Alibaba Cloud

USDC TECHNOLOGY
Smart Data Center

ZStack Cloud
Solution

Quan Do
ZStack Cloud Computing Technician

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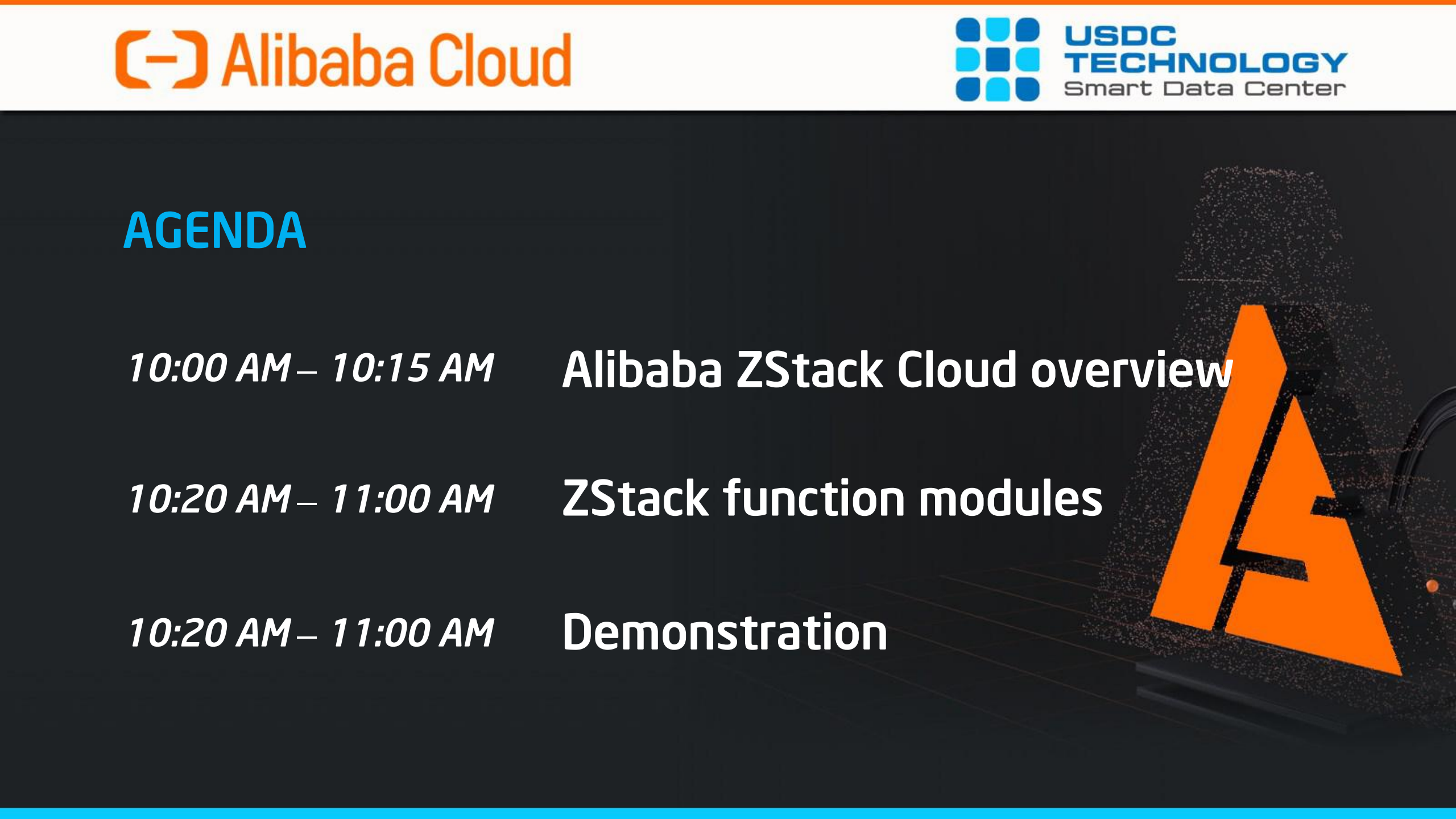
AGENDA

10:00 AM – 10:15 AM	Alibaba ZStack Cloud overview
10:20 AM – 11:00 AM	ZStack function modules
10:20 AM – 11:00 AM	Demonstration



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ZStack Cloud Enterprise is a productionized IaaS software that provides a unified cloud to manage compute, network, and storage resources in data centers.

