OpenStack on OCP

The Optimized Workload Solution

- Biru Yang
- Wiwynn Corporation
- 20151026

利用効率を最適化したITソリューションを
データセンターのお客様にご提供します

To Provide Workload Optimized Solution to Customers

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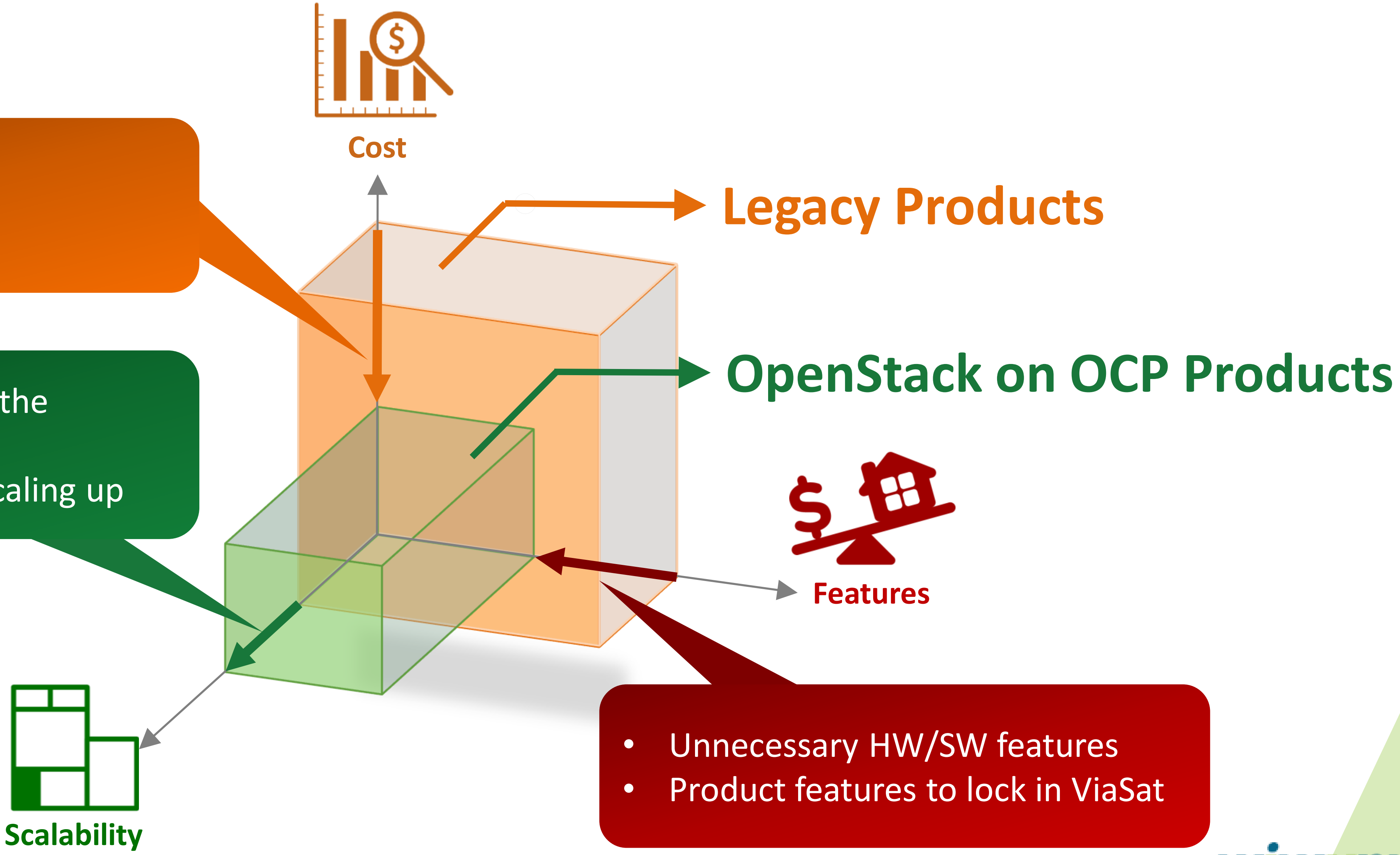
A Satellite Broadband Service Provider

ViaSat

- Launched the world’s highest capacity (140Gbps) satellite in October 2011.
- Customer base reaches 800+K users with $1.35B revenue in 2014.
- Services covering consumers and enterprises, government and military.

Viasat’s Pains and Needs


Cost
Legacy Products
OpenStack on OCP Products
Features
Scalability

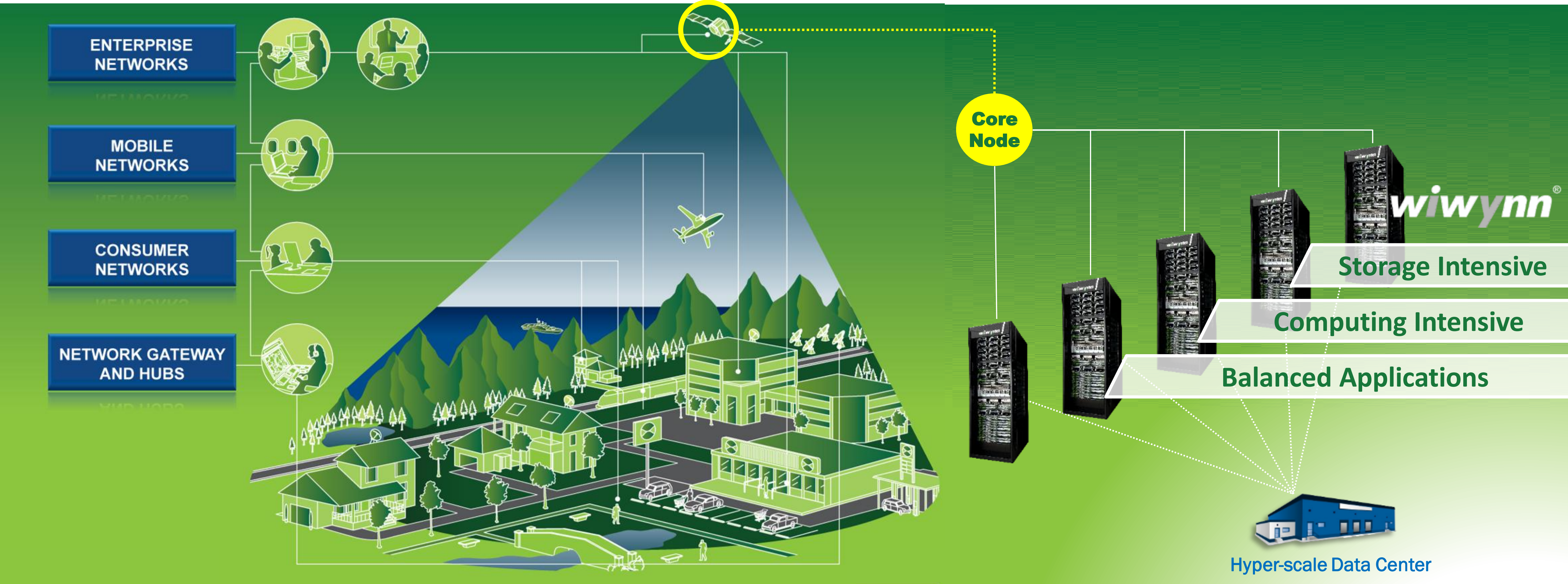
- Unused resource
- Power consumption
- Maintenance expenses

