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OPNFV: Road to Next Generation Network

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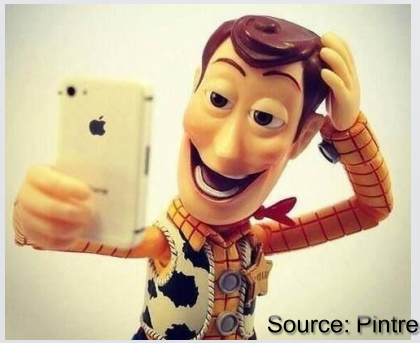
LINUX FOUNDATION COLLABORATIVE PROJECTS

Enriching Human Experiences Drives Network Evolution

Senses

Source: Ironman



Source: Pintrest.com

Source: Minority Report

Voice

Social Pictures

Social Video

Virtual Reality

IoT

1G 2G 3G 4G 5G

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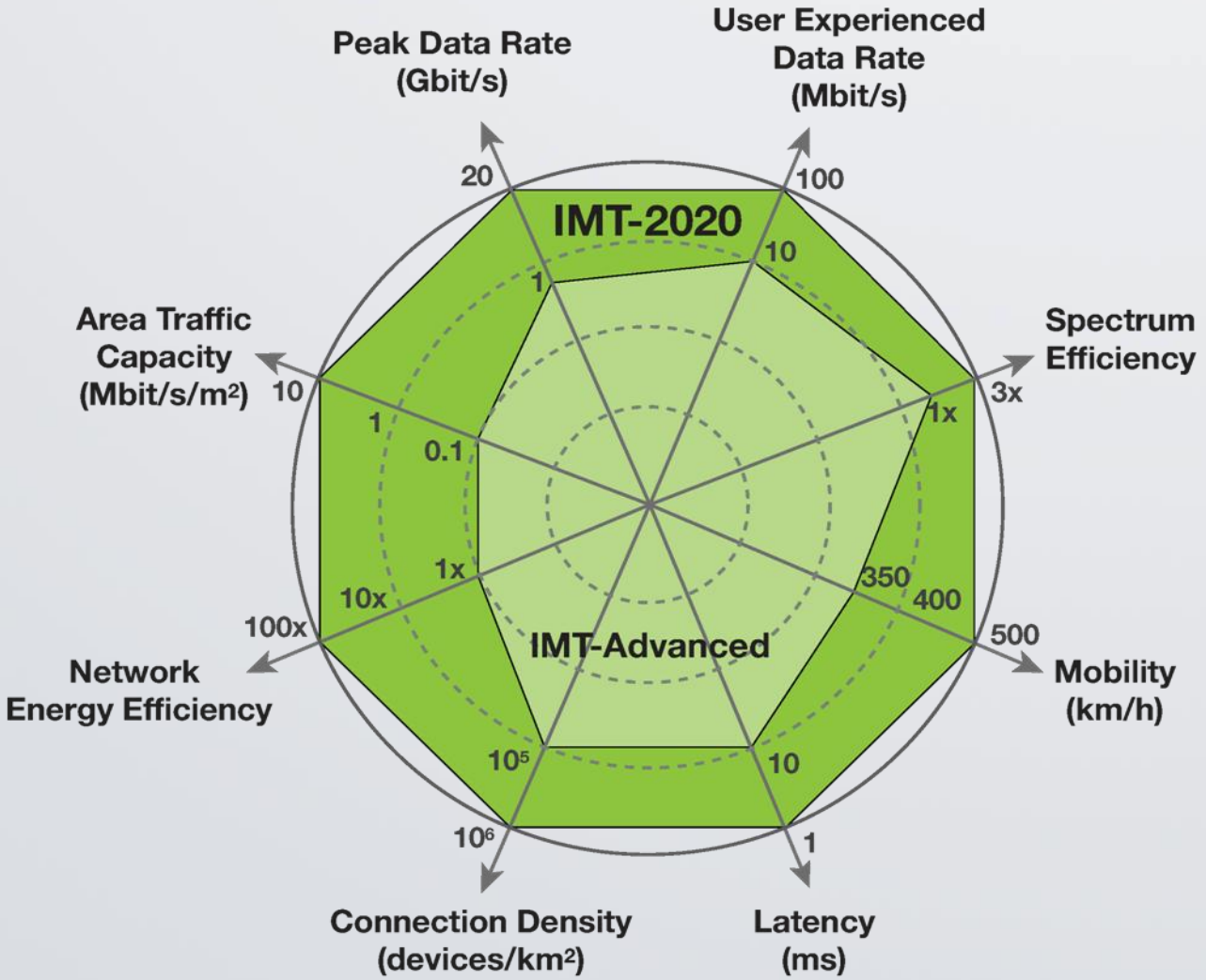
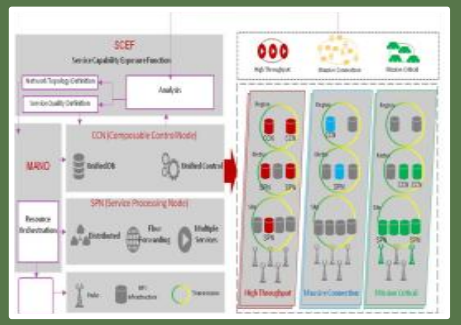
ITU WP5D IMT-2020 Vision: 5G Key Features



