

## say2000i – Web Based Accounting Office Automation System

The General Directorate of Public Accounts (GDPA) of the Ministry of Finance (MoF) has initiated **say2000i – Web Based Accounting Office Automation System** project in March 1999, to provide an integrated solution for the automation of public expenditure management process in 1457 offices spread all over the country (81 cities, 850 towns) and the consolidation of key public financial data in a central database on a daily basis for effective budget execution. Implementation of the project has been successfully completed by the end of 2001.

say2000i system also provides a common technological infrastructure to integrate budget planning, execution and auditing functions within the MoF and to interface with the cash and debt management components of the Treasury and other external systems of the line ministries and key agencies in Public Financial Management (PFM) domain. The system is designed to improve the efficiency of public resource allocation and use, and to assist in economic policy formulation by:

- a. Providing the core financial management agencies and specifically the MoF with a comprehensive information base to better manage public resources and provide them the tools necessary to support day to day operational processes and for longer term planning,
- b. Enabling better integration between the budget planning, execution, accounting and auditing functions of the MoF,
- c. Providing the MoF senior management with the basic building blocks required for an executive Financial Management Information System (FMIS) and reporting facilities.

say2000i Milestones	
<b>1999</b>	
03.03.1999	→ say2000i project starts
05.01.1999	→ Pilot application software was developed by GDPA programmers
09.02.1999	→ Project management team was formed
10.03.1999	→ First version of draft specifications was completed
10.04.1999	→ Turkish Telecom coordination group was formed
10.15.1999	→ First pilot AO started to work with say2000i system
10.28.1999	→ 88 coordinators and 360 trainers were selected
12.02.1999	→ Decision for countrywide implementation
<b>2000</b>	
02.07.2000	→ Second pilot AO started to use say2000i system
04.14.2000	→ Training center was prepared with 3 computerized classes
05.05.2000	→ Orientation seminars (1300 AO managers) were completed
07.07.2000	→ Specifications were completed (after 17 revisions)
10.13.2000	→ All contracts were signed and procurement phase was completed
10.20.2000	→ Award for pilot: "The Most Successful Team of Year 2000"
10.24.2000	→ Training of 88 coords + 360 trainers started
11.01.2000	→ Implementation phase started
<b>2001</b>	
01.14.2001	→ Central computer system and network installations completed
01.19.2001	→ Training of 88 coords + 360 trainers were completed
02.28.2001	→ Field installations started
05.15.2001	→ System management center operations started
10.29.2001	→ Completion of field installations
10.29.2001	→ Completion of commissioning phase
12.31.2001	→ Operation of say2000i system in all Accounting Offices
<b>2002</b>	
01.01.2002	→ Start of full automation period using say2000i system

## say2000i Technological Architecture

say2000i is based on a web-based, 3-tier technological architecture:

- First layer : Central database and database servers, located at the system center
- Second layer : Application servers, also located at the system center
- Third layer : End users (clients), located at central and local offices
- The system is designed for 12,500 concurrent users countrywide and has a capacity of handling 15 million transactions (budget execution) per year.
- Internal and external users can have continuous on-line access to central system modules from personal computers, laptops or thin client terminals using a standard web browser.
- All public financial data is stored in central database at the system center.
- MoF central management can follow the budget execution performance on a daily basis, and communicate or exchange info with other central and local agencies/budget institutions.
- Development and maintenance of locally developed application software modules are performed by the MoF IT specialists at the system center and all updates/changes are reflected to all users and agencies simultaneously through central resources.

## System Modules

- **Budget Execution and Accounting**
  - All transactions (expenditures and revenues) can be entered using a single form and detailed daily or monthly reports can be obtained from the same module automatically.
  - Accounting module is capable of recording all activities and producing reports compliant with international standards (GFS 2001, ESA 95, IPSAS).
  - All important data can be recorded in the central database, to provide an effective decision support mechanism (with linkages to external systems for revenues, health expenditures, etc).
- **Personnel Database and Payroll Calculations:**
  - Personnel and payroll data of nearly 2 million public sector employees are stored at a central database. AOs are responsible from updating this information on a monthly basis.
  - All payroll calculations are performed at the center and the results are reported to AOs for checking the payrolls prepared by spending units.
- **Health Expenditures:**
  - The General Directorate of Pensions (GDP) has implemented a health expenditure control system for 5 million retired personnel in 1998. There is an interface with this system to provide effective control mechanisms for health expenditures of 2 million working personnel and their relatives.
  - Through a central link between say2000i and GDP system, accounting information is provided to the GDP on the payment of health expenses and pension cuts.
- **On-line Support and Call Center:**
  - A web interface linked with the Call Center is used to provide on-line operational support from the system center. A help desk system is used to collect and evaluate responses and solutions.

