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AWS Amazon Elastic Container Service for Kubernetes

Kubernetes AWS WAF

Amazon RDS for Oracle CPU

Amazon ECS CLI Docker Compose 3 Amazon API Gateway

API ElastiCache for Redis Redis 4.0 VMWare

AI

15 Azure

Azure Stack Azure

Stack AI Bonsai Azure

Cloud Foundry

mini ET IPv6

O2O

EI

Openstack

OS OpenInfra Days China EasyStack

2018 OpenInfra Days China

1T

X10800 GDPR 360

SaaS

BitUN Fortinet Bradford Networks

Helm Kubernetes Visual Studio Kubernetes Docker Hub 500

Kubernetes 1.11 CoreDNS

Google Chrome

NX-OS OpenBSD Intel CPU

6 7

ConterTack GoSecure

Zimperium

Mi3 Security F-Secure

MWR InfoSecurity

CrowdStrike 2

E Claroty 6000 B

Agari 4000 E

2018 6 30

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AWS

1.1 Amazon Elastic Container Service for K

6 5 Amazon Elastic Container Service for

AWS Kubernetes

Amazon EKS Kubernetes AWS

Amazon EKS AWS Kuberne

Amazon EKS Kubernetes

Kubernetes

Amazon EKS

1.2 AWS WAF

6 5 AWS WAF

Web API (a) (b)

CIDR

AWS WAF

URI

- WAF

URL https:// example.com/page?name1=value1&name2=value2

IPv4 /16 /32 CIDR

AWS WAF IP IPv4

/8 /16 /24 /32 AWS WAF CIDR

10.21.3.44/31 10.21.3.40/29 10.21.3.45/17 IP IP

10000 CIDR AWS WAF

IPv6 CIDR /128 /64 /56 /48 /32 /24

1.3 Amazon ECS CLI Docker Compose 3

6 7 Amazon Elastic Container Service (Amazon ECS CLI)

Docker Compose 3 Docker Amazon ECS

Docker Compose Amazon ECS CLI

Amazon ECS

Amazon ECS Amazon ECS

CLI Docker Compose v3 Docker Compose

Docker Compose v2 Docker Compose v1

v2 v3 Amazon ECS CLI

1.4 Amazon API Gateway API

6 14 Amazon API Gateway API VPC

Amazon Virtual Private Cloud (VPC) API

API API Internet Amazon VPC

API REST API VPC

AWS Direct Connect

Amazon VPC VPC

1.5 Amazon ElastiCache for Redis Redis 4.0

6 14 Amazon ElastiCache for Redis Redis 4.0.10 Redis 4.0

- - LRU

Redis 4.0 LFU

LFU

- - Redis 4.0 MEMORY
  Redis MEMORY DOCTOR
  MEMORY USAGE
  MEMORY MALLOC-STATS MEMORY
  PURGE MEMORY STATS
- - Redis 4.0

- Redis 4.0 DEL FLUSHDB FLUSHALL

Redis 4.0.10 ElastiCache for Redis

1.6 Amazon RDS for Oracle CPU

6 18 Amazon Relational Database Service (RDS) for Oracle
CPU Oracle
Intel
RDS Oracle CPU Amazon EC2
CPU X1 X1e
Oracle I/O CPU
vCPU X1e.8xlarge 32
vCPU 4 8 12 16 20 24 28 32 vCPU
CPU
(BYOL) vCPU
RDS Oracle Intel HT