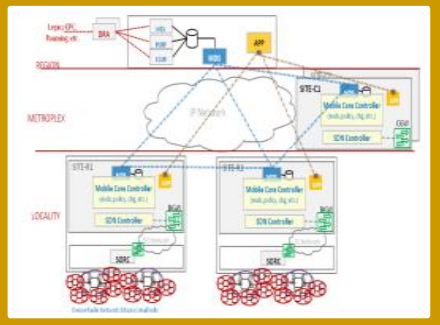
- Network slicing
- Cloudlet computing
  - <10 ms latency, high reliability
- Flatter network and data center consolidation
- Flexible mobility
- Massive signaling and data demands

Details in: IMT Vision – "Framework and overall objectives of the future development of IMT for 2020 and beyond"

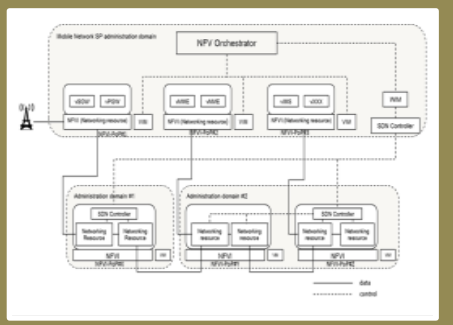
Building Blocks of 5G Network：Open is Fundamental



Flexible/Scalable Architecture



Flexible/Scalable Data Distribution, Synchronization, and Mobility



Cloud, NFV, and SDN

Flexible Network that Enables Service Agility

Open Source Framework (OPNFV, ONOS, OpenStack, etc.)

OPNFV's Role

Speedup the adoption of NFV within the industry

- Forum for industry consensus on current gaps in the NFV Platform
- Work together with upstream communities to close the gaps
- Deliver the recipe book on integration of upstream components and their recommended settings
  - Repository of needed upstream code
- OPNFV compliance

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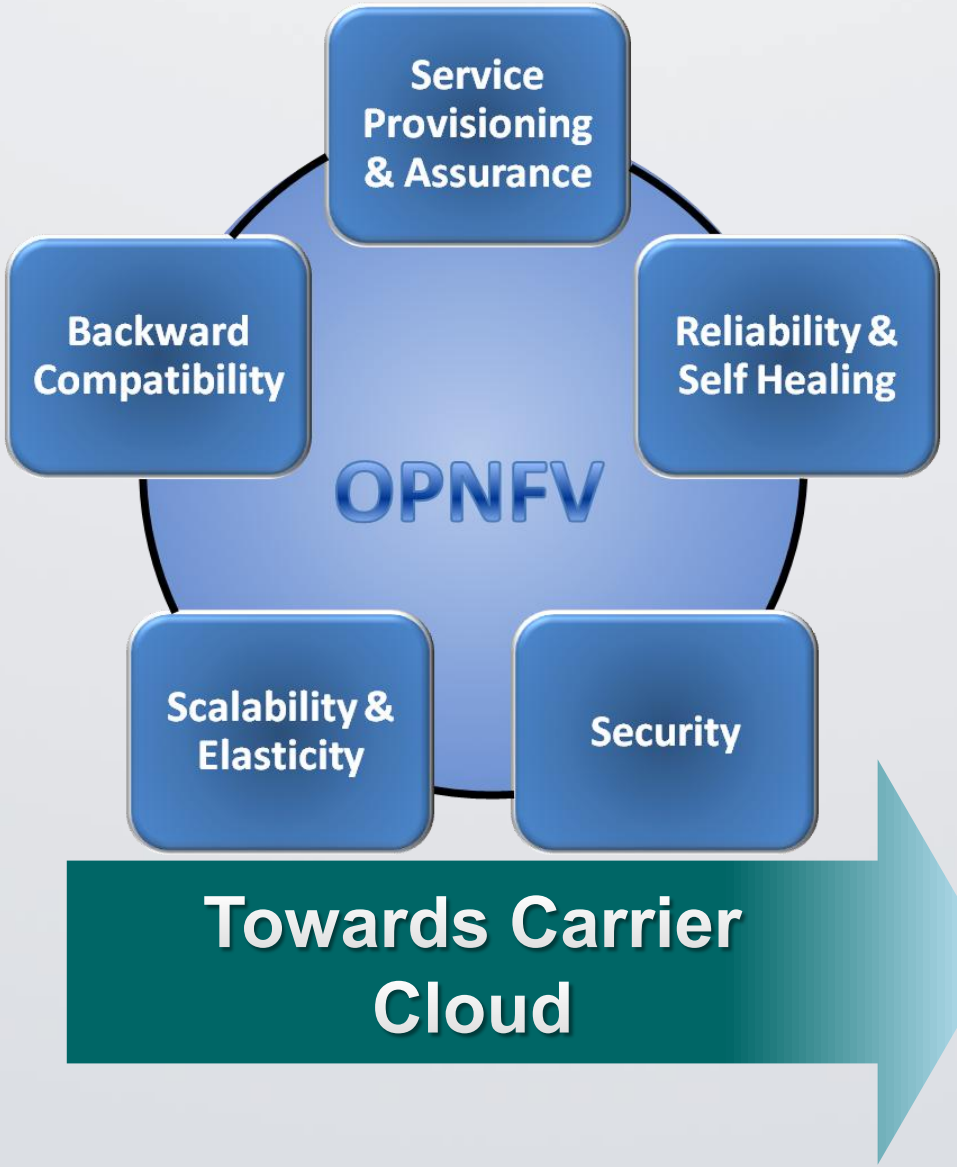
OPNFV's Focus: Carrier Cloud for 5G

