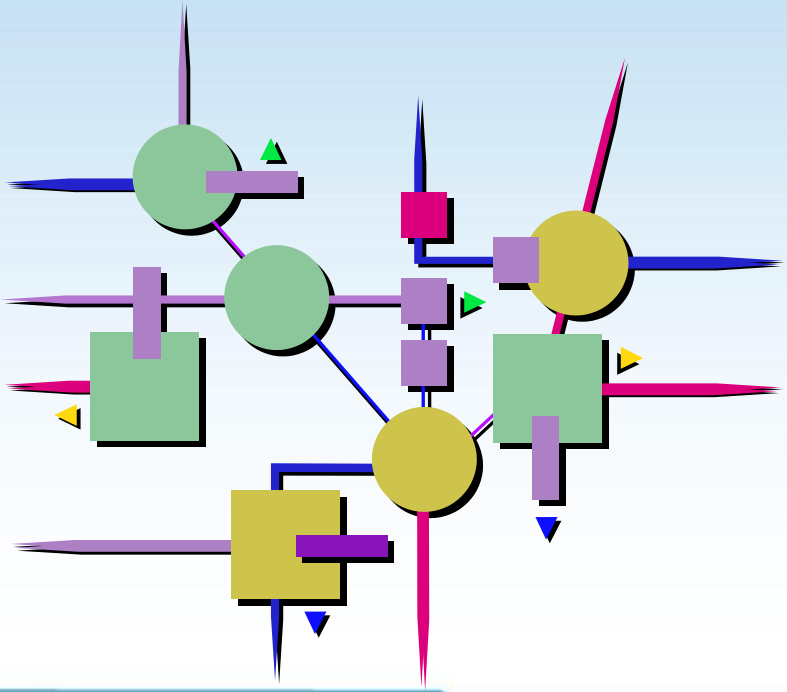
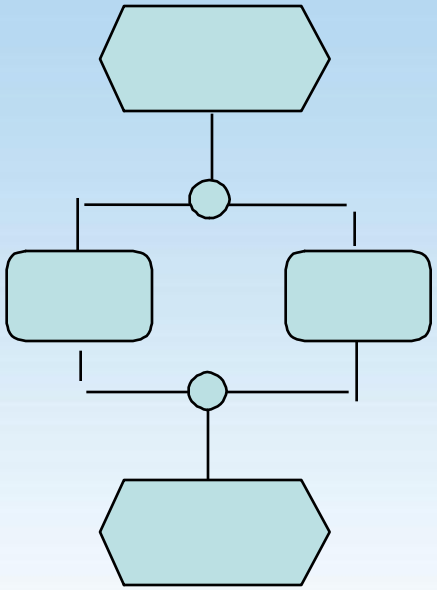
Treasury Information system & Security Assurance





Integration is not just a process of technology implementation, this is the process where people, processes and systems work in unison

1. Information System of Treasury Department
2. Interbank Payments System
3. Information Exchange System
4. Online Reporting System
5. Security Assurance

Treasury Department Information System consists of two components :

- OLTP – Online transaction processing system (SAP R3)
- OLAP – Online analytical processing system (SAP BW)

