

Virtualising our CPE

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What's the problem?

Firewall

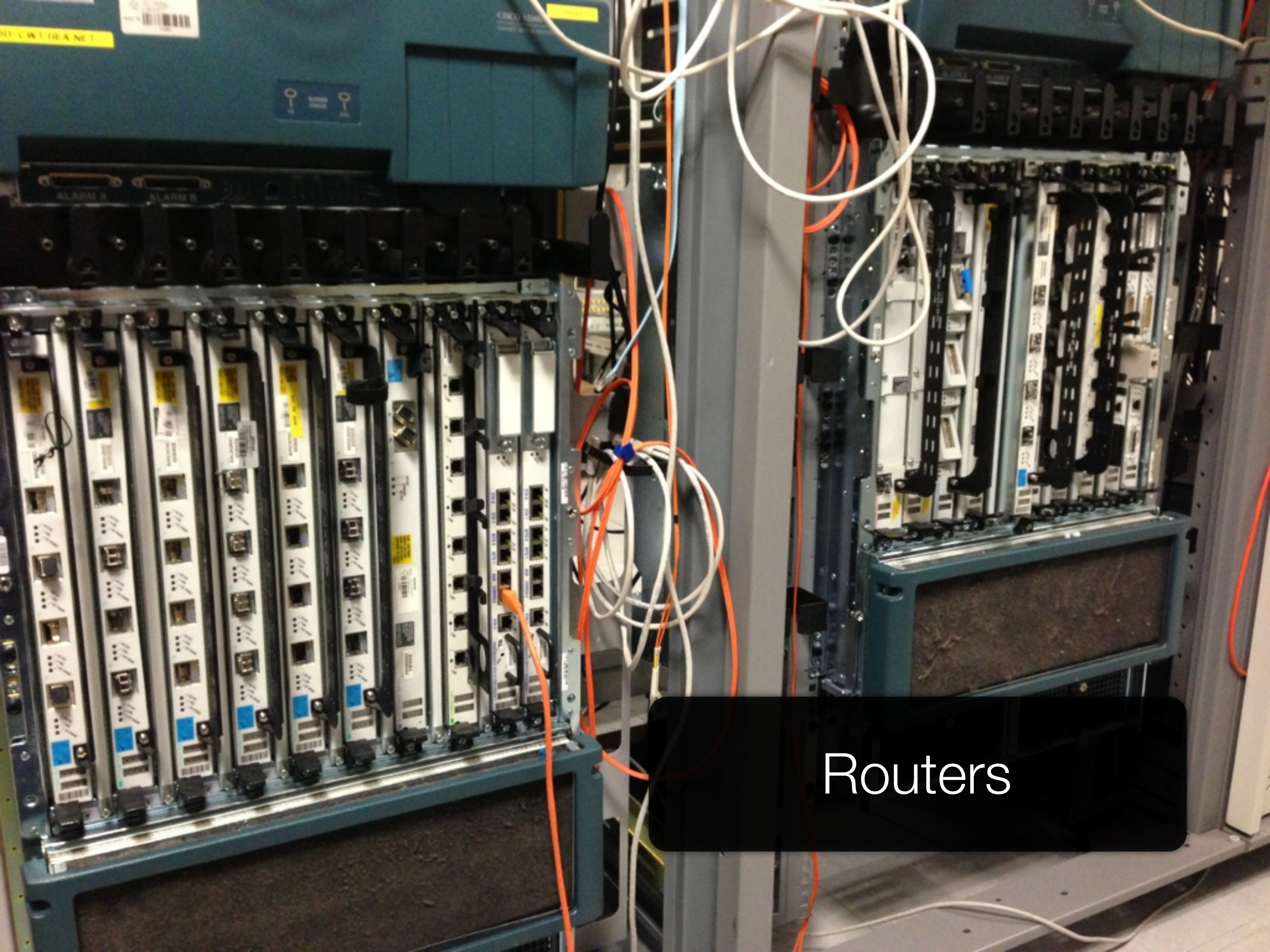




Switch



Transmission



Routers



~~Bandwidth~~

