



NFV - Optimized Infrastructure

Marco Huang

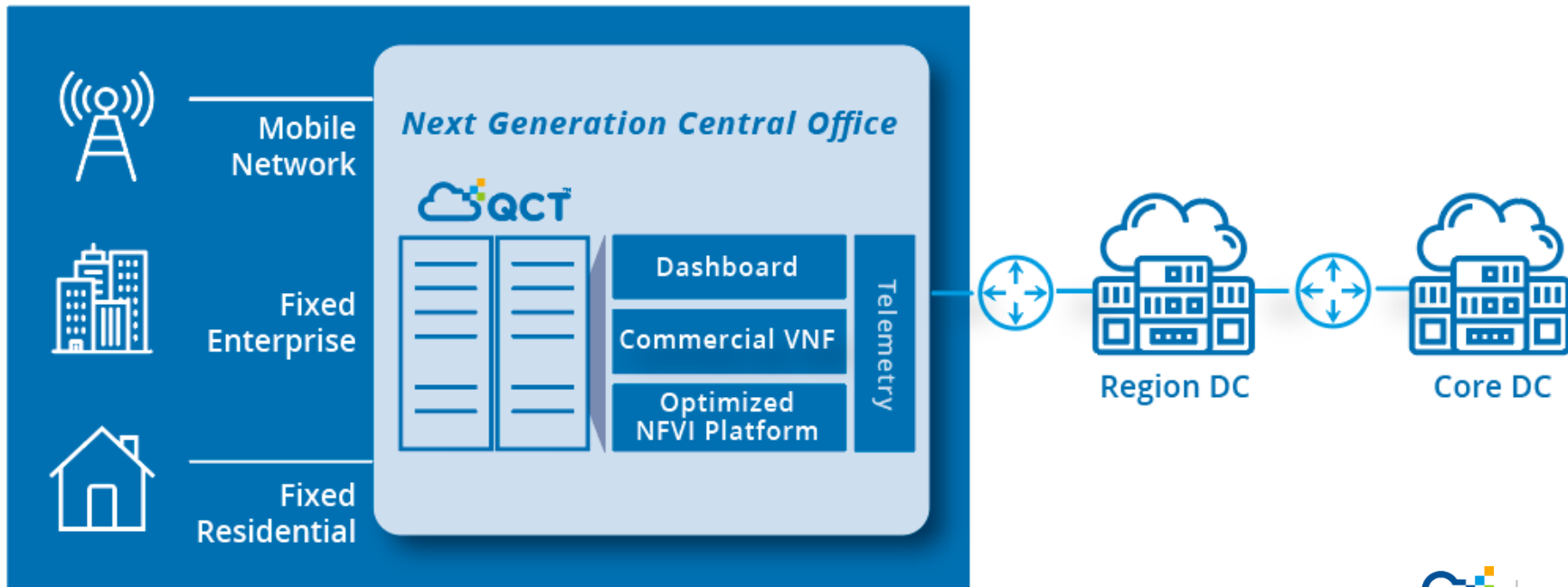
Open Infrastructure
Engineering Team Leader,
QCT

The NGCCO logo is a large, stylized acronym where each letter is filled with a vibrant, abstract pattern of orange, red, and blue light streaks and cityscape silhouettes, giving it a high-tech, digital appearance.