- Scaling quickly and easily as the application gains more users
- Best cost-performance for scaling up

- Unnecessary HW/SW features
- Product features to lock in ViaSat

We Connect ViaSat(ellite)

- **Wiwynn connects ViaSat's services with various OCP rack solutions.**



ENTERPRISE NETWORKS

MOBILE NETWORKS

CONSUMER NETWORKS

NETWORK GATEWAY AND HUBS

Core Node

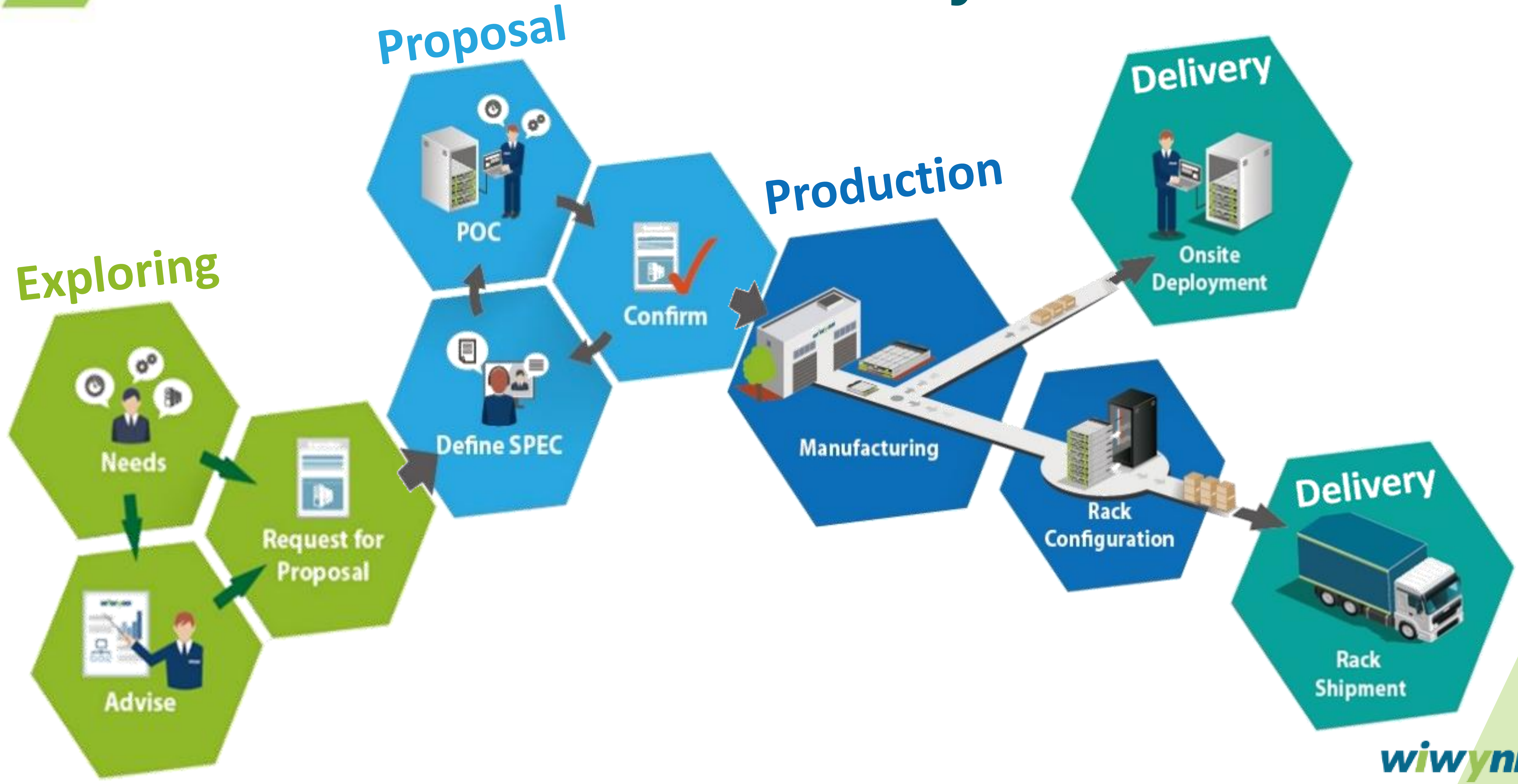
Storage Intensive

Computing Intensive

Balanced Applications

Hyper-scale Data Center

From Demands to Delivery


Proposal
Exploring
Production
Delivery
Needs
Advise
Request for Proposal
Define SPEC
POC
Confirm
Manufacturing
Onsite Deployment
Rack Configuration
Delivery
Rack Shipment