~~Connectivity~~

~~Resilience~~



Separation























Initial Cost

Maintenance

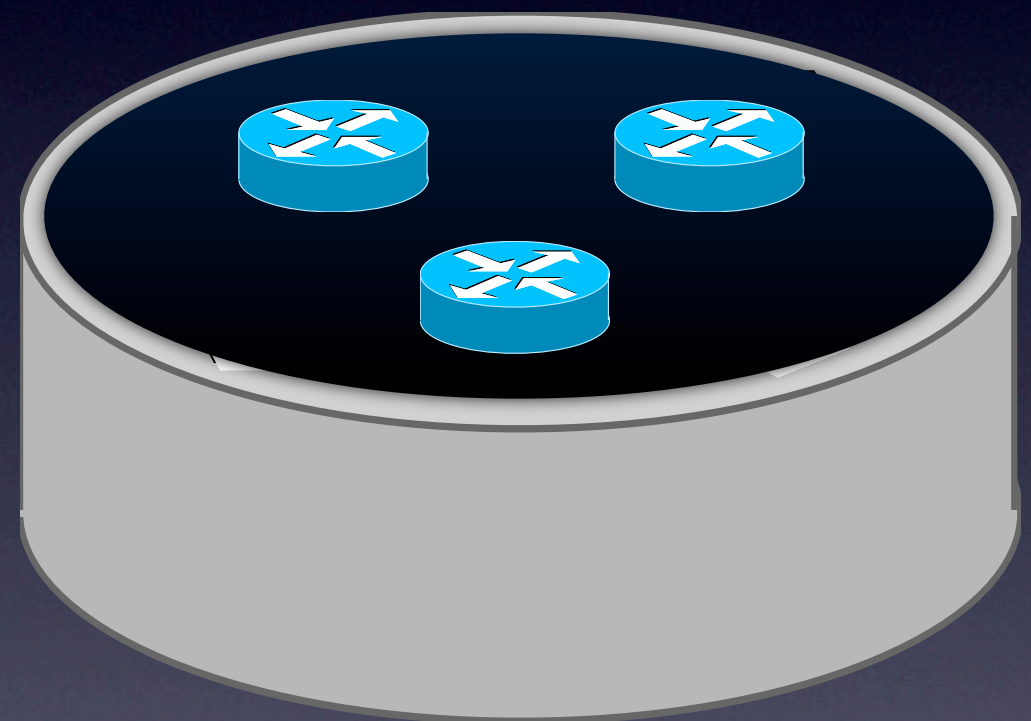
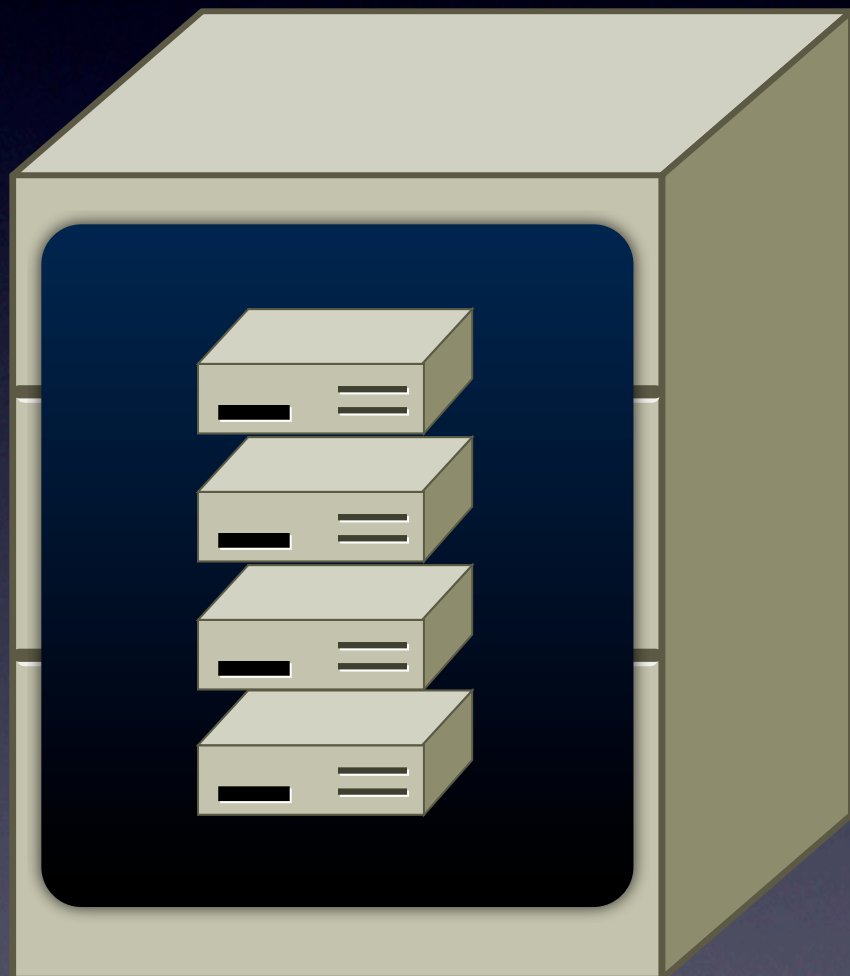
Operational Management

