

Bachelor Degree Programme in Applied Computer Science and Artificial Intelligence

15. SAP Overview



SAPIENZA
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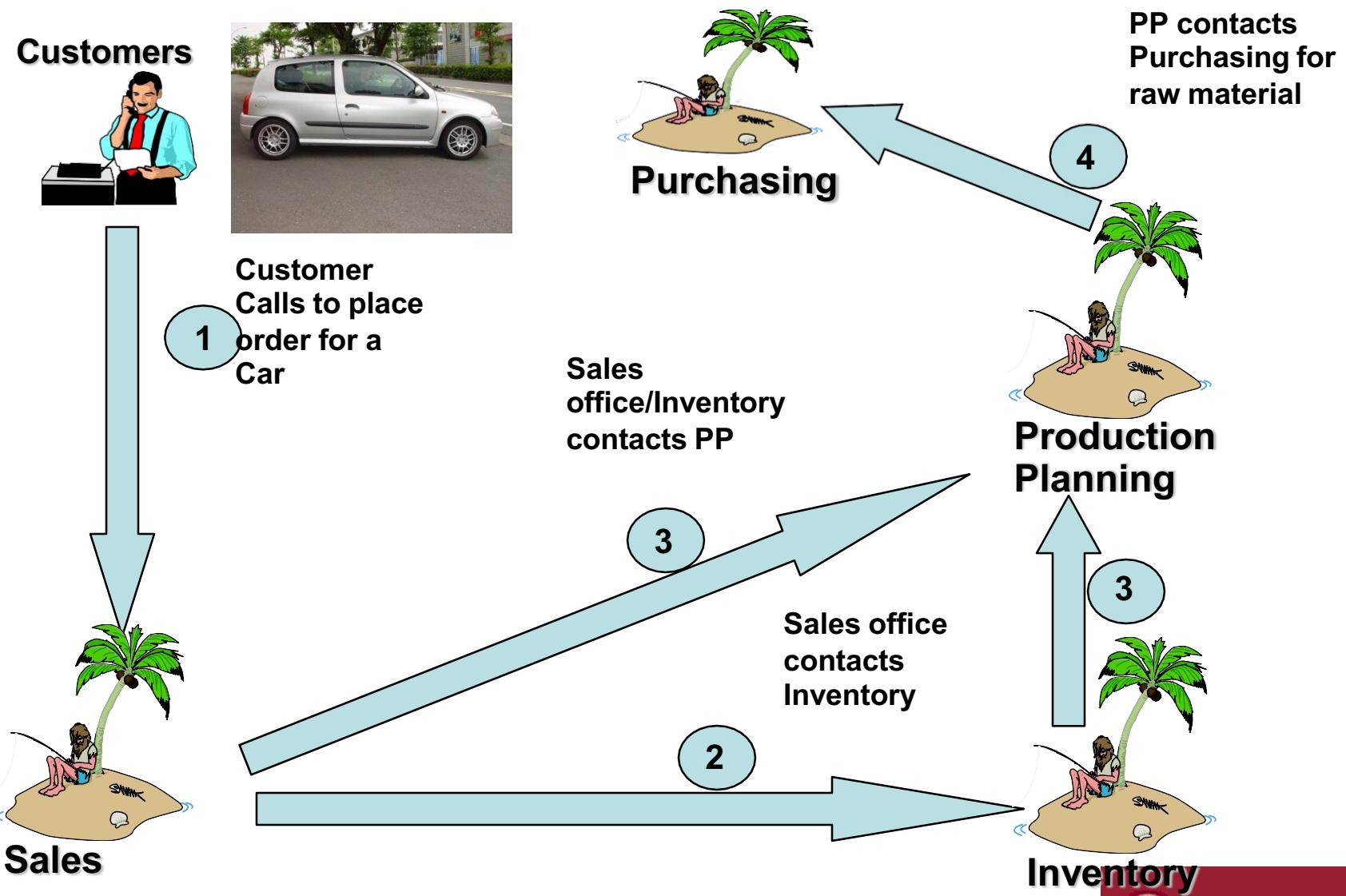
Agenda

- Introduction to ERP
- Introduction to SAP
- Navigation through SAP
- Understanding the Standard Reports in SAP
- Data Extraction

Introduction to ERP

Business Without ERP

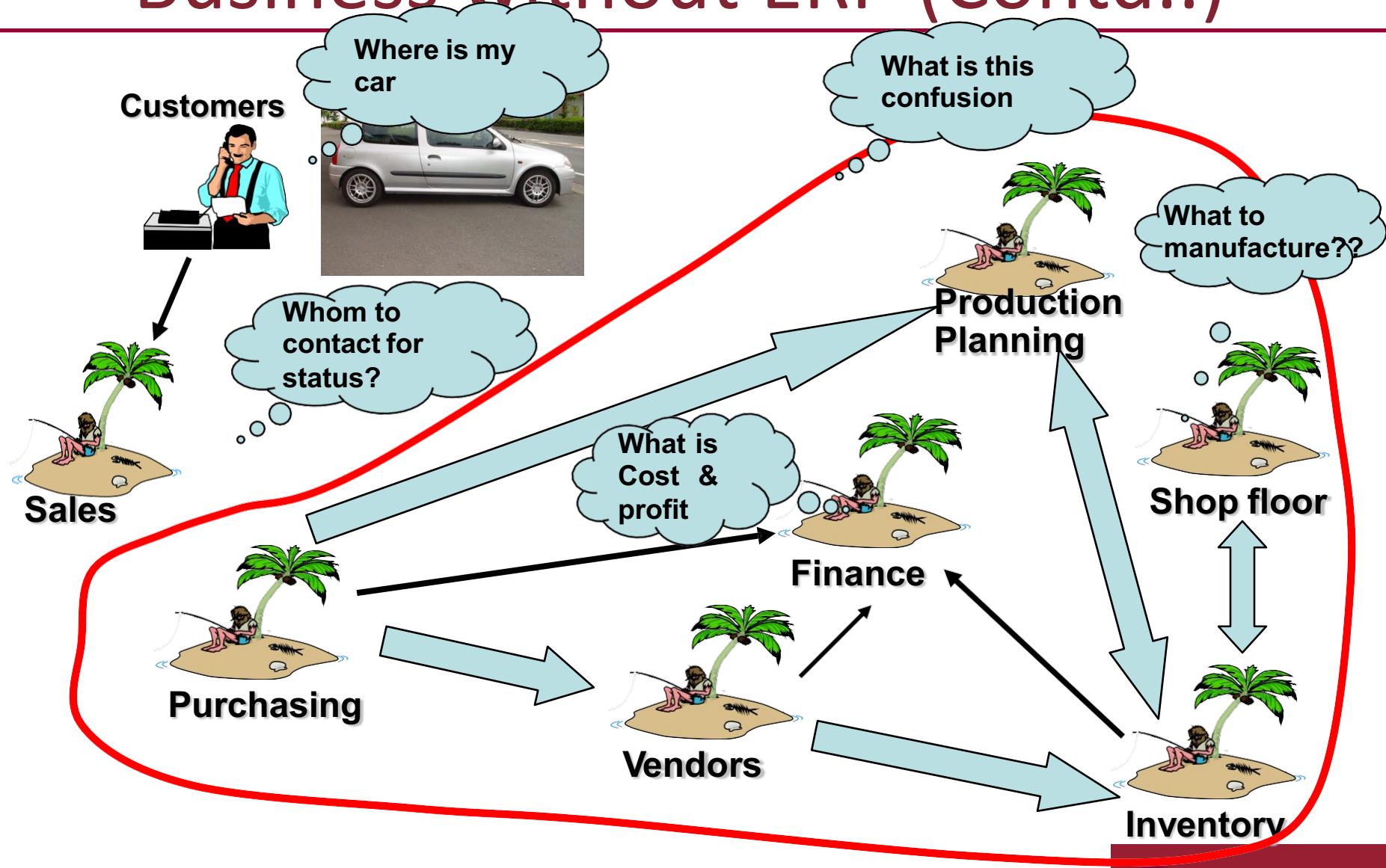
Business without ERP



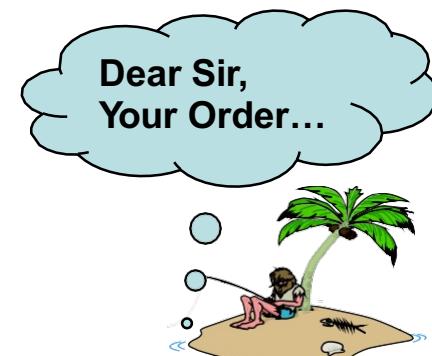
Business without ERP (Contd..)

Lets add some more Business Processes

Business without ERP (Contd..)



Lets Deliver the end product to customer..



Business without ERP (Contd..)



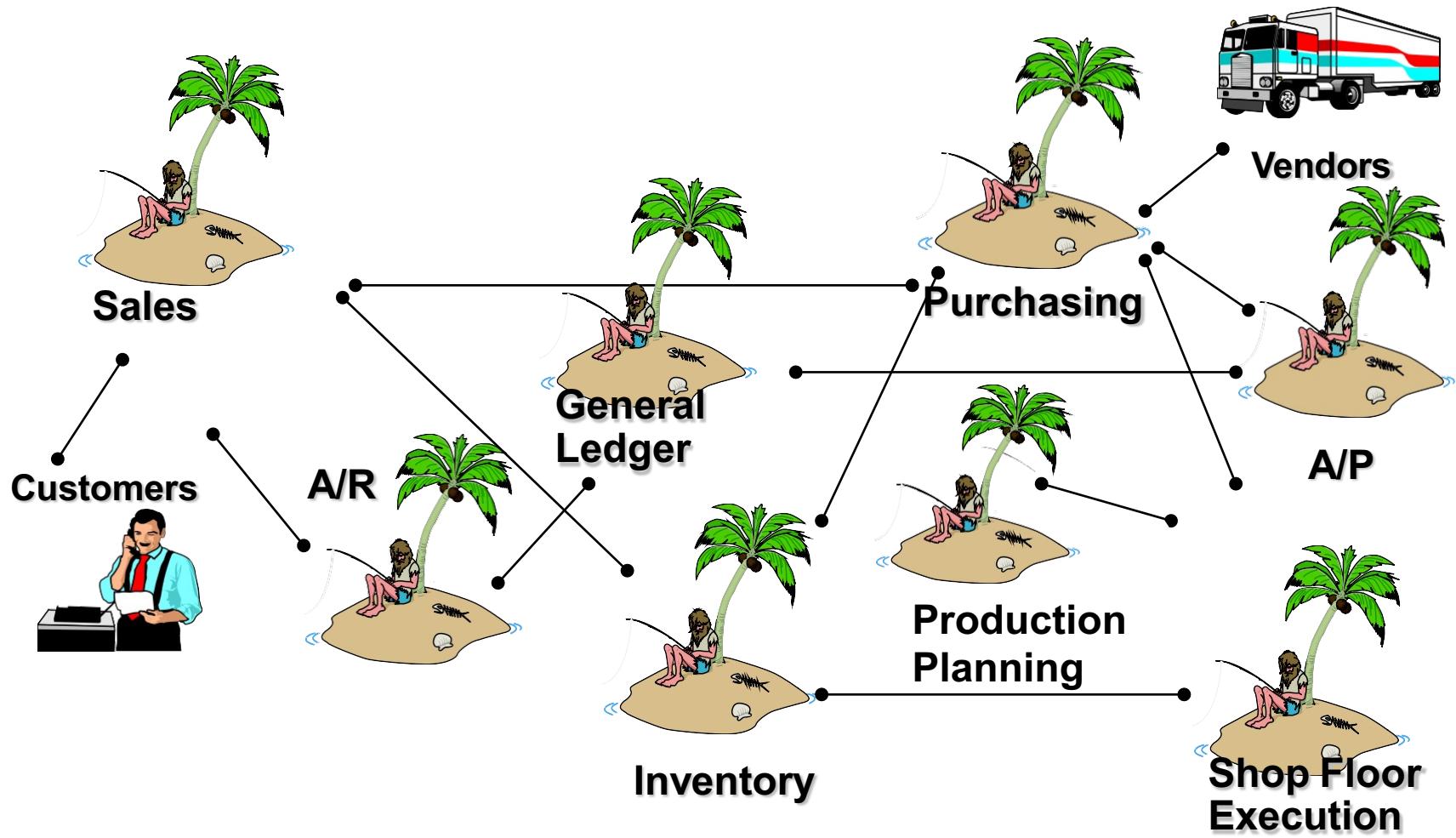
I AM NOT TAKING
DELIVERY AND WILL
NEVER DEAL WITH YOU!

