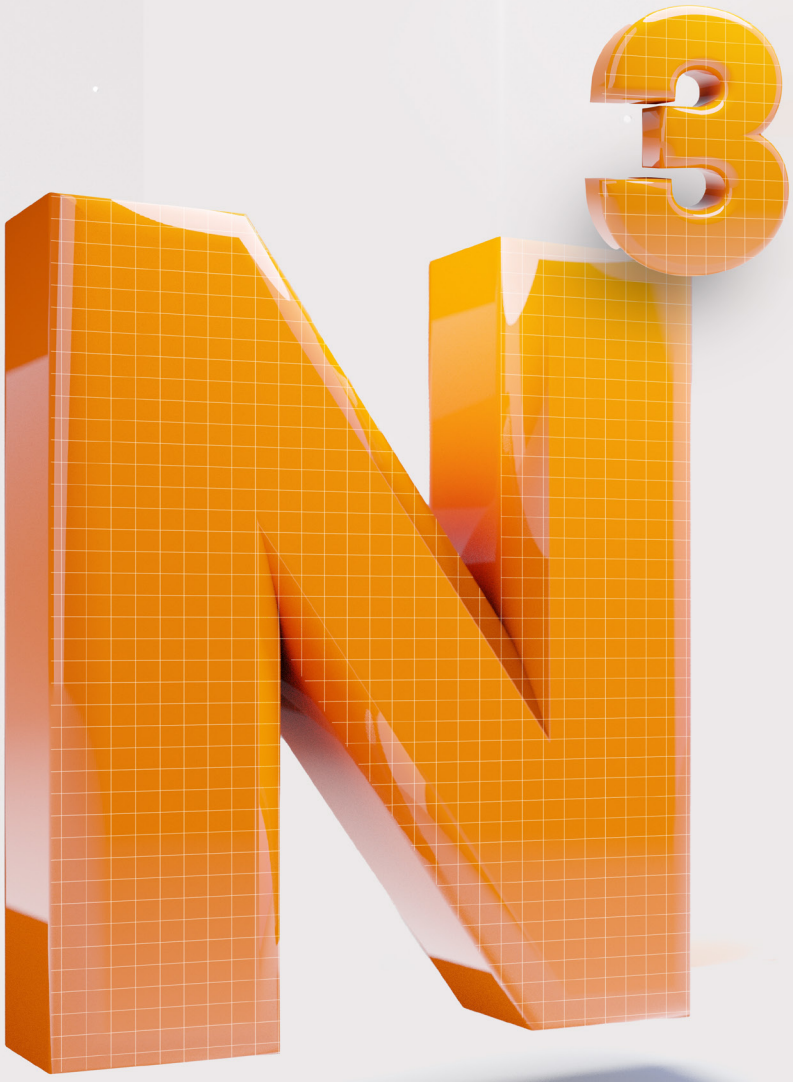
TECH FOR INNOVATION

NEXT.NEO.NEXUS



Alibaba Cloud

www.alibabacloud.com

CONTENTS

FOREWORD

SELINA YUAN

Vice President of Alibaba Group;
President of Alibaba Cloud
Intelligence International

A warm welcome to the Apsara Conference 2023, a celebration that marks the convergence of the brightest minds and innovative ideas in the world of technology and business across diverse industries. This also serves as an opportunity for us to reminisce on the power of innovation and the impact it has on our lives.

It has been quite a journey for us at Alibaba Cloud. From a startup fueled by passion and determination, we have evolved into a global technology provider that continues to shape the future of cloud computing. Innovation is deeply ingrained in our DNA, and we strive to foster a culture that encourages creativity, exploration, and pushing boundaries. Alibaba Cloud started as a dream, a vision, and a passion to create a better future with cloud computing and AI.

In this edition of the magazine, we invite you to join us in reliving some of the captivating stories from our early days and honoring some of the heroes who helped us along the way. These stories are not just a reminder of our days of our dedication and perseverance, but also a proof of the power of innovation. But what is the secret behind innovation? We believe it is determination, vision, persistence, and faith.

With these stories, we also look to share our essence of motivation and our drive to support global digital innovation. In September, we hosted many of our global customers and partners in the beautiful city of Hangzhou, where we shared our insights and experiences on digital innovation, and witnessed the wonders of today's computing and AI technology. We also unveiled our vision for a brighter future, centered around three magic words that start with N: Next, Neo, and Nexus.

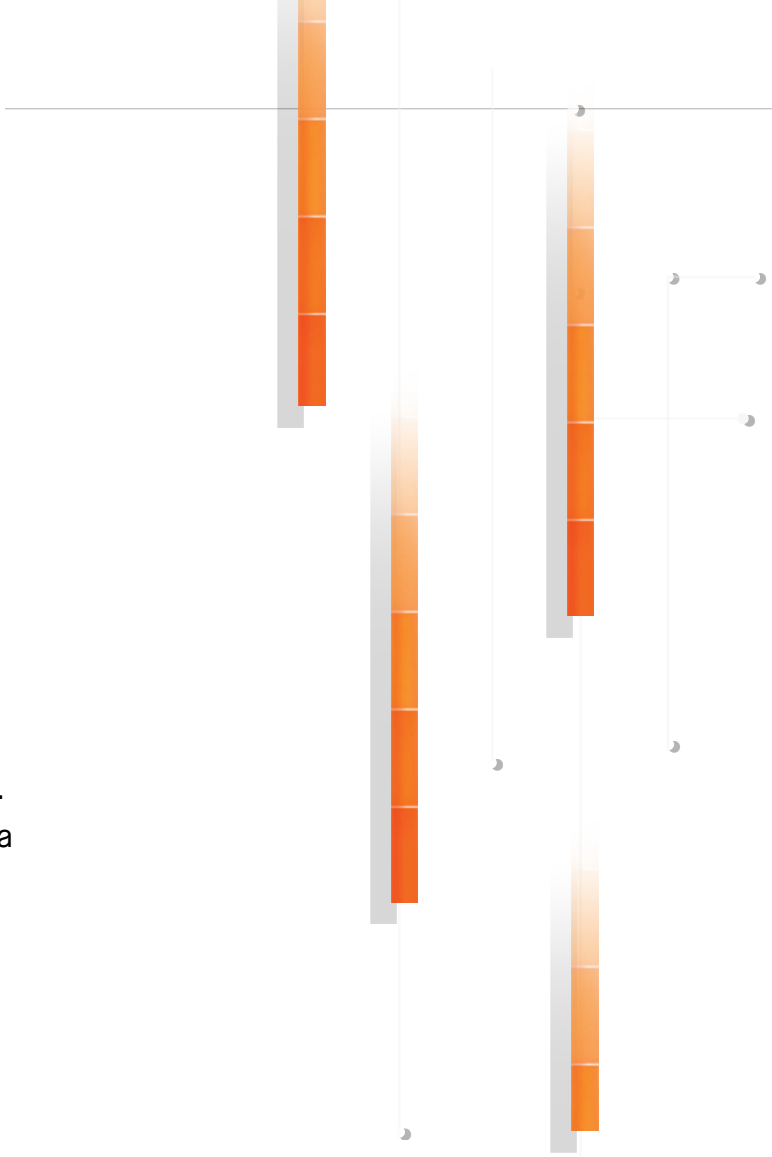
I'd like to take this opportunity to say more about the conceptualization of these three words. One quiet evening, my team met up and started brainstorming on the key strategies we would hold for empowering our global customers, especially in the time of change and breakthroughs. We listed the values we were delivering to our global customers, the roles we had in pioneering industry transformations, the innovative culture the team had, the next mission we were striving towards, and many other things. Suddenly, we found they all fit into three magic words. The beautiful thing is they all start with the letter N. This letter is often used as a placeholder that represents a number. In many contexts, it takes on the meaning of infinity. We hold it as a motto that the only constant is change. As we embrace countless opportunities brought by change, we also recognize the unsurmountable value in the next N. N brings us endless possibilities and N perfectly encapsulates everything we work towards.

The **Next Cloud** embodies our technological excellence and adapts to the changing needs of our customers. The Next Cloud adapts to your needs and challenges. It anticipates the future and prepares you for it. It delivers the best cloud experience possible. But the Next Cloud is not possible without you, our customers, our stakeholders, and our partners. You are the ones who inspire us, who challenge us, who support us, and who grow with us. You are the ones who make the Next Cloud possible. Together, we are on a journey to the cloud, a journey of growth and excellence, a journey of innovation and transformation, a journey of vision and value. Together, we are the Next Cloud.

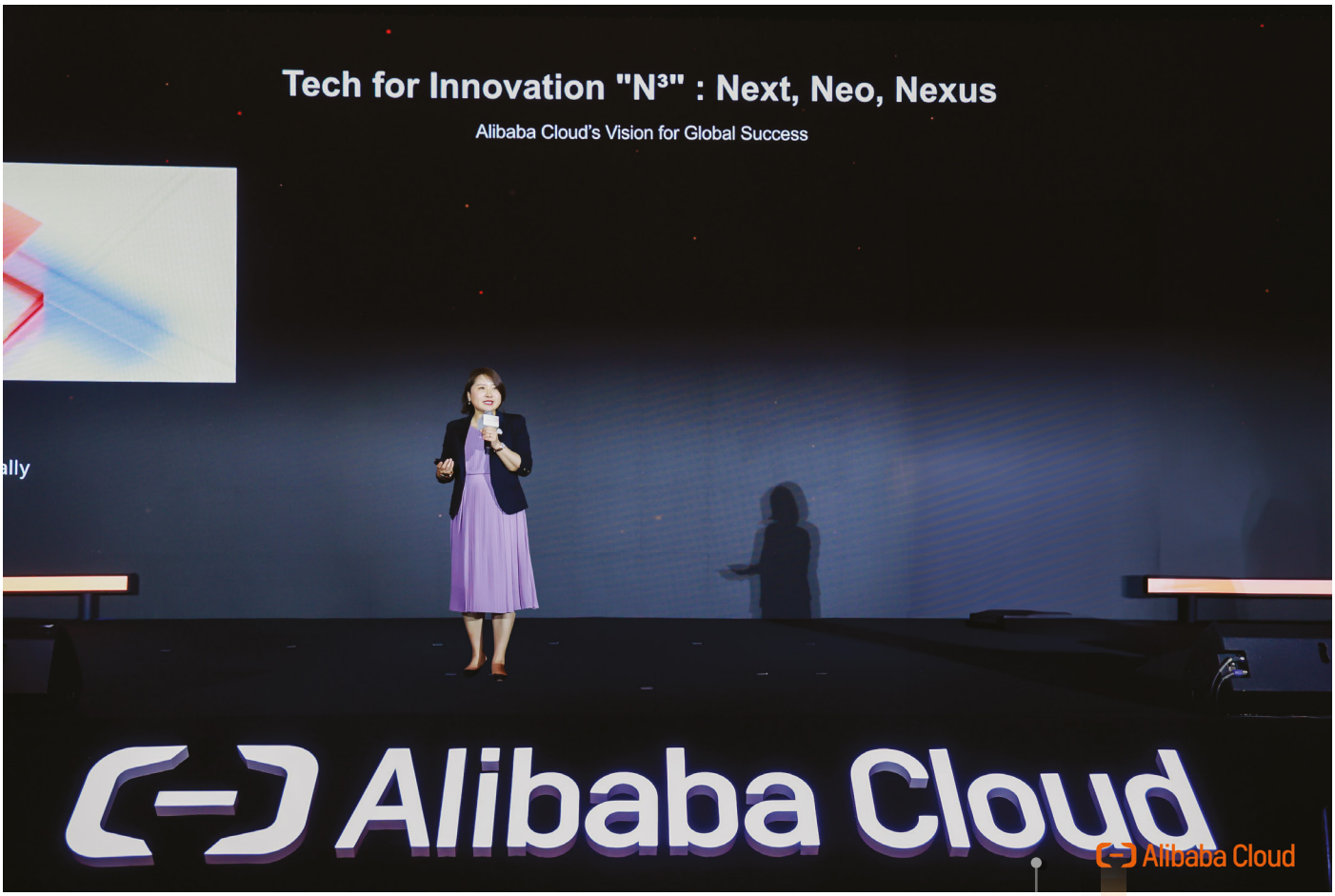
- To support our international business growth, we announced a $1 billion investment plan over the next three years to upgrade our global partner ecosystem.

