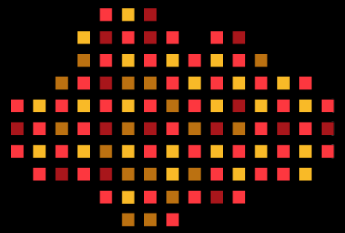

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Software Defined Networking

For Docker, Mesos, Kubernetes & Openshift

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An Alcatel-Lucent company

1000+ Customers (network operator)

500K+ Customers (enterprise)

1M+ Networks

2.0% 2013 ADJUSTED OPERATING MARGIN

€ 14.4 BN 2013 REVENUES

62,000 EMPLOYEES EOY 2013

7 NOBEL PRIZES

TR100 MOST INNOVATIVE COMPANIES 2011 2012 2013

20,000 ENGINEERS

16.1% 2013 NET R&D/ SALES

3,000+ PATENTS IN 2013

250+ UNIVERSITIES COLLABORATING

32,000+ ACTIVE PATENTS

DJSI 2012 & 2013 INDUSTRY GROUP LEADER FOR TECHNOLOGY

- 400G IP
- CloudBand™
- Motive customer experience
- lightRadio™
- 400G photonic
- XRS Core router
- VDSL2 vectoring
- nuagenetworks™
- Network DVR Emmy Award

SocketPlane acquisition by Docker

Docker Acquires SocketPlane To Help With Container Networking

http://www.forbes.com/sites/benkepes/2015/03/04/docker-acquires-socketplane-to-help-with-container-networking/

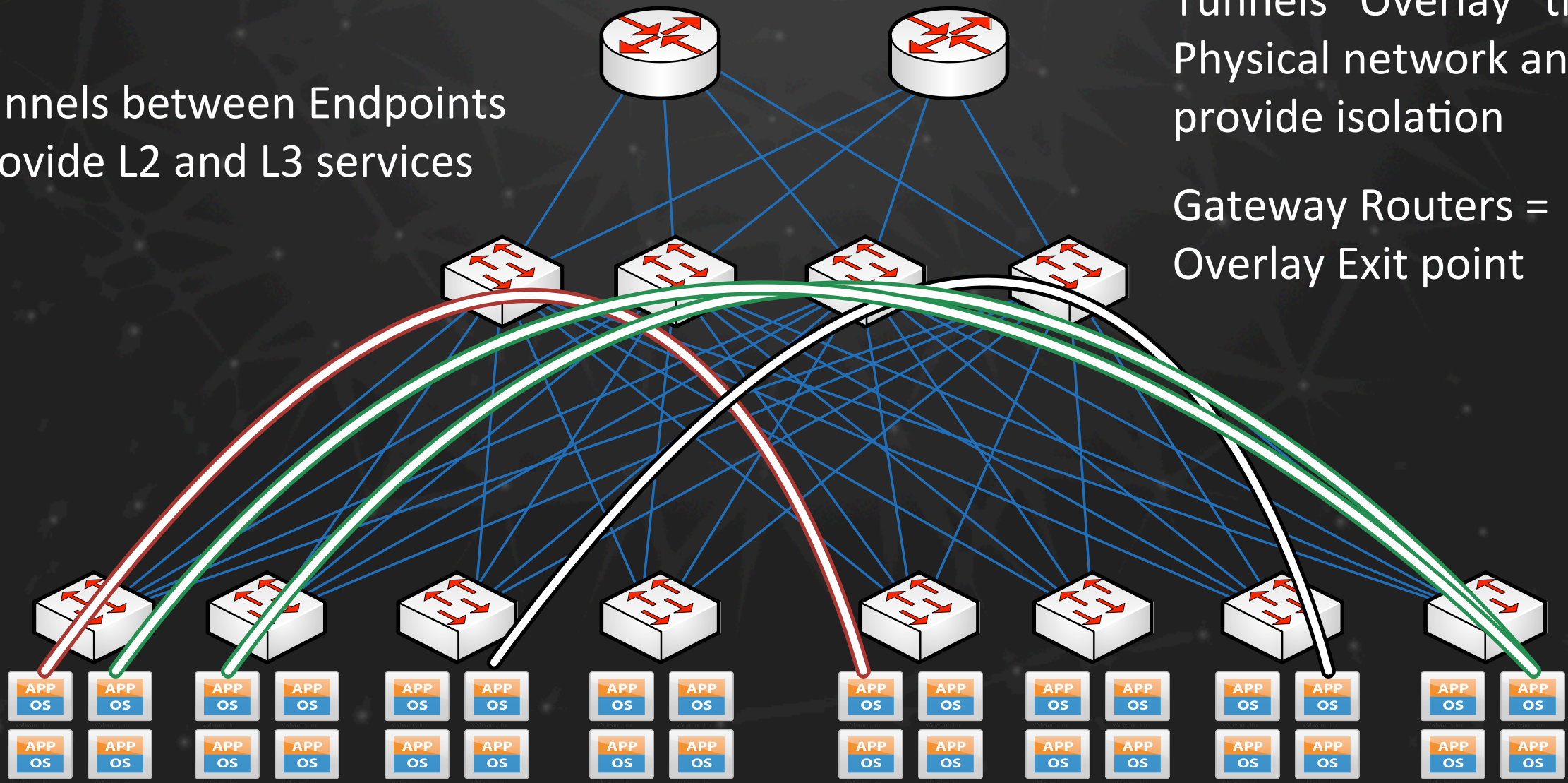
Our customers, including those in production, ask for APIs to extend Docker and Weave. We have all been working to address this, starting with enabling networking extensions. Delivering a network API is now a resourced priority for Docker.

