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DBAS, Korea's Integrated Financial Management Information System

Digital Budget & Accounting System

기획재정부 MINISTRY OF STRATEGY AND FINANCE

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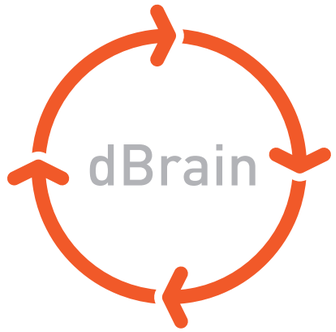
contents

INTRODUCTION of the **DBAS**

Korea's Digital Budget and Accounting System, DBAS, is an integrated financial management information system that performs all financial processes online and connects financial systems of various government agencies and public entities to produce meaningful integrated information.

The system embodies institutional reforms in Korea's public finance management, including Program Budgeting, double-entry bookkeeping and accrual-basis accounting. With the DBAS, the government is able to closely manage and analyze its finance and establish rational policies based on the data.



Implementation of Program Budgeting through the Project Management System

Boosted fiscal operation feedback through the Performance Management System

National Fiscal Management Plan linked to annual budget through the Budget Management System

Implementation of double-entry bookkeeping and accrual-basis accounting through the Accounting Management System (automatic journalizing)

WELCOME

Welcome to the world of the DBAS, Korea's Digital Budget and Accounting System.

In the 21st century, the world economy is facing a series of unprecedented crises. Uncertainties continue to grow in the global economy as witnessed in the 2008 global financial crisis, recent eurozone debt crisis, and a natural disaster after another.

In order to wisely overcome these crises and drive economic growth, we need to change and innovate faster than a crisis itself. Above all, innovations in financial affairs are the key to sustainable development. We hope that the DBAS can provide a solution for many countries that are planning fiscal reforms, as well as developing countries that seek dynamic growth.

Just as a red carpet guides someone to the prime moment of one's life, the digital road for finance opened by Korea will usher in a better future for the world.

HISTORY

The development of DBAS, "digital brain"
that manages financial affairs, was a process of innovation
that overhauled the framework of public finance.

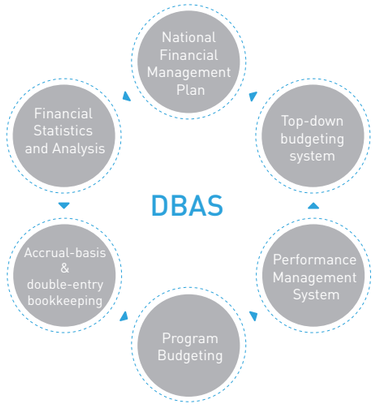
2004 . 03	-Decision made in the National Agenda Meeting chaired by the President to develop an Integrated Financial Management Information System
2004 . 05	-Launch of the Budget and Accounting Reinvention Office (composed of public servants familiar with financial affairs, certified accountants and IT experts) -Advising committee was formed with economic, financial, accounting and IT experts.
2004 . 07~12	-Business Strategic Plan (BSP) conducted to draw a road map -Joint Workshop with the World Bank -Study conducted on overseas cases--US, UK, Australia, etc.
2005 . 01~09	-Business Process Reengineering (BPR) and Information Strategic Planning (ISP) -Program budget scheme set for all central government agencies
2005 . 10~2007 . 01	-Development and pilot operation of the system -Related policies overhauled, user training
2007 . 01~	-Full operation of the system -All national financial processes conducted via the DBAS--budget formulation, execution and settlement
2011 . 03	-Project Management System upgrades completed
2011 . 12	-Performance Management System developed and National Asset Management System upgraded

Major Features

The DBAS is a performance-based financial management information system
that instilled management concepts and competition principles in public finance.
It has systematically embodied
the reference FMIS model recommended by the World Bank.

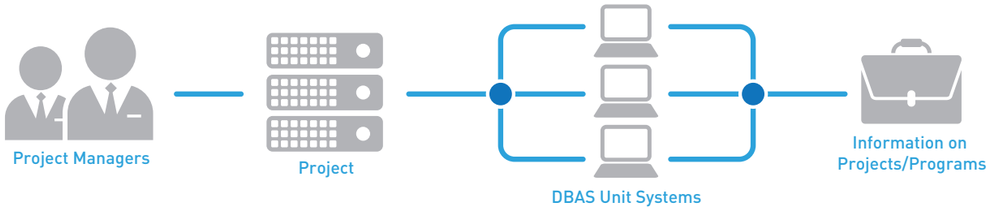
1. Establishing performance-based strategic financial management

A set of institutional innovations
that enable strategic allocation of resources and
result-oriented management system



2. Business processes linked in real-time through the Project Management System

All the data that occur through financial process are collected.
Program managers can perform and monitor their duties within the scope of their authority.

