

# Pivotal CF Deployments



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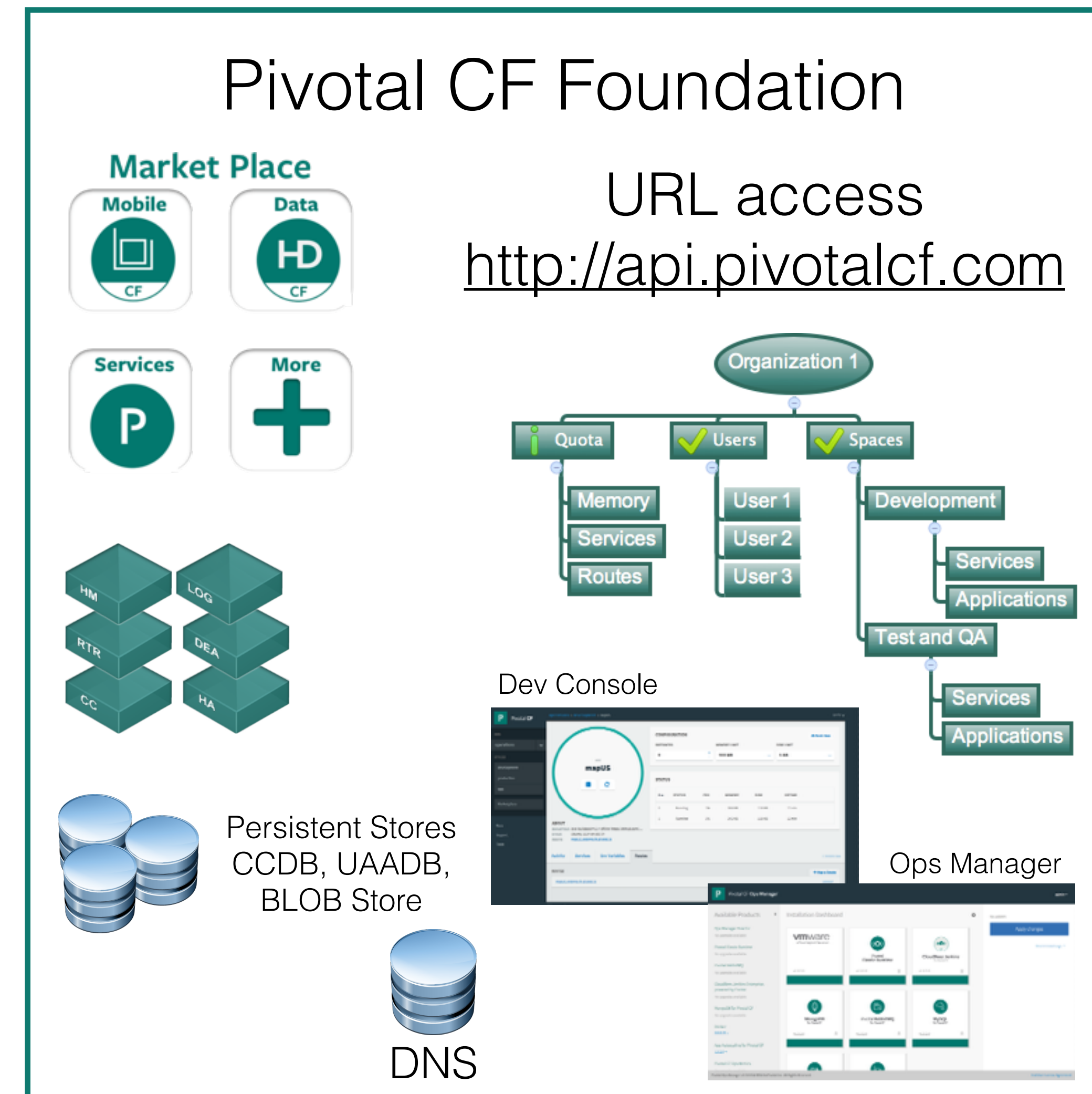
# Goals of a PaaS Deployments

- Physical Isolation of Workloads (Foundation Deployments)
- Network Access, Isolation and Security (Multiple Networks and Placement Pools)
- Logical Isolation of Workloads (Orgs/Space and Placement Pools)
- High Availability (Availability Zones)
- Platform Scalability
- Integration with Networking Services (External Load Balancers)
- Platform Portability (Hybrid Cloud)
- Multi-Site Deployments (Dev/Test, DR, Cloud Burst, Hybrid)

What's in a Pivotal CF Deployment?

