Finance Industry: Huawei Network Solutions Create Global Opportunities for Channel Partners

With a stunning annual investment of approximately US$500 billion worldwide on Information and Communication Technology (ICT), the finance industry spends about US$15 to 20 billion of this amount each year on network devices (switches, routers, optical transmission products, and access products).

In recent years, financial institutions have invested heavily in three network areas: (1) data center redundancy network construction, (2) campus network improvement and equipment upgrade and (3) branch and ATM access network reconstruction. Against this backdrop, Huawei has launched three major solutions for the finance industry, as illustrated below:

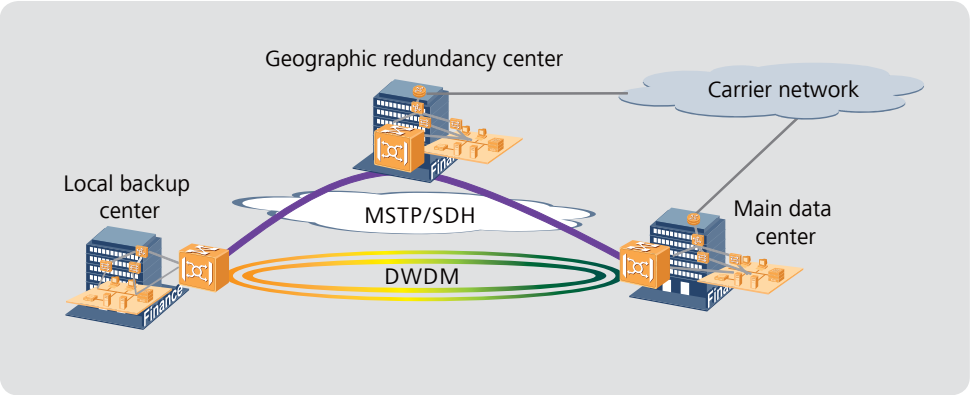
Data Center Redundancy Network Solution

Converged Campus Network Solution

One-Stop Branch Access Solution

Data Center Redundancy Network Solution

Solution Overview (Three Data Centers at Two Locations)



Redundancy is functionally classified into local redundancy and geographic redundancy. The local redundancy center implements real-time data backup and service switchover to ensure service continuity. The geographic redundancy center protects data against natural disasters. In terms of the network structure, a redundancy internal network and a data center interconnection network are defined.

Currently, most financial companies are building, or plan to build, a data center redundancy network. This brings many opportunities to Huawei and its partners.

Construction Drivers

- After data centralization, a single data center is prone to single point of failure. Setting up a redundancy center will ensure service continuity.
- A redundancy center is required to prevent data loss.

