2018 INVESTOR DAY
September 17-18 Hangzhou China
Cloud Computing and IoT
Simon Hu, President of Alibaba Cloud
Promising Cloud Computing Market in China

前景广阔的中国云计算市场
China’s Cloud Computing Market Accounts for 25% of the Global Market, and Continues to Grow

**Worldwide vs. China Annual Server Shipments**

<table>
<thead>
<tr>
<th>Year</th>
<th>Global</th>
<th>China</th>
<th>China Global Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>CY2015</td>
<td>11,001</td>
<td>1,101</td>
<td>22.39%</td>
</tr>
<tr>
<td>CY2016</td>
<td>11,04</td>
<td>1,441</td>
<td>24.15%</td>
</tr>
<tr>
<td>CY2017</td>
<td>11,451</td>
<td>2,998</td>
<td>26.18%</td>
</tr>
<tr>
<td>CY2018E</td>
<td>12,333</td>
<td>3,344</td>
<td>27.12%</td>
</tr>
</tbody>
</table>

**Revenue Generated per Server on Alibaba Cloud**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>1.146</td>
<td>1.462</td>
<td>2.998</td>
<td>3.344</td>
<td>3,344</td>
</tr>
</tbody>
</table>

Source: Gartner Forecast: Servers, All Countries, 2015 YR-2022 YR, 2Q18 Update

Data source: Alibaba Cloud

China’s Cloud Computing Market Accounts for 25% of the Global Market, and Continues to Grow
Company A and Alibaba Cloud Have Become the Market-leading Hyperscale Cloud Providers

Company A and Alibaba Cloud have become the market-leading hyperscale cloud providers.

### US IaaS Provider Revenue Market Share

<table>
<thead>
<tr>
<th>Year</th>
<th>Alibaba Cloud</th>
<th>Company A</th>
<th>Provider 1</th>
<th>Provider 2</th>
<th>Provider 3</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>CY2015</td>
<td>17.6%</td>
<td>17.6%</td>
<td>2.5%</td>
<td>2.5%</td>
<td>4.6%</td>
<td>7.4%</td>
</tr>
<tr>
<td>CY2016</td>
<td>14.0%</td>
<td>14.0%</td>
<td>5.3%</td>
<td>5.3%</td>
<td>7.8%</td>
<td>8.0%</td>
</tr>
<tr>
<td>CY2017</td>
<td>53.9%</td>
<td>53.9%</td>
<td>5.4%</td>
<td>5.4%</td>
<td>6.5%</td>
<td>7.6%</td>
</tr>
</tbody>
</table>

### China IaaS Provider Revenue Market Share

<table>
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<tr>
<th>Year</th>
<th>Alibaba Cloud</th>
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<th>Provider 2</th>
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</tr>
</thead>
<tbody>
<tr>
<td>CY2015</td>
<td>55.0%</td>
<td>45.5%</td>
<td>5.6%</td>
<td>5.6%</td>
<td>6.1%</td>
<td>7.5%</td>
</tr>
<tr>
<td>CY2016</td>
<td>41.4%</td>
<td>41.4%</td>
<td>5.8%</td>
<td>5.8%</td>
<td>6.2%</td>
<td>7.7%</td>
</tr>
<tr>
<td>CY2017</td>
<td>45.5%</td>
<td>45.5%</td>
<td>5.4%</td>
<td>5.4%</td>
<td>6.5%</td>
<td>7.2%</td>
</tr>
</tbody>
</table>

Alibaba Cloud’s market share equals the sum of the next 8 largest vendors in the China market (CY2017).

Company A and Alibaba Cloud have become the market-leading hyperscale cloud providers.
40% of China Top 500 Companies and Nearly Half of China Listed Companies are on Alibaba Cloud

中国500强企业中40%在阿里云上，近一半的中国上市公司在阿里云上

40% of China's Top 500 Companies are on Alibaba Cloud

49% of China Listed Companies are on Alibaba Cloud
Alibaba Cloud Has Established Itself as the Innovation Engine for Technology Companies in China

80% of China’s Technology Companies are on Alibaba Cloud
Our Customers Come from a Broad Spectrum of Industries

Our Customers Come from a Broad Spectrum of Industries
Over the Past Few Years, Customer Spending on Alibaba Cloud Has Skyrocketed

这些年，客户在阿里云上的消费快速成长
Evolution from Information Technology to Data Technology 从IT向DT演进
Redefining Productivity
Challenges to Enterprise Digital Transformation