NGCCO

NEXT GENERATION CENTRAL OFFICE

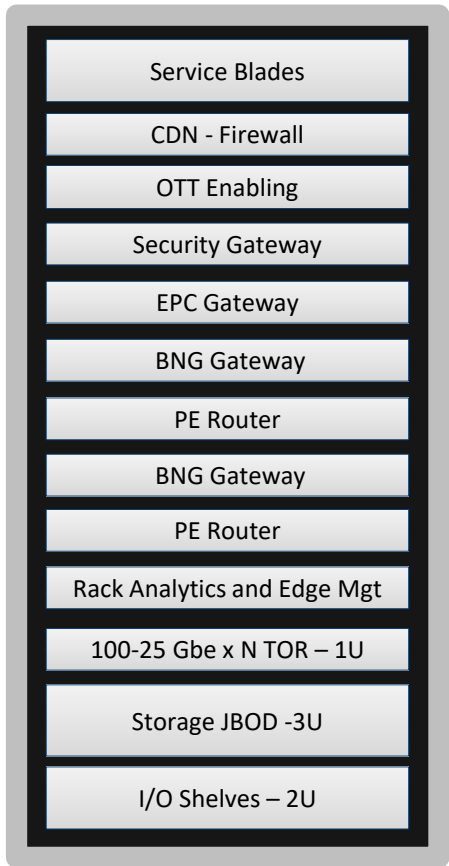
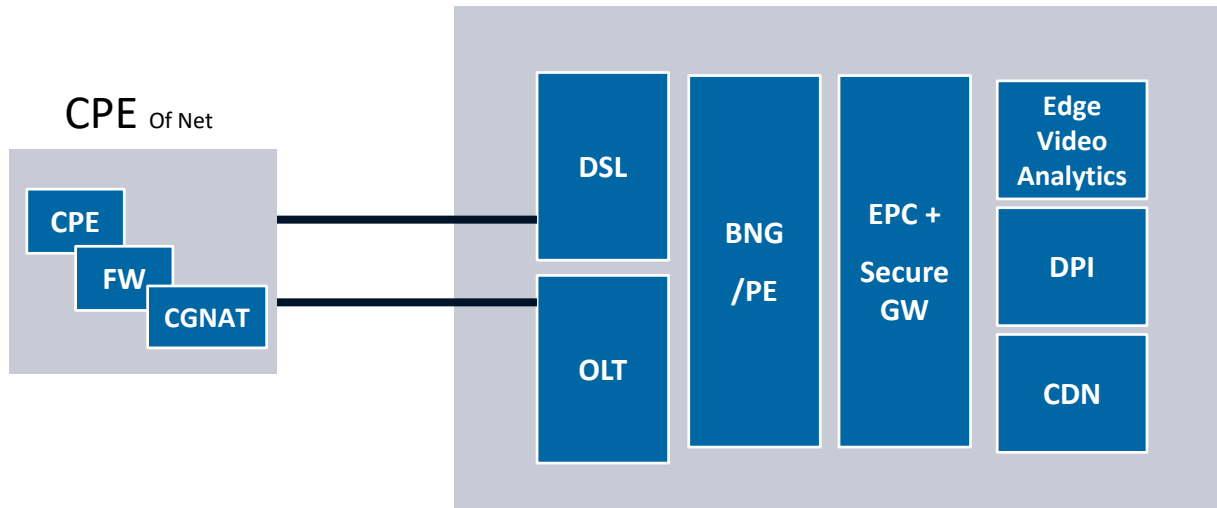
The Evolution of Telco Infrastructure