Market Opportunities

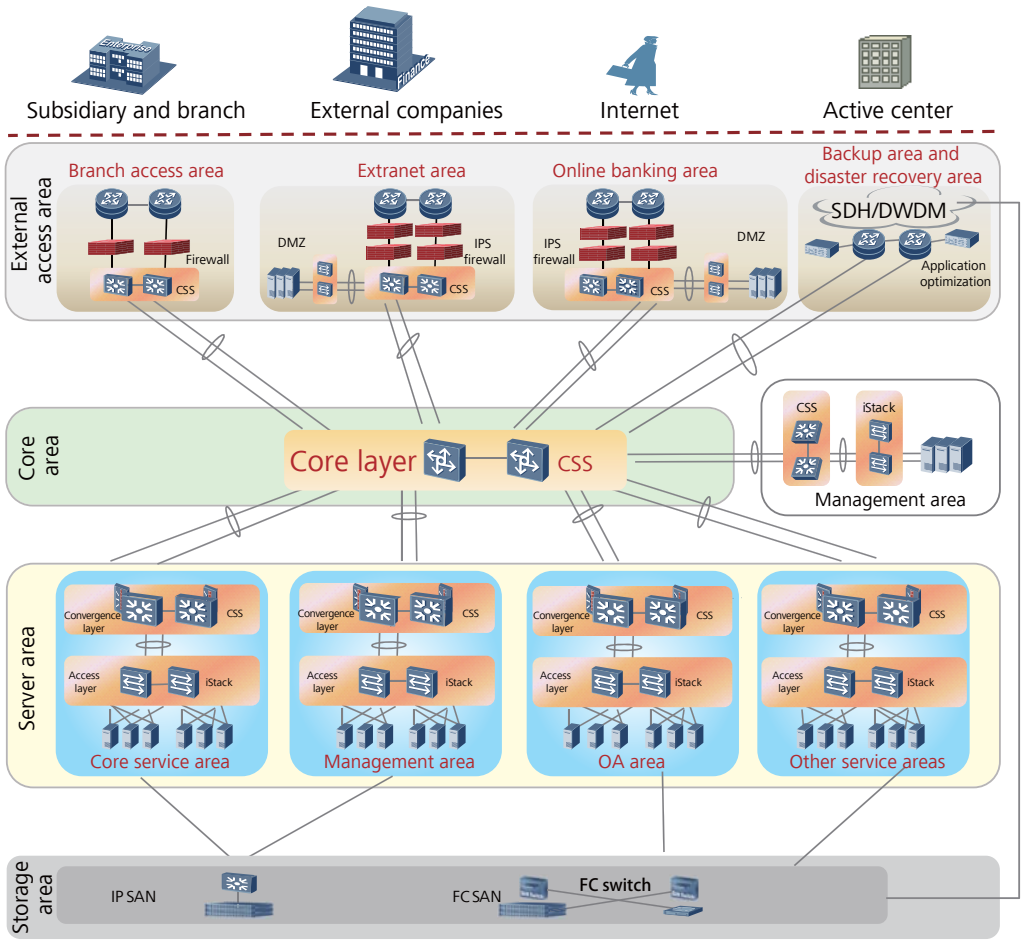
- Data center redundancy is the most significant market opportunity in the finance industry. Estimates show that the 2012 global data center redundancy market is worth about US$30 billion, among which 5 percent (about US$1.5 billion) is earmarked for IP products. The finance industry accounts for 60 percent of IP products.

Huawei Opportunities

- Huawei is a leading global ICT solutions provider and can offer end-to-end, high-reliability data center redundancy network solutions to financial customers.
- The data center redundancy project is a large project, and the customer's HQ often organizes a unified purchase, which is aligned with Huawei's sales model.

Data Center Redundancy Network Solution

Typical Networking Flow Diagram



Solution Overview

Area-based Construction:

- Different areas are defined based on service functions, which helps deploy security policies and easily expand the network structure.

Hierarchical Construction:

- Core switches (at the core switching area), aggregation switches (at egresses of service areas), and access switches (at the top of the rack or in the array cabinet and which may function as the aggregation switch) are used. In addition, routers are deployed in the access area, extranet area, and Internet area to support private line access.

High Security and Strict Access Control

- Firewalls are deployed at egresses of many service processing areas such as the core service area, management area and extranet area. In addition, various types of security devices are installed at the Internet area.

Heterogeneous Network

- Many customers want to use equipment from different vendors to build a heterogeneous network for their primary and backup data centers. This avoids over-reliance on the same vendor and also prevents system crashes due to the same network attack.

Selected Equipment

Optical Transmission Equipment:

- OSN1800/OSN8800: Connects the primary data center and the local redundancy center.
- OSN3500/OSN550: Connects the geographic redundancy center, the primary data center, and the local redundancy center.

Switches:

- Core switch: S9700/CE12800
- Aggregation switch: S7700
- Access switch: S5700/S6700/CE6800

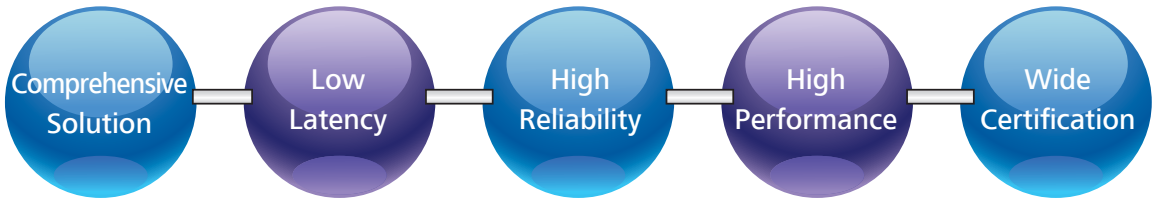
Routers:

- NE40E-X3/X8

NMS

- eSight/U2000

Solution Highlights



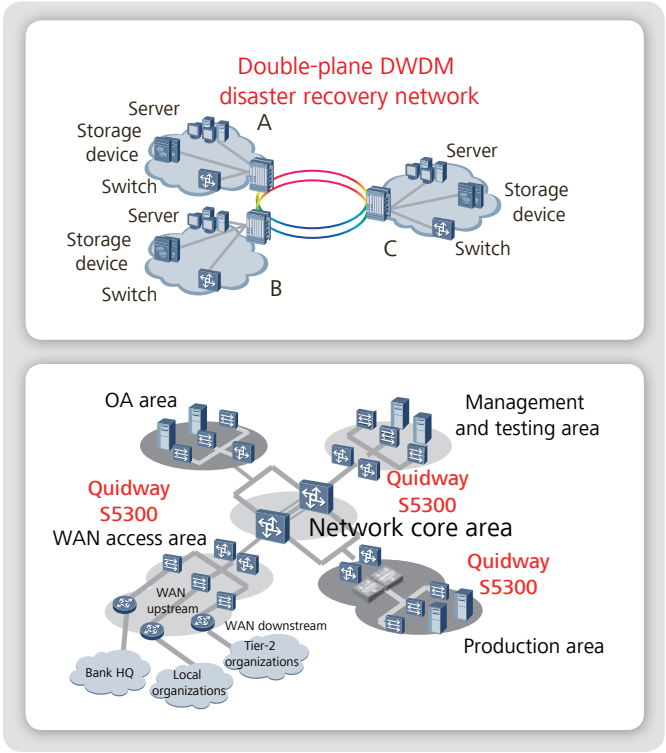
Comprehensive Solution	Low Latency	High Reliability	High Performance	Wide Certification
• Optical transmission device • Router • Switch • Security product	• Real-time backup of service systems via μs-level latency	• LFR+ASON • Equipment-level redundancy design • Networking redundancy design	• E2E 100 G high bandwidth to reduce the convergence ratio and improve data synchronization	IBM, Hitachi, HP, MacData, EMC, SUN and Brocade

Data Center Redundancy Network Solution

Success Stories

Dual-Plane Data Center Redundancy Network for PBC

中国人民银行
THE PEOPLE'S BANK OF CHINA



Project Background

- The People's Bank of China (PBC) wanted to expand the production, OA, and testing management areas of its backup data centers.
- PBC also hoped to interconnect the primary data center and two local redundancy centers to prevent service interruption.
- PBC required high-density interfaces for GE access and a highly reliable network.

Huawei Solution

- Used 20 S53xx switches at the service access layer.
- Deployed 20 OSN6800 devices at the three data centers to form a dual-plane network (the two planes back up each other).
- Initially implemented six wavelengths, expandable to 80 wavelengths in the future.

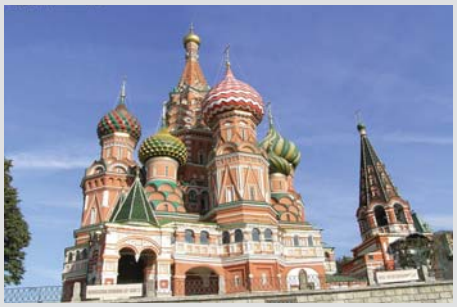
Customer Benefits

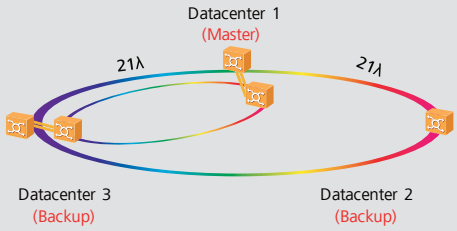
- Reduced power consumption (30% lower than the industry average), improved network reliability, mitigated equipment running risks, and decreased investment
- Higher reliability (service switchover within 50 ms) and easier network expansion and upgrade

