

DEVELOPMENT OF BANKING IT INFRASTRUCTURE

Carrying out the Two-Tiered Data Center strategy Taking integration of information resources and data centralization as strategic objectives and following the principle of “Unified Plan, Phased Implementation, Easier Things First and Difficult Ones Second, Paying Special Attention to Practical Effects”, the PBC pushed forward the two-tiered data center strategy. In 2007, *the PBC Branches' “11th Five-Year Plan” for IT Development* was formulated, which serves as guidelines for branches and sub-branches of the PBC to lay down the plan of IT development in their regions. At the same time, the design of general architecture of IT development was improved, and the PBC's Guangzhou branch was selected in June as a pilot implementation unit to start the architectural design of data center at the provincial level. The studies on data warehouse database and the preparation work for the project implementation were launched. Production and back-up platform for the unified data storage were started, and the construction of the reporting platform of the unified data center was also started.

Strengthening construction of IT infrastructure On April 28, the engineering implementation of the PBC intranet's structural adjustment was completed. Before December 20, both Taiyuan sub-branch and Zhengzhou sub-branch had completed pilot implementation of the local communication switches and extension of the project to some of the sub-branches under their jurisdiction. Before the end of 2007, Guangzhou branch, Haikou sub-branch and Urumqi sub-branch had completed implementation of the provincial LAN project and the roll-out in some of the sub-branches under their jurisdiction. The PBC head-office itself completed the transform of network infrastructure.

Construction of major business systems

guaranteed On May 8, Payment Management Information System (PMIS) was put into operation, and a two-phased inter-networking with the National Citizen Identity Information System (NCIIS) was completed on June 22 and 29, respectively. On June 25, the nation-wide roll-out of the National Check Image Exchange System was successfully completed. On November 19, the inter-bank deposits and cashing business, a SVPS' sub-system, was put into operation. In the first half of 2007, the construction and the roll-out of updated RBM Settlement Account Management System were completed, and the system has standardized the opening and use of banking accounts. The nation-wide roll-out of Transversal Network Linking Fiscal, Taxation, Treasury and Banking Agencies was continued, and the network had covered the taxation authorities (both national and local), the PBC treasury agencies and the commercial banks (including credit cooperatives) in 18 provinces, autonomous regions, municipalities directly under the central government and the municipalities specifically (separately) listed in the State Economic Plan. The Currency, Gold and Silver Management Information System was updated. The construction of Financial Statistical Monitoring Management Information System was pushed forward a step further, and the system started the double-track operation. On December 15, the national cut over of the Integrated Fiscal Management System was arranged.

Developing assessments of security risks and perfecting safety protection system Information Security Risks Assessment was carried out against every branch and sub-branch of the PBC. All the 12 banking application systems and the web site were undergone thorough risk assessment check. At the same time, 7 categories of emergency rehearsals were organized, the safety protection measures were



improved, the firewalls located between the PBC's intranet and the internet were upgraded and the out-linking firewalls at the PBC branches at and above the sub-provincial level were also upgraded. The training on the assessment of information security levels was carried out for all 18 departments and the operating organizations in the PBC head-office. Assessment of information security levels was completed for 420 information systems of the branches (including the city commercial banks, the rural commercial banks and the rural credit cooperatives) at and above the prefecture city level. The construction of local emergency back-up centers for the PBC branches was launched.

Enhancing gradually the ability of self-maintenance By relying on itself, the PBC has built a monitoring system for networks and the server operating systems. Except the desk computer systems in the PBC Head Office, all the other computer systems and communication networks are maintained by technical personnel from the Management Information Center. The technical personnel have raised their maintenance capability, and the maintenance work has been gradually institutionalized, standardized and open.

Improving IT management and the system of standards Science and technology management institutional framework was studied, and the PBC formulated 7 regulatory institutions including: *The PBC Head Office Administrative Rules on Electronic Equipments Application*, *The PBC Administrative Rules on Software Products*, etc. The PBC's information standards architecture was studied. The following standards were also set up: the overall standards, the application-supporting standards, the standards for the network infrastructure and hardware, information security standards and the standards for the information engineering management.

Great progress achieved in construction of "Jin Hong" and "Jin Jian" engineering The financial operation analysis system, the bidding process of financial data-sharing system and the contract signing

were completed. The PBC sub-systems integration of the National Macroeconomy Management Information System ("Jin Hong" engineering) has completed the bidding and contract signing processes and the construction of "Jin Hong" engineering has been steadily pushed forward under the guidance of the Project Coordinating and Leading Group. The information-sharing index system of the Financial Supervision Management Information System ("Jin Jian" engineering) was established, and the feasibility study for the PBC sub-systems was carried out.