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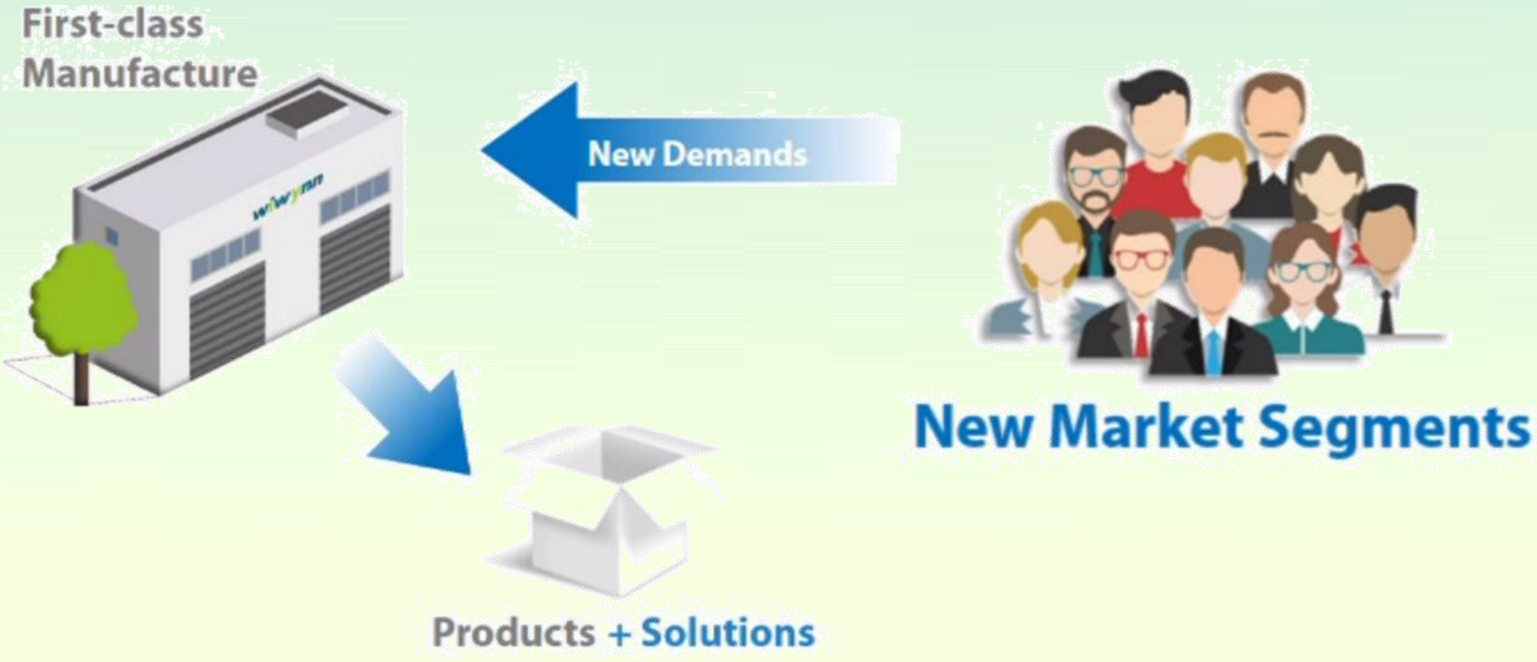
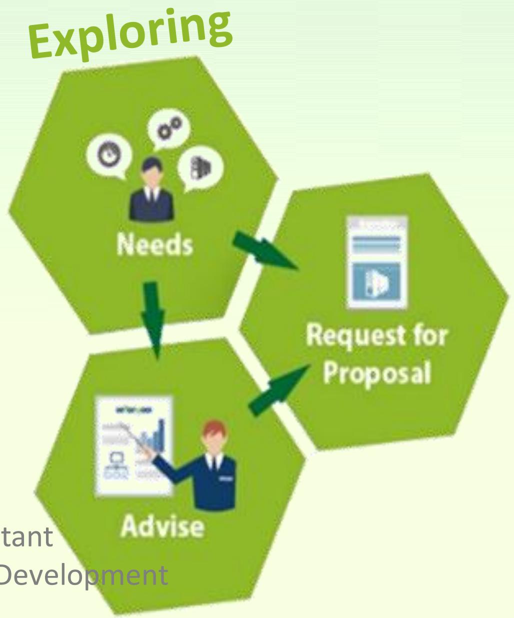
From Demands to Delivery

- **Exploring**


First-class
Manufacture
New Demands
New Market Segments
Products + Solutions


Exploring
Needs
Request for
Proposal
Advise

趙玟

Min Chao

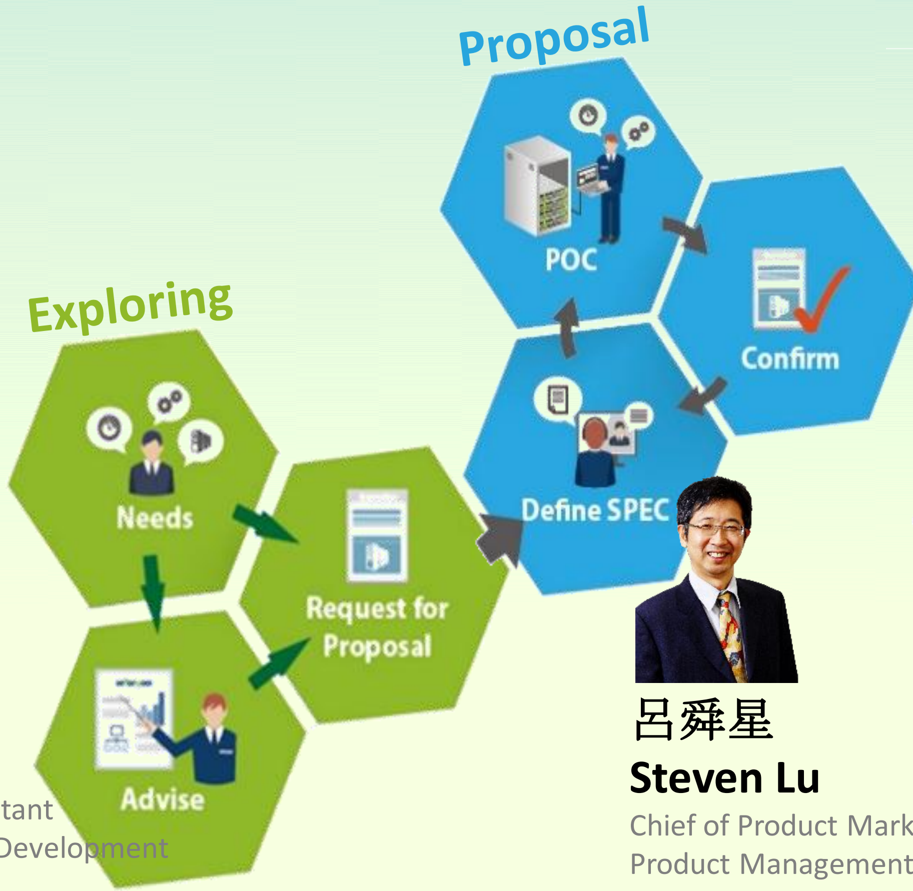
Executive Assistant
New Business Development