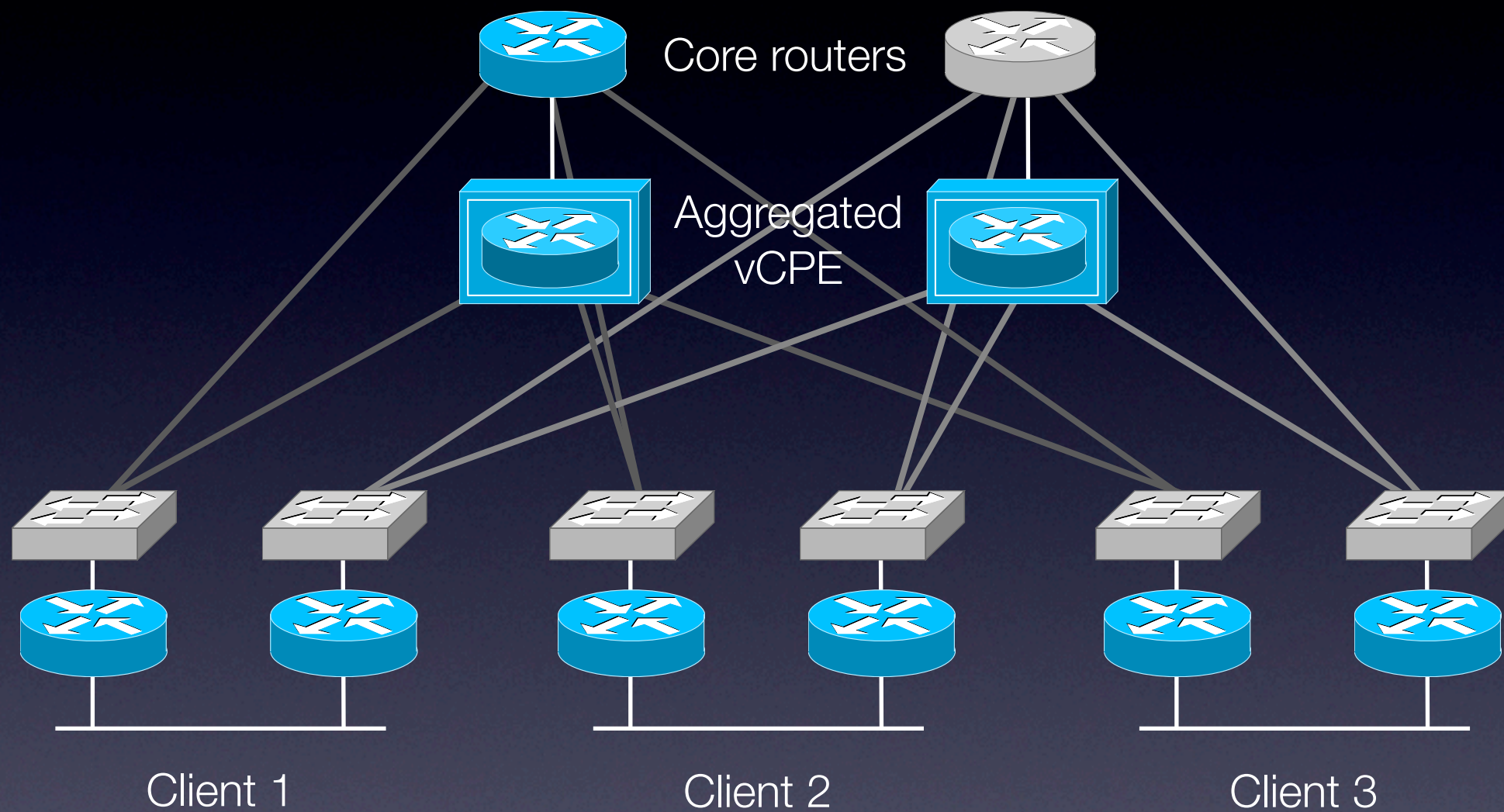
A photograph of a server room. In the foreground, a large Juniper M1000 router is mounted in a rack. The router has a blue top panel with the Juniper logo and 'M1000' text. Below the top panel are several vertical slots containing various modules, including network interface cards and power supplies. A red cable is connected to the top of the router. In the background, a wooden door is visible, with a green exit sign above it. The exit sign shows a running figure and a downward arrow. The floor is made of light-colored tiles.

