

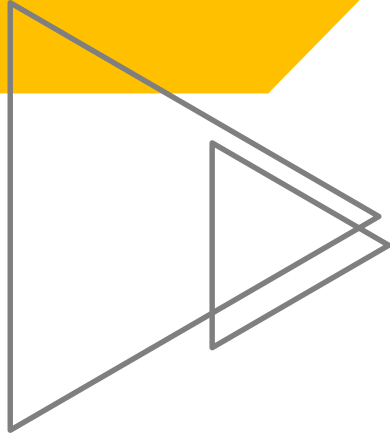
China Data Center Report



PREPARED BY MITAC JAPAN TOSHIHIKO
HARA

CONTENS

目錄



- 01 China DC Market Summary**
- 02 Current status & future of BAT**
- 03 Scorpio & ODCC**

China DC Summary

DC Type

Rental and Hosting:
14%

Company owned
use: 57%

Own owned and
Hosting: 18%

Fully rented: 11%.

DC biz operator

Telecom: 6%

DC operator: 19%

ISP or CSP: 19%

Financial service
provider: 17%

Private enterprises: 18%

Government public
relations: 17%,

Other: 7%.

DC sense of scale

- 0-100 RACK :21%
- 100-500 RACK :23%
- 500-1000 RACK :16%
- 1000-5000 RACK :21%
- 5000 RACK 以上 :19%

- Telecom: for example China Telecom, Unicom, Guangzhou Telegraph, China Mobile TieTong
- ISP: eg Dr. PAN Telecom & Media Group
- DC operator: GDS (listed on US NASDAQ 2016, partnered with SCSK / SB), 21 VIANET (listed on 2011 NASDAQ)
- CSP: TENCENT Rui, ALI Ai, BAIDU Baidu, HUAWEI Huawei

China DC Summary

MARKET SIZE ANALYSIS

- Between 2009 and 2010 The IDC industry will scale from 72.8 billion yuan to 51.86 billion yuan, with annual growth rate of 40.8%
- In 2016, China IDC market size is 71.45 billion yuan, growing by 37.8% from 2015. Consumption habits and video viewing needs by the mobile Internet explosively grow, and furthermore, the demand for mobile games seems to be driving the expansion of the IDC market.

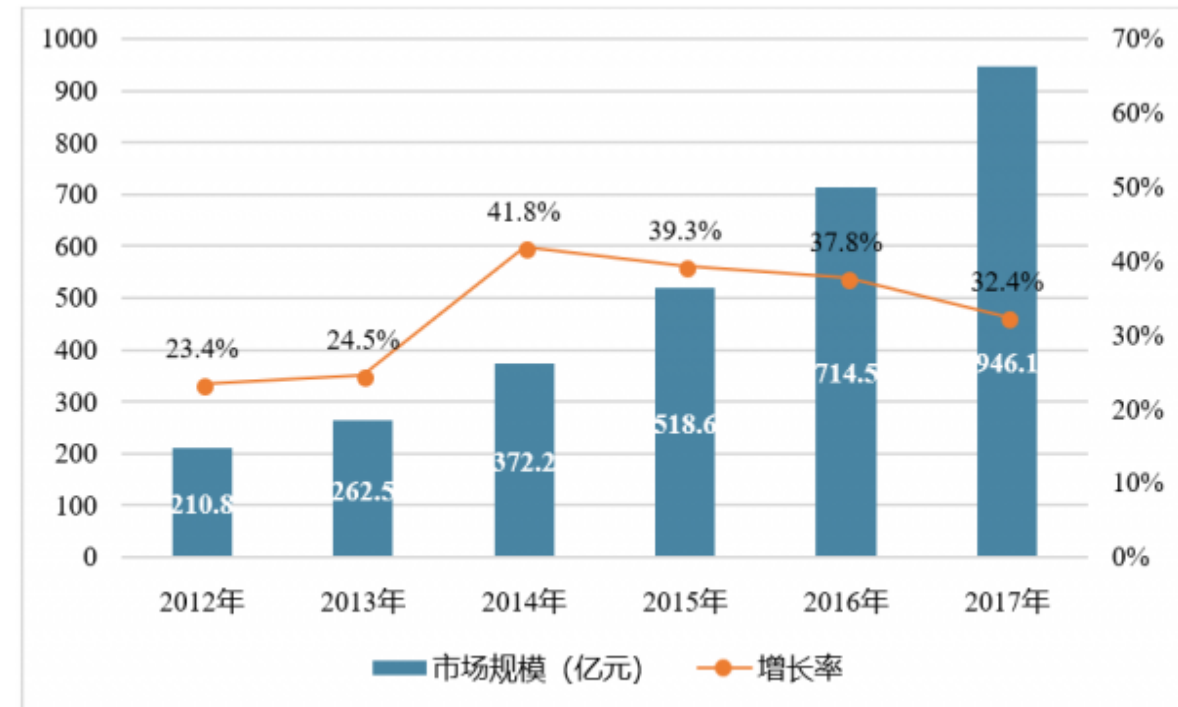
2009 - 2015

2016

2017

- In 2017, China IDC market stable growth, market size was 94.61 billion yuan, increased by 32.4% from 2016. EC and mobile Internet demand continues to support the growth of the IDC market.

