

Discovery & IOC Phase Network Architecture

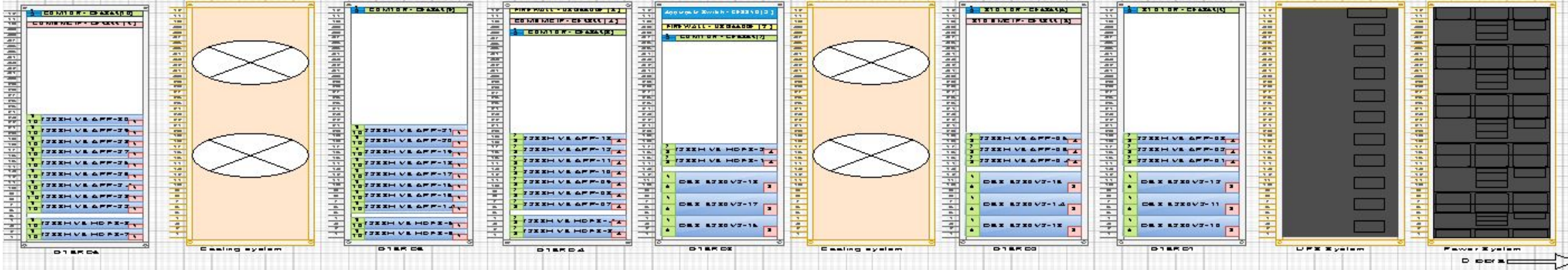


Environments

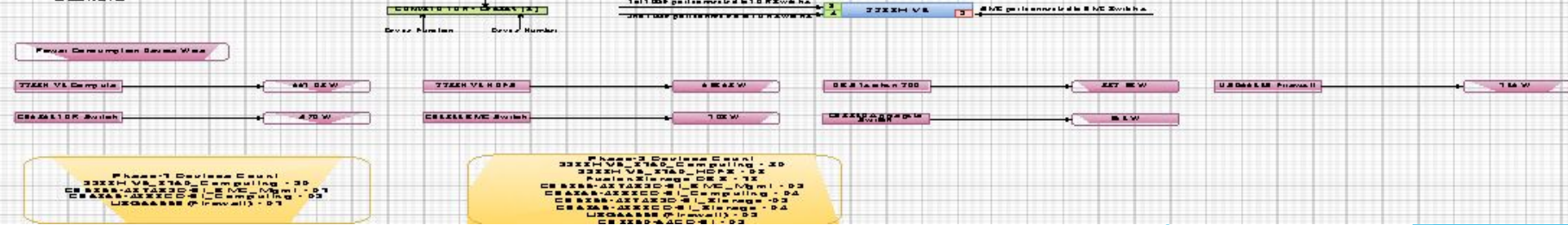
- ▶ Discovery Phase => Phase-1
- ▶ IOC Phase => Phase-2