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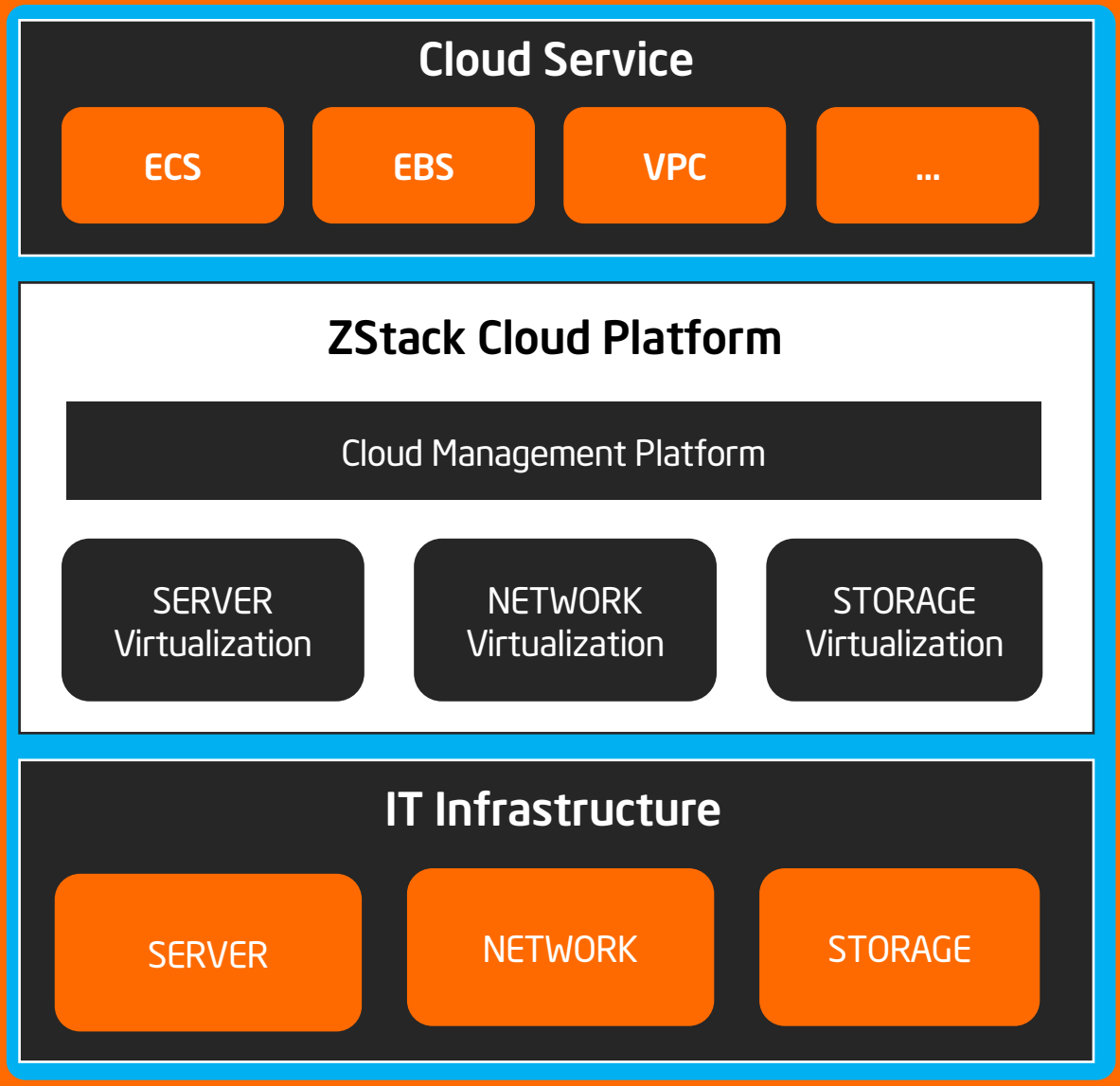
OVERVIEW

- Alibaba Cloud ZStack is a light-weight **Infrastructure as a Service (IaaS)** hybrid cloud solution.
- Providing computing **virtualization**, network virtualization and distributed storage virtualization in one product.
- Providing **cloud management** capabilities including multi-tenant, multi-zone , billing, backup management, ...
- Managing as less as **3 nodes,** and as many as **2000+ nodes.**
- Supporting various **Alibaba Cloud services** (ECS, EBS, VPC, SLB, VPN, IPV6 etc.).



