CORE SAP/ERP CONCEPTS

Spring 2009 Enterprise Systems

SAP Terms and Concepts

**Instance** –

Typically 1 instance
Typical SAP Landscape consists of multiple instances for

Typical install size: 1 terabyte.
SAP is platform agnostic. Can run on IBM AIX, IBM AS/400, Linux, HP-UX, Solaris, IBM S/390, Windows
**SAP Terms and Concepts**

**Configuration** –

What you do to have the system execute your business processes the way you want them executed. No code necessary. Change options.

Over 8,000 configuration decision points available.

"We need people that can re-engineer standard SAP and minimize writing code." (Valerie Homan, Manager, Enterprise Solutions, Y12 National Security Complex)

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**SAP Configuration**

Most infrastructure decisions, including configuration decisions, occur.

Basic SAP installation

Once it is done, very difficult to undo or reconfigure.

SAP Consultant Focus

1990s  Today
SAP Code Modifications

Possible in SAP ERP (and related products)
Can make migration to new versions of the software much more difficult.
Typically only necessary if company is doing something very unique.

Techniques:

- Business Add-ins (BADIs):

- Explicit Enhancement Points:

SAP Database

At the heart of every SAP installation is a relational database server.
Oracle, IBM Informix, SAP MaxDB, MS SQL Server, IBM DB2

Do not manipulate database data apart from SAP control.

Tables created, managed, etc. from within SAP.
Valid SAP-independent operations:

Keeping hardware and software infrastructure running, patched, performance tuned, etc. is the role of
**Document Principle**

Each transaction that writes data to underlying database

Each document contains information such as

Once created, a document **cannot be deleted** from the database.

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**Sarbanes-Oxley, HIPPA, and SAP work**

The Public Company Accounting Reform and Investor Protection Act of 200, aka the Sarbanes-Oxley Act, or SOX:

Health Insurance Portability and Accountability Act of 1996:

Information systems must have appropriate security controls, and must ensure

In application: greatly limits or removes an administrator super-user role that can do tasks
**Business Process**

**Defined:**

Sequence of business activities, typically involving shared resources and information.

Often representing

Establishing efficient, effective business processes: key to successful company operation.

Business Process definition and execution facilitation is core goal of ERP systems.

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**Example Business Process: Buy-to-Resell**

[Diagram of the business process flow]
Process Integration

Sales Order Process
- Determine Needed Materials
- Check Availability
- Pick Materials
- Post Goods Issue
- Payment to Vendor
- Invoice Customer
- Receipt of Payment
- Sales Order Entry

Procurement Process
- Purchase Requisition
- Purchase Order
- Goods Receipt
- Invoice Receipt
- Receipt of Needed Materials
- Payment to Vendor

Business Process Integration—Data Focus

“The 3 Legged Stool”
Components:
Organizational Data

**Organizational Data:**

Arranged according to tasks (particular activities) and functions (overall responsibilities).

Examples: factories, distribution centers, warehouses, storage locations, etc.

Mapping actual organization units to appropriate SAP structural representation

Static data that is rarely changed.

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Master Data

**Master Data:**

Examples: customer data (address, contact info, etc.), vendor data, material data, and more.

Before configuring and creating master data, organizational data must be in place.

Providing consistency and accuracy in master data:

Managed in SAP by
Master Data Management Importance

Rules

Rules: defines the parameters for Master Data and Transactions (valid values, uses, inter- and intra-relationships, etc.)

A P.O. can only be accepted on a valid customer account. (Create customer account before entering first order.)

Relatively fixed
Transaction Data

Transitory information generated from independent
Customer orders, payment records, etc.

Unlike master data, aggregate transactional data is
dynamic – each transaction is unique
Transaction data pulls from

Financial Transactions

Transactions with monetary elements provide data for
organizational financial (FI) and managerial
accounting (CO).
Not all transactions have direct financial implications.

Financial accounting: focused on preparation of

Managerial accounting: focused on preparation of
General Ledger

General Ledger:

An acceptable business transaction:
   Affects the financial position of the entity
   Measured in a currency
   Affects at least two accounts
   Assets = Liabilities + Equity
   Debits = Credits

Chart of Accounts

The foundation for the General Ledger is the

**Chart of Accounts:** contains a complete list of all of the

Accounting reports are prepared from the balances contained in the General Ledger’s Chart of Accounts
Key organizational data concepts

In order to work in SAP environment, certain concepts repeatedly recur. They form the foundation of data flows.

Key organizational data elements:
- Client
- Company
- Chart of accounts
- Company code

Client

A complete database containing all the tables necessary for creating a fully integrated information system.

Typically, 1 client per SAP instance. When multiple clients share an instance, all data elements are segregated by client (but programs and customizations may be shared).

SAP MANDT = Mandant ("client" in German)
Client can be thought of as
All data within a single client is shared across

**Company**

**Company**: smallest organizational unit for which individual financial statements can be drawn up according to the relevant commercial law.

A company can include one or more

Can be thought of as a company that consists of multiple smaller companies.

Companies are optional in organizational structure.

Only needed if multiple company codes are combined into consolidated financial statements.
**Organizational Structure**

- **Client**
- **Company**
- **Company Code**
  - Company Code
  - Company Code
  - Company Code
  - Company Code

**Company Code**

*Company Code*: A legally independent entity.

All *company codes* within a company must use the same *chart of accounts* and fiscal year.

Business transactions are processed at this level.

Legal financial statements, such as the balance sheet and the income statement, are generated at this level using the General Ledger balances.
Organizational Structure

Client

Company

Company Code
Company Code
Company Code
Company Code

General Ledger
General Ledger
General Ledger
General Ledger

Chart of Accounts

Example Structure

Client

Company

Company Code 010
Company Code 038

United States Chart of Accounts

Company

Company Code 110
Company Code 117

Canadian Chart of Accounts
Other organizational configuration

Many other elements:

**Fiscal Year Variants**: calendar on which reporting is based.

**Credit Control Area**: organizational unit responsible for granting customer credit.

**Business Areas**: logical groupings of products, etc. brought together for policy setting and strategic management.

**Plants**: production facilities.

**Storage Locations, Purchasing Organizations, Purchasing Groups**, and much, much more.

Conclusion

SAP does not work "out of the box." An SAP instance requires significant configuration.

Configuration brings together concepts of **organizational data, master data**, and **transaction data**.

One cannot fully appreciate the complexity of configuration management without extensive study.