Strong movement to the Cloud in the IT industry



SDN+NFV

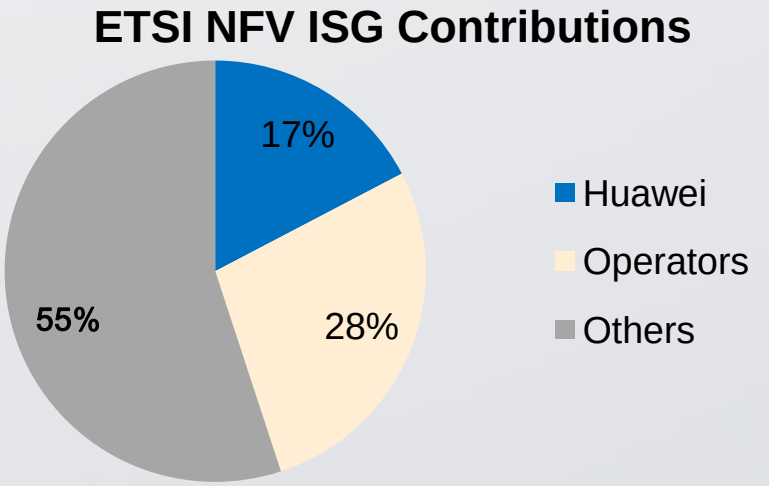
Huawei Leads Contributions in NFV

POC with Operators

30+
vIMS

11+
vEPC / vMSE

Standard



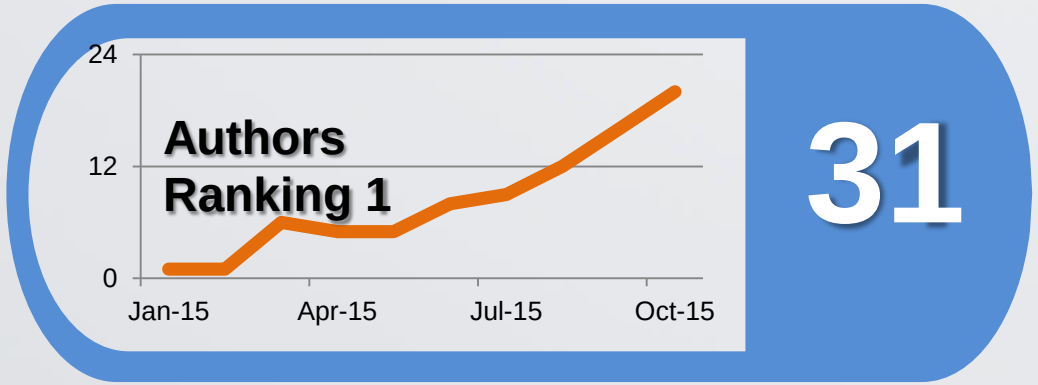
- **REL WG Vice Chair**
- **Industry Engagement Officer**