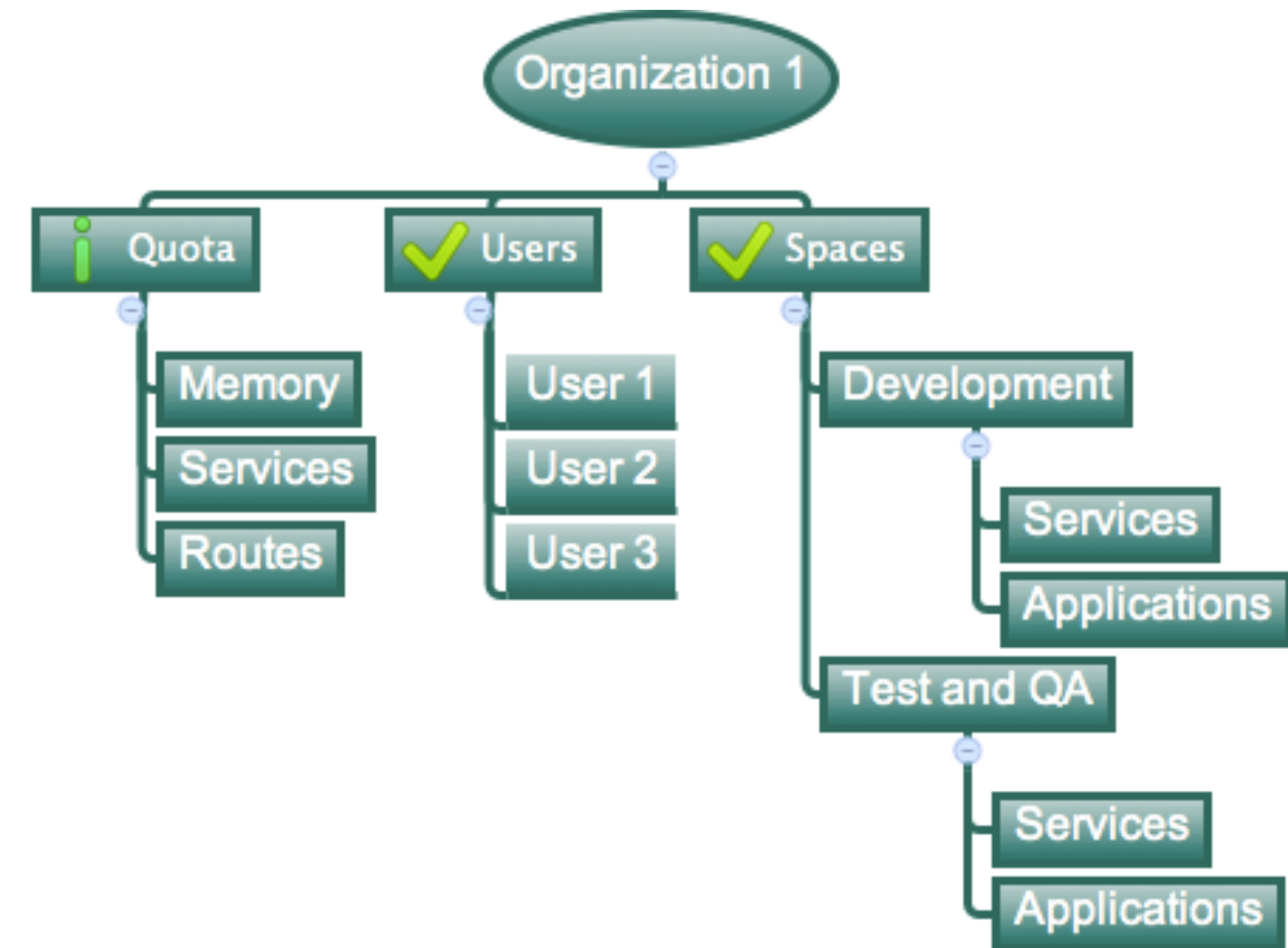
# Pivotal CF Foundation

- A physical deployment of Pivotal CF.
- Access to a Pivotal CF Foundation is via URL endpoint, Developer Console or Ops Manager.
- Targeted to a specific IaaS Infrastructure (vSphere, vCloud Air, AWS, Openstack)



# Pivotal CF Organizations

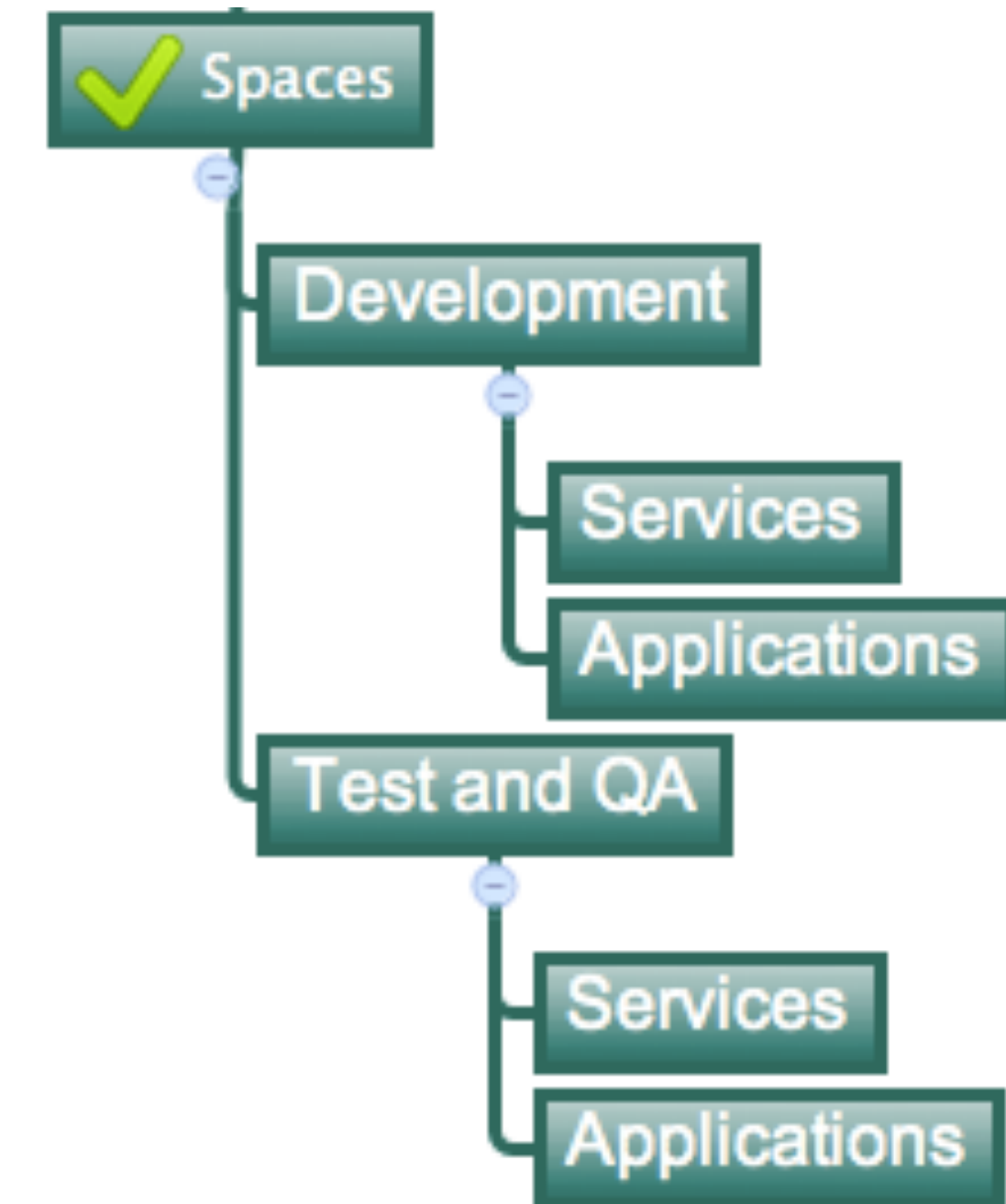
- Pivotal CF organizations provide multi-tenancy to a Pivotal CF Foundation.
- Each tenant can have Users, Spaces and Quota assignment.
- Organizations contain Spaces.
- Organizations contain roles for Org Managers and Org Auditors.





# Pivotal CF Spaces

- Application and services are scoped to a space.
- A space provides a set of users access to a shared location for application development, deployment, and maintenance.
- Spaces contain roles for Space Manager, Space Developer and Space Auditor.

