

Deloitte.

MARCH 2019

Alibaba Cloud for MNCs



A night sky photograph showing the Milky Way galaxy stretching across the frame. The stars are densely packed, and the galaxy's core is visible as a bright, pinkish-purple band. The foreground is a dark silhouette of a horizon line, possibly mountains or hills.

Imagining the Future

WHAT IF YOU COULD...

WHAT IF YOU COULD...

**Be the world's
largest online
shopping event
e-commerce
site?**

\$25B USD

**In sales over 24
hours on "11.11
Singles' Day", 3x
larger than Black
Friday**



WHAT IF YOU COULD...

Know what your customers are thinking before they do?

12 %

Increase in sales after implementing cloud-based predictive analytics

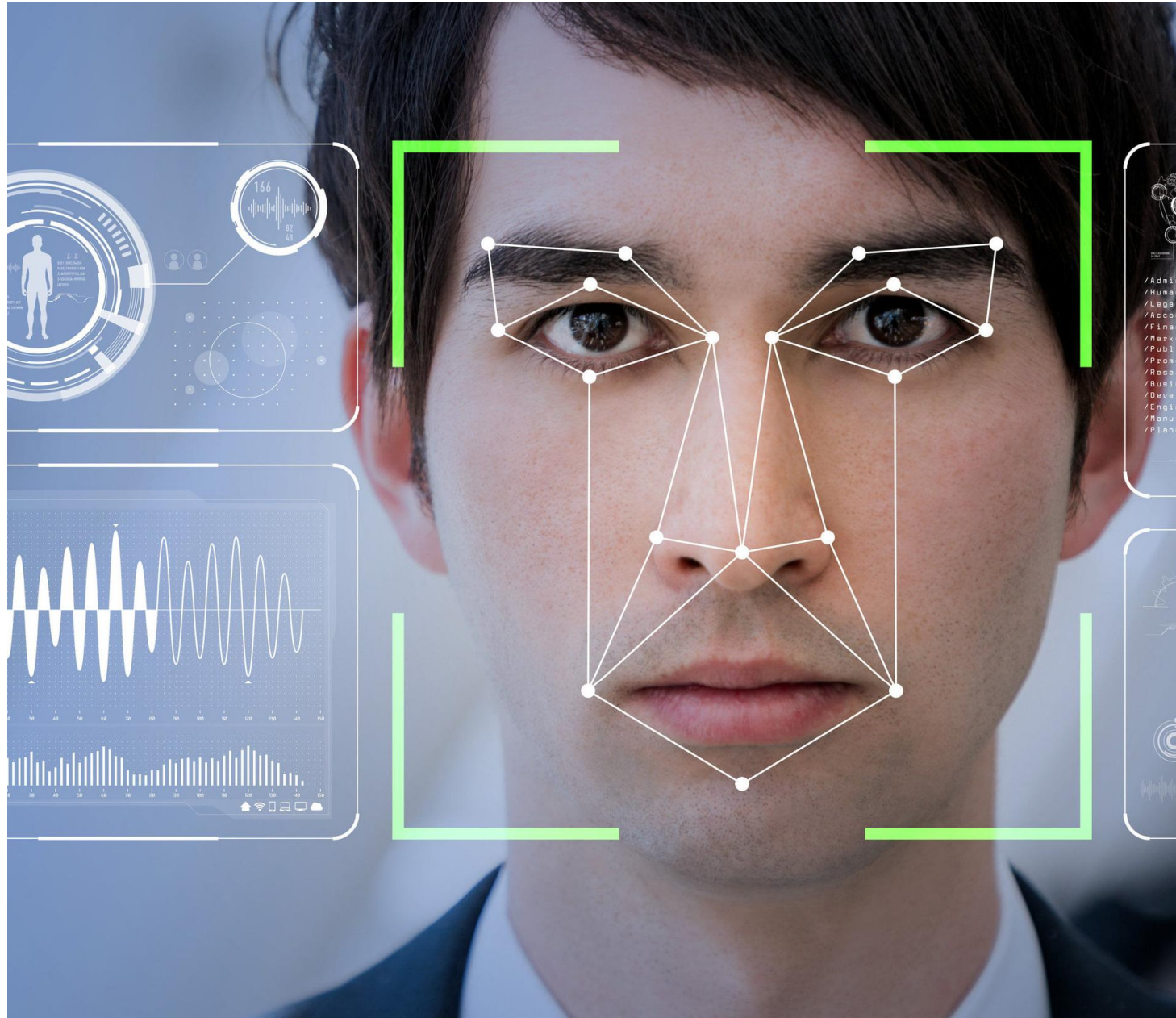


WHAT IF YOU COULD...

Recognize your guests as soon as they walk through the door?

1 minute

Time to check in using facial recognition technology hosted on cloud



WHAT IF YOU COULD...

Both protect your website from bots and have a world class ticketing experience?

90 %

Website of traffic identified as bots and eliminated





Helps You Do That

*CLOUD IS MORE THAN A TECHNOLOGY
CONVERSATION; IT IS A BUSINESS ONE*



Alibaba Cloud is recognized as the #3 IAAS Cloud Provider worldwide

Gartner recently catalogues Alibaba Cloud as one of the primary IAAS cloud providers in the world for enterprise workloads, ahead of Google, Oracle, and IBM.

Advantages of Alibaba Cloud:



Cloud without borders – international network with easy access to China



Safeguard your data – highest level of compliance with international standards



Record-breaking performance – can handle even the largest of workloads seamlessly



China's largest cloud provider – access to China's largest cloud network

Company	2017 Revenue	2017 Market Share (%)	2016 Revenue	2016 Market Share (%)	2017-2016 Growth (%)
Amazon	12,221	51.8	9,775	53.7	25.0
Microsoft	3,130	13.3	1,579	8.7	98.2
Alibaba	1,091	4.6	670	3.7	62.7
Google	780	3.3	500	2.7	56.0
IBM	457	1.9	297	1.6	53.9
Others	5,902	25.0	5,392	29.6	9.5
Total	23,580	100.0	18,213	100.0	29.5

Source: Gartner Worldwide IaaS Public Cloud Services Market Share, 2016-2017 (Millions of U.S. Dollars - Aug 2018)

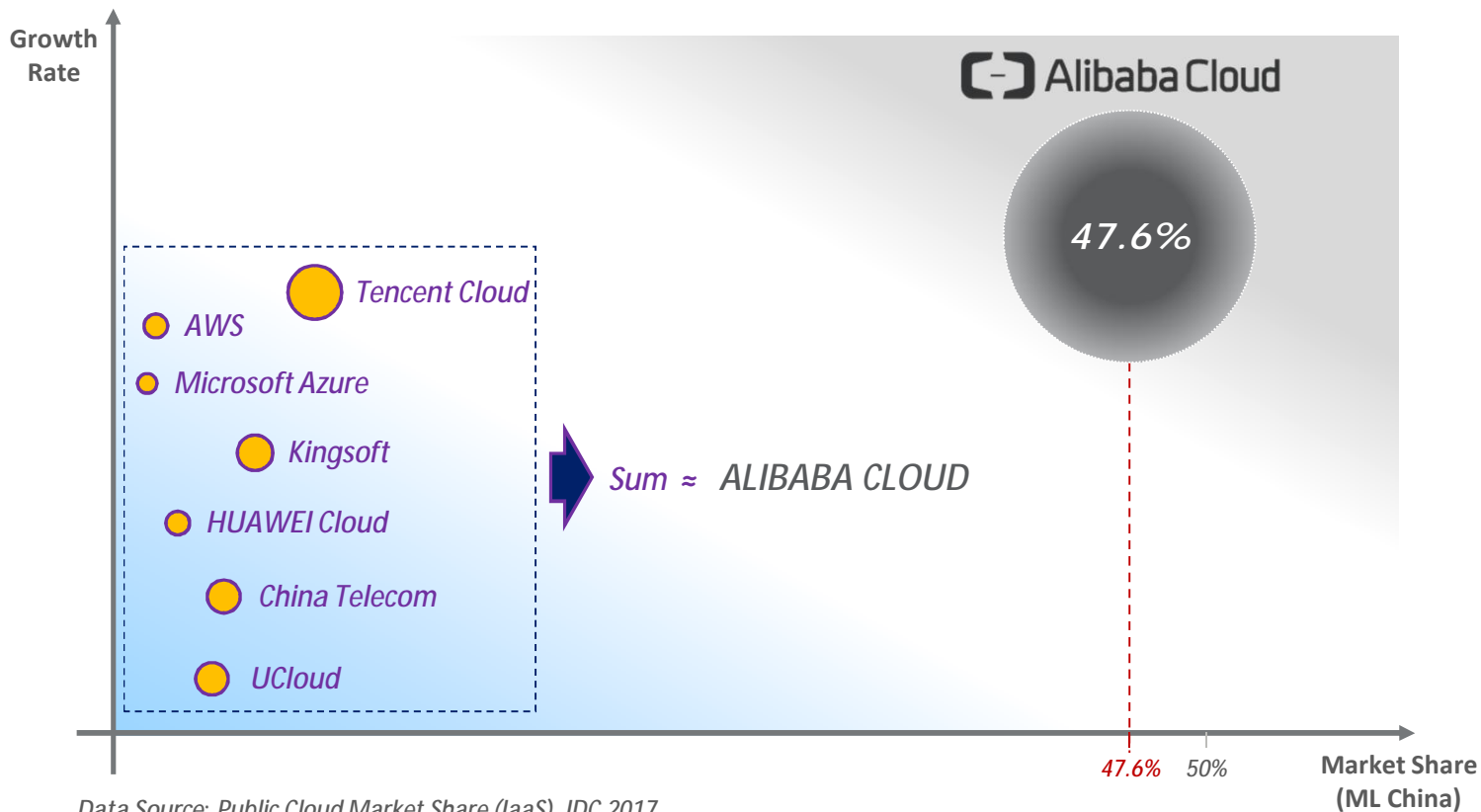


Source: Gartner Magic Quadrant for Cloud Infrastructure as a Service, Worldwide (May 2018)



Public Cloud Market Leader in China

Alibaba Cloud occupies 47.6% market share in Mainland China (ML), equaling the sum of vendors ranking 2nd - 8th



1st

Alibaba Cloud has ranked the 1st cloud service in Asia Pacific area.

-- Gartner, 2017

2.3

Alibaba Cloud served 2.3 million customers in more than 200 countries with 56 available zones.

42

200

-- Alibaba, 2018

Our MNC Clients Need a China Cloud Strategy

If your client is a multi-national corporation (MNC) either utilizing the cloud or heading in that direction, they need to explore what Alibaba Cloud is able to offer.



Alibaba Cloud is the clear #1 choice for enterprise production workloads in China.