Success Stories

Data Center Redundancy Network for Sberbank of Russia

SBERBANK
By your side





Project Background

- Sberbank of Russia is the country's largest financial institution, managing 26 percent and 30 percent respectively of the total bank assets and capitals in Russia's bank market. According to Tier 1 Capital, Sberbank ranks number 43 internationally.
- To support its considerable online services, Sberbank required a reliable network to ensure service continuity.
- Sberbank also called for multi-service support, including FE, GE, 10 GE, FC, and STM-x services.
- Sberbank also needed low latency for SAN services and quick service response.

Huawei Solution

- Deployed two OSN 8800s at the primary data center, one additional OSN8800 at data center 2 and another two OSN8800s at data center 3.
- Deployed six OSN 6800s at six branches in Stavropolskiy Kray to connect these branches to HQ.

Customer Benefits

- Saving of rack resources due to the use of high-integration OSN8800s (one rack supports 128*10 G)
- Easier network expansion (1.28 T OTN XC to meet the customer's fast-growing service requirements)
- Higher network reliability

OSN Data Center Backup Network for Shanghai Stock Exchange

Project Background

- Shanghai Stock Exchange needed to build a local redundancy center for its data center and systems to ensure the stable operation of transactions. It placed high requirements on network reliability and latency. In addition, Shanghai Stock Exchange hoped to build a Wavelength-Division Multiplexing (WDM) network to provide abundant service interfaces.

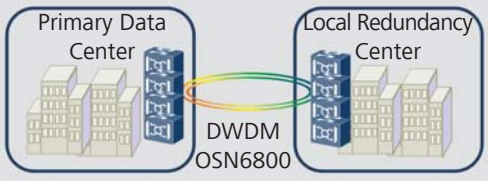
Huawei Solution

- Used Huawei's WDM equipment, after rigorous selection considerations, to build the desired network.
- Deployed eight OSN6800s, with nine wavelengths per link (each link used a four-core optical fiber).
- Provided 1+1 protection for connections to improve security and stability.
- Provided abundant interfaces and supported multiple services, such as IP and storage services.
- Used the U2000 NMS to uniformly manage equipment and services.

Customer Benefits

- Stable operation of equipment and systems, flexible and smooth network expansion based on service demands, and multi-service access and protection

上海證券交易所
SHANGHAI STOCK EXCHANGE



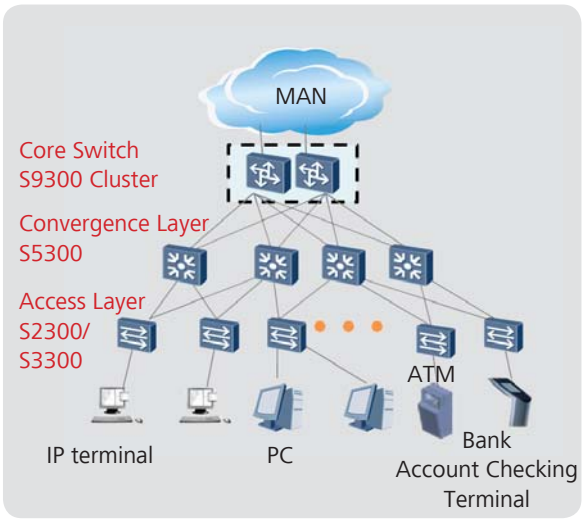
Converged Campus Network Solution for Financial Institutions

The campus network for financial institutions refers to the OA network within the office buildings at HQ and branches. When more collaborative services, such as video conferencing, unified communications (UC), and VoIP are introduced, requirements are increased for bandwidth, QoS and reliability; however, many financial institutions established campus networks early, and these existing networks cannot support collaborative services. Financial institutions, therefore, must optimize these networks.

Huawei has unveiled a Converged Campus Network Solution specifically designed to help financial institutions improve their campus networks.

Success Stories

Converged Campus Network for the Bank of China (BOC)



Project Background

- The Bank of China (BOC) has large office buildings, many of which must support more than 1,000 users.
- The campus network needed to be reliable and secure and support multiple services.