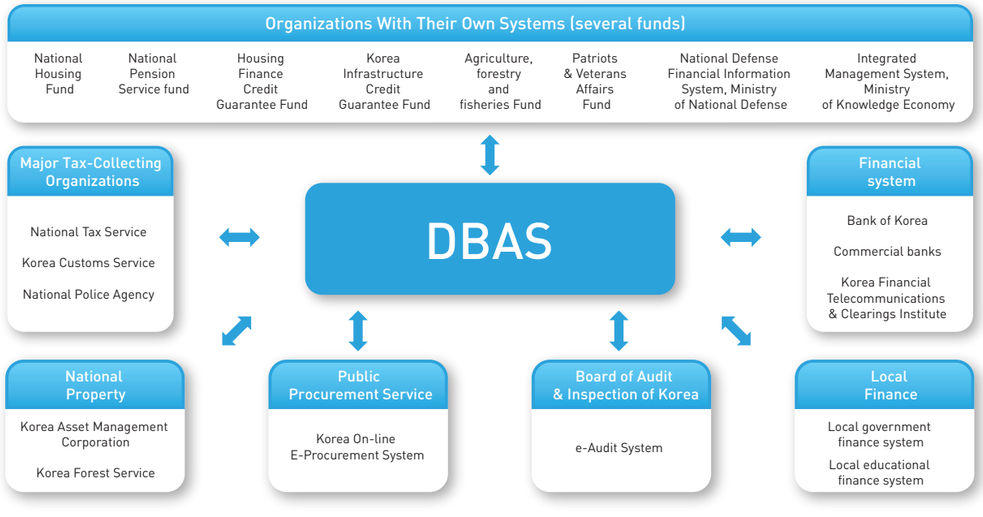


3. Real-time management of revenue and expenditure (EBPP / EFT)

Complete automation of business process relating to revenue and expenditure with
the Electronic-Bill Presentment & Payment (EBPP) and Electronic Funds Transfer (EFT)

4. Consolidation of existing systems and connection with external systems

Former budget system (FIMSys) and accounting system (NaFIS) were consolidated along with systems of most government agencies,
and financial information of other external systems was linked with DBAS through interface system.

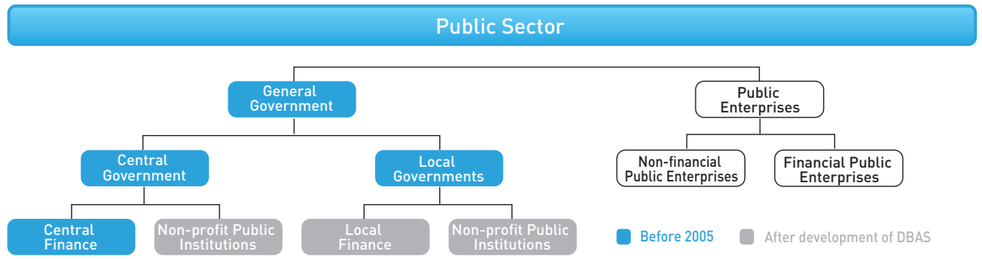


5. Production of financial statistics meeting the IMF Government Financial Statistics Manual (GFSM)

The range of financial statistics, such as scale of expenditure
and fiscal balance, was rearranged
to meet the IMF GFS 2001 Manual.

Consolidated Fiscal Scope of Korea

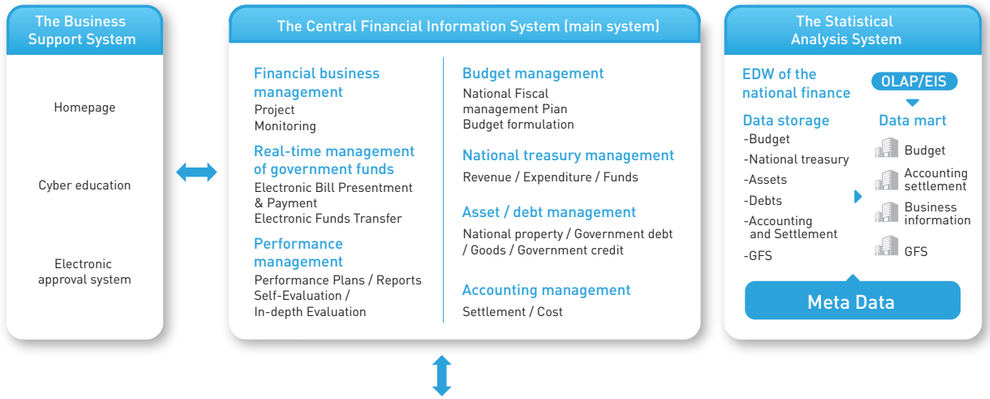
Consolidated Fiscal Scope of Korea: Broadened to include local government finance since 2005.



Components of System

The DBAS consists of application software, database, hardware equipment, and a call center. Among these, the application software is composed of a total of 21 unit systems, and they are seamlessly integrated and linked through the standard interface.

The Integrated Financial Management Information System



The Central Financial Information System

The main system of DBAS used by public servants in charge of actual financial affairs such as budget/expenditure /national asset management

- Project management, budget management, revenue/electronic bill presentment and payment (EBPP), electronic funds transfer (EFT), expenditure management, funds management, national property/goods management, credit/ debt, automatic journalizing, accounting and settlement, cost management, standard information

Financial Statistics /Analysis System

This is an analysis system that supports decision making for policymakers and program managers by utilizing financial information produced from the central financial information system and data/statistics from linked external systems.