Next Generation Central Office

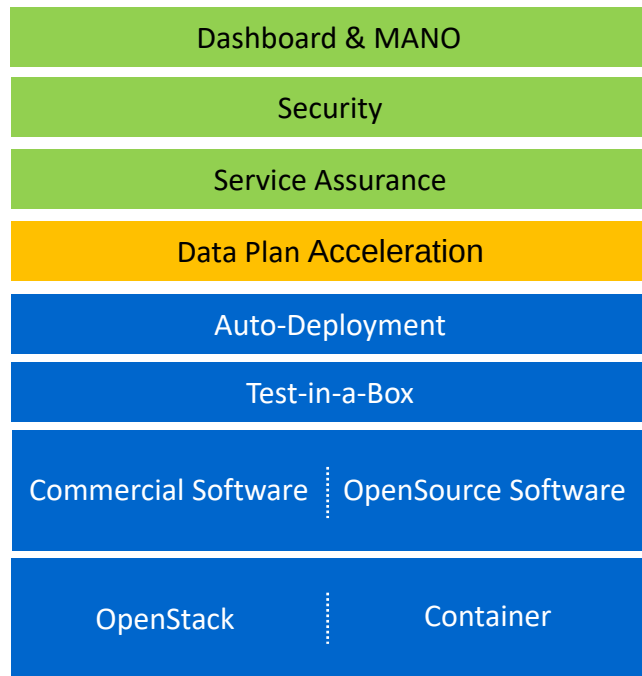
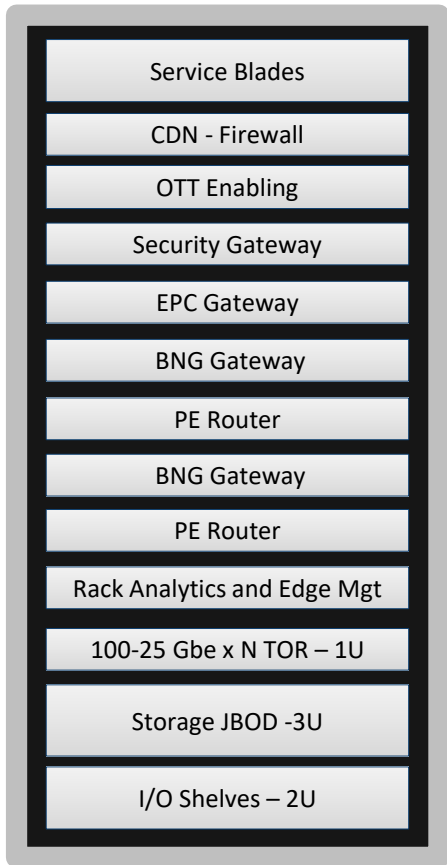
Intel Reference Architecture and Telco Service