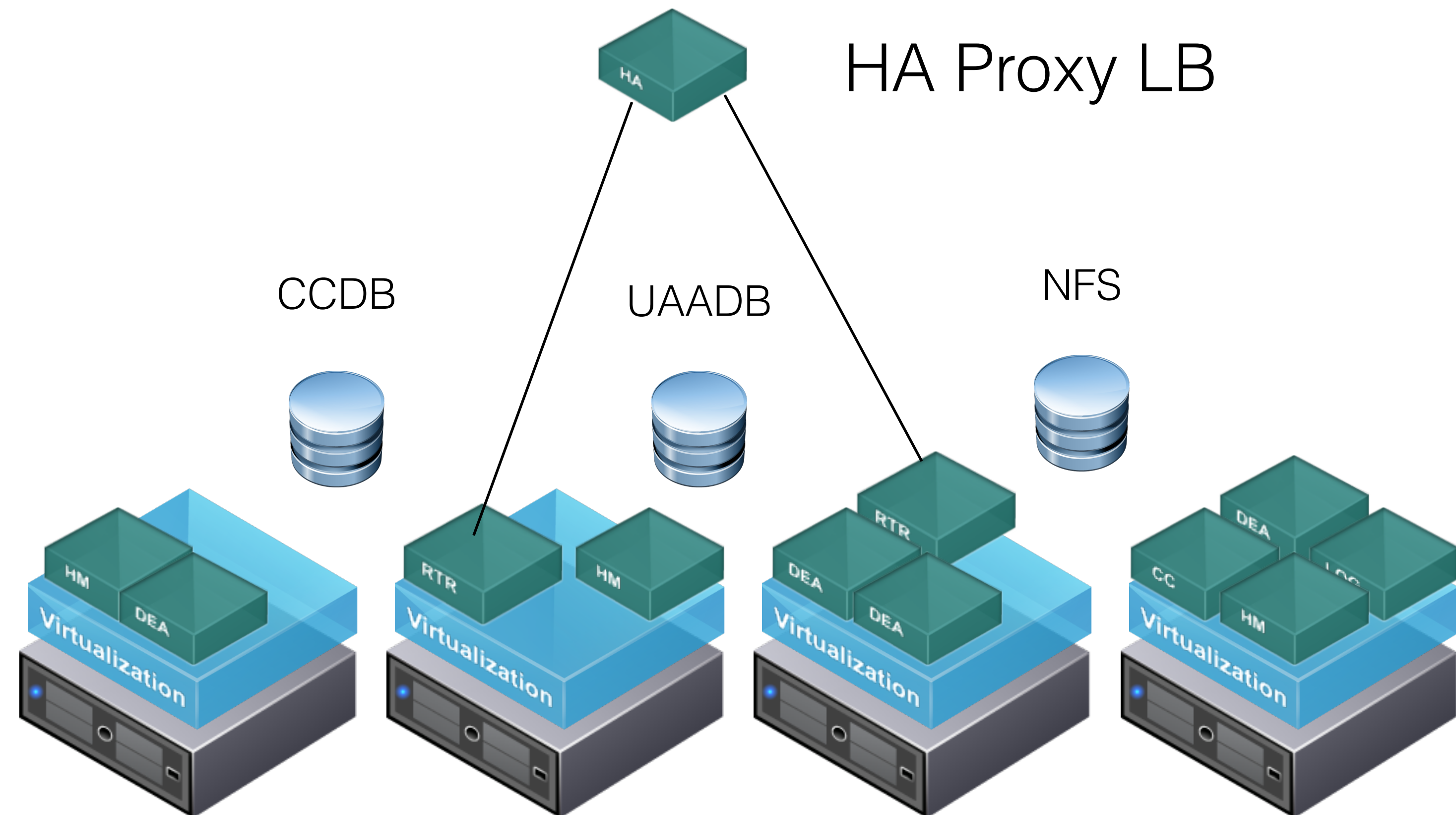


# Common Deployments



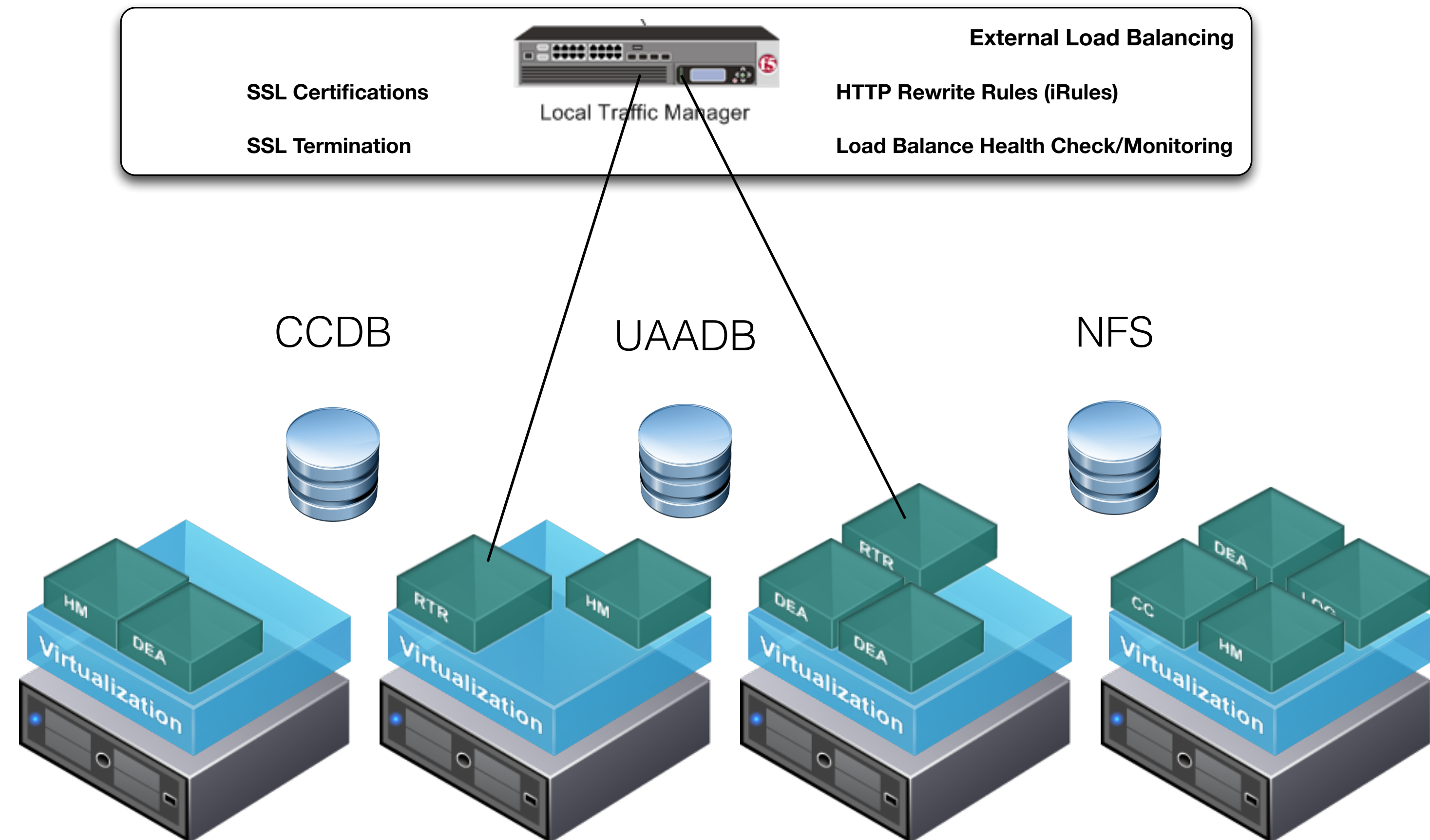
# The Basic Deployment

- A single foundation deployment
- Single cluster of compute
- Simple network requirements.
- Internal Load Balancing
- Used for simple deployments (Dev/Test, POC/Eval)