- EIS (Executive Information System): Decision support system for top officials that provides typical financial information
- OLAP (Online Analytical Processing): Multi-dimensional analysis system that enables search of atypical financial information that managers may need (Datamarts are utilized according to the type of data.)

Business Support System

A system that consists of convenient features such as a portal, electronic business approval system, online education, and a call center that support users of the DBAS.

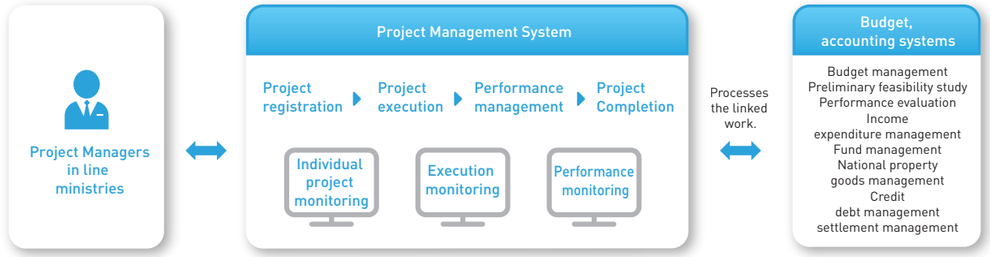
- A portal that allows users to access various individual unit systems of the DBAS, and manages users' authority within the system
- A help desk dealing with users' questions and trouble shooting

Financial Linkage System

A system that links external information systems, local governments, financial clearings network, etc. to facilitate financial process and information integration

Project Management System (PMS)

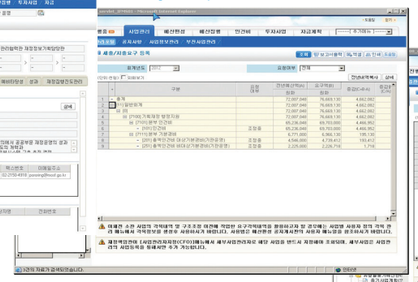
By linking all public agencies' projects with the Program Budgeting scheme, the PMS acts as the core unit system that allows one to see a business cycle at a glance. This system shows the manager all 8,000 government projects, and displays the entire fiscal process of a project from registration and execution to closing.



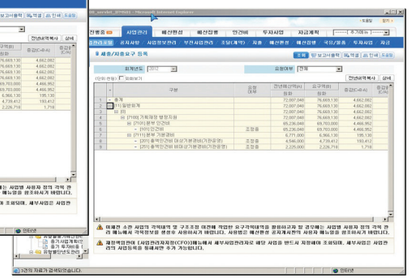
When assigned to a program or project, a project manager can access to information including project overview, mid-term plan, preliminary feasibility study, total project cost, budget formulation, execution progress, and accounting information. In addition, as the PMS is connected to other unit systems such as budget, expenditure, and accounting management, project managers are able to easily and conveniently perform all financial affairs within their authority.

1.Monitoring projects - basic project information

2.Budget request



3.Monitoring projects - budget formulation



Changes brought by the Project Management System

Before

- System mainly for financial officers and disbursement officer, not for the managers of the projects.
- Lack of information on the project and the manager in charge

After

- Project manager-oriented system in which a manager makes a request to be approved by financial officers and disbursement officers.
- Information on the project, including the manager and investment plan, is registered and managed online through the system

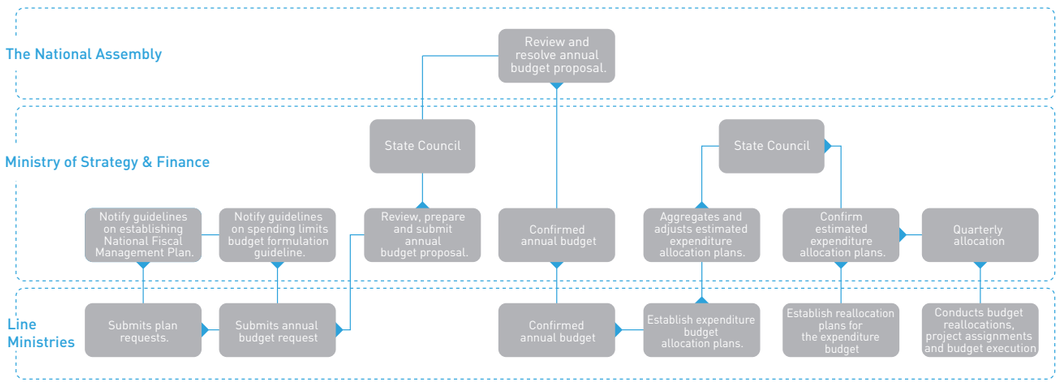
Budget Management System

This is a unit system that supports tasks such as establishing National Fiscal Management Plan, annual budget plan, and expenditure budget allocation plan, and assigning and changing the budget.

The Budget Management System		Users
Budgeting	Supports National Fiscal Management Plan. / Formulates annual budgets. Formulates revised supplementary budgets. / Formulates personnel expense budgets.	Ministry of Strategy & Finance Chief finance officers in line ministries. Project Managers in line ministries.
Budget execution	Plans budget allocations. / Changes budget plans. Makes periodical budget allocations. / Manages the financial execution results.	