さらに、単に製品面におけるサービスを提供するだけでなく

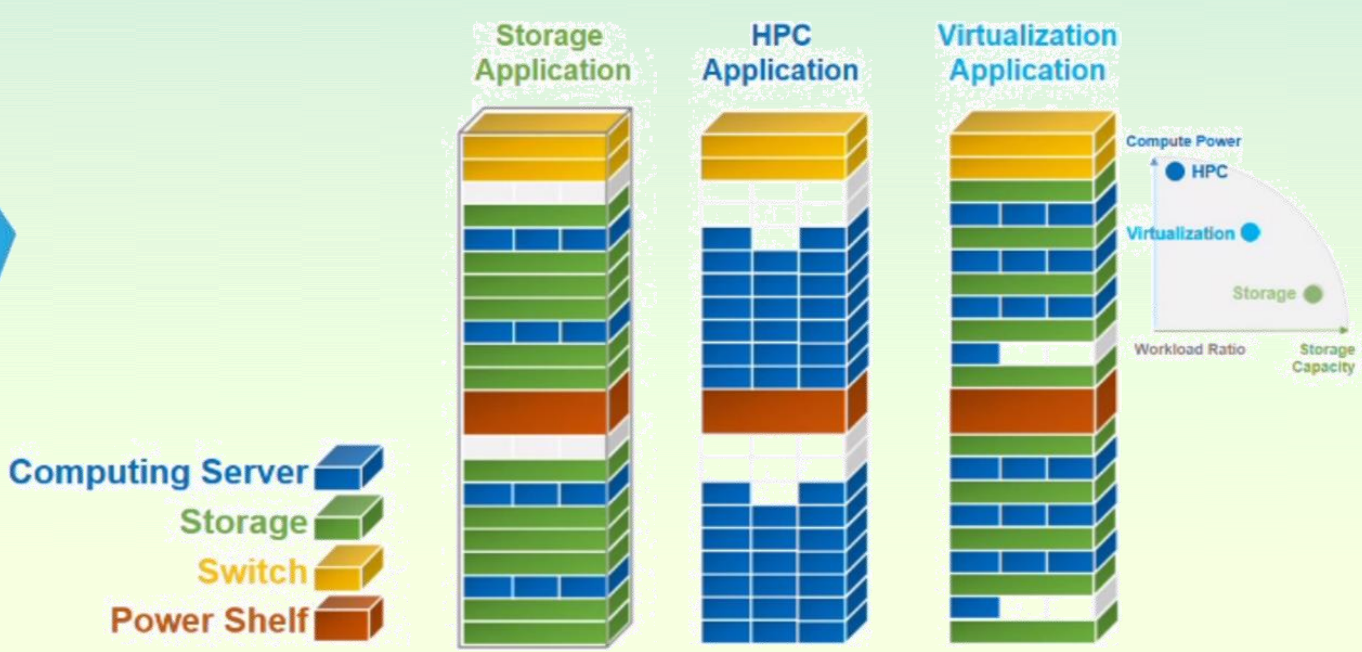
From Demands to Delivery

- **Proposal**

趙玟
Min Chao
Executive Assistant
New Business Development


Proposal
Exploring
Needs
Advise
Request for Proposal
Define SPEC
POC
Confirm

呂舜星
Steven Lu
Chief of Product Marketing
Product Management

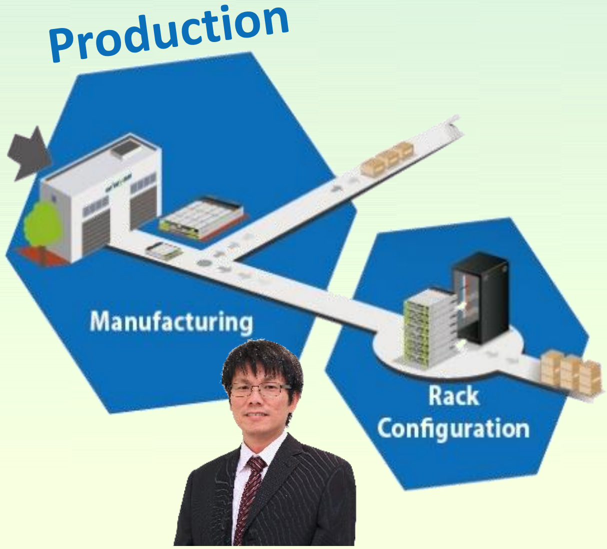

Storage Application
HPC Application
Virtualization Application
Computing Server
Storage
Switch
Power Shelf
Compute Power
HPC
Virtualization
Storage
Workload Ratio
Storage Capacity