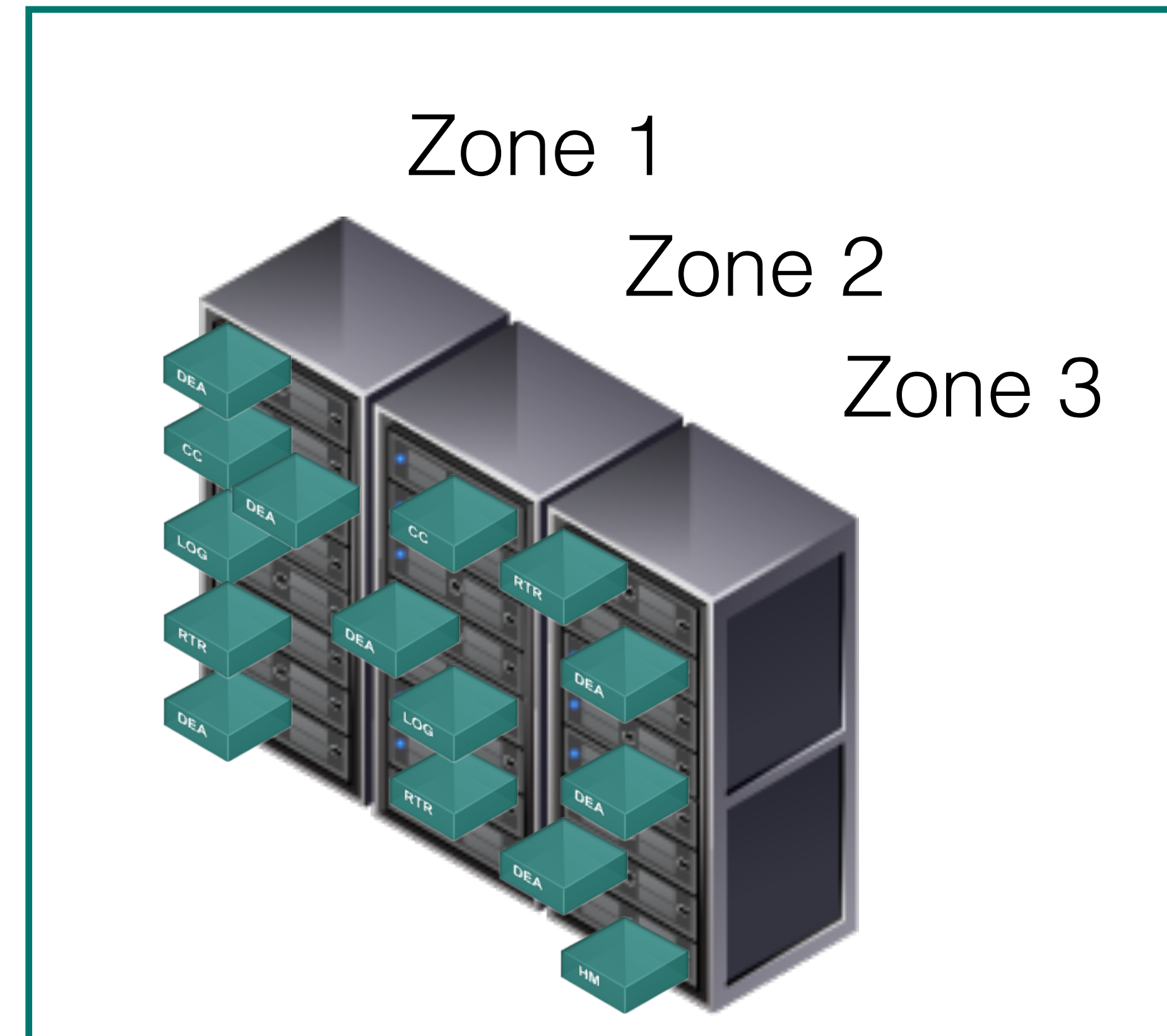
# External Load Balancing

- Integrate Enterprise Load Balancer to leverage,
  - SSL termination
  - SSL certificate management
  - HTTP Rewrite rules
  - Load Balancing Health Checks