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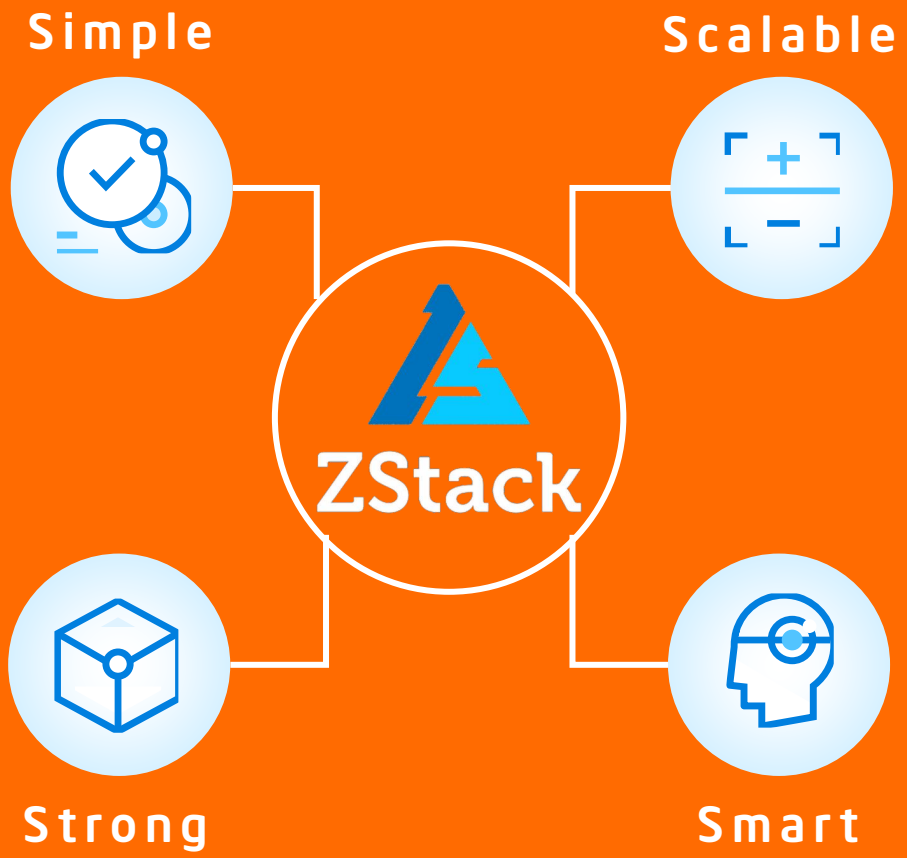
4S – STANDARDS

Focus on innovation of cloud computing technologies and productization that provides Private Cloud and seamless Hybrid Cloud.

Perfect RESTful APIs to support various top-level cloud services, such as PaaS and SaaS.



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S1 – SIMPLE

Faster Cloud Adoption and Shorter Service Lead Time

ZStack

One Host

- To be able to set up a POC environment.

One-click download

- To complete the installation and deployment within 30 minutes.

One Management Node

- To be enough to manage the whole cloud platform.

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S2 – STRONG

Supporting Various Top-level Service Scenarios Stably

Services HA	• Supporting harsh computing scenarios against poor environment.
VM HA	• Supporting multiple domestic IDC manufacturers for their cloud infrastructures.
Platform HA	• Supporting hundreds of service scenarios in tens of industries.

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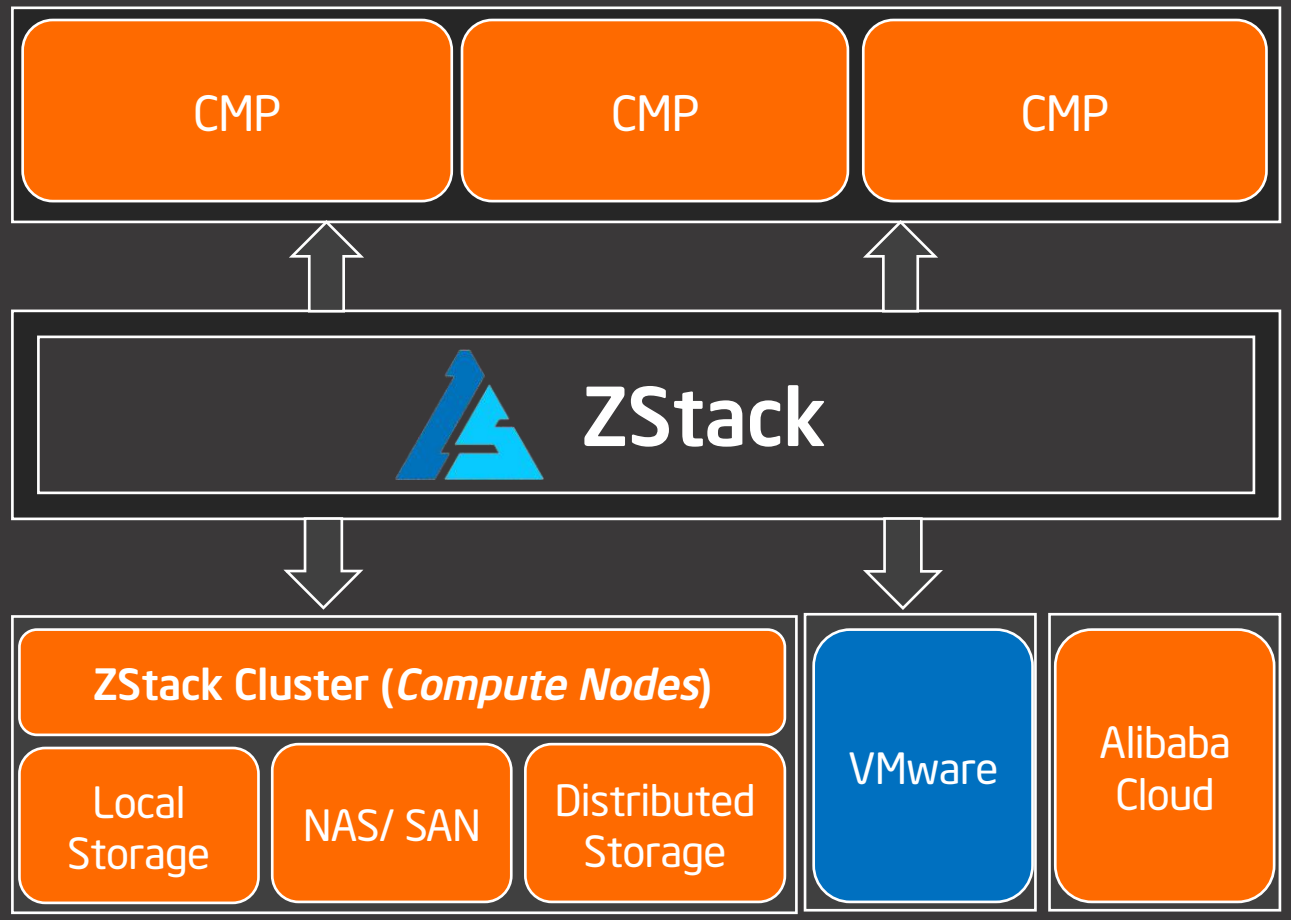
S3 – SCALABLE