The value of Overlay Networks to Docker

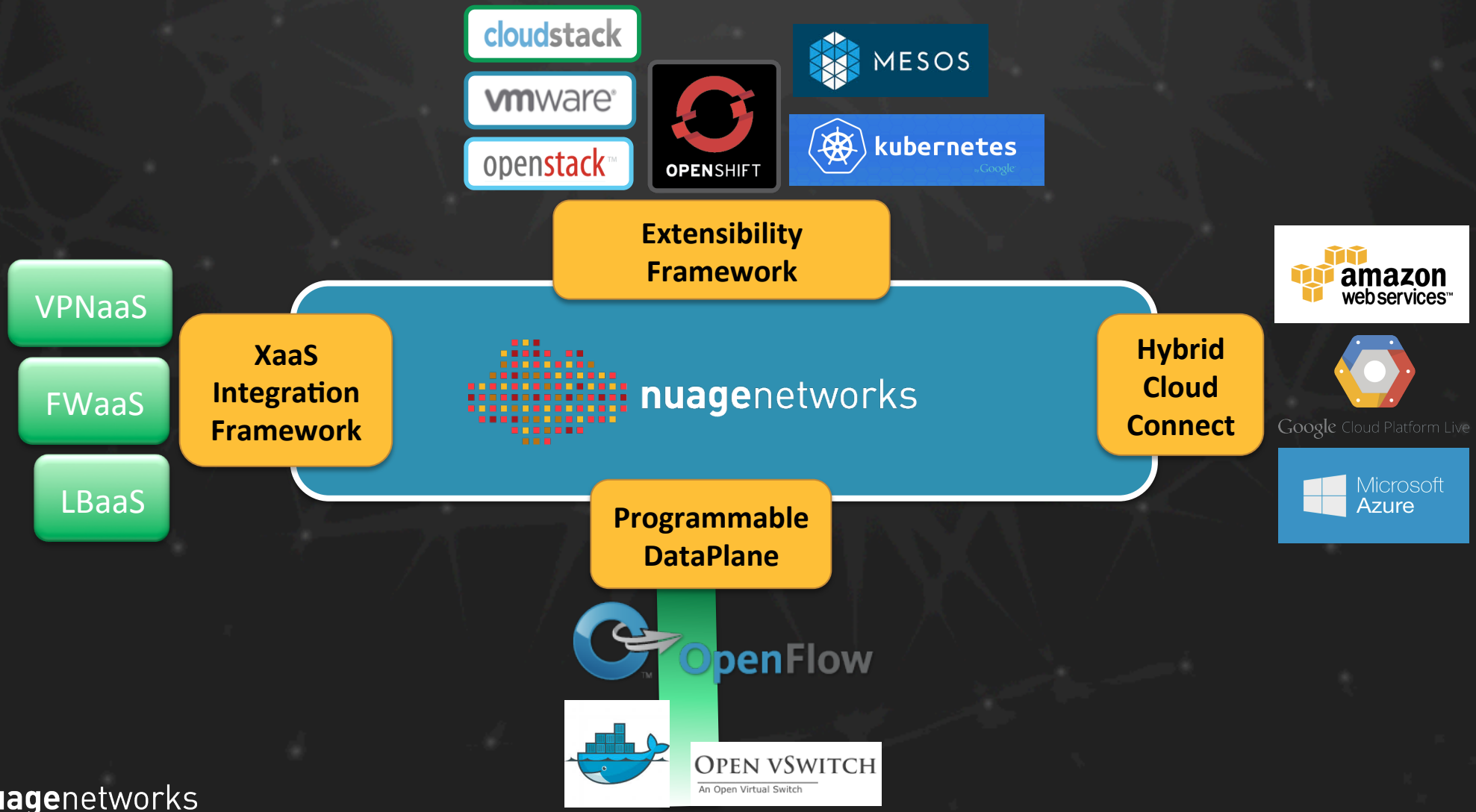
Tunnels between Endpoints provide L2 and L3 services