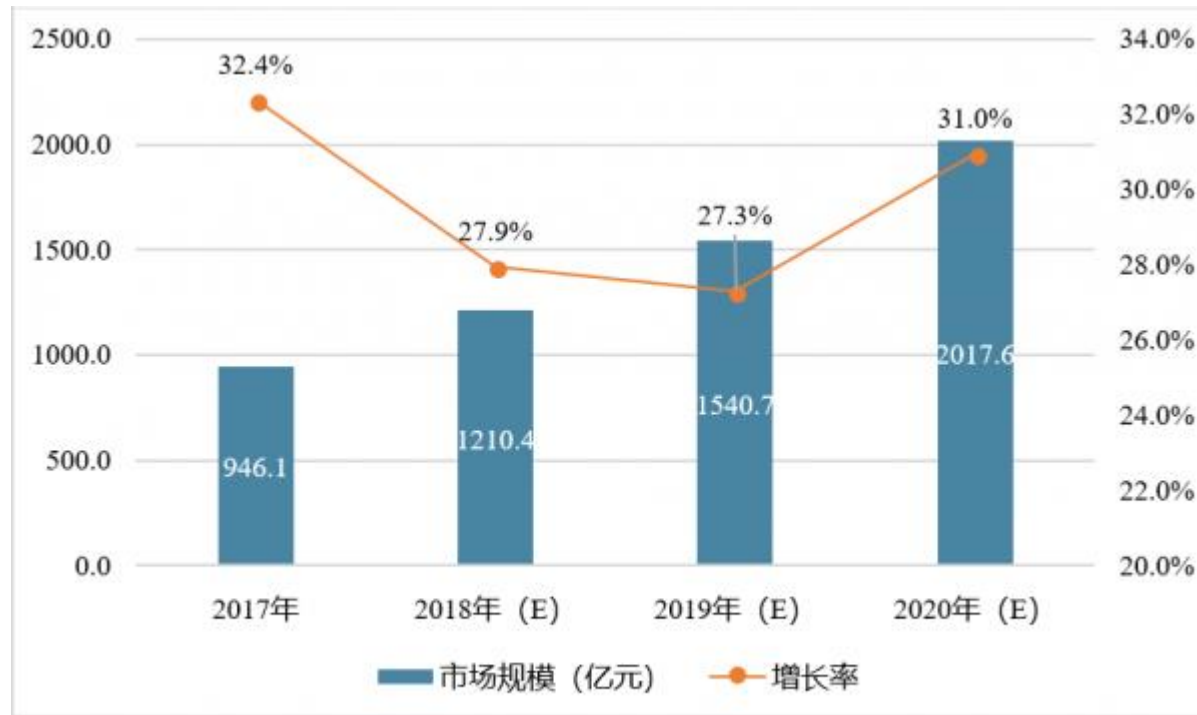
2010-2016 China IDC Market



数据来源: 科智咨询 (中国 IDC 圈), 2018.03

China DC Summary

2018 -2020 MARKET SIZE FORECAST



数据来源: 科智咨询 (中国 IDC 圈), 2018.03

- ▶ The IDC market enters maturity, growth in the coming years will become somewhat slower, and the market size tends to be so. 2018 scale forecast is 120 billion yuan
- ▶ Accelerate IT development of traditional industries by policy and market lead, internal process improvement and cloud environment utilization contribute to the increase in DC market size.
- ▶ Telecom operators and partner SPs will expand their bases to domestic and overseas, and will continue to construct large and ultra large DCs.
- ▶ With 5G support, diversification and popularization of IoT applications, it will lead to new needs for net lines. It spreads to DC more. In 2020, China IDC market is predicted market size of 200 billion yuan