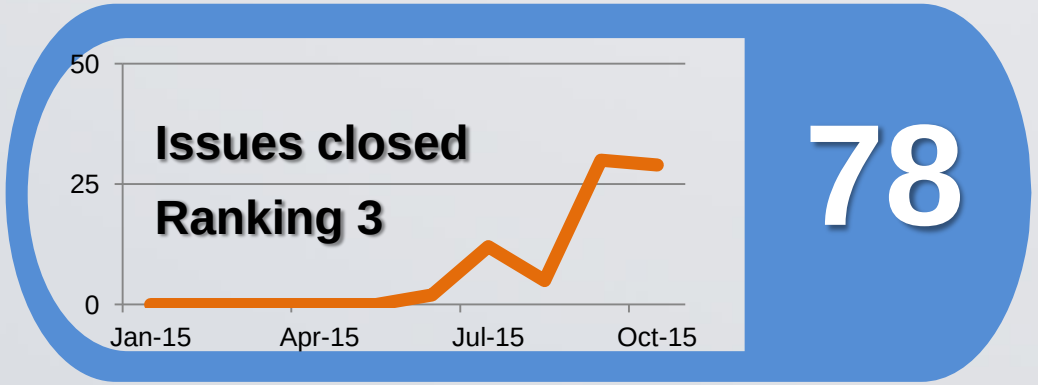
236+
Contributions

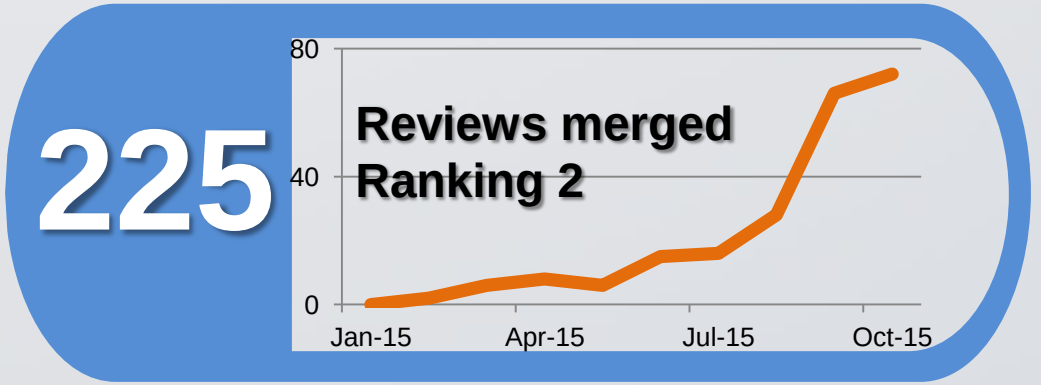
Playing a Key Role in OPNFV

Platinum Member	2	1 Board member 1 TSC member
Community Contributor	60+	Working on OPNFV Leading contributor
Dedicated Staff	30+	Active developers in OPNFV projects Leading contributor
Leading Projects	10	Approved projects Leading contributor