Main work flow

- Ministry of Strategy and Finance : Notify guidelines of setting National Finance Management Plan and annual budget
- Line Ministries : Submit National Fiscal Management Plan and annual budget request according to guidelines
- State Council : Submit to National Assembly after deliberation / voting
- National Assembly : Review and confirm budget; notify to Ministry of Strategy and Finance and line ministries
- Line Ministries : Based on the confirmed budget, plan budget allocation; make regular quarterly assignment
- Project managers : Execute budget and proceed projects



Changes Brought by the budget Management System

Before

- Budget execution rate and changes in allocation were not synchronized in real-time due to separate budget and accounting systems.
- It was difficult to review total investment amount of a project as projects were divided by accounts and funds.
- Discord between National Fiscal Management Plan (NFMP) and Annual Budget due to the different classification systems

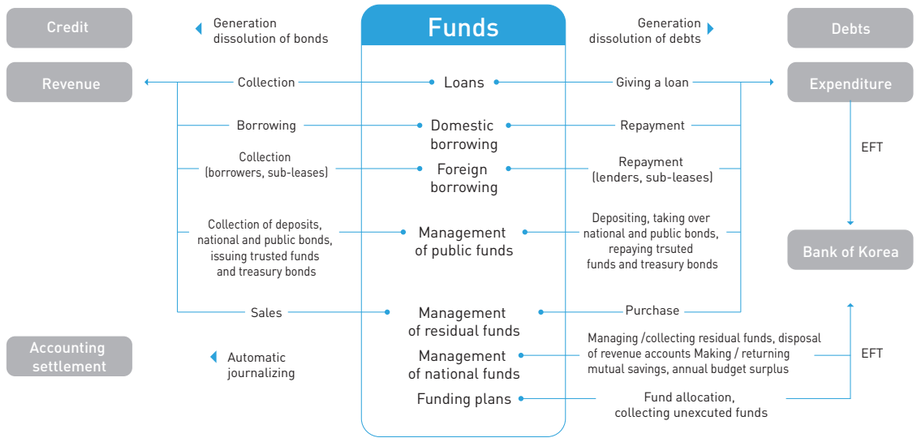
After

- The entire process from budget request, formulation, allocation to execution was conducted through an integrated system
- Based on the program budget scheme, the total investment amount of a project can be reviewed regardless of accounting and funds.
- Annual investment plan was linked to the NFMP and annual budget request was made on the basis of limit in expenditure specified in the annual investment plan.

Fund Management System

Through loan / repayment, financing/collection, fund planning, etc., the Fund Management System procures funds, adjusts supply and demand of funds among accounts, and operates residual funds.

- Loan / repayment : Loan between accounts and funds, temporary loan from the Bank of Korea, loan or repayment through bond issuance
- Financing / collection : Supports acquisition of national and public bonds and financing or collecting funds in order to finance public projects with public capital management fund



Changes brought by the Fund Management System

- Cost was significantly reduced by switching to a more active treasury management method. By keeping the Bank of Korea's account balance at 1,000 billion won and increasing the treasury operation size to 6,400 billion won, the treasury operating profit stood at a surplus of 163.3 billion won (2011).
- 100 billion won from the operating profit will be used as tax revenue in general accounting in 2012 fiscal year for the first time.

Before

- Funds were confirmed for each spending units and there were separate systems for the Bank of Korea's temporary loan, national bond, governmental loans; thus making the system complicated and inefficient.

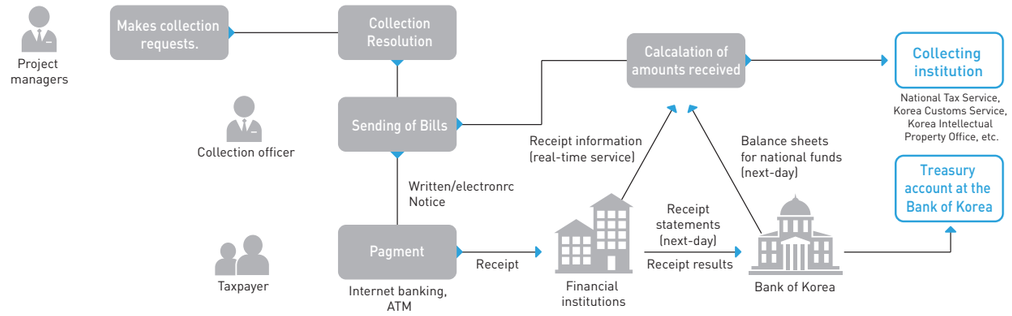
After

- Funds are confirmed and managed by each project. Partition between different systems for different financing methods were removed with on integrated system.