# Availability Zones

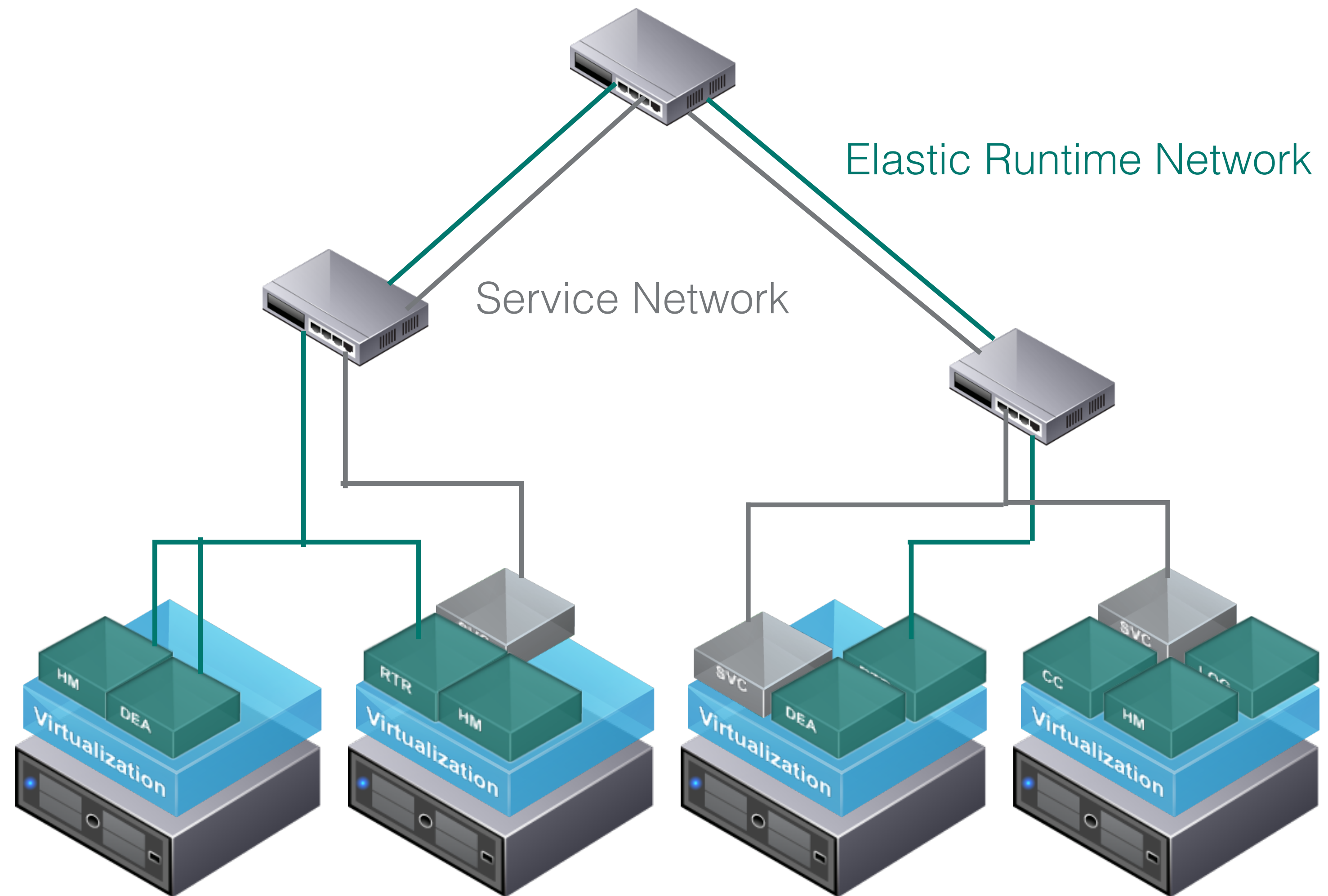
- Distribute Pivotal CF Foundation across physical hardware racks to increase HA
- Operators define Availability Zones in the Ops Manager UI and Ops Managers installs Cloud Foundry and its Services into the correct zones.
- Zones should be isolated to a physical hardware rack.





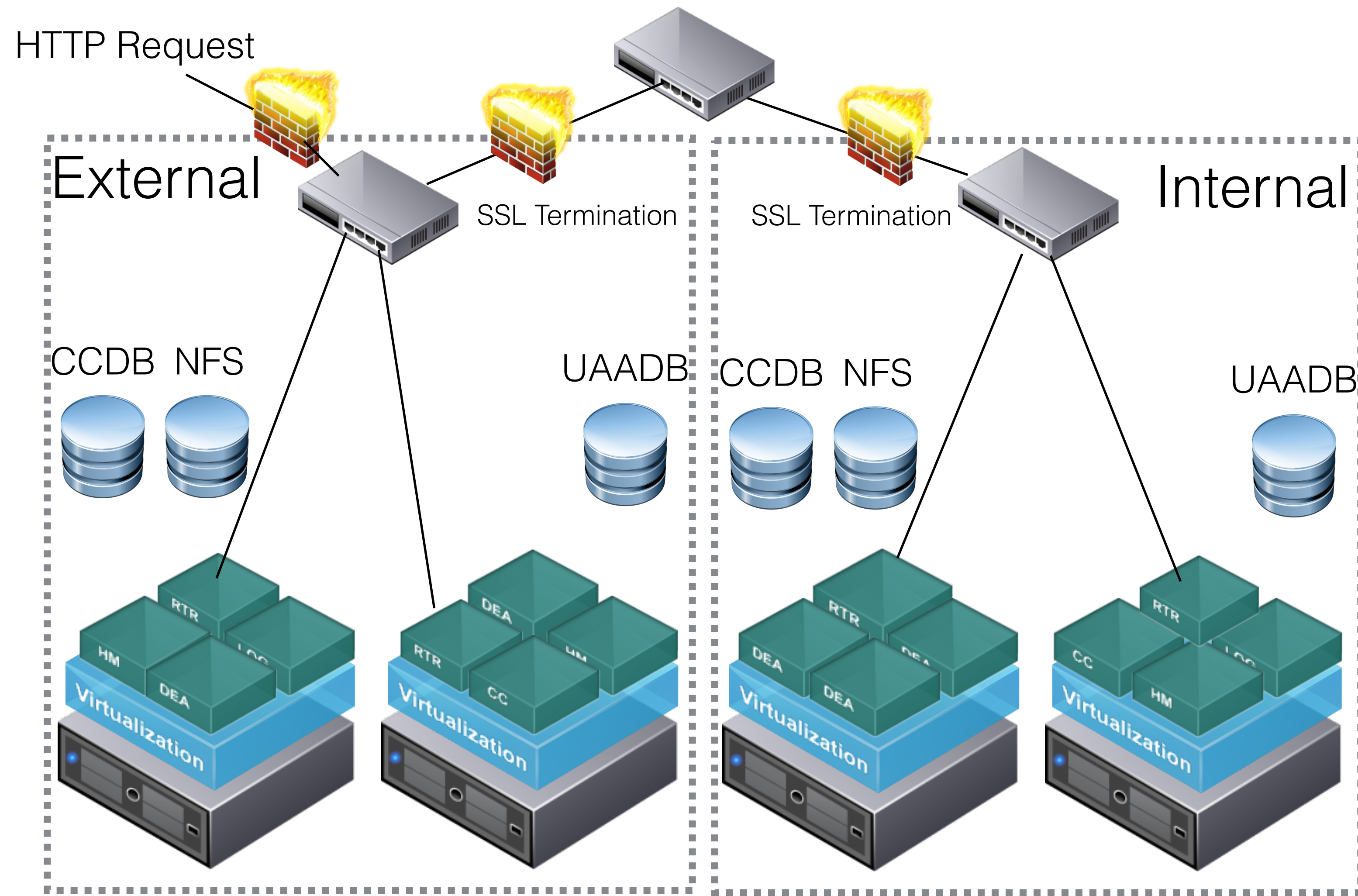
# Multiple Networks

- Use multiple networks to isolate and segregate network traffic for ER (elastic runtime) and Pivotal CF services.
- Operators define networks in the Ops Manager and assign a network during installation of each Pivotal CF tile.