Data Center Module-15 Overview

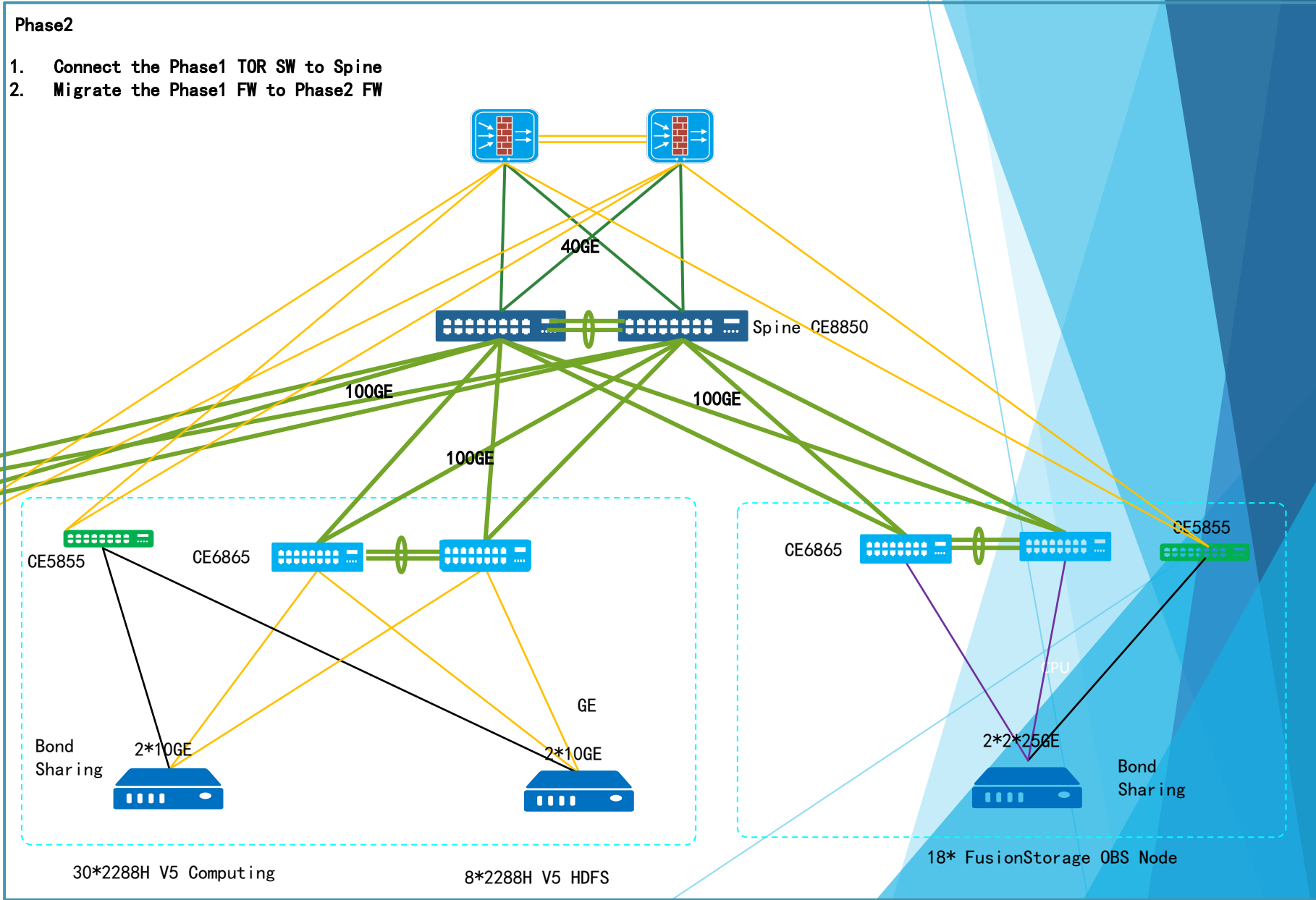
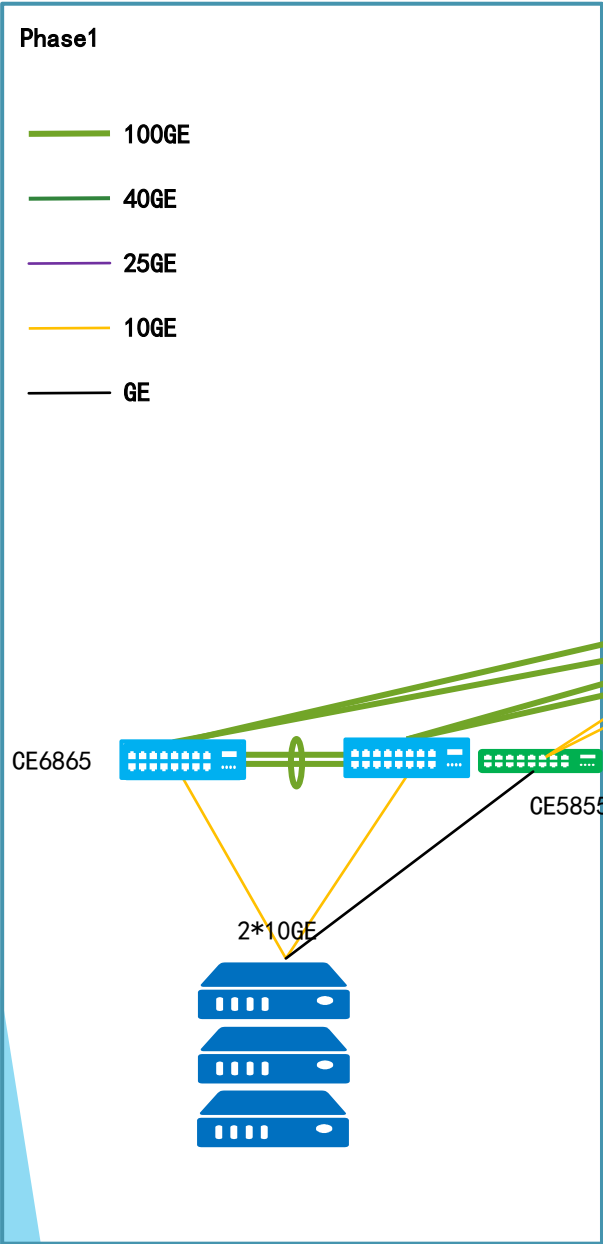
Module 15 in Data Center
 Location: Dallas
 Tenet 01 Pond at Republic of Kazakhstan



