

WHALE CLOUD RECEIVES THE 2023 TECHNOLOGY INNOVATION LEADERSHIP AWARD

*Identified as best in class in the
Asia-Pacific 5G OSS/BSS industry*

Best Practices Criteria for World-Class Performance

Frost & Sullivan applies a rigorous analytical process to evaluate multiple nominees for each award category before determining the final award recipient. The process involves a detailed evaluation of best practices criteria across two dimensions for each nominated company. Whale Cloud excels in many of the criteria in the Asia-Pacific 5G operational support systems (OSS)/business support systems (BSS) space.

AWARD CRITERIA	
<i>Technology Leverage</i>	<i>Business Impact</i>
Commitment to Innovation	Financial Performance
Commitment to Creativity	Customer Acquisition
Stage Gate Efficiency	Operational Efficiency
Commercialization Success	Growth Potential
Application Diversity	Human Capital

Commitment to Innovation

Formerly known as ZTEsoft, Whale Cloud, rebranded in 2018, is making great strides in helping mobile operators in Asia-Pacific (APAC) with 5G OSS/BSS. Focusing on the needs of the next wave of solutions to overcome the revenue plateau faced by the telecoms industry, the company worked strategically on three

“Prospects for future capability expansion supported by Whale Cloud are bright because the company leverages technology advancements to push the limits and drive innovation.”

Mei Lee Quah
Director, ICT Research

key areas to be more effective at helping mobile operators and filling the gap in the market. These areas are improving core connectivity, innovative services that can make a difference, and accountable digital service delivery.

On core connectivity, it prioritized a cloud-ready open 5G portfolio that can flexibly cater to a range of 5G scenarios in the business-to-consumer, business-to-business (B2B), and business-to-business-to-consumer markets. The company’s 5G suite, comprising 5G Monetization, 5G Orchestration, 5G Message, and 5G Marketplace, has been commercially implemented in China by China Telecom, China Mobile, and China Unicom, and within APAC.

To introduce innovative services for the consumer segment, the company incorporated leading technologies from Alipay+ Payment Tech. The digital super app and eCommerce platform, which has proven highly successful in China and Africa, enables mobile operators to quickly establish a local lifestyle ecosystem. Incumbent and greenfield mobile operators can benefit from the solution as, in many cases,

the payment solutions implemented by mobile operators have had limited success. DITO Telecommunity, a greenfield mobile operator in the Philippines, acquired millions of customers that subsequently generated omnichannel sales following the implementation of the company's digital commerce cloud.

For the enterprise segment, the company empowers mobile operators to tap into the cloud computing business. The Local Public Cloud (LPC) and Cloud Revenue Engine (CRE) products help APAC mobile operators to build and run a cloud business for SMEs, large enterprises, and government agencies.

As the world seeks to stabilize into a new normal in the post-pandemic era, the approach to digital transformation needs to be flexible to overcome a lack of clarity to tap into the vast potential in the telecoms industry. Transforming with legacy is no mean feat, especially when the future is unclear. With mobile operators proactively experimenting with new business horizons and seeking out fresh revenue channels while maintaining competitiveness, there has been a boom of digital telco brands and sub-brands in the region. These changes pave the way for innovation, streamlining digital operations, reducing the churn rate, and acquiring customers at a lower risk and cost.

To support growth in this new era, Whale Cloud explored the combination of remote and large-scale agile delivery to support various digital service delivery approaches (e.g., big-bang, phased, and bridging). The company's Digital Transformation Delivery Framework (DTDF) enables scaled agile and lean digital transformation IT project delivery. Its disruptive Software-as-a-Service (SaaS) suite includes 5G-ready Xpress BSS (BSS-as-a-Service), QRun (OSS-as-a-Service), Digital Marketing Cloud (Marketing-as-a-Service), Field Service Edge (Field Service-as-a-Service) and FaaS (Fiber Design-as-a-Service) that can simplify business setup and operation for mobile operators.