Unified Resource Management & On-demand Delivery

- Heterogeneous virtual platform management.
- On-demand delivery and providing resources.
- Open cloud platform.
- Highly-efficient management ratio.



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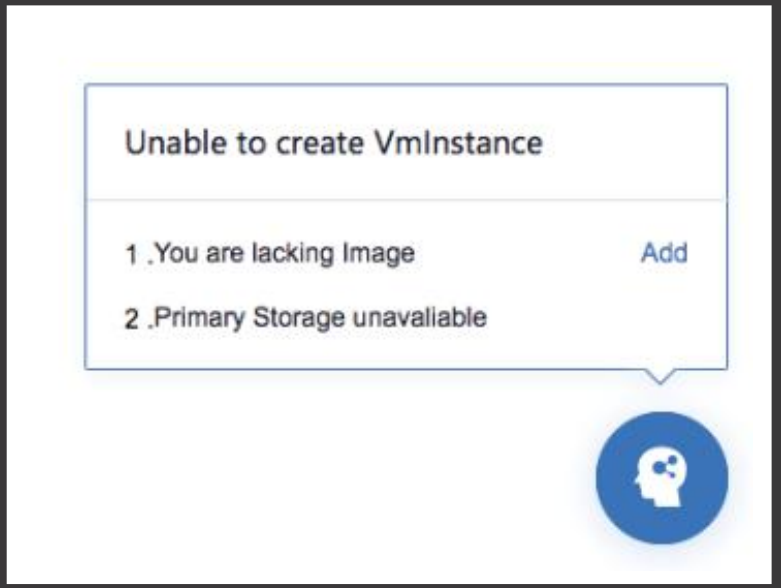
S3 – SMART

