

CASE STUDY



JORDAN



SERVICES

OPTIMISING ITOPS WHILE ENHANCING PERFORMANCE AND SECURITY OF DIGITAL BANKING SERVICES

Deliver consistent and secure, high-performance and uninterrupted connectivity across 97 branches with 190 ATMs. It upgraded from a 1.5 to 20 Mbps lease line to replace one of two MPLS links and adopted a centralised cloud-based platform to manage all branches, giving CAB unified control of its WAN, LAN and WLAN. CAB can also manage and monitor VPN and Firewall connectivity for each branch from a single pane of glass.



Cairo Amman Bank (CAB) provides its customers with a wide range of assorted, innovative banking services that suit all customer categories and meet all their banking, financial and investment requirements. The Bank believes in leadership in the use of modern technology in the banking sector and was the first bank in the world to introduce the iris print as a means of identification, allowing customers to access their bank accounts while doing away with ATM cards and pin numbers.

“Such innovations are possible because we continue to invest in IT,” explained Mr. Jihad Hamdan, Director of Infrastructure at Cairo Amman Bank. However, the high cost of ownership for the infrastructure provided by the Bank’s incumbent networking vendor, combined with the performance challenges it entailed were beginning to threaten its ability to maintain its digital edge.

IMPACT ON SERVICES AND SECURITY

With two data centres serving a network of 97 branches and over 190 Automated Telling Machines (ATMs), secure high-speed connectivity is critical to the Bank’s operations as all digital services, whether internal or external, depend on the underlying network.

Citing an example of how the incumbent technology provider’s network performance gaps were directly impacting customers and the banks services, Mr. Hamdan said, “Every month, we process over 400,000 salary transfer transactions. With the old solution, the process of loading this information into customer accounts took upwards of eight hours, introducing delays in our ability to deliver a key service for our customers.”

This unacceptably long timeframe was also reflected in the backup of video data generated by the Bank’s CCTV systems. “The extended window increased the chances of backups failing and the loss of data. And because network performance was unreliable, we were often left with skips and jitter in the video feed which introduced a security risk,” said Mr. Hamdan.

SWITCHING OVER FOR PERFORMANCE AND UNIFICATION

Under the guidance of its technology partner, NeoGenesis, CAB replaced the switches across its entire DC and Campus networks with Aruba’s Unified Switching Architecture. This resulted in an



REQUIREMENTS

- Enhancing the performance of digital services for customers and employees
- Improving network security and reliability
- Platform to support ongoing digital transformation and expansion
- Significantly enhance the bank’s transaction speeds
- Notably increase the number of served customers
- Simplified power & connectivity for CCTV cameras
- Enable the use of new IP-Telephony service
- Turn daily branch employee complaints into proud satisfaction reports
- Optimise IT operations, security, performance management and deployment

SOLUTION

- Aruba Campus Core, Aggregation and Access Switches
- Aruba 7210 Headend Gateways (main & backup DC)
- In-built MAC Authentication in Aruba Switches
- Aruba 7010 Branch Gateways
- VPN Concentrator (VPNC)
- Aruba Central
- ClearPass Policy Manager
- Aruba SD-Branch Architecture

OUTCOMES

- Increase in speed of uplinks from 1G to 40G
- 3x lower TCO than previous network switching infrastructure
- Improved performance and reliability of all digital services including internet and mobile banking
- 94% decrease in time for processing monthly salary transactions
- 75% decrease in time for backup of CCTV video data
- Mitigates threat of rogue devices gaining unauthorized network access
- Simplified cabling for access control, wireless APs, CCTV cameras and IP Telephony
- Centralises IT and branch operations
- Simplifies roll-outs, troubleshooting and reporting
- Stabilises Citrix environment in the branches
- Speeds up maximum banking transaction times from 20 seconds to three
- Reduces MPLS contracts and costs by 50%
- Orchestrates management of VPN and Firewall instances from one place, reducing administration, troubleshooting and notifications



“ We used to finish a single transaction in 20 seconds. With our new SD-Branch environment, we’re down to a maximum of three seconds. ”

MR. JIHAD HAMDAN

Director of Infrastructure at Cairo Amman Bank

immediate and dramatic increase in the speed of the uplinks from 1G to 40G, enabling the enhancement of the Bank’s digital services across the board, while significantly simplifying operations.