Tunnels “Overlay” the Physical network and provide isolation

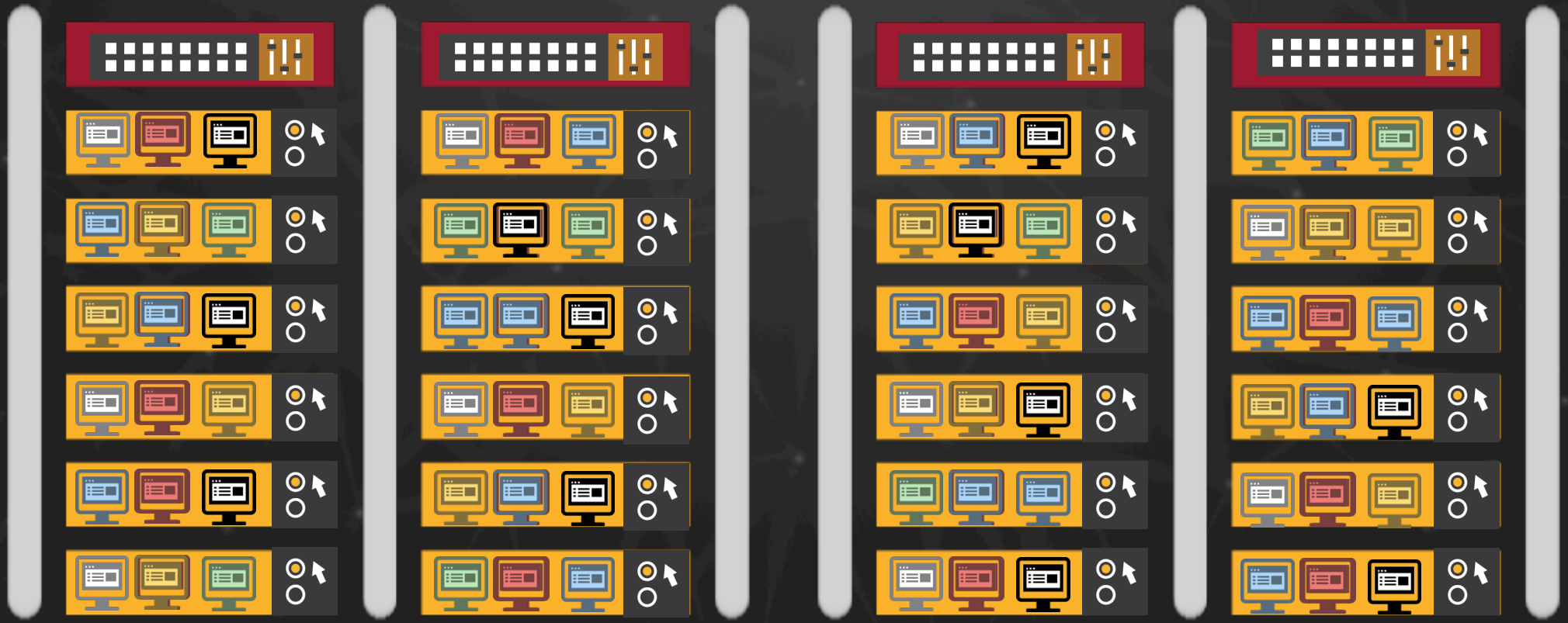
Gateway Routers = Overlay Exit point



Nuage VSP Framework



This is how your DC looks like



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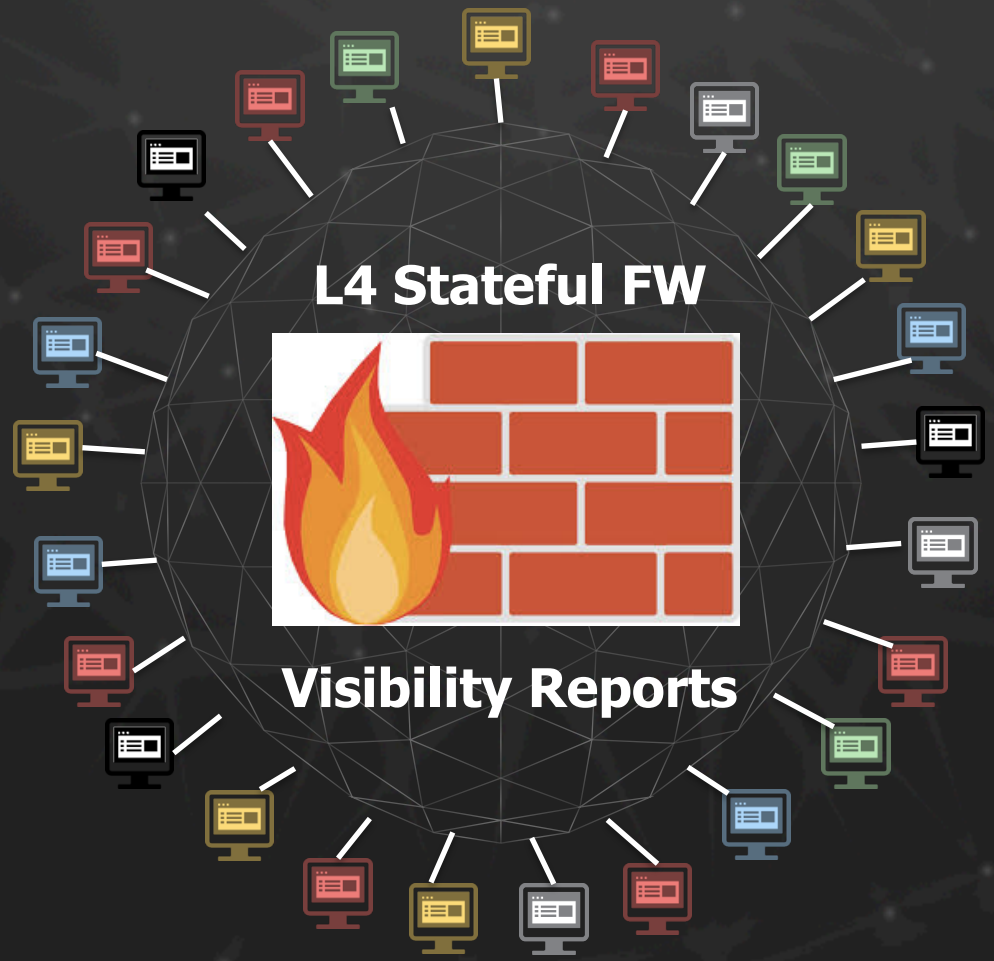
But this is what your VMs and Linux containers do actually see… Microsegmentation and Microvisibility between any endpoint.



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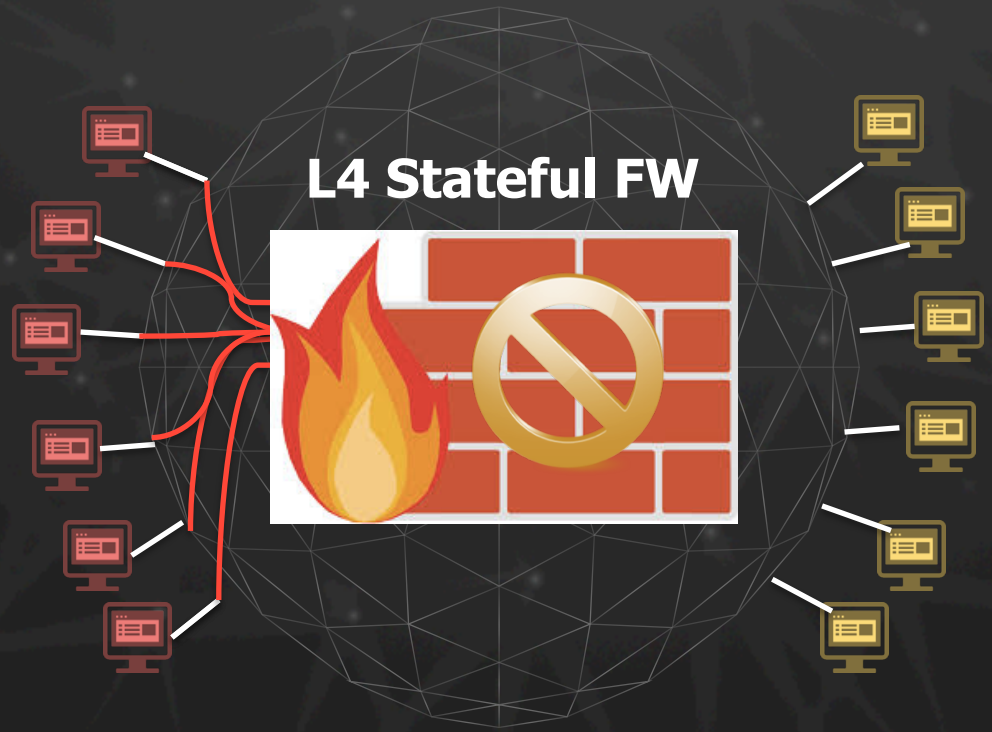
Security Groups for Docker Containers