These two racks have only one Unprotected Power Line with C13 sockets



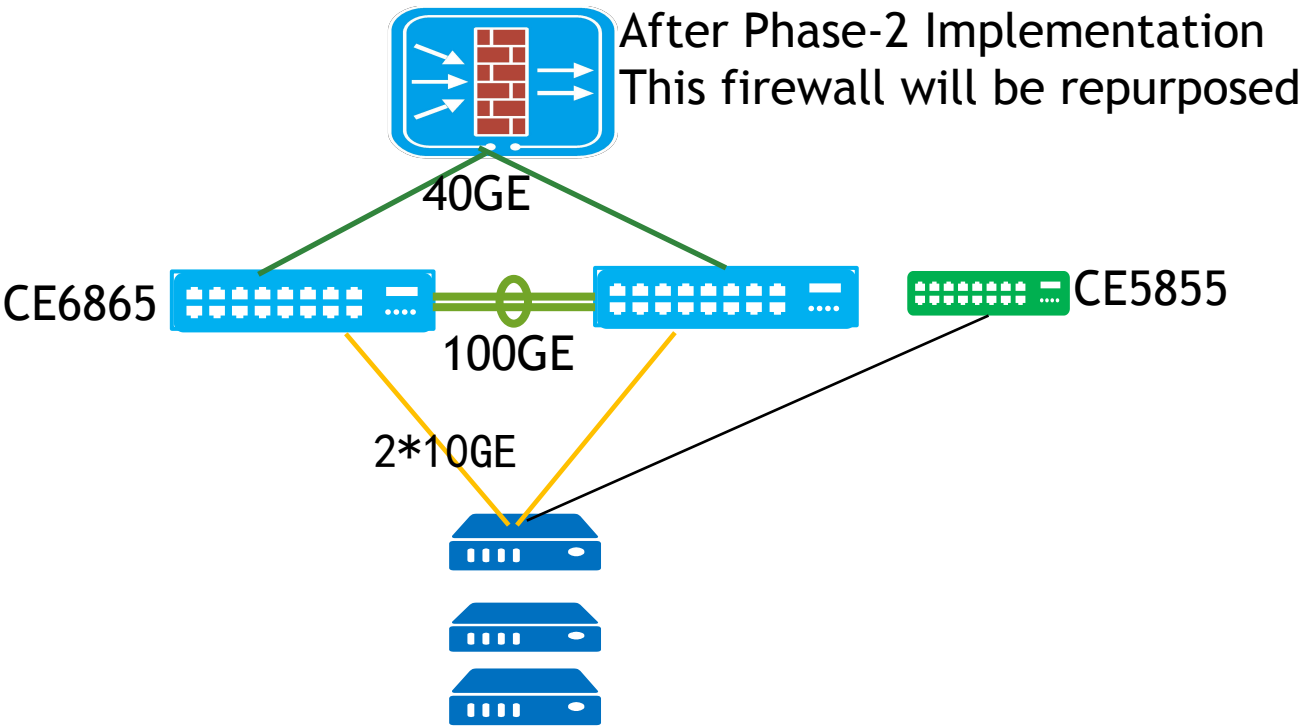
Network Topology-Discovery (Phase1) & IOC (Phase2)