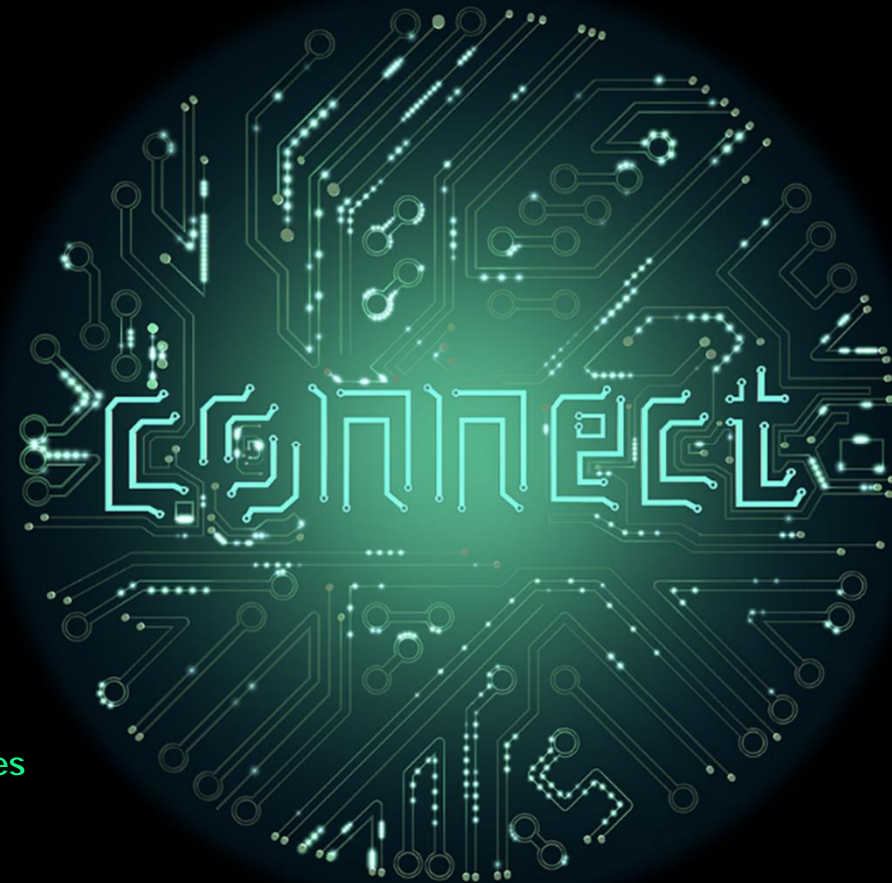
Alibaba Cloud has a thorough understanding of what it takes to be compliant with China's Cyber Security Law.



Alibaba Cloud has the most robust cloud infrastructure within China with connections globally.

Faster

Using Alibaba Cloud's global network to achieve over 100 times downloading and 2x website loading speed.





Alibaba Cloud Enterprise Network and Express Connect

Provides ability to have dedicated connection to any geography including China

Global Networking

#1 CDN in China with over 1,300 nodes
Cloud Enterprise Network 600+ Access Points
Express Connect POPs 7 in China, 19 Worldwide

Global Solutions

Go-China, Go-Asia, Go-Any Cross-border Solution

Leading CSP in China

8 Cloud Regions in China compared to 2 for Overseas CSP

Alternative to Telecom Provider

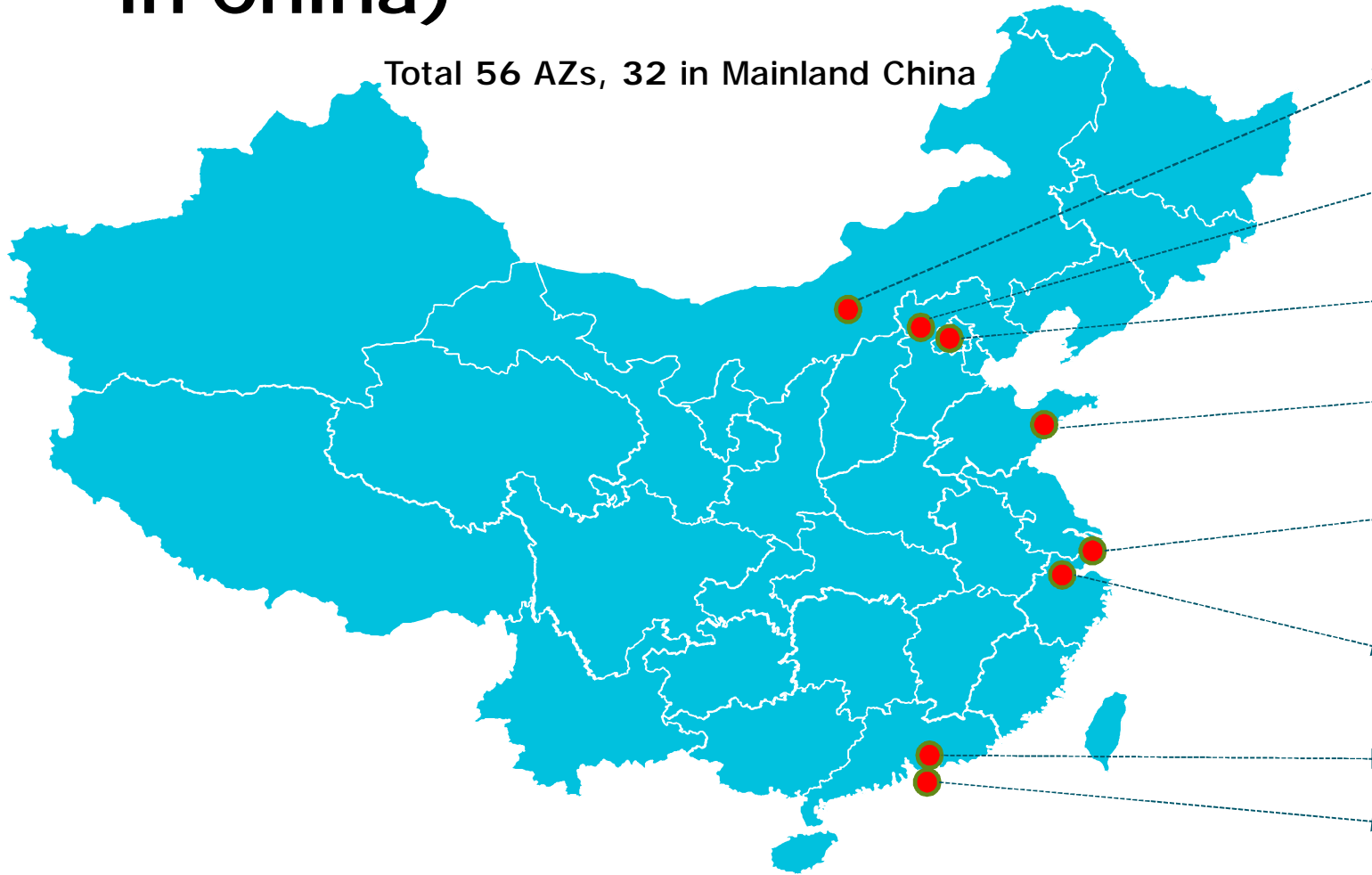
Month-to-month pricing and can change based on capacity
Solve for Great Firewall of China networking challenges





Alibaba Cloud Geographic Locations (Regions in China)

Total 56 AZs, 32 in Mainland China



- ✓ China North 5 (Hohhot)
Availability Zone: 2
Released in 2017
- ✓ China North 3 (Zhangjiakou)
Availability Zone: 2
Released in 2014
- ✓ China North 2 (Beijing)
Availability Zone: 7
Released in 2013
- ✓ China North 1 (Qingdao)
Availability Zone: 2
Released in 2012
- ✓ China East 2 (Shanghai)
Availability Zone: 6
Released in 2015
- ✓ China East 1 (Hangzhou)
Availability Zone: 8
Released in 2011
- ✓ China South 1 (Shenzhen)
Availability Zone: 5
Released in 2014
- ✓ Hong Kong
Availability Zone: 2
Released in 2014



Extending Web Presence to China



Use Case 1:
China Expansion

MNCs with a presence web presence outside of Mainland China seeking to establish such a presence have a number of challenges that can be resolved via Alibaba Express Connect

Greater than 100x improvement in data download and 2x improvement in website loading.

Challenge:

- Dynamic feature-rich website content; website users in China connect through internet back to US, resulting in slow performance, and may not have guaranteed SLAs.
- Chinese user has poor and inconsistent performance accessing US based websites.
- US MNC wants to avoid deploying a website near or in China.
- US MNC wants to avoid the expense of a long-term telecom contract.

Approach:

- Customer experience traversing public internet from China to US was not a viable option as there are multiple factors (e.g. # of users, unpredictable bandwidth, packet loss, blocked IPs, network jitter, etc.) that can all affect user experience. Validated performance gains with Alibaba Express Connect, which provides a direct connection from US to China, bypassing the Great Firewall.

Solution:

- Leverage Alibaba Express Connect in lieu of a leased telecom line as well as AliProxy for publishing public IP to China market. Use Express Connect monthly pricing to avoid long-term telecom contract. Performance and Network Stability can now be guaranteed with new SLAs.

Additional Benefits:

- This a foundation to build upon for global deployments that specifically need to be centralized back in US-HQ involving China Market.
- Eliminate need for near-China / "China Rim" infrastructure.
- Could be reproduced for any global location that has an Alibaba Express Route point-of-presence; currently, as of July 2018, 18 points-of-presence around the world.



Compliance

More Secure

Alibaba Cloud can provide a complete cloud solution to multinational companies (MNCs) that complies with China's cybersecurity laws.



China's Cybersecurity Law (CSL) Driving Cloud Adoption

China's new CSL creates additional compliance requirements for companies operating in China and is an important component in discussions of cloud in China.

There are six primary aspects of the CSL

01

It ascertains the principles of cyberspace sovereignty.

04

It further enhances the rules for protection of personal information.

02

It defines the security-related obligations of network products and services.

05

It establishes a framework of security protection for Critical Information Infrastructure

03

It clarifies the duties of network operators over network security.

06

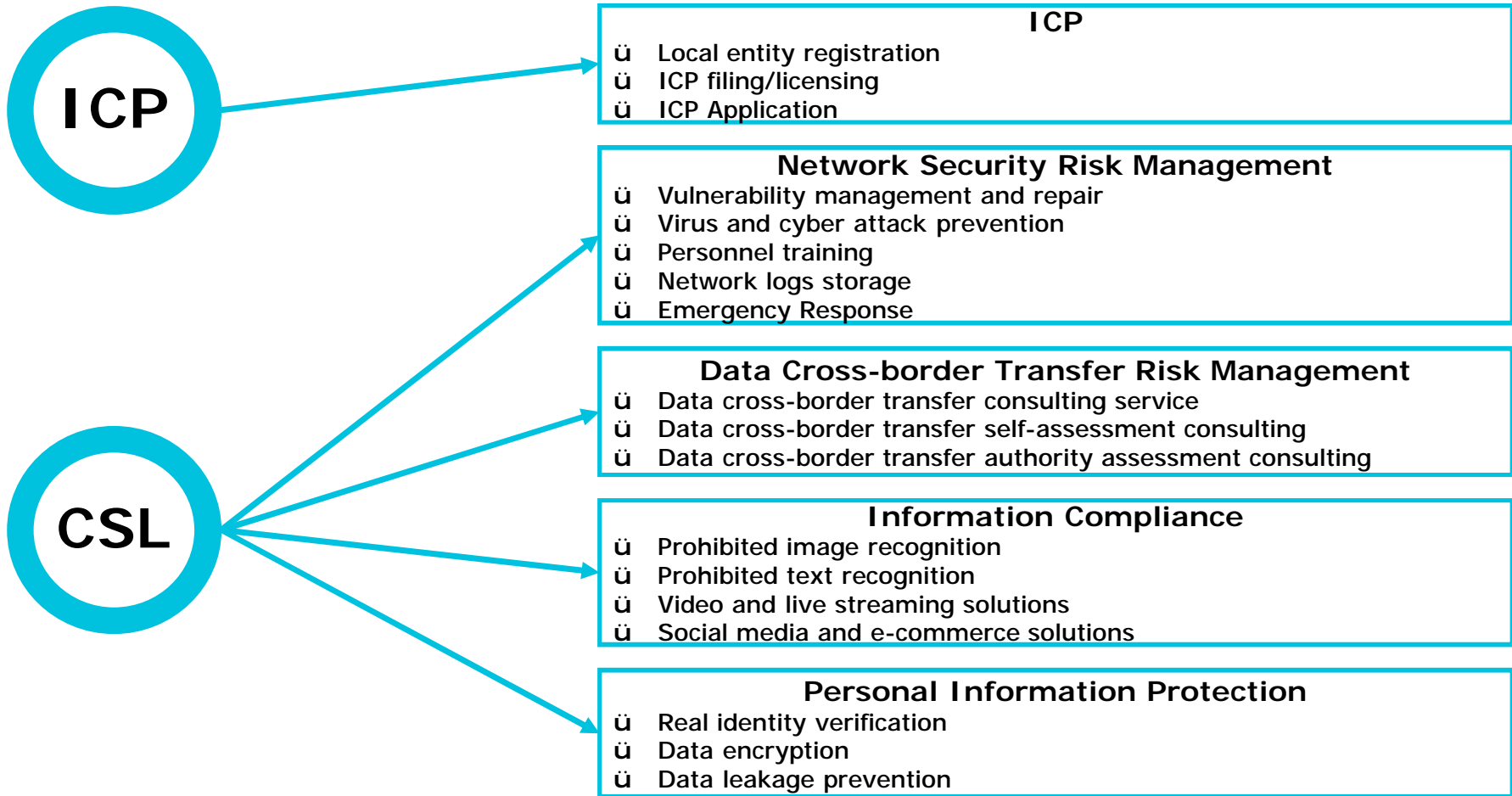
It establishes regulations pertaining to cross-border transmissions of important data.