We are
SORRY Sir



Sales

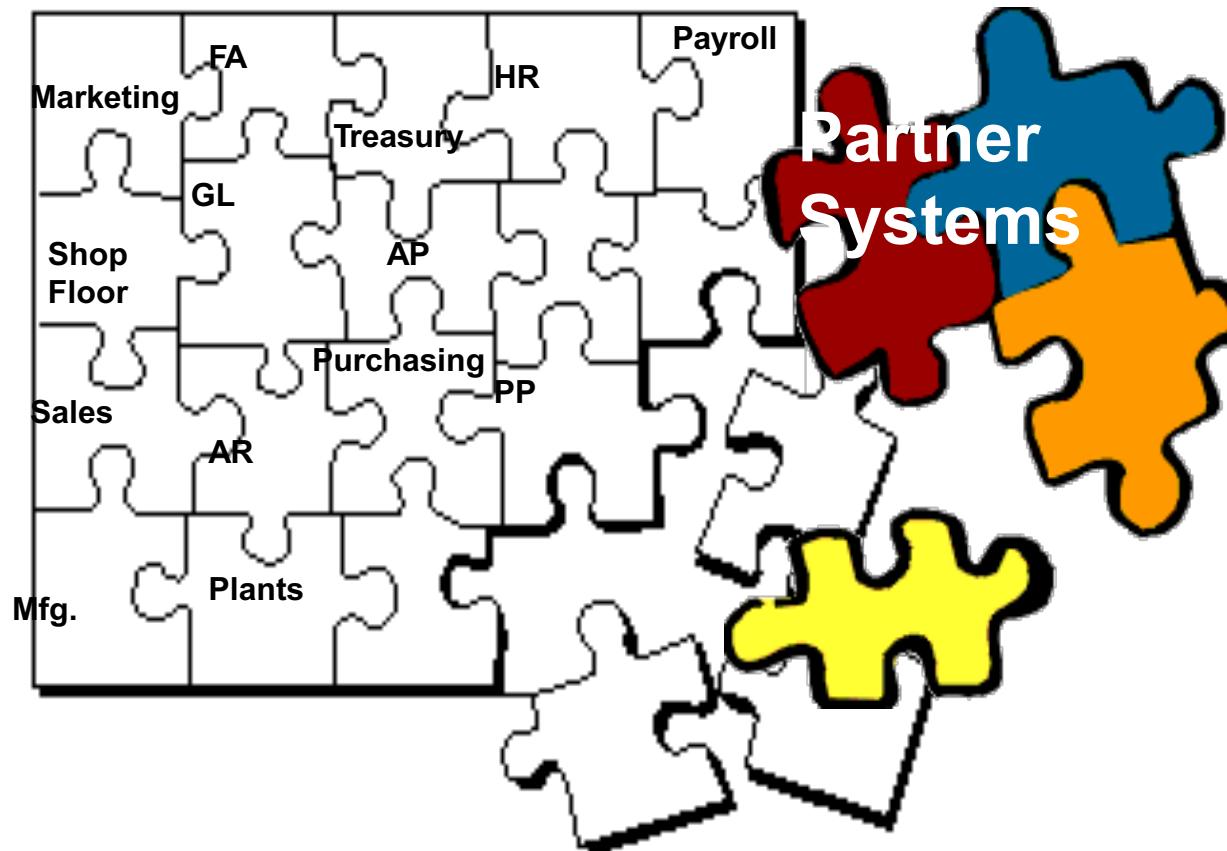
Overall Picture



Why Enterprise Architecture

- Why Enterprise Architecture ?
 - Numerous disparate information systems
 - Integrating the data becomes costly
 - Time
 - Money
 - Resources
 - Inconsistencies and duplication of data
 - Lack of timely information
 - Required: Central enterprise definitions
 - Required: Centrally controlled business change

Enterprise Structure – Integrating Business



Enterprise Architecture - Benefits

- Eliminates the duplication, discontinuity and redundancy in data
- Increases the return on investment made on IT implementations
- Delivers quality information designed for the Enterprise as a whole
- Faster and cheaper
- Delivers quality information to produce a quality enterprise
- Satisfying Partners/Customers
- Reducing required manpower



ERP



ERMS

Enterprise Architecture is based on Enterprise Relationship Management Systems, which are the backbones of the modern day industries

These are a set of applications combining key functions like

- **Finance,**
 - **Production**
 - **Sales,**
 - **Logistics,**
 - **Statutory Compliance,**
 - **Human Resources etc.**
- , in a integrated Fashion

What is ERP?

ENTERPRISE RESOURCE PLANNING

What Is Enterprise Resource Planning?

- The integration of **all** computing within an organization such that:
 - **all** major business processes are encompassed and standardized and
 - **all** data is usable by **all** functional areas of the business
- Enterprise Resource Planning = ERP
 - Integrate many business functions into one seamless application
 - Usually are applications systems that run on top of a RDBMS
 - Replace 100s of legacy systems in organizations who use an ERP

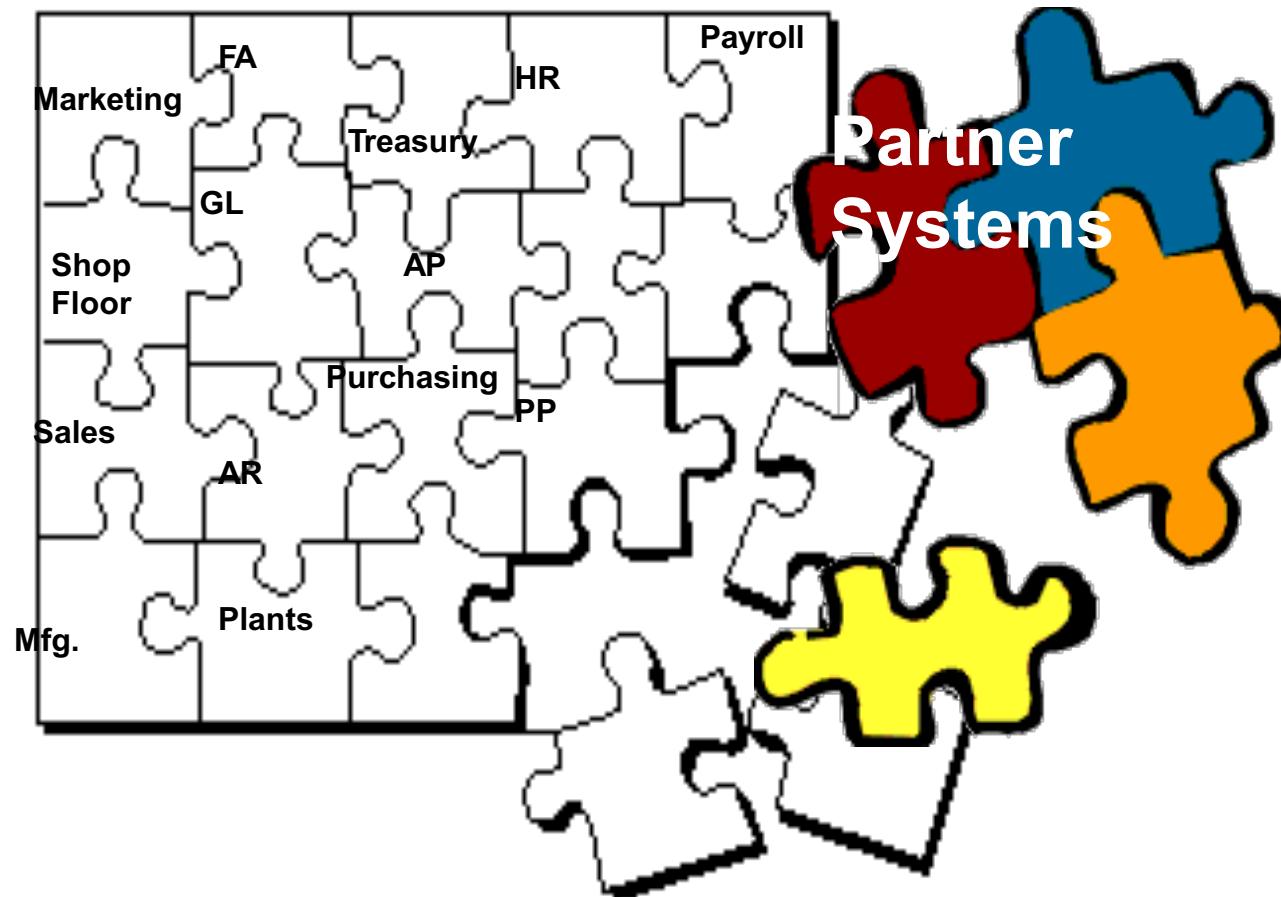
Characteristics of ERP

- Link all business processes automatically
- Reduce interprocessing time (transactions occur one time at the source)
- Maintain complete audit trail of all transactions
- Utilize one common database
- Perform automatic internal conversions (e.g., foreign currency, taxes, legal “rules” for payroll, product pricing)
- Improve customer service by putting data at the fingertips of any employee
- Involve users in the entire functional cycle