Revenue and Electronic Bill Presentment & Payment (EBPP) System

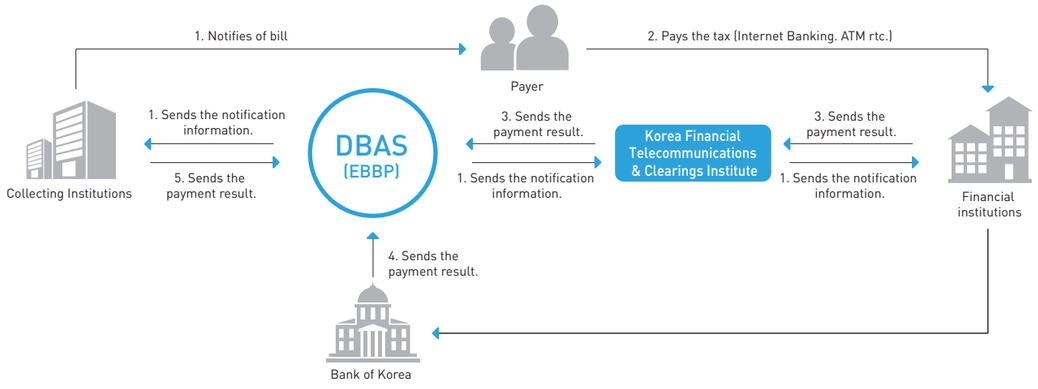
This unique unit-system of dBrain supports entire process of tax collection.
All the government revenues are processed through the EBPP system.

Treasury Revenues



Electronic Bill Presentment & Payment (EBPP) System

When the collection agency gives tax notice to a taxpayer, the payer can use internet banking or visit commercial banks to make the payment. Then, commercial banks inquire the tax information from the EBPP system and receive the amount from the taxpayer. After receiving tax, the bank sends the result to the DBAS in real-time.



Changes brought by the EBPP System

Before

- Due to delayed input of notice information the inquiry and receipt rate from the tax payers was low, and the accuracy of the government income was also low since the payment status was not managed in real-time.

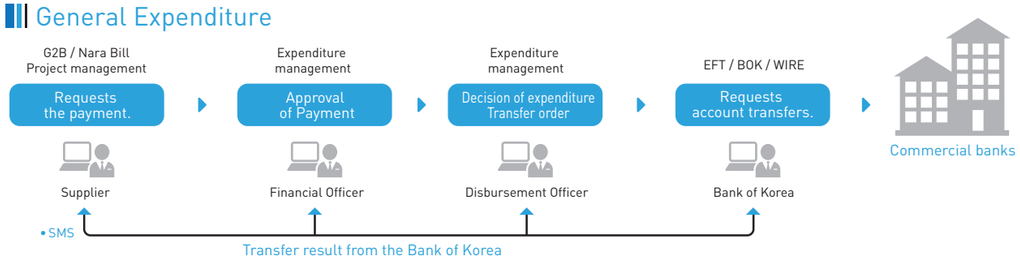
After

- Number and amount of payment by channels can be seen in real-time. Taxpayers can pay their due at anytime, since the tax notice is input in the EBPP system in real-time. In addition, police fines are input in the EBPP system on the site through PDAs distributed to the police.

Expenditure and real-time Electronic Funds Transfer (EFT) System

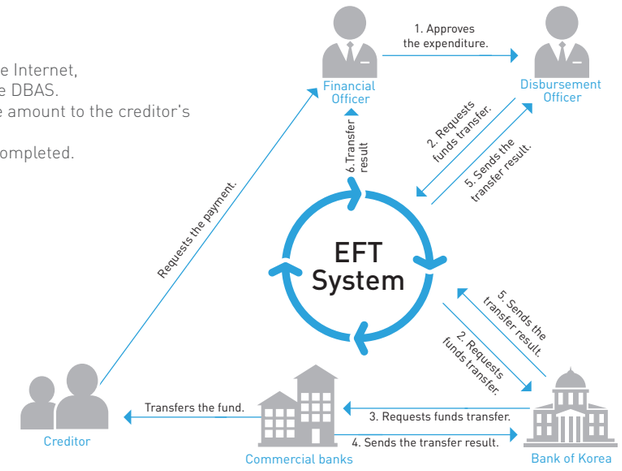
This system processes a series of work related to transferring treasury to creditors' bank account through the government's spending decisions and electronic funds transfer.

General Expenditure



The EFT System

When a creditor requests bill payment on the Internet, the government approves the payment in the DBAS. It requests the Bank of Korea to transfer the amount to the creditor's account, and the BOK sends the result to the DBAS in real-time after the transfer is completed.



Changes brought by the Expenditure Management System

When a project manager completes final examination after construction, the construction company requests payment through the Korea On-line E-Procurement System (G2B). The billing information is then transmitted to the project manager. When the manager requests a bill payment, the fund is transferred to the company's bank account through the EFT in real-time after a disbursement officer approves it.

Before

- The payment procedure was focused on the Financial officers and Disbursement officers, who are not the relevant managers of the projects, making the whole procedure dull and complicated.

After

- Payment procedure starts with the project manager, and the payment is processed on-line, improving transparency and citizen convenience.

Procurement Management System

This system processes procurement related business in real-time,
and supports contracting as it is linked with systems for procurement,
such as the Korea On-line E-Procurement System (G2B, Public Procurement Service),
and Korea Financial Telecommunications and Clearings Institute (Narabill).

Features of Business Process

- Link between Public Procurement Service (G2B) and Korea Financial Telecommunications and Clearings Institute (Narabill) system:
  Efficiency in management was improved by linking process such as purchase requests, bids, contracts, inspection/test requests, asset ledger registration, and billing. Online billing function was enabled with a linkage to the Narabill.