5G Central Office on Net

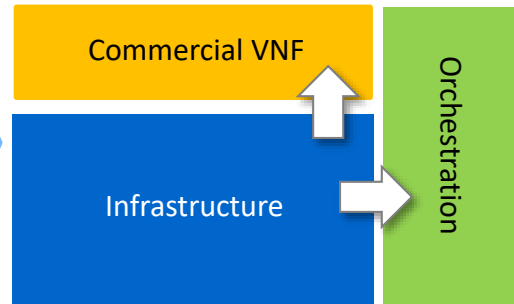


Next Generation Central Office

QCT Proposed Architecture

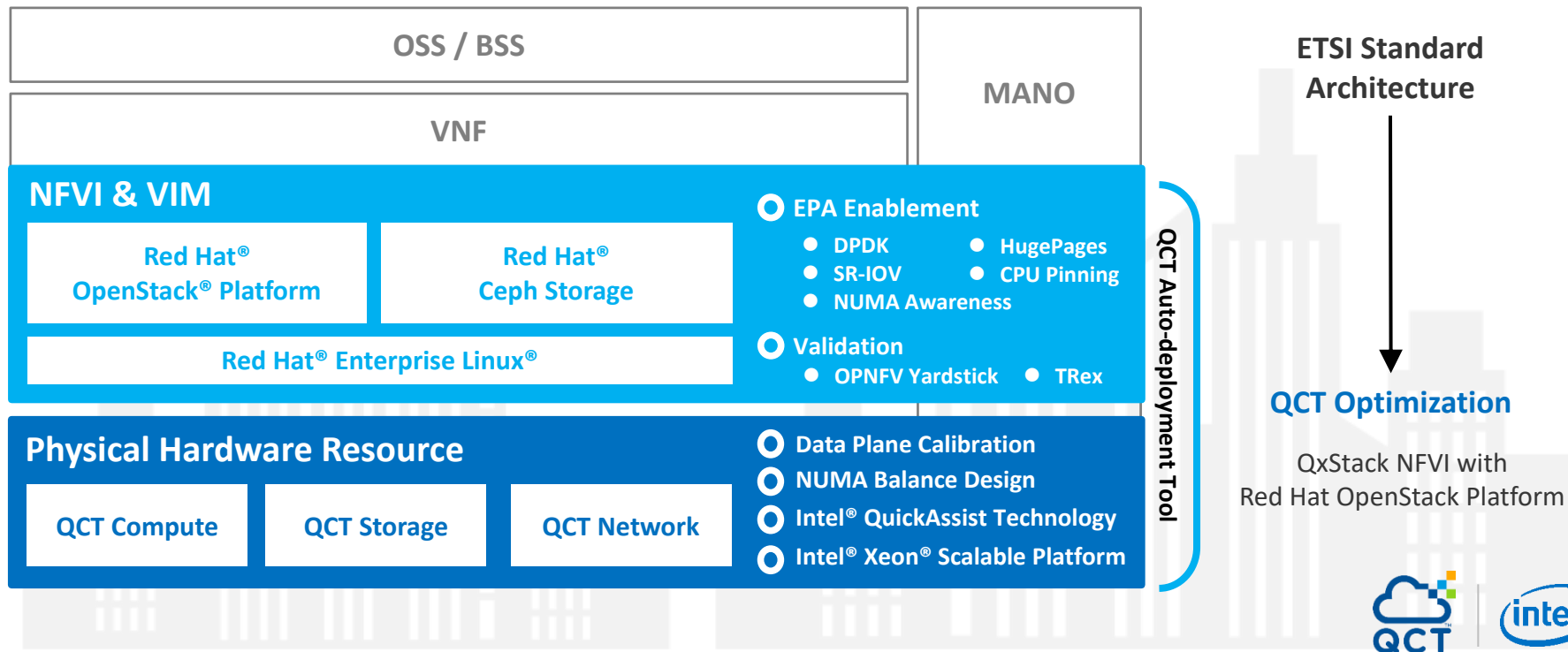


Flexible Disaggregated Architecture

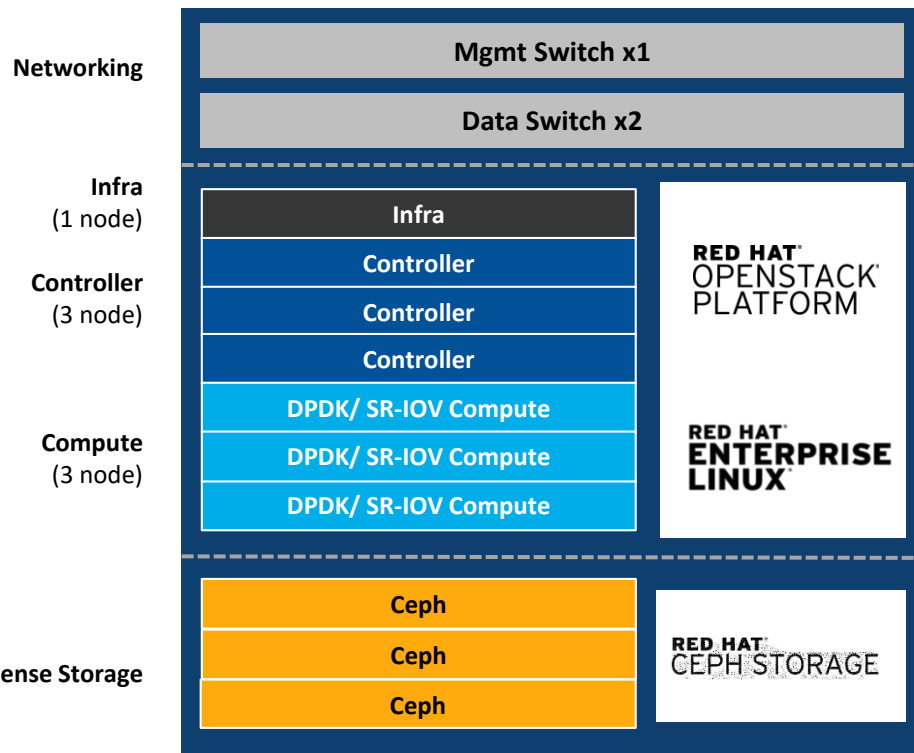


Architecture Design based on ETSI Standard

Open & Compatible with Standard Servers



QCT NFVI Reference Architecture



QCT provides NFVi Platform Optimization

- BIOS Tuning
- Data Plan Calibration
 - * Memory Bandwidth & Latency
 - * IO Performance
 - * DPDK IPSec-Secgw with QAT
- Performance Tuning
 - Host OS, Hypervisor, OVS and Guests