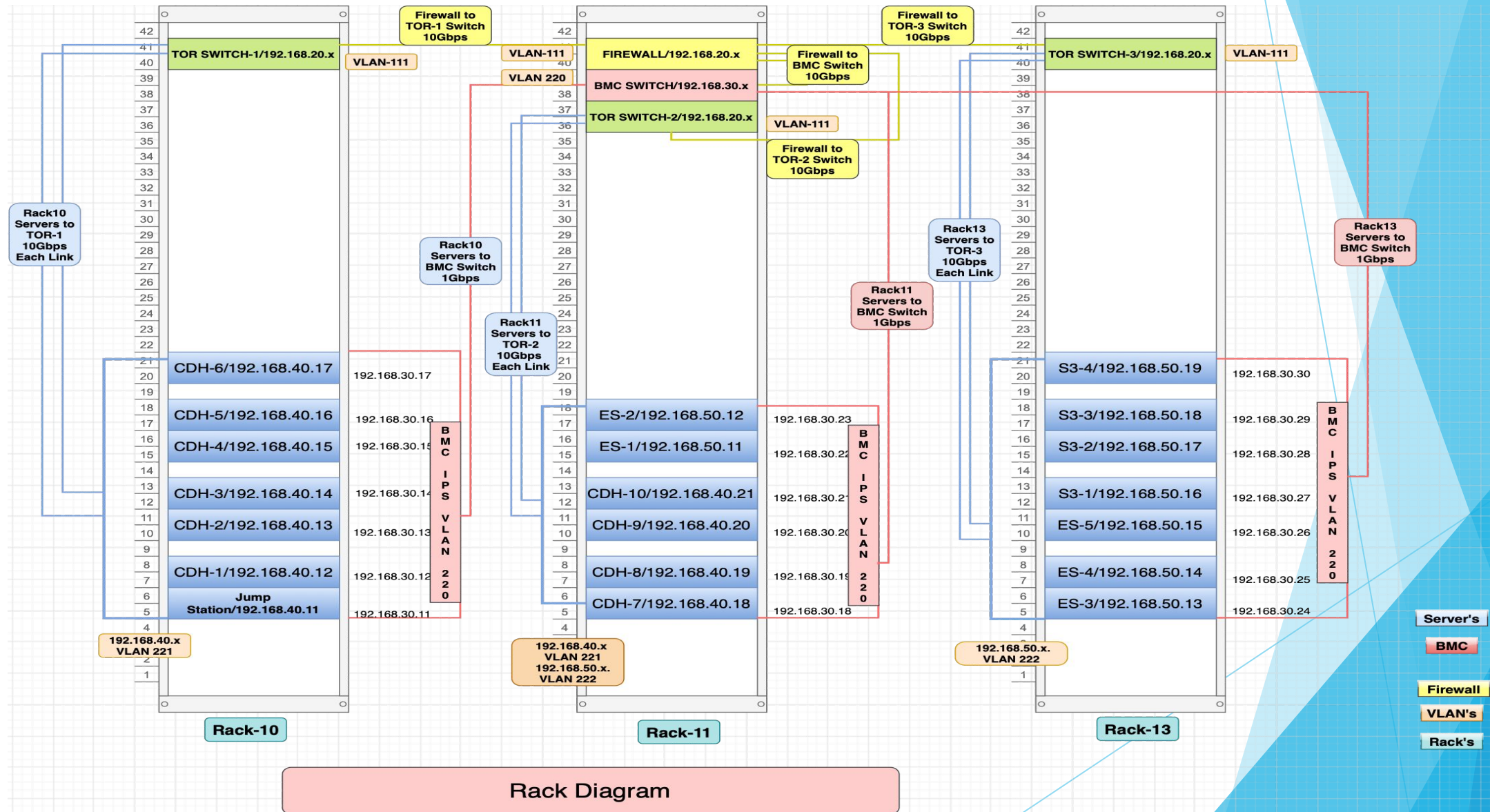
Network Topology-Phase1

Phase1

- 100GE
- 40GE
- 25GE
- 10GE
- GE



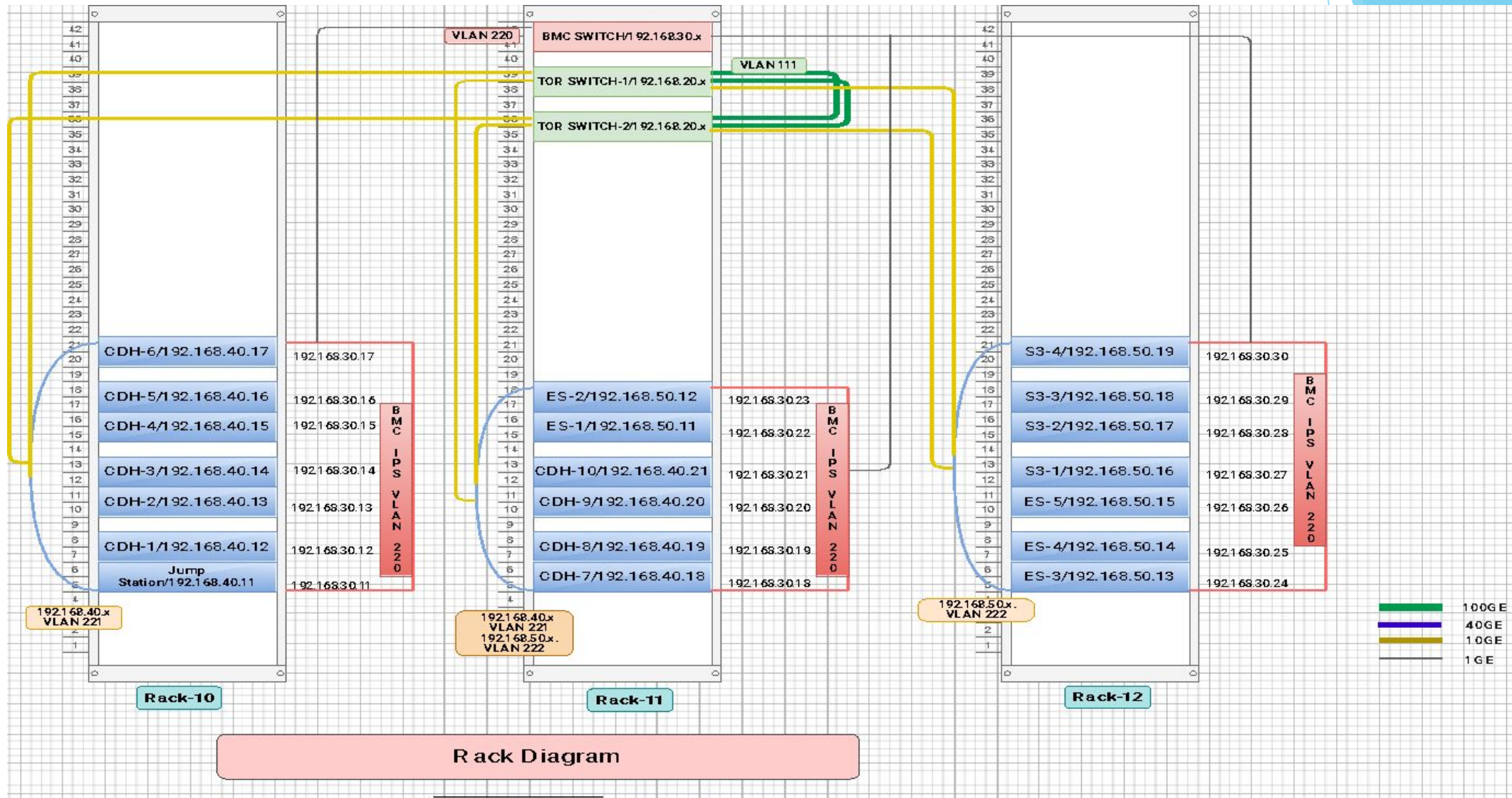
Phase-1 Present Architecture



Phase-1 Present Architecture Problems

- Servers are connected to single TOR switch.
- TOR switch does not have redundancy.
- Network Throughput (All internal & external traffic going via firewall device).
- Between servers to TOR Switches , TOR to TOR and TOR to firewall device network speed is 10GE.

Phase-1 Expected Architecture



Phase-1 Architecture After Changes

- All servers should be connected to 2 different TOR switches.
- 2 TOR switches connect to each other.
- VLAN should be span across all TOR Switches.
- TOR Switches will connect IOC phase Aggregate Switches.
- After connectivity Between TOR Switches and TOR to Aggregate Switch network bandwidth is 100GE.
- All internal traffic going between TOR Switches and external traffic going via Aggregate and firewall devices.
- After all configuration firewall device will be remove from Discovery Phase.