Huawei Solution

- Used more than 200 S9300/S5300/S3300/S2300 series switches to build a quality campus network, which covers BOC's branches in Guangdong, Shenzhen, Zhejiang, and Guizhou.
- Deployed CSS cluster technology and stacked switch technology to improve network reliability.

Customer Benefits

- Improved network performance and anti-attack capabilities
- Enhanced network reliability and quick service switchover within 50 ms, without deploying xSTP technology
- Multi-service support, simplified network structure, and easier service provisioning

Success Stories

Converged Campus Network for ABC

Project Background

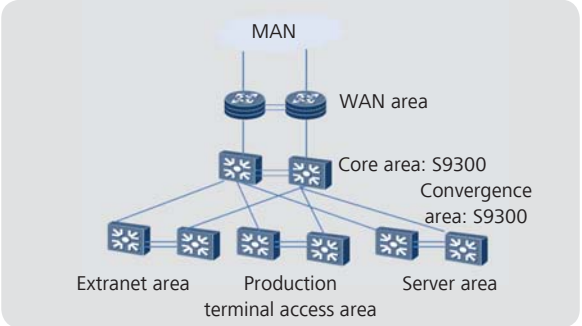
- The Agricultural Bank of China (ABC) has a large office network in its Beijing branch (including Gongzhufen, Jinyu, and Dongdan office sites).
- The network must support thousands of users, must be highly secure and reliable to support complex office services.

Huawei Solution

- Deployed 57 S9300s to build a quality campus network.

Customer Benefits

- Investment protection and good compatibility with equipment from other vendors at the access layer
- Improved network performance and anti-attack capabilities
- Higher reliability, 50 ms switching protection, multi-service support, simplified network structure and easier service provisioning



Converged Campus Network Solution

Success Stories

OA Network for NBK

Project Background

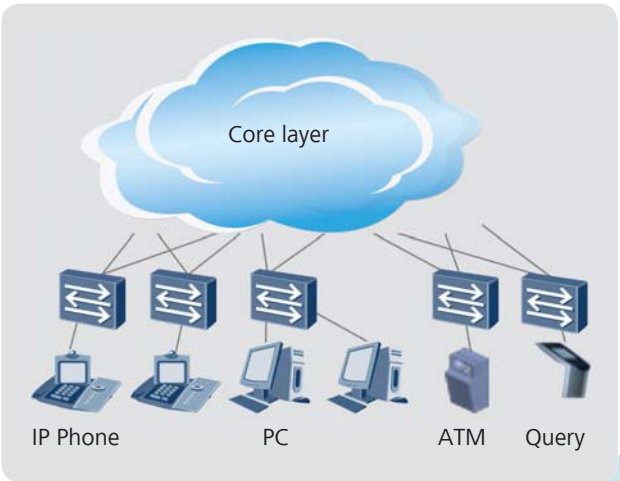
- The National Bank of Kuwait (NBK) is the largest bank in Kuwait, with more than 175 branches in 17 countries.
- NBK intended to build a reliable, secure, and easy-to-maintain Office Automation (OA) network.

Huawei Solution

- In Phase I, deployed 24 S5300 switches at select branches to build the access layer for the OA network.
- Leveraged the S5300's rich QoS features to achieve differentiated QoS for services and maximize bandwidth utilization.
- Deployed application security policies to protect the entire network.

Customer Benefits

- A reliable, secure, and easy-to-maintain OA network that meets growing service demands while mitigating network risks
- Good compatibility with the existing network, protecting investment and avoiding over-reliance on one vendor