- We also unveiled our Innovation Accelerator Program to connect with industry leaders and experts to help build more innovative and resilient businesses in Singapore by sharing practical skills and ideas and giving easy access to the latest cloud technologies. In line with these efforts, we also offered qualified companies free training and technical support under the program.

- This year witnessed us expanding our global presence and reach, operating in 30 regions with 89 availability zones.

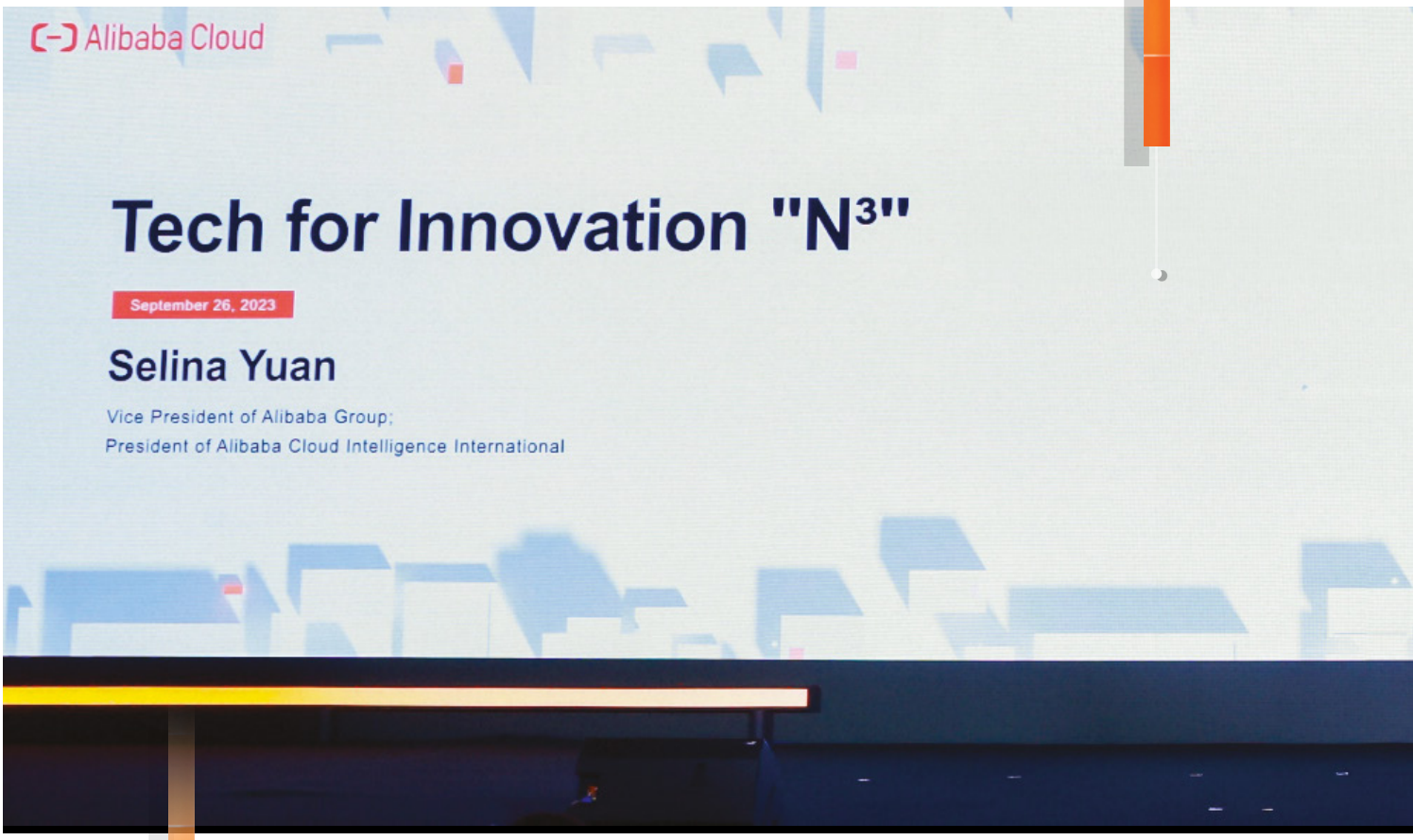


The **Neo Cloud** is more than just a technology. It is a reflection of our industry enablement and digital transformation and a manifestation of our customer success and satisfaction. The Neo Cloud empowers every industry and helps millions of innovators achieve their goals. We serve customers across various sectors, such as e-commerce, finance, education, healthcare, gaming, media, and more. We help them optimize their operations, enhance their efficiency, and increase their competitiveness. The story of the Neo Cloud demonstrates our expression of industry empowerment and innovation.



- We've served over 4 million customers globally across various industries, helping them build resilient operations on the cloud.

- We offered solutions to help businesses improve their performance, such as Alibaba Cloud Hybrid Cloud Solution for flexible deployment, Alibaba Cloud Database Autonomy Service for self-managing databases, Alibaba Cloud Data Lake Analytics for scalable data processing, Alibaba Cloud Immersion Data Center Solution for high-density computing, and Alibaba Cloud AI Platform for easy AI development.



The **Nexus Cloud** marks our expression of social integration and empowerment. We strive to build a unified society and integrate more people and communities into the digital economy. And we finally meet all our objectives as we empower social good and environmental sustainability with our cloud technology.

- We launched the Project AsiaForward initiative to nurture digital talent in Southeast Asia and support the business objectives of clients from numerous industries as part of large-scale cloud transformations.

- We also promoted social good and environmental sustainability with our cloud technology, such as launching the Alibaba Cloud Green Initiative to reduce carbon emissions with our cloud-based solutions, and empowering social enterprises with our cloud grants.

- We also launched the Startup Catalyst Program, an initiative to connect and empower startups with benefits such as cloud credit, GTS support, and academy membership, helping them with the tools and resources they need to grow and innovate, as well as additional opportunities to boost their visibility and performance.

We hope that this edition of our e-magazine inspires you to join us in our innovation journey and explore the infinite possibilities of the cloud. We are confident that you will enjoy the stories, insights, and experiences that bring us together, and we look forward to your renewed support and trust in Alibaba Cloud. Together, let us make the world a better place with the cloud.

ALIBABA CLOUD

AN ODYSSEY OF BELIEF, INNOVATION, AND BEYOND

All the world's a stage, and all its men and women are merely players. They have their exits and entrances. But, when the hero draws center stage, people hail the one under the spotlight. In today's modern era, this magic is often encapsulated in buzzwords like 'innovation.' Throughout the past decade, there has been a concerted effort to unravel the mysteries of innovation. What are the pivotal elements that can propel innovation, one might wonder? We aspire that our narrative, along with the stories of countless unsung heroes, will offer a unique perspective on the essence of innovation.

01

The Dilemma of GROWTH LIMITS

For decades, the realm of data centers across the world danced to the tune of industry giants. Back in 2008, people from the technology sector gave this package of technologies a cute name: I-O-E because most of the data centers were built on top of the technologies offered by three brands: IBM's servers, Oracle's database systems, and EMC's centralized storage systems. Adopting these excellent technology brand names was so prevalent that many undergraduates started acquiring knowledge of these products even in school, equipping themselves with the "standard" skill set required for a decent IT job.

In 2008, the Alibaba Group faced significant roadblocks in its mission to accelerate transformation due to a traditional IT infrastructure. At the time, Alibaba was facing a major crisis - the company's "engine" was running behind. Alibaba's "engine" actually meant its "computing power". As the company rapidly expanded its e-commerce business and diversified, the traditional infrastructure solutions struggled to keep pace with the surging demands of this digital giant. From 2008 to 2009, Alibaba's business grew at a staggering rate of ten to twenty-fold a year.