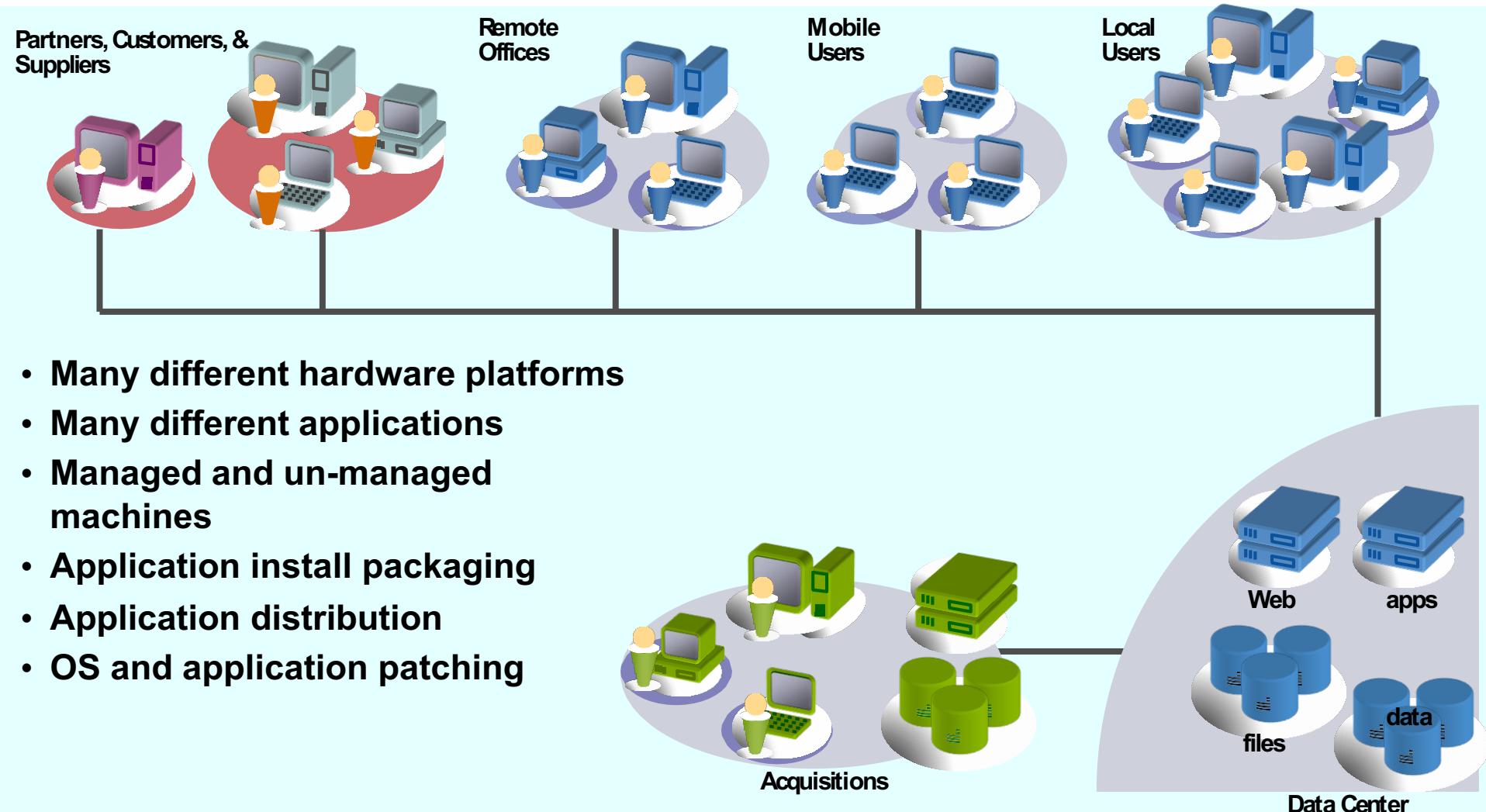
Advantages of ERP

- Fully Integrated Business Functions or Modules that Support Business Processes
- Helps develop understanding of business processes by tracking information thru the process
- Standardized Systems Development Life Cycle
- Move Toward Business Process Re-engineering
- Centers Re-engineering Around the Software
- Directly Links to External Systems

Enterprise Structure – Integrating Business

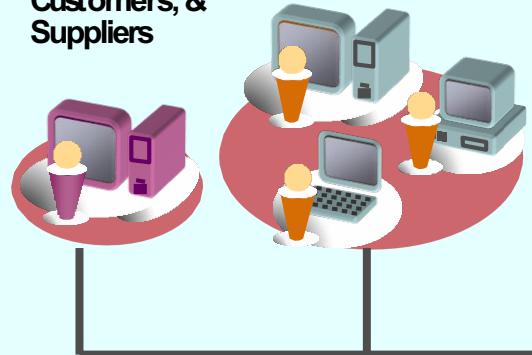


IT Environment Today



Complex Problems

Partners,
Customers, &
Suppliers

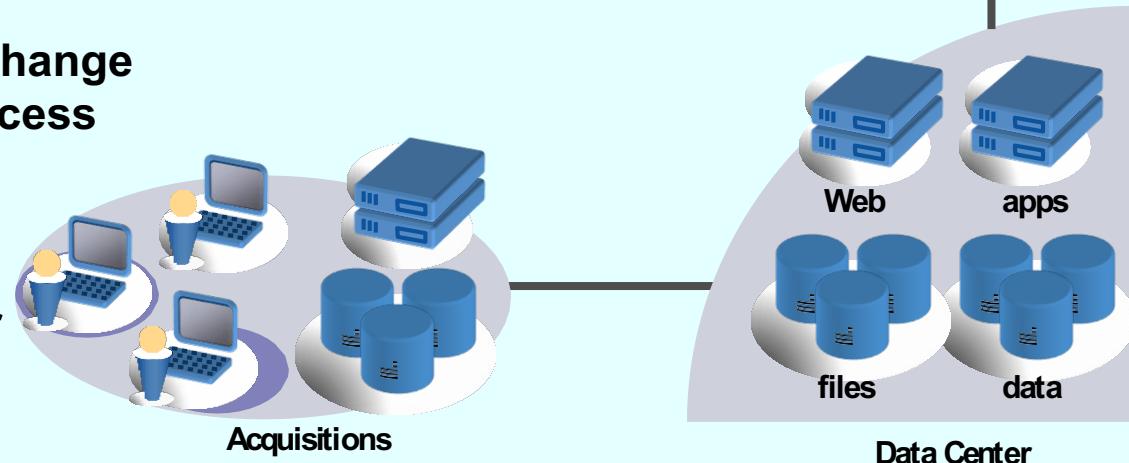


Remote
Offices

Mobile
Users

Local
Users

- Application compatibility
- Application certification
- Replace target machines
- Cost of application deployment/change
- Support for offline application access
- Frequent application updates
- Efficient use of IT resources
- Efficient use of computing power



Acquisitions

SAP

Systems Applications and Products in Data Processing

(German : Systeme, Anwendungen, Produkte in der
Datenverarbeitung)

History of SAP



- ❖ Systems Applications and Products in Data Processing
 - German : Systeme, Anwendungen, Produkte in der Datenverarbeitung
- ❖ Founded in 1972 by Wellenreuther, Hopp, Hector, Plattner and Tschira
 - Renamed in 1977
 - Before 1977 : Systems Analysis and Program Development (German : Systemanalyse und Programmierung)
- ❖ SAP is both the name of the Company as well as their ERP Product
- ❖ SAP system comprises of a number of fully integrated modules, which covers virtually every aspect of the business
- ❖ Three systems developed : R/1, R/2, R/3

There are many ERPs in the market...

SAP

BAAN

JDEDWARD

EXCEED

Siebel

Oracle

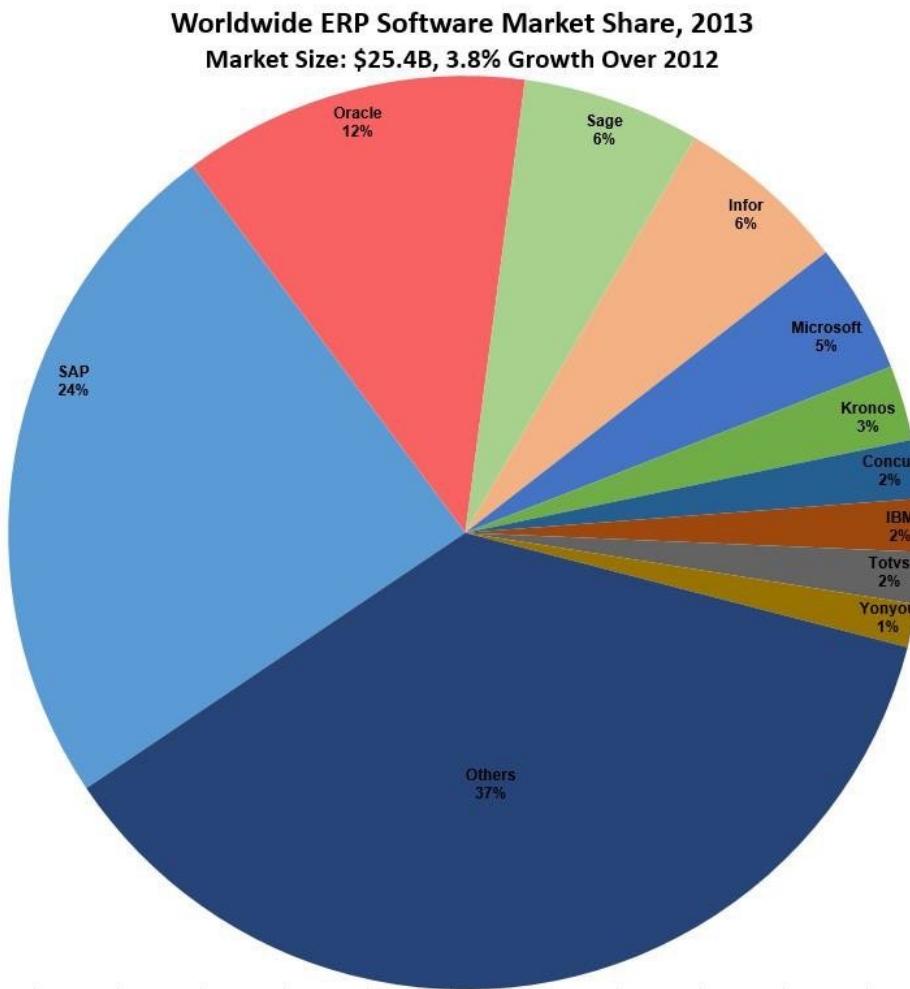
Ramco

Microsoft Navision

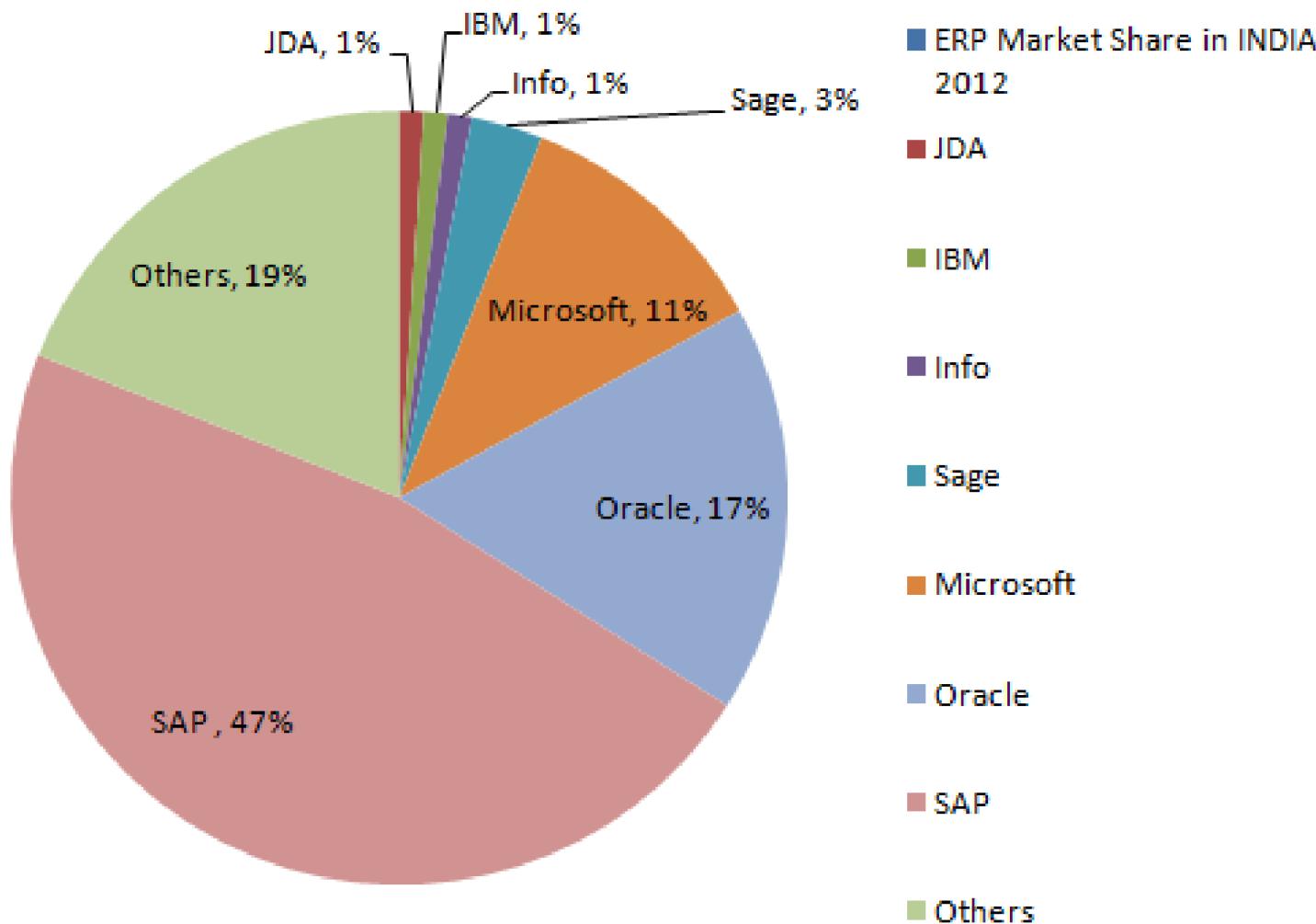
People Soft

Etc.