You can randomly tag every container with a set of colours, with any criteria, and then apply security/forwarding policies based in the tags



Source:RED Destination:YELLOW Protocol:TCP Port:8080 Action:Drop

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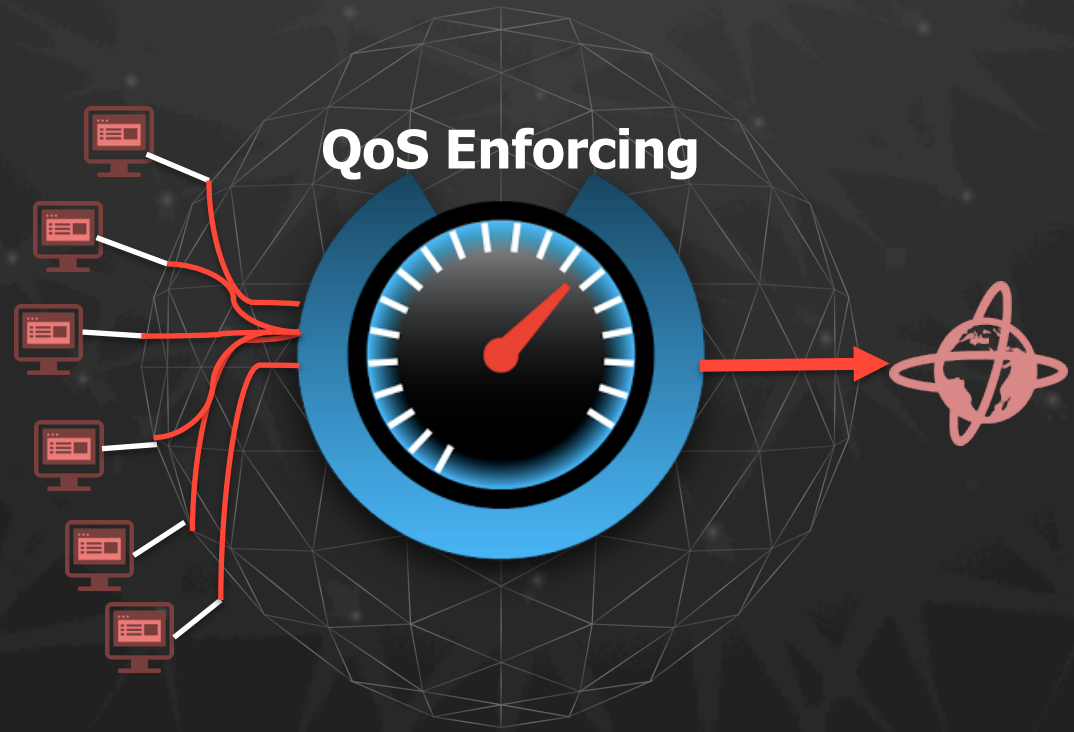
QoS Enforcing for Docker Containers

You can rate limit every container to a Committed Info Rate to prevent those very bandwidth demanding applications to strangle other important apps.



This can also prevent DoS effect from another container

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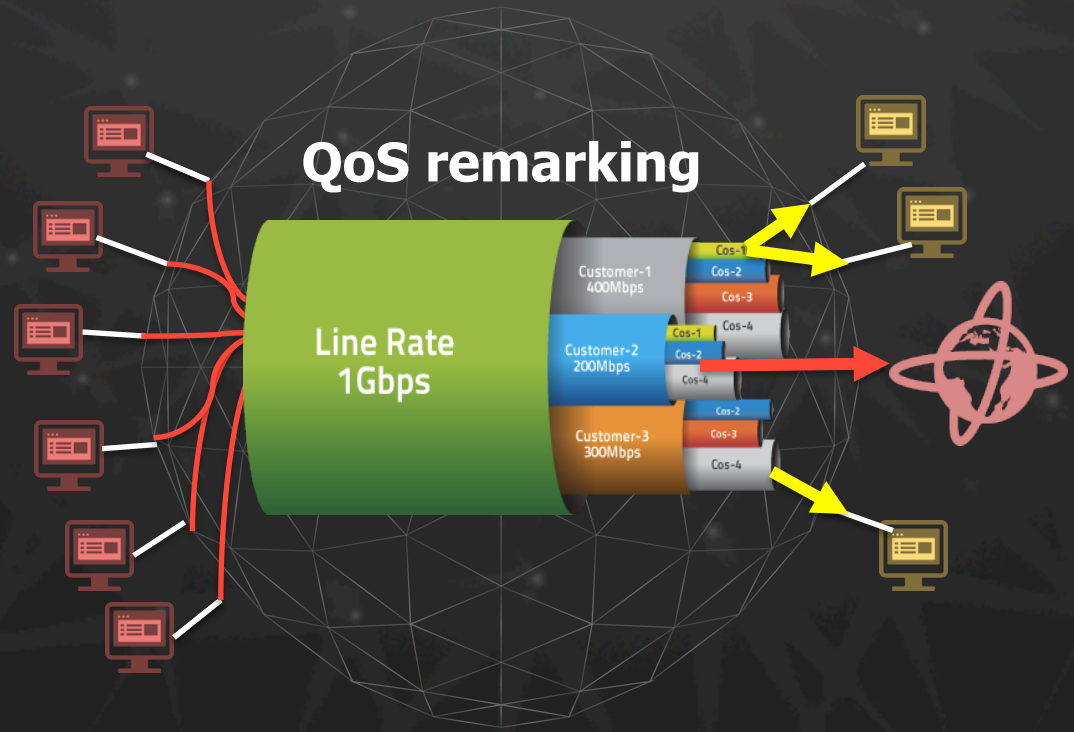
QoS Remarking for Docker Containers

You can remark the QoS marking of the traffic coming from not trusted applications with your own criteria.