ビッグデータ分析などに基づき提案することです

From Demands to Delivery

- **Rack Integration**

PACKING AREA
TESTING AREA
生産能力の拡大


Production
Manufacturing
Rack Configuration

劉永興

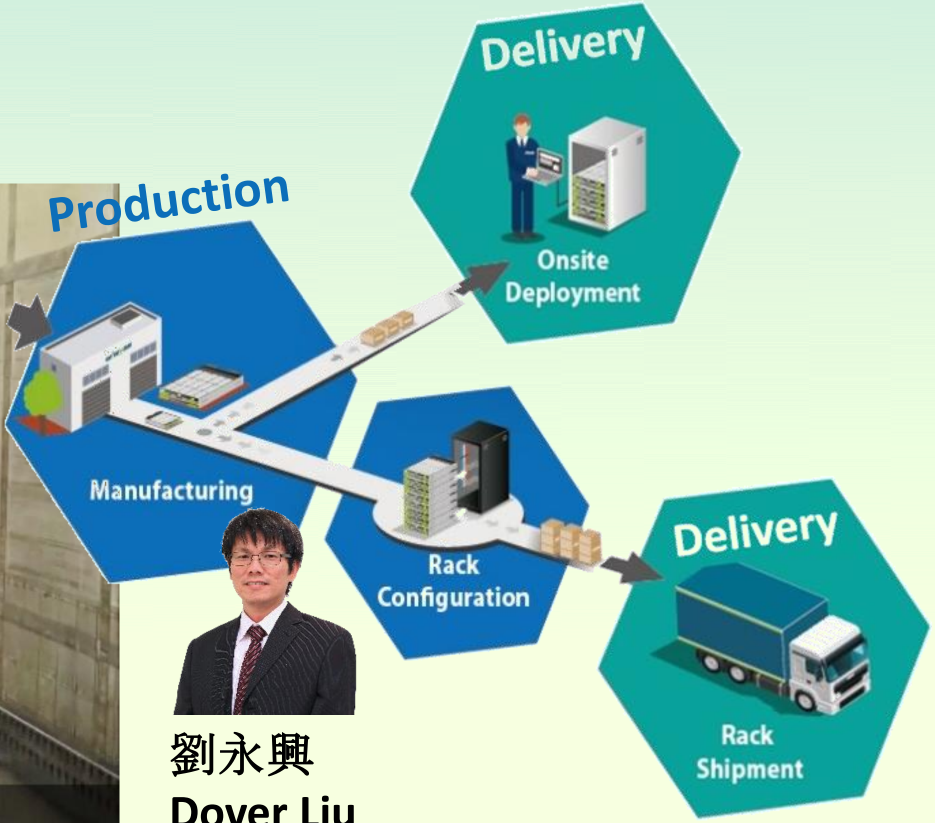
Dover Liu

Director
Manufacturing Resource Management

From Demands to Delivery

- **Delivery**

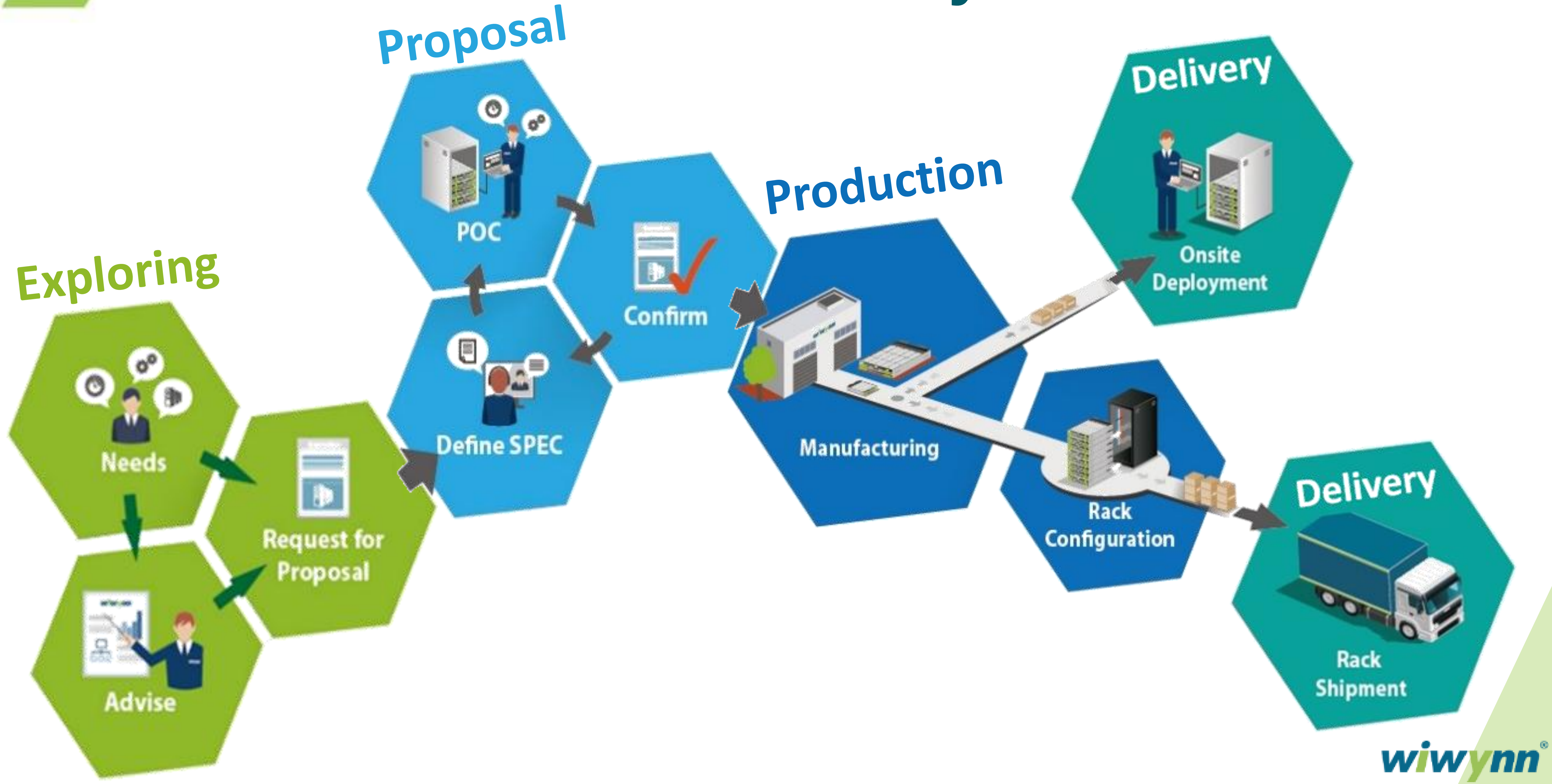
より効率的でスピーディにラック製品を納品します


Production
Delivery
Onsite Deployment
Manufacturing
Rack Configuration
Delivery
Rack Shipment