Data Source: A new era in Cybersecurity in China, Deloitte China, 2017



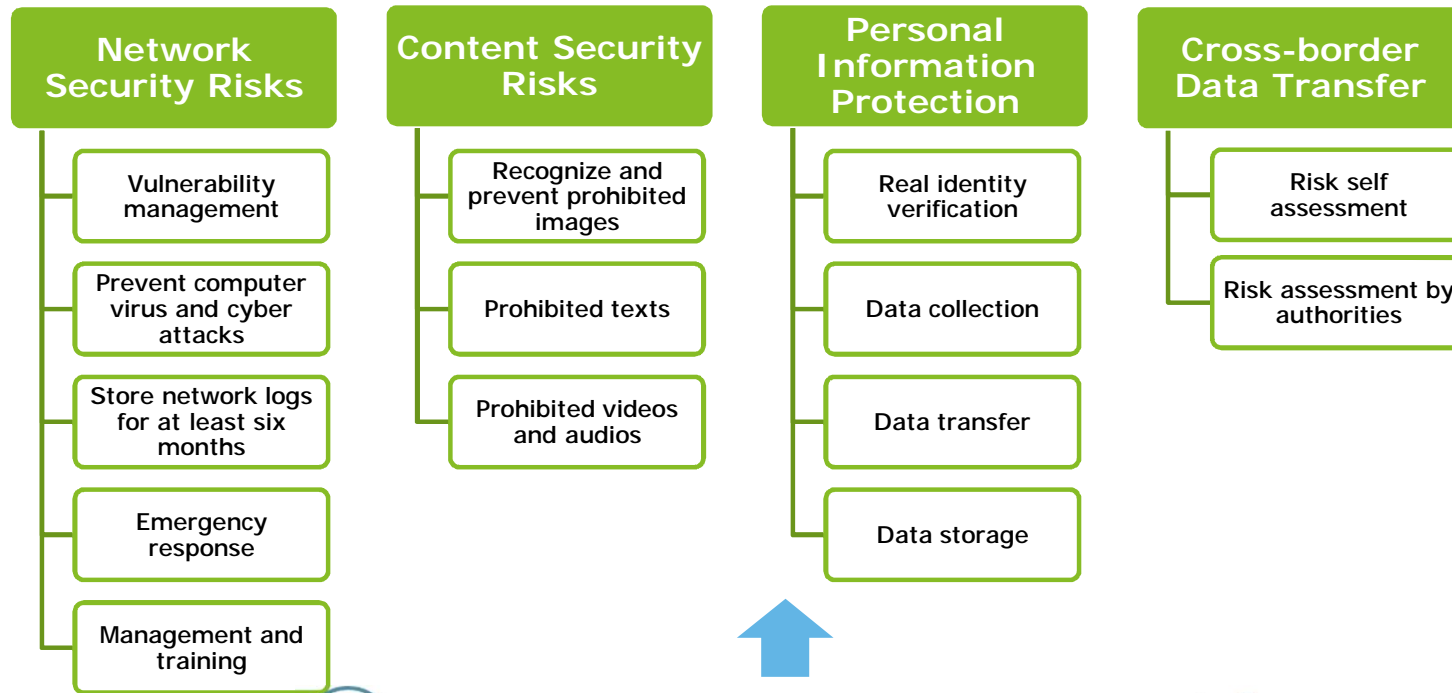
Alibaba Cloud Compliance Capabilities

Alibaba Cloud Offer End-to-End service Including ICP Application and CSL Consulting





Alibaba Cloud Security Capabilities



Protecting over **40%** Website AcrossChina



Offering Security Service For **1million** Organizations



Preventing **50%** Large-scale DDoS Attacks (over 50Gbps) in China



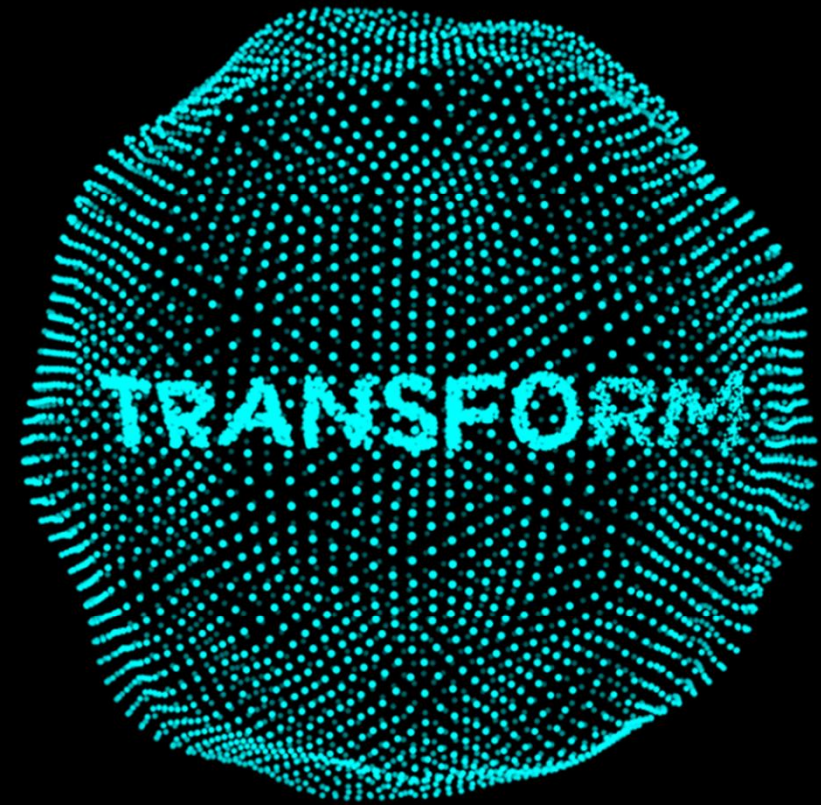
Against Decoding Password Against Web Attacks Anti-DDoS



Helping Customers Recover over **6.13 Million vulnerabilities**
Deloitte.








Lower Cost

The cost of using Alibaba Cloud service in China is 25% lower than the cost of using other cloud services abroad, in average



Alibaba Cloud Comprehensive Product Portfolio

There are 191 products on Alibaba Cloud China Portal

 Technical Support  Professional Services  Training & Certification  Pricing Report	<h3>Support</h3>	<h3>Big Data</h3> <ul style="list-style-type: none"> MaxCompute E-MapReduce DataWorks DataV DataHub Data Lake Analytics Quick BI ElasticSearch 	<h3>Application Service</h3> <ul style="list-style-type: none"> HttpDNS Log Service Performance Testing Live Streaming DirectMail Domain IOT Suite ONS (Open Notification Service) EDAS (Enterprise Distributed Application Service) 	<h3>Monitoring & Security</h3> <ul style="list-style-type: none"> Cloud Monitor Cloud Shield Anti-DDoS KMS (Key Management Service) WAF (Web Application Firewall) HSM (Hardware Secure Module) Server Guard Action Trail 	
	<h3>Compute</h3> <ul style="list-style-type: none"> ECS (Elastic Compute Service) Auto Scaling SLB (Server Load Balancer) Container Service HPC (High Performance Compute) BatchCompute Function Compute 	<h3>Network</h3> <ul style="list-style-type: none"> CDN VPC (Virtual Private Cloud) ExpressConnect Elastic IP Nat Gateway 	<h3>Storage</h3> <ul style="list-style-type: none"> Block Storage OSS (Object Storage Service) Archive Storage NAS (Network Attached Storage) Message Service Lighting Cube 	<h3>Database</h3> <ul style="list-style-type: none"> RDS (Relational Database Service) Redis Memcache Table Store Oceanbase AnalyticDB MongoDB PetaData DMS (Database Management) DTS (Data Transmission Service) 	<h3>DevOps</h3> <ul style="list-style-type: none"> RAM (Resource Access Management) ROS (Resource Orchestration Service) API RDC (R&D Collaboration) CLI
	<h3>Infrastructure</h3>				
	 Global IDC		 Regions		 Available Zones



Alibaba Cloud Solutions

Beyond cloud infrastructure, Alibaba Cloud provide different industry solutions

Digital Transformation



City Brain



Retail



Finance



Industry Brain



Manufacturing



Logistics

SOLUTIONS:

Best Practice
Leverage Alibaba Group Ecosystem

Advanced



BigData AI



Security



Internet Middleware



Global Connection



SaaS



Private Cloud



Quantum Computing

Technical Differentiators:

Distinguish from other CSP

Fundamental



Compute



Storage



Network



Database



Domain



Application Service

Comprehensive products:

Compatible with other CSP
Competitive price
Multi-Cloud readiness



Alibaba Cloud Compared to Overseas Cloud Service



Use Case 2:
Scalability

MNC having presence in US wants to expand its presence to the China market.

Similar Experience in Performance and Services Availability*

Challenge:

- Need to create local deployment of infrastructure in China without building out a data center.
- Optimized currently to run in US-East region with need to match services availability and performance expectations.

Approach:

- Deploy in Alibaba China, map services to services, and test for performance requirements.

Solution:

- Leverage Alibaba China Region, which not only had comparable services and performance but was also the preference of local China MNC resources and incurs 25% lower costs.

Alibaba on average 25% less expensive than overseas cloud service

Compute	
Overseas CSPs	Alibaba Cloud
Virtual Servers	Elastic Compute Service(ECS)
GPU Servers	Elastic GPU Service(EGS)
Auto Scale	Auto Scaling
Container Management	Container Server
Compute	
Overseas CSPs	Alibaba Cloud
Object Storage	Object Storage Service(OSS)
NoSQL Database	Table Store
Content Delivery	Alibaba Cloud CDN
Shared File Storage	Network Attached Storage(NAS)

*Overseas CSP does not have full set of services like Alibaba Cloud in China Region.

More Innovative

50% less cost and time to migrate servers from overseas to China



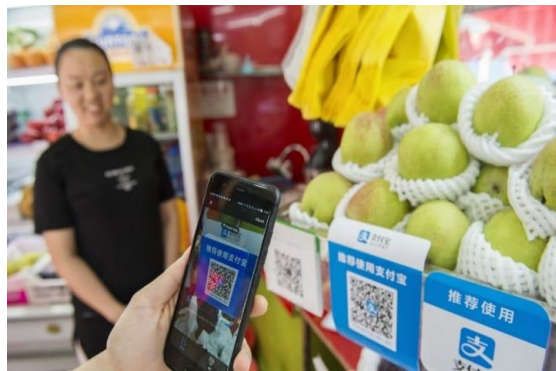
China Mobile Demographics

The smartphone continues to dominate China with impressive trends across the mobile industry. MNCs looking to operate in the China market need to understand the dynamics of this mobile environment.