Easy to Use & Focus Long-term Enterprise IT Demand



ZStack 2.0
Smart prompts

ZStack 2.5
Resource scheduling

ZStack 3.X
Scalability

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ZStack Cloud Architecture

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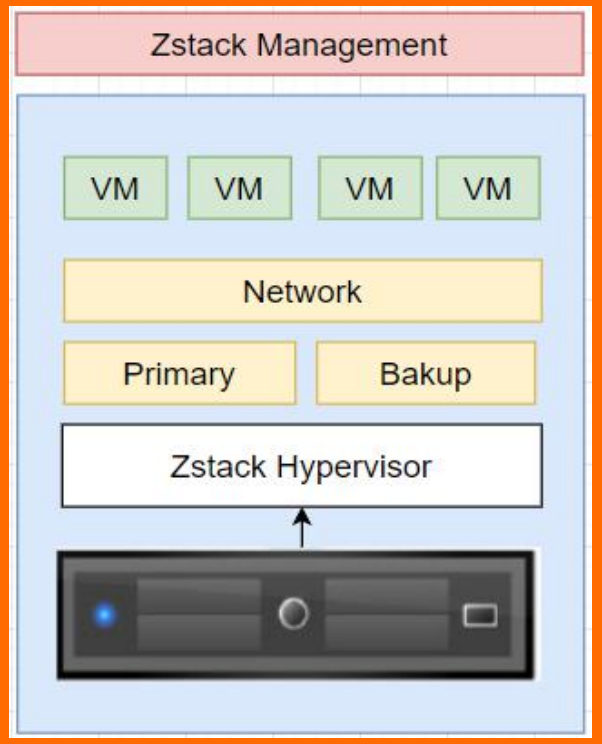
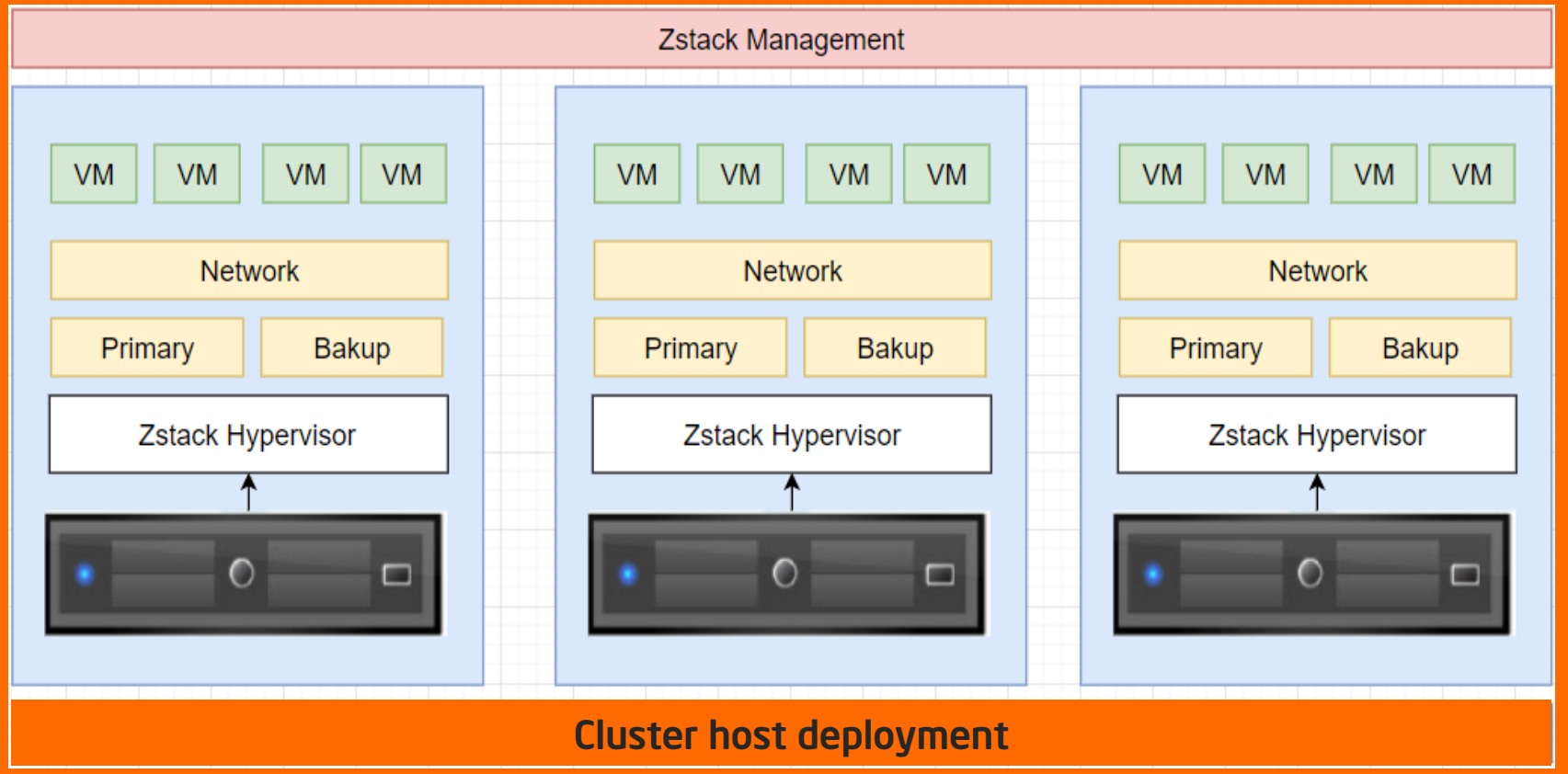
ZStack Cloud Architecture



Single host deployment

- Single host with limited resource
- Limited scale up/ extend
- No redundancy



Cluster host deployment

- Performance, High availability, Scalability
- VM live migrated/ redundancy by cluster host
- Faster resume service when any host go down
- At least 3 host .

