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# **flokinet-012 - keep putting it together**

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## Connecting to the lab server

Open your favourite Terminal Emulator

SSH to the netlab server:

```
$ ssh-keygen -R netlab.nanocat.net <- delete the cached fingerprint  
                                     (lab server rebuilt frequently)
```

```
$ ssh lab@netlab.nanocat.net
```

Password: (generated fresh each week)

List the running containerlab devices:

```
$ sudo containerlab inspect --all
```

Connect to an **Arista** device:

```
$ sudo docker exec -it clab-device-name Cli
```

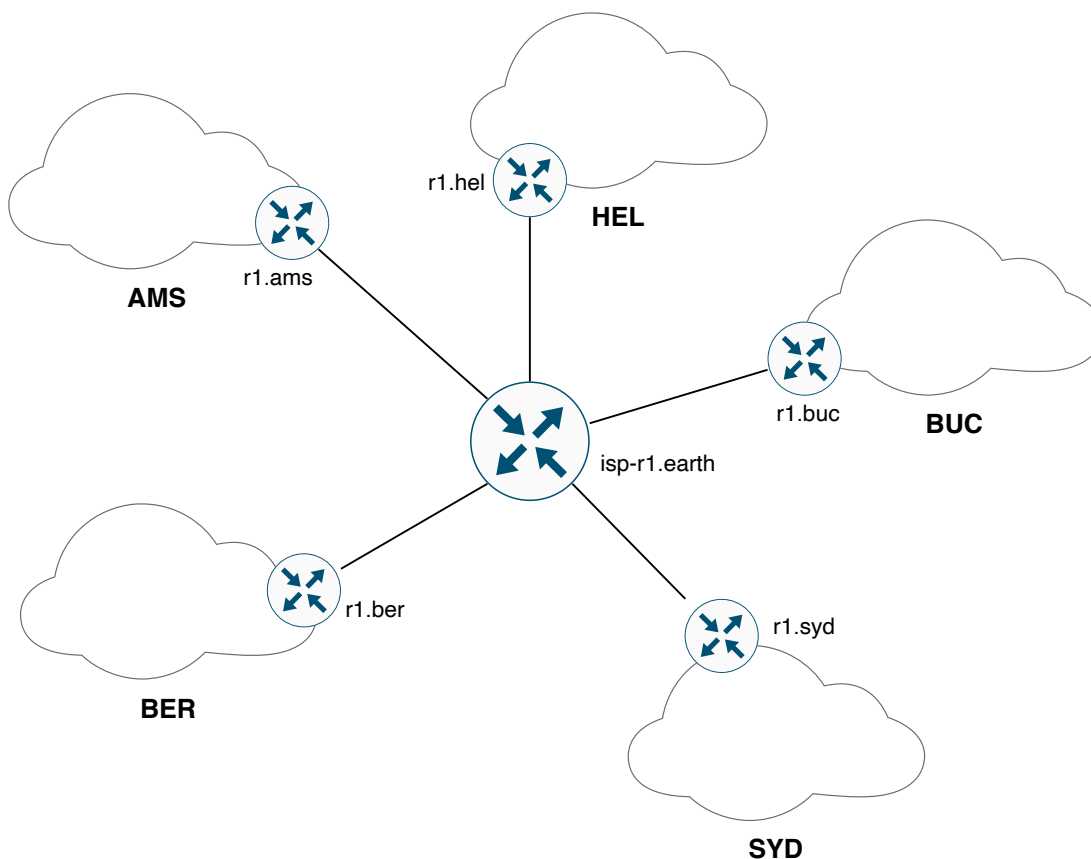
.. or connect to a **Linux** device:

```
$ sudo docker exec -it clab-pcXX-name bash
```