Key Themes:

China has fully embraced the mobile revolution, particular when it comes to mobile payment

Chinese mobile users are not only abundant but are willing participants to experiment with new technologies



As of 2017, China has 772M internet users, representing a penetration rate of 56%.
(chinainternetwatch.com)

1.6B mobile phone subscribers in china in 2017. (statista.com)

More than 95% of internet users in China use mobile devices to go online.
(emarketer.com)

The value of China's mobile payments is projected to reach 55T CNY (8T USD)
(medium.com)



China is the next AI Superpower

"By 2020, they will have caught up. By 2025, they will be better than us. By 2030, they will dominate the industries of AI." - Eric Schmidt, Chairman of Google parent company Alphabet

Four Key Drivers are tipping the balance in China's favor:



The scale of data in China is unmatched anywhere. Chinese companies build a richly textured map of life in China by merging online activities with events in the physical world.



Chinese entrepreneurs have moved past their 'copycat' era and have morphed into highly agile and competitive entrepreneurs.



China has grown its eminence in AI from scratch. Areas that were once dominated by US companies (e.g. image and speech recognition) are now the forte of Chinese firms.



In 2017, the Chinese government issued a plan to have a 1 trillion RMB AI industry by 2030. Therefore, investment in AI skyrocketed. Globally, 48% of all venture capital invested in AI occurred in China.

Moving Workloads from US to China



Use Case 3:
Migration

MNC already has workload in other cloud service in US but wants to create new presence in the China market.

50% Reduced Cost & Time for Migrating 100 servers from US to China

Challenge:

- Need to create local deployment of infrastructure in China without building into data center.
- Manual migration over public internet will take too long to migrate.
- Manual migration is labor intensive and requires many resources that are geographically distributed.

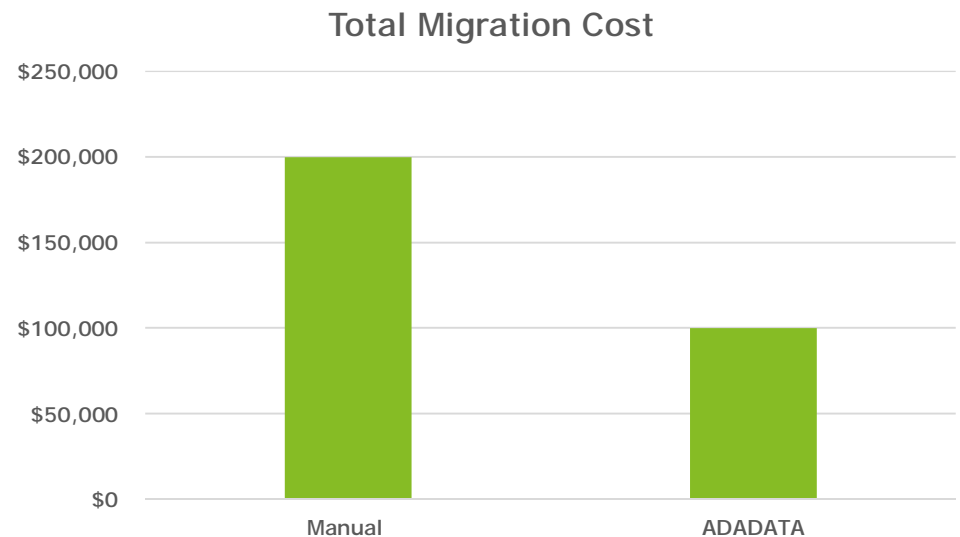
Approach:

- Use Alibaba Express Connect to have reliable and price efficient network connectivity to China. Avoid as much manual level of effort by using a migration toolset.

Solution:

- The combination of ATADATA for Migration and Alibaba Express Connect allows for a significant reduction in manual labor as well as consistent network experience.
- ATADATA pricing is even more attractive for larger server migrations and as more servers that are being migrated.
- Alibaba Express Connect is a monthly fee which can be changed depending on needs.

Cloud Migration Cost Comparison on ADADATA vs Manual



** The above cost comparison is based on Cloud Migration of 100 servers. ADADATA license fees and labor are included. Manual migration is based on Deloitte standard rate of a Sr. Consultant.

The Preferred Cloud Computing Services Provider

The strong ecosystem and high performance-price ratio of Alibaba Cloud have made it the best choice of multinational corporations in China.



Ecosystem

Who is Alibaba Group?



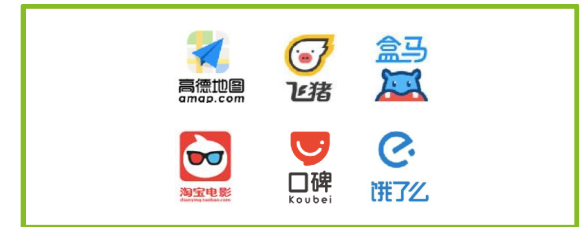
Digital Media and Entertainment



Core e-commerce and Mobile



Localized Consumer Services



Payment and Financial Services



Logistics



Marketing Services & Data Management Platform



Cloud Computing

One-Slide Summary Takeaway

Alibaba Cloud is a complement to US operations and can be used in conjunction with other CSP to form a robust multi-cloud strategy



Alibaba Cloud is the clear #1 choice for enterprise production workloads in China.



Alibaba Cloud has the most robust cloud infrastructure within China with connections globally.



Alibaba Cloud is comparable to other major CSP in terms of performance, scalability, usability, but with a relative lower cost.



Alibaba Cloud has a thorough understanding of what it takes to be compliant with China's Cyber Security Law.



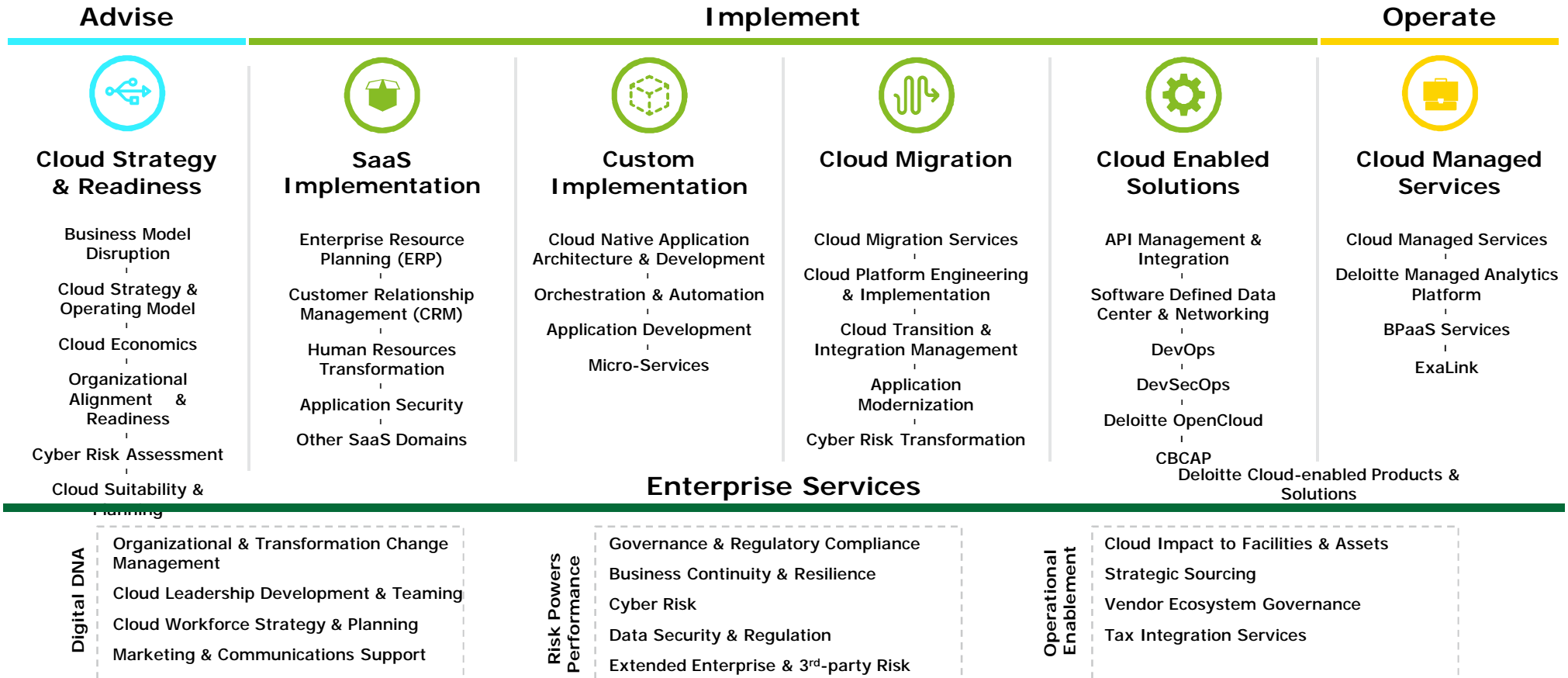
The statistics driving the mobile revolution in China are staggering and much of that change is driven by cloud.



The Alibaba Group ecosystem is well positioned to serve as a source of knowledge to enterprises on Alibaba Cloud.

Cloud Cross-Business Offering Storefront

Deloitte is able to support our client's journey to the cloud at any stage, along with multi-cloud strategy, services, and solutions.



Deloitte.



Use Case 1:
China Expansion

**Alibaba Cloud Connectivity from US Region to
China Region**

Findings and Observations

Network Latency – Alibaba Express Connect achieved 44% better average network latency versus using public internet between China and US

Network Packet Loss – Alibaba Express Connect achieved near zero packet loss versus using public internet (various intervals up to 15%) between China and US traffic

Network Consistency – Alibaba Express Connect has 75% less network jitter versus using public internet between China and US

User Experience – Users in China have consistent and deterministic experience using Alibaba Express Connect, and while unpredictable, using public internet between China & US may at non-peak times achieve better download due to unrestricted bandwidth and better internet infrastructure within China

Developer Experience – Alibaba Cloud UI is intuitive and relatable to other cloud service providers. Hence the ramp-up time is less



Background

- ✓ Corp XYZ is an MNC with its current cloud presence on an overseas CSP, but wants to expand its footprint to China by leveraging Alibaba Cloud.
- ✓ Corp XYZ requests Deloitte to conduct an independent study on the feasibility and benefits of leveraging Alibaba Cloud in China.
- ✓ Deloitte proposes two different ways in which Corp XYZ can leverage Alibaba Express Connect to expand its services to Chinese users.
- ✓ Deloitte designs a live test to examine the proposed Alibaba Express Connect configuration relative to public internet access from China.

Hypothesis

- ✓ The data transfer quality and network stability between China and the US is better with Alibaba Express Connect compared to public internet.
- ✓ The user experience in China is better by leveraging Alibaba Express Connect compared to public internet.
- ✓ Beyond AliProxy in US, there should be no difference for the network quality and the data transfer rate by using VPN or public internet between AliProxy in US and the overseas CSP.
- ✓ The Alibaba cloud developer experience is comparable to other major cloud service providers.