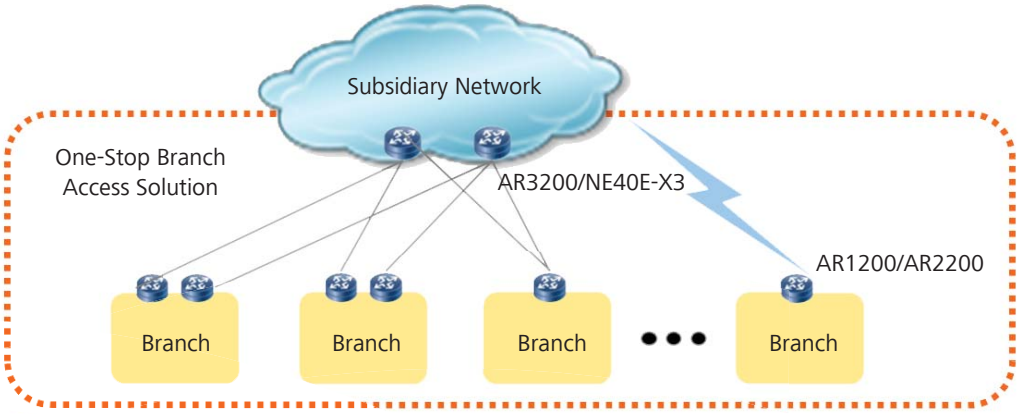


One-Stop Branch Access Solution

Financial institution branches provide face-to-face services to customers, including customer financial requests (account openings or cancellations, deposits or withdrawals, and transfers), promoting financial products, and handling customer complaints. Branches are typically small, with fewer than 30 employees. Today, the biggest challenges for branches are to

- Simplify network structure, ensuring network simplicity and standards compliance, and thereby reducing network construction and management costs.
- Reduce costs in private line resources, shorten network construction time (currently two to three months), and quickly restore the system in case of disaster.
- Decrease network management costs, reduce on site operation and maintenance needs, and efficiently monitor private line quality.

Solution Overview



The One-stop Branch Access Solution aims to connect all branches and ATMs to the subsidiaries or data centers in wireline or wireless mode by way of one piece of equipment.

Selected products include the following:

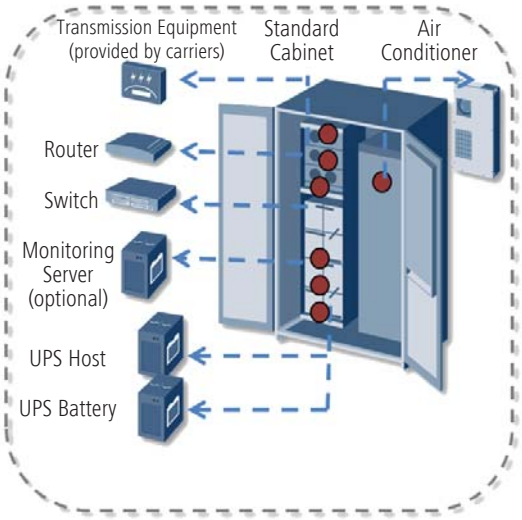
- Subsidiary side: AR2240/AR3260/NE40E-X3
- Branch side: AR2200/AR1200/AR200+S2700/S5700

One-Stop Branch Access Solution

Solution Overview

This solution comprises a one-stop branch network with 3G access and remote management (automated configuration and SLA management for private lines).

Highlight 1: "In-a-Box" Branch Network Solution



One-Stop

- Multiple ICT devices in one box: These devices include data, voice, power supply, air conditioning, and environment monitoring devices, as well as servers.

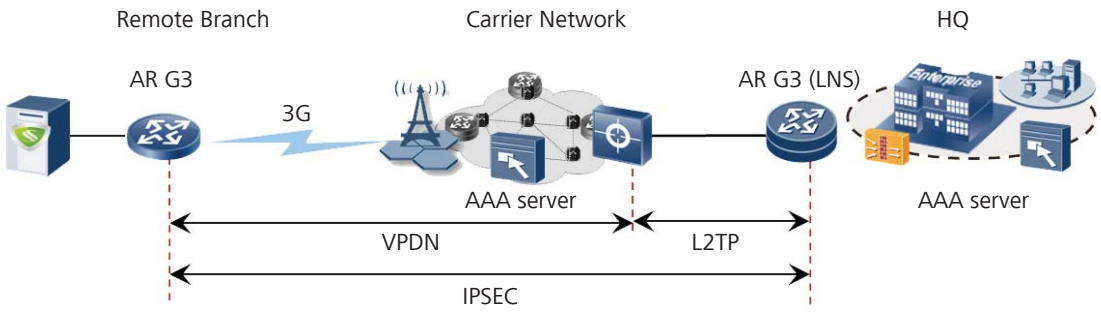
Standards Compliance

- Standard cabinets for quick deployment and easy maintenance

Security and Reliability

- Embedded firewall, environment monitoring unit, and Uninterruptible Power Supply (UPS) to ensure security and reliability