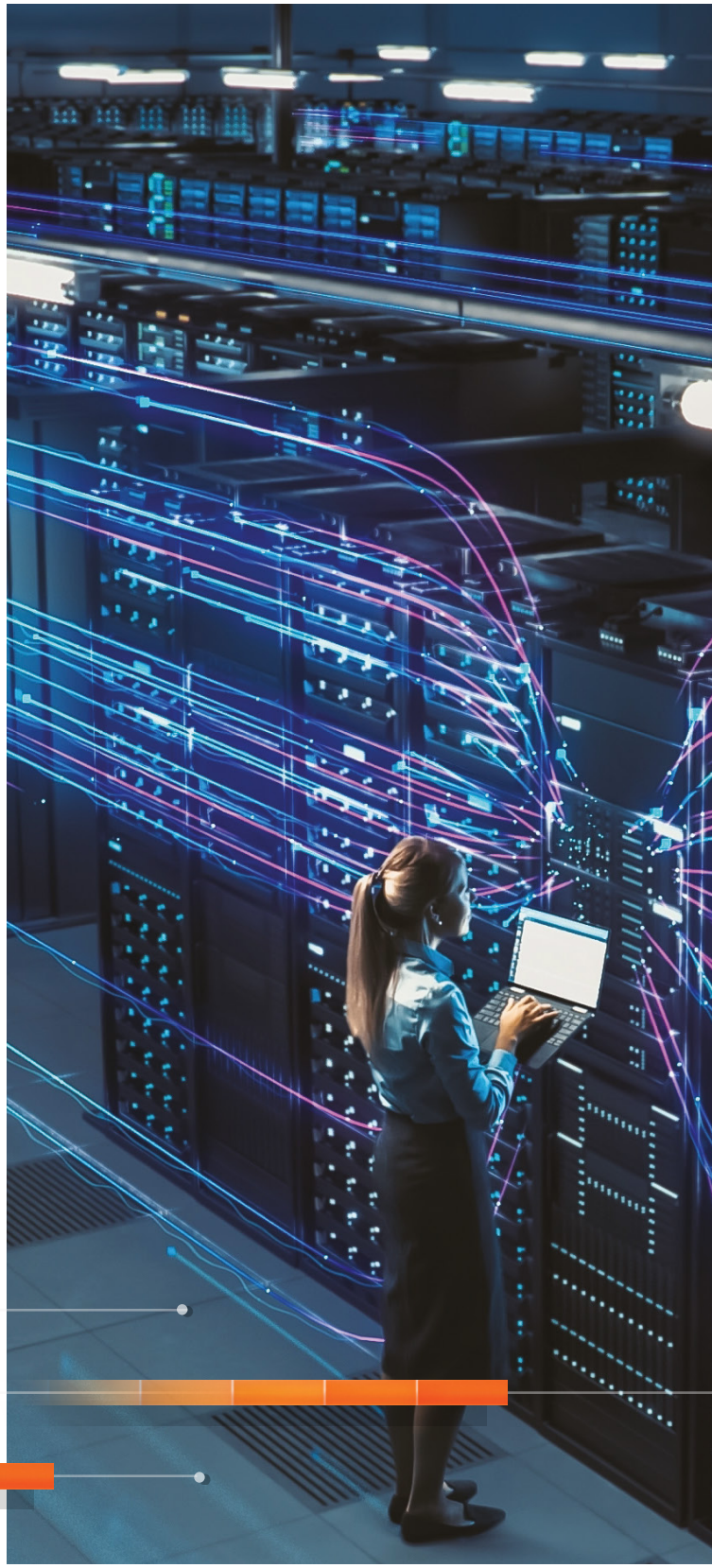
Alibaba's platform had to accommodate an ever-increasing number of users, transactions, and data. Traditional infrastructure couldn't efficiently handle the massive traffic, resulting in performance issues during peak usage.

Security was another critical concern and Alibaba Cloud had to ensure robust cybersecurity measures to protect against evolving threats. The existing infrastructure often could not adapt to the latest security standards, posing risks to the business and its users.

It was a pivotal mandate to spearhead infrastructure modernization and think of a more sustainable solution.

The challenge was to develop a solution that ensures a sustainable way of running the IT infrastructure. During the yesteryears, traditional infrastructure was most sought after. However, the cost of such an acquisition was enormous. For instance, a mid-range system would cost about $ 20,000 or more. For any online business, especially with extremely high reliance on infrastructure for scalability and reliability, it was mandatory to think beyond leveraging traditional technologies.

Alibaba's growth was timed with China's thriving digital economy. Hundreds and millions of users were using Alipay and Taobao. Alibaba needed to find a sustainable way to run IT infrastructure based on a hyper-convergence that would allow them to "plug" affordable and diverse hardware into the cluster and run thousands of computers like one.



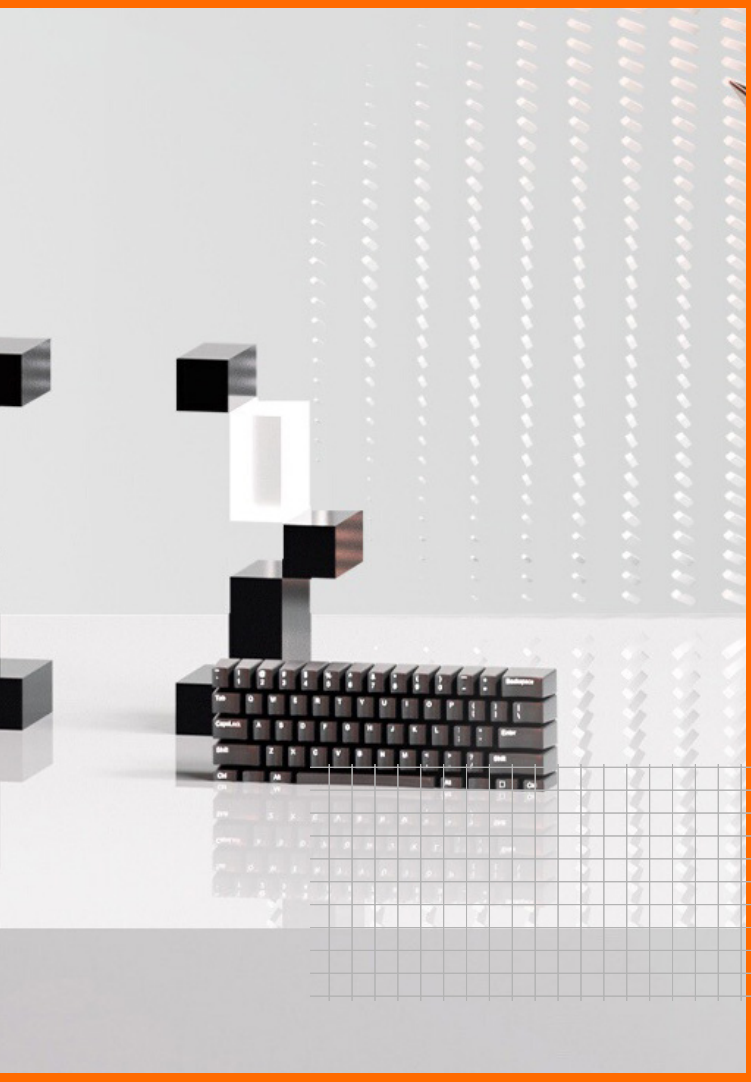
They needed to solve the growth equation: unlock scalable computing and flatten the curve of the growing costs.

During Alibaba Cloud's start-up phase, Dr. Jian Wang had the idea of establishing a massive-scale cloud computing operating system. He wanted a system that could cluster thousands of computers and act like one single computer to implement scalable computing performance. This system is what later became known as **Apsara**.

02

APSARA SYSTEM

A Journey from the First Line of Code to Cloud Computing Excellence

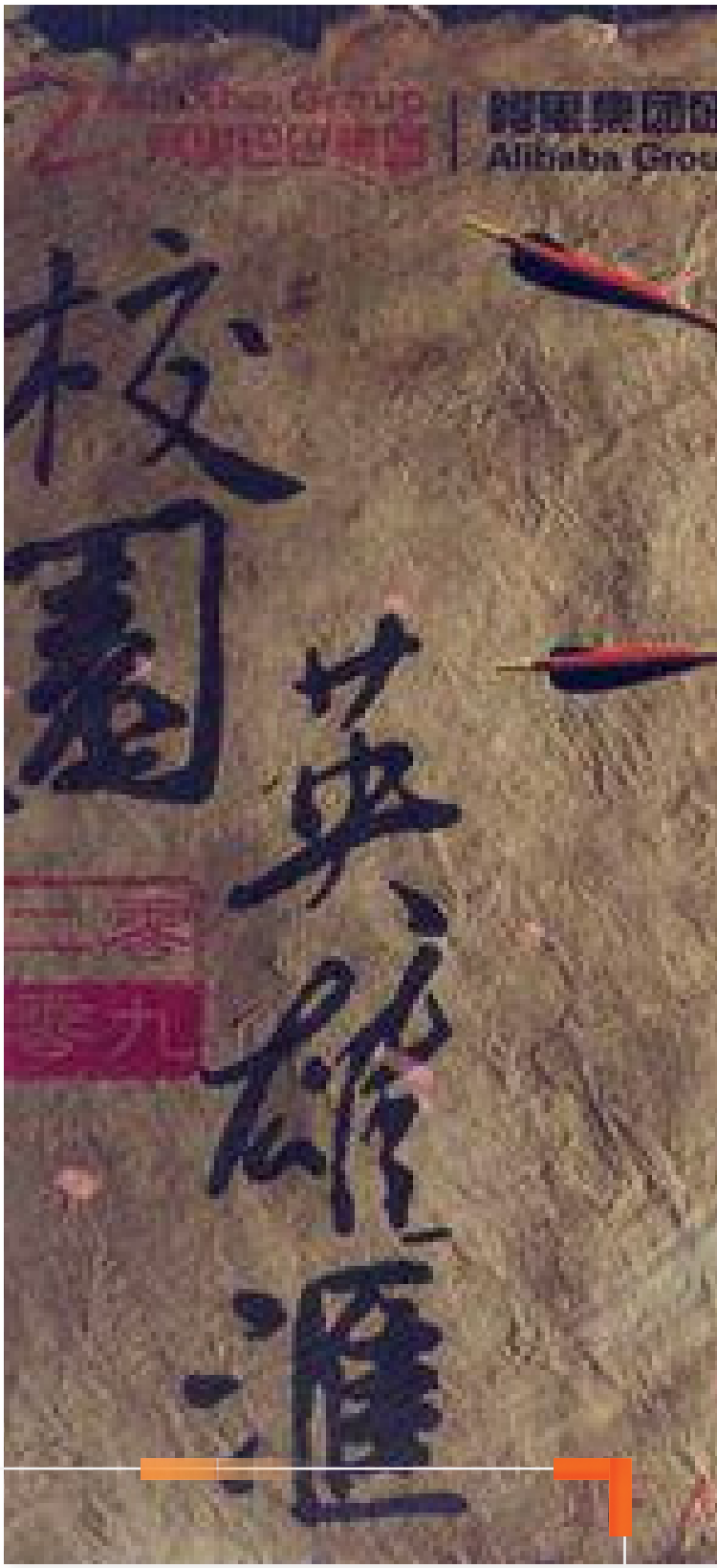


Every story of success has its humble beginnings, and Alibaba Cloud Apsara System is no different. Apsara, an ultra-scale operating system for computing independently developed by Alibaba Cloud, was born from a vision that became a reality. Let's step back in time as we share this nostalgic journey.

One of the biggest obstacles that Dr. Jian Wang initially faced was finding people qualified to create the cloud computing system. He needed a talented team that could turn his vision into reality.

The birth of a business is usually depicted in an old-fashioned scene, very similar to the start of a glorious cause, a gathering of like-minded friends. In Akira Kurosawa's movie Seven Samurai, the epic story begins with a goal, forming a squad of samurai to defend against the bitter marauders. Then one Samurai starts recruiting the next and eventually, they end up with seven.

As people say, life is stranger than fiction, and Alibaba Cloud's journey follows a similar path. Dr. Jian Wang found his second samurai in Lin Chenxi, a former colleague from his Microsoft days. Lin Chenxi joined Alibaba Cloud as the first technical head in 2008. He shared Jian Wang's vision and passion for cloud computing progress and helped Jian Wang come up with a unique recruitment strategy.

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OT NOW,WHEN? IF NOT YOU,WHO?