Scenario 1: China to US via public internet

Scenario 2: China to US via Alibaba Express Connect

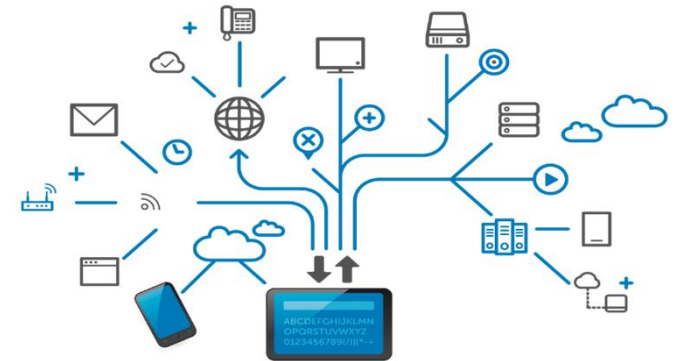
Scenario 2: China to US via Alibaba Express Connect/VPN

Purpose and Objective

q Users in China access a website hosted on an overseas CSP in US via public internet.

q Users in China access a website hosted on an overseas CSP in US using the Alibaba Express Connect.

q Users in China access a website hosted on an overseas CSP in US using the Alibaba Express Connect and a VPN tunnel from Aliproxy to the overseas CSP.

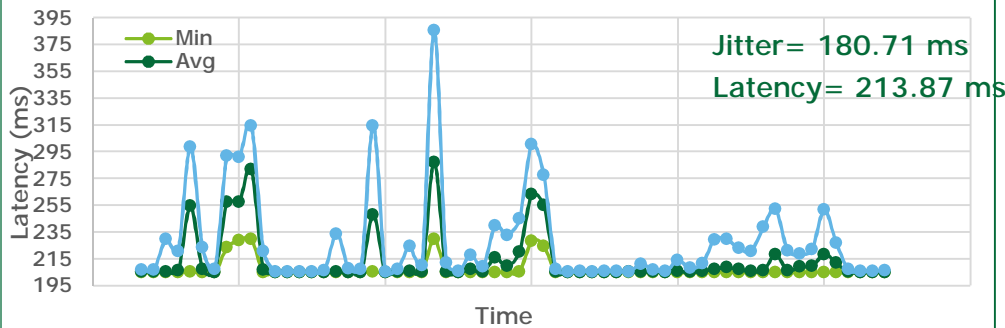


Network Quality Test Results

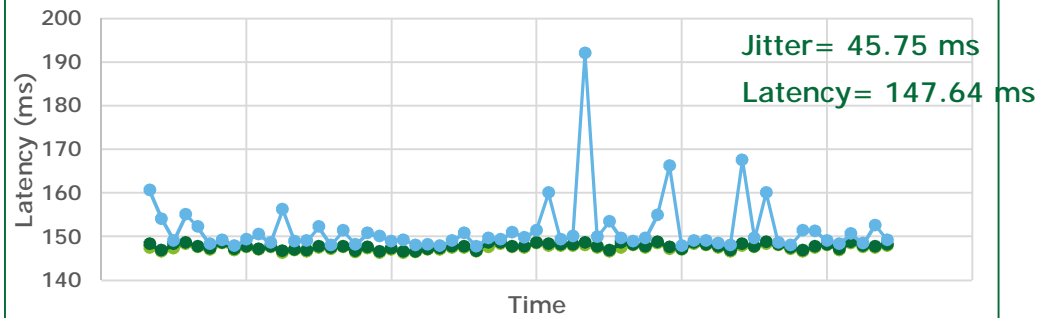
The public internet versus Alibaba Express Connect (China to US) test was conducted over a period of 12 hours with readings taken every hour.

- Ø For public internet results, we pinged an overseas CSP in the US from a ECS instance in Alibaba Cloud in China.
- Ø For Alibaba Express Connect results, we pinged an overseas CSP in US from China via Alibaba Express Connect.
- Ø For Alibaba Express Connect results, we pinged an overseas CSP in US from China via Alibaba Express Connect plus VPN tunnel from Alibaba Proxy in US to the overseas CSP in US.

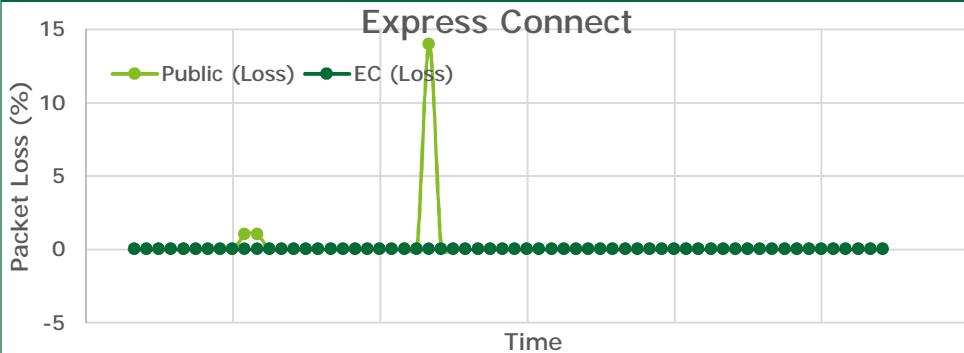
Public Internet



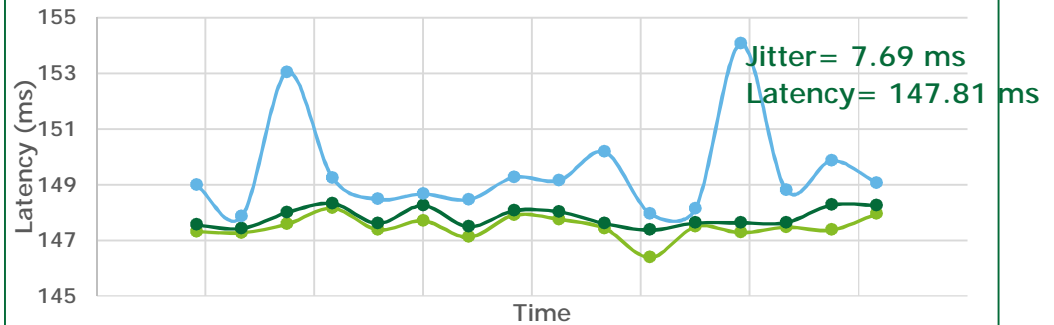
Alibaba Express Connect



Packet Loss for Public Internet and Express Connect

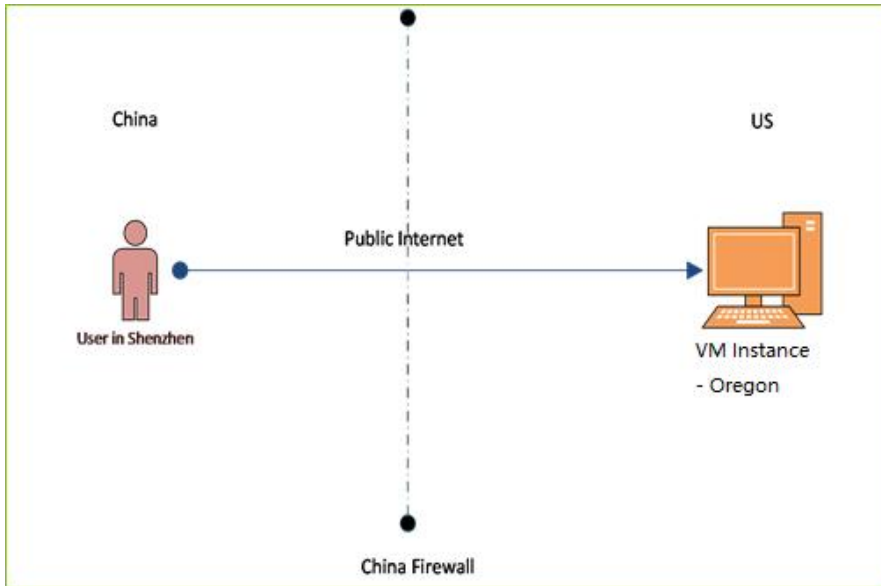


Alibaba Express Connect/VPN

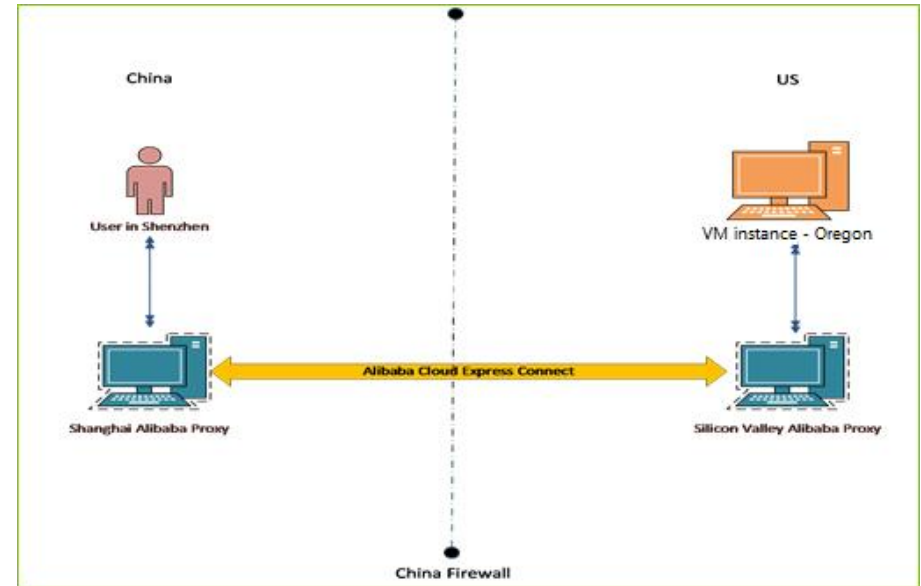


Testing Environment

Test via public Internet



Test via Alibaba Cloud Express Connect



- ✓ Established the overseas CSP's VPC in US-Oregon, created EC2 instance, RDS by leveraging CloudFormation template. Setup a website application on this EC2 instance.
- ✓ Established Alibaba Cloud VPC in US-Silicon Valley and created ECS instance.
- ✓ Established Alibaba Cloud VPC in China-Shanghai and created ECS instance.
- ✓ Procure and setup Alibaba Express Connect by creating the router interface.
- ✓ Create and setup Alibaba HAProxy in both Alibaba Cloud of China and US.
- ✓ Create and setup VPN tunnel between Alibaba Cloud in US-Silicon Valley and the overseas CSP in US.

Download Time Comparison Results

The public internet versus Alibaba Express Connect (China to US) test was conducted over a period of 12 hours with readings taken every hour.

∅ The test results were obtained by downloading 4 different types of files over a period of 12 hours at 3 hour intervals.

∅ The results for public internet were obtained by downloading files on China ECS instance from the overseas CSP instance in US.

∅ The results for Alibaba Express Connect were obtained by downloading files on China ECS instance from the overseas CSP instance in US using Alibaba Express Connect.