CPU Intel HT BYOL

VMware

GOOGLE

3.1 **AI**

6 4 Maven

Diane Greene

2019

AI

Maven

Maven

9 Maven IBM

3.2 **15**

6 15 15

1.89 2013 2016

1.35

9

YouTube

F bio Coelho

3300

Google.org Instituto Rede Mulher Empreendedora

81 13.5

Google tools

Coelho

1 2

30 99

Azure

4.1 Azure Stack

6 6 Azure Stack Lenovo ThinkAgile SX for Microsoft Azure Stack

CTO CMO

Gartner 2020

90% Azure Stack 4 3

FDM

CPU PCIe

4.3 AI Bonsai Azure

6 21 GitHub

Bonsai Bonsai

Bonsai

Deep Reinforcement Learning Bonsai GPU Brainware

Azure Brainware Azure

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5.1 Cloud Foundry

2018 6 6 Cloud Foundry

Foundation Cloud Foundry

Cloud Foundry Foundation

Cloud Foundry Cloud Foundry

BOSH Cloud Provider Interface CPI

Cloud Foundry Application Runtime CFAR Cloud Foundry Container Runtime CFCR

CFCR Cloud Foundry Foundation Kubernetes BOSH

Cloud Foundry

Cloud Foundry Application Runtime 43

Cloud Foundry Foundation The Foundry

Cloud Foundry Cloud Foundry

5.2

6 7

IoT

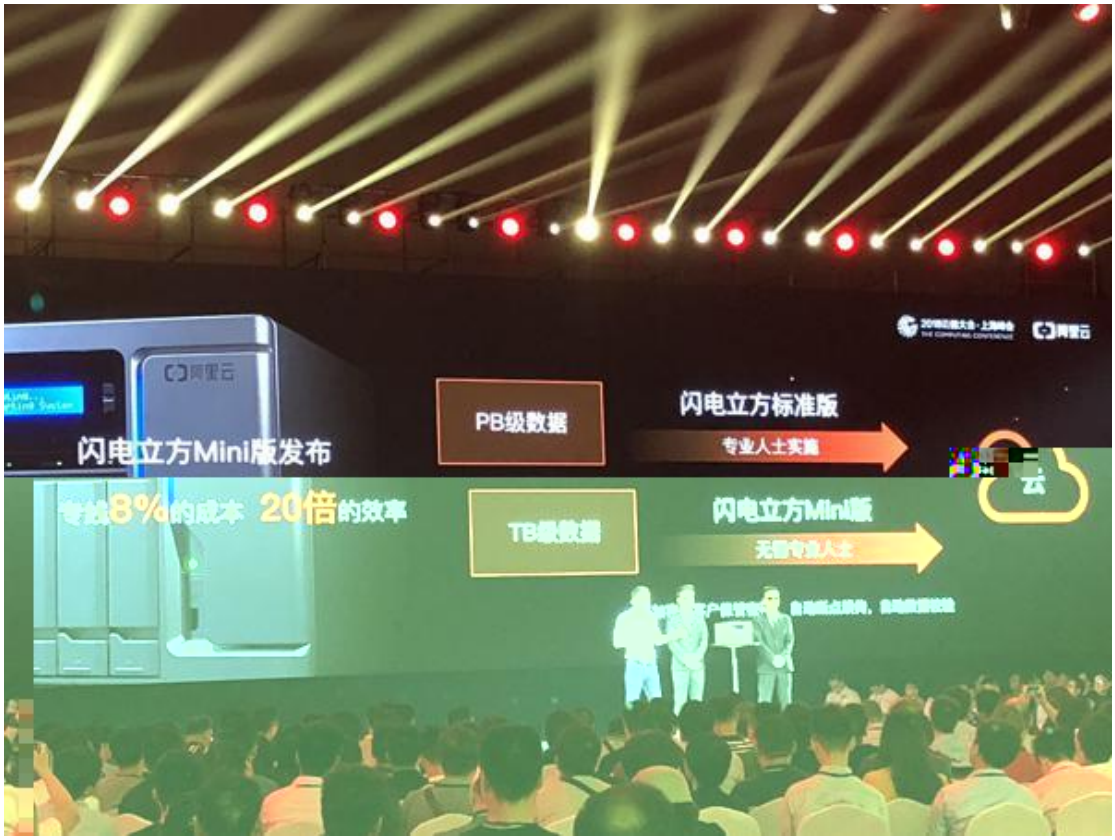
5.3 **mini**

6 7 115 45 100PB

3M 100PB 360

115 2TB

2 16.65Gb/s



T mini

mini 40GB

mini KEY

mini KEY

5.4 ET

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AI ,

ET ET

5.5 ET AI

6 19 2018 ET

AI ET

AI ET

ET

ET AI

5.6 **IPv6**

6 20 IPv6 IPv6

IPv6 - -

IPv6 IPv6

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6 21

5.8

6 26 80%

6 80%

10% 2015 +

6.1 O2O

6 4 ( ) O2O

2018 3 9 ( )

O2O (H5 APP(IOS/Android))