Commitment to Creativity

5G monetization is a bigger concern than 4G monetization due to higher 5G cost and the current lack of monetizable use cases, even for the enterprise segment for which the technology was meant. Whale Cloud 5G Monetization suite allows mobile operators to deploy 5G cost-effectively, fast-track 5G-ready services, foster the partner ecosystem, and enable flexible and extensive offers for 5G use cases. The suite supports a multi-dimensional charging model with configurable parameters and a flexible rating engine, which allows mobile operators to reuse price plans and create offers with agility.

There have been commercial deployments of Whale Cloud's 5G charging within APAC (e.g., in DITO Telecommunity, StarHub in Singapore, U Mobile in Malaysia, and True in Thailand), but most notable is the role the suite played in China. The company has helped launch "the Settlement Chain," jointly built by China Mobile and China Unicom with the creative establishment of a safe and reliable data-sharing channel between the mobile operators. This milestone achievement assisted China Mobile and China Unicom with 5G settlement within the ecosystem, incubated new settlement business scenarios, and jointly created a "1+1+1" 5G ecological settlement capability system that empowers the industry with a bright future in 5G digital intelligence.

Another example of creativity by Whale Cloud is evident from the company's range of innovative SaaS solutions with flexible commercial pricing models and TaaS, which stands for Telco-as-a-Service Transformation Approach. Whale Cloud designed the TaaS approach to meet the needs of mobile operators focusing on outcome- or minimum viable path-based approaches with greenfield

implementations. It is less risky, outcomes-focused, and economically efficient. Above all, it helps overcome the risk of migrating the existing legacy BSS/OSS, which is the most critical element of a mobile operator that cannot be compromised. With the approach, mobile operators can reinvent part of the business and use a phased, step-by-step approach to gradually replace the existing legacy system and migrate to a new system once operations of the new system are stable. This approach is recommended for mobile operators with complex legacy BSS but seeking means to embark on transformation.

Whale Cloud has also supported China Mobile in implementing the network orchestration system, comprising 5G slicing and multi-access edge computing (5G+MEC). The system provides 5G private network (BAF) service provisioning capability, enables network capability sharing, and achieves model-driven automatic issuance and low-cost agile support for market development. Implementing the 5G+MEC new industry network capability orchestration system has solved the pain points of business planning, business launch, business deployment, and business operation in the complex scenarios of 5G BAF. It has also improved the orchestration support capability of China Mobile (Fujian) in the vertical industries. Prospects for future capability expansion supported by Whale Cloud are bright because the company leverages technology advancements to push the limits and drive innovation.

Commercialization Success

Facilitating digital touchpoints and ensuring a seamless digital experience are necessary steps for mobile operators to stay competitive. As an example of commercialization success, Whale Cloud's innovation in digital touchpoints has resulted in Whale Cloud supporting DITO Telecommunity to leverage a unique agent model. Enabled by technology, DITO customers can now become mini dealers. This means they can conduct online transactions on a mobile agent app on behalf of DITO and get paid the corresponding commission in real time.

Whale Cloud supported U Mobile's BSS transformation with SAFe Lean-Agile Principles as the guidance and Whale Cloud DTDf as the methodology. U Mobile has adopted a new delivery approach by Whale Cloud called bridging, which allows legacy and new systems to run in parallel. U Mobile has achieved a smooth migration with zero downtime and no impact on customer experience. As such, U Mobile can move on to deliver on its next growth phase with 5G, fixed line, and new digital business initiatives and provide customers with more innovative offerings.

Whale Cloud's Field Service Edge (FSE) supported digitalization of field service operations for an Asian mobile operator, serving as a SaaS model to transform the company's field operations to work digitally. With the successful digitalization of its field service operations, the mobile operator has achieved a 15% improvement in task response time through continuous and automatic system notification, a 20% enhancement in workforce productivity by providing the right tools and process guidance all in one integrated platform, and a reduction in the mean time to repair (MTTR) by 13% with an auto-dispatch mechanism that accelerates the overall task completion process. Manual work declined by 25% so that field service engineers could focus more on essential tasks, and time spent on staff management declined by 35%.