劉永興
Dover Liu
Director
Manufacturing Resource Management

周友方
Joseph Chou
Executive Director
Account Management

From Demands to Delivery


Proposal
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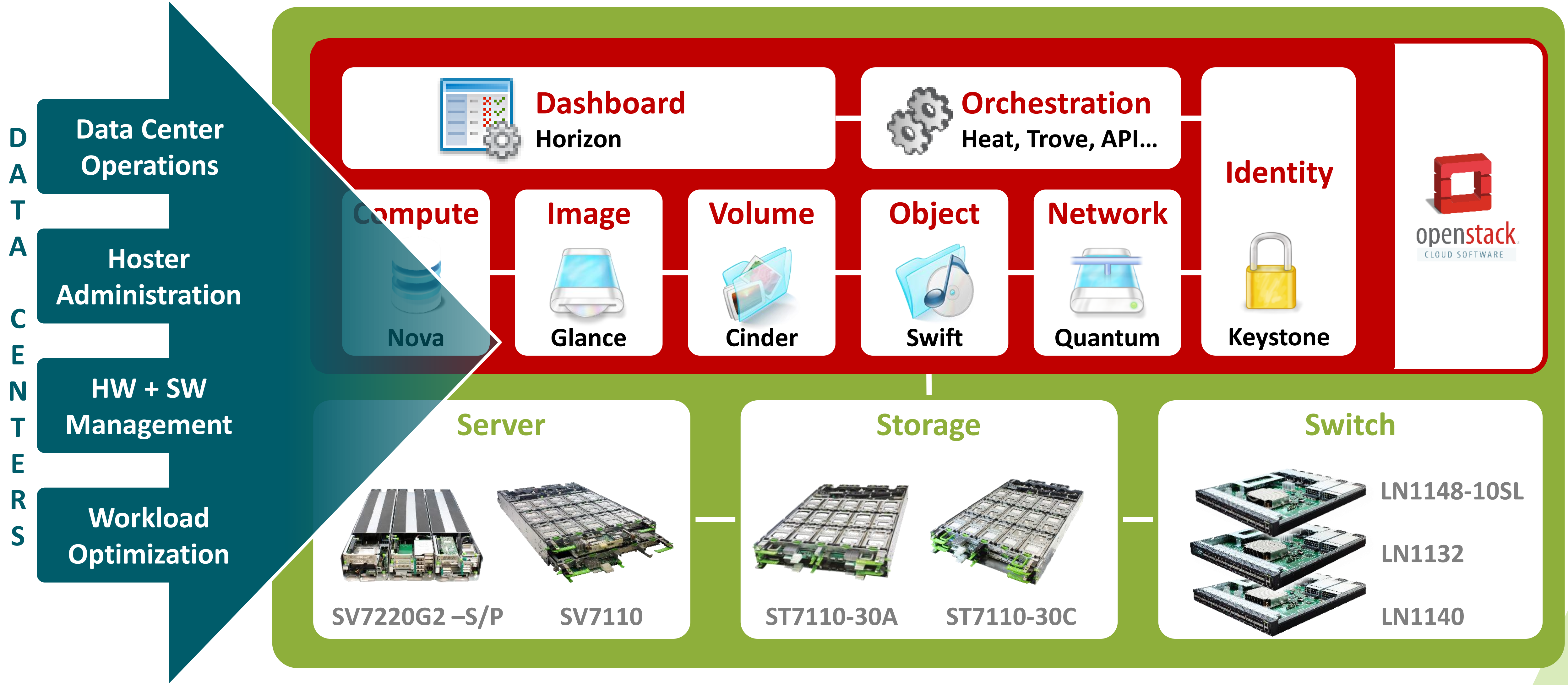
Rack Shipment

