Maximize the Value of SDN in China

Yaxuan Qi

Yunshan Networks（云杉网络）

ONS 2018
About Yunshan Networks

- 1st SDN team in China since 2008
- 1st SDN startup in China since 2011
- 20+ million USD funding by 2018
- 20+ Fortune 500 customers by 2018
About SDN in China

1000+ Certified Users
(with 1000+ servers in data center)

Group
Government
Telecom
Finance
Manufacture
Energy
Education

$2000B
(Yearly Digital Transformation Expense in China)
CASE#1: SISDC

Your Best Data Center In China
Neutral Tier IV Data Center

[Image of SISDC Data Center]
CASE#1: SISDC

- **2009**: TIER IV Data Center (No SDN)
- **2012**: Virtual Private Cloud for 10+ SME (OVS + NVGRE)
- **2014**: Hybrid Cloud for 10+ enterprises (ToR + VXLAN)
- **2018**: Software-Defined Data Center for 200+ enterprises (Fabric + NFV)

TIER IV Data Center

Virtual Private Cloud for 10+ SME (OVS + NVGRE)

Hybrid Cloud for 10+ enterprises (ToR + VXLAN)

Software-Defined Data Center for 200+ enterprises (Fabric + NFV)

Suzhou Industrial Park (Government)
CASE#1: SISDC

- **Mission**
  - economy transformation

- **Advantage**
  - Tier IV data center

- **Challenge**
  - only few IT staffs
  - lack of long-term investment
  - competition from public cloud

- **Solution**
  - highly automated IaaS (SDDC)
  - high-margin value-added service (Analytics)

Government investment

SISDC

Hosting for Internet Giants

SDDC for both SME & Enterprise

w/o SDN

w/ SDN

Mission accomplished
CASE #2: Ping An Cloud

- Transaction scale: $1,000,000,000,000+
- Financial users: 300,000,000+
- Hospitals supported: 2,000+
CASE #2: Ping An Cloud

2013
Project of Ping An Cloud (OvS + VXLAN)

2014
Production (Fabric + NSP)

2016
95% of Group's business

2018
Public Cloud for fintech and smart cities (DFW+Analytics)

Ping An Group
CASE #2: Ping An Cloud

- **Mission**
  - technology drives finance
- **Advantage**
  - license and data
- **Challenge**
  - lack of infrastructure developers and operators
  - competition from public cloud
- **Solution**
  - focus on financial SaaS
  - strict compliance (DFW)
  - AIOPS (Analytics)
SDN for SDDC

Tenant A

- Internet
- vRouter
- vSwitch
- VM
- BM

Tenant B

- Internet
- vRouter
- vSwitch
- C
- BM

Network Virtualization
SDN for Analytics

Visualization

Utilization

Diagnosis

Anomaly Detection

Forensics
Yunshan Solution: DeepFlow® + OpenSource

OpenStack Neuron Server / REST API
- Core Plugins: ML2/Vendor
- Service Plugins: EaaS, FWaaS, TaaS

DeepFlow Controller
- DF API: vFW, DFW, L2Bridge, vTAP, ...
- DF OS: Rule, Topology, Statistics, ...
- DF Agent: Compute, Network, Analytic, ...

OpenStack Modules
- Neutron Agent
- Vendor Controller
- Fabric Controller

Physical Networks
- APIC/AC...

Open-Source Modules
- Core Plugins: ML2/Vendor
- Service Plugins: EaaS, FWaaS, TaaS

DeepFlow Manager

data plane
- KVM, vTAP, vExporter
- OvS, Bridge, DPDK
- Netfilter, vFW, vLB
- jStorm, ES, Kafka

Fabric
- Cisco, Huawei, H3C, WhiteBox, ...

Compute
- Neutron Agent
- Vendor Controller
- Fabric Controller

Network
- APIC/AC...

Analytic
- Core Plugins: ML2/Vendor
- Service Plugins: EaaS, FWaaS, TaaS

Compute
- Neutron Agent
- Vendor Controller
- Fabric Controller

Network
- APIC/AC...

Analytic
- Core Plugins: ML2/Vendor
- Service Plugins: EaaS, FWaaS, TaaS

Compute
- Neutron Agent
- Vendor Controller
- Fabric Controller

Network
- APIC/AC...

Analytic
- Core Plugins: ML2/Vendor
- Service Plugins: EaaS, FWaaS, TaaS
From SDN to IBN

IBN
automatic and accurate policy generation

SDN
automatic and accurate policy implementation
Maximize the Value of SDN in China TOGETHER

Number of SDN certified users (with 1000+ servers in data center): 1000+

Maximize the Value of SDN in China **TOGETHER**

Yihang LUO  
Product & Solution

Shuo WEI  
Business & Marketing

Contact:  
yihang@yunshan.net.cn  
Linkedin: Yihang Luo

weishuo@yunshan.net.cn  
Linkedin: Leny