

# Information Technology for CRM

## Unit 10



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## Learning Objectives

- ❖ Identify CRM technologies and main application areas of CRM
- ❖ Understand the role that technology plays in the achievement of CRM outcomes and the structure of the CRM ecosystem





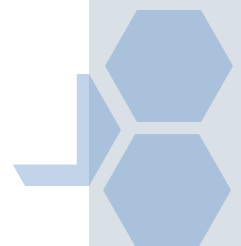
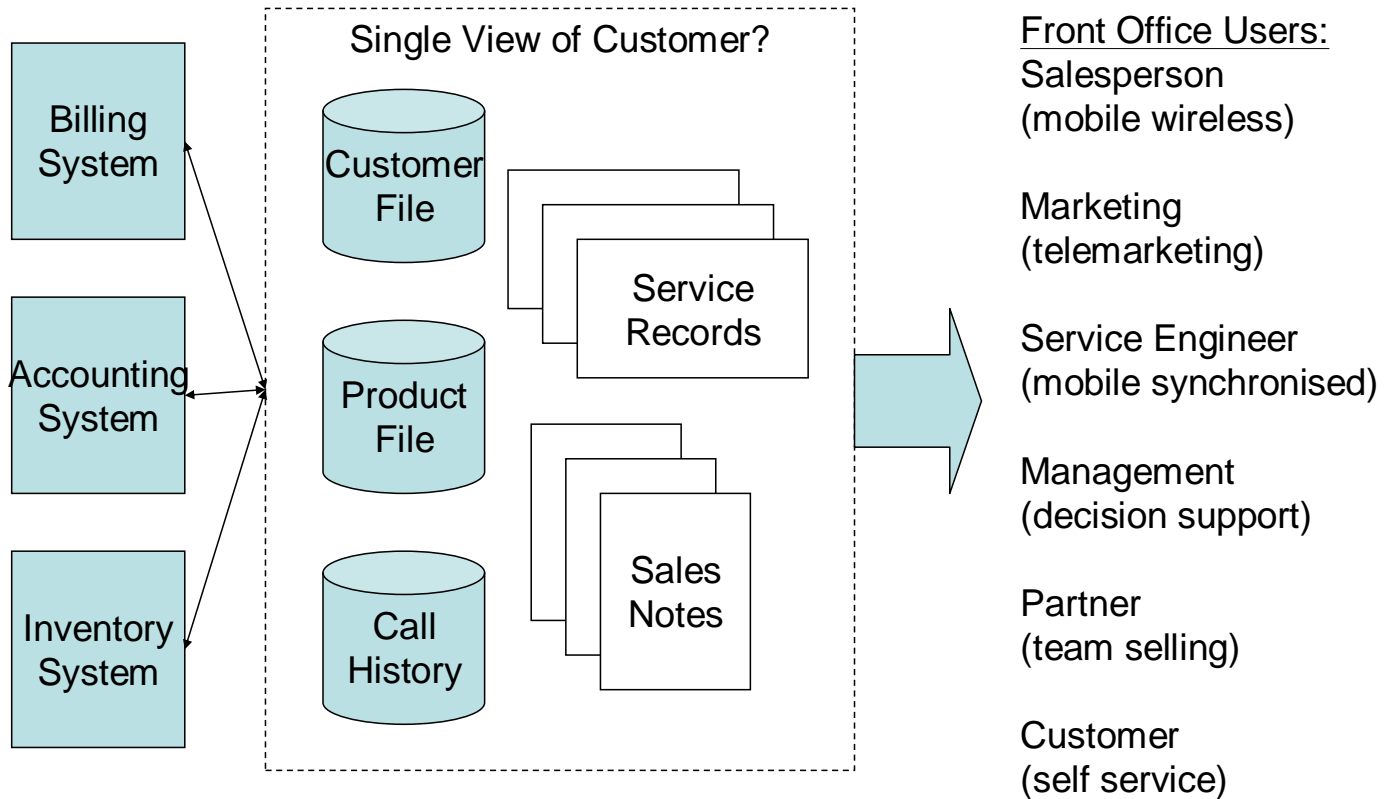
## Origins of CRM Technology

- ❖ CRM has evolved from a range of stand-alone technologies including **call centres, sales force automation systems, and customer information files (CIF)**, some of which date back to the 1970s and earlier.
- ❖ In the late 1980s, several organisations attempted to consolidate some of these disparate technologies.
- ❖ The customer started to be recognised as a single entity across all customer-facing departments, leading to the idea of a "**single view of the customer**".