For example when you deploy software from third parties that are not in line with your QoS policies

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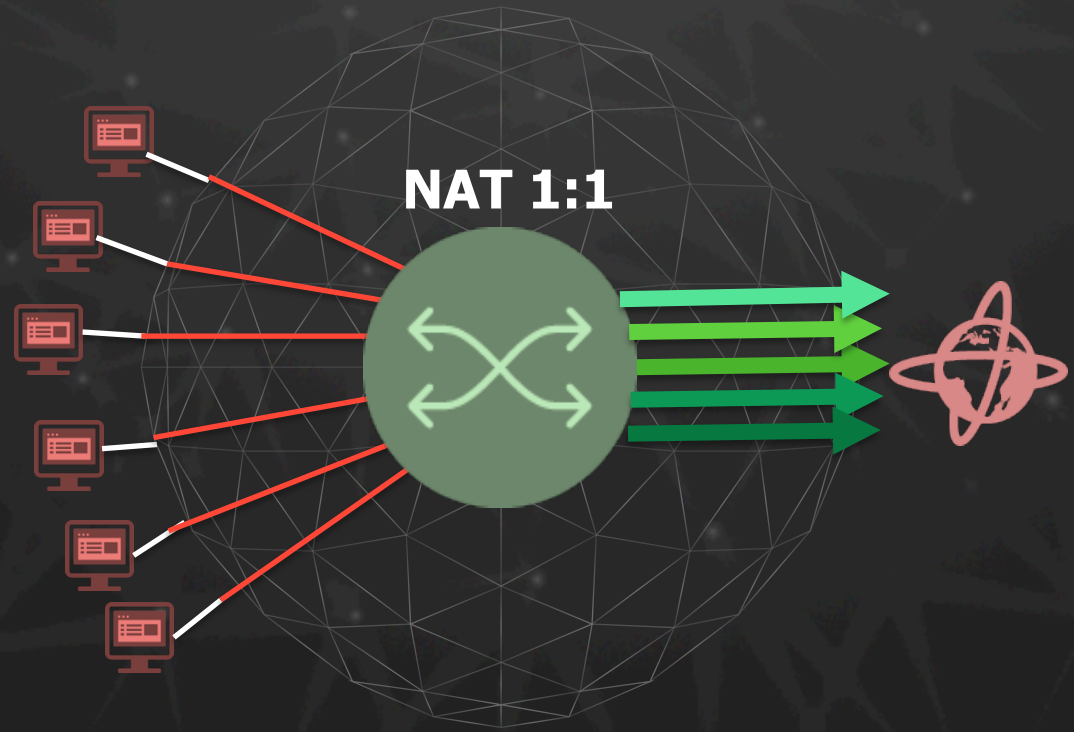
Distributed NAT for Docker Containers

You can NAT 1:1 the traffic of a Docker container addressed towards the Internet while you keep using private addressing internally towards other LXC.



You can enable public access to new containers in real time

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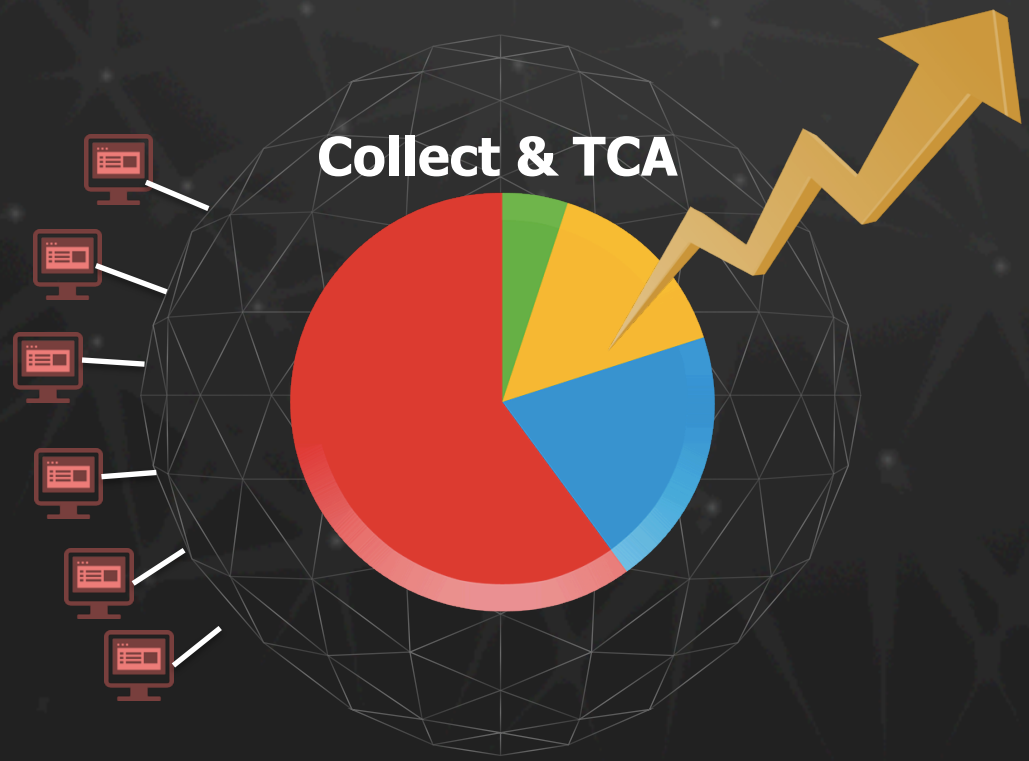
Statistics Collection and Threshold Alarms

You can collect statisctics from any container in a configurable interval, and set custom defined alarms in case of threshold crossing