Whale Cloud supported Telkomsigma's expansion into adjacent markets to find new growth by leveraging innovative technologies and business models. Telkomsigma transformed its traditional B2B IT services

into a state-of-the-art cloud business (FLOU Cloud) that allows state-owned enterprises, governments, SMEs, and corporations across various industries to augment connectivity among users. With Whale Cloud's CRE, a multi-cloud resources discovery, management, and monetization solution, Telkomsigma has built a unified cloud product catalog, unified cloud billing engine, unified resource management, and unified customer and order management to support faster time to market of various cloud services and enable diverse cloud business models. FLOU Cloud has assisted many enterprises and government institutions across vertical industries, such as healthcare, logistics, financial, energy, and mineral, in their digital transformation journey.

Application Diversity and Growth Potential

Apart from its OSS/BSS service offerings, Whale Cloud leverages its track record with more than 150 mobile operators in over 80 countries on other products/services and specializes in cloud computing, big data analytics, AI-enabled service operations, internet of things, smart city solutions, and other professional services including planning and consulting. These cutting-edge emerging technologies strengthen the Digital BSS/OSS Suite and better serve their customer bases. For example, Whale Cloud uses WhaleTalk to provide 24x7 customer support, AI-driven marketing to generate personalized recommendations, and eKYC process to automate the customer onboarding process and achieve operational excellence through AIOps. In addition, OSS/BSS can be re-purposed to serve targeted vertical industries (e.g., automotive, gas, and energy industries). The track record achieved with customers over the years will be beneficial since, with trust, the company can sell strong products/services with less resistance.

Frost & Sullivan also recognized the company in 2021 for its excellence in AI in the Telecom Operations Software Industry in APAC. As AI will become increasingly useful with 5G, excellence in implementing AI in OSS/BSS will be a strong pillar for growth for years to come.

Synergies with Alibaba Cloud (e.g., its in-house cloud support) can strengthen its competitive advantage. On the topic of cloud, for example, other OSS/BSS competitors must work with third parties [e.g., Amazon Web Services (AWS), Google Cloud Platform (GCP), and Microsoft]. External party dependence has implications on the cost to the customer, flexibility with arrangements, and seamlessness of end-to-end interaction as control over cloud resources will be external and not kept within the group like in the case of Whale Cloud. For this reason, Whale Cloud has focused on forming strategic partnerships with Alibaba Cloud since 2018 to increase its tolerance to uncertainty and keep up with the changes in the rapidly evolving telecom industry. With the empowerment of emerging technologies (e.g., cloud-based technologies) and business models from Alibaba Cloud, the company is better equipped to help mobile operators grow their core connectivity while exploring beyond connectivity opportunities with its range of solution offerings from BSS/OSS to Cloud, eCommerce, Fintech, and Smart City. To cater to mobile operators' preferences and existing working relationships, Whale Cloud is investing in providing SaaS solutions on third-party cloud providers (e.g., AWS and GCP) and offering flexible commercial models such as subscription, revenue share, and pay-as-you-go.

Financial Performance

Despite the challenges posed by the COVID-19 pandemic, Whale Cloud recorded OSS/BSS revenue growth in APAC at a 19% compound annual growth rate (CAGR) from 2018 to 2022. Unlike most of its direct competitors, the company achieved a steady year-over-year (YoY) increase in revenue from OSS/BSS in APAC from 2020 to 2022. This shows the level of trust and following the company has among its customer base.

With a stronghold in China, one of the largest mobile markets in APAC, accounting for over a third of the mobile subscribers in APAC, and good relationships with the top three mobile operators, the company is well-placed to tap into the strong local push for innovation that can leverage elsewhere in APAC. In addition, from 2020 to 2022, the company remained committed to investing more than 10% of its annual revenue in research and development (R&D) on innovative and cutting-edge emerging technologies and new product development that can help the company stay ahead of the competition, thereby reinforcing its competitiveness in the OSS/BSS market in APAC.