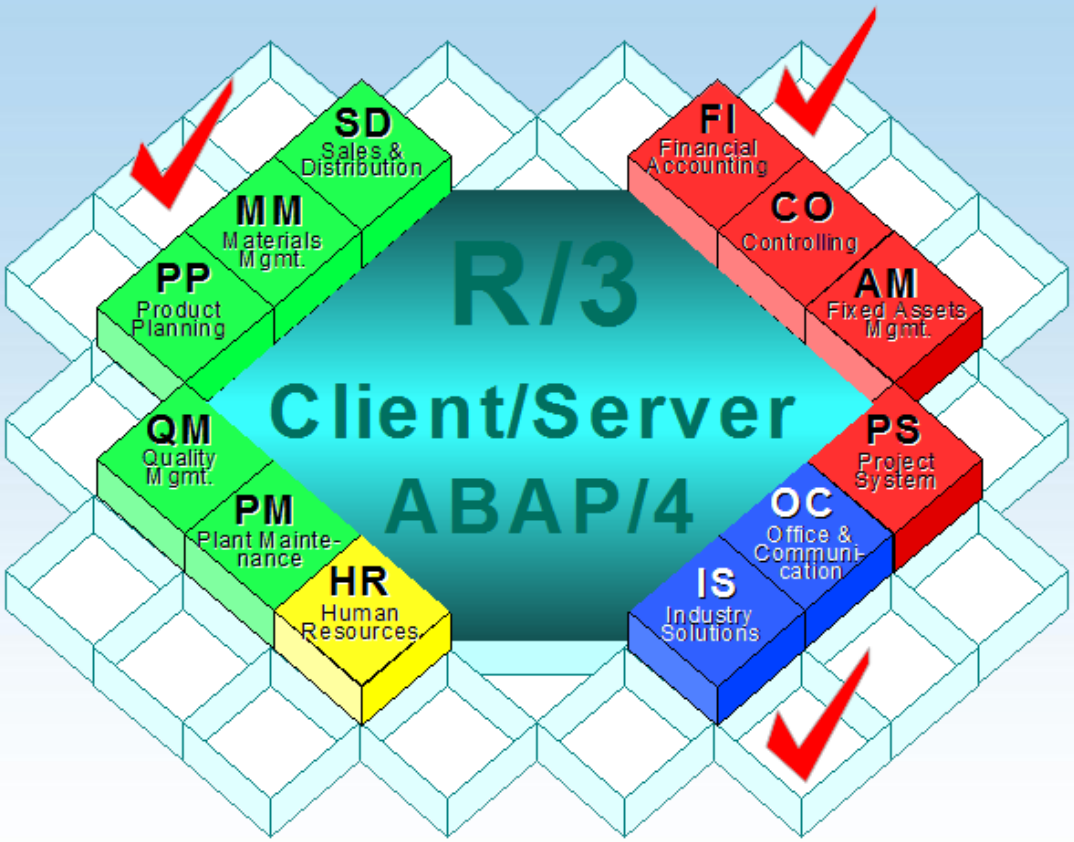
OLAP generates reports, makes analysis and projections

OLTP

The main data is entered into this system, necessary software modules are activated there, and daily operations on funds allocations and spending are carried out there.

SAP software is easily scalable, it allows to initiate multilevel procedure of documents reconciliation, to ensure centralized administration of master-data, to examine changes in any document, and etc.

This software contains Finance and Accounting, inventory Management and Public Sector Management modules.