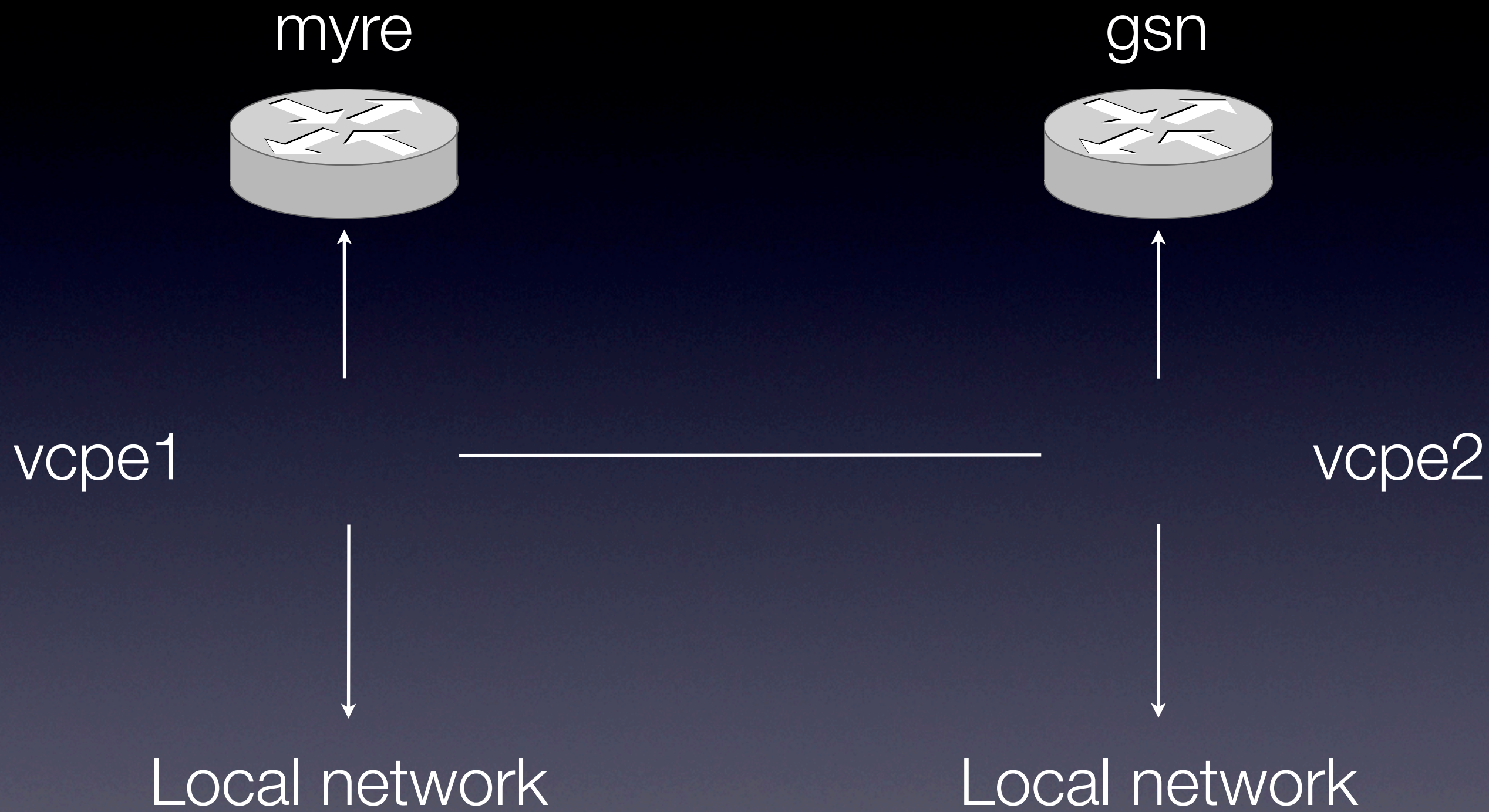
One
big
router?