Conclusion

Capabilities within the Alibaba group of companies (Cloud, Fintech, and eCommerce) enrich Whale Cloud's uniqueness in the APAC OSS/BSS market. While other key players in the space leverage third-party cloud providers, the company can build on the power of Alibaba Cloud and cater to customer preferences by offering access to third-party cloud providers. After regional divestments of payment solutions by mobile operators, a proven and highly successful solution by the Alipay+ Payment Tech and Whale Cloud can now help mobile operators introduce much-needed innovation. Whale Cloud understands that OSS/BSS needs to serve all vertical industries and can drive affordable solutions in APAC, leveraging its stronghold and a low-cost base for R&D in China, a leading 5G market in the region. It can replicate many of the first-to-market innovations created across the region, which drives affordability for mobile operators and better returns on investment for Whale Cloud.

With its strong overall performance, Whale Cloud earns Frost & Sullivan's 2023 Asia-Pacific Technology Innovation Leadership Award in the 5G OSS/BSS industry.

What You Need to Know about the Technology Innovation Leadership Recognition

Frost & Sullivan's Technology Innovation Leadership Award recognizes the company that has introduced the best underlying technology for achieving remarkable product and customer success while driving future business value.

Best Practices Award Analysis

For the Technology Innovation Leadership Award, Frost & Sullivan analysts independently evaluated the criteria listed below.

Technology Leverage

Commitment to Innovation: Continuous emerging technology adoption and creation enables new product development and enhances product performance

Commitment to Creativity: Company leverages technology advancements to push the limits of form and function in the pursuit of white space innovation

Stage Gate Efficiency: Technology adoption enhances the stage gate process for launching new products and solutions

Commercialization Success: Company displays a proven track record of taking new technologies to market with a high success rate

Application Diversity: Company develops and/or integrates technology that serves multiple applications and multiple environments

Business Impact

Financial Performance: Strong overall financial performance is achieved in terms of revenues, revenue growth, operating margin, and other key financial metrics

Customer Acquisition: Customer-facing processes support efficient and consistent new customer acquisition while enhancing customer retention

Operational Efficiency: Company staff performs assigned tasks productively, quickly, and to a high-quality standard

Growth Potential: Growth is fostered by a strong customer focus that strengthens the brand and reinforces customer loyalty

Human Capital: Commitment to quality and to customers characterize the company culture, which in turn enhances employee morale and retention

About Frost & Sullivan

Frost & Sullivan is the Growth Pipeline Company™. We power our clients to a future shaped by growth. Our Growth Pipeline as a Service™ provides the CEO and the CEO's growth team with a continuous and rigorous platform of growth opportunities, ensuring long-term success. To achieve positive outcomes, our team leverages over 60 years of experience, coaching organizations of all types and sizes across 6 continents with our proven best practices. To power your Growth Pipeline future, visit Frost & Sullivan at <http://www.frost.com>.

The Growth Pipeline Engine™

Frost & Sullivan's proprietary model to systematically create ongoing growth opportunities and strategies for our clients is fuelled by the Innovation Generator™.

[Learn more.](#)

Key Impacts:

- **Growth Pipeline:** Continuous Flow of Growth Opportunities
- **Growth Strategies:** Proven Best Practices
- **Innovation Culture:** Optimized Customer Experience
- **ROI & Margin:** Implementation Excellence
- **Transformational Growth:** Industry Leadership



The Innovation Generator™

Our 6 analytical perspectives are crucial in capturing the broadest range of innovative growth opportunities, most of which occur at the points of these perspectives.

Analytical Perspectives:

- **Mega Trend (MT)**
- **Business Model (BM)**
- **Technology (TE)**
- **Industries (IN)**
- **Customer (CU)**
- **Geographies (GE)**