# DMZs

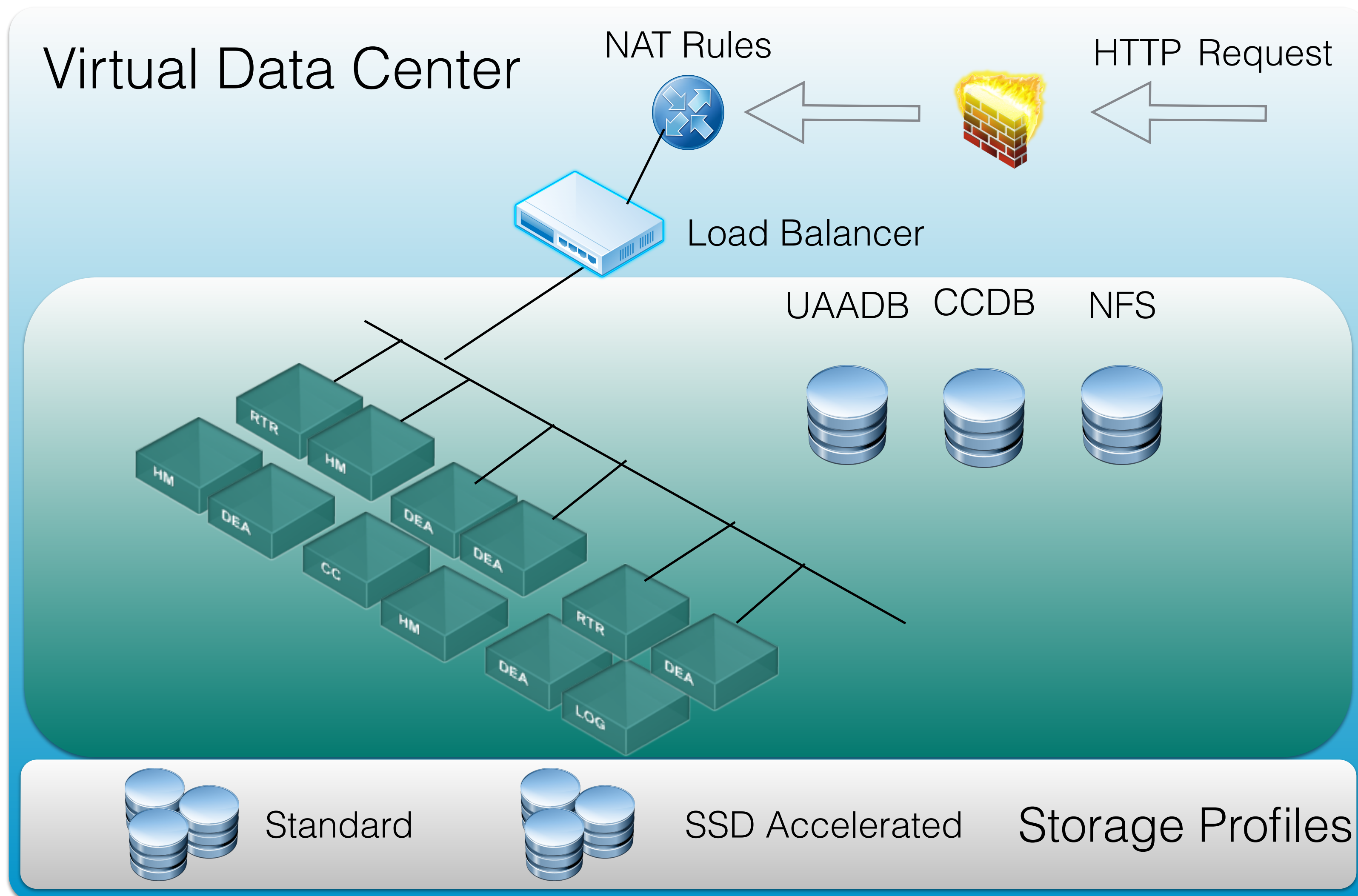
- Operators use DMZs to physically isolate Application, Compute, Networking and Storage workloads
- Multiple Pivotal Foundations are used to provide the physical isolation.





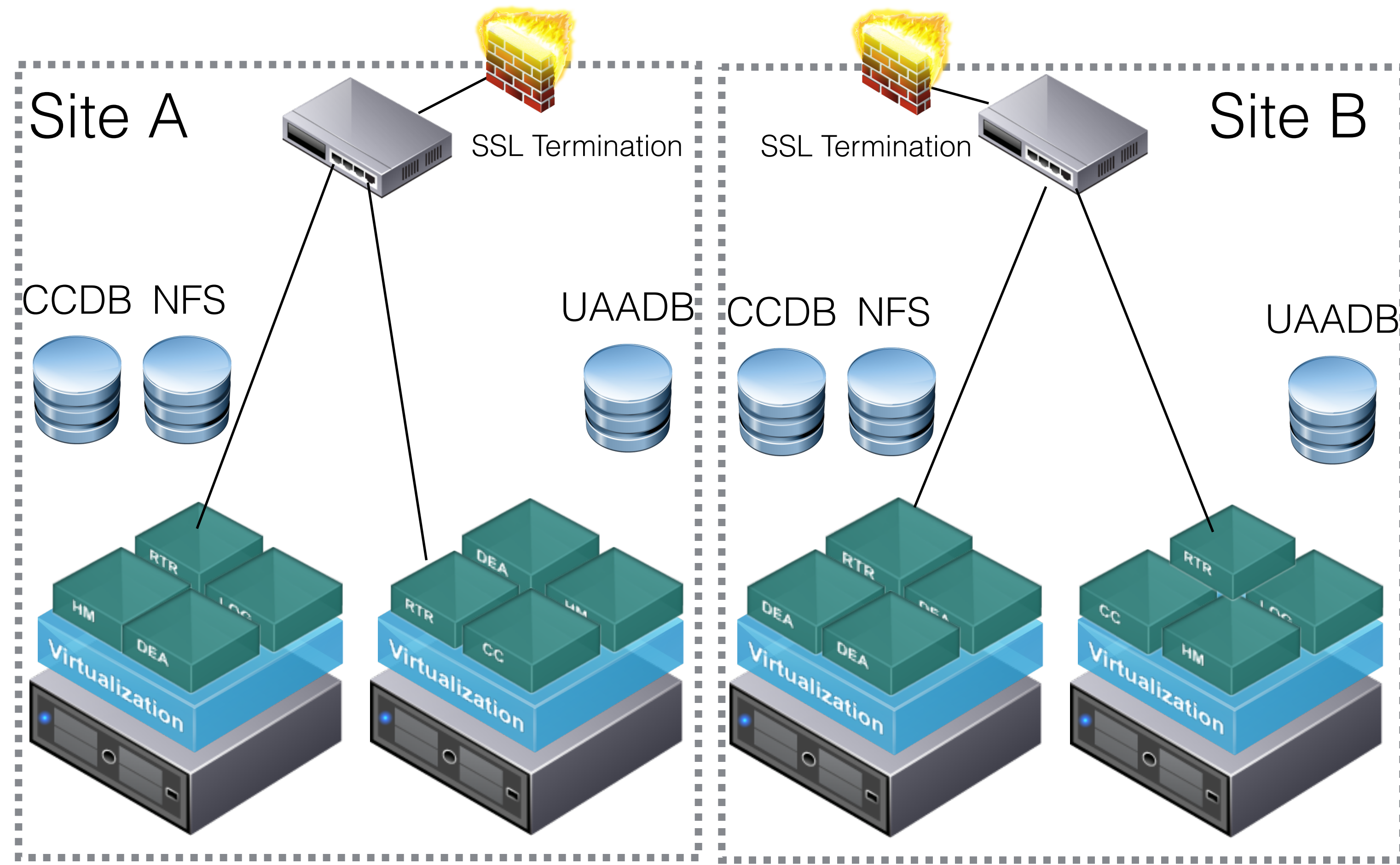
# vCloud Air Deployment

- A vCloud Air installation can support 1 or more Foundations in a single Virtual Data Center.
- Operators can create multiple networks for isolation of Pivotal elastic runtime and services.
- Edge gateway (NAT, Firewall and Load Balancing) are configured in vCloud Air.