Virtualise

Virtualise







Demo

Why do this in this way?

On demand provisioning

Initial Cost	✓
Maintenance	✓
Operational Management	✗

Select Endpoint 1
Delete this Request (further confirmation required)
Modify Request description
View log for this Request

Framework for NaaS

Open source

CLI + RESTful API

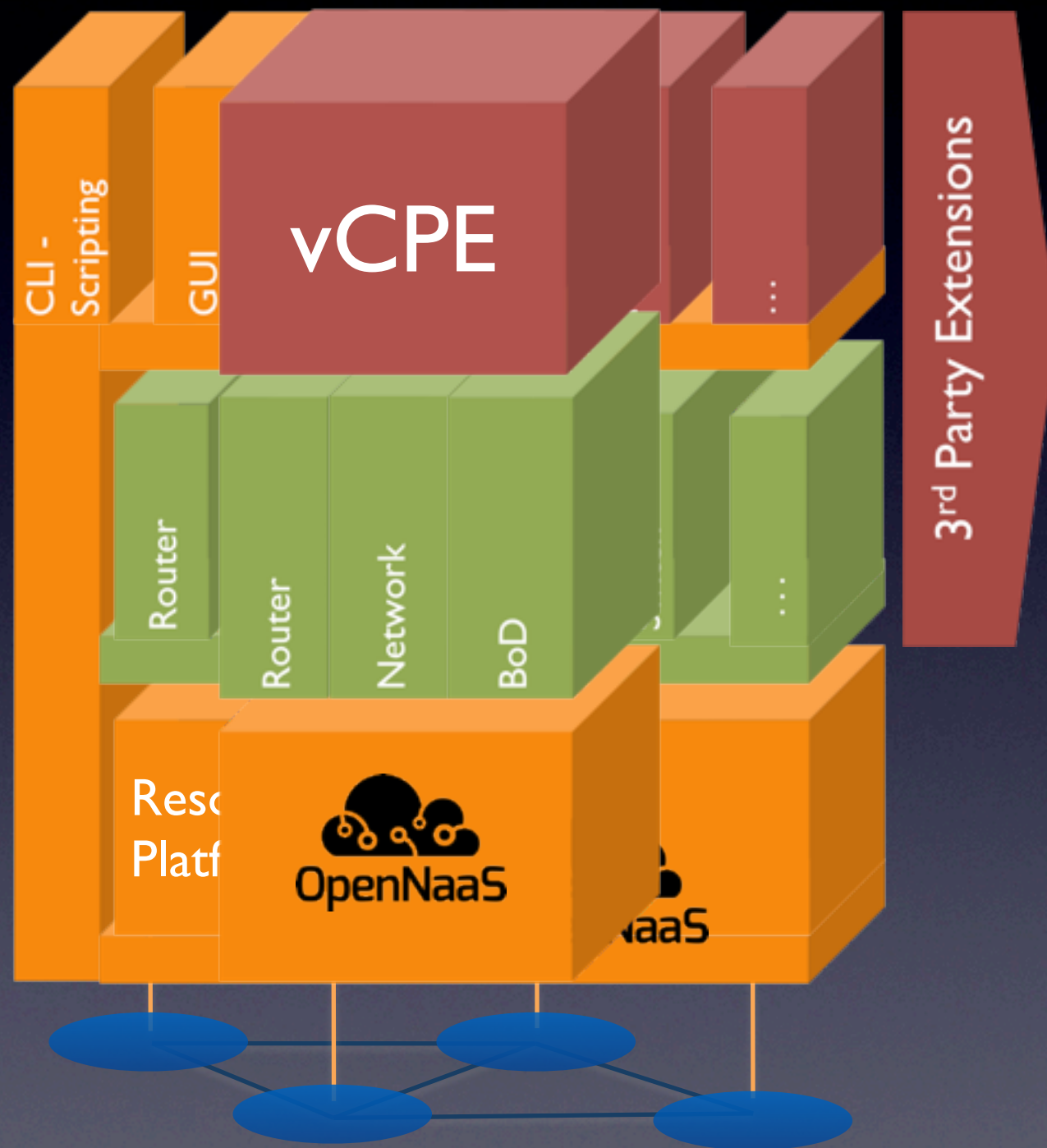
Developing a GUI

Integrated with
Bandwidth on Demand



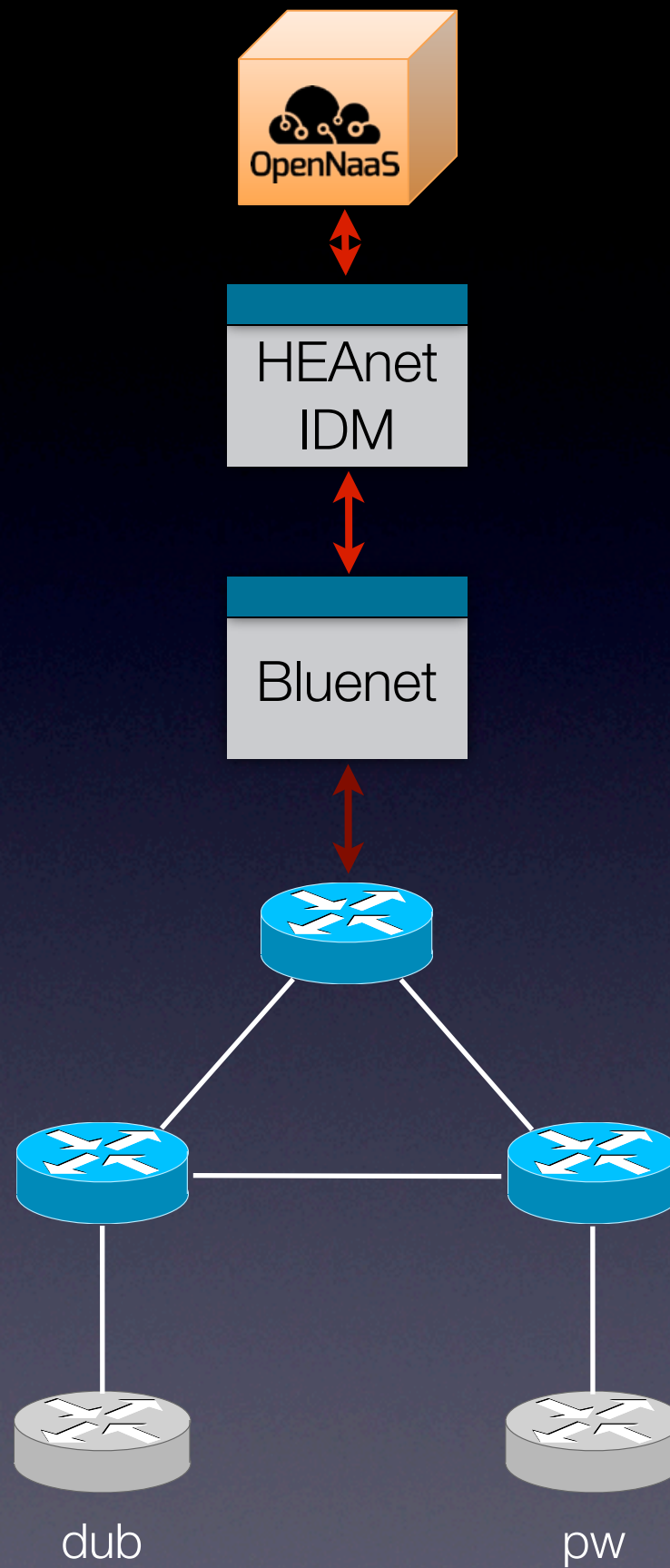
On demand provisioning

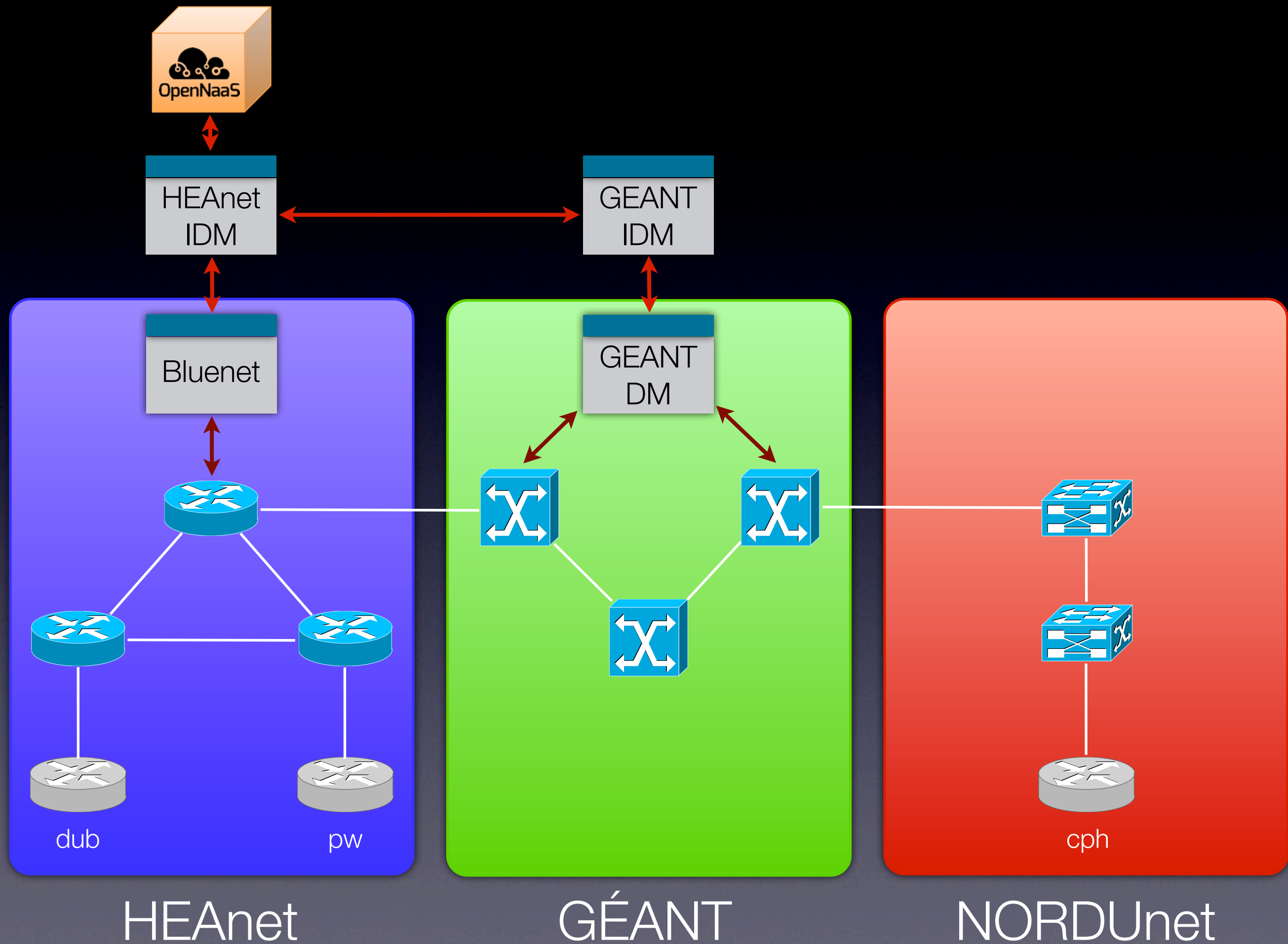
Provide abstractions



OpenNaaS framework

Single instance





On demand provisioning

Provide abstractions

Delegation

Provider

Client

IP range

VRRP address

Link addresses

Internal routing

VLAN numbers

Firewall filter

“If you need a machine and don’t buy it
then you will ultimately find
that you have paid for it and don’t have it.”