An Active Contributor to OPNFV

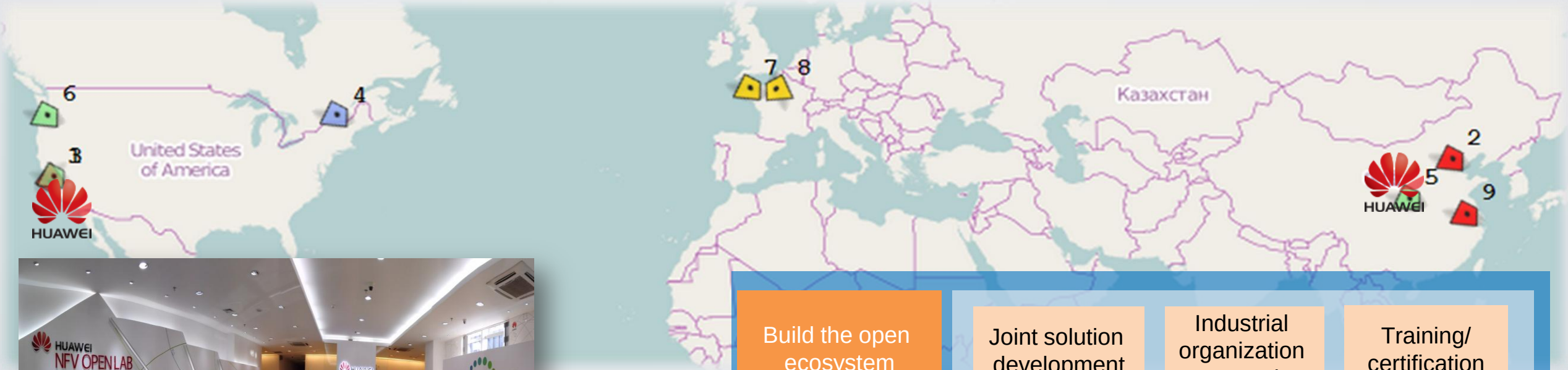






Source: bitergia

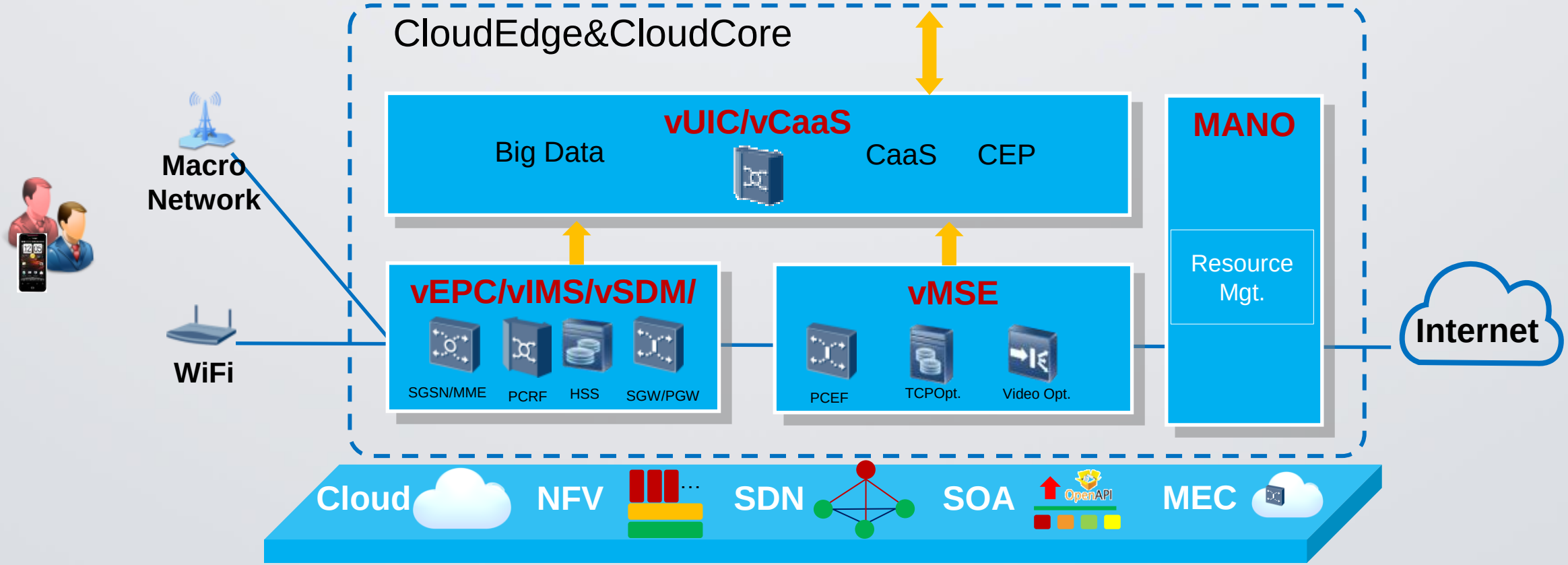
Huawei Provides Test Labs to the OPNFV Community



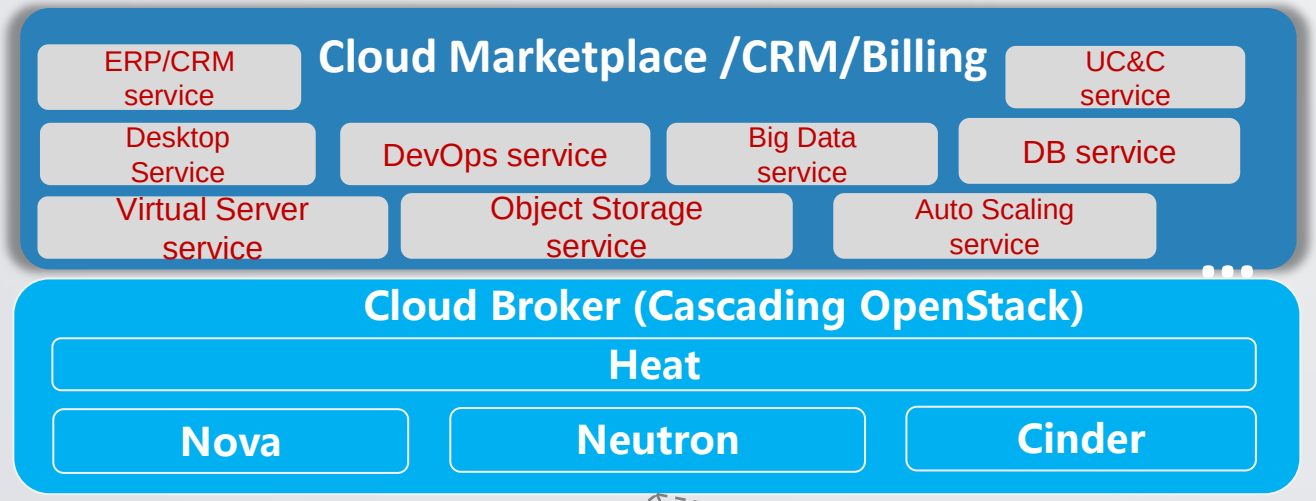
NFV OPEN LAB

Build the open ecosystem	Joint solution development	Industrial organization cooperation	Training/ certification
Joint innovation	Requirement analysis and design	Development implementation	Test and verification
Build the multi-vendor integration capability	Multi-vendor integration capability development	Project pre-integration test	Tool and methodology study