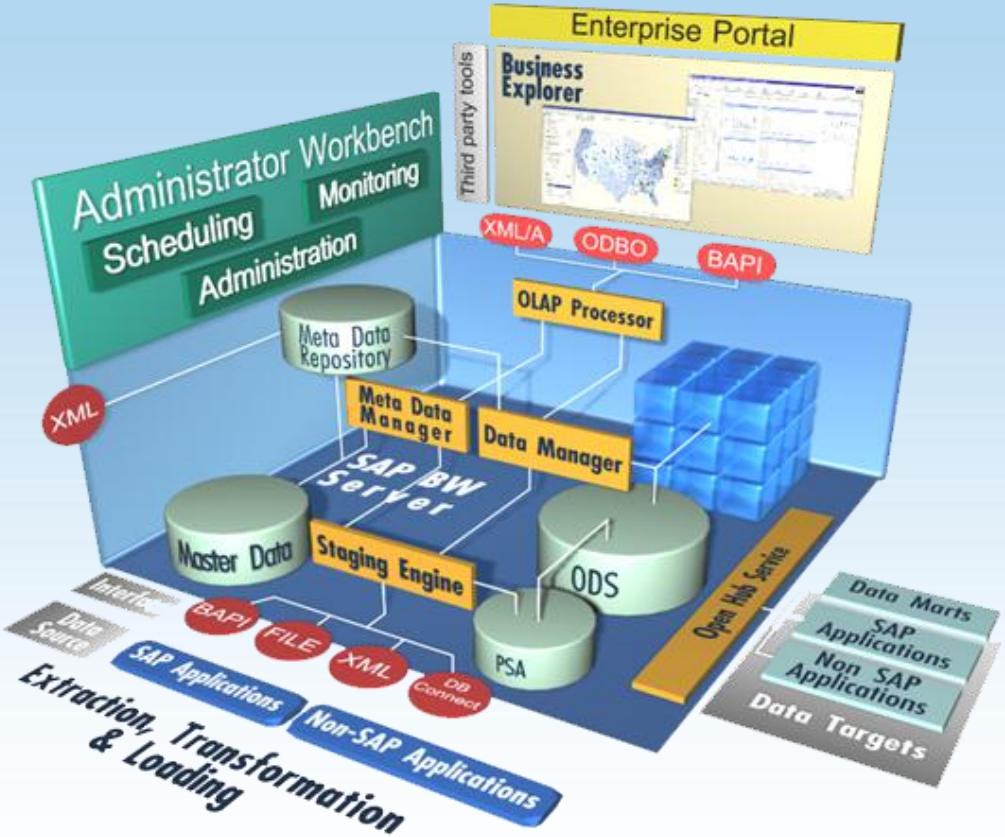

SD
Sales & Distribution
MM
Materials Mgmt.
PP
Product Planning
QM
Quality Mgmt.
PM
Plant Maintenance
HR
Human Resources
R/3
Client/Server
ABAP/4
FI
Financial Accounting
CO
Controlling
AM
Fixed Assets Mgmt.
PS
Project System
OC
Office & Communication
IS
Industry Solutions

Business Intelligence BW Platform

OLAP

Business Intelligence BW Platform enables to create data warehouses, to generate reports, to analyze information stored in databases, to carry out multidimensional analysis, to simulate with the aim of efficient planning, and to visualize the obtained results. Data analysis results and reports can be provided to the portal users.

– With the help of the web-portal the staff and the clients get direct, protected access to the necessary information and applications in accordance with their roles in the business process. The portal allows to streamline business-processes, improves communication between the employees, facilitates access to corporate information, optimizes document flow, and as a result facilitates efficiency of the company's staff performance.


Enterprise Portal
Business Explorer
Third party tools
Administrator Workbench
Scheduling
Monitoring
Administration
XML/A
ODBO
BAPI
OLAP Processor
Meta Data Repository
XML
Meta Data Manager
Data Manager
SAP BW Server
Master Data
Staging Engine
ODS
PSA
Open Hub Service
Data Marts
SAP Applications
Non SAP Applications
Data Targets
BAPI
FILE
XML
DB Connect
SAP Applications
Non-SAP Applications
Extraction, Transformation & Loading

Development – Test- Productive Use

All customizations and etc. are developed in a specially assigned “Development System”. The utilized software logs in all changes created by the developer – consultant. So called “changes transport” is created and it is transferred from the development system into the test system. Thorough tests are performed in the test system, and if necessary, new changes are entered into the development system and new transfers are made.

In case of satisfactory results the changelog is transferred to the productive system. Test and productive systems are closed for any direct customizations or changes.

There is also a sand-box for innovations testing and a training system that is created by copying the productive system.

The sand-box & the training systems are not part of the overall landscape and changes in these systems are neither logged in, nor affect the production chain.