The processing of over 400,000 salary transfer transactions, which previously took 8 hours, is now completed successfully in just 30 minutes. “And this is just one example. Because all digital systems and services are dependent on the underlying network, the performance of everything from our online and mobile banking, to the availability of our ATM services in remote locations has been dramatically improved by Aruba,” said Mr. Hamdan.

DATA CENTRE SWITCHING

The Bank has implemented a spine-leaf architecture with an Aruba 8400 Data Centre Core Switch installed as a spine at each of the two data centres. These are linked via a 40G line and configured in a VSX cluster. The leaf infrastructure is based on Aruba 8320 Data Centre Switches which provide connectivity for an HPE Synergy Hyperconverged infrastructure and HPE 3PAR storage.

The data centres house the Aruba 7210 Headend Gateways and VPN Concentrators - main & backup - for the SD-Branch domain. Aruba AirWave enables effortless monitoring and management of this data centre network while the Aruba Network Analytics Engine (NAE) provides unprecedented efficiency, intelligence and data-enabled analytics in troubleshooting assistance to the IT team.

Monitoring made easy

Whereas the Bank previously faced network issues and downtime on a weekly basis, it hasn’t experienced a single instance of performance degradation with the Aruba platform since its implementation.

Moreover, the solution has given Mr. Hamdan and his team powerful monitoring capabilities which prove especially useful in identifying the root cause of performance issues. “Aruba enabled us to pinpoint, in just a few hours, the fact that that a decommissioned SIEM server was the cause of continuing broadcasts and multicasting which were saturating our network. Without their solution, such troubleshooting would have taken us days and possibly some service interruptions,” he said.

SOFTWARE-DEFINED BRANCH ARCHITECTURE UNIFIES SERVICES

Following the success of the data centre upgrade, CAB decided to address the challenges it was facing with its WAN. Legacy infrastructure had meant that the IT team had little visibility into the health of the WAN beyond simply knowing whether or not the connectivity links were up or not.

For redundancy, the Bank relies on links from two separate service providers. As a result of this, the lack of visibility also meant it was unable to identify if performance challenges were resultant of issues with these providers’ networks, or its own solution stack.

“We have one of the most expansive networks of physical locations in Jordan and in a bid to enhance connectivity to each of our 97 branches, we became the first bank in the country to implement SD-Branch,” said Mr. Hamdan.

Advanced branch infrastructure at an attractive TCO

CAB’s SD-Branch network is comprised of Aruba 7210 Headend Gateways and VPN Concentrators hosted in their DCs. Each branch houses Aruba 7010 Branch Gateways and Aruba 2930F Edge Switches for the branch LAN. Aruba Central, a cloud native monitoring and orchestration platform, provides single pane of glass visibility on all aspects of the network’s operations while Aruba ClearPass Policy Manager enables the bank to define and enforce role-based security and network access policies unified throughout all branches, HQ and ATMs (in-branch or standalone).

This comprehensive architecture was conveniently bundled by a leading service provider and offered to the Bank as a 5-year managed connectivity service, resulting in an attractive Total Cost of Ownership (TCO).

Hassle-free branch Wi-Fi

CAB has followed a similar approach for the WLAN network at its branches for guests, with a leading telecom operator providing managed Wi-Fi services.

This has allowed the Bank to simply install Aruba Access Points (APs) and Small Business Switches at its branches which are then centrally managed and monitored by Aruba controllers and Aruba ClearPass that are deployed within the service provider’s data centre.