Improving the environment of inter-bank application of bank card and promoting the development of bank card industry The work of bank card standardization was strengthened. The studies on bank card standards system was started, and the *China Financial IC Card Specification*, the *Technical Specification of Inter-Bank Application of Bank Card*, the *Specifications of the Plastic Substrate of Bank Card and Terminals* were formulated and/or revised. The test of the inter-bank application of bank card was carried out, with special attention given to the cities holding the Beijing 2008 Olympic Games, the major tourism cities, the cities with newly built China UnionPay's subsidiary companies and the cities where serious defects were discovered in the 2006 test. Technical study was carried out to prevent bank card criminal activities. The security check of the bank card system was enhanced in order to guarantee the smooth operation of bank card related systems. The technical assessment procedure and evaluation criteria for approval of bank card issuing were further defined. The transition from plastic card to IC card has been actively and gradually progressing.

Guidance for IT Development of the Banking Sector The banking information security was guided to guarantee the secured operation of the financial information systems during the 17th CPC National Congress. For the internet banking which will be operating over the Beijing 2008 Olympic season, a risk

assessment was carried out to strengthen the measures of risk management. The PBC helped the banking sector with their security checking. The development

plan of banking IT technology was promoted further, and China's Banking Sector's "11th five year" Information Construction Plan was formulated.

Box

Treasury Information Processing System

Treasury Information Processing System (TIPS), as a core information exchange and transaction processing system of the Transversal Network, was set up by the PBC in line with the objective of the Transversal Network linking fiscal, taxation, treasury and banking agencies and the requirements of treasury data centralization and resources integration. The TIPS system provides the taxpayers with multiple methods to pay tax, namely, with real-time tax deduction as the main method, and supplemented by batch deduction, bank terminal declaration and self-declaration enabling the tax-payers to benefit from the new developments of treasury informatization.

The real-time tax deduction works as follows: after a "3-party agreement" between the tax-payer, the taxation office and the tax-payer's bank is signed, the tax-payer can make tax declaration at the taxation offices or via the internet by accessing to the taxation office's web site, and the taxation processing system creates a tax deduction message against every declaration of the tax-payer. The message is then sent to the business processing system of the tax-payer's bank, where the amount of money is debited automatically from the tax-payer's account and transferred to the treasury. An acknowledgement message is then sent back through the TIPS to both the taxation processing system and the tax-payer.

The TIPS supports various means of clearing and settlement including those through LVPS, SVPS, LCHs and Bank Card System. It also

supports tax declaration via the internet, telephone (or mobile phone), tax offices and banking offices. The system is available 24 hours a day and 7 days a week. It provides both real-time and batched transaction processing and enables the concentration and exchange of information on budget receipts and payments. Starting from the cut-over of TIPS up to the 2007, some 3 165 taxation offices, 28 475 banks and credit cooperative offices and 1 253 treasury offices in 18 provinces (including major cities) nationwide have been inter-networked, and some 680 thousand tax-payers have completed their tax payments through the Transversal Network. The number of transactions has reached 11.73 million with a value amount of RMB335.9 billion yuan. The daily peak volume reached 216 thousand transactions with a value amount of RMB8 billion yuan. The rate of successful transactions was nearly 100 percent. The system is able to handle 800 transactions per second, and the real-time tax deduction can be completed in one second.

The Transversal Network Linking Fiscal, Taxation, Treasury and Banking Agencies has simplified the taxation procedures and brought about paperless processing of tax declaration and treasury paying-in. The Transversal Network has also realized real-time transfer of tax funds and achieved information sharing among different departments and played an important role in government fiscal management, the reform of government function, efficiency enhancement and



public convenience. Firstly, the public is provided with a better taxation service whereby they can complete tax declaration and tax payment at home. Secondly, the treasury paying-in is speeded-up, which will strengthen the taxation administration, increase efficiency and reduce the cost of taxation. These will enhance the government's capability to better serve the public. Thirdly, real-time information on taxation is available to the government, the tax bureau and the central bank. This will benefit government fiscal management

and provide necessary information monetary and fiscal policy purposes. Fourthly, it can prevent tax funds from being occupied or abused and guarantee a speedy treasury paying-in in full amount. Experience in the two years of pilot and roll-out period has shown that both operation efficiency and quality of services have been raised magnificently, the service functions improved continuously, and a pro-active effect on social and economic development has been manifested day by day.