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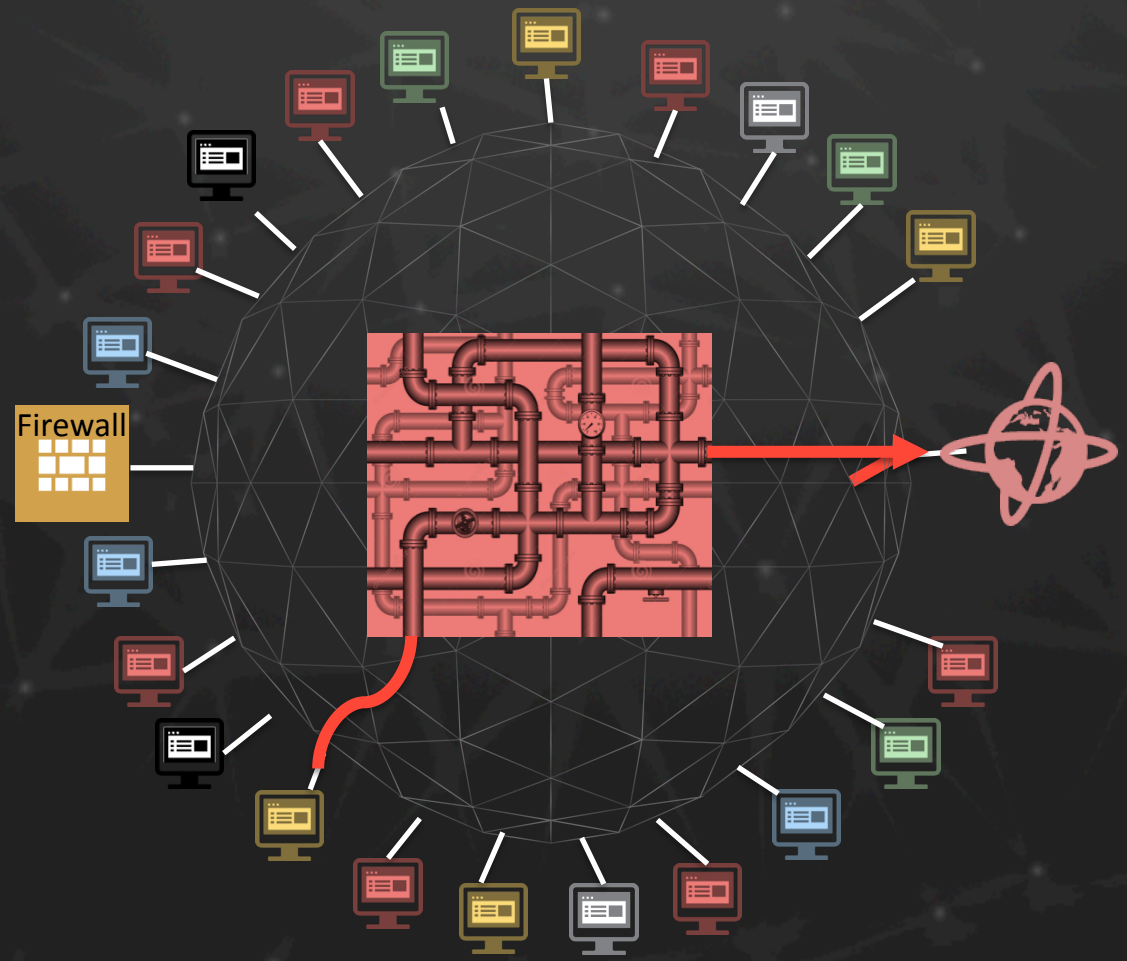
Full control of the comms: Service Chaining

Container comms



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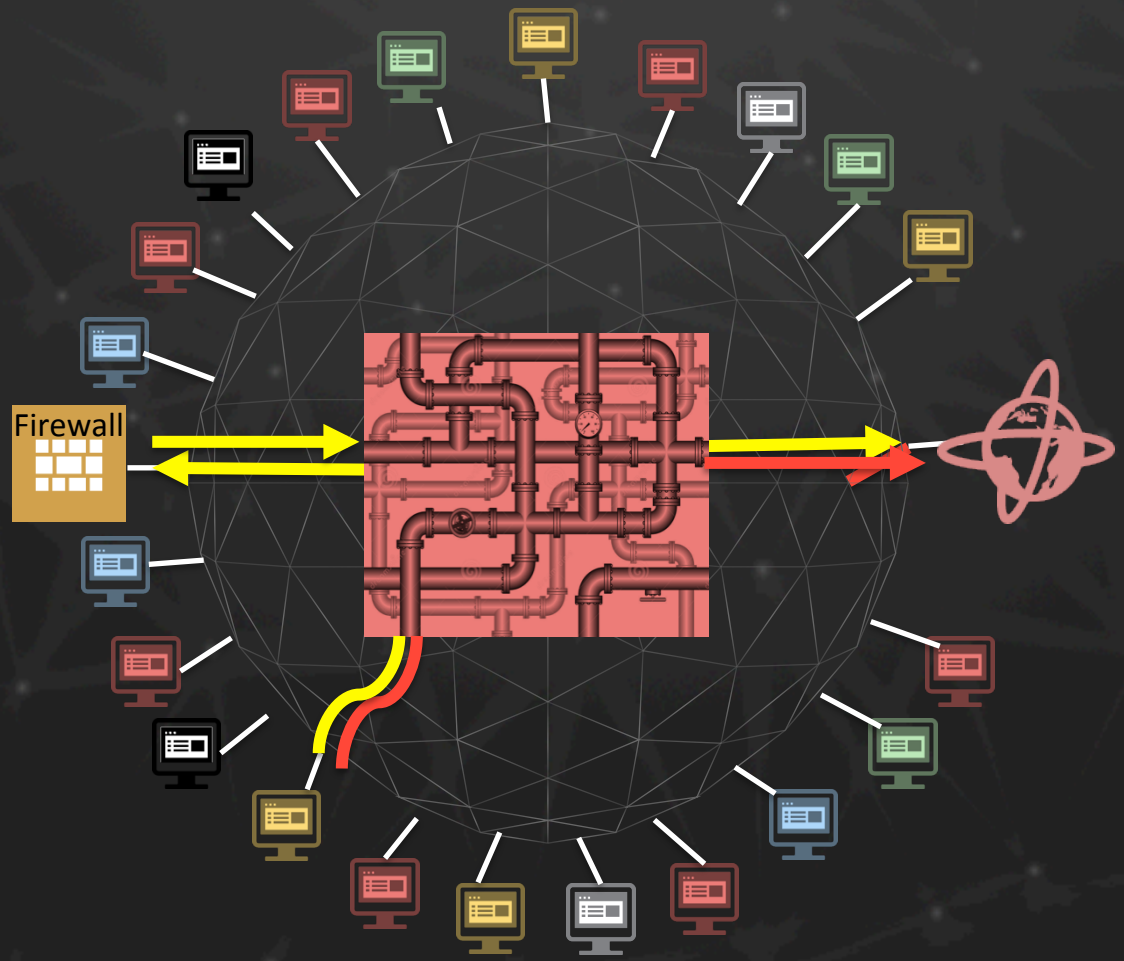
Full control of the comms: Service Chaining