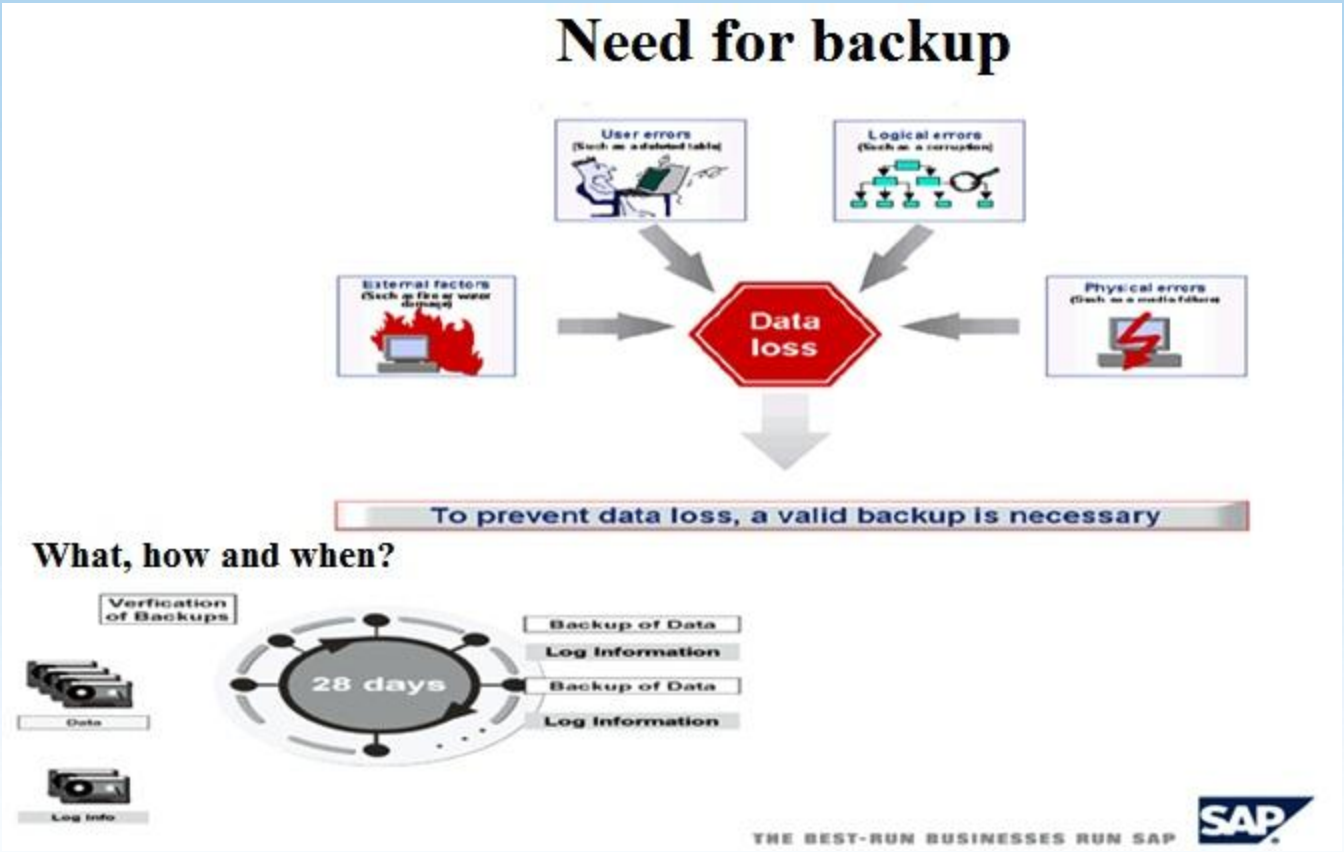
- **System Landscape Structure**

- **Roles and reponsibilities within the system landscapes**

- **Interaction within the transport system**

Uninterruptability and Backup

The productive system consists of local and geo-clusters.
The local cluster ensures uninterruptability of the system within one group of servers. In case of complete failure of the server, the remote geo-cluster becomes active and all the requests are redirected over there. Thanks to this scheme, the end user has no idea what server he is working with. Synhronization of geo-clusters is symmetrical, i.e. the data is simultaneously recorded in the data bases of both servers.
Every evening the logs are backed-up, and on weekend nights the complete backup of the system is performed.


Need for backup
User errors
Logical errors
External factors
Physical errors
Data loss
To prevent data loss, a valid backup is necessary
What, how and when?
Verfication of Backups
28 days
Backup of Data
Log Information
Backup of Data
Log Information
Data
Log Info
THE BEST-RUN BUSINESSES RUN SAP
SAP

Security Assurance

Security of access is organized both at the network typology and software levels.

All Treasury Agency offices are linked to a closed optical channel which is protected at the level of provider. Besides this, SAP provides its own router, which uses 2048-bit encryption key, specially dedicated ports and complex authorization system to ensure access of the external support service.

For remote work of consultants Cisco ASA & Radius-Server authorization at the domain level is used, where the users pass various types of authorization:

- MAC address or static IP address
- Presence of the user in the users' domain
- Presence of the specified user in the system

Administration of authorities

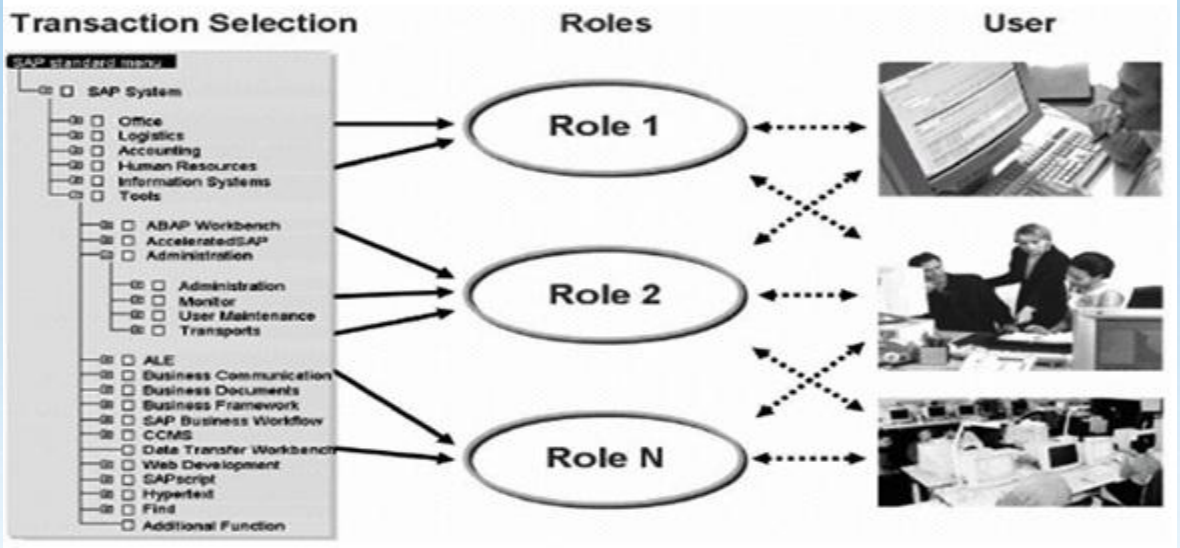
There is a number of instruments at the software level, with the help of which centralized administration of all users is performed; there are internal reports that enable to check consistency of the assigned authorities, i.e., the same person cannot generate the document and send it for payment, or the same person cannot generate cash limit and request for delivery.