China DC Market Summary

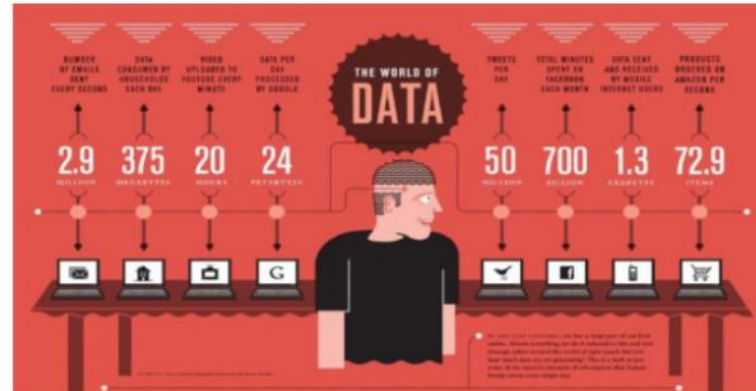
In 2017 WW's IDC market size is 53.47 billion USD, 18.3% higher than the previous year, IDC market growth in Asia, represented by China / India, is the most pronounced.



In 2017, China IDC market stable growth, market size was 94.61 billion yuan, increased by 32.4% from 2016. EC and mobile Internet demand continues to support the growth of the IDC market



DC construction shifts from EC guidance to ECO oriented DC construction than scale up



Determined standards and guidelines for improving service of DC industry led by the Chinese government.



From IPv4 to IPv6 For system upgrades Mega DC is completed for the end of 2018. Other DC will be completed at the end of 2020



In 2018 China will start the "Three Years Behavior of Zhongjiang Strong Construction". It strengthens line connection speed between city and rural areas, 5G correspondence will be the center.

Current status of BAT

Cloud provider rank

- Position of China Public Cloud: Ali Cloud, Tencent Cloud, KingSoft Cloud. Baidu Cloud continues.
- Service cost = Scale: Through these technological innovations and resource optimization, these three companies provide competitive service costs while expanding in scale.



BAT→ATK Current Status



阿裡雲Ali: The market capitalization is 39 billion USD tacho No. 1; 2017 sales of Ai Yun is 2.1 billion USD, roughly 13.3 billion RMB. Investment in the cloud for 9 years has finally become worth and it is starting to return to the company and investors.

騰訊雲Tencent: The market capitalization is 3.3 billion USD, the growth of public clouds in NO. 2, net movies, mobile games, EC and O 2 O is the highest. In 2018, the growth of Q1 has been over 100% since the same period last year.

- By Hong Kong listed in the small US, you can rewrite the power chart of BAT. BAT→ATK
- The market capitalization of Jinshan cloud is roughly 2.1 billion USD

BAT — ATK Trend



- Massive DC



Pursue to special rack for service deployment



- AI Focus



Active deployment and adoption such as public cloud, private cloud, CDN, storage, machine learning, edge cloud, application of GPU / NVMe, etc. are adopted.



Ali Cloud

- 2018 Q1 Ali Cloud's cloud service revenue reached 700 million USD, beyond IBM, 4th in WW
- There is also a distance between Ali Cloud and the 1 billion USD in Google Cloud quarter 3rd. Investment in infrastructure is a situation where we must keep on again.
- Distribution of WW DC in Ali Cloud: EU, Australia, Middle East, Japan. Activities with SB and a joint venture in Japan In the Nikkei newspaper forecast the Japanese cloud service market has grown to 500 billion yen and Ali Cloud is targeting to account for 20% of the market