- Accounting based on double-entry bookkeeping and accrual basis:
  This process has allowed accurate double-entry bookkeeping and accrual-basis accounting for prepayments, ready-made payments, completion payment, inspection and billing that occur in the course of acquiring asset through a contract.

Changes brought by the Procurement Management System

Before	Contracts for goods purchase and construction are managed by the National Asset Management System, and service contracts by the Expenditure Management System, causing confusing to the users and hindering the accuracy of accounting procedure.
After	User confusion was prevented by complete management of all contracts through procurement (contract) system.

National Asset Management System

This is a system that supports comprehensive management of national property/goods such as establishing a comprehensive plan for national property, asset management and operation, and ledger management.

Nationial Asset Management System

Upgrades as of 2011

-Building functions related to comprehensive plan for national property :
This function establishes a comprehensive plan for national property by having the executive agency(Ministry of Strategy and Finance, MoSF) make a comprehensive adjustment of annual plans regarding line ministries' acquisition, disposal, operation, etc.

-Building comprehensive management function of administration asset by the executive agency :
This is a function where national property being used for administrative purposes is comprehensively managed by the MoSF, and each department uses the property within the necessary range through the approval of the executive agency

-Building functions in accordance with the implementation of national properties' price assessment :
Functions regarding price assessment is implemented depending on the confirmation of "Accounting guidelines for Revaluation of assets", and "Guideline for national property price evaluation."

Changes brought by the National Asset Management System

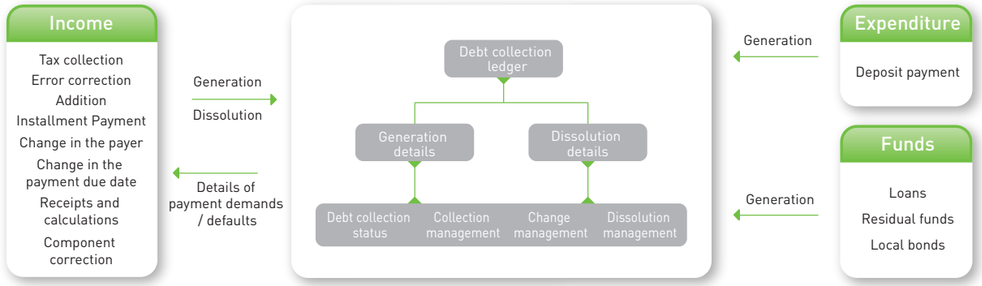
Before	• Off-line process for asset management existed and there was no linking service for public registry information (land register, registration info., etc.) • Weak double-entry bookkeeping basis due to absence of standardization of various asset management tasks
After	• On-line connection of overall process and asset management was established : Asset acquisition through G2B, Asset disposal through Korea Asset Management Corporation system(On-Bid) • Public registers can be reviewed through G4C linking service. • By defining the types of transactions and automatically journalizing various tasks, the congruence of the accounting is secured.

Credit and Debt Management System

Based on the country's credit and debt management act, the Credit and Debt Management System provides efficient management function of credit and debt

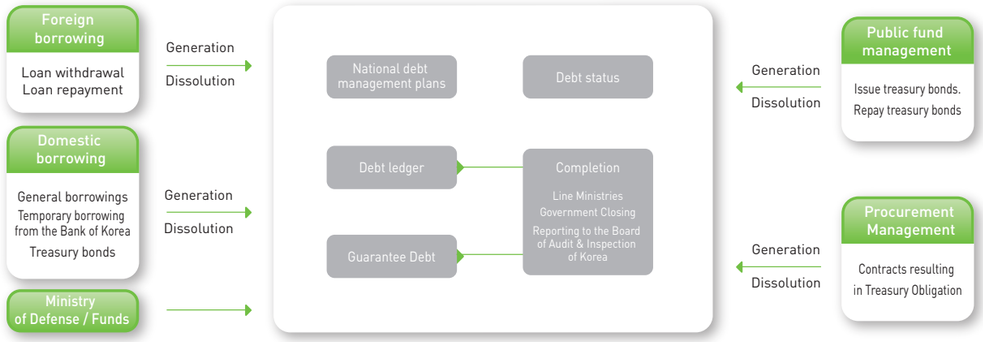
Credit system

This system performs tasks of credit status/recovery/change/discharge management, and provides closing function for drawing up current credit status report.



Debt system

This system manages the national debt management plan and debt ledger, and provides closing function for writing national debt management report.



Changes brought by the Credit and Debt Management System

Before

Mid and Long term risk management was impossible, since the current amount o f credit and debt was calculated only once a year for settlement and some credits were not automatically registered when generated.

After

System automatically registers credits when occurred during the process of income and fund management. Monthly identification of the status of credit and debt increases the capacity for Mid-and-Long term risk management and fiscal soundness.

