

ICBC (Asia)

makes cross-border banking easy

Cross-border finance is developing rapidly thanks to the opening up of China's capital market and the development of the greater bay area that links Guangdong, Hong Kong, and Macao. The Industrial and Commercial Bank of China (Asia) started its cross-border renminbi business in 2013 and has since achieved double-digit growth in its business. How has it made such impressive progress?

By Chen Yingying





By the end of 2017, the bank had established partnership with more than 500 enterprise customers, supported the settlement of nearly 20 currencies, processed more than 36 trillion yuan (US\$5.53 trillion) of settlements, and received more than US\$4.6 billion in total deposits.

ICBC (Asia) has 57 retail outlets and serves as the flagship of the overseas banking business of ICBC Group. At year-end 2017, ICBC (Asia)'s total assets amounted to US\$114.47 billion. Headquartered in Hong Kong, ICBC (Asia) benefits from the city's position as an offshore center for renminbi and cross-border banking services. In the future, the bank plans to provide diverse low-cost, cross-border financing services, including IPOs and issuing bonds, cross-border renminbi services, and cross-border asset management services.

Technology creates value

Cross-border finance is developing rapidly and, at the same time, customer needs for Internet finance and new payment methods have increased drastically. This brings great opportunities to ICBC (Asia)'s cross-border

finance business as well as challenges to its business systems and ICT infrastructure.

ICBC (Asia) is exploring innovative applications using biometric recognition, blockchain, big data, AI, and cloud computing technologies. To better serve its customers, the bank provides a VIP recognition service, precise sales and marketing strategies, product recommendations, and differential pricing. Smart risk prevention and control helps detect fraud, credit risks and operating risks, while the management dashboard supports decision-making, abnormal capital flow warnings, incident prevention, and risk management.

In 2016, ICBC (Asia) started to plan and deploy innovative systems using the latest ICT technologies like virtualization, big data, cloud computing, and DevOps. With the help of new architectures, ICBC (Asia) secured an advantageous position for future market competition. Based on ICBC (Asia)'s business and technology development requirements, Huawei provided a number of cutting-edge solutions, such as its Digital Multimedia Banking Solution, Safe Financial Cloud Solution,

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and CloudFabric Cloud Data Center Network Solution.

Improving customer experience in cross-border finance

To provide cross-border services, the bank developed an mVTM system based on Huawei's IP Contact Center (IPCC) Solution, allowing customers to video conference with their financial advisors via the ICBC (Asia) app and receive professional financial advice anytime, anywhere. The solution has many unique features such as multimedia access, automated service processes, and an intelligent routing platform that can assign incoming calls to the most appropriate agent. With these unique features, IPCC will provide text messaging, voice calls, and video interaction services. This not only boosts customer experience, but also enables service back tracking to ensure the service provided fulfills regulatory compliance.

In the future, ICBC (Asia) will develop a 24/7 omni-

channel intelligent customer service system to answer customer enquiries. This chatbot system will process voice commands in Mandarin, Cantonese, and English, improving ICBC (Asia)'s operating efficiency and service quality.

Focusing on both security and agility

Cyber attacks threaten banks' intranet systems. Additionally, sharing sensitive data with third parties can lead to confidential information leaks, causing great losses to both customers and the bank. ICBC (Asia) worked with Huawei to improve employees' capabilities in protecting sensitive internal information. Huawei is the only vendor to provide holistic ICT solutions that span desktop cloud protocol software, virtualization software, servers, storage units, firewalls, and networks, which it has also applied internally.

With Huawei's assistance, ICBC (Asia) achieved fine-grained security management based on user, region, and resource; security authentication and verification; and sliced data transmission and storage. Huawei's comprehensive cloud-



pipe-device-control system for security improves service systems' reliability in management nodes and user connections. The new O&M system has rich functions and simplified wizard operations, maximizing O&M efficiency and lowering costs.

ICBC (Asia) staff can back up important files and data to the Onebox application for easy data protection. In the near future, Huawei will use desktop virtualization technology to help ICBC (Asia) isolate browsers from service systems and also the intranet from the Internet to protect ICBC (Asia)'s ICT systems from cyber attacks, and prevent the disclosure of sensitive data, including assets and cross-border transactions.

Building a strong neural network system

The growth of cross-border finance poses higher requirements on data storage reliability, data center network speeds, and overall system stability. Statistics show that China's large commercial banks and insurance companies have an average of more than 100 TB of data in their databases. To address the Internet finance

challenge, financial institutions are now using data to drive business innovation. Data centers, which once served banks as support centers, now shoulder the responsibilities of creating value and profits.

ICBC (Asia) built its service systems based on traditional data centers, classified service sectors by business, and formulated complicated security strategies. The rapid increase in service types and capacities requires flexible deployment, dispatching, migration, and the management of service resource pools. Traditional network architecture became a choke point that hindered business development. Now, ICBC (Asia) adopts standard, open network technologies and new data center architectures to set a solid foundation for a strong neural network system.

ICBC (Asia) breaks through constraints by replacing non-standard technologies. Its existing data center and production backbone network used traditional solutions and closed private technologies like EIGRP and PVST+. For network equipment, Huawei provides

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CloudEngine, USG Next-Generation Firewall (NGFW), and other devices that feature open architectures, standard network control protocols, and standard interfaces.

Huawei deployed its Software Defined Network (SDN) controller and Agile Controller based on open-source architectures like Open Network Operating System (ONOS) and OpenDaylight (ODL). ICBC (Asia) used Huawei’s Agile Controller to replace its existing private network architecture and protocols, protecting the bank from vendor lock-in. ICBC (Asia) can now access the OpenStack-based cloud platform, share computing resources and value-added services across data centers, enjoy multi-service convergence, and flexibly expand and upgrade its solution.

Based on existing equipment, Huawei built a data center network that links with virtual platforms and can evolve into cloud-network collaboration. With Huawei’s solution in place, ICBC (Asia) can upgrade its network and retain many of its legacy network devices. Doing so maximizes the return on ICBC (Asia)’s historical investment, meeting the bank’s requirements on long-term development.

Based on spine-leaf architecture, Huawei’s solution uses the Agile Controller and CE Series Switches to

help ICBC (Asia) smoothly evolve cloud computing capabilities. The project is being carried out in phases, and will not involve mass software or hardware replacement. In the future, ICBC (Asia) can choose to reshape its data center network and build an SDN, enabling service systems to share network hardware resources. These will be logically isolated from each other to ensure security and share IT resources to improve resource usage and service deployment efficiency.

Commenting on the project, Tang Bin, General Manager of the bank’s IT department, said, “Huawei helped ICBC ((Asia)) build more open and stable ICT infrastructures, allowing business departments to operate more securely and easily. With Huawei’s solution in place, we’ve achieved a major breakthrough in the diversity of DC network products, laying a solid foundation for private cloud transformation in the future. ICBC (Asia) looks forward to cooperating further with Huawei in cloud computing, big data, and other sectors.”

With Huawei’s technological support, ICBC (Asia) is confident that it can optimize its management, services, and innovation capabilities and meet the increasing needs of customer services, internal management, and external regulatory compliance. 