- Business Transformation
- Operation Optimization
- Employee Empowerment
- User Experience Improvement
Cloud Computing Empowers New Retail Development

The Largest Liquor Producer in China*  
• Created a retail omni-channel consumer system  
• Decision response rate surged by more than 80%  
• Warehousing efficiency increased by 90%

One of the Top 10 Dairy Product Manufacturers Worldwide  
The Fastest Growing Dairy Company in China**
• Established a consumer insight platform for precision marketing and business transformation  
• Reduced logistics cost by over 10%

Cloud Computing Empowers New Retail Development
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Cloud Computing Drives Financial Industry to Improve Efficiency

<table>
<thead>
<tr>
<th>Ranked 29th among 2017 Global Bank Top 100*</th>
<th>Ranked 131st among 2017 Global Bank Top 500*</th>
<th>Best Personal Internet Banking 2017**</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Built a new distributed cloud system to ensure smooth running and stable operation of mission-critical applications</td>
<td>• Established a shared financial platform and supported over 4,000 concurrent transactions per second</td>
<td>• Developed a mobile R&amp;D and management platform</td>
</tr>
<tr>
<td>• Provided distributed technical architecture consulting services</td>
<td>• System update cycle shortened from weeks to days</td>
<td>• Increased R&amp;D efficiency by 2 times</td>
</tr>
<tr>
<td>• System update cycle shortened from weeks to days</td>
<td></td>
<td>• Reduced app release frequency to 1 day and shortened the app launch time to only 3 seconds</td>
</tr>
<tr>
<td>• Developed a mobile R&amp;D and management platform</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source: The Banker, China Financial Certification Authority
**Information source: "Cloud Computing Drives Financial Industry to Improve Efficiency"
• Built a new distributed cloud system to ensure **smooth running and stable operation** of mission-critical applications
• Provided distributed technical architecture consulting services
• 建设全新的分布式核心系统，保障核心应用顺利上线和稳定运行
• 提供分布式产品和技术架构咨询服务
Cloud Computing Facilitates Media Industry Transformation

The Largest TV Station in China

- Leverages AI technology to extract game highlights automatically
- Data acquisition capability increased by 10 times, and data processing efficiency increased by 20 times

The Largest News Agency in China

- Built a new media center and optimized operation efficiency
- Enabled 6-second production of news content. Reached 120 million views of videos

Cloud Computing Facilitates Media Industry Transformation

云计算辅助传媒行业转型
• Leverages AI technology to extract game highlights automatically
• Data acquisition capability increased by 10 times, and data processing efficiency increased by 20 times
<table>
<thead>
<tr>
<th>China's Leading Interactive Streaming Service Platform</th>
<th>Listed Game Company with Global Presence</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Reconfigured live broadcast network through edge computing</td>
<td></td>
</tr>
<tr>
<td>* Delivered second-level live broadcast quality monitoring</td>
<td></td>
</tr>
<tr>
<td>* Transcoding technology reduced bandwidth cost by more than 30%</td>
<td></td>
</tr>
<tr>
<td><img src="image1" alt="Image of streaming service platform" /></td>
<td></td>
</tr>
<tr>
<td>* Enabled unified and easy management of global hybrid cloud</td>
<td></td>
</tr>
<tr>
<td>* New game overseas launch time reduced from months to hours</td>
<td></td>
</tr>
<tr>
<td>* Improved resources utilization rate by more than 30%</td>
<td></td>
</tr>
<tr>
<td><img src="image2" alt="Image of listed game company" /></td>
<td></td>
</tr>
</tbody>
</table>

Cloud Computing Supports Game and Video Industry Growth

云计算支撑游戏&视频行业成长
• Reconfigured live broadcast network through *edge computing*
• Delivered *second-level* live broadcast quality monitoring
• Transcoding technology reduced bandwidth cost by *more than 30%*
• 边缘计算重构虎牙直播网络，实现运营升级
• 提供秒级直播质量监测，转码技术降低带宽30%以上
Cloud Computing Accelerates Changes in Healthcare and Life Sciences

Cloud Computing Accelerates Changes in Healthcare and Life Sciences

- Achieved unified deployment, scheduling and management of thousands of nodes on hybrid cloud
- Increased efficiency of genetic data processing and project delivery by 2 times
- Built a business middle office
- Improved screening accuracy of compounds by 20% with AI technology
- Built an image cloud to greatly improve doctors' efficiency
- Promoted digitization and intelligent transformation of 400 medical examination centers