Chenxi started recruiting more team members, to quickly set up the startup team. Instead of hiring senior developers with IT infrastructure and coding experience, he decided to recruit young people with potential and creativity. He believed that young people were more willing to learn new things and take risks, with the passion to excel.

After an interview with Chenxi, Jiashe landed an offer and joined as the cloud business's sixth employee. Like other Alibaba employees, Jiashe got himself an alias, Man Gong, which means "full sway." Man Gong's onboarding started with his first task, recruiting.

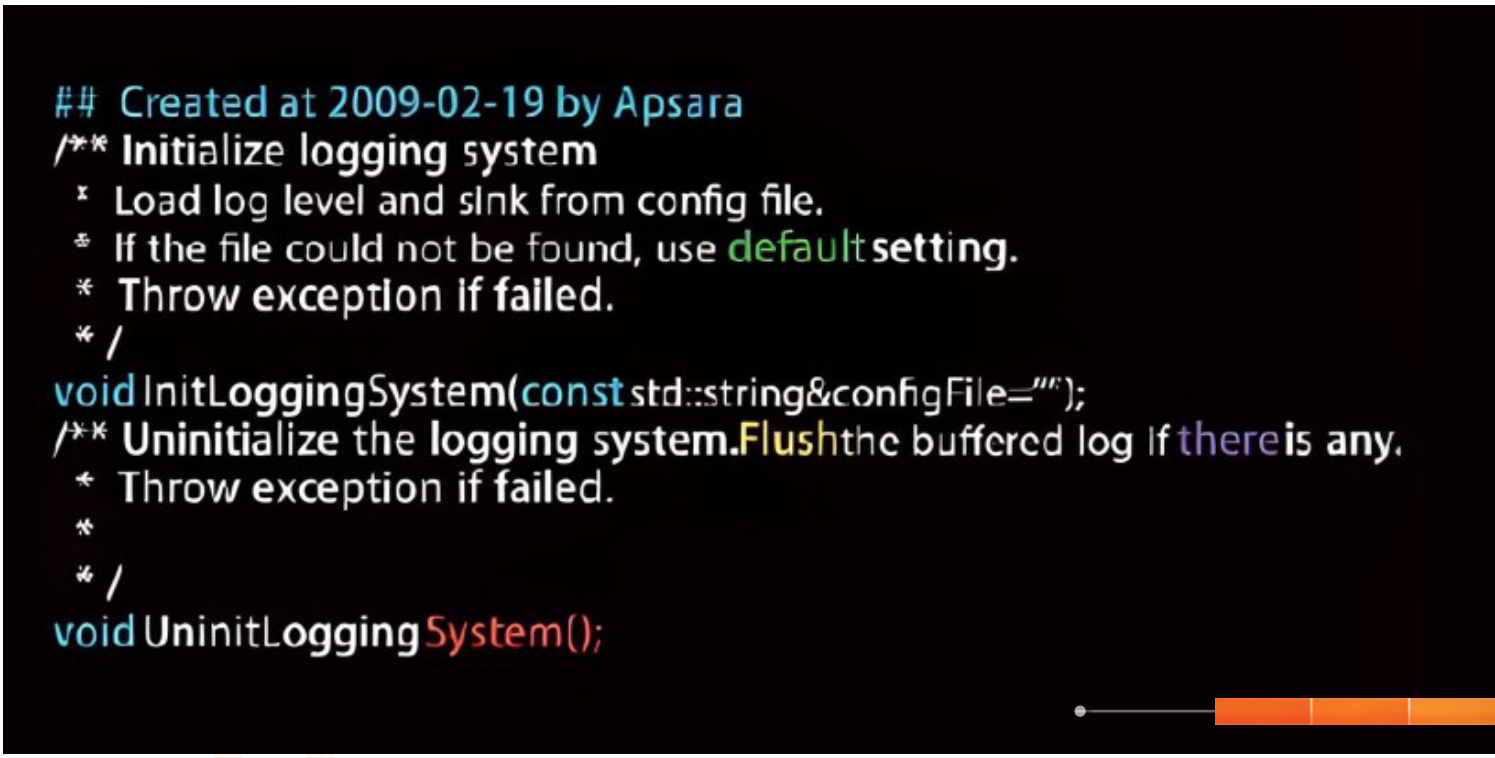
Man Gong visited more than a dozen schools in major cities nationwide. For each school, he stayed for three days. October wasn't a good time for recruiters. Most graduates had already started with their first jobs after graduation.

Fortunately, Alibaba at that time had already earned some reputation. Some talented students who missed the recruitment season were overjoyed, and for a while, major schools rushed to apply, although from recruiters to applicants, they had never seen what cloud computing looked like.

The shorthanded recruiter team could handle a large amount of paper screening and evaluation of written tests. I had to fast-train technical laymen and let them help me with grading the written tests.

It was going to be a new system, instead of a few patches to modify the existing infrastructure. The challenge was formidable. It was like replacing the aircraft's engine in mid-air. Alibaba's online businesses had to go on without disruption, and the new "engine" would have to support the growing scale and provide a sustainable costing model.

On February 19, 2009, at the end of early spring, Alibaba Cloud engineers wrote down the first line of code of the Apsara System in an office building in Beijing with no heating to ward off the early spring chill. To these engineers (as the first generation of the tech staff of Alibaba Cloud), when they look back on that tiny office many years later, it is like a relic that marks the beginning of an ambitious cause. At that time, the office didn't have a nameplate on the door. To the outsiders, it was just yet another tech startup working on stuff nobody cared about. Security guards would label this as an unknown and weird company. However, they didn't know the crunching keystrokes behind the door would have a chance to reshape China's computing landscape years later. In the office without administration services, the engineers had to sort everything out by themselves, from ordering drinking water to sometimes standing in as the handyman.



Apsara's development took an extraordinary path. It began with three key realizations. First, Alibaba Cloud was not just developing cloud computing but the technology to transform data centers into high-capacity computers rather than facilities holding hundreds or thousands of computers. In the words of Dr. Jian Wang, "Back then, I considered Apsara as an operating system of the data center, the basic software necessary for cloud computing. Without it, cloud computing is merely a service."

The second realization focused on the need for computing power from multiple computers. Apsara was designed with the belief that a single computer's computing power is important but insufficient to meet future demands. Therefore, we considered virtualization as a means of dividing the computing power. Apsara embarked on its journey with a unique starting point, a revolutionary idea that separated it from the rest.

The third and pivotal realization was that the Apsara operating system was more than just a product installed on a computer; it was the transition from products to services. In an age where the Internet serves as the infrastructure for computing, Alibaba Cloud recognized the necessity of turning computing into a service, not merely encapsulating it into products. This shift in perspective laid the foundation for Apsara's success and the future of cloud computing as we know it.

The first few months flew by, and it was summer. The underperforming air conditioners and the many test machines jammed into the office made the workspace sweltering. They had to get some ice into the room to cool it down a little bit.

When Jack Ma had a stop in Beijing on a Saturday, he insisted that he would like to take a look at the office. The tech lead, Chenxi, was eager to give the big boss a preview of the work, but the computer just didn't start. Then, they both realized it was an outage. After a 30-minute wait, the electricity came back, and it was the first time he had seen the Apsara system up close.

Knowing his team was working many overtime hours a day under this condition, Jack Ma made a decision to relocate the team into a better-facilitated office, a place more conducive for these innovators.

03

MU-YANG-QUAN (SHEPHERD DOG)

Unlocking the Dynamic Potential of the First Customer

The trajectory of Alibaba Cloud's innovation had a magical intersection with Alibaba's payment and financial service business. Back in 2009, Simon Hu, then a senior director in Alibaba's payment service group, received an unexpected request from Jack Ma. Jack entrusted Simon with a unique task: creating a loan service tailored for China's small businesses and startups. However, there was a distinct condition attached to this assignment - it had to run on Alibaba Cloud.

Simon, a veteran in the finance industry, was acutely aware of the sector's sensitivity to uncertainty. During that era, relying on technologies from globally renowned brands had become the standard practice. However, as a newcomer in the field, Alibaba Cloud was yet to inspire Simon with a strong sense of confidence.

In the early stages of pioneering new standards and building systems from the ground up, the initial creations were somewhat unpolished. These beginnings were far from serene, with persistent issues and bugs requiring the relentless dedication of the client's engineers. Initially, the system encountered major setbacks with data transmission, calculation stability, and processing speeds. Moreover, certain bugs appeared once and were impossible to recreate during testing. The team had to rely heavily on manual intervention to stabilize the architecture.

However, these obstacles played a crucial role in refining the system's performance and capabilities. Following a major version upgrade, the Apsara system underwent a remarkable transformation. Just like witnessing a child's rapid growth, the transition from uncertainty to confidence was both sudden and awe-inspiring.

The Shepherd Dog project realized two key achievements: swift decision-making facilitated by limitless computing power and a substantial reduction in IT operational costs.

04

APSARA 5K

A Success That Turned the Tide

Many innovative technology companies of the time would adopt a “horse race” strategy when developing a technology or product, keeping two or more plans ongoing in parallel before choosing the winning plan eventually for productization.

Two separate development teams worked on these projects moving forward in their different paths, working towards the same end. Team A was leveraging open-source technologies and managed to approach the 4000-server threshold, but beyond that, it became exponentially harder to push further. Team B became a single-minded lone lancer struggling on the path of developing their own technology.

There were heated debates about the choice between open-source and proprietary technologies. Even today, the debate has never ended. Alibaba's employees have an open forum inside the corporate intranet where they can put up posts for many purposes: sharing ideas, looking for help, and having discussions on open topics. This type of sharing also serves to nurture innovative thinking and encourage diverse mindsets. One of the hot topics surrounding the choice between open-source options and investment in proprietary foundations.

The years from 2010 to 2012 were unbearable for engineers working on the Apsara system. The system needed to manage scheduling and orchestrate the operations of the huge cluster with numerous servers in it. The scale of the cluster depends on the number of servers that it can sustain. Jian Wang gave the team a goal: **5,000 servers in the cluster**.