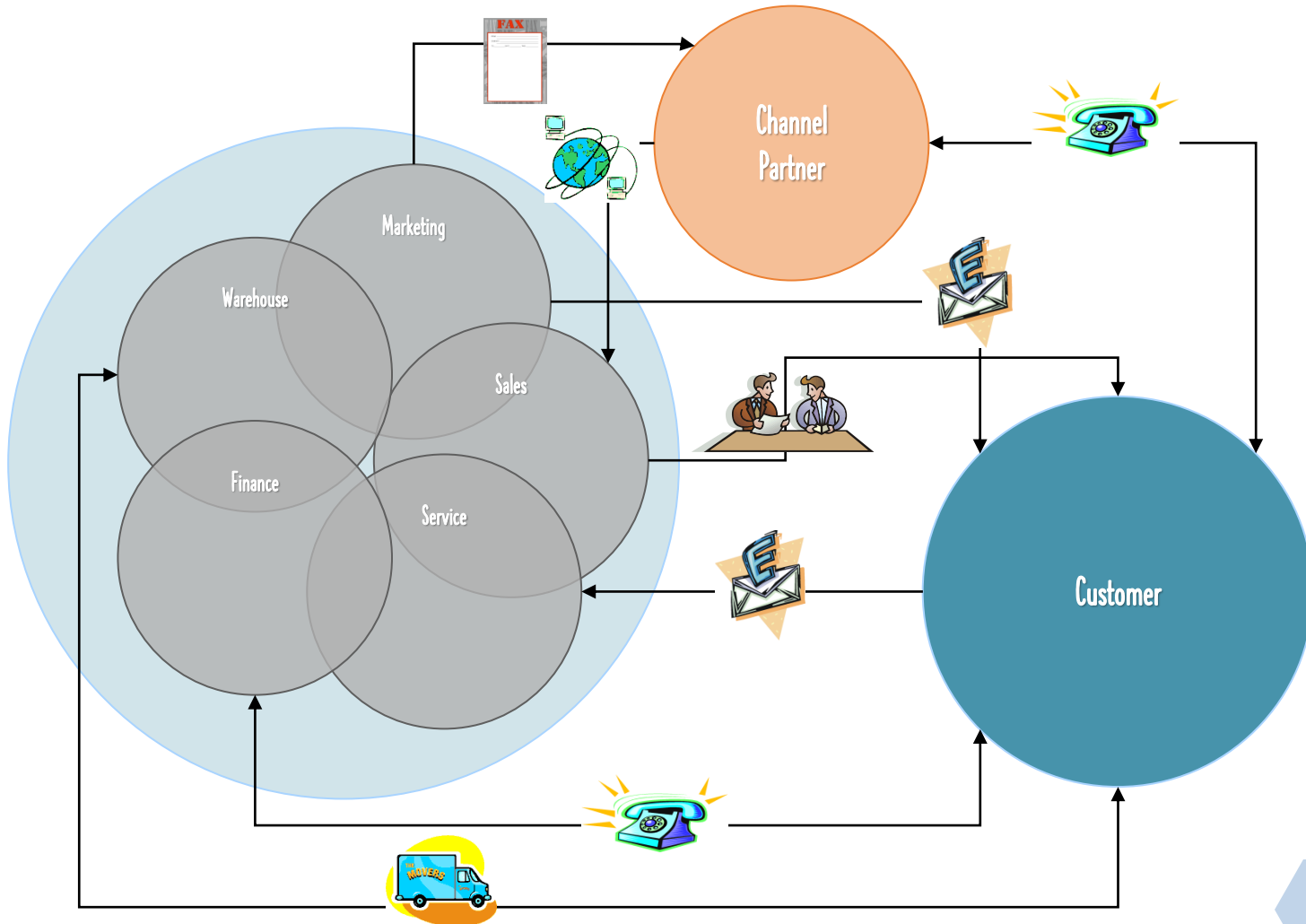


# Single View of the Customer in the Front Office