Wiwynn Solution with OpenStack



DATA CENTERS

Data Center Operations

Hoster Administration

HW + SW Management

Workload Optimization

Dashboard
Horizon

Orchestration
Heat, Trove, API…

Identity
Keystone

Compute
Nova

Image
Glance

Volume
Cinder

Object
Swift

Network
Quantum

openstack
CLOUD SOFTWARE

Server
SV7220G2 –S/P
SV7110

Storage
ST7110-30A
ST7110-30C

Switch
LN1148-10SL
LN1132
LN1140

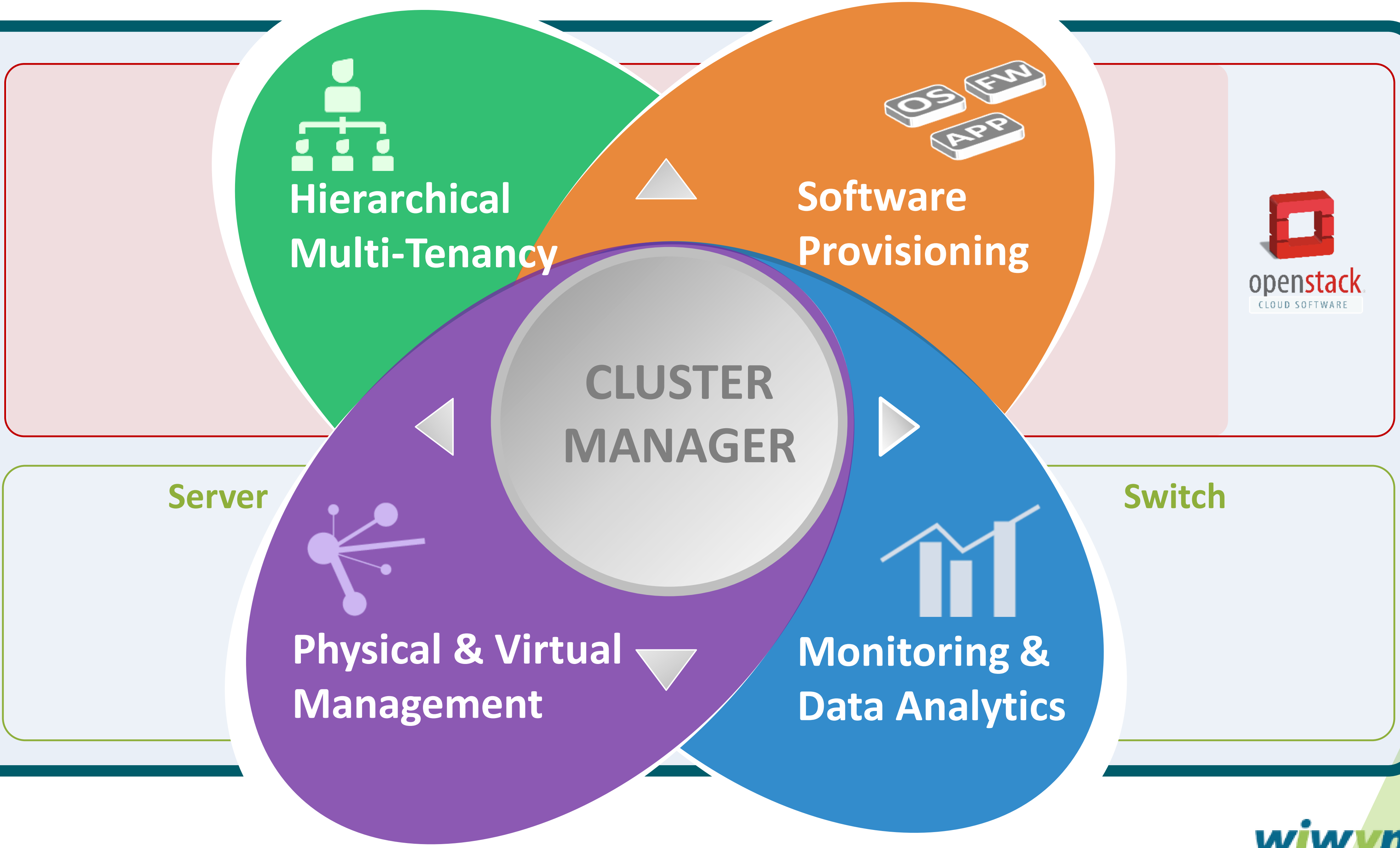
Wiwynn Solution with OpenStack

Data Center Operations

Hoster Administration

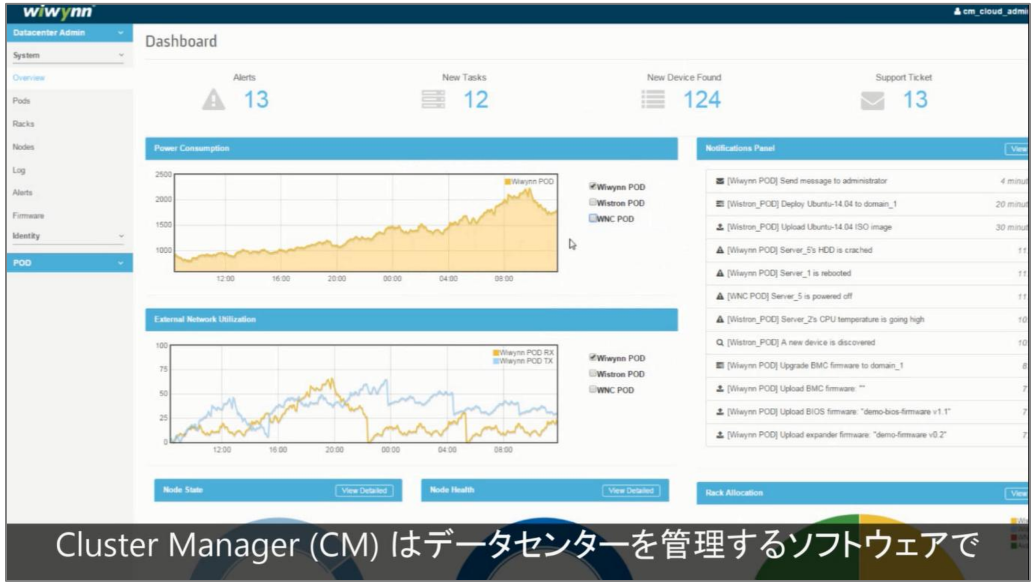
HW + SW Management

Workload Optimization


Hierarchical Multi-Tenancy
OS
FW
APP
Software Provisioning
openstack
CLOUD SOFTWARE
CLUSTER MANAGER
Server
Switch
Physical & Virtual Management
Monitoring & Data Analytics

wiwynn®

Wiwynn Cluster Manager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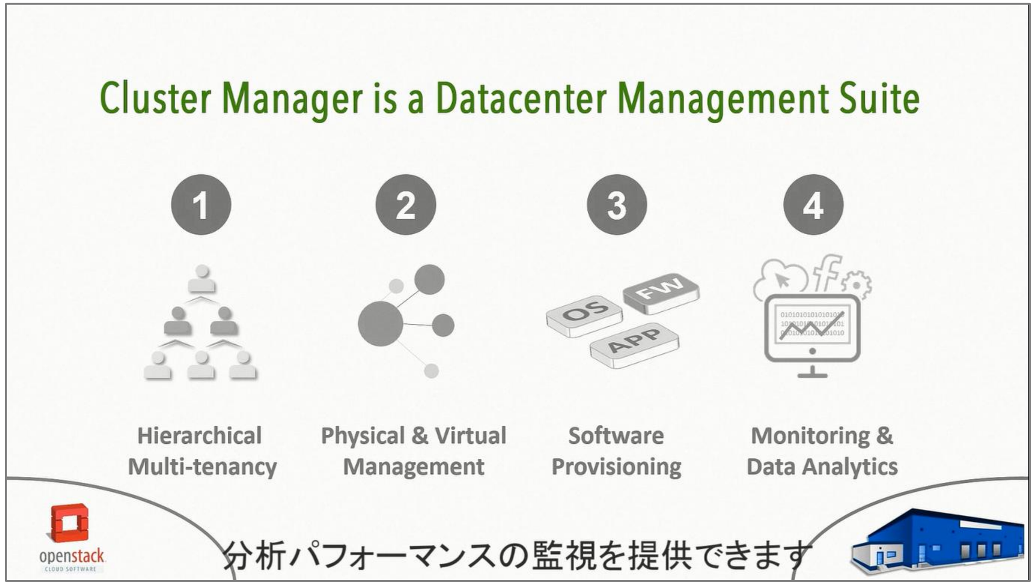
cm_cloud_admi
Datacenter Admin
System
Overview
Pods
Racks
Nodes
Log
Alerts
Firmware
Identity
POD
Dashboard
Alerts
13
New Tasks
12
New Device Found
124
Support Ticket
13
Power Consumption
Wiwynn POD
Wistron POD
WNC POD
External Network Utilization
Wiwynn POD RX
Wiwynn POD TX
Notifications Panel
View
Node State
View Detailed
Node Health
View Detailed
Rack Allocation
View