# Multi-Site Deployments

- Multi-site deployments include multiple Pivotal CF Foundations
- Typical use cases for multi-site deployments include
  - Dev/Test Public Cloud
  - DR sites
  - Cloud Bursting
  - Hybrid Cloud





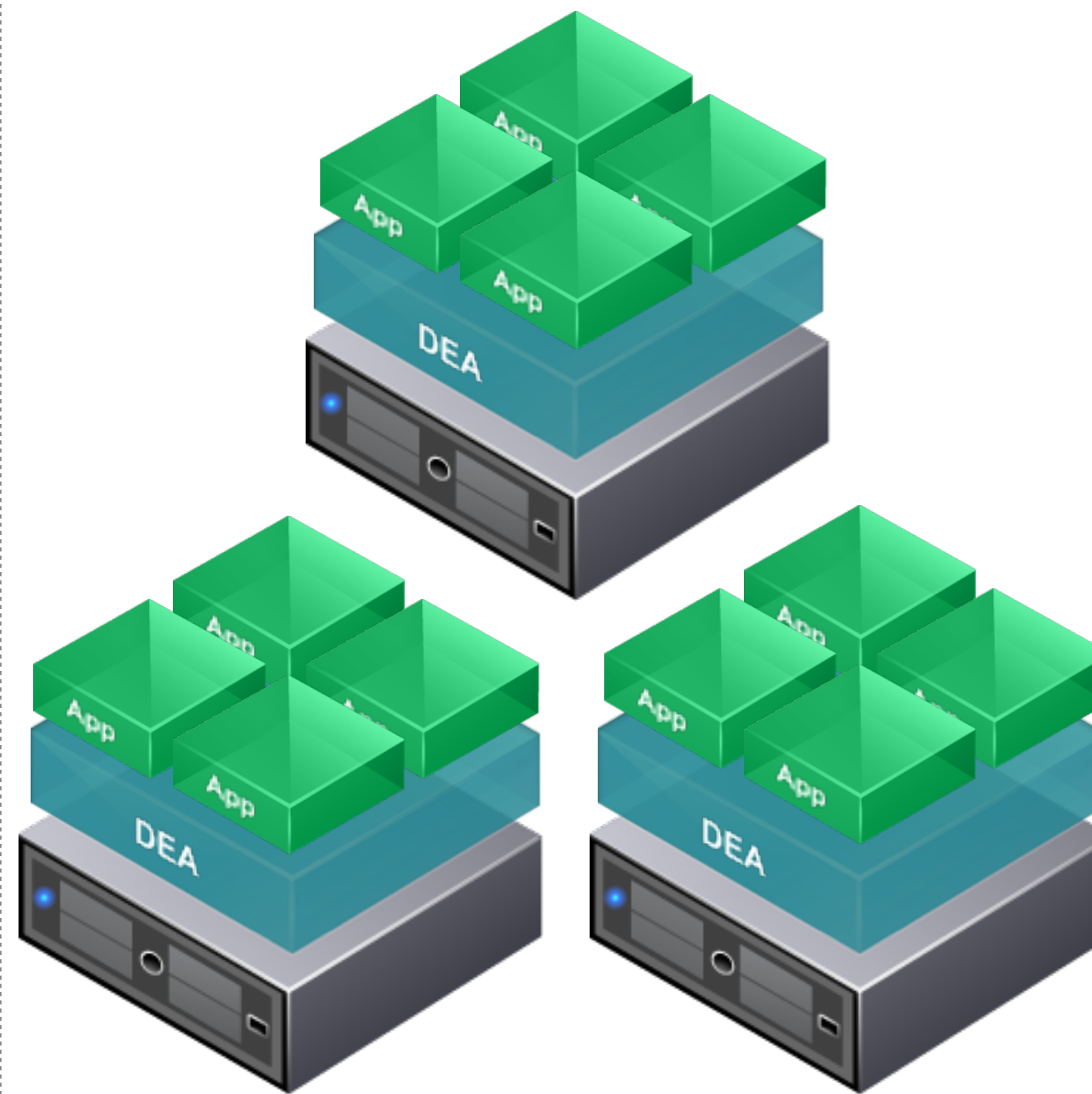
Future Deployments

# Placement Pools (Single and Multi-tenant Workloads)

- Single-Tenant placement pools group applications of certain classification or ownership based on the operators policy
- Multi-Tenant placement pools allow any application workload to be grouped.