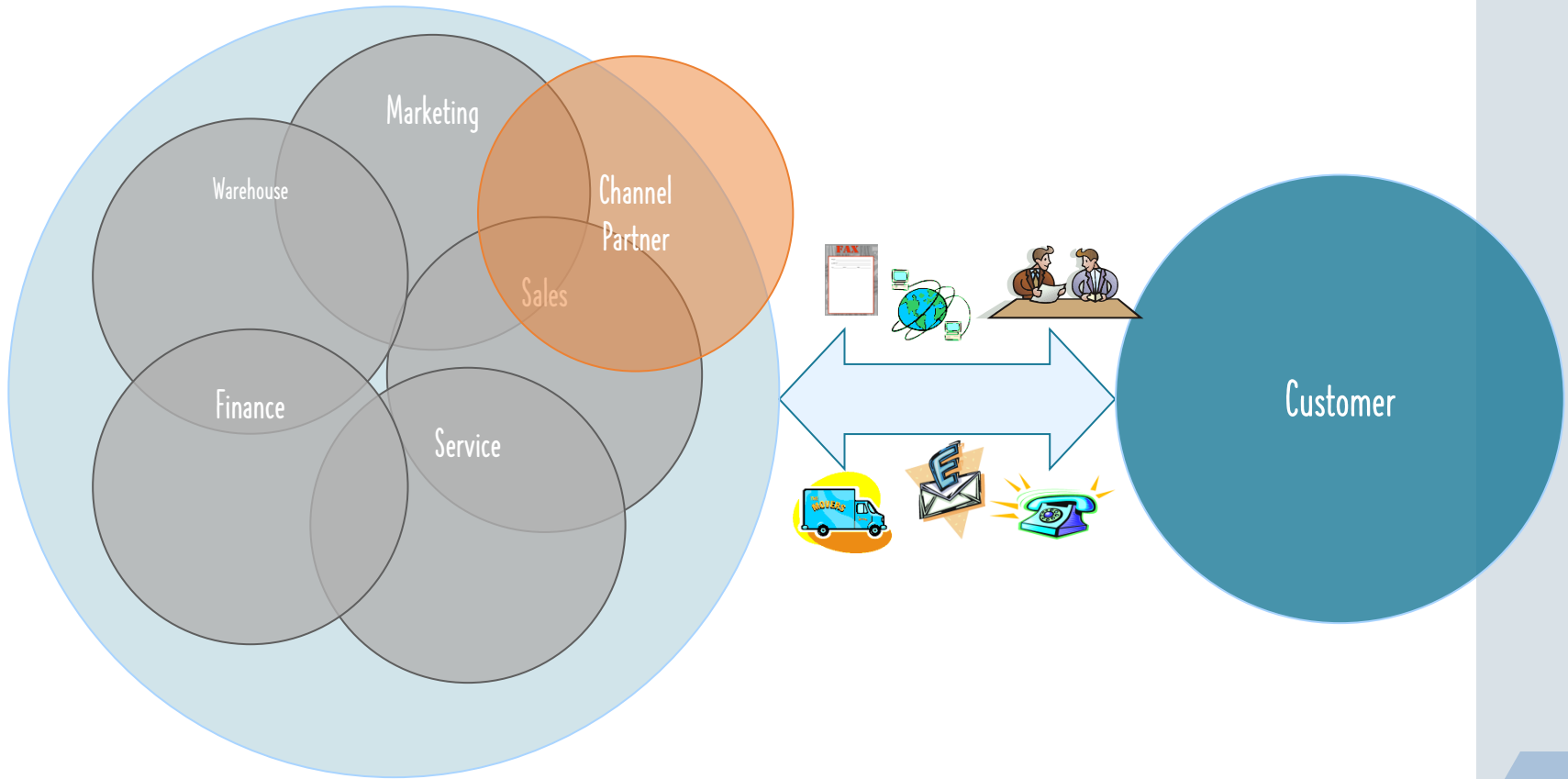


# The Challenge of Multiple Channels





# Customer Expectation: Consistent Dialogue