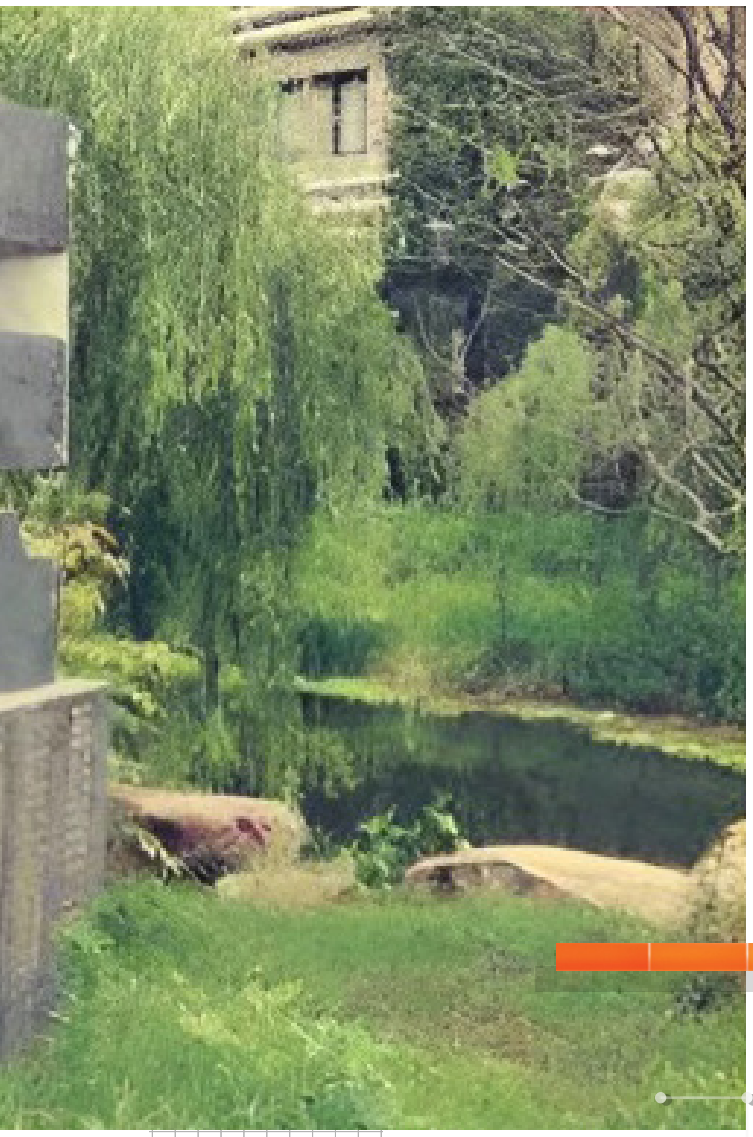
Dr. Jian Wang had been known as a nice and graceful geek before he took up the cloud mission. However, during this journey to 5k servers, shouting became routine when the project's progression was checked up.

As the debate between open-source and proprietary dragged on, a deadline was approaching. As the business keeps growing, the less-than-5K scale would cap the e-commerce growth and bring the infrastructure to a halt. A worrying email from Alibaba's support division declared that the business servers would bottleneck in June 2013. They couldn't afford to split the army between two separate battles but had to form a synergy for one single battle that they couldn't lose. The crisis straight ahead got all tech experts united around this mission: proprietary technology.

The milestone was eventually established in June of 2013. The momentous event unfolded in this heroic scene: the resilience test. The test was to verify the system's self-healing capability of automatically recovering from a disaster. The bold idea was "simulating an outage." At the moment of pulling off the power supply, the whole team was holding their breath and waiting to see what would happen. The whirring of servers indicated that they were restarting themselves. A few hours later, the cluster went back to normal operation, with the vast majority of the servers up and running and no data loss.

The player fades into the background when the spotlight moves away and the fanfare dies down. These technical guys have to move on to the next challenge. Many years later, when Alibaba Cloud moved into the new Cloud Valley campus, the employees found a new Apsara 5K statue there. It's a replica of the original, which has been left in Cloud Town. It's a memento that keeps reminding us how hard innovation can be.

Crossing the threshold of 5,000 servers in a single cluster, the cloud platform can now consolidate more computing power and sustain larger scales of production. The ultra-scale computing power gave ODPS (now known as MaxCompute) a chance to realize massive distributed data processing systems.



There is a little town located in Hangzhou's southwest called Cloud Town (Yunqi Town), known to many as the venue of the Apsara Conference. Every year, the town gathers tens of thousands of industry experts, technology entrepreneurs, thought leaders, and innovators for a grand meetup. Many visitors to this place may sometimes find a statue named Apsara 5K. It appears as an interesting decoration in the quiet setting of Cloud Town. The hidden message behind this visual art speaks of a hallmark in the history of the company's cloud computing technology.

05

DR. JIAN WANG

Discovering the Evolution of Computing

Our innovation was only made possible by a vision. A vision to build a massive-scale cloud computing operating system independently developed within China. A vision of making computing as accessible as an everyday utility like electricity. This vision was spearheaded by Dr. Jian Wang, the chief architect of Alibaba Cloud at the time. Dr. Wang's profound awareness that an enterprise cannot survive in the long term without developing self-owned technologies would lead thousands of Chinese enterprises to success. The Cloud was, after all, a natural step in the evolution of computing. But to understand how it came to be, it was necessary to trace the emergence of computing power over the years.

The age of electric power began in the late 19th century when electricity became an inseparable part of social development. The period of electric power witnessed enormous changes in various aspects of human civilization, improving the quality of life for people and stimulating innovation and creativity across multiple fields like science, art, and entertainment.

When the age of computing rose to predominance in the late 20th century, the Internet was the critical infrastructure that enabled the distribution and consumption of computing. The era of computing is still unfolding and has already brought significant changes in various aspects of human civilization. Computing has become the main driving force of innovation, enabling artificial intelligence, big data, and other technologies.

And finally, today, as more and more businesses become cloud-native, computing power consumption will soon become a more relevant indicator of electricity consumption. This will subsequently welcome an age dominated by computing power in the next few years.

Dr. Jian Wang expresses his thoughts on the rise of computing power: "Every household had a hard time deciding on 8 or 20-watt bulbs when I was a child. Electricity was a luxury back then. In a sense, computing power is still a luxury today, and it has not brought the influences parallel to electricity in the Industrial Revolution."

Jian Wang was an idealist and dreamed of building a cloud computing architecture that would be faster, cheaper, and more secure than any existing system. Although he faced resistance from many internal stakeholders on the name of the enterprise and his unconventional approach, his dream was to challenge the dominance of other computing providers, which had built its empire on delivering computing power to every home.

He wanted to lead the next wave of innovation in the computing industry, which had lost its direction in the Internet era. Dr. Jian Wang equipped Alibaba Cloud with the game-changing ability to soar above the competition and reach new heights of excellence.

Placing undivided attention on becoming one of the few companies that realized

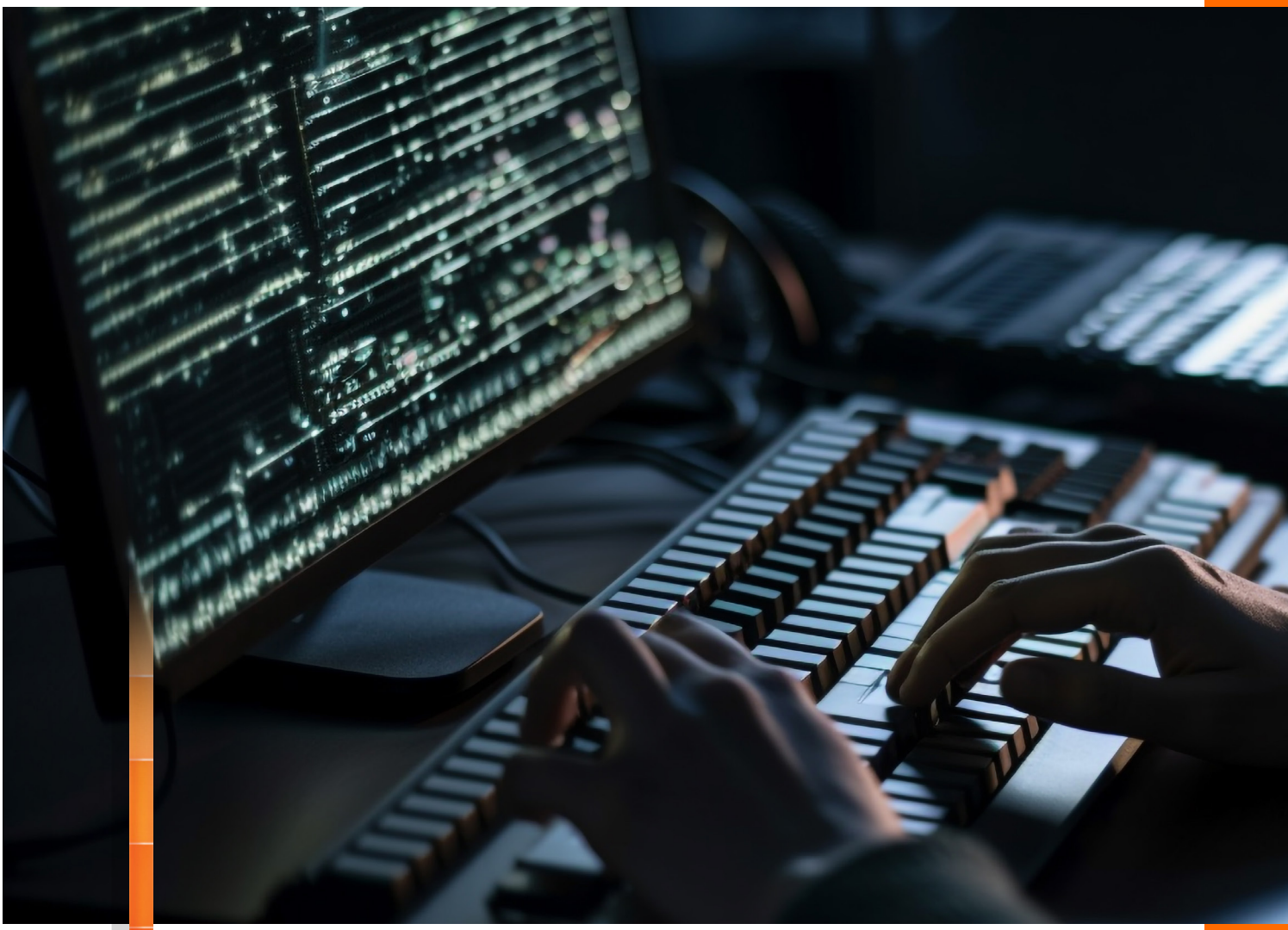
the true potential of computing and data in the Internet era, Jian Wang was a force to reckon with, who walked around in a simple flannel shirt but had a sharp vision for the future and connected with the right people, especially the youth who shared his passion for cloud excellence.

Even as the company took off due to its high resource investments and hard-earned efforts, Dr. Jian Wang always stuck to his beliefs.

06

CRACKING THE CODE

How Names Shape Technology at Alibaba Cloud



Many technology enthusiasts, especially in the IT realm, favor names with cultural meanings, emphasizing the fusion of technology and tradition in their product naming convention. This approach enriched the brand's identity and cultural significance, elevating Alibaba Cloud beyond being solely technology-driven. The company's visionary journey became a testament to the power of storytelling in technology. Dr. Jian Wang's vision entailed the development of systems that surpassed existing architecture, orchestrating the synchronization of thousands of computers to establish a formidable collective "mind."