O2O

APP

6.2

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12.66

7.1 EI

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AI 2018

EI

EI

AI AI

Openstack

1.1 Openstack

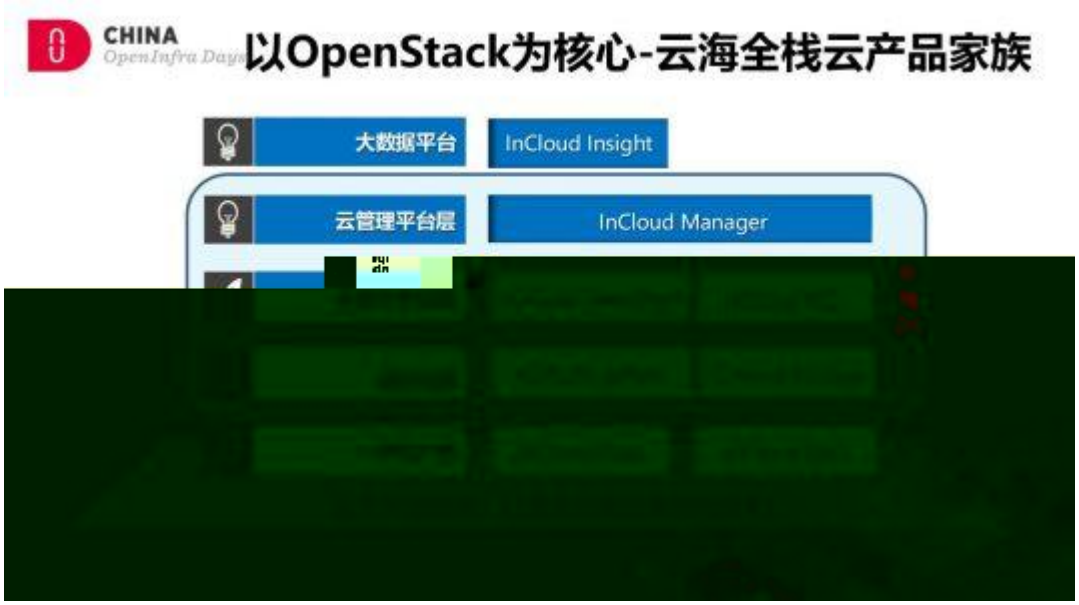
6 20 --

openstack P docker

Aneka

1.2 OS OpenInfra Days China

6 21 InCloud OpenStack InCloud K8S InCloud Sphere



OpenStack OS

Region

InCloud OpenStack InCloud Sphere

SDS SDN

Easystack

2.1 EasyStack

OpenInfra EasyStack

Demo OpenStack

EasyStack

OpenStack

1.

1.1

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2.

2.1 **1T** **X10800**

2018 5 31 - AI

1T X10800

AI C2 IP

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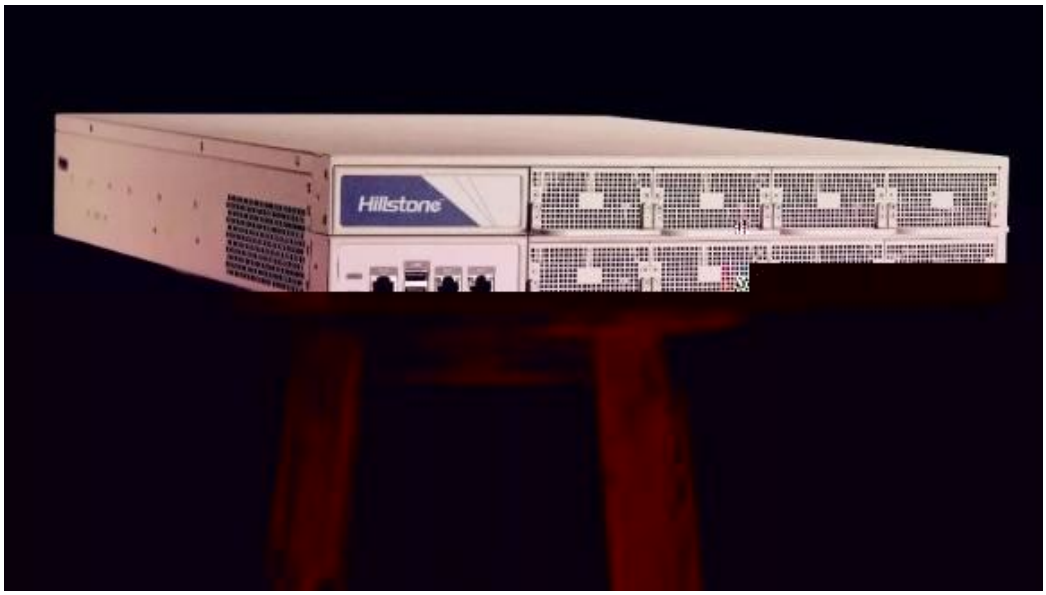
8 AI