One of the Pilot Organizations Approved by the NHFPC for High-throughput Sequencing Clinical Application

Ranked 10th among China's Top 100 Pharmaceutical Companies

China's Largest Medical and Health Service Group
Achieved unified deployment, scheduling and management of **thousands of nodes on hybrid cloud**

Increased efficiency of genetic data processing and project delivery by **2 times**

- 混合云实现了 **云上云下数千资源节点** 的统一部署、调度与管理
- 基因数据的流转、处理与交付效率提升了 **2倍**
Cloud Computing Enables Manufacturing Industry Upgrade

China's Best-selling Mobile Phone and Fifth-largest in the World by Sales Volume

- Improved data-driven consumer analysis to achieve precision marketing and operation optimization
- Utilized Alibaba Cloud platform to launch overseas business within a month and serves over tens of millions of customers in India

The World's Leading Home Appliances Brand

- Assisted Haier to achieve strategic transformation and business upgrade
- Used Alibaba Cloud intelligent voice technology to release the first far-field smart TV
- Improved data-driven consumer analysis to achieve **precision marketing** and operation optimization
- Utilized Alibaba cloud platform to **launch overseas business within a month** and serves over tens of millions of customers in India

China's Best-selling Mobile Phone and Fifth-largest in the World by Sales Volume

- 完善大数据用户画像, 布局精准营销, 实现运营优化
- 实现海外业务一个月上线, 覆盖印度市场数千万用户
Cloud Computing Aids Energy Industry Innovation

- Helped build an electricity consumption system to support 40 million electricity meters
- Increased billing efficiency by 7 times

The World's Largest Utility Company
Ranked 2nd among Global 500

China's 2nd Largest Power Grid System

- Built a core production scheduling system, covering 7 provinces and cities
- Greatly improved operation efficiency

Ranked 3rd among Fortune World 500

- Built an E-commerce platform and achieved 227.6 billion GMV
- Supported Sinopec's globalization initiative, covering 36 countries and regions

Source: Fortune Global 500 2018

云计算辅助能源行业革新

- 帮助构建了电力消费系统，支持4000万电表
- 提高了账单效率7倍

世界最大的电力公司
全球500强第2名

中国第二大电网系统

- 建立了核心生产调度系统，覆盖7个省和城市
- 大幅提高了运营效率

世界500强第3名

- 建立了电子商务平台并实现2276亿GMV
- 支持了中石油的全球化战略，覆盖36个国家和地区

来源：2018年财富全球500强
Helped build an electricity consumption system to support 40 million electricity meters

Increased electricity calculation efficiency by 7 times

Distributed an electricity information retrieval system to support 40 million electricity meters, increasing electricity calculation efficiency by 7 times.
Cloud Computing Helps Humans to Understand the World

- National Astronomical Observatory of China (NAOC)
  - Built the Virtual Observatory with 150TB of data pertaining to 1 billion celestial bodies
  - Provides "China Sky Eye" with computing, storage and software management solutions
  - Provides on-demand scalable resources to fully upgrade usage patterns
  - Stores PB-scale environmental and meteorological data, and creates value through real-time analysis

- China Meteorological Administration
  - Provides on-demand scalable resources to fully upgrade usage patterns
  - Stores PB-scale environmental and meteorological data, and creates value through real-time analysis
  - Provides operational and forecast services for the "China Sky Eye" project
  - Enables real-time monitoring and analysis of environmental and meteorological data

Cloud Computing helps humans to understand the world.
One Belt, One Road Offers More Global Opportunities
Part 3
Alibaba Cloud’s Evolving Technology
阿里云不断演进的技术实力
Lower Cost 降低成本
Supports second-level billing and multiple billing options
支持秒级计费和多样计费模式

Stronger and Stabler 更强稳定
Data Center 数据中心
Provides 24 x 7 data center, highly available backbone networks and 3+N BGP multipath
提供7x24数据中心，高可用骨干网和3+N BGP多路径

Product SLA 产品SLA
Enables intelligent scheduling of millions of servers, sub-millisecond latency and multi-cloud storage
支持百万级服务器智能调度，亚毫秒级延迟和多云存储

Higher Performance 更高性能
Compute 计算
Enhances application performance by 50% supports SAP & Oracle applications
增强应用性能50%，支持SAP & Oracle应用