The cloud team's choice to name these cloud systems after elements of Chinese mythology was deliberate. It aimed to infuse each component with a deeper, culturally-rooted significance, emphasizing that technology isn't just about innovation but also about a spirit embodied by a legendary or mythical being. As a result, the team named the Chinese cloud computing system "Feitian," inspired by Chinese mythology.

Visual art of mythical names displayed in these descriptions was created by Tongyi Wangxiang (Alibaba Cloud's AIGC product).

This imaginative approach to naming served as a symbol of China's rich heritage and a testament to Alibaba Cloud's fusion of technology and tradition, reinforcing the importance of both elements in their corporate identity.

This ethos laid the foundation for a code-naming practice across various aspects of their systems, subsystems, components, and services, where each one carries a unique story and purpose, providing a fascinating glimpse into the development process. These code names often reflect the creativity and ingenuity behind the purpose.

SHENNONG

Cluster Health Monitor

Shennong is the god of medicine

KUAFU

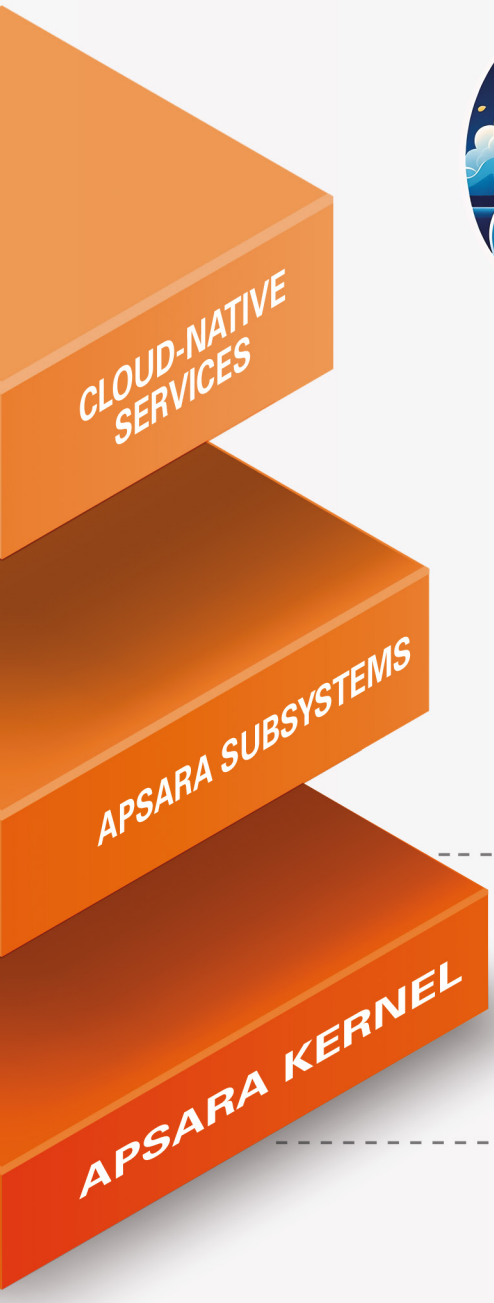
Network Subsystem

Kuafu's tireless pursuit of his goal also bears a meaning of cross oceans and mountains, connecting the world

PANGU

Distributed Storage System

In Chinese, Pan means disk, almost synonymous to storage



JINGWEI

Data Replication and Migration

The ambition of closing gaps

FUXI

Scheduler

Fuxi's divine capability of calculating

NÜWA

Distributed Lock Manager

Goddess of harmony

APSARA

OS Kernel

It's a celestial being, a heavenly existence, bearing the meaning of flight

"Apsara" for OS Kernel

The name "Apsara" was chosen for the OS Kernel to evoke a celestial and heavenly presence, symbolizing grace and agility, much like the celestial dancers in Indian mythology. Apsaras, known for their beauty and artistic talents, reside in the gods' court, and their association with graceful movements and changeable forms aligns with the kernel's dynamic and versatile nature. This name captures the essence of flight and fluidity.

"Pangu" for Distributed Storage System

The name "Pangu" for the Distributed Storage System was inspired by Chinese mythology. Pangu is a revered figure who, according to the myth, created the universe by separating Yin and Yang from a cosmic egg. His story symbolizes cosmic creation and the interconnectedness of all things, making it a perfect name for the distributed storage system.

"Nüwa" for Distributed Lock Manager

The Distributed Lock Manager was named "Nüwa" after the Chinese goddess associated with harmony. Nüwa, a half-human, half-serpent deity, is known for creating humans, repairing the heavens, and introducing marriage in Chinese mythology, symbolizing order and balance. This name reflects the system's role in maintaining order and coordination in distributed computing.

"Fuxi" for Scheduler

Fuxi, a revered figure in Chinese mythology, is celebrated for contributions like inventing fishing, writing, and the Eight Trigrams, which form the basis of the I Ching. He symbolizes wisdom and harmony, with a serpent's body signifying his connection to both the earthly and spiritual domains. Fuxi's legacy endures in traditional Chinese medicine, martial arts, and divine practices.

"Kwafu" for Network Subsystem

The Network Subsystem got its name "Kuafu", from a legendary giant in Chinese mythology, which symbolizes ambition and human limits. He chased the unreachable sun with immense strides but succumbed to exhaustion, cautioning against excessive ambition and highlighting the importance of balance and humility. In modern terms, "Kuafu chasing the sun" metaphorically describes the relentless pursuit of ambition, perhaps unattainable goals.

"Shennong" for Cluster Health Monitor

Cluster Health Monitor got its name "Shennong" from the legendary figure in Chinese mythology known as the Divine Farmer. Shennong is revered as the god of agriculture, medicine, and herbalism and is associated with introducing farming practices and the foundation of traditional Chinese medicine by tasting hundreds of herbs to identify their properties and uses. This name pays homage to Shennong's contributions to agriculture, health, and well-being in Chinese culture.

"Jingwei" for Data Replication and Migration

Data Replication and Migration draw their name, Jingwei, from the determined bird-like character in Chinese mythology. Like Jingwei's persistent quest to fill the vast sea, these processes aim to close gaps and ensure data continuity, embodying the spirit of perseverance in the face of challenges.

Alibaba Cloud's Nickname Tradition: Breaking Corporate Stiffness with Cool Codes

Alibaba Cloud's products draw inspiration from various mythologies for their names, and the company follows a distinctive tradition of naming its employees after characters from literature and novels, especially martial arts and chivalry novels. In addition, Alibaba has a unique practice where employees utilize special nicknames, referred to as aliases or "huaming" in Chinese, for internal communication. This tradition adds a touch of creativity and informality to the corporate culture. When you join Alibaba, selecting a cool nickname adopted from fictional characters or from martial arts novels becomes a playful initiation, a chance to be the person you want to be. Despite the fun, people take it seriously, as these nicknames stick with them even after leaving the company.

Alibaba Cloud's naming culture and the tradition of employee nicknames represent an innovative and engaging corporate culture. This tradition highlights the pursuit of heroism. It also served to blur the corporate hierarchy and form a stronger unity among employees. In most Chinese companies, it's a tradition to address an executive or senior manager as "sir" or "director". Inside many multinational companies in China, many Chinese employees are addressed by their English names. Imagine calling one's manager "Michael" serving to fade the management hierarchy significantly. Huaming serves a similar effect and it takes on beautiful meanings.

Alibaba Cloud's journey is not just about technology; it's a reflection of resilience, determination, and the power of the human spirit in the face of challenges. As we continue to explore the world of technology and mythology, we discover a vibrant and imaginative landscape that defines Alibaba Cloud and its unique approach to innovation.

07

TRACING BACK TO THE START

The Journey of Building Continuous Innovation on the Cloud

When we started Alibaba Cloud in 2009, we had a larger-than-life vision: to be the first cloud service provider in China and bring the power of cloud computing to every business and individual. While we knew this was not easy, one thing continually drove us - the spirit of innovation and the courage to chart new territories was something we brought about, focusing on the values of persistence, commitment, and belief that guided us along the way.

We persisted in developing cutting-edge technologies that could meet our customers' diverse and complex needs. We are committed to providing reliable, secure, and scalable cloud services that could support the growth of various industries. We believe in the potential of cloud computing to transform the world and create new opportunities for everyone.

Ours is a story of transformation. While much of the growth journey was continually challenged by both internal and external stakeholders, we were bound to test the boundaries of technology and innovation to conceptualize what we started. With the passion of all our employees and the vision of our management, today we are Asia's largest cloud provider, opening up data centers all across the globe, with our efforts recognized by the likes of Gartner, Forrester, and many others.

This was only possible because we realized that we were building value beyond computation. While cloud technology was relatively new, we were chasing to create something revolutionary that could change the world.

Elastic Compute Service (ECS) Milestones

SEPT 30, 2009

ECS team established

MAY 9, 2010

Project AH-Cloud launched (ECS instances available for purchase on NET.CN)

APR 16, 2011

- Hangzhou Cloud launched
- Server Load Balancer launched

DEC 30, 2009

ECS beta launched

JUL 8, 2011

ECS instances available for purchase on Aliyun.com

Along the course of the birth and growth of the Apsara system is the evolution of Elastic Compute Service (ECS) of Alibaba Cloud.

NOV 7, 2011

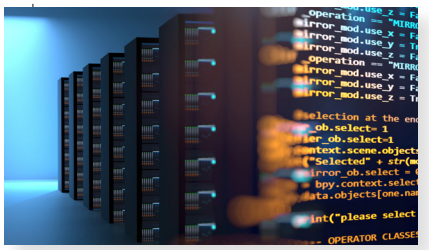
Block storage based on distribution storage launched