Worldwide ERP Market Share in 2020



ERP Market Share in INDIA 2012



What Is SAP?

- SAP is an example of an ERP System
- Systems, Applications, and Products in data processing (SAP)
 - Name of the Company
 - SAP AG
 - SAP America
 - SAP UK
- SAP ERP
 - SAP's Client Server version (Distributes process and presentation)
 - Based on R/2 (Mainframe version - centralization of data and process)
 - SAP ERP ECC6.0: This is the current version

Who is SAP?

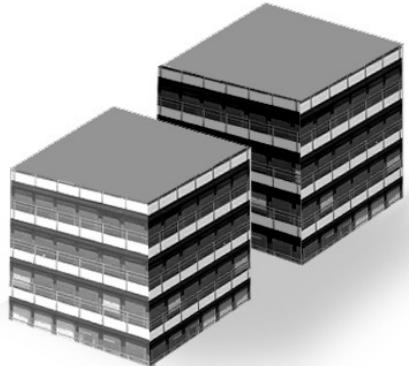
- SAP AG
 - Founded in Walldorf, Germany in 1972
 - World's Largest Business Software Company
 - World's Third-largest Independent Software Provider
 - Company Statistics
 - 38,400 employees in more than 50 countries
 - 1500 Business Partners
 - 36,200 customers in more than 120 countries
 - 12 million users
 - 100,600 installations
- » Source: SAP AG website

What is SAP ERP?

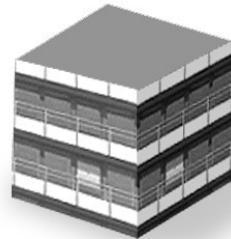
- World-wide usage
- Designed to satisfy the information needs for business sizes (small local to large all international)
 - Multi-lingual
 - Multi-currency
- Designed to satisfy the information needs for all industries

SAP Solutions for Companies of All Sizes

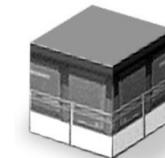
Large Company



Medium Company / Subsidiary



Small Company / Subsidiary



Seamless Communication thanks to Exchange Infrastructure
Same look and feel

SAP ERP

The E-Business platform – full industry functionality for all requirements

SAP All-In-One and Business By Design

Technically designed for smaller companies
easy to install & maintain
extensive functionality

SAP Business One

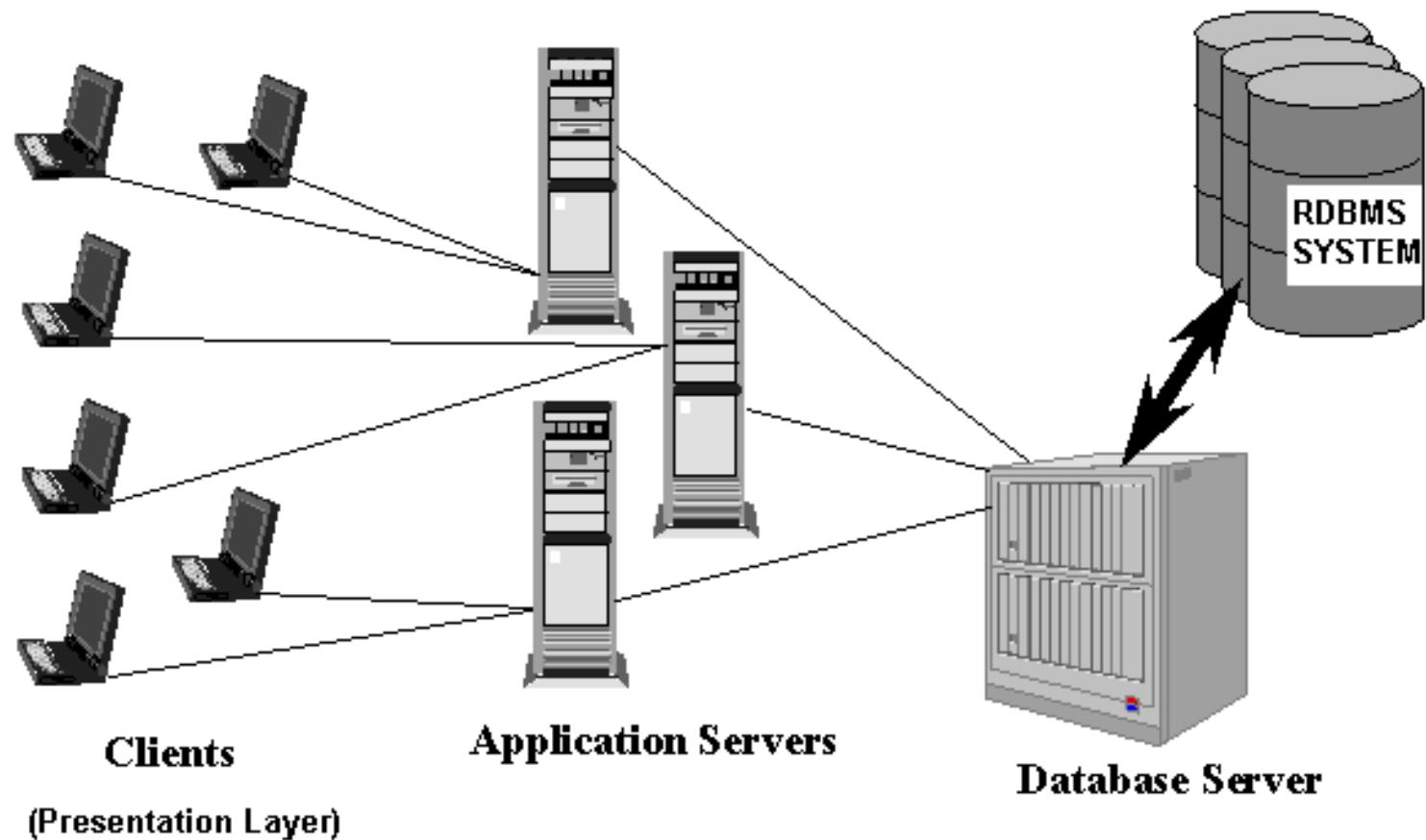
Installed and running in a day.
All necessary functionality

SAP R/3 ARCHITECTURE

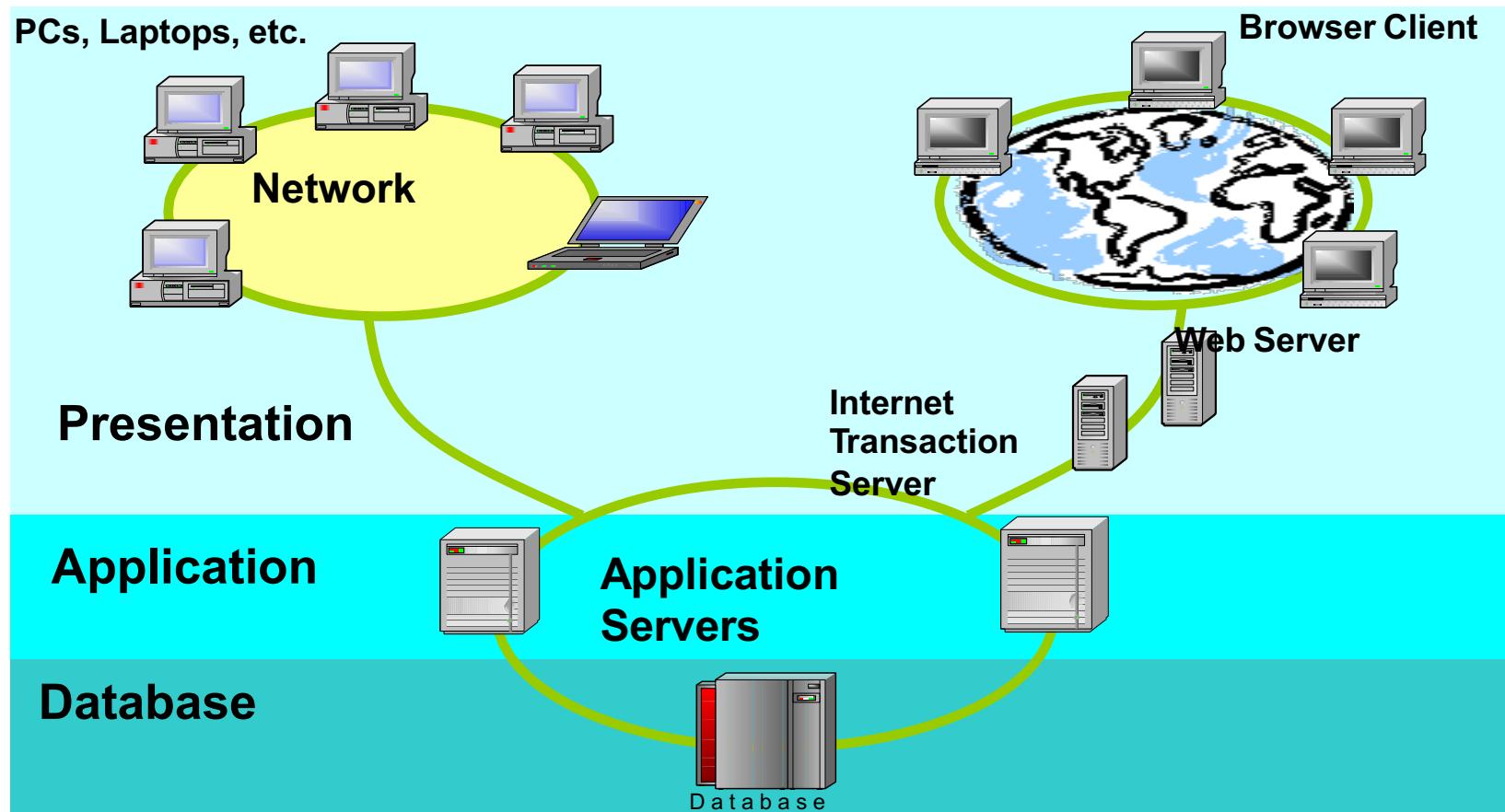
3 Tier Client / Server Architecture

- ❖ The SAP R/3 architecture is based on a 3-tier client/server principle
 - Presentation Server
 - Application Server
 - Database Server
- ❖ Dedicated Servers are linked by Communication Networks
- ❖ Perform tasks without sacrificing data integration and processes within the system, as a whole

SAP R/3 System Architecture (Contd...)