Henry Ford

“More pilots than the RAF”

Senior Visa exec

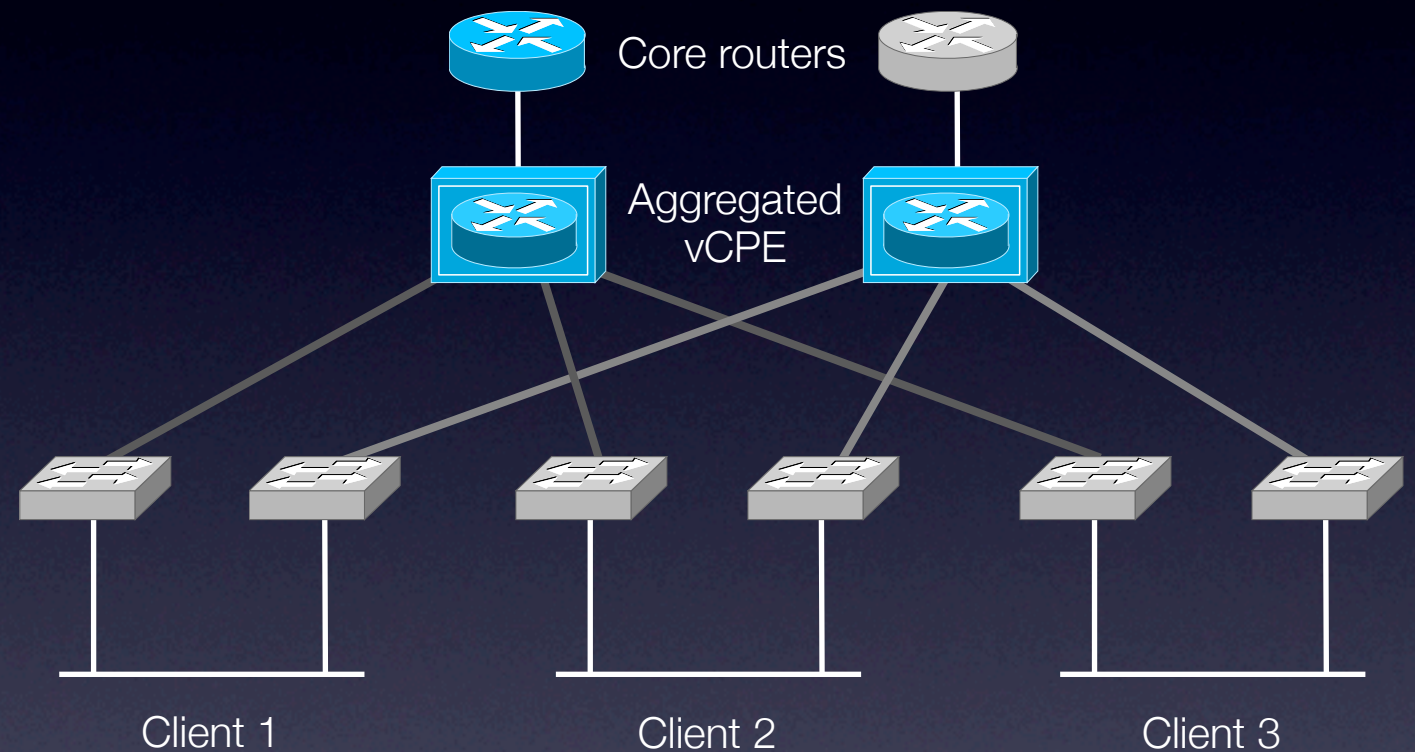
Today

One thing: vCPE

Simple OSPF

Dual-star BGP

Simple VRRP



Work to do

Download opennaas.org/download/

Documentation opennaas.org/documentation/

Mailing lists opennaas.org/community/

Thank you!

www.opennaas.org