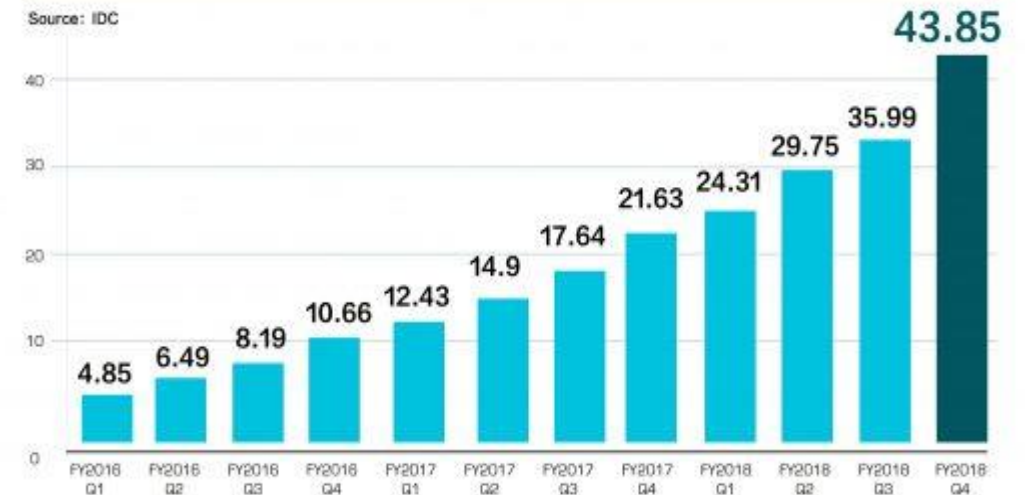
Ali Cloud: WW No.4, Hybrid Cloud Focus

阿里云季度营收

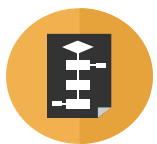
Alibaba Cloud Revenue

单位: 亿元 数据来源: 阿里巴巴财报
Source: Alibaba Group Earnings

Source: IDC



Baidu



Baidu's ABC strategy: AI + Big Data + Cloud

IaaS: The largest GPU / FPGA brain and the largest scale

Own HADOOP / SPARK base DC

PaaS: Based on AI

SaaS: Understanding and penetration of vertical industry, proposal

Innovation

- Development in AI field

Industry penetration

- Finance, industrial, transportation, home etc.

Product advantage

Smart edge product release,
ABC + IoT clear advantage

Service certification

Cloud + IoT service construction
Receive service certification of
each vertical industry



百度一下 你就知道

天蠍(Scorpio) & ODCC

天蠍 Establishment

Baidu / Ali / Tencent invented around 2011, Intel technical adviser, purpose: To unify the product design to realize the degree of freedom / low cost when expanding DC

ODCC Establishment

From Scorpio to ODCC, Ali / Baidu / Tencent / China Telecom, China Mobile, China IT Research Institute, Intel, Total 28 companies are members.



开放数据中心委员会

Open Data Center Committee

2011

- TCO:
10% + TCO fall
- New installation efficiency:
Conventional 10 times installation speed
- reliability
40% reduction in failure rate
- service
Standardized design + Improved by RMC