Phase-1 Internal VLANS

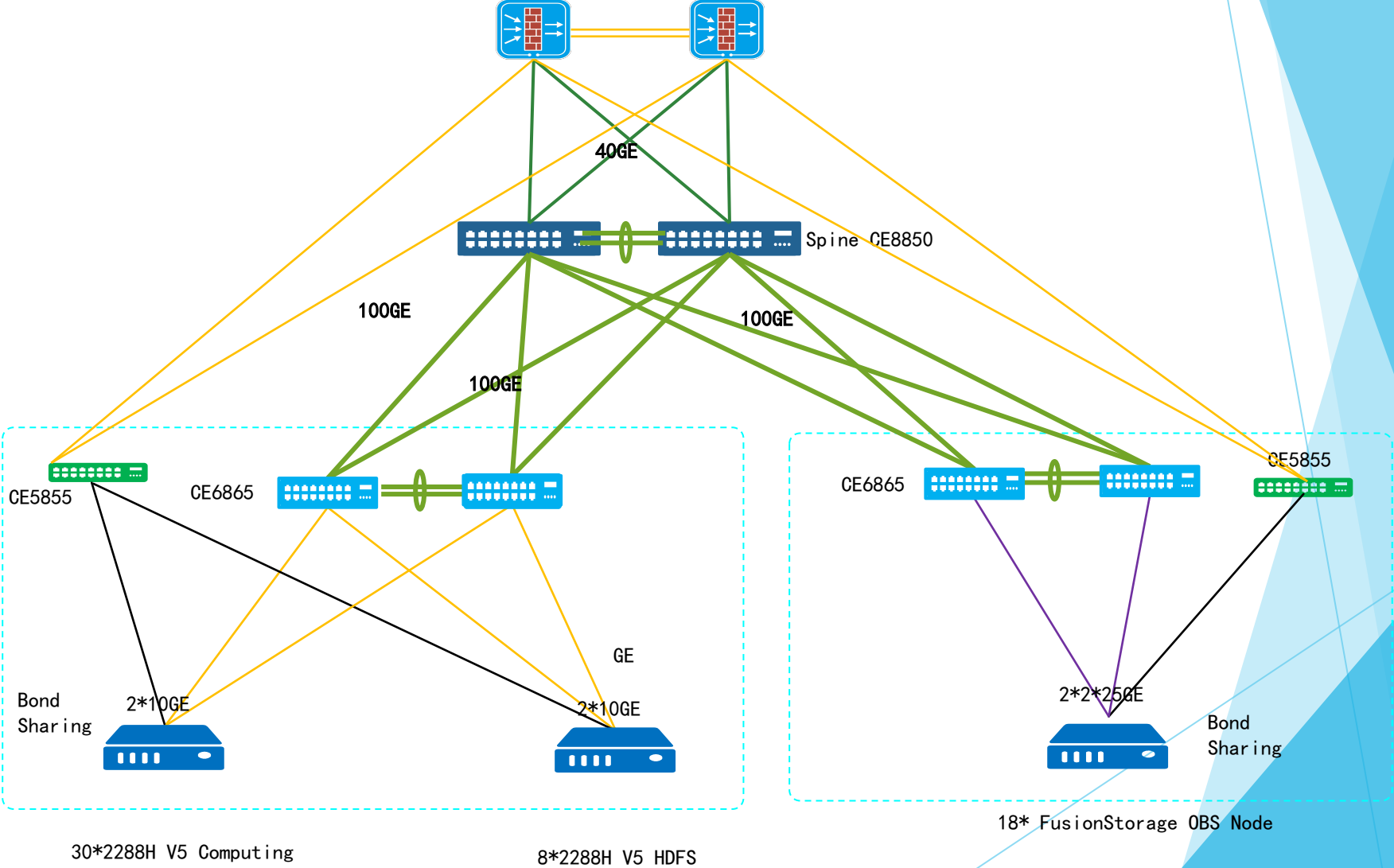
- VLAN-111 => Network Devices (TOR Switches , Firewall)
- VLAN-220 => BMC Management network
- VLAN-221 => CDH, Docker Swarm (192.168.40.x)
- VLAN-222 => Elasticsearch , S3 Storage (192.168.50.x)

Phase-1 External VLANS

- VLAN-111 => Network Devices (TOR Switches , Firewall)
- VLAN-220 => BMC Management network
- VLAN-221 => CDH, Docker Swarm (192.168.40.x)
- VLAN-222 => Elasticsearch , S3 Storage (192.168.50.x)

Network Topology-Phase2

- 100GE
- 40GE
- 25GE
- 10GE
- GE



Phase-2 Internal VLAN Requirements

- Phase-1 same VLANS need to configure across all the Switches
- S3 service separate VLAN (Based on Huawei Implementation Team)
- S3 servers BMC Management.
- Elasticsearch Service
- Oracle Database
- CDH and Docker Swarm

Phase-2 External VLAN Requirements

- Phase-1 same VLANS need to configure across all the Switches.
- Servers BMC Management
- S3 Devices BMC Management.
- Elasticsearch Service
- Oracle Database
- CDH and Docker Swarm

Devices Checklist

- After Phase-1&2 implementation we need confirmation about spare devices working condition.