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Zstack Function Modules

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Overview of Function Modules in ZStack

Cloud Portal service

Web UI	Char UI	Command Lines	OS Interface	HTTP Restful API	Java SDK	Python SDK	3rd Service

Cloud Resource Service

VM Instance	L2 Network	EIP	Security Group	Block Storage	Snapshot	Billing
Volume	L3 Network	Port Forwarding	DHCP	File Storage	Clone	Graphic Monitoring
Nic	vRouter	Load Balance	QOS	Object Storage	Backup	Net Topology

Cloud Platform Management

VM Management (Live Migration, High Availability, Root Volume Resize .... More)

Host Management	Organization Structure	Image Management	VPC Network	ESXi Network	Operations and Statistics	Billing
Cluster Management	Project Management	Offering Management	Flat Network	ESXi VM	ZWatch	Account Management
Zone Management	Enterprise Management	Cloud Resource Pool	Network Resource	vCenter	Resource Scheduling	Platform Management

Infrastructure Supporting

Virtualization KVM/ VMware	Bare-metal	Local Storage	Distributed Storage ZStack/ Ceph	Business Storage SAN/ NAS	Aliyun PanGu	SDN/NFV VLAN/ VxLAN/ NFV	China Security LEVEL 3 in hierarchical protection

Hybrid Alibaba Cloud

- ECS
- Volume
- PanGu
- Security Group
- VPC
- EIP
- VPN
- High Express
- SD-WAN

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DEMONSTRATION

1

Customer Requirements

Build up web server system/public to internet with high volume and high con-current connection..

2

Ensure

Performance, High availability, Scalability

Resource flexibility

Billing and resource tracking

3

Planning

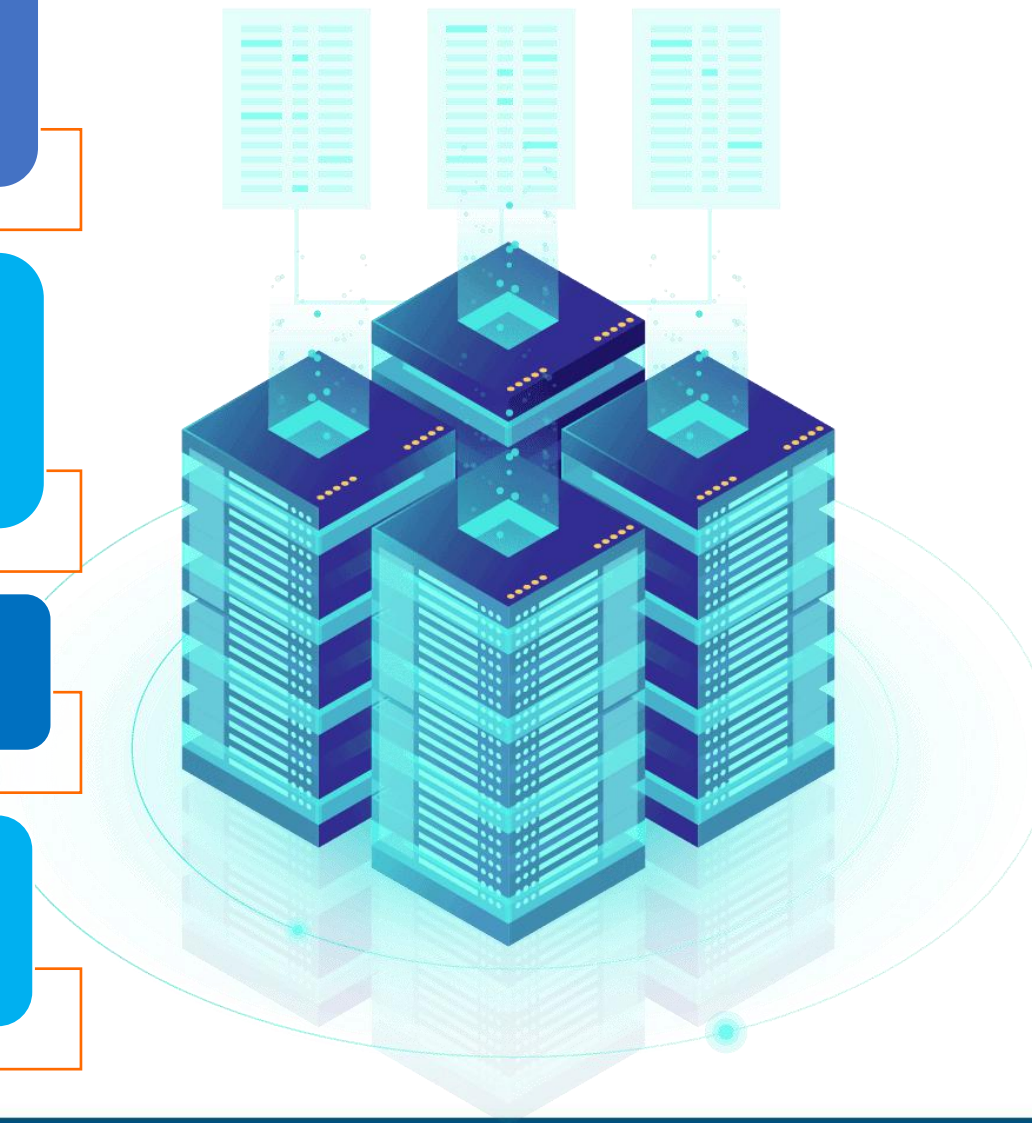
Moving to Alibaba Cloud.