SAP Architecture



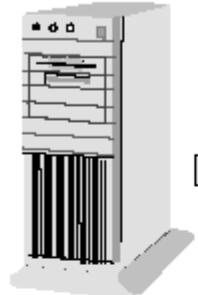
Overview of Presentation & Database Servers

- The Presentation Server
 - GUI only
 - At workstation
 - Very light
 - Sends requests to application server
 - Obtains screens from application server and displays
- The Database Server
 - Interface between application server and RDBMS
 - Also holds the vendor specific DB driver

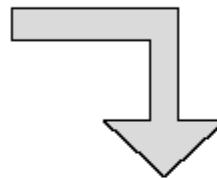
Clients in R/3

Clients in R/3

SAP



Hardware



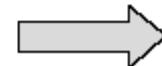
Clients

Delivery client
(000 & 001)

Production client
(for example, 100)

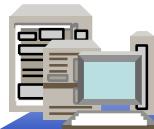
Test client
(for example, 999)

Training client
(for example, 400)



R/3 Technology Environment

Hardware



UNIX Systems

Bull	IBM
Digital	SNI
HP	SUN

Bull/Zenith
Compaq
Data General
...

Digital
HP (Intel)
IBM (Intel)

NCR
Sequent
SNI

IBM
AS/400

IBM
S/390

Operating systems

AIX
Digital UNIX
HP-UX

Reliant
UNIX (SINIX)
SOLARIS

Windows NT

OS/400

OS/390

Databases



ADABAS D
DB2 for AIX
INFORMIX-OnLine
ORACLE

ADABAS D
MS SQL Server
INFORMIX-OnLine
ORACLE

DB2 for
OS/400

DB2 for
OS/390

Dialog SAPGUI



Windows 3.1, Windows 95, Windows NT,
OSF/Motif *, OS/2 Presentation Manager (PM),
Macintosh *, Java

Languages

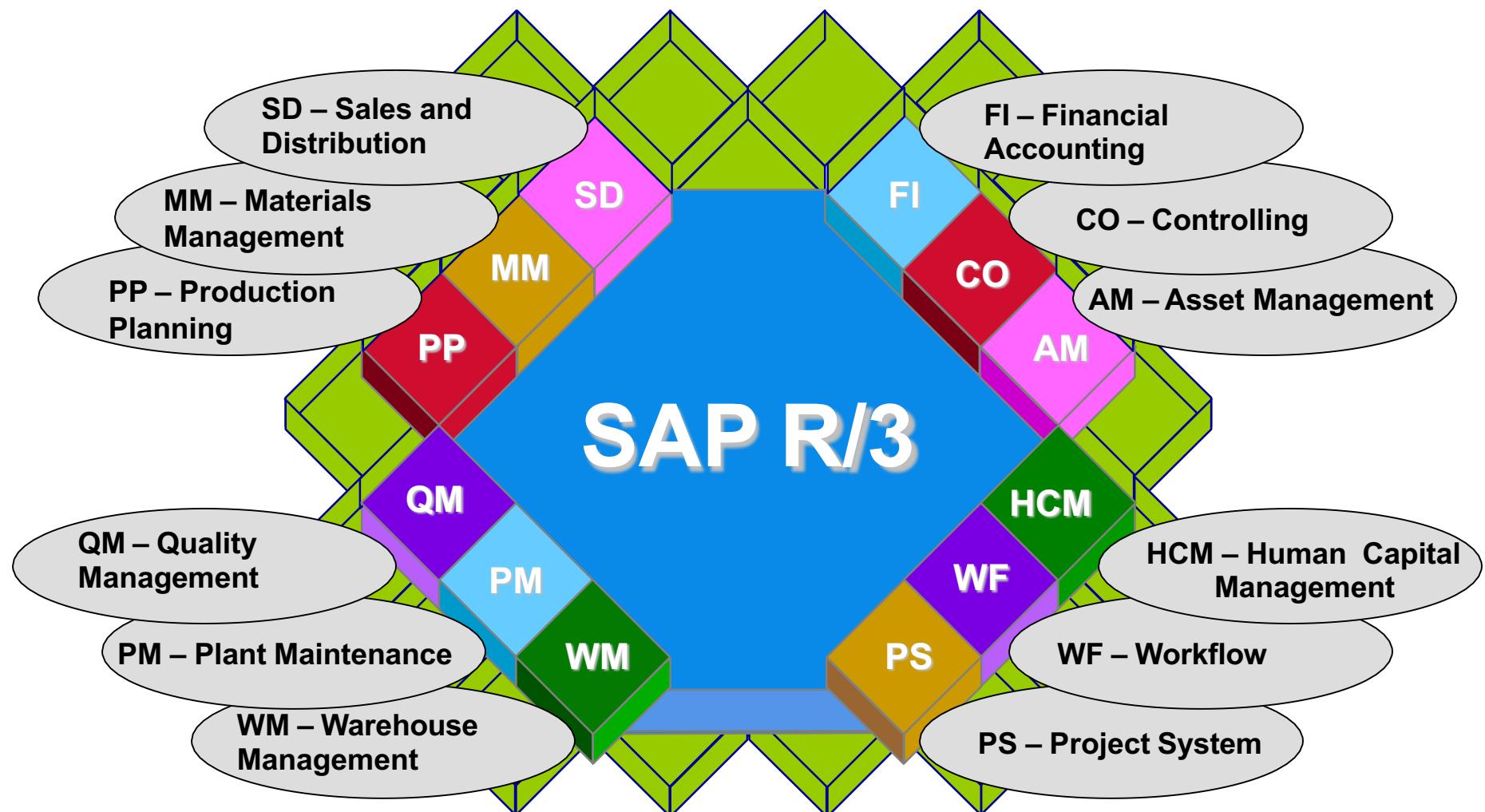


ABAP/4, C, C++, HTML, Java

SAP
A Complete Integration
of
The Entire Business

SAP R/3 MODULES

SAP Modules



mySAP Industry Solutions (Some Examples)

- ❖ SAP for Aerospace & Defense
- ❖ SAP for Healthcare
- ❖ SAP for Media
- ❖ SAP for Public Sector
- ❖ SAP for Automotive
- ❖ SAP for High Tech
- ❖ SAP for Mill Products
- ❖ SAP for Retail
- ❖ SAP for Banking
- ❖ SAP for Higher Education & Research
- ❖ SAP for Mining
- ❖ SAP for Service Providers
- ❖ SAP for Chemicals
- ❖ SAP for Industrial Machinery & Components
- ❖ SAP for Oil & Gas
- ❖ SAP for Telecommunications
- ❖ SAP for Consumer Products
- ❖ SAP for Pharmaceuticals
- ❖ SAP for Engineering, Construction & Operations
- ❖ SAP for Insurance
- ❖ SAP for Professional Services
- ❖ SAP for Utilities

SAP: Industry Solutions

- Aerospace & Defense
- Automotive
- Banking
- Chemicals
- Consumer Products
- Defense & Security
- Engineering, Const.
- Healthcare
- High Tech
- Higher Education
- Industrial Machinery
- Insurance
- Life Sciences
- Logistics Service Prod.
- Media
- Mill Products
- Mining
- Oil & Gas
- Pharmaceuticals
- Postal Services
- Professional Services
- Public Sector
- Railways
- Retail
- Telecommunications
- Utilities
- Wholesale Distribution

Global and Local Customers - A Selection



Lufthansa



in vent



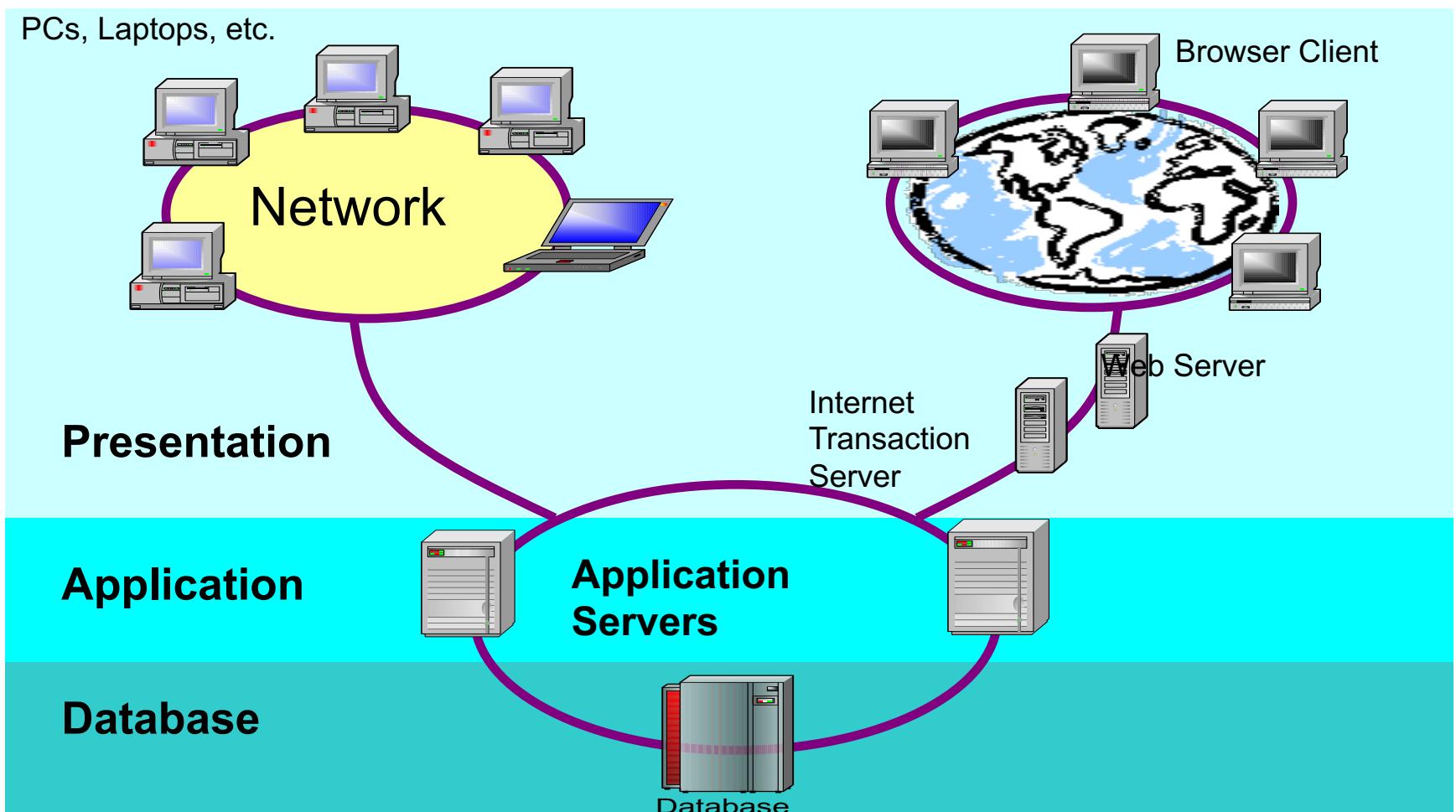
SAP Architecture

- Client/Server Environment
 - Client – hardware/software environment that can make a request for services for a central repository of resources
 - Server – hardware/software combination that can provide services to a group of clients in a controlled environment