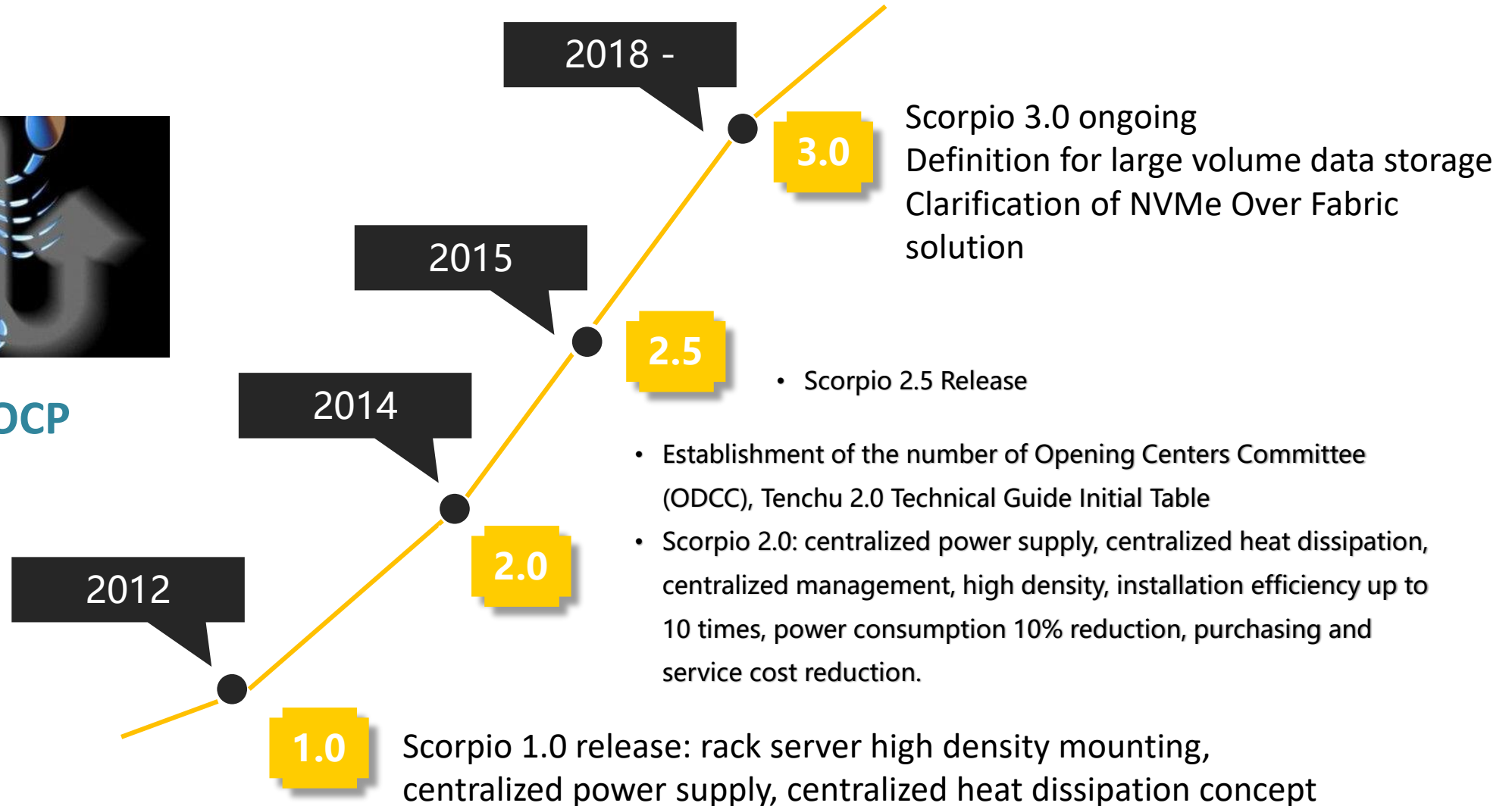
2014



天蠍(Scorpio) & ODCC



China OCP



天蠍(Scorpio) & ODCC

Scorpio Rack certified products



浪潮 SR4000
Black BOX

施耐德 PSU
OCSPS4308/OCSPS5310



Centralized power
supply



锐捷
RG-S6220-
48XS4QXS



天蠍(Scorpio) & ODCC

天蠍followed by BAT

Research on delay-less NW

- Research on delay-less NW is an important theme of ODCC.
- Participating members: Baidu, Jindong, Tencent, China Telecom, China Mobile, Huawei, Cisco etc.

GPU server verification technology

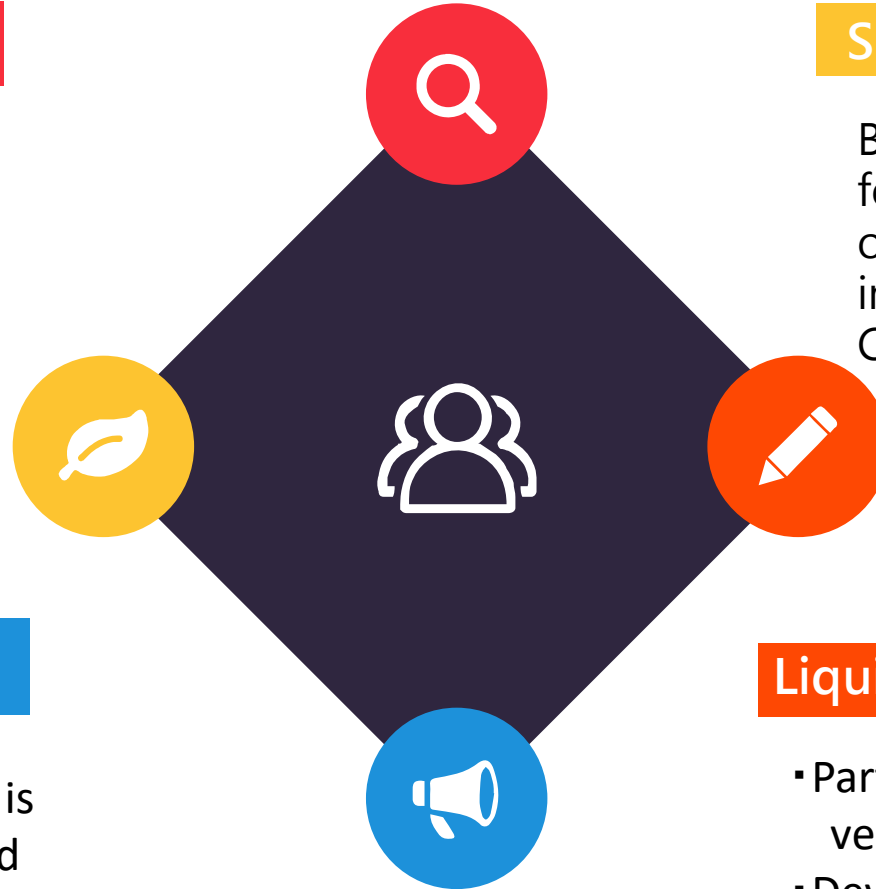
GPU server technology verification is underway led by China Telecom and China IT Research Institute.

Server-SAN Technical verification

Based on the SDS metrics formulated by the SPC organization, ODCC is under the initiative of China Telecom and China IT Research Institute.

Liquid Cooling Technical verification

- Participating members: China server vendor, 3M etc.
- Development assumption: immersion, air spray center



THANK YOU