4

Technical requirement:

Remote server: Windows Server

Web-Server group: Ubuntu OS/ Apache/ PHP



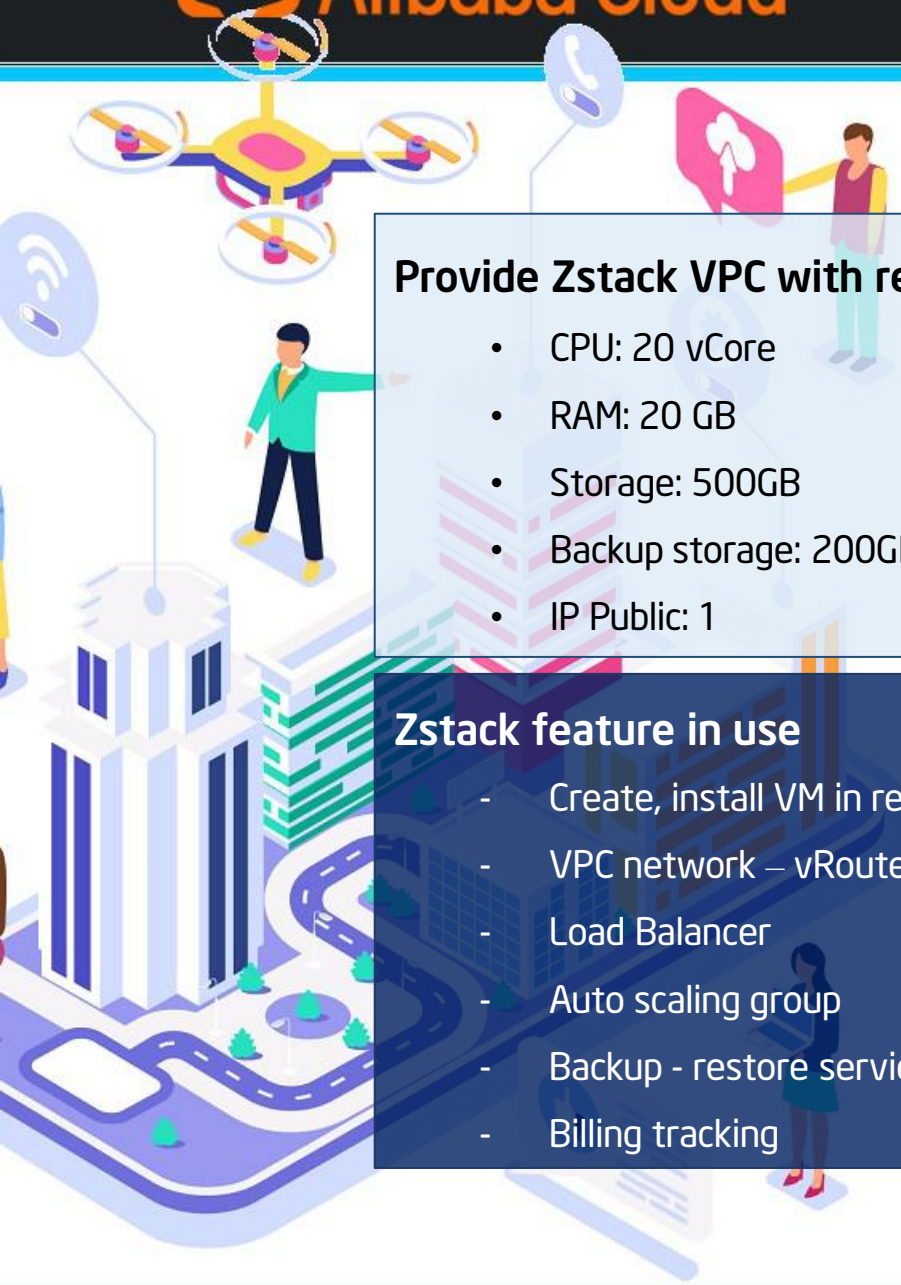
Customer Expectation

- Define how many resource we need:
  - CPU/RAM
  - Network
  - VM Instance
- How much do we need to pay?
- Which technical solution can adapt?