QCT provides OpenStack EPA Features Enabled

- SR-IOV
- DPDK
- NUMA-Aware Scheduling
- HugePages
- CPU Pinning



QCT adopts OPNFV Test Suites

- Functest
- YardStick

QCT Product Portfolio for Telco Sector

X86 System Platform Spectrum

RSD Infra Node



- 2U
- GbE Mgmt Switch
- 1 * Mgmt Nodes

Basic Combination



- 3U
- 10GbE Switch
- 4 * Compute Nodes

High Speed Storage



- 5U
- 10GbE Switch
- 4 * Compute Nodes
- NVMe JBOF

FPGA Accelerated



- 7U
- 10GbE Switch
- 4 * Compute Nodes
- FPGA JBOG

Mass Storage



- 7U
- 10GbE Switch
- 4 * Compute Nodes
- SATA/SAS JBOD

Multi-Purpose



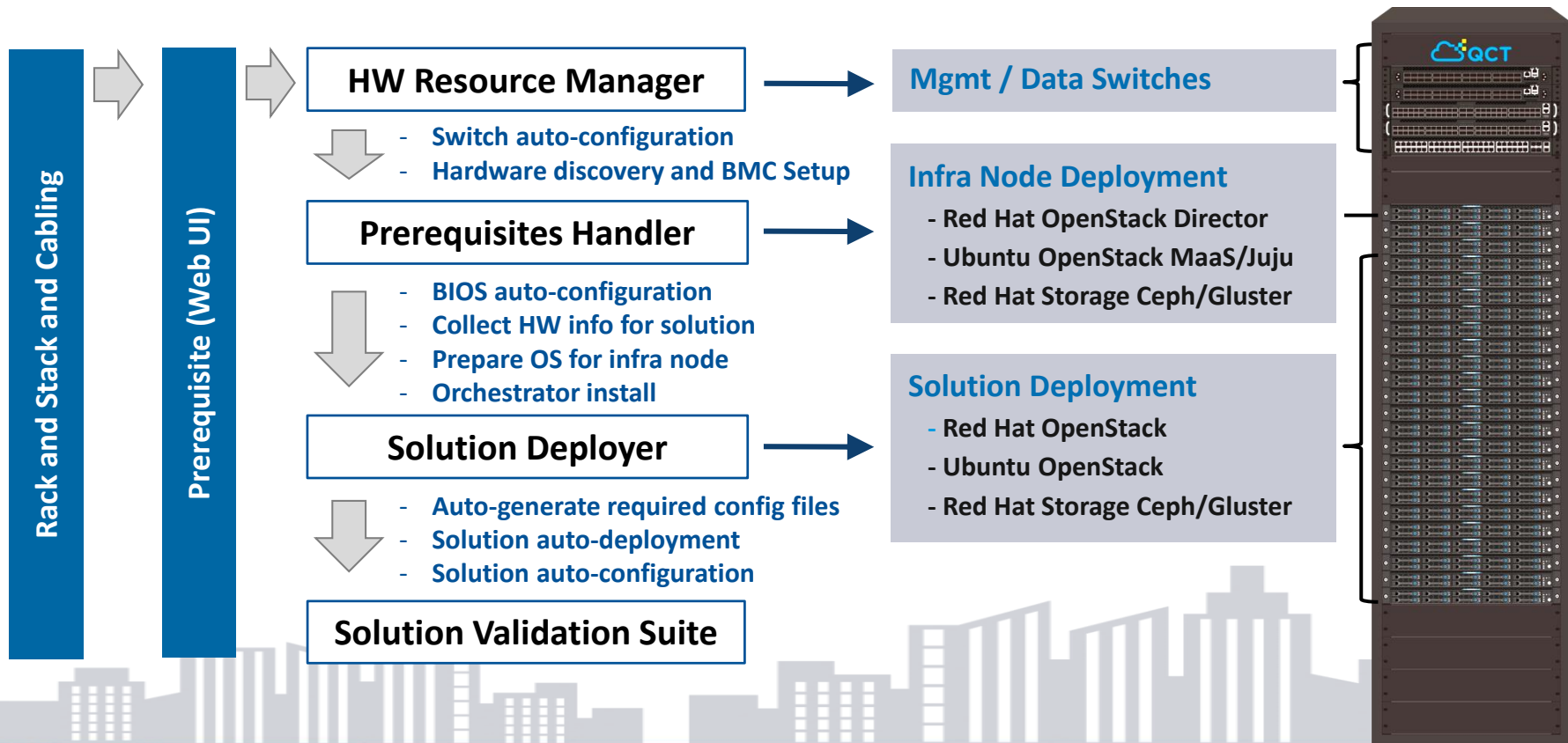
- 9U
- 10Gb Switch
- 4 * Compute Nodes
- NVMe JBOF
- FPGA JBOG