- [Wiwynn POD] Send message to administrator
- [Wistron_POD] Deploy Ubuntu-14.04 to domain_1
- [Wistron_POD] Upload Ubuntu-14.04 ISO image
- [Wiwynn POD] Server_5's HDD is crached
- [Wiwynn POD] Server_1 is rebooted
- [WNC POD] Server_5 is powered off
- [Wistron_POD] Server_2's CPU temperature is going high
- [Wistron_POD] A new device is discovered
- [Wiwynn POD] Upgrade BMC firmware to domain_1
- [Wiwynn POD] Upload BMC firmware: ""
- [Wiwynn POD] Upload BIOS firmware: "demo-bios-firmware v1.1"
- [Wiwynn POD] Upload expander firmware: "demo-firmware v0.2"

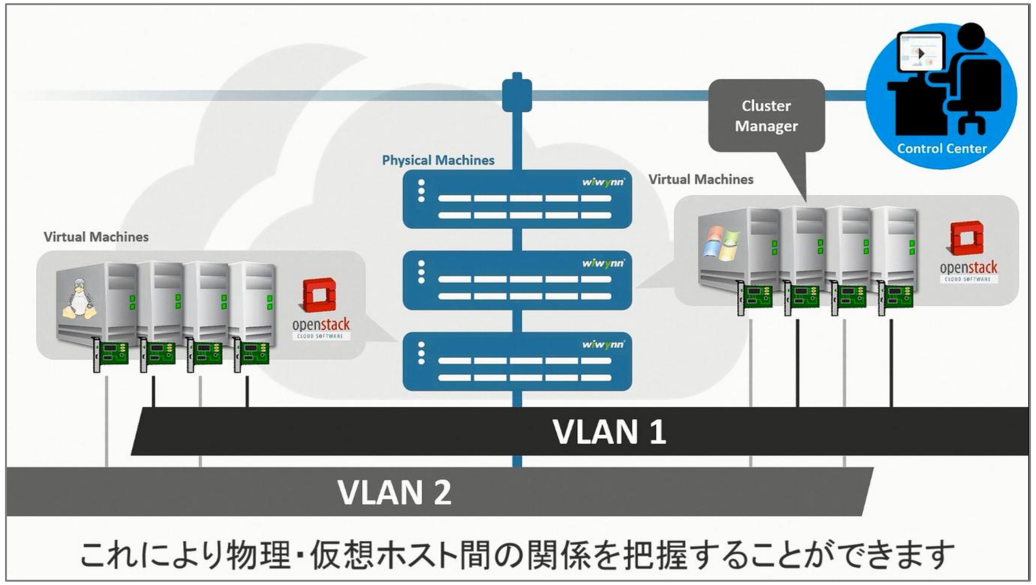
Cluster Manager (CM) はデータセンターを管理するソフトウェアで



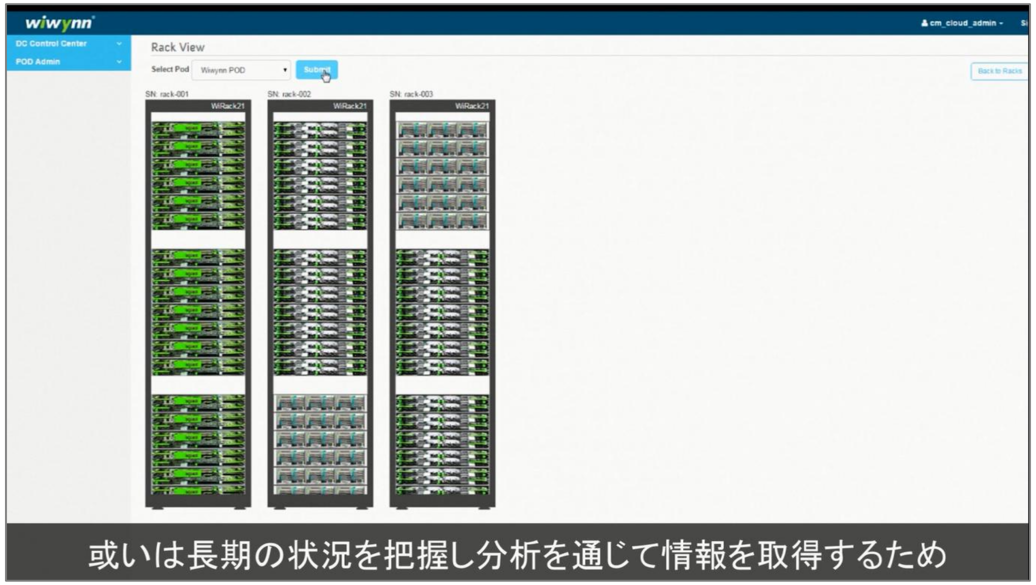
Cluster Manager is a Datacenter Management Suite

1
Hierarchical Multi-tenancy
2
Physical & Virtual Management
3
OS
FW
APP
Software Provisioning
4
Monitoring & Data Analytics
openstack
CLOUD SOFTWARE

分析パフォーマンスの監視を提供できます


Cluster Manager
Control Center
Physical Machines
wiwynn
Virtual Machines
Virtual Machines
openstack
CLOUD SOFTWARE
VLAN 1
VLAN 2

これにより物理・仮想ホスト間の関係を把握することができます


wiwynn
cm_cloud_admin
DC Control Center
POD Admin
Rack View
Select Pod
Wiwynn POD
Submit
Back to Racks
SN: rack-001
WiRack21
SN: rack-002
WiRack21
SN: rack-003
WiRack21

或いは長期の状況を把握し分析を通じて情報を取得するため

Thank you

Please contact with

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Jerry_YJ_huang@Wiwynn.com