Built-in instruments also allow to track every single user, to see from what terminal (MAC address) the transactions were performed, what specific transactions were performed and what data was entered or changed.

Strategy of technical infrastructure security

- Authentification of the users
- Protection of the network infrastructure
- Protection of operating systems of servers of TIMS system landscape
- Protection of TIMS system database
- Protection of production system
- Logging and audit

General approach to assigning the roles and authorities of end users



- High security level fro access is ensured by the mechanisms of delineation of users access rights to information. Flexible setting of rights of access to the data takes into consideration various categories of users, their competence and authorities. Thus, depending on the categories and authorities of functional users, they get different functions and scenarios of master-data processing; limitations of the access to the data are set basing on the levels, as well as a number of additional possibilities.
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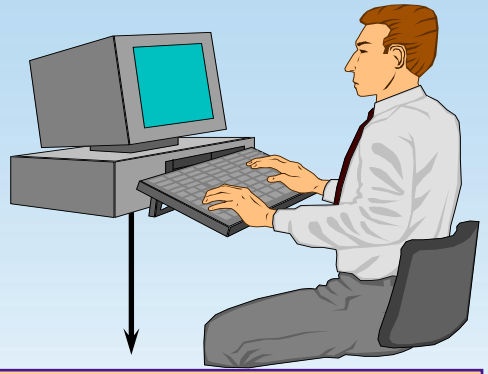
Access Authorization in TIMS

User



User Name

Password

Responsibility

User 1 Main Menu

- Menu
  - Forms
- Menu
  - Reports

User 2 Main Menu

- Menu
  - Forms
- Menu
  - Reports

Security Rules Check User Access to Business Objects based on his/her authorization profile

PI (Process Integration)

IP module is used to ensure information exchange between various systems. With the help of certain scenarios setting it “communicates” with external systems.

Information exchange between SAP and banking payment systems (SWIFT and Payment System for small & medium payments) is performed by means of PI, information exchange with tax authorities and this module serve as the window for further merge of treasury chain with e-government.

Electronic Reporting System

Spending units submit their reports online.

2048 encryptic key from DigicerTo company is used to encrypt the data that is being transmitted. Spending units are linked to the web-server that is located in DMZ zone, from which requests are retransmitted to the data base server located within the network and is not accessible from outside.

By means of this system the encrypted reports are transmitted through SSL for approval and each organization can track in its office the current status of the submitted reports.

Other security measures

SCB (shell control box) is used as additional security instrument, it is located at the central point of entry to the internal network and visualizes all the commands sent in the network.

Spektr company software is installed on all Windows terminals. It allows to both monitor the end users and to reproduce all actions performed at a separate terminal.

Support services of the system ensure execution of the following tasks related with the system environment:

* Administration of users;
* System administration;
* Administration of transportation requests;
* Launch of background jobs;
* Backup and data restoration;
* Programming;
* Data bases administration;
* Operating system administration.

Achievements:

At the end of October of 2012 independent panel of experts that consisted of the representatives of SAP AG Germany, SAP CIS Russia, Price Waterhouse Cooper, Bearing Point etc. selected Treasury Information Management System Project as the Gold Winner of the SAP Quality Awards 2012 in the Medium Implementation category in CIS.

Project has also been nominated as the top project in EMEA region.

Award ceremony is going to take place in Madrid on November 14.

Thank you for attention!