Video (75M) download time comparison

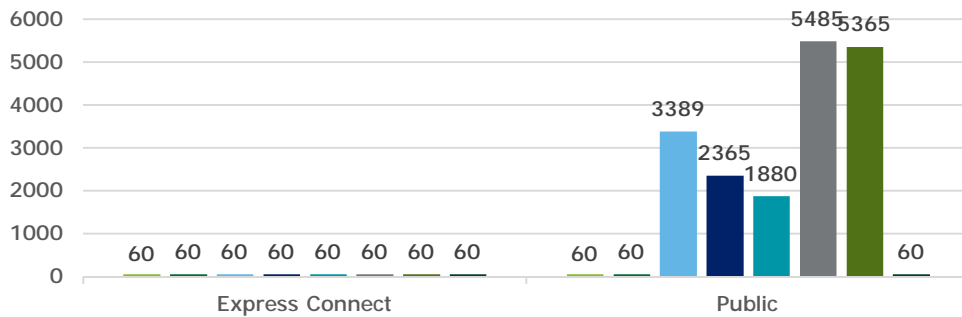
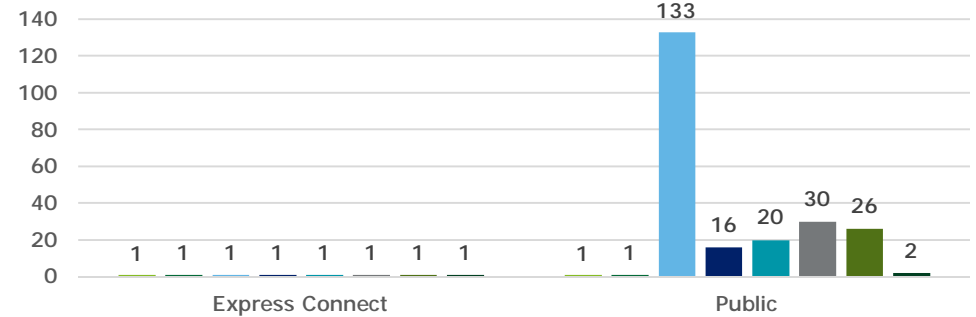
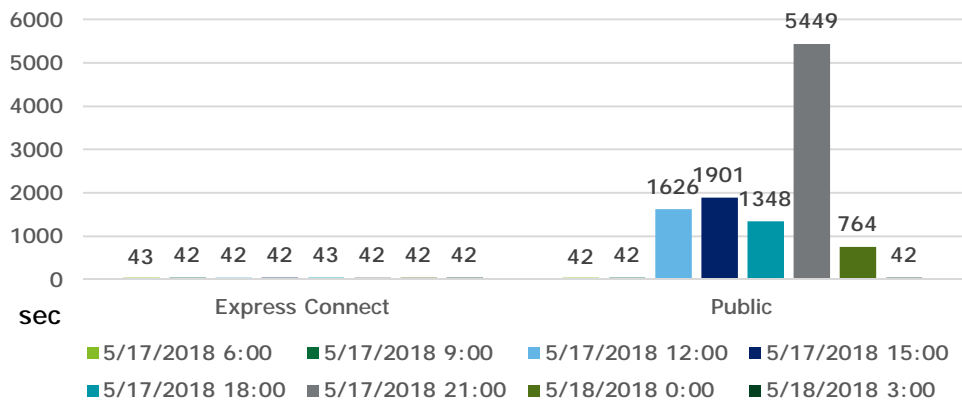


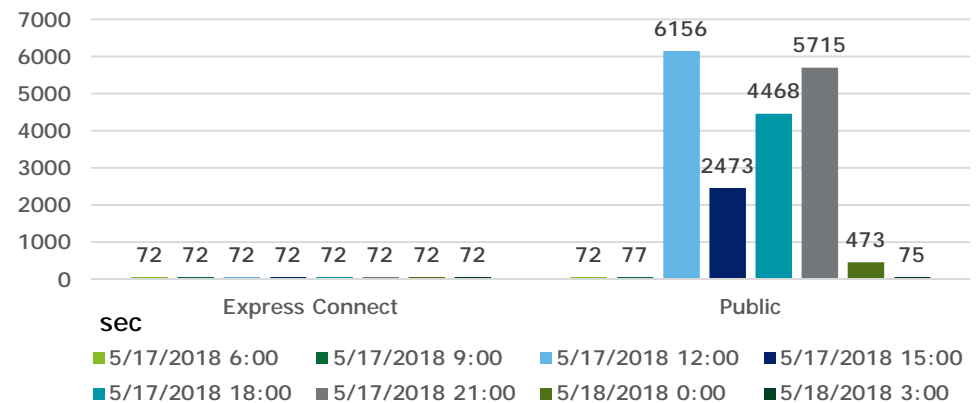
Image (603K) download time comparison



Text file (53.6M) download time comparison



Excel file (90.9M) download time comparison



Deloitte.



Use Case 2:
Scalability

**Alibaba Cloud Performance and Scalability
Comparison**

Findings and Observations

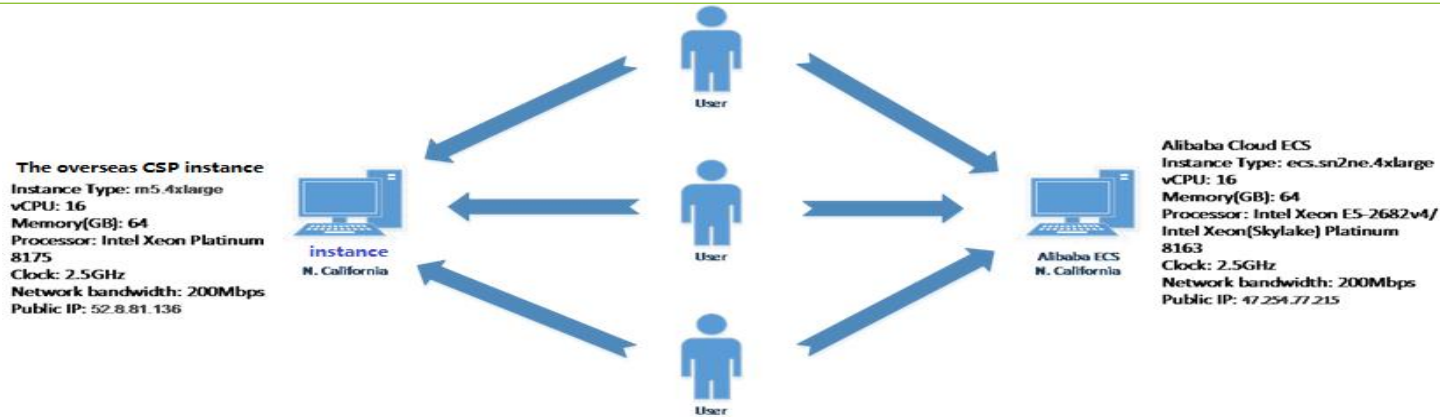
The overseas CSP has a better response time and slightly better scalability compared to Alibaba Cloud, but Alibaba Cloud incurs lower cost by 25%.

We conducted performance testing by using LoadImpact, a SaaS based performance testing tool. We increased the number of users steadily from 0 to 100, 100 to 200, and 200 to 1000. Measuring the response time and instances' CPU and memory utilization

Alibaba to the other overseas CSP	Test	Landing Page	Login	Create Opportunity	Log Out	Comment
		% faster/slower response time of the overseas CSP vs. Alibaba Cloud				
0 to 100	Response Time	49%	33%	61%	52%	The overseas CSP's response time was better than Alibaba Cloud for all tasks. CPU utilization was similar for both the overseas CSP and Alibaba Cloud. Alibaba Cloud has better memory utilization than the overseas CSP.
	CPU Utilization	-0.4%				
	Memory Utilization	-28.6%				
100 to 200	Response Time	11%	7%	119%	112%	The overseas CSP's response time was better than Alibaba Cloud for all tasks. CPU utilization was similar for both The overseas CSP and Alibaba Cloud. The overseas CSP has better memory utilization than Alibaba Cloud.
	CPU Utilization	-3.8%				
	Memory Utilization	23.2%				
200 to 1000	Response Time	39%	-36%	67%	50%	The overseas CSP's response time was better than Alibaba Cloud for landing page, create opportunity and log out, however, The overseas CSP was better for the login phase. Alibaba Cloud has better CPU and memory utilization than The overseas CSP.
	CPU Utilization	-6.4%				
	Memory Utilization	-15.9%				

Testing Environment

- ✓ Setup the overseas CSP's VPC in US and created EC2 instance on it.
- ✓ Setup Alibaba Cloud VPC in US and created an ECS instance with same configurations as the EC2.
- ✓ Installed the Odoo CRM application on EC2 and ECS.
- ✓ Created same number of users and companies on both Odoo installations for testing purposes.
- ✓ Started the performance testing by generating virtual concurrent users using LoadImpact tool.
- ✓ All the virtual users are based in Ashburn, Virginia, US.



Average Monthly Cost

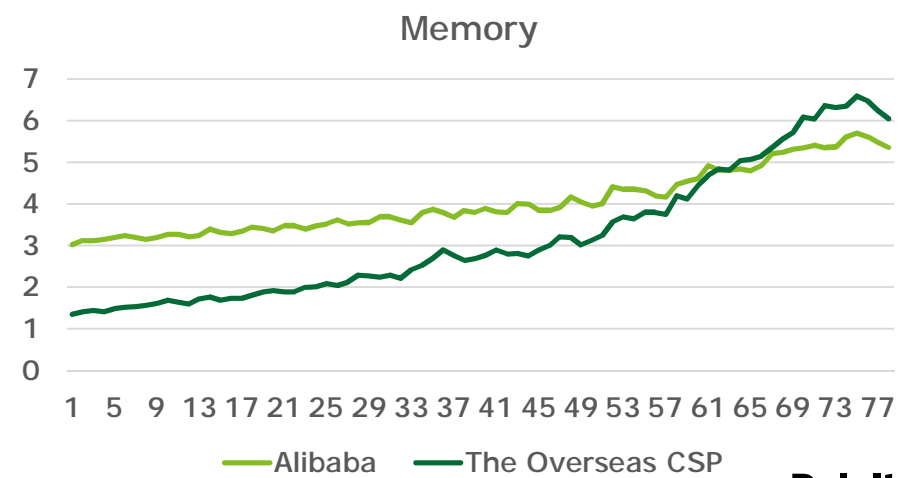
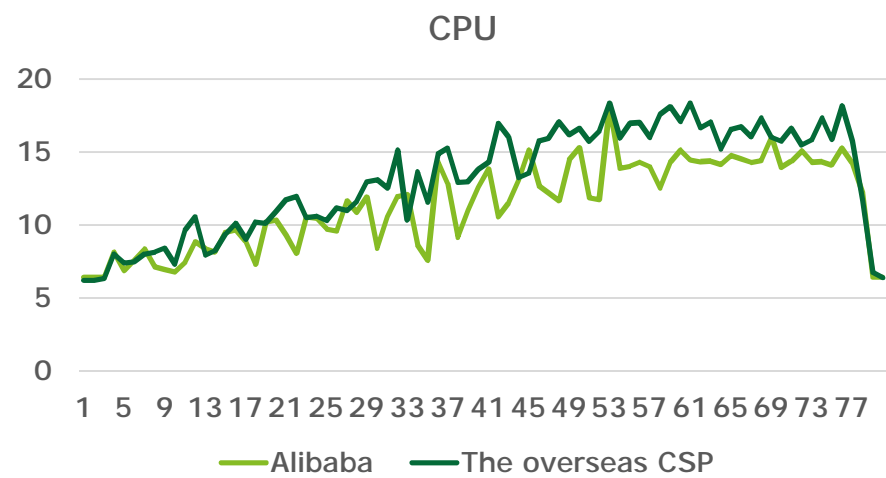
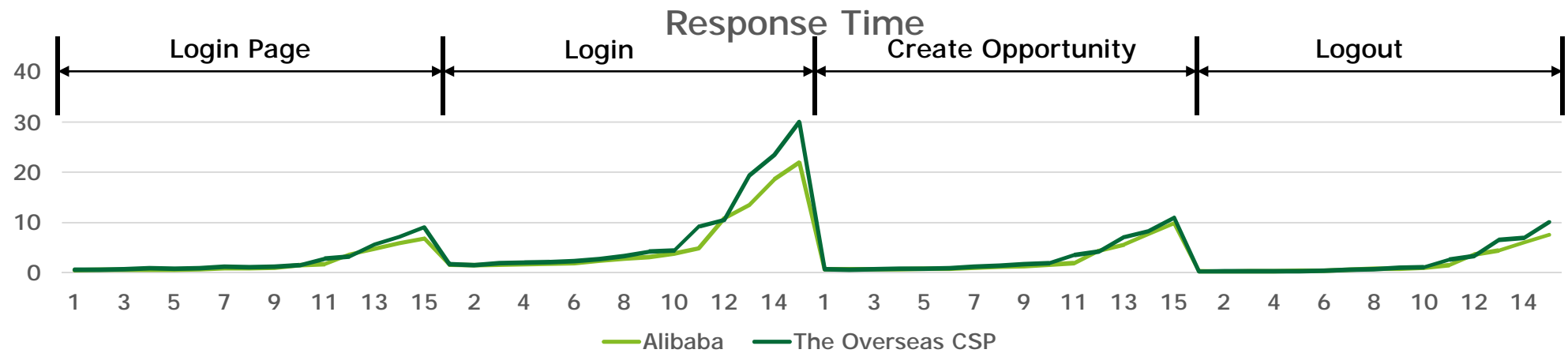
	The Overseas CSP	Alibaba
The overseas CSP instance: m5.4xlarge	\$656	--
Alibaba ECS Service:sn2ne.4xlarge	--	\$495
Elastic IPs	\$4	\$4
Support (Business - Minimum):	\$100	\$70
Total	\$760	\$569

Average Monthly Savings

There is a total savings of \$191 (25%) by using Alibaba Cloud vs. the overseas CSP US West2.