SAP Architecture

- Three – Tier Structure
 - GUI
 - Graphical User Interface or Web Interface
 - Application Server
 - One or more, help distribute work load
 - Database Server
 - One single data repository

SAP Architecture



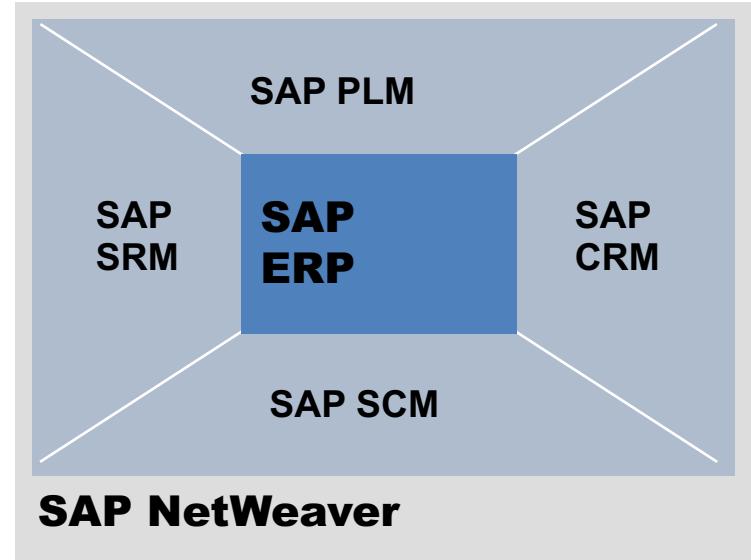
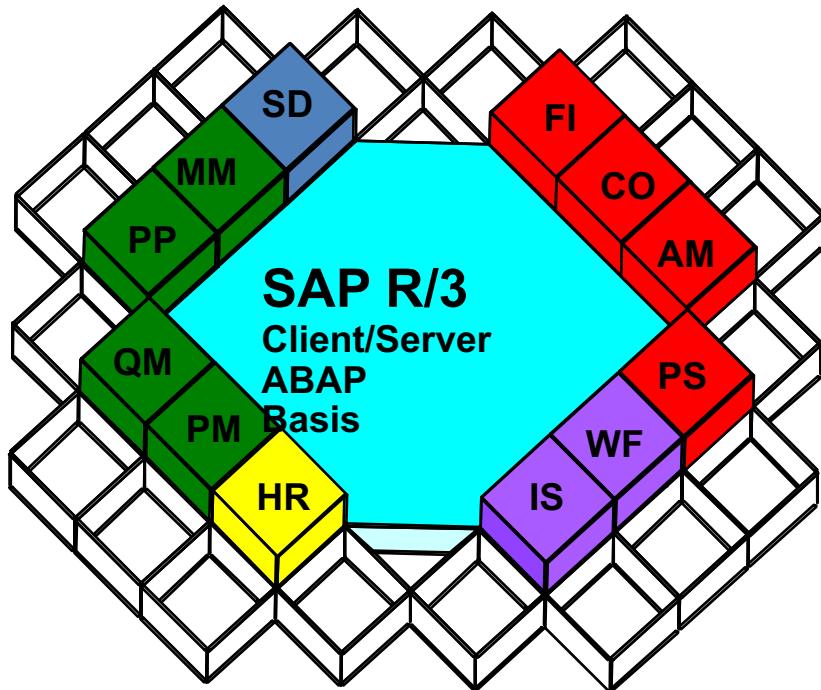
SAP: Software Applications

- Solutions
 - SAP CRM
 - SAP ERP ECC
 - SAP PLM
 - SAP SCM
 - SAP SRM
 - SAP Analytics
 - SAP Manufacturing
 - SAP Service
 - SAP Mobile Solutions
 - SAP xApps
- Small & Medium Size Solutions
 - SAP Business One
 - SAP All-in-One
 - Business by Design
- Platforms
 - Enterprise Services Architecture
 - SAP NetWeaver Platform

Business Modules

- Collections of logically related transactions within identifiable business functions
 - MM (“Buy”)
 - PP (“Make”)
 - SD (“Sell”)
 - FI and CO (“Track”)
 - HCM

SAP Business Suite



SAP: Best Business Practices

- SAP Best Practices cover well-proven business scenarios that help to exploit the potentials of SAP ERP. It is a flexible building block technology that enables you to implement and adapt your solution quickly using fully documented and reusable prototypes.

NAVIGATION

Logging On

- A new window appears

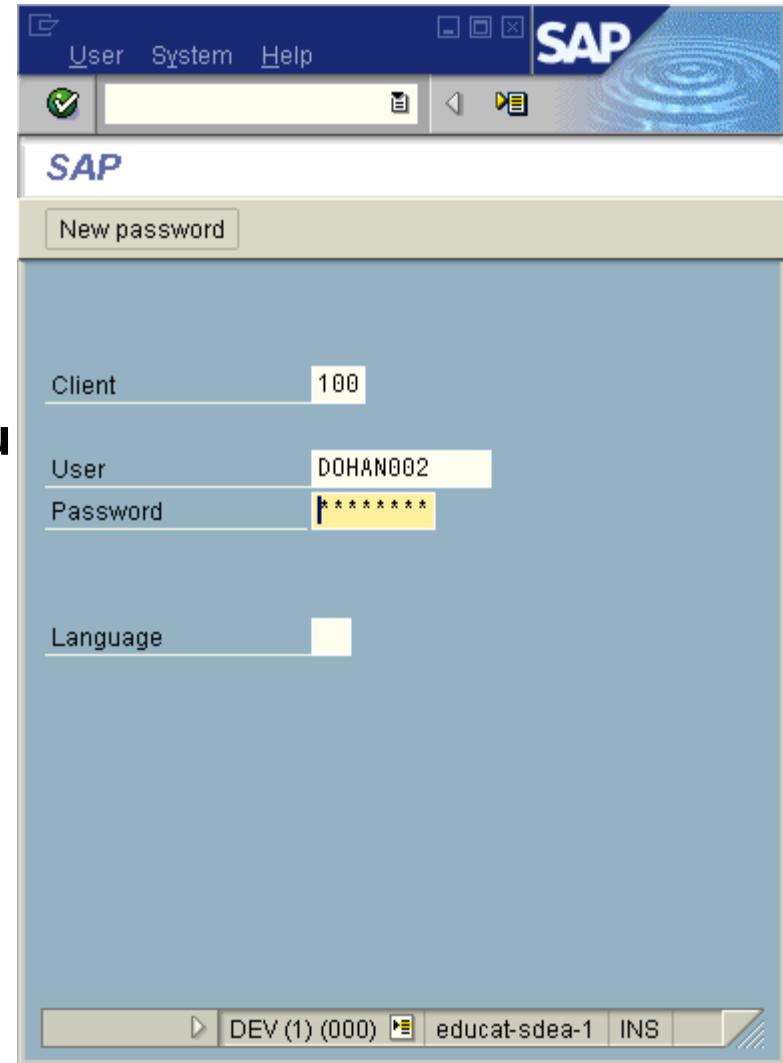
- Enter your user-ID

- Enter your Password

The first time you use SAP you need to reset your password.

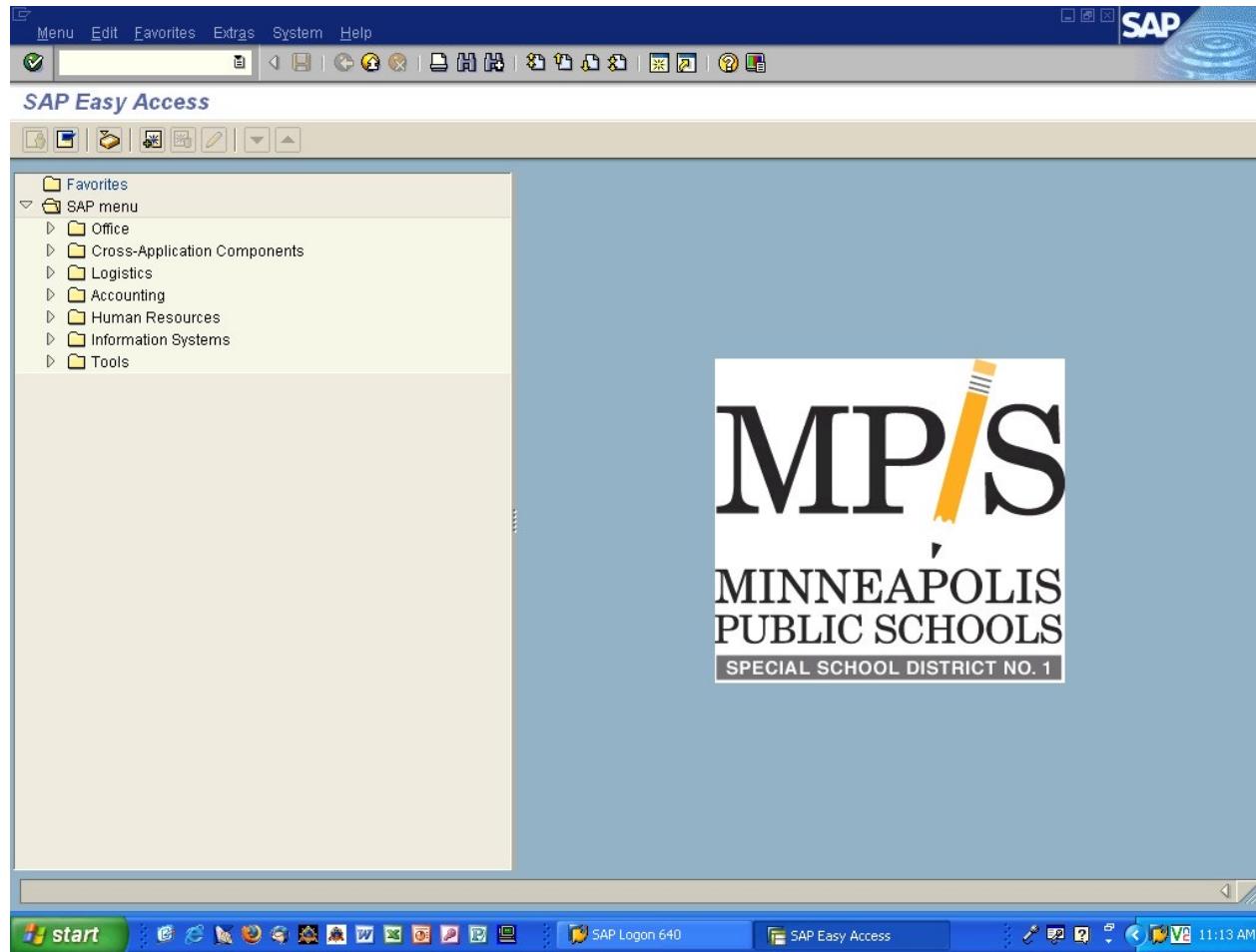
- The client number as well as language are entered by your administrator and defaulted