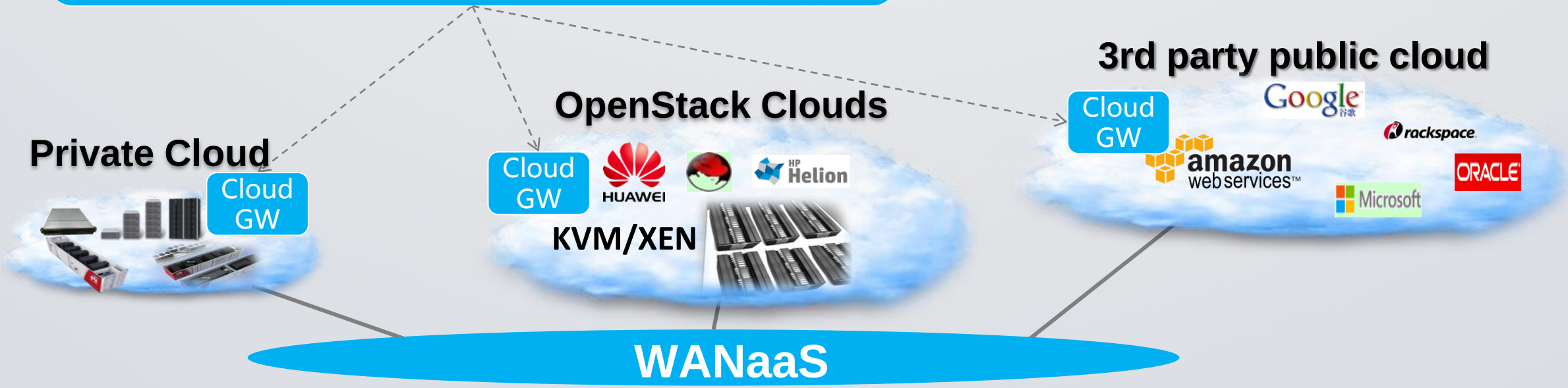
CloudEdge and CloudCore: Building upon OPNFV Framework



FusionCloud : ‘Cloud over Clouds’



- Open cloud ecosystem
- Unified operations for all clouds
- Seamless movement between clouds
- Simple scale across clouds
- Secure network across clouds



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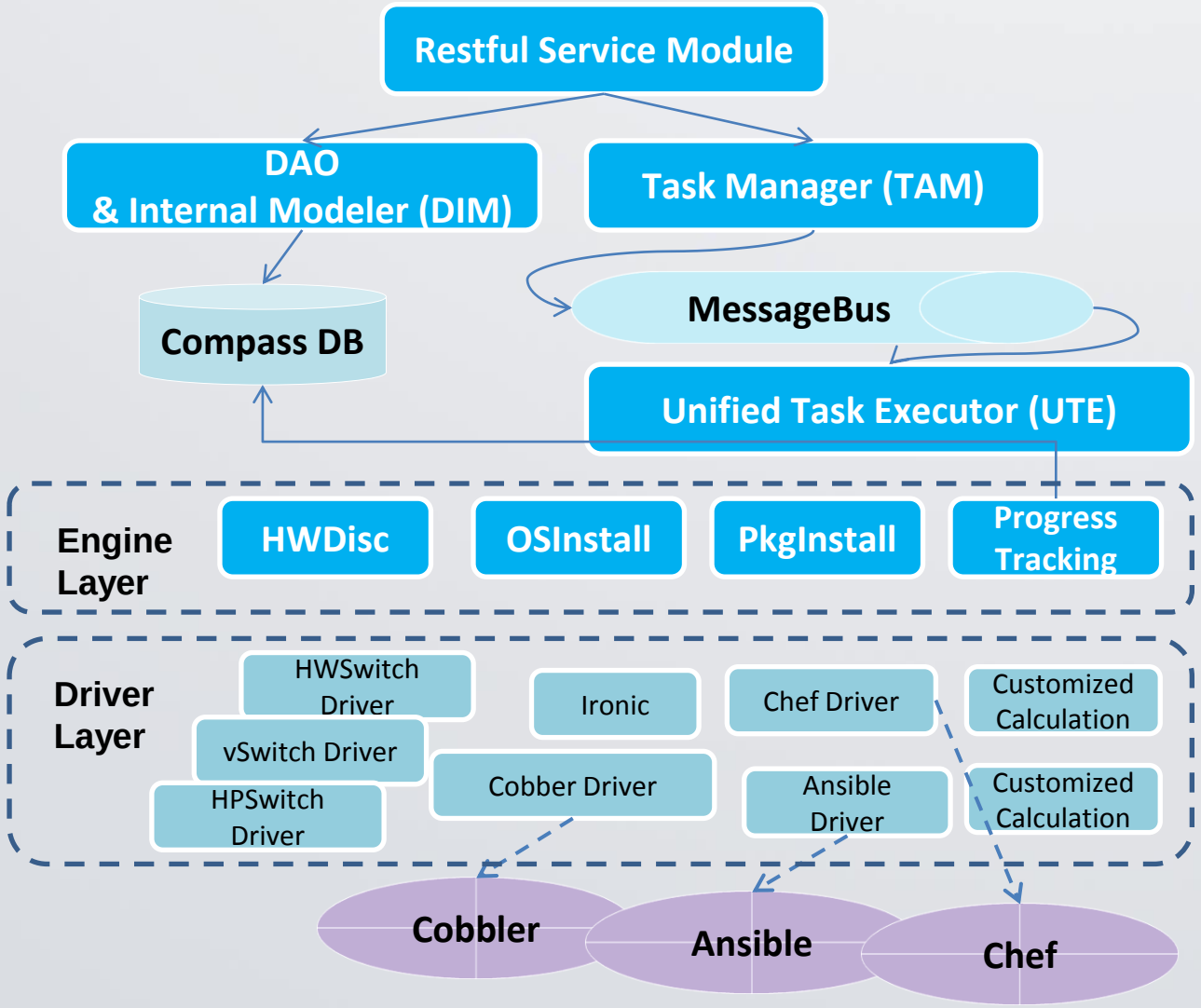
Huawei's Demos at the Summit