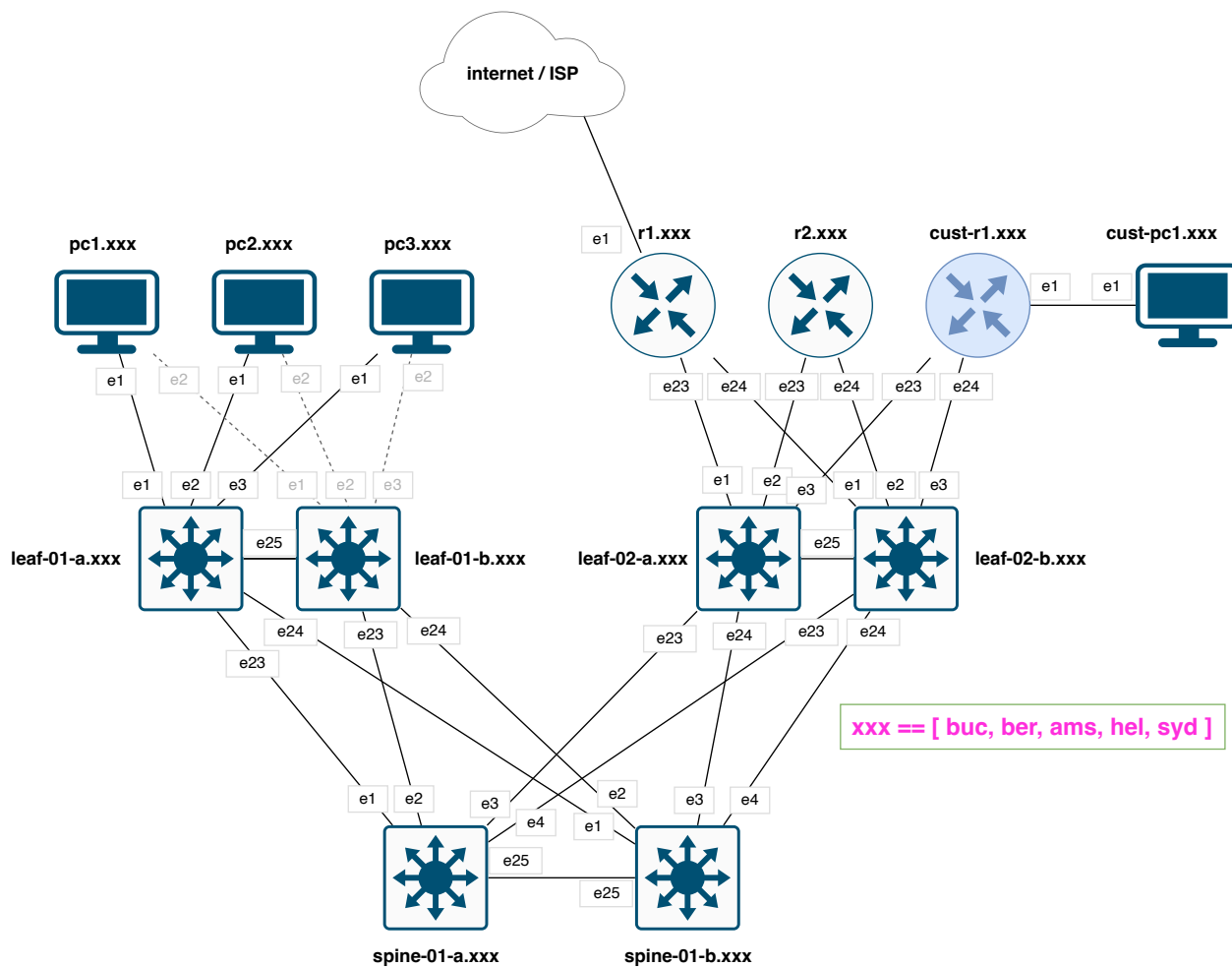
## Goals

- Build a global network with sites in Bucharest, Amsterdam, Berlin, Helsinki and Sydney

## Diagram: Global



## Diagram: Site



## Overview

## • Earlier:

- Create an IP address plan

\* [https://docs.google.com/spreadsheets/d/1FevHIOJb1swzmeK\\_0-NXG5ug7BmXeViMwcAkq4C5ZxG](https://docs.google.com/spreadsheets/d/1FevHIOJb1swzmeK_0-NXG5ug7BmXeViMwcAkq4C5ZxG)

## • Now:

- Configure spanning tree
- Create a management VLAN
- Create VLANs for the customers (pc1-pc3)
- Configure the router
- Test that PCs can ping one another within a site

## • Soon:

- Configure BGP sessions between your router and the ISP router
- Advertise and learn the appropriate networks
- Convert to an L3 leaf-spine
- Configure iBGP

- Configure VXLAN
- Get Layer 2 traffic across the internet like a boss

## Configure BGP on your router

Make a BGP connection with the ISP router.

The ISP's AS number is 65667

```
!  
router bgp 65420  
    router-id x.x.x.x  
    neighbor x.x.x.x remote-as 65667  
    neighbor x.x.x.x description earths-ISP  
    network x.x.x.x/x  
    network x.x.x.x/x  
!  
  
r1.xxx#show ip bgp summary  
r1.xxx#show ip route bgp  
r1.xxx#show ip bgp neighbor x.x.x.x advertised-routes  
r1.xxx#show ip bgp neighbor x.x.x.x received-routes
```

## Do you see the routes?

- BGP won't advertise a network unless there's a matching prefix in the local routing table
- Add null0 routes matching your network prefixes

## Add null0 routes

```
!  
ip route x.x.x.x/24 null0  
ip route x.x.x.x/23 null0  
!  
  
r1.xxx#show ip bgp neighbor x.x.x.x advertised-routes
```

## Do you see your remote routes?

- BGP won't accept a prefix from an eBGP peer, if it sees your own AS in the AS PATH.
- This behaviour can be disabled (carefully) with `allowas-in`

## Enable allowas-in

```
router bgp 65420  
    neighbor x.x.x.x allowas-in  
!
```

```
r1.xxx#show ip bgp neighbor x.x.x.x advertised-routes  
r1.xxx#show ip bgp neighbor x.x.x.x received-routes
```

**Fin! Questions?**