp;
    destination-port 179;
  } then {
    deny;
  }
}

entry DenyBGPv6e {
```

Your IXP subnet

Block in both directions, otherwise sessions will re-establish

Obviously repeat this for IPv6 too

End

- We tested this during two recent LONAP maintenances with success.

- Questions? Comments?

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