- Press Enter on your keyboard



Main Menu Screen

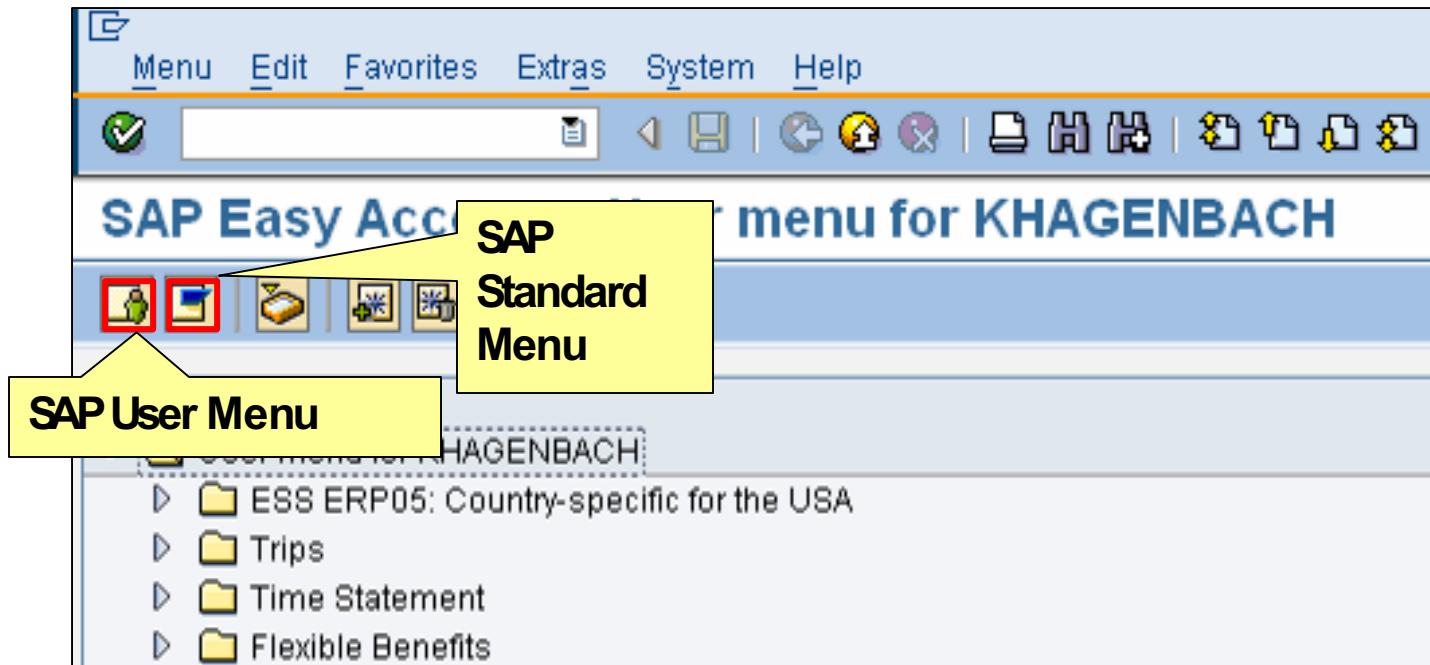
The main menu screen is displayed
(standard SAP)



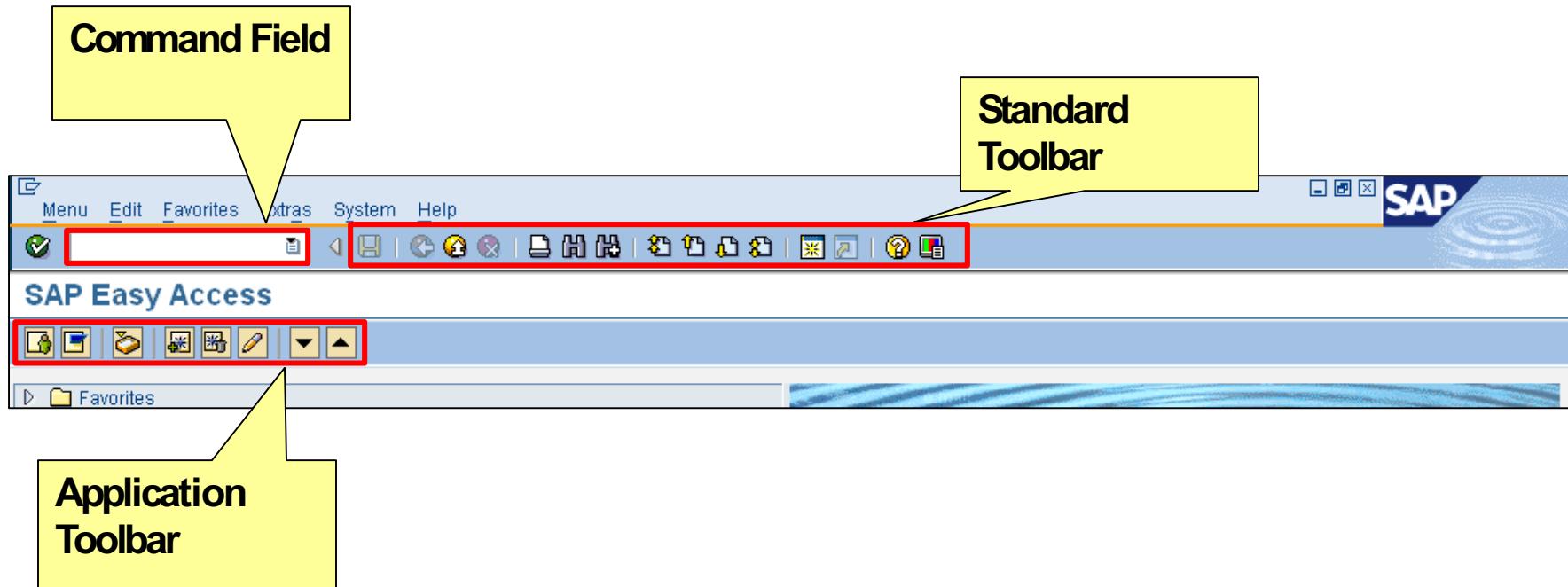
SAP Menus

The default screen is called the **SAP Easy Access Screen**.

- You can switch from one menu to the other by selecting the appropriate icon
- When you log on, you will see either your user menu (specific to your role), or the SAP standard menu (lists all transactions)

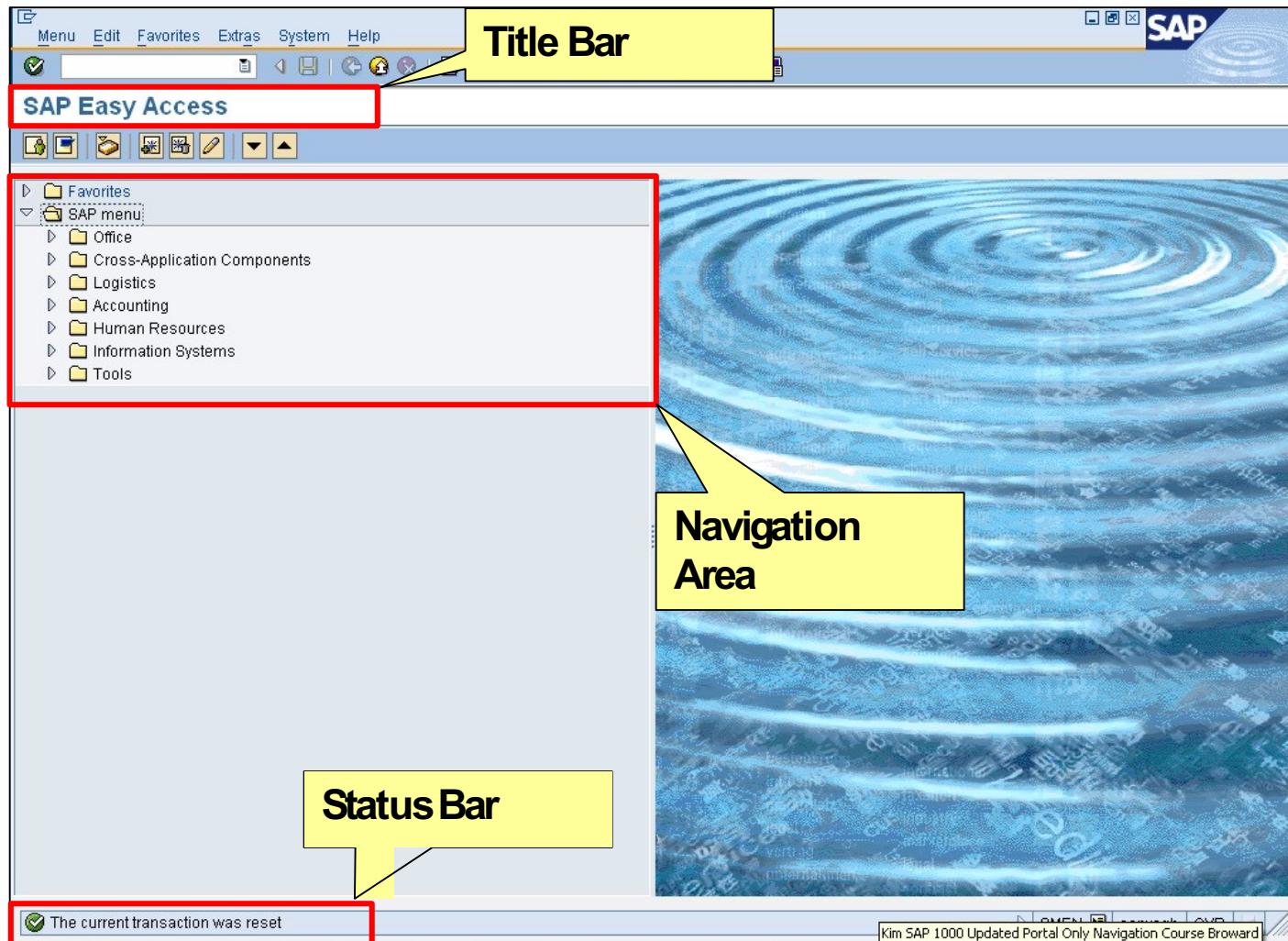


SAP Easy Access Screen and Toolbars



SAP is a Windows-based system. You can navigate in SAP using buttons, toolbars and windows the same way you would in other Windows applications like Word or Excel.

SAP Easy Access Screen



Getting Into Transactions

- What is a transaction?

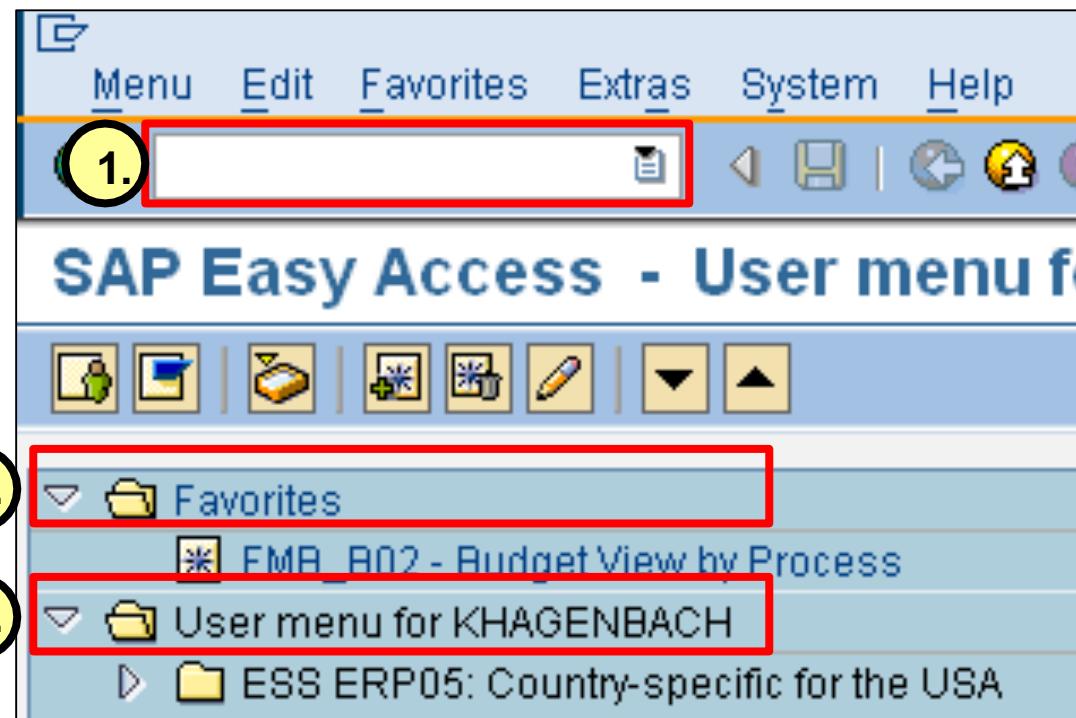
Transactions let users to create, change, or display data or run a report in SAP.