## say2000i System Implementation and Expansion Costs

- **Initial cost of system implementation in 2001**

Total cost of initial system implementation (6,000 concurrent users) is **16.1 m\$** for four main components (1.5 m\$ for central servers, 7.8 m\$ for field hardware and system centers, 4.9 m\$ for network infrastructure, and 1.9 m\$ for web user licenses).
- **Expansion of central server capacity in 2003**

Total cost of capacity expansion for central database and application servers is **1.4 m\$** (December 2003) to increase the number of concurrent users to 12,500.
- **Improvement of network connection capacity in 2004-05**

Total cost of the enhancement of network connection capacity is **1.9 m\$** (March 2005).
- **Improvement of field servers and network connection speeds in 2005**

All dial-up connections (940 offices) have been upgraded to G.SHDSL (Symmetric High-speed Digital Subscriber Line). Also, field servers have been upgraded, additional thin-client terminals have been purchased (3,400) and VoIP implementation has been expanded. Total cost of these improvements is **11.5 m\$** (March 2005).

IT equipment currently installed in central and field offices for 12,500 users are as follows:

Field Servers	:	1,234
Thin Clients	:	9,335
Personal Computers	:	1,919
Laptops	:	399
Network printers (laser)	:	3,573
UPS	:	1,724
Routers	:	978
Switches	:	2,343
Modems	:	808

- In 2002, it was decided to initiate the transition from modified cash based to accrual based accounting. say2000i system was adopted to accrual based accounting and a pilot implementation was started in 6 budget institutions and 47 accounting offices. Pilot operation was expanded to 116 AOs in 2003 and the transition period was completed in May 2003. The system is capable of supporting **accrual based accounting** in all central government units since 2004.
- say2000i countrywide network infrastructure is shared by other General Directorates of the MoF (Budget and Fiscal Control, Personnel, National Assets, Laws, Regulations) for daily operational needs and information exchange.
- Total number of network nodes connected to system center is **1,327**. 924 offices are connected through G.SHDSL lines, and 403 offices are linked with FR (Frame Relay) connections. A Business Continuity Center (BCC) has been established as a replica of system center, to provide full backup and 60% load carrying capacity.
- The system has central interfaces with the Central Bank and Ziraat Bank for Treasury Single Account (TSA) operations and with the General Directorate of Pensions (GDP) for the management of health expenditures. Central systems of Tax and Customs administrations are also linked for daily data exchange.
- Average annual maintenance (parts included) and support cost of the system is around 1.9 m\$. Annual service charge for all network connections is around 3 m\$.

### **say2000i Public Financial Management**

say2000i system covers all public financial management operations related with central government sector. The system is used in cash management and monitoring budget execution performance.

1. **Cash Management** : Treasury Single Account (TSA) is the main instrument for cash management. MoF keeps the accounts of all public institutions included in the general budget. Budget institutions covered in the general budget don't have individual bank accounts. TSA is a single account opened at the Central Bank at central level and at the branches of Ziraat Bank at local levels. All expenditures and revenues are routed to the TSA on a daily basis. Weekly checks on the balances are performed and transfers to/from central TSA are made. Shortage of cash in the TSA is monitored regularly for effective debt management (determination of real debt requirements and reduction of the cost of borrowing).
2. **Monitoring the budget execution performance**: All accounting offices are connected to the central systems and work on a unique database through say2000i infrastructure. This allows daily recording of all transactions and automatic consolidation of public financial activities during the execution of general budget. It is possible to produce all accounting tables and financial reports on-line and this capability allows close monitoring and rapid assessment of budget execution performance.