

# Postal Savings Bank of China



## Beijing, China

### **HID Global Provides IP-based Access Control Solutions to Postal Savings Bank of China**

Postal Savings Bank of China (PSBC) is China's fifth largest commercial bank and it operates 36,000 branch offices nationwide, representing the most extensive urban and rural financial service network in China.

The Beijing building of PSBC covers 110,000 square meters with around 300 access control points. The building houses high-security areas such as the finance department, funds clearing department and central server room. As a result, there were strict security requirements for the access control system.

HID Global deployed a world-class access control system for Postal Savings Bank of China

- HID iCLASS® readers and credentials delivered increased security for PSBC with the readers' data encryption and mutual authentication capabilities.
- The communication between the HID VertX® network controller and the workstation is transmitted via TCP/IP connection and encrypted using a secure AES algorithm so as to prevent intrusion.
- The HID VertX network controller is compatible with ODBC (Open Database Connectivity) and OPC protocols that can be configured to communicate with other external systems such as fire and alarm.

### **Challenges**

Security protection measures for PSBC's Beijing building were very important. Any illegal access may cause potential threats to the staff and property. Moreover, high visitor flow within the building makes daily security management more difficult. Therefore, PSBC had stringent requirements for their security system:

- Security management measures to effectively control the access of employees and visitors and execute area control.
- Strict access level settings to limit authorized access.
- System compatibility and scalability for future expansion.
- Secured network data transmission: all event logs needed to be displayed and recorded in real time. The communication needed to be encrypted to prevent data from being intercepted or simulated by an intruder during data transmission.
- Central management on entrance and exit control, visitors control and staff management system.

#### **Products / technologies:**

- iCLASS® products, including R40 card reader
- VertX® products, including V1000 access controller and V100 door/ reader interface



## Solutions

The network structure of HID's VertX® access control solution provided enhanced security and scalability for PSBC's Beijing building.

- Equipped with on-board flash memory, HID VertX V100 reader interface allows downloading program updates via the network to facilitate system upgrade and future expansion.
- VertX V100 is connected with the iCLASS® R40 reader and V1000 access controller via Wiegand protocol and high speed RS-485 network respectively. If the host is offline, the system can still process commands and messages are stored until communication is restored, the log is then uploaded to the host.
- VertX V1000 access controller communicates with the host via an industrial standard TCP/IP protocol. By connecting with the management software using TCP/IP, DCOM and database interface, the system can easily facilitate central management. The communication of the VertX V1000 access controller can be encrypted by a high-security AES algorithm to prevent a network intrusion.

## The Framework of an Access Control System

The access control system consists of three main components: site apparatuses (including iCLASS R40 readers, reader interfaces, door locks and floor buttons), VertX network controller, and central station.

- The Beijing building of PSBC is composed of two main towers. HID Global divided the access control areas according to the bank's floor plan. Site apparatuses are located in designated areas for easy maintenance.
- VertX reader interfaces communicate with each other via RS-485 connection. All site apparatus (readers, door locks and exit buttons) are connected with the reader interfaces.
- The access control system enables access level settings that restrict access to specific areas at specific time, grant access to authorize personal for critical zone entry, and set staff access levels and entry time according to job titles.

## The Framework of Security and Staff Management Systems

Fast-identity verification gates were set up in the elevator on the first floor, and when employees pass through the verification gates, their photos and personal information are displayed on screen. The security officer on duty can then verify the employee's identity to prevent unauthorized entry.

Visitor management system: The system integrates verifies, reads and records visitors' personal details in a precise and quick manner that effectively prevents potential threats caused by unauthorized, external visitors.

Area control and system alarm function: VertX can perform elevator, parking lot, restaurant and other area control. At the same time, it can configure alarm messages for safety management. In case of emergency, the system can determine the incident type and location and unlock emergency doors for evacuation.

Remote control: Authorized staff in the control room can remotely open/ close the doors or activate/deactivate alarm signals to prevent potential security risks.



Staff management: HID VertX access control solution incorporated an HR management module to perform card reading and writing, authority and access levels setting, and card issuance. Additionally, the new system set up attendance checkpoints at the main entrances to collect attendance records. These records are used to more easily generate into standard monthly HR reports, by month end saving the bank in data processing time.

Additionally, the HID VertX access control solution also serves as one card solution for PSBC's staff. The multi-application staffs ID cards are enabled for cashless vending in canteens, and access control to the gym room and parking. The system is scalable for future expansion.

### Results

Security is PSBC's primary concern and internal security, access and authority management were particularly important in this project. PSBC expressed that HID Global has very solid technical strength that provided an effective and secure multi-level access authority management solution. At the same time, HID Global's solution offered the capacity to seamlessly integrate multiple applications one a single card.

After installation, PSBC found that HID's access control solution is easy to operate and maintain, with a low failure rate that helped them achieve "intelligent" management. PSBC and integrators are also satisfied with HID Global's prompt response and the quality support provided.