- **Compass for OPNFV**.
  - Compass is a Huawei leading open source installer and DevOps tool for OPNFV with advanced software architecture, friendly GUI and rich features
- **VNFs over OPNFV**.
  - Huawei's vEPC and vIMS components will run over the OPNFV platform with Huawei's MANO component.
- **ONOS for OPNFV**.
  - A carrier grade open source SDN controller.
  - An important option for carrier grade OPNFV platforms.

Compass on OPNFV



Better DevOps for OPNFV

- Automated deployment of OPNFV Platform
- Automated management of OPNFV Platform
- Essential validation Capabilities

Demo Summary

- Deploy OPNFV on Bare Metal
- Deploy OPNFV on VM

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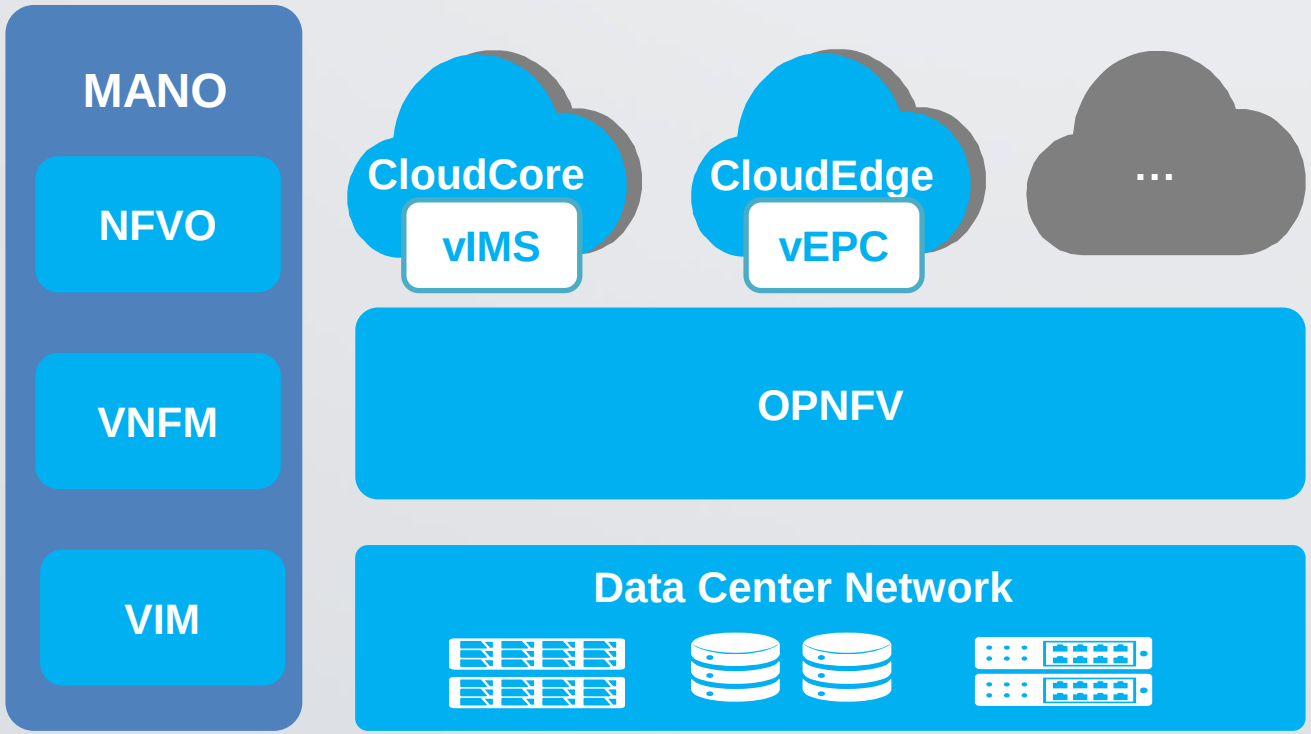
Fully Support VNFs on OPNFV