Container comms

Redirected Flow: HTTP



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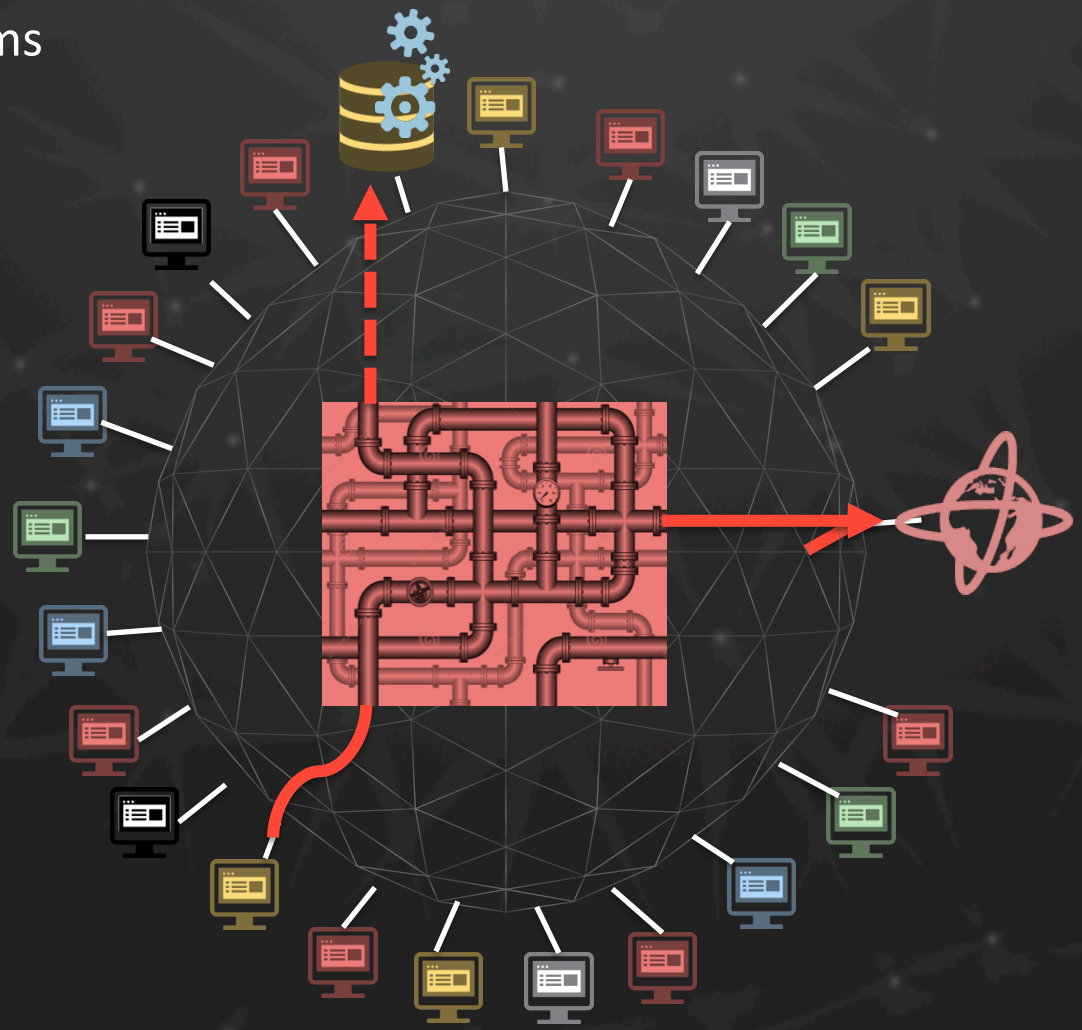
Full control of the comms: Mirroring of any container

