7 Information Technology Developments

7.1 Overview

Core IT Systems, implemented in the State Bank of Pakistan have matured into a sophisticated platform now, adding high value to SBP operations. This platform has been made more robust incorporating low risk features by the introduction of backups and redundancies in the areas of Power & environment, network connectivity, and Disaster Recovery Setup. IT Security has been tightened and operational risks mitigated. There have also been substantive additions of new functionalities in the main applications during the last year. We are now in the process of upgrading our main systems in a phased manner to maintain high availability and service levels, while meeting increasing demand. State Bank is also now well placed to leverage its IT platform for strategic advances in automation. Specific developments during 2008-09 are given below:

7.2 Globus Banking and Currency Solutions

This was the fourth successive year of annual closing of accounts at SBP and BSC through the Globus Banking application. This not only shows reliance of SBP business processes on IT Systems, but also reflects the trust of business users on automated systems.

Globus functionality was enhanced to incorporate the 'Sukkuk' bond, launched by SBP, and its auctions, subsequent secondary market trading and coupon payments. Maturity operations are also carried out through Globus.

Foreign Exchange back office was rolled-out on Globus, and all types of foreign exchange transactions are now captured through Globus. Their Market to Market revaluation and final maturity is now taken care of by the system without any human intervention. This functionality has increased the efficiency of the Treasury Department's front and back offices in managing their Foreign Exchange reserves, and will now provide a reliable and timely MIS through Globus.

Globus team also achieved a target to roll out the currency issue system to 16 BSC offices after incorporation of new aluminum coins, Benazir Bhutto commemorative coin of Rs10 in currency issue system within target deadlines. This was fourth enhancement in currency issue system since its live operations started in year 2005.

The Globus team has also added new functionalities in Globus system: Reverse Repo module for DMMD and Finance Department, MIS for Gold reserves, interface with ERP Accounts Payable module for direct payments to vendors through their accounts maintained in commercial banks, and MIS for management of Assets and Liabilities of Issue Department. These functionalities have resulted in a reliable and accurate MIS through Globus. In addition to these major rollouts and functionalities, various new reports and customization were done during 2008-09 to keep enhancing the utility of Globus System for users of the system throughout the country.

7.3 Oracle ERP

ISTD completed several projects as per the business requirements during fiscal year 09. One of the strategic objectives was the 'Direct Payment to Supplier's Bank Account'. Direct payments from BSC head office to vendors or employees through bank accounts are now operational.

Credit Extension to Public Sector Enterprises was upgraded to meet the new BPRD policy changes. Further integration to Off-site Supervision Ratios System and the Institutional Risk Assessment Framework system successfully completed.

Another automation objective *Foreign Exchange Returns Litigation System* was completed for FEOD. This system has full-fledged complaint tracking and integrating with export overdue cases database. To *Eliminate Paisas from Payments* has been successfully completed and implemented. All payments are now automatically rounded including 'Vendor Payments', 'Normal WHT Payments' and 'Withholding on GST Payments'. In addition ISTD enabled Oracle ERP based end-to-end procurement process incorporating new Expenditure Regulations. Library Management Information System has been optimized and improved with new features, reports and forms.

7.4 Data Warehouse

ISTD took-up high impact initiatives to upgrade the capability of the central bank to collect statistical and regulatory compliance data from financial institutions, and other agencies. At the same time, the capability to disseminate the collected data to internal SBP users was upgraded as well. Development of the two systems has been completed, and the systems are ready for deployment. These upgrades will increase the capacity to collect and disseminate data in more effective ways for better business analysis and decision making.

ISTD also completed several projects including development of reporting systems to capture rate of returns on loans & deposits, loans to Textile Sector, Balance Sheet analysis of financial institutions for Statistics & DW Department, implementation of Reporting Chart of Account (RCOA), weekly data acquisition at month-end, RCOA quarterly reporting for Micro Finance Institutions, and RCOA integration with BASEL-II supportive systems such as IRAF for Off-site Supervision & Enforcement Department. Annexure A-7 (Classification of Deposits by Borrowers) was also upgraded for Statistics & DWH Department whereas a new reporting system to capture district-wise SME financing for SMEF Department was also completed. Utilization of ERP General Ledger data to generate Earning Analysis reports has been implemented for the Finance Department. This system allows the users the ability to drill-down to individual ERP-GL accounts over various dimensions including SBP-BSC office, accounts and time.