To Build a Well-Validated NFVI OpenStack

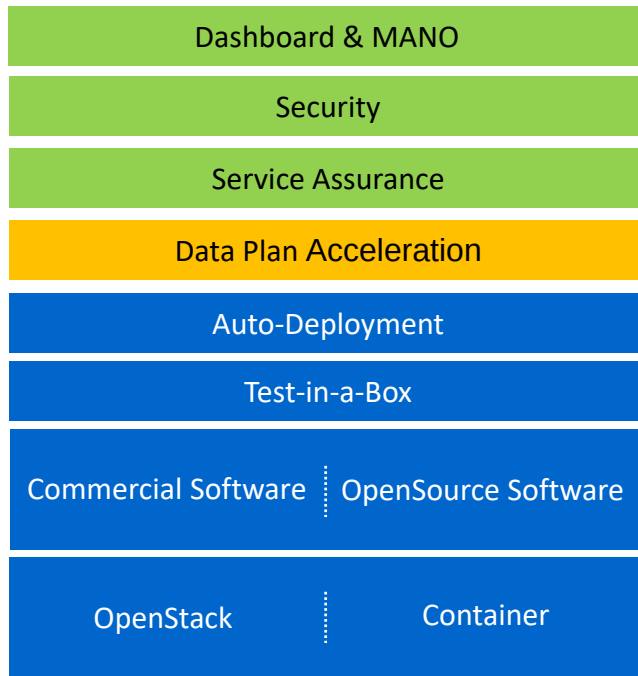
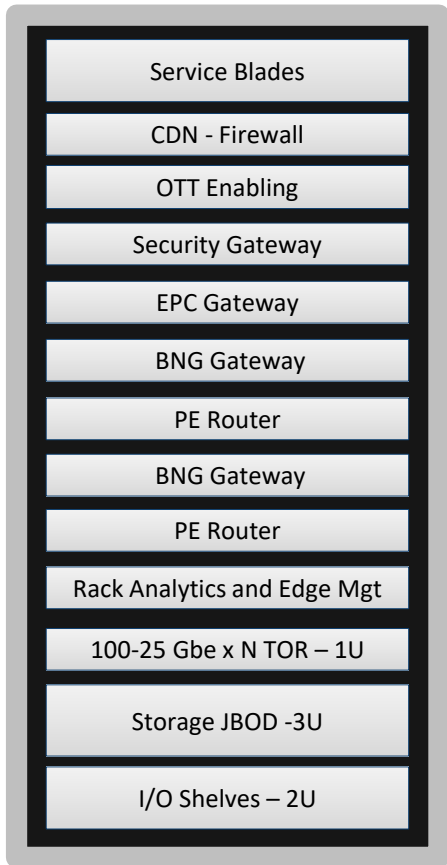
Time-consuming manual deployment process



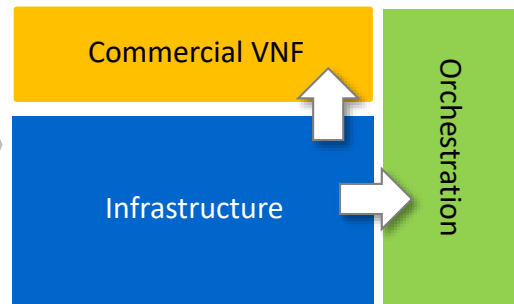
The QxStack Auto-Deployment Tool



QxStack NFV Infrastructure with Red Hat OpenStack Platform



Flexible Disaggregated Architecture





THANK YOU

NGCCO

NEXT GENERATION CENTRAL OFFICE