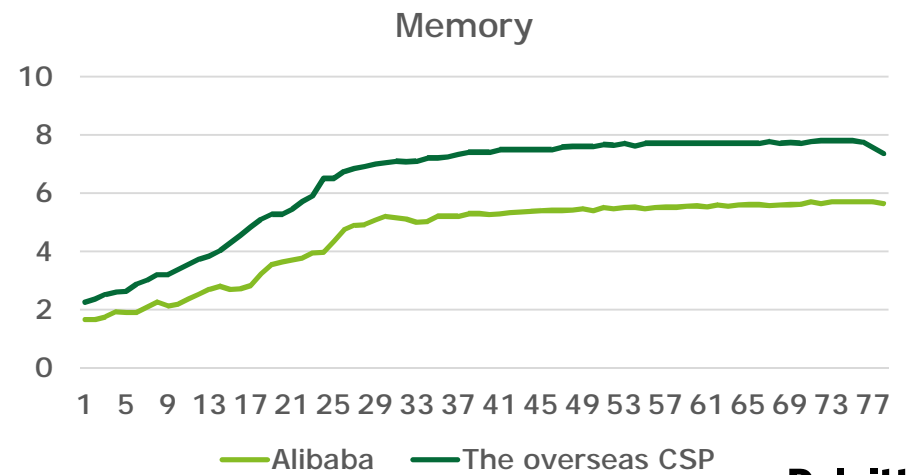
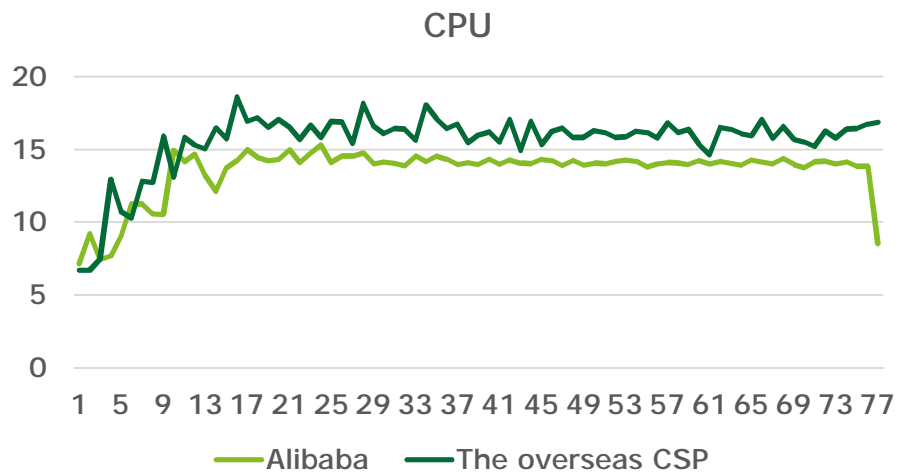
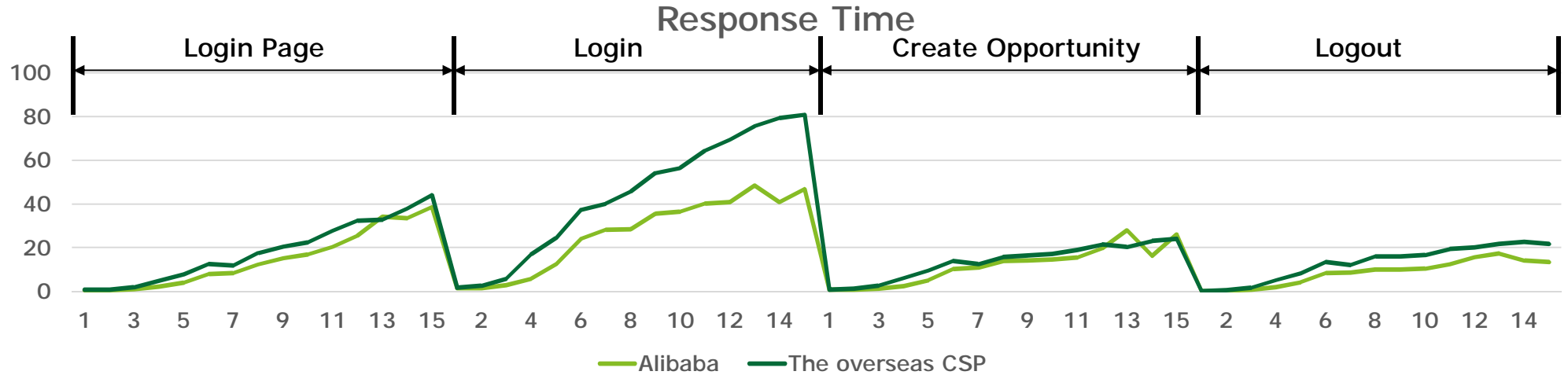
Test 1: 0 to 100 users (Northern California)

We have 25, 50, and 100 concurrent users respectively for an interval of 5 minutes each for both the overseas CSP and Alibaba Cloud



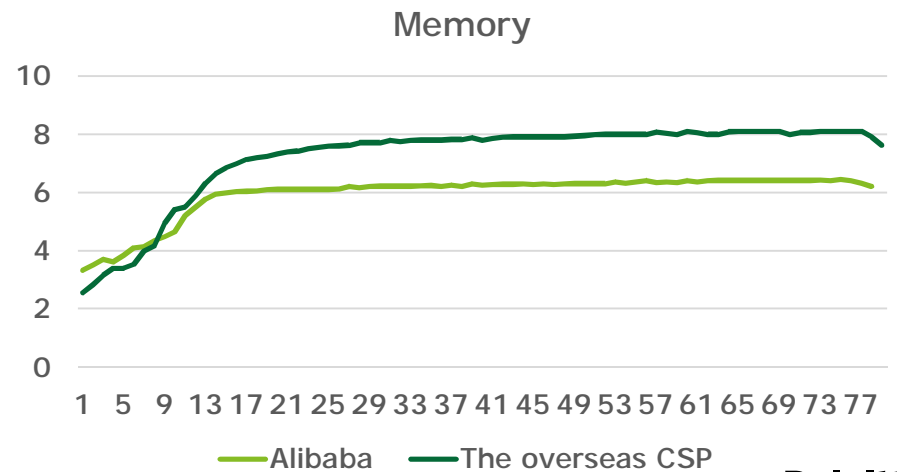
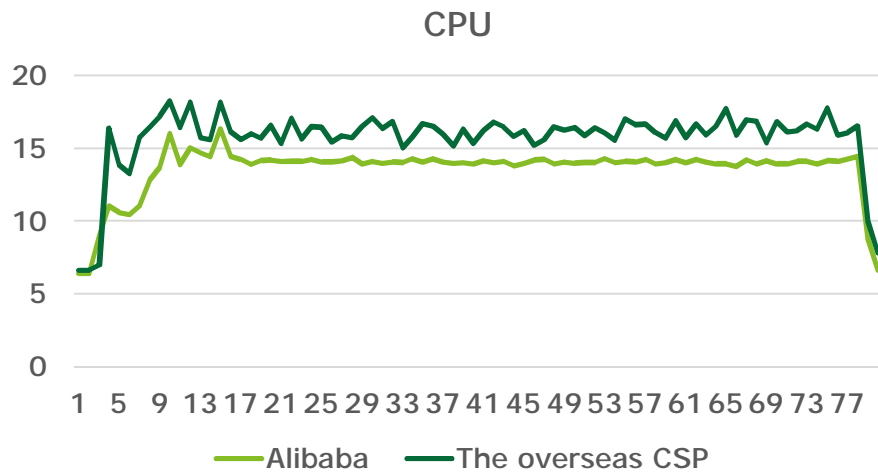
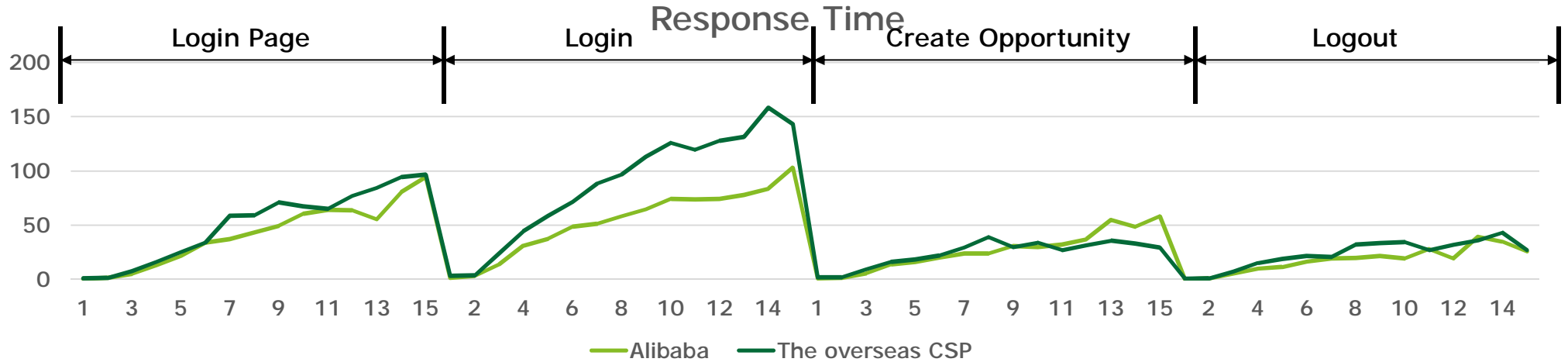
Test 2: 100 to 200 users (Northern California)

We have 100, 150, and 200 concurrent users respectively for an interval of 5 minutes each for both the overseas CSP and Alibaba Cloud



Test 3: 200 to 1000 users (Northern California)

We have 200, 500, and 1000 concurrent users respectively for an interval of 5 minutes each for both the overseas CSP and Alibaba Cloud



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Use Case 3:
Migration

Alibaba Application Time to Migrate from the overseas CSP to Alibaba Cloud via ATADATA

Findings and Observations

Overall, migration using ATADATA is a compelling solution to drive Alibaba Cloud migrations. There is significant cost saving to use ADADATA for large quantities of servers. Cost saving is insignificant for a migration of 10 servers or less.

Leveraging Alibaba Cloud Express Connect can significantly increase cloud migration performance and security regardless of using ADADATA or not. The tests validated far better network jitter with Express Connect vs public internet.

User experience with ADADATA migration is good. The ATADATA portal server setup is straight forward and user guidelines are easy to follow. The ramp up time is minimal.