Driving OPNFV to Commercial

- Mature Solutions:
  - CloudCore
  - CloudEdge
- Fully Support on OPNFV Platform

Demo Summary

- Deploy VNFs on OPNFV
- Provide services by VNFs
- Graceful Scaling on OPNFV

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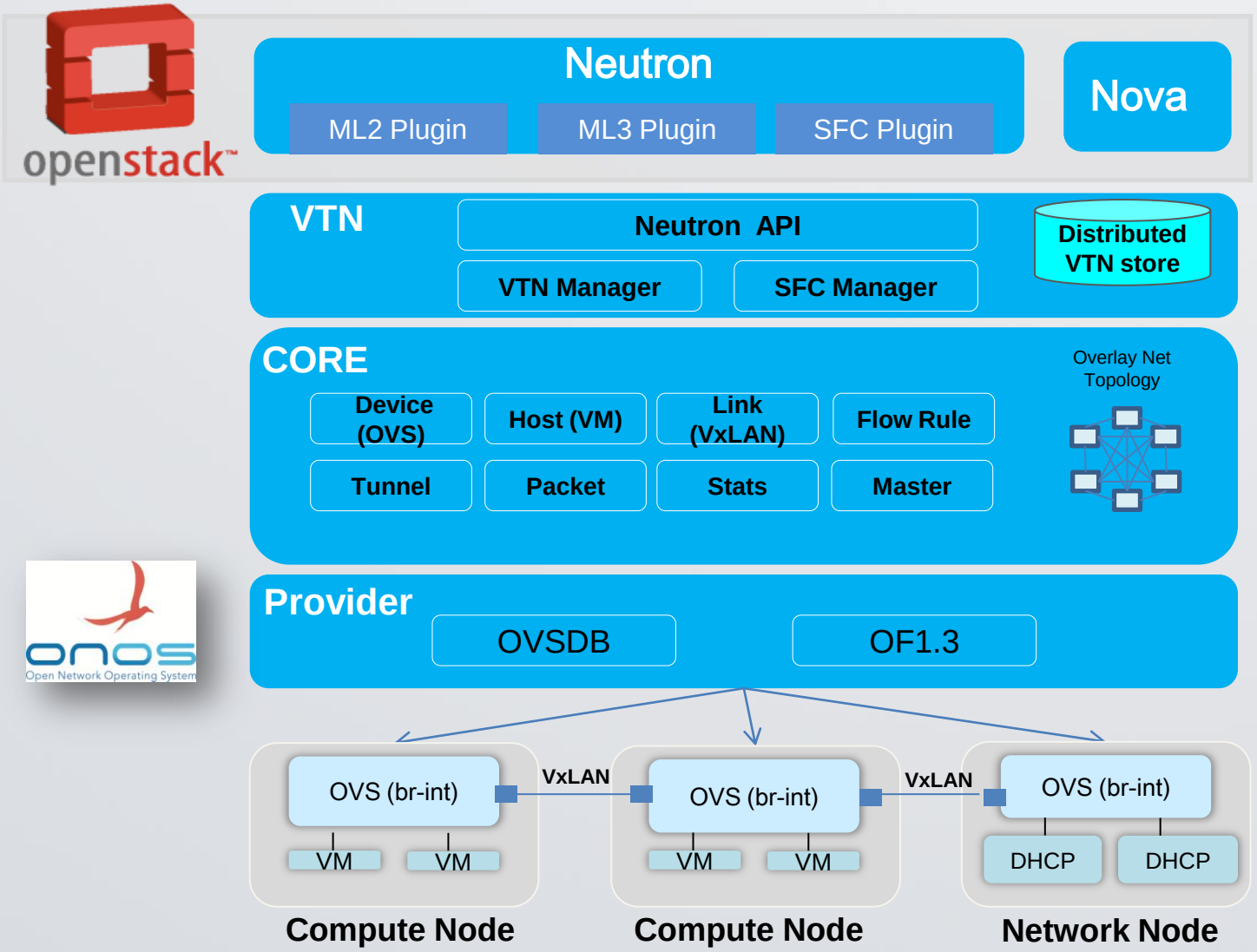
VTN of ONOS on OPNFV



Provide

- Network Service
- OVSDB
- OpenFlow

Demo Summary

- ONOS performance evaluation
- ONOS high availability
- VTN manage & host live migration

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THANK YOU

BUILDING A BETTER CONNECTED WORLD

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