Reliable connectivity for country-wide ATM network

CAB has over 190 ATMs, 130 of which are standalone while the remainder are located within the Bank’s branches. While the latter are connected to the local branch LAN, each standalone ATM is connected via Aruba 9012 gateways to two independent MPLS links.

Together, the network infrastructure at the branches and these ATMs are managed, monitored, and secured through the same unified Aruba Central platform.

A SMOOTH DEPLOYMENT WITH A HOST OF BENEFITS

“As an institution that provides vital services, we can’t afford a minute of downtime, so the implementation had to be done with



no inconvenience to our customers,” explained Mr. Hamdan. “The centralised and ease of installation of Aruba’s Zero-Touch Provisioning capabilities, combined with the expertise and planning delivered by NeoGenesis ensured that we could achieve this objective.”

Security upgrade

The resultant performance enhancement is evident in the fact that the time required to back up the Bank’s CCTV data has been slashed by over 75%, while the previous issues relating to skips and jitter have been entirely eliminated.

As a financial institution, security is paramount to CAB’s operations. The Bank therefore utilises the inbuilt Aruba Dynamic Segmentation architecture to enable micro segmentation between the users inside the branches and the offices as an enhancement to the network access control process. “We can now ensure only authenticated and authorised devices can connect to the network with layer 2 to Layer 7 visibility and control with Aruba Policy Enforcement Firewalling between the users so it’s no longer possible for rogue connections to be made and this secures our network from this threat,” said Mr. Hamdan.

PoE+ paves the way for innovation

The implementation of Aruba-2930F Campus Edge Switches has empowered the Bank to take advantage of their support for PoE+. This has translated to a reduction in the cost and complexity of cabling for systems such as physical access control, CCTV cameras or future corporate WLAN, if necessary.

“PoE+ support also paved the way for the introduction of new conveniences such as an IP telephony system which can be rapidly installed at an employee’s desk without having to overcome cabling challenges and can be secured by applying the same policies,” explained Mr. Hamdan.

3X lower TCO and rapid ROI

“Not only have the benefits, brought about by the Aruba architecture, had quantifiable improvements to our services for customers and staff, as well as enhancements to our security posture, they have also proved more attractive from a financial standpoint as well,” said Mr. Hamdan.

Analysis of the capital and operational expenses for CAB’s network infrastructure has shown that over a five-year period, the total cost of ownership (TCO) for Aruba’s solution will prove three times less than what was previously deployed, with unprecedented benefits and outcomes.



“When we originally estimated the time required to achieve full ROI for this implementation, we believed it to be five years. But given the performance acceleration and the resultant elevation of our reputation, we now expect this to be accomplished in less than three years,” explained Mr. Hamdan.

Aruba solutions aid implementation and simplify management

Aruba’s AirWave Network Management platform greatly aided and streamlined the rollout. AirWave enabled central configuration and management as well as the scheduling of updates such that these could be carried out outside of business hours. Upon adopting the SD-Branch and cloud-enabled architecture, the bank migrated from AirWave to Central.

Day to day management and troubleshooting has been greatly simplified by Aruba Central which enables the entire network to be overseen and managed from a single place. “We can set up policies and configurations in a consistent and automated manner to all locations. Similarly, any software or firmware upgrades can be centralised and automatically deployed without disruption or the need to send in our highly qualified engineers,” said Mr. Hamdan.

BANKING ON A BRIGHT FUTURE

Commenting on the performance enhancements his Bank has seen since the implementation of Aruba’s solutions, Mr. Hamdan said, “We used to finish a single transaction in 20 seconds. With our new SD-Branch environment, we’re down to a maximum of three seconds.”

As the Bank steadily expands its regional footprint, Mr. Hamdan and his team are keen to build on their success by replicating the Aruba network architecture in new branches and data centres that will be built across the region.

“Our Bank’s new corporate identity exemplifies modernity and values of openness and camaraderie in the interest of all customers and to achieve maximum benefits free of traditional restrictions. Aruba’s technologies are playing a key role in supporting this mission,” concluded Mr. Hamdan.