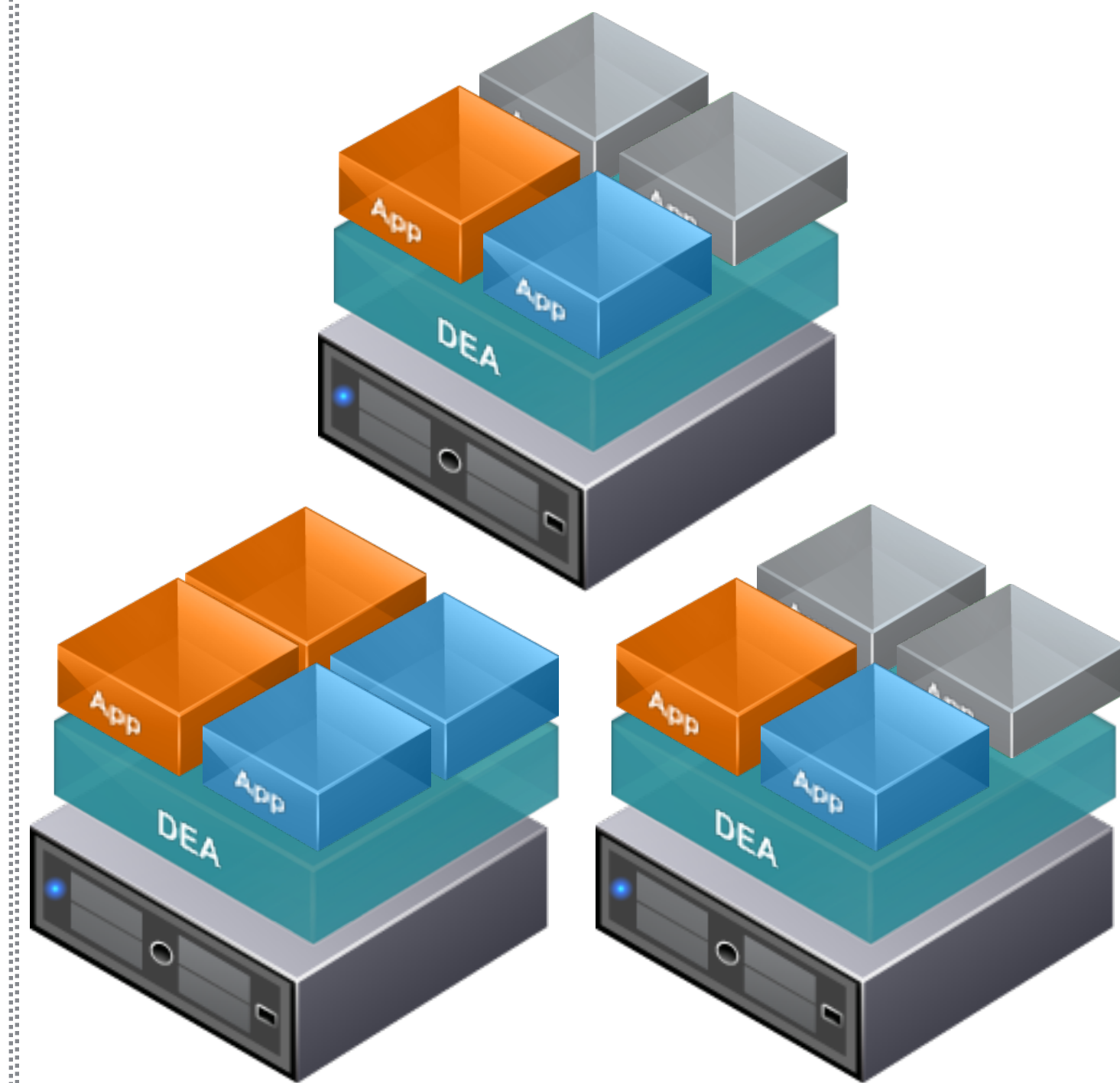
## Placement Pool A

Single-Tenant / Single Workload



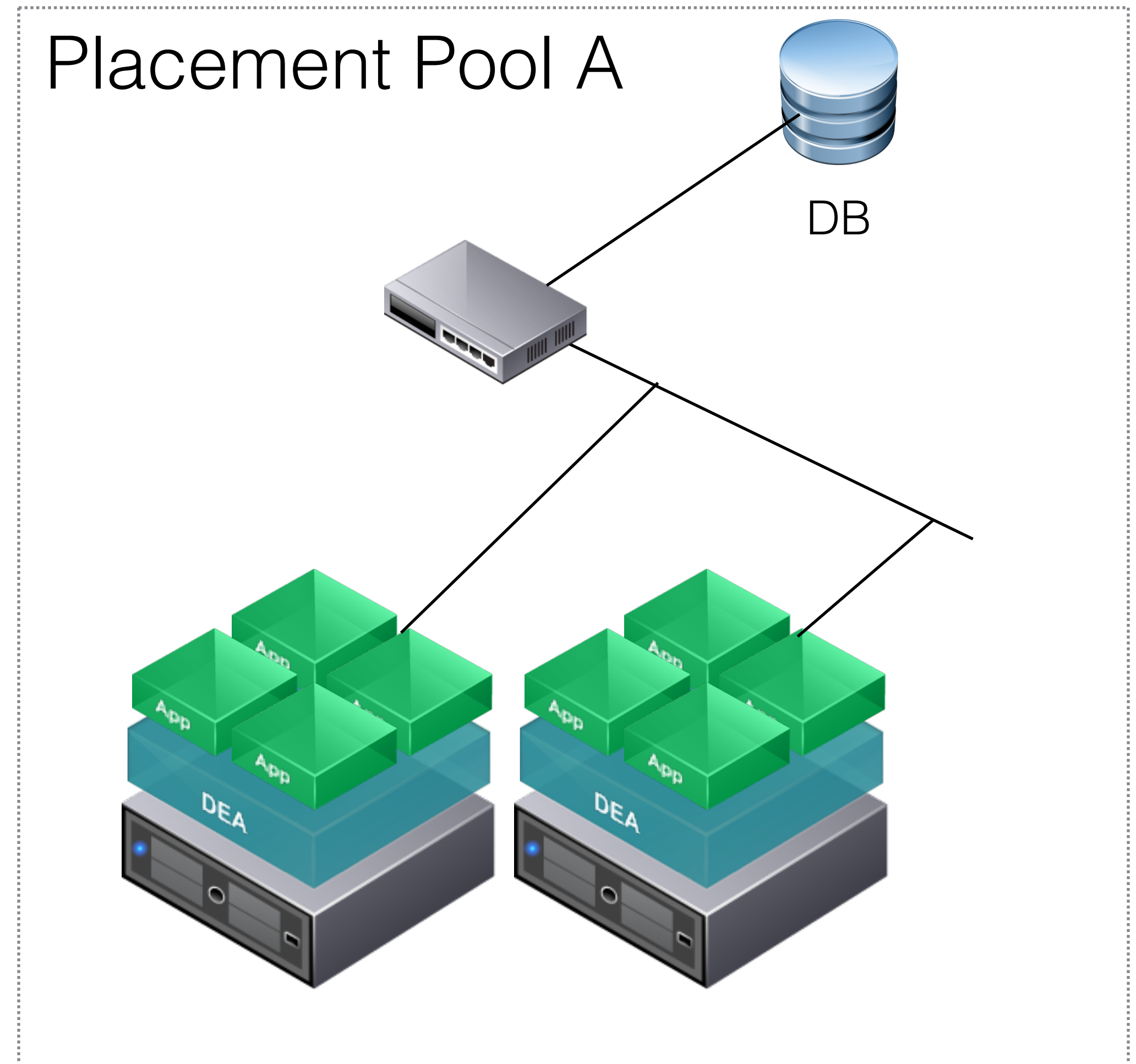
## Placement Pool B

Multi-Tenant / Mixed Workload



# Placement Pools (Network Isolation)

- Applications are placed in a Placement Pool with special Network access based on operator policy



# Placement Pools (Specialized Hardware)

- Applications with special hardware requirements are placed in the Placement Pool based on operator policy

Placement Pool A



# Pivotal

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