Container comms

Mirror

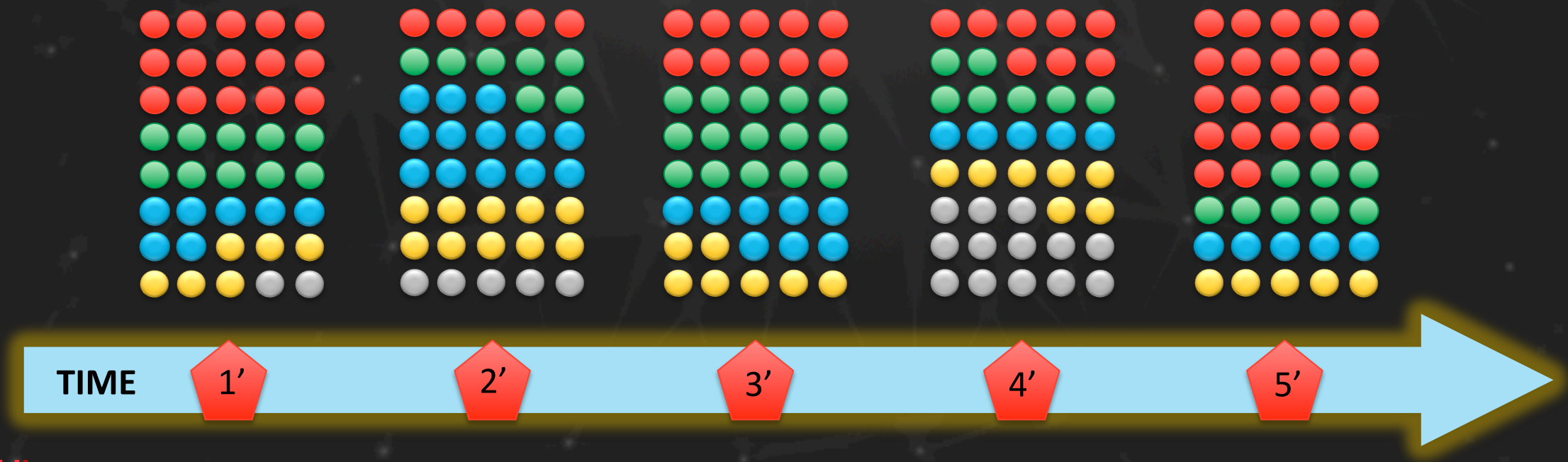


Docker is very dynamic under Openshift, Mesos or Kubernetes

Front End
MiddleWare
SQL DB
App Logic
Idle

Containers are created and destroyed on the fly to adapt to the demand very quickly

The SDN needs to follow , in real time, enforcing the security, QoS, NAT, accounting or service chaining policies for each container.



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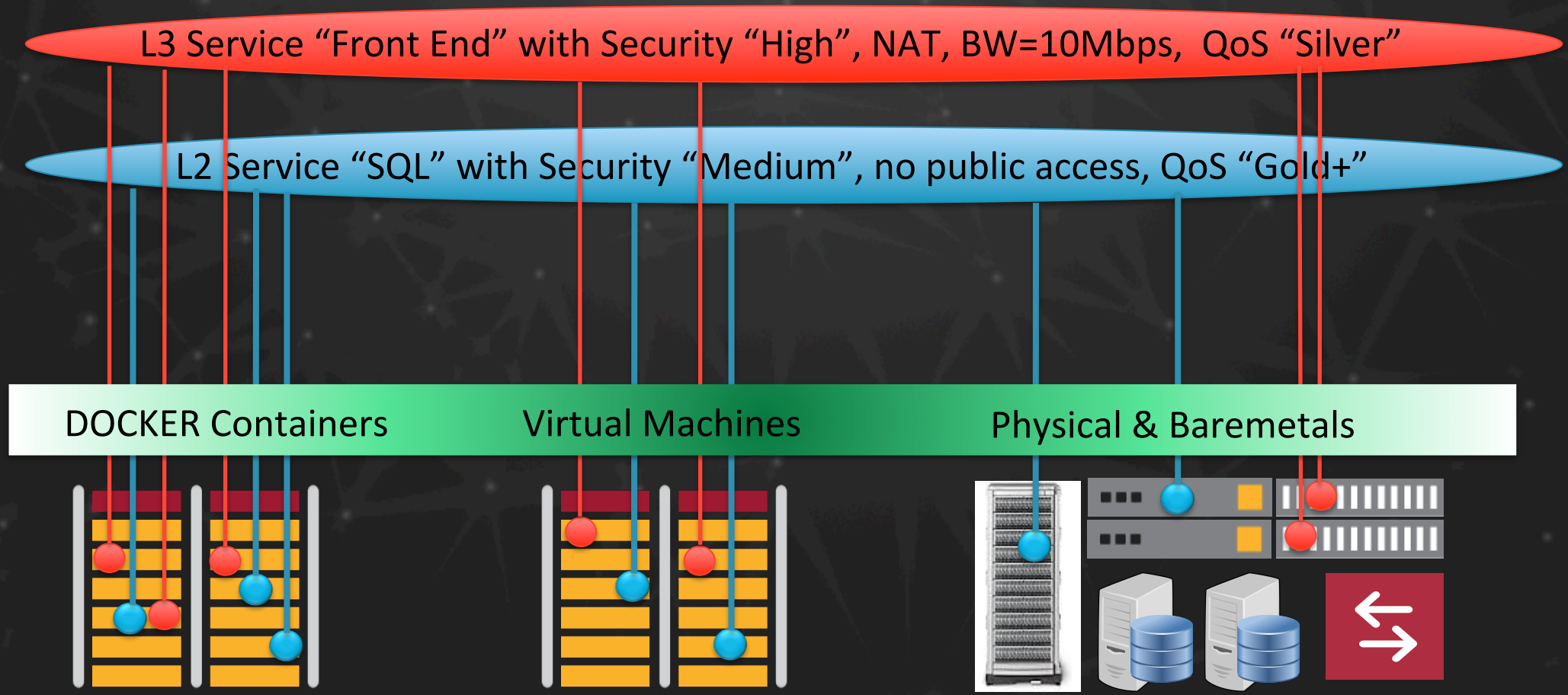
Same policies and templates can be used across any endpoint: VM, Docker LXC or Physical



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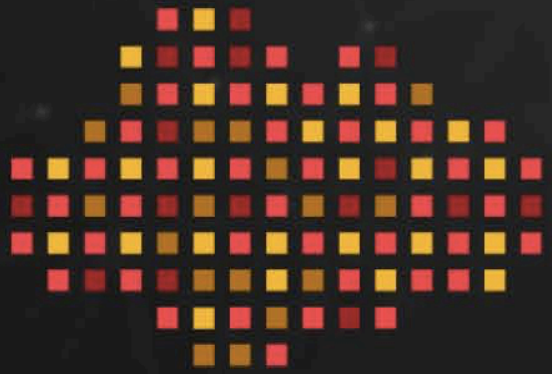
The Benefits Are Clear – DEMO



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