7.5 Web

SBP external website continues to serve as a source of information for the public while the internal website (Electronic Notice Board) is serving SBP and BSC employees. Data Center monitoring system is based on SMS alerts. It provides monitoring facility with SMS alerts to concerned ISTD teams & sends SMS alerts for UPS failure, Server Room Temperature Devices, ICMP Servers, and call logging alerts. It also monitors SBP website, Database Servers and other SBP intranet websites on 24/7 basis. Another project completed by ISTD is the capability to assess performance of IT Help Desks. In this regard, a web based Application has been developed that would gather information from the existing helpdesks of ERP, data warehouse, and customer support teams, and display the analytical reports based on them. It will also show the current status of different ISTD cases, departmental budget tracking, and departmental projects progress.

7.6 Infrastructure

On the data communication side, ISTD completed the SWIFT hardware upgrade and Application Migration projects. To strengthen the uninterrupted electrical supply to entire IT setup UPS cluster and alternate power backbone project has been completed in which two clusters at ground floor and 6th floor have been established and now are in operations. Intranet Bandwidths between all SBP BSC offices to main data center are further being upgraded to meet capacity demand. Implementation of network operation center project that will provide a central Management and Monitoring platform for the entire IT setup has started. Similarly private VSAT based network project for all countrywide SBP offices has been initiated. Several LAN requirements coming from different SBP departments and BSC head office have also been fulfilled. Video conferencing setup is being extensively used by SBP officials to conduct international meetings and conferences thus saving a considerable cost and time. Wireless LAN pilot project has been implemented in ISTD 6th floor.

Focusing on disaster recovery and high availability of IT services, Windows System Administration team completed various projects including e-mail high availability in Karachi. The e-mail setup in SBP has been upgraded, reducing service recovery from more than 8 hours to less than 15 minutes along with 3 to 4 times increase in email storage quota per user. The upgrade has also provided the technical foundation to setup e-mail at DR site. DR Setup has been completed for Windows Systems Area on Blade Servers with centralized storage and acquiring Replication and Remote Backup technologies. This setup covers DR for all critical user services like Active Directory, e-mail; file sharing, internet and essential infrastructure components of Windows systems which include DNS, antivirus and data backup. Internet proxy servers clustering was completed in SBP with the features of load balancing, and auto switching on any available server.

Digital certificates have been acquired for e-mail security enhancement to provide enhancement in confidentiality and authenticity of e-mails thereby increasing security of e-mail services. At present the scope has been kept to cover critical officials of the bank and future enhancement will be reviewed after a pilot run for one year. Windows Operating System rebuild on Desktop and Laptop computers from a centralized system has been provided to IT Support Team that has reduced the PC rebuild time to less than 30 minutes with enforcement of standard configurations that is compliant with the windows system policies in place.

7.7 Disaster Recovery Setup
Disaster Recovery site has been established at SBP BSC Office. All the hardware relating to DR have been successfully installed and implemented. Replication of data for all critical applications has been started at DR site. Connectivity between the DR site and other remote offices of SBP BSC has established and tested. In this regard, ISTD is in a position to shift its operation to DR site in the event of any disaster scenario.

7.8 IT Security
ISTD realized the IT security challenges prevailing in the digital age and took various initiatives. Keeping in view the importance of critical corporate data on mobile computers, the Proof of Concept for Laptop Encryption has been completed. Once implemented, as planned in 2009-10, this project will ensure security of SBP's corporate data residing in laptops computers in case of loss or theft. ISTD was also able to develop an automated vulnerability management system for automated scanning and reporting of weaknesses, and vulnerabilities in the systems and devices, and their timely fixing. The intrusion detection and prevention systems was updated and re-commissioned to strengthen defense against intruders while several policies were developed and implemented to ensure a control environment for SBP information assets.

7.9 Trainings
ISTD ensured technical development of its officers through local as well as foreign trainings in various technological areas. Focus was kept on trainings with direct relevance to systems being upgraded and implemented to leverage optimized use of technology in areas including Disaster Recovery Setup, Video Conferencing, IT Security, automated monitoring and control and Infrastructure Management.