Network 网络
Upgrades data center network bandwidth to 25GB, single-instance bandwidth to 35GB; decreases latency and supports global MNC network
数据中心网络带宽升级至25GB，单实例带宽至35GB；降低延迟并支持全球MNC网络

Storage 存储
Increases single cloud disk IOPS to 1 million and throughput to 4,000MB
单云盘IOPS提升至100万，带宽至4000MB

Achieves 1 billion file cache capability and 1T throughput for single node; provides 320G DDoS defense capability and over 10T defense capability across the entire network
实现1亿文件缓存能力及1T带宽，单节点；提供320G DDoS防护能力及超过10T防护能力全网

Database 数据库
Releases PolarDB, which is fully compatible with Oracle, costing 10 times lower than that of other commercial databases
发布PolarDB，全兼容Oracle，成本比其他商用数据库低10倍

Continuous Iteration to Improve Foundational Cloud Capability
不断迭代的基础能力
Driving Force Behind Digital Transformation

Business and Data Middle Office-driven Digitization, Service Guarantee for Entire Development Life Cycle

数据中台和业务中台双驱动，以及覆盖开发者全生命周期的服务保障

Business and Data Middle Office-driven Digitization, Service Guarantee for Entire Development Life Cycle

- Business Middle Office
- Data Middle Office

- ET Brain

Data Management and Analysis, Middleware, Artificial Intelligence, etc., 数据管理与分析、中间件等

Computing, Storage, Network, etc.
计算、存储、网络等

Business-oriented data collection
数据中台

Data-driven business decisions
业务中台

One-stop Collaborative Development Cloud for Enterprises
一站式企业协同研发云

Continuous Delivery
持续交付

Code Service
代码服务

Project Management
项目管理

Release Assurance
发布保障

Pipeline Service
流水线服务

Testing Service
测试服务
## Hybrid Cloud: Harness the Power of Alibaba Cloud

### Traditional On-premises

- **High deployment costs**
- **Business continuity risks**
- **Scaling and upgrade challenges**
- **Limited cloud components**

### Virtualization product from vendor A

- Big data product from vendor B
- Other products from vendor C

### System Integration

- Apsara Stack
  - An integrated, software-defined, verified, and ready-to-use cloud system
  - Out-of-box deployment and consistent maintenance
  - Proven stability through vigorous stress-testing
  - Hyper-scale deployment + hot upgrade
  - Comprehensive cloud services such as big data, middleware and security

### Risks and Challenges

- **High deployment costs**
- **Business continuity risks**
- **Scaling and upgrade challenges**
- **Limited cloud components**

### Public Cloud Scalability

- Public Cloud Scalability
- Compliance

### Hybrid Cloud: Harness the Power of Alibaba Cloud

- **Security**
- **Public Cloud Scalability**
- **Compliance**
Security: Ensure Platform and Data Security with Comprehensive Compliance

Alibaba Cloud Provides Comprehensive Security Services and Guarantees Data Privacy

- 40% Protected over 40% of Websites in China by the end of 2018 Q1
- Fixed over 6.48 Million Vulnerabilities in 2017
- Defended 50% of High Volume DDoS Attacks in China by the end of 2018 Q1
- Results 3.6 Billion Web, Brute-force and Other Attacks on a Daily Basis

Compliance Certification

- ISO 27001
- ISO 20000
- ISO 22301
- PCI DSS
- CSA STAR
- AICPA
- DJCP MLPS
- CNAS
- TRUCS
- MPAA
- HIPAA
- Trusted Cloud

Alibaba Cloud Provides Comprehensive Security Services and Guarantees Data Privacy

1. Transmission Encryption
2. Key Management
3. Storage Encryption
4. Hardware Encryption
5. Physical Security
6. Data Center Security
7. Data Degaussing
8. Site-wide HTTPS
9. MPaaS Encryption
10. Cloud Degaussing

Source: Alibaba Cloud
ET Brain Industry AI - City
ET Brain Industry AI - Manufacturing

大脑系列 产业AI – 工业
ET Brain Industry AI - Finance

Digital Transformation of Financial Institutions

Risk Management, Risk Control, Data-driven Operation, Intelligent Service, Intelligence Monitoring

Personalized Recommendation, Big Data, Data-driven Operation, AI Platform, Ecosystem
Part 4

Business Cloud Computing Taking Off

奔跑中的商业云计算
Alibaba Cloud Has Over 8,000 Partners and More Than 2,000 ISVs
Alibaba Cloud Has Over 8,000 Partners and More Than 2,000 ISVs
THANK YOU