Technical solution

VM	VM	VM	Load Balancer

Zstack Virtual Private Cloud

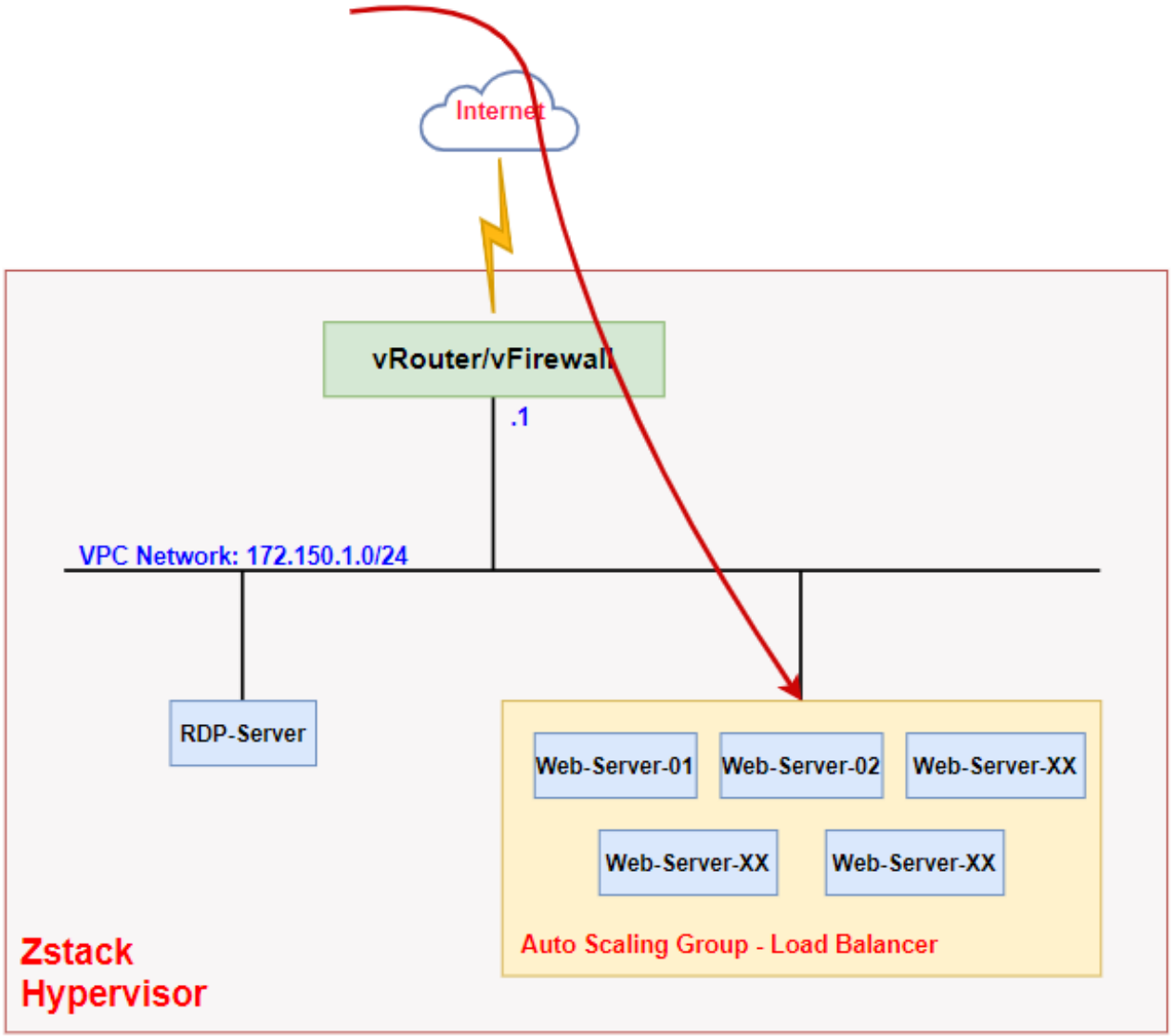


Provide Zstack VPC with resource pool

- CPU: 20 vCore
- RAM: 20 GB
- Storage: 500GB
- Backup storage: 200GB
- IP Public: 1

Zstack feature in use

- Create, install VM in resource pool
- VPC network – vRouter – vFirewall
- Load Balancer
- Auto scaling group
- Backup - restore service
- Billing tracking



Thank you!

alicloud@usdc.vn

Quan Do

ZStack Cloud Computing Technician

M : (+84) 912345678