SEPT 13, 2012

Images and snapshots available region-wide

JUN 2013

Started the exploration of KVM-based virtualization



FEB 21, 2012

ECS for Jushita project kicked off

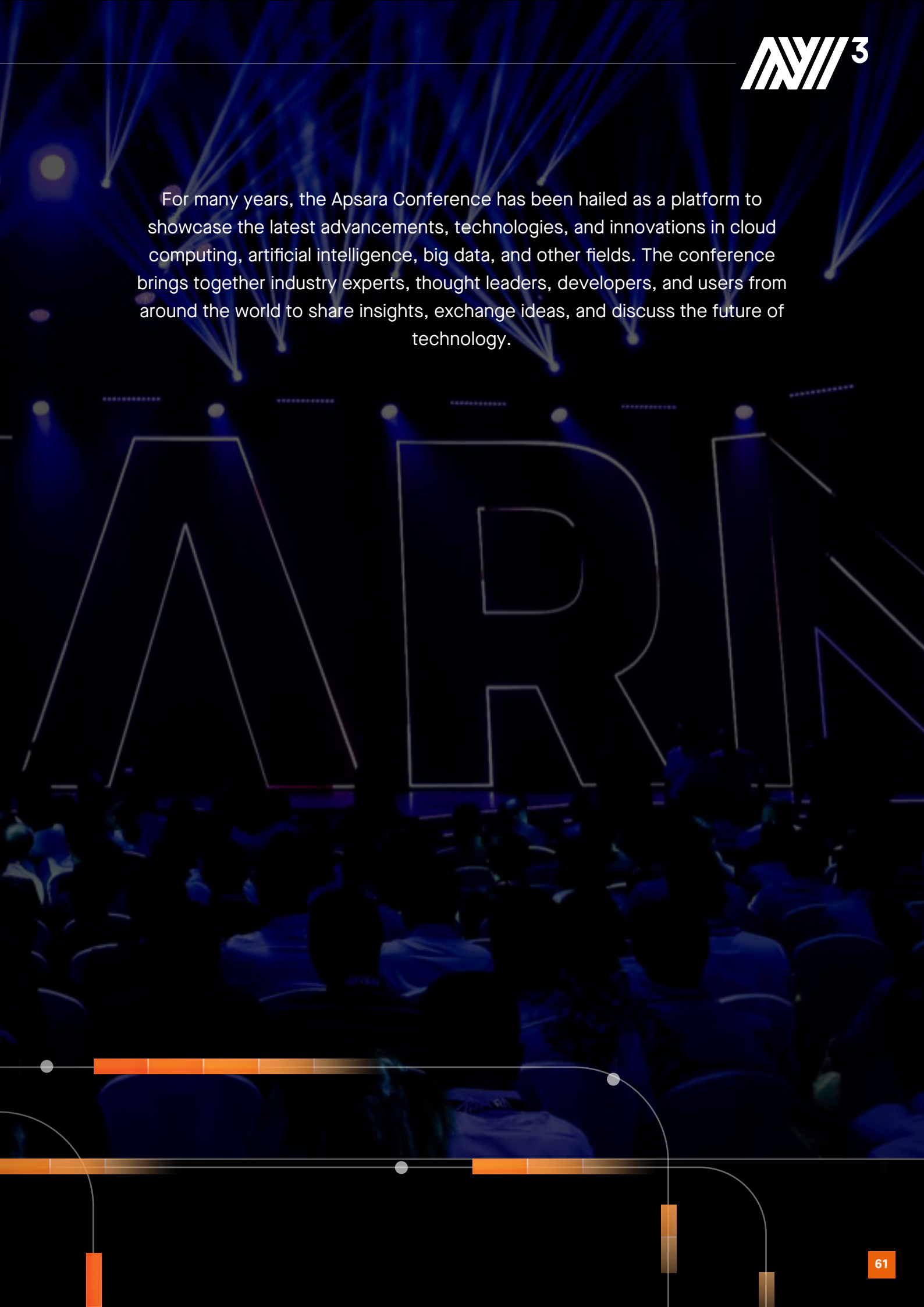
MAR 2013

SDN and VPC projects kicked off

APSARA CONFERENCE

A TESTAMENT OF INNOVATION FROM HANGZHOU TO THE WORLD

For many years, the Apsara Conference has been hailed as a platform to showcase the latest advancements, technologies, and innovations in cloud computing, artificial intelligence, big data, and other fields. The conference brings together industry experts, thought leaders, developers, and users from around the world to share insights, exchange ideas, and discuss the future of technology.



Each year, tens of thousands of attendees converge in the picturesque city of Hangzhou to partake in this vibrant celebration of digital technology. The city, and to be more specific, Yunqi Town, serves as the hosting place of the event for a reason. It is the home city of China's e-commerce giant, Alibaba, and the birthplace of China's earliest cloud computing company, Alibaba Cloud. After years of evolution, this event is now more than a conference. Some may take it for an exhibition to showcase their latest developments. Numerous tech startups attend the event to showcase their products, prototypes and integrations. Many people flock to this place to meet up with like-minded geeks. Recently, a music festival has been added to the few days' itinerary to give tech musicians and music enthusiasts a more creative way to interact. Above all, the gathering is a rare opportunity for networking.

The first Apsara Conference was held at a hotel near downtown, gathering roughly 3,000 participants. Now, the stadium-like square at Yunqi Town stands as the permanent venue for the Apsara Conference. Today, tens of thousands of participants attend the annual Apsara Conference. The themes of the Apsara Conference have continuously evolved over the years. From website building to the groundbreaking applications of AI and other technological advancements, the conference reflects the dynamic progression of computing technologies. This course of change captures a living history of the evolution of computing.

Apsara Conference Timeline

2010

BIRTH

The origin of the Apsara Conference can be traced to the Second China Local and Industry Websites Summit held in 2010. At the summit, Jack Ma proposed an Alibaba Cloud computing service, as the infrastructure backbone for e-commerce.

2011

ALIBABA CLOUD WORLDWIDE DEVELOPERS CONFERENCE (AWDC)

The idea for AWDC as a specialized conference catering to the cloud computing industry ecosystem was first proposed in 2011. This coincided with the industry-wide push for wireless and mobile-friendly business.

2012

AWDC 2012

In 2012, AWDC emerged as an independent conference hosted by Alibaba Cloud, attracting over 3,000 participants for the inaugural event. The trust placed in Alibaba Cloud by developers and customers at the conference became our catalyst for growth.

2013

AWDC 2013

Serving as our first in-person conference, it was hosted in Cloud Town, Hangzhou, which became its permanent venue. The event commemorated the “Apsara 5K” milestone with a statue engraved with the names of the visionary individuals who made it happen.

2014

AWDC 2014 - "SERVICE IS NOT A SLOGAN, BUT A PROMISE”

Guided by this motto, our 2014 event became a fusion of developer insights and numerous valuable experiences, bringing a remarkable dimension to this prestigious conference. Over 8,000 participants attended the AWDC in 2014.

2015

INTERNET, INNOVATION, AND STARTUP – THE COMPUTING CONFERENCE

In 2015, AWDC was officially renamed to The Computing Conference. The theme for the 2015 conference was “Internet, Innovation, and Startup.” Computing Conference 2015 was attended by 21,500 developers, 3000 enterprises, 219 exhibitors, and an online audience of over 1.2 million participants worldwide.

2022

COMPUTING DRIVES FUTURE - APSARA CONFERENCE 2022

Apsara Conference 2022 was an immersive 72-hour techfest. The event featured over 60 tech forums and served as a launch pad for over 1,000 innovations, setting the stage for the future

2021

BACK TO CLOUD TOWN - APSARA CONFERENCE 2021

Themed “Invent · Explore · Inspire “, The Apsara Conference in 2021 made a successful return to in-person gatherings, hosted in Cloud Town over a period of four days. The event drew an impressive turnout of over 80,000 tech-savvy participants, featured over 100 tech forums, and showcased over 1,000 groundbreaking digital intelligence innovations.

2020

"LEAP INTO THE FUTURE OF DIGITAL INTELLIGENCE" - APSARA CONFERENCE 2020

Themed “Leap into the Future of Digital Intelligence “, The Apsara Conference 2020 took place completely virtually, leveraging our latest cutting-edge in-house cloud computing technologies for seamless global broadcasting.

2019

THE FIRST "APSARA" CONFERENCE - APSARA CONFERENCE 2019

Themed “The Rise of Data Intelligence”, The Computing Conference of 2019 was officially renamed the Apsara Conference. Notably, the conference marked the debut of a new and pioneering technology, reinforcing Alibaba’s position in artificial intelligence.

2018

EMPOWERING A DIGITAL CHINA – THE COMPUTING CONFERENCE 2018

The 2018 Computing Conference featured 2 plenary sessions and over 170 summits and breakout sessions. The event focused on nurturing economic growth through technology and big data.

2017

APSARA INTELLIGENCE – THE COMPUTING CONFERENCE 2017

The idea for AWDC as a specialized conference catering to the cloud computing industry ecosystem was first proposed in 2011. This coincided with the industry-wide push for wireless and mobile-friendly business.

2016

APSARA EVOLUTION – THE COMPUTING CONFERENCE 2016

Themed “Apsara Evolution”, the 2016 conference featured 2 plenary sessions, 102 summits and breakout sessions, nearly 400 exhibitors from scientific and technical corporations, and 40000 attendees from around the world.

ALIBABA CLOUD STARTUP CATALYST PROGRAM

CATALYZING GROWTH AND INNOVATION

Alibaba Cloud is thrilled to announce the launch of the Alibaba Cloud Startup Catalyst Program in collaboration with our official program partner, KRAsia. This initiative aims to connect and empower startups globally, catalyzing growth and fostering innovation.

The Startup Catalyst Program offers an array of benefits for startups, including a generous allocation worth $120,000 in cloud credit support, a unique 3-month GTS Support Package for the price of one, and a 1-year membership to Alibaba Cloud Academy. This comprehensive package equips startups with all the necessary tools and resources to maintain a competitive edge in today's dynamic business landscape.

With a tiered support framework, the program guarantees that startups receive progressively enhanced support as they grow. Beyond the benefits discussed above, startups participating in the program may also unlock additional opportunities to amplify their growth and visibility.

Startups enrolled in the program have the opportunity to showcase their offerings and be featured on the Alibaba Cloud marketplace, gaining exposure to a vast network of potential customers and partners. This increased visibility can elevate their brand recognition and drive business expansion. Moreover, the program offers exclusive invitations to regional events, providing startups with valuable networking opportunities and direct access to industry experts. These events serve as ideal platforms for startups to showcase their innovations, exchange ideas, and cultivate strategic partnerships.

We are committed to providing startups with comprehensive support throughout their journey, By offering additional benefits such as marketplace features, exclusive events, comarketing opportunities, and market immersion trips, we aim to empower startups to thrive in the global business landscape.

The Alibaba Cloud Startup Catalyst Program is now open to startups globally. Interested startups can check out more details of the program at **www.alibabacloud.com/startup** to learn more about the eligibility criteria and application process.

To gain a deeper understanding of the pivotal role of Alibaba Cloud in fostering the growth and expansion of startups, we conducted an interview with **Vland**, a multinational metaverse and AI company that delivers AI-powered small games for its users. This interview delves into how startups harness Alibaba Cloud's products and services to facilitate the transformation of their operations.

VLAND

Delivering Immersive AI-powered Gaming Experience

SANDY JIN

Founder and CEO, Vland

Vland **(https://vland.live/app/)** is a metaverse and AI company envisioning a future where artificial intelligence and the metaverse enable more interactive and personalized gaming experiences. With the Alibaba Cloud Catalyst Program, Vland modernized its infrastructure to enhance its AI capabilities and grow its business in international markets. We connected with the Founder and CEO of Vland, Sandy Jin, who provided some riveting insights into how his company, together with Alibaba Cloud, is leveraging future-proof technologies to deliver lifelike virtual characters and gaming experiences that evolve and respond to player actions, ushering in a new era of gaming where AI and the metaverse converge.

Q. Could you offer a brief summary of your startup's mission, and the core issues it addresses, and highlight the unique value it provides to your customers?