Highlight 2: 3G Branch Access Solution



- Flexible wireless access: 3G USB card and 3G plug-in card, which can smoothly evolve to LTE
- Service quality assurance: abundant QoS features (EF, AF and BE)
- High reliability: hot-swappable AR G3 cards and power supply redundancy
- Strong security: SIM card+password authentication and IPSec encryption

Success Stories

One-Stop Branch Access Network for Caixa in Brazil

Project Background

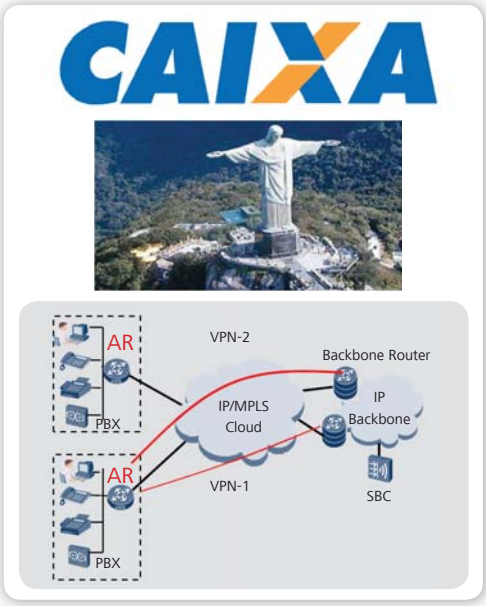
- Caixa is the second largest state-owned bank in Brazil. Its numerous branches are geographically dispersed.
- Caixa required reliable and one-stop access to these branches in order to reduce capital and operating expenditures.

Huawei Solution

- Deployed AR series routers to connect terminal, such as PCs, telephones, and ATMs at branches.
- Leveraged the features of AR G3 routers (such as PBX voice, VPN, xDSL, and xPON features) to reduce the number of devices at branches, simplify network structure, and facilitate remote management and maintenance.

Customer Benefits

- Quick network buildout (426 AR routers deployed within a short time)
- Good compatibility with Cisco equipment on the live network
- One-stop branch access, which reduces network buildout and O&M costs



One-stop Branch Access Network for Santander in Spain

Project Background

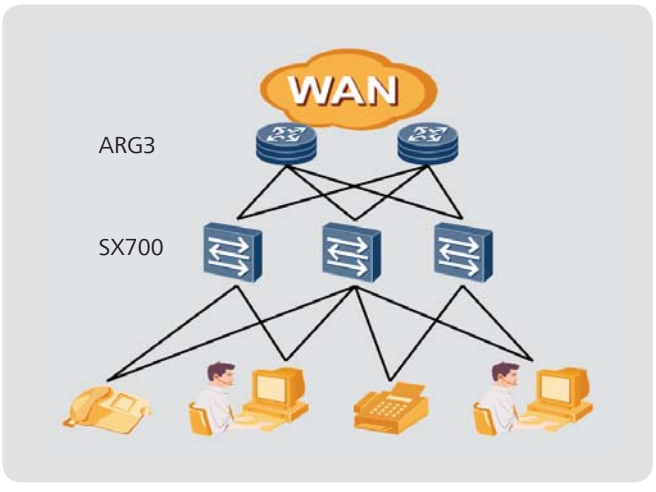
- In 2011, Santander ranked as the fourth largest bank in the world in terms of brand values.
- Santander needed to build a multi-service network. To mitigate over-reliance on the same vendor, Santander also required IP standards-based open products to ensure optimal interoperability.

Huawei Solution

- Provided E2E, open, and feature-rich products to meet Santander's requirements for multi-service support.
- Delivered more than 600 switches since 2011 Q2 to support Santander's branches.