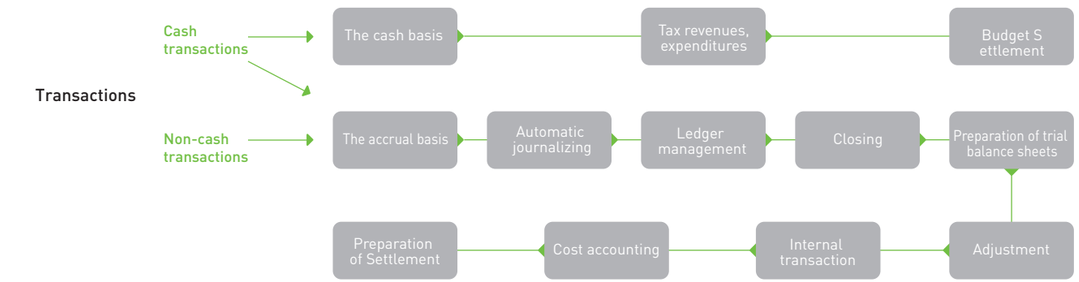
Accounting Management System

This system processes accounting of transaction in real-time that occurs during financial operation, and supports writing settlement reports with accounting ledgers and revenue/expenditure books.

- Automatic journalizing of transaction information such as income/expenditure, asset acquisition/disposal, bond issuance/acceptance according to the title of budget and title of account
- At the end of a fiscal year, the system automatically produces information needed for budget settlement and financial settlement, and supports report writing

* Financial settlement report: Financial statements (statement of fiscal status, statement of fiscal operation, statement of net asset change), footnote, required supplementary information, supplementary schedules, etc.

Simultaneous Budget and Financial Accounting



Changes brought by the Accounting Settlement System

Before

- Cash-basis and single-entry bookkeeping
- Budget revenue and expenditure report was prepared for settlement
- The Accounting Management System was built independently between central and the government finance statistics was inconsistent with international standards

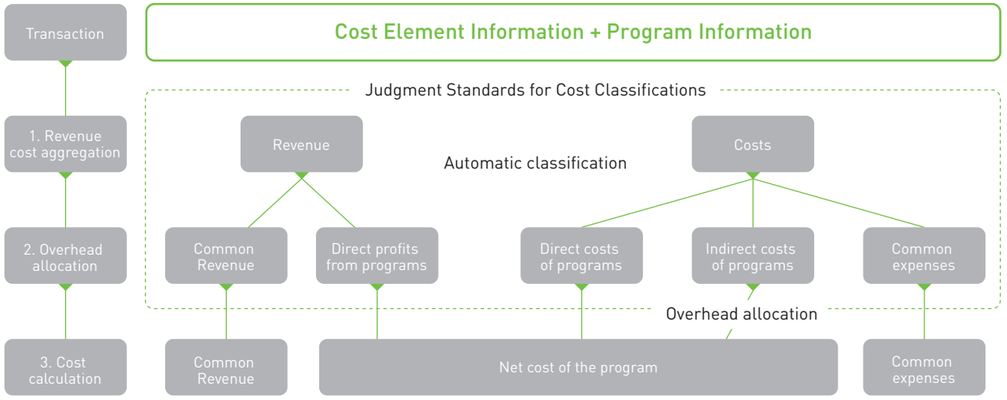
After

- Accrual-based double-entry bookkeeping, and automatic journalizing
- Various settlement reports, including revenue and expenditure report and financial statements, are produced
- Produced comprehensive financial information by unifying the accounting settlement structure of central and regional areas, public enterprises, and affiliated organizations
- Produced international standard (IMF '01) financial report in accordance with the expanded financial range

Cost Management System

To produce the results of financial management, direct cost by programs is produced by separating the revenue and expense during transaction,
and cost and results of financial operation by programs are calculated through t he indirect cost distribution cost.

- **Program cost** = Program direct cost + Indirect cost - Program deducted profit
- **Result of financial operation** = Program cost + Management and operation cost
  + Nondistribution cost - Nondistribution profit - Nonexchange profit



1. Process profit/cost calculation through real-time automatic sorting of prime cost by transaction
2. Indirect cost distribution in accordance with appropriate allocation bases (ex. direct costs, personnel, area, etc.)
3. Produces various costing report

Changes brought by the Cost Management System

Before

- Only the direct cost of programs was produced and it was difficult to produce quantitative key performance indicator (KPI) for performance management
- Cash surplus for programs was available for comparison among programs