As a multinational metaverse and AI company, our primary focus within the AI domain revolves around the development and delivery of AI-powered small games. We specialize in crafting immersive and interactive gaming experiences that leverage the capabilities of Artificial Intelligence.

Our AI-powered small games tackle various challenges in the gaming industry, including the enhancement of gameplay mechanics, the creation of intelligent virtual opponents, and the provision of personalized gaming experiences.

Through the utilization of advanced algorithms and machine learning techniques, we empower games to adapt to players' behaviors, preferences, and skill levels, ultimately resulting in captivating and dynamic gameplay.

Moreover, our AI technology empowers us to create realistic and intelligent virtual characters that can engage with players in a lifelike manner. These characters possess the ability to learn, evolve, and respond to players' actions, thereby offering a more immersive and tailored gaming experience.

Q. Which Alibaba Cloud technologies and services have proven to be the most advantageous in driving your startup's growth?

In our entrepreneurial overseas project, one of the Alibaba Cloud's products- Global Accelerator has proven invaluable. It has been a cornerstone in facilitating our company's expansion into the metaverse industry abroad, offering substantial assistance in the following ways:

- **Enhanced Global Network Connectivity**

  The Global Accelerator optimizes network pathways, reducing latency and ensuring faster, more stable connections with global users. This has significantly elevated the overall user experience on our metaverse platform.

- **Improved Network Stability**

  By employing intelligent routing and continuous link quality monitoring, the Global Accelerator autonomously selects the most reliable network paths, minimizing congestion and failures. This has established a more stable and dependable network infrastructure, reducing service disruptions and overseas downtime.

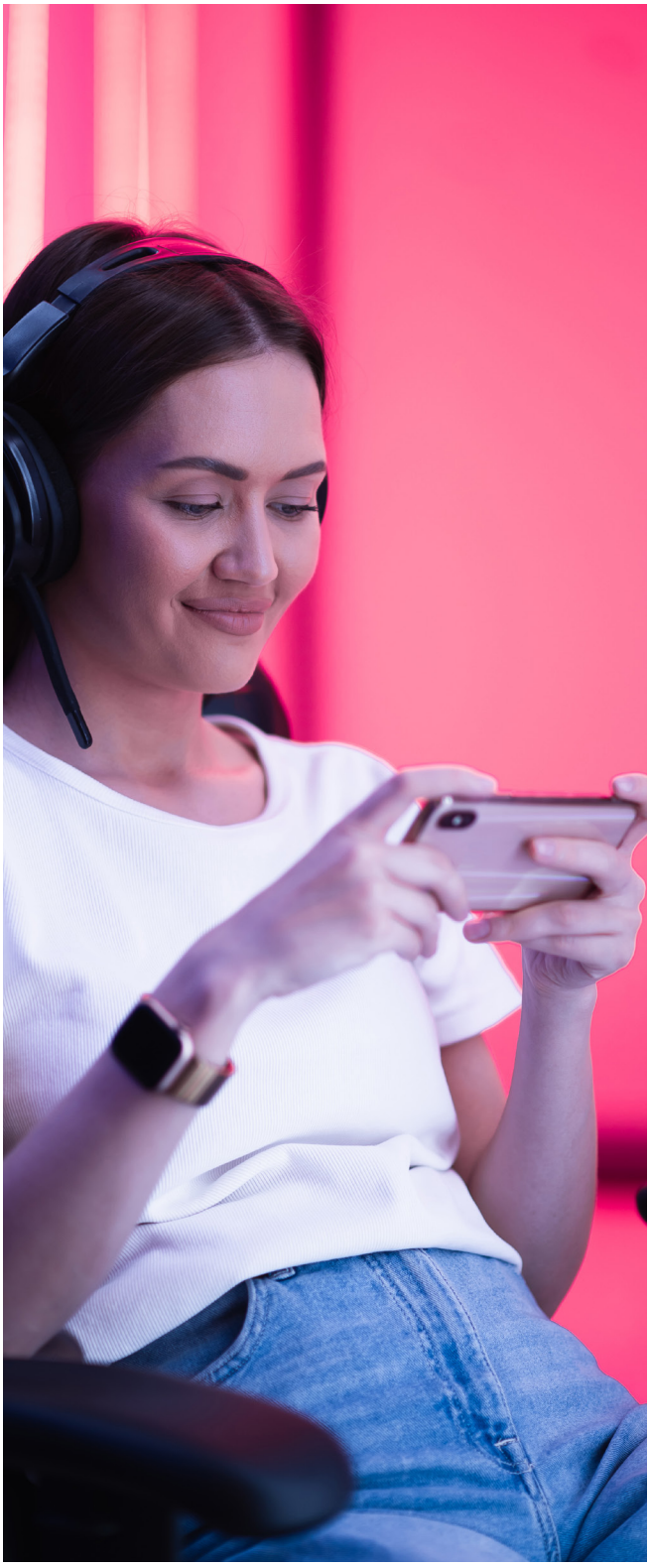
- **Simplified Network Management**

  The centralized network management console provided by the Global Accelerator has streamlined the administration of our global network resources. It simplifies the monitoring and configuration of acceleration services, enhancing operational efficiency in our network management processes.

- **Global Load Balancing**

  The Global Accelerator's global load balancing capabilities allow us to intelligently distribute traffic to the nearest servers based on traffic patterns and geographical location. This ensures optimal performance and availability of our metaverse platform across diverse regions, delivering a seamless user experience for our international user base.

Altogether, Alibaba Cloud's Global Accelerator has played a pivotal role in bolstering our company's overseas expansion in the metaverse industry. It has notably enhanced network connectivity, stability, and management, enabling us to effectively cater to our global user base and extend our reach in the international market.



Q. Could you provide more insight into the strategies you are leveraging to scale your operations with the support of Alibaba Cloud's technology and startup program?

With the immense support of Alibaba Cloud's technology and startup program, we are executing the following strategies to expand our operations:

- **Cloud Infrastructure**

  We harness Alibaba Cloud's scalable and reliable cloud infrastructure to accommodate our growing operations. Migrating our applications and data to the cloud enables flexible resource scaling based on demand, allowing us to manage increased user traffic and data processing needs without substantial upfront hardware investments.

- **Auto Scaling**

  Alibaba Cloud's Auto Scaling feature automatically adapts our computing resources using predefined rules. This ensures optimal performance and cost-efficiency by providing the right resources as needed. For instance, during peak usage, Auto Scaling deploys additional instances to handle heightened loads and scales down during low-demand periods.

- **Content Delivery Network (CDN)**

  Alibaba Cloud's CDN service accelerates content delivery to users. Caching static content on edge servers near users reduces latency and enhances the global user experience, ensuring fast, reliable platform access regardless of location.

- **Data Analytics**

  Leveraging Alibaba Cloud's data analytics tools, we gain insights into user behavior, platform performance, and market trends. By analyzing this data, we can make informed decisions to optimize our operations, improve user engagement, and identify areas for growth. For instance, we can tailor offerings based on user demographics and preferences to elevate user satisfaction.

- **Security and Compliance**

  Alibaba Cloud's comprehensive security solutions safeguard our platform and user data. Features such as DDoS protection, web application firewalls, and data encryption secure user information, fostering trust and confidence. This not only protects our platform but also builds trust among users.

- **Startup Program Support**

  Alibaba Cloud's startup program equips us with resources, mentorship, and technical assistance. Access to training programs, workshops, and networking opportunities bolsters our technical capabilities and business acumen. Additionally, leveraging Alibaba Cloud's ecosystem and partnerships facilitates potential collaborations and expands our market reach.

By employing these strategies and benefiting from Alibaba Cloud's technology and startup program support, we have effectively expanded our operations, enhanced performance and security, and driven cost-effective and efficient business growth.

Q. What are the top three key lessons or business best practices you've learned on your cloud journey with Alibaba Cloud's services and startup program?

During our journey with Alibaba Cloud's services and startup program, we've learned several valuable lessons and best practices for our business. Here are the top three:

- **Scalability is Crucial**

  We've come to appreciate the significance of scalability. Alibaba Cloud's services, including auto scaling and elastic computing, have empowered us to adjust our resources as per demand. This adaptability has proven indispensable in managing increased user traffic while maintaining peak performance. By designing our infrastructure with scalability in mind, we can efficiently accommodate growth without compromising on user experience or incurring unnecessary costs.

- **Data-Driven Decision Making**

  By harnessing Alibaba Cloud's data analytics tools, we've harnessed the potential of data-driven decision-making. Analyzing user behavior, platform performance, and market trends has furnished us with invaluable insights that drive our strategic choices. This approach optimizes our operations, enhances user engagement, and identifies growth opportunities. We've also learned to prioritize data collection, analysis, and interpretation to make informed and effective business decisions.

- **Security is Paramount**

  Safeguarding our platform and user data stands as a top priority. Alibaba Cloud's comprehensive security solutions, such as DDoS protection and web application firewalls, have played a pivotal role in improving our infrastructure. Recognizing the significance of robust security measures, we've made it a practice to implement them from the outset and regularly update them to proactively address potential threats. Prioritizing security has been pivotal in cultivating trust and confidence among our users, driving our growth.

Q. Drawing from your experience in nurturing a successful startup, what advice would you give to aspiring entrepreneurs looking to make their mark in the business world?

As an experienced entrepreneur, here is the advice I would offer to aspiring entrepreneurs seeking to establish themselves in the business world:

- **Begin with Clarity**
  Before embarking on any business endeavor, it's vital to have a well-defined vision. Clearly outline your objectives, values, and the problem you intend to solve. This vision will serve as your guiding star on your entrepreneurial path, helping you remain focused and motivated.

- **Embrace Failure as a Learning Opportunity**
  Failure is an inevitable part of entrepreneurship, and it should be embraced as a valuable lesson. Do not fear taking risks and trying new approaches. When setbacks occur, evaluate what went wrong, learn from your mistakes, and adapt your strategy. Remember, failure does not define your worth; it is a stepping stone to success.

- **Forge a Robust Support Network**
  Surround yourself with mentors, advisors, and like-minded individuals who can offer guidance, support, and valuable perspectives. Seek out networking opportunities, engage in entrepreneurial communities, and attend industry events. Collaborating and learning from others will help you navigate challenges, gain fresh viewpoints, and unlock potential partnerships or investments.

- **Prioritize Lifelong Learning**
  The business landscape continually evolves due to which it is crucial to stay updated with the latest trends, technologies, and market dynamics. Invest in your personal and professional growth through reading, workshops, courses, or mentorship. Continuous learning and adaptability provide a competitive advantage and empower informed decision-making.

- **Embark on an Exciting, Challenging Journey**
  Initiating a business is an exhilarating and demanding undertaking. However, with the right mindset, perseverance, and ongoing learning, you can leave your mark in the business world. Embrace the highs and lows, remain steadfast in your vision, and never cease pursuing your entrepreneurial dreams.


Alibaba Cloud
www.alibabacloud.com