Customer Benefits

- Reduced risks, as Huawei's switches and routers have passed Santander's stringent testing
- Good interoperability through the use of Huawei's open and standards-compliant products, thereby protecting investment
- Cost-effective solution



Success Stories

One-Stop Branch Access Network for HDB in Egypt

Project Background

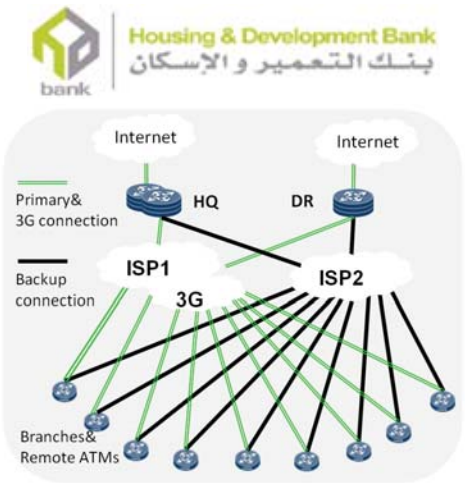
- The Housing and Development Bank (HDB) in Egypt has more than 60 branches and over 150 ATMs. HDB needed to build a reliable branch access network.

Huawei Solution

- Deployed three NE20E-8 core routers (two at HQ and the remaining one at the backup data center).
- Installed more than 140 AR routers as egress routers at branches.

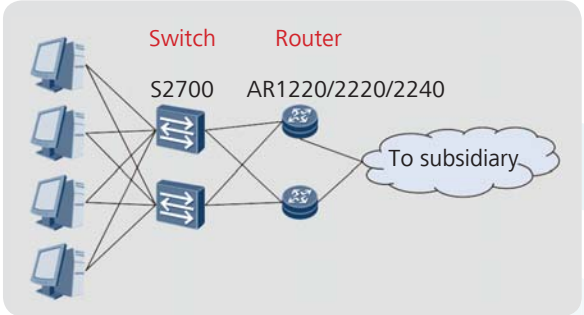
Customer Benefits

- Reliable network with redundancy backup design
- 3G links as backup links at some branches and as primary links at other branches



One-Stop Branch Access Network for ICBC

ICBC
中国工商银行



Project Background

- Commercial banks are transforming their business, shifting branches from service processing centers to sales service channels, driven by customer-centric, effective, real-time, and customizable financial services, which are bringing tremendous changes to branch network applications. Apart from conventional real-time services and OA services, branches will embrace more converged applications such as UC, collaboration and digital media applications.
- The Industrial and Commercial Bank of China (ICBC) needed to build a quality network, which supported ubiquitous access and met their branches' business transformation.

Huawei Solution

- Deployed more than 500 AR G3 routers (at the network side) and S2700 switches to build a ubiquitous branch access network for ICBC's seven regions. In addition, Huawei provided multiple types of products to meet the requirements of branches of all sizes.
- Deployed BFD technology between branches and subsidiaries to ensure quick fault detection and service switchover within microseconds, with no service interruption.

Customer Benefits

- High-bandwidth, strongly reliable, and super-stable wireless and mobile branches, with an extended scope of financial services due to Huawei's expertise in WLAN, wireless and 3G data card fields
- Environmentally friendly branch network featuring reduced power consumption and lower noise levels

One-stop Branch Access Solution

Success Stories

One-Stop Branch Access Solution for PICC

Project Background

- PICC is one of the largest insurance companies in China, with more than 12,000 branches.
- PICC required a high quality access network to provide ubiquitous and efficient branch access.

Huawei Solution

- Deployed AR G3 routers to build a ubiquitous branch access network for PICC and to allow branches at any geographical locations to efficiently access the company's network.
- Deployed 20 AR2220 devices to create efficient access for all branches.

Customer Benefits

- Ubiquitous and efficient access for branches, expanding service scope and improving QoS
- Sufficient bandwidth, highly reliable design, and support for future service development
- Reduced operation and maintenance costs (especially for branches located far away from subsidiaries and HQ) due to AR G3 routers' powerful remote maintenance functions

PICC

中国人民保险公司

The People's Insurance Company of China