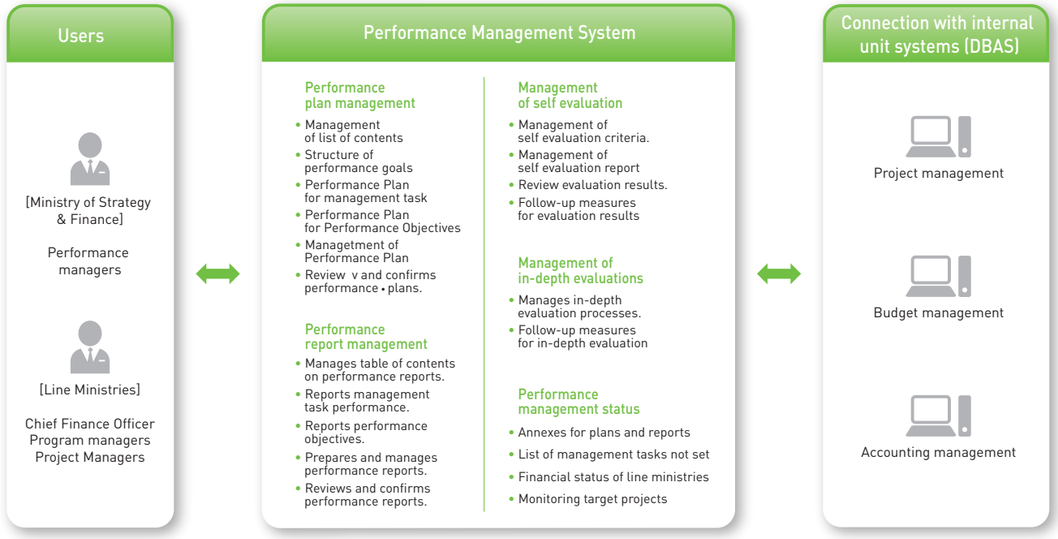
After

- Total cost and net cost for programs are produced, and quantitative KPS is produced for a program
- Able to compare programs from various aspects, due to the State of Fiscal Operation

Performance Management System

This system increases efficiency by processing overall performance management process online: performance plans, reports, self-evaluation, and in-depth evaluation.

Performance Management System



Changes made through the Performance Management System

- Performance management and budget management linked
  - During budget formulation and review, performance information such as performance plan/report / self-evaluation result can be inquired and used in real-time
  - Can use budget information when writing performance plan/report and performing self-evaluation of projects
- Contribute to performance-oriented financial management through the systematic link of budgeting and performance management tasks

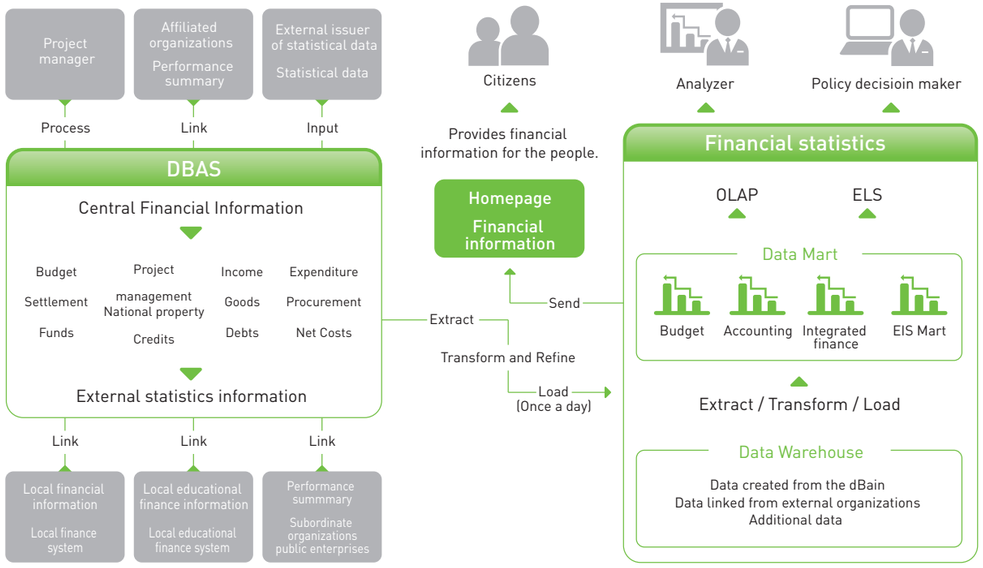
Before Inefficiency incurred by decoupling of Performance information and Budget/ Accounting information.

After Able to use performance information when formulating budget, and vice versa, t hus improving performance oriented management environment

Financial Statistics and Analysis System

This is a statistical analysis system that allows support of policy decisions through the utilization of accumulated financial information and analysis of the financial status. The system provides analytical tools of various forms according to the user's characteristic and purpose such as OLAP, EIS, and standard reports.

Processed financial information is also made public through the website.



Main work flow

Extract, transform, and load financial data ▶ daily transfer to the Data Warehouse (DW) server ▶ Data Mart Configuration ▶ provide information through expert analytical tools such as OLAP, EIS, etc.

Changes made through the Financial Statistics and Analysis System

- Project managers can view various types of financial information regarding their projects.
- Policy makers can identify macro-financial indicators at a glance through the EIS and reflect them in policy making.
- The congress can also search key financial information such as budget and settlement through the OLAP and contribute to transparent and democratic financing

Operation and Training

The DBAS is operated and managed by the Fiscal Management Bureau of the Ministry of Strategy and Finance. The maintenance of the DBAS is outsourced to private IT System Integration (SI) companies. As the design of the process is led by public servants specialized in financial management, it is managed and supervised with high expertise, and full user training and system support is provided.

Status of System Use

Target Users: Public officials in charge of central government budget and accounting, and public officials in charge of treasury management of local governments
Number of Users: In current 2012, a total 55,000 users
Daily average access of 15,000 people (based on 2011)
Daily processing of 300,000 cases,
Daily fund transfer of 5.8 trillion won (4.8 billion US dollar)

Training and Support

Implementing periodic on-site training, commissioned training, online training, and operating call centers

International Cooperation

Many countries from Asia, Latin America and Africa that pursue financial innovations are paying attention to the DBAS. Since the stabilization of the system in 2009, public officials from around the world have been visiting Korea. The future vision of the DBAS continues to grow with joint projects with multilateral development banks such as the World Bank, Inter-American Development Bank, and Asian Development Bank