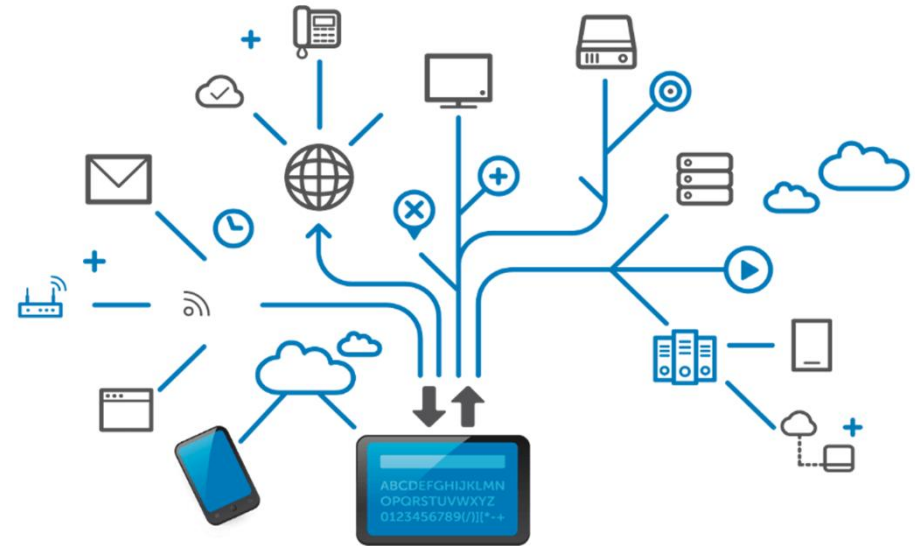
Certain security related tweaking on ADADATA script is needed to guarantee end-to-end migration success without manual intervention. ADADATA cloud migration is targeted to Lift and Shift. Cloud services such as RDS are in ATADATA's development roadmap.

There is a significant advantage by leveraging ATADATA to automate the Alibaba Cloud migration. The tests showed ATADATA can perform more than 100% faster than manual migration.



Background and Assumptions

- ✓ In all test scenarios we want to compare the performance of Express Connect and public internet.
- ✓ The public internet practically provides unlimited bandwidth, however the resources are shared with millions of users. So the speed and efficiency depends on external factors such as total number of users using public internet.
- ✓ Express Connect is a privately held channel where user pay to get access to required bandwidth for data transmission. The fees for using Express Connect are directly proportional to the amount of bandwidth leased by user.
- ✓ We can expect the Alibaba Cloud Express Connect to be more reliable than public internet but the speed of data transmission through Express Connect will depend upon the amount of bandwidth allocated to the user.



Test Scenario 1

Migrate of Suite CRM application manually from the overseas CSP to Alibaba Cloud in China via public internet and Alibaba Cloud Express Connect

Test Scenario 2

Migration of Suite CRM application from the overseas CSP to Alibaba Cloud in China using ATAMOTION via public internet and Alibaba Cloud Express Connect

Cloud Migration Time Comparison – Application + DB + DATA

- ✓ Router interface for Express Connect is between Alibaba Cloud US and Alibaba Cloud China.
- ✓ It usually takes 2 days to procure Alibaba Express Connect and it usually takes about 2 hours to setup VPN tunnel from the overseas CSP to Alibaba Cloud.
- ✓ VPN tunnel can be set between the overseas CSP in US and Alibaba Cloud in China over Express Connect.
- ✓ Network connection between Alibaba Cloud and the overseas CSP is the VPN over the private network.

Manual

Public 10 Mbps (hr:min)	Express Connect (hr:min)
53:25	45:40
53:17	44:30
29:01	43:56
32:19	47:37

ATADATA

Public 10 Mbps (hr:min)	Express Connect (hr:min)
33:19 (1AM)	27:48
38:14 (11AM)	27:34
60:06 (3:30AM)	29:26
36:53 (9:30AM)	29:40

Key Findings - Manual

Express Connect provides a more consistent, secure, and robust migration experience vs public internet

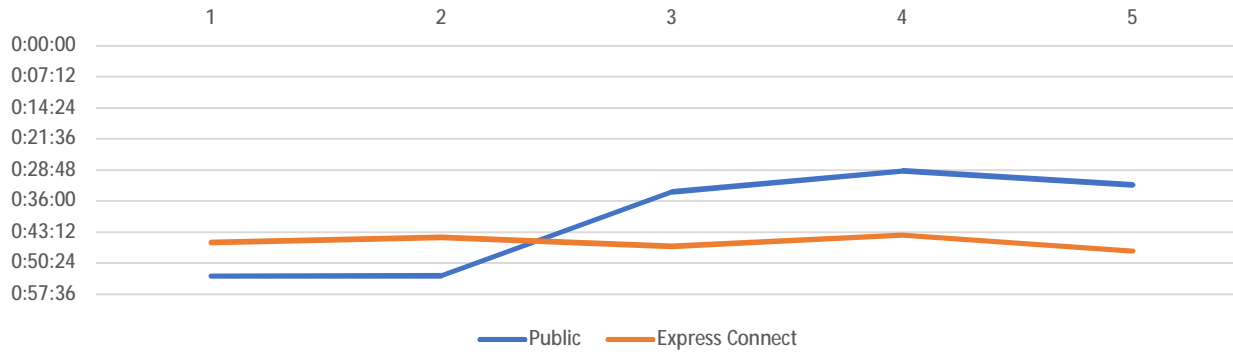
Key Findings - ATADATA

ATADATA provides a faster migration time than the manual option over both public internet and Express Connect.

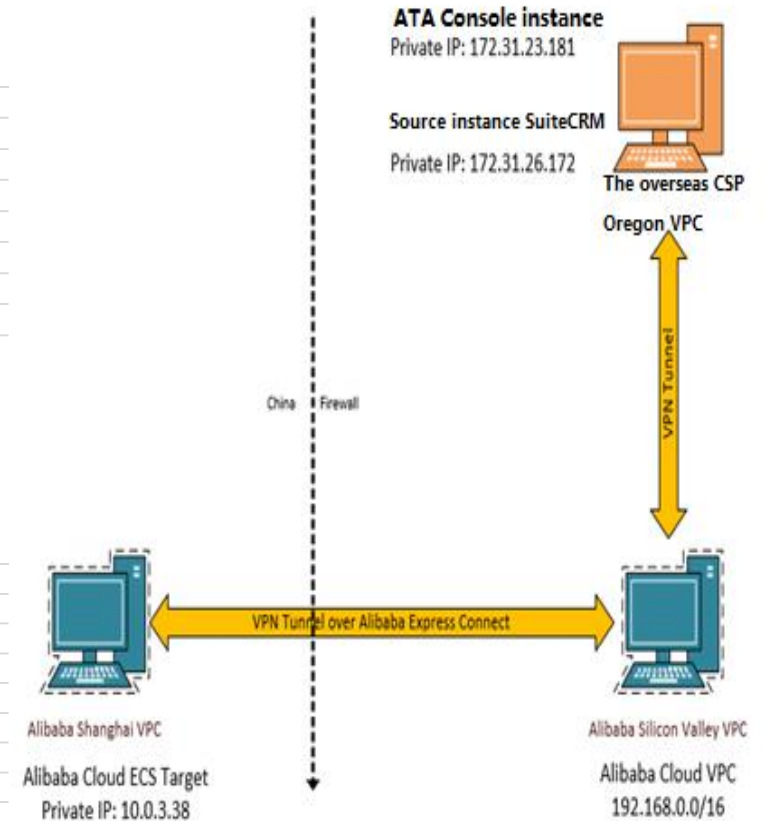
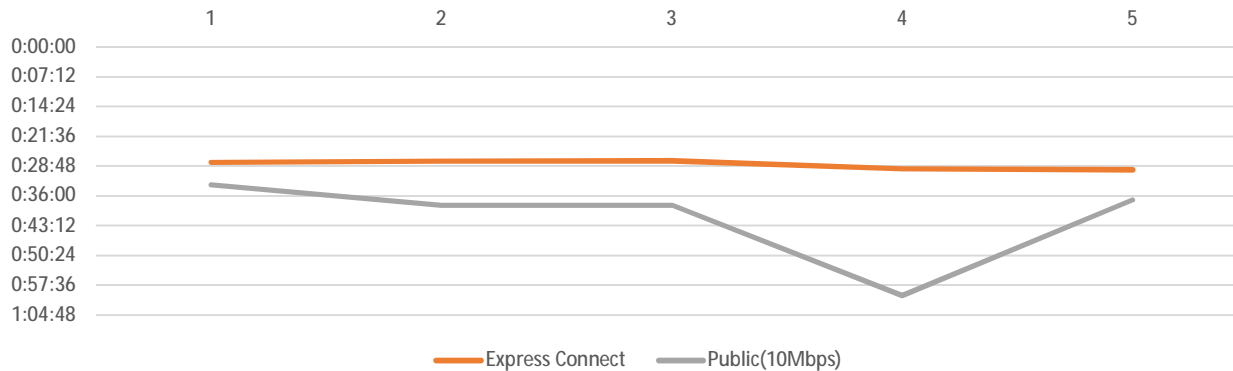
Cloud Migration Performance

Migration using ATADATA has a significant advantage on efficiency and cost saving for large quantities of servers. This advantage is applicable to both migration through Express Connect or Public Internet.

Manual Migration Public Vs Express Connect



ATADATA Migration Public vs Express Connect Vs Public(10Mbps)



Level of Effort Comparison

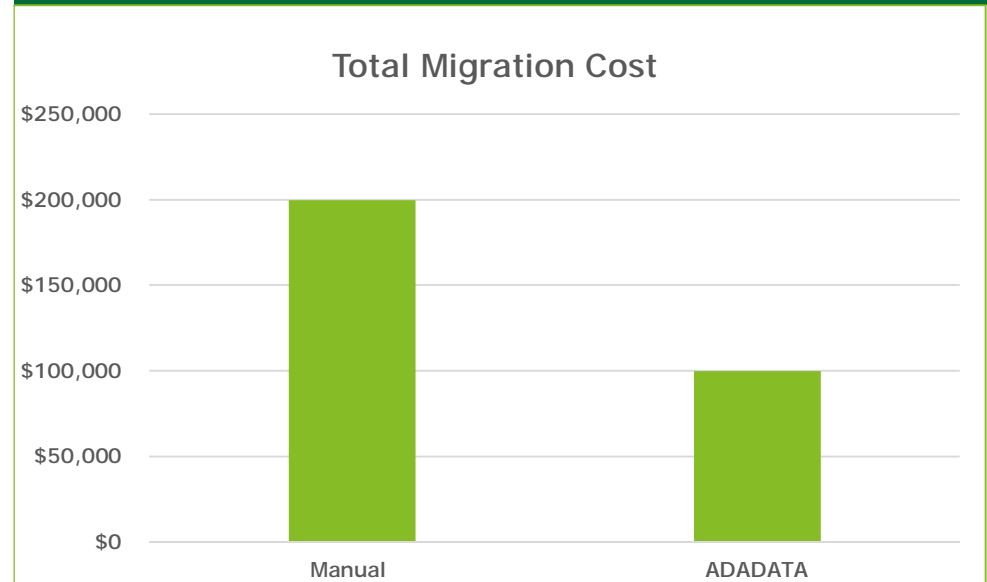
When transferring large quantities of servers, there is a significant advantage in using ATADATA.

Cost Breakdown (100 servers*)

	Manual Migration	Migration using ADADATA
Environment setup time	1 hour per 1 server	2 hours for 100+ servers
Migration operation time	1 hour per 1 server	0.5 hour per 1 server
Total time and \$\$ based on a Sr. Consultant	\$200K per 100 servers (200 hrs x \$1000/hr)	\$100K for 100+ servers (labor + ADADATA license)

*ATADATA is only offered when transferring 100 or more servers

Cloud Migration Cost Comparison ATADATA vs. Manual



** The above cost comparison is based on Cloud Migration of 100 servers. ADADATA license fees and labor are included. Manual migration is based on Deloitte standard rate of a Sr. Consultant.

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Thank You!
谢谢



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