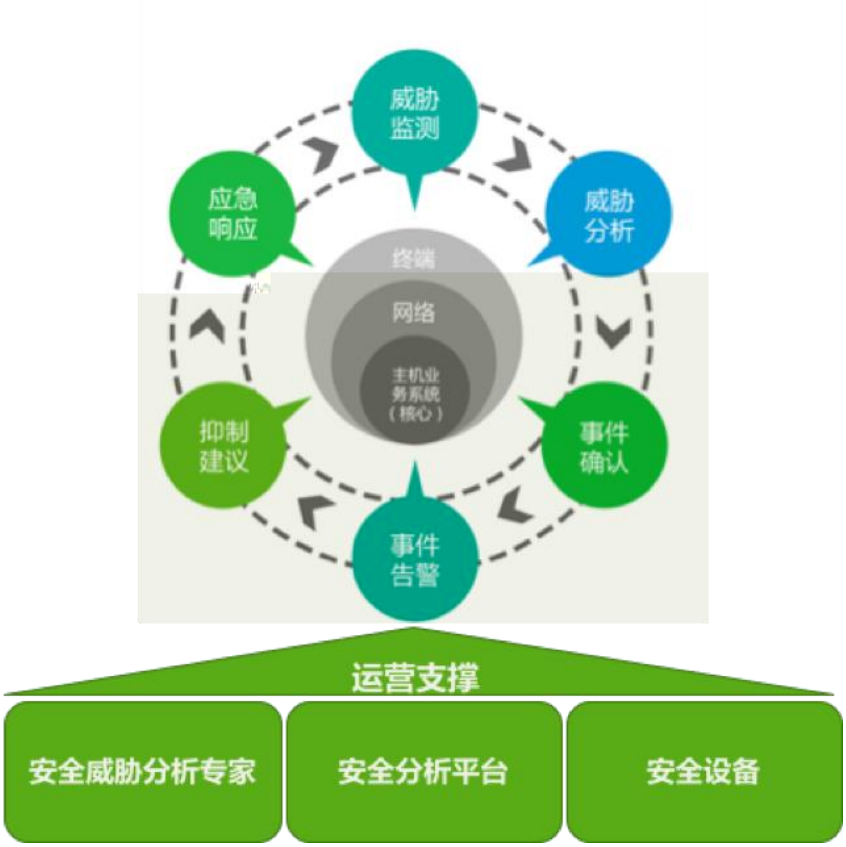


3.

+ 2018 6

MDR

1



5. 360

5.1 360

6 6 360 -

360

5.2 360

360

6.

6.1 SaaS

UI

6.2 BitUN

6 26 BitUN BitUN

BitUN

BitUN BitUN

BitUN

BitUN

BitUN OWASP Top 10

bug

BitUN

BitUN

7.

8. Fortinet

8.1 Fortinet Bradford Networks

Fotint Bradford Networks

Fortinet Security Fabric IoT

9. Checkpoint

1. Helm Kubernetes

Helm helm

k8s

k8s helm CNCF CNCF

2. Visual Studio Kubernetes

Visual Studio Kubernetes

Kubernetes .NET Kubernetes

Kubernetes

Kubernetes Visual Studio Kubernetes

Visual Studio Kubernetes

Kubernetes

.NET Kubernetes Visual Studio

Dockerfile Helm chart Azure Dev Space

Azure Kubernetes

3. Docker Hub 500

6 14 Fortinet Kromtech 17 Docker

500

Web

Docker Hub

4. Kubernetes 1.11 CoreDNS

Kubernetes Kubernetes

beta SIG-API Machinery SIG-Node

Kubernetes

IPVS

CoreDNS DNS

5. cookie

WWDC 2018 iOS macOS

Facebook GDPR

cookie cookie macOS Mojave iOS 12

WWDC Google IO

Android Google Photos

Bixby Siri Shortcuts

6. Google Chrome

Google Chrome

Chrome Chrome

Chrome

7.

6 7

PC

8. NX-OS 5

30 5

NX-OS NX-API FXOS NX-OS

root

DoS Cisco

Nexus 4000 3000 9000

9. OpenBSD Intel CPU

BUG OpenBSD Intel

CPU (HT) (SMT)

CPU OpenBSD Mark Kettenis

CPU

1.

1.1 Fortinet Bradford Networks

6 4 Fortinet Bradford Networks Fortinet

Bradford Networks

1.2 ConterTack GoSecure

6 6 ConterTack GoSecure ConterTack

(ETP)

GoSecure

1.3 Zimperium Mi3 Security

6 13 Zimperium Mi3 Security Zimperium

APP Android Network Toolkit Mi3 Security

1.4 F-Secure MWR InfoSecurity

6 18 F-Secure MWR InfoSecurity 8000

1988 F-Secure MWR

InfoSecurity

2.

2.1 OneLogin 2250 C

6 5 OneLogin 2250 C OneLogin

OneLogin

2.2 Claroty 6000 B

6 11 Claroty Aster 9 6000 B Claroty

2.3 Gospel Technology 140

6 18 Gospel Technolog LocalGlobe 140 Gospel Technolog

2.4 CrowdStrike 2 E

6 19 CrowdStrike Accel 4 2 E CrowdStrike McAffee CTO George Kurtz Dimitri Alperovitch 2011 Irvine Falcon

2.5 Liongard 125

6 20 Liongard 125 Liongard Roar MSP Roar

AWS Microsoft Office 365 Active Directory SQL internet DNS Recon SSL Cisco Meraki

2.6 Cylance 1200 E

6 20 Cylance Blackstone Tactical Opportunities 1200 E Cylance

2.7 Agari 4000 E

6 21 Agari Alloy Ventures 6 4000 E

Agari