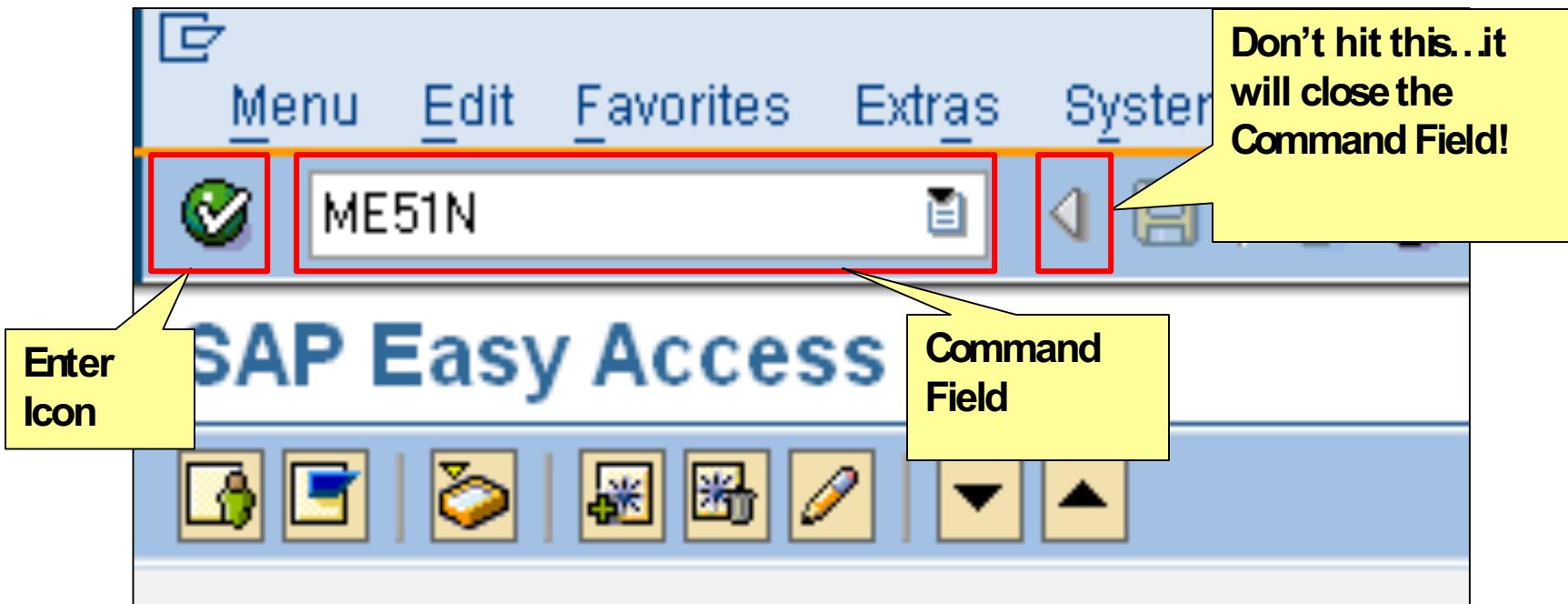
Getting Around

There are three ways to access transactions in SAP:

1. Command Field
2. User or SAP menus
3. Favorites

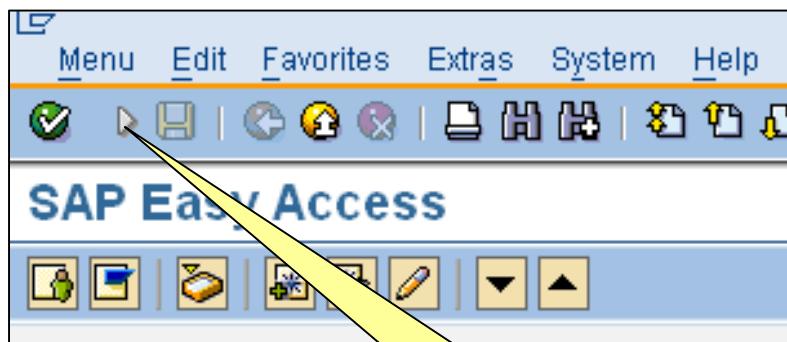


Using the Command Field

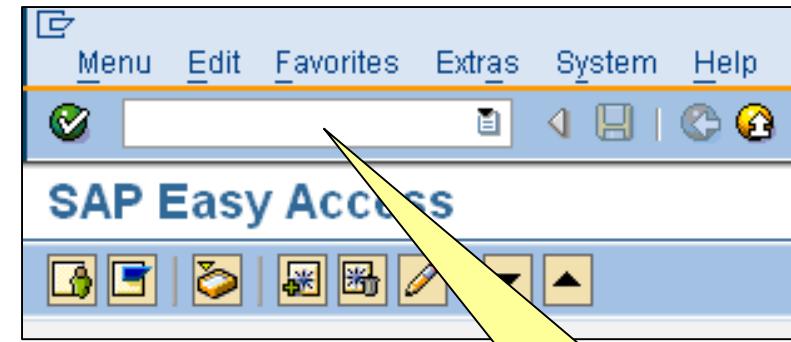


- Each transaction in SAP has a code. You can use the Transaction Code instead of the menu path to navigate to the transaction (it can consist of letters, numbers, or a combination)
- Type the Transaction Code in the Command Field (ME51N was selected above) and press Enter on the keyboard or click the Enter icon to navigate to that transaction

Closed Command Field



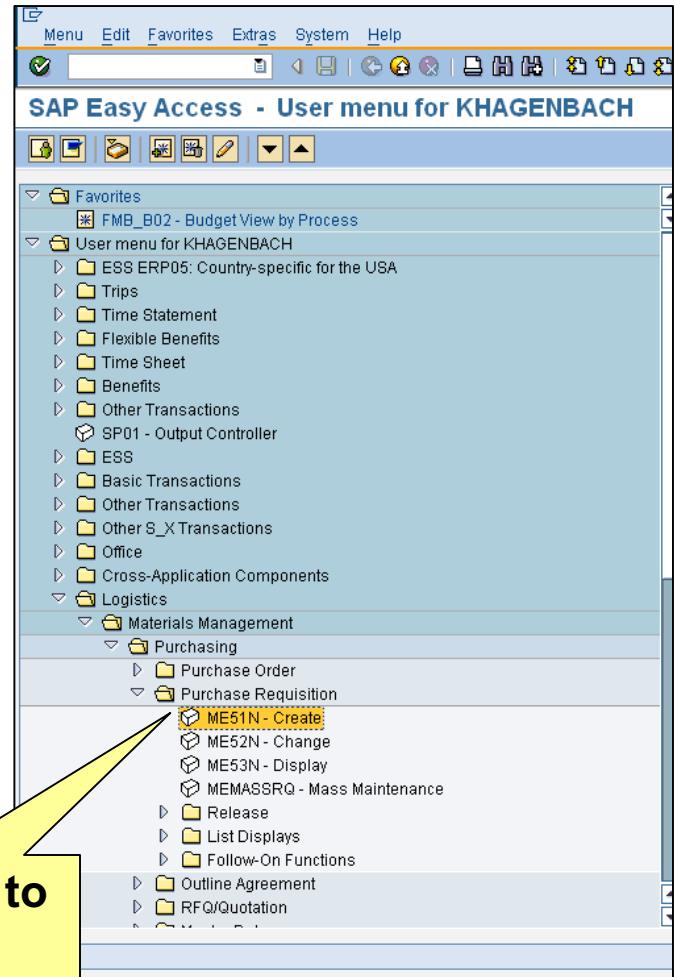
Select to Re-
Open the Fast
Path Field



Now you can
enter your
transaction code

Navigating Using the User Menu

- The user menu contains a list of transactions based on your role (menu path)
- Some of these transactions are within folders
- You can navigate to these transactions by double clicking on the name of the transaction



Double Click to
access the
screen

Is there an Easier Way to Navigate?

- How can I easily get to where I need to be?

Set up Favorites!



Favorites

You can set up links to commonly used transactions in the Favorites folder.



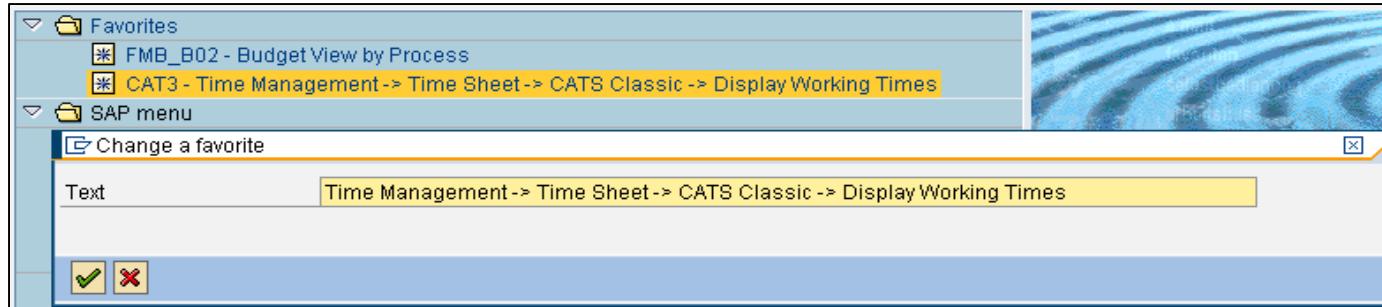
Creating a Favorite

- Select the transaction from menu path
- From the menu bar in the Easy Access Screen, select Favorites>Add to create a shortcut to the transaction

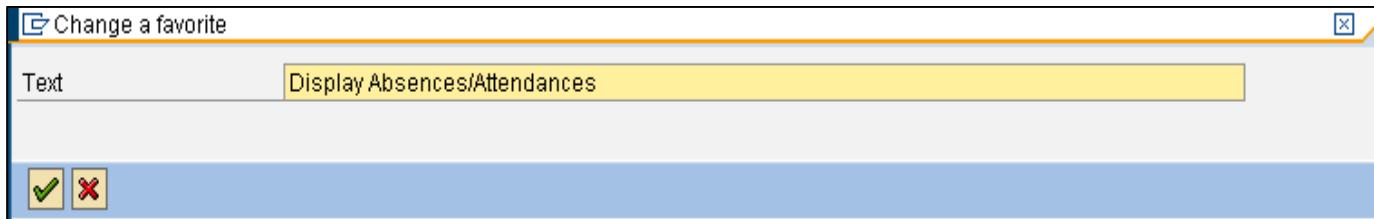


Changing the name of a favorite

Select the favorite you want to change From Menu Bar select Favorites>Change



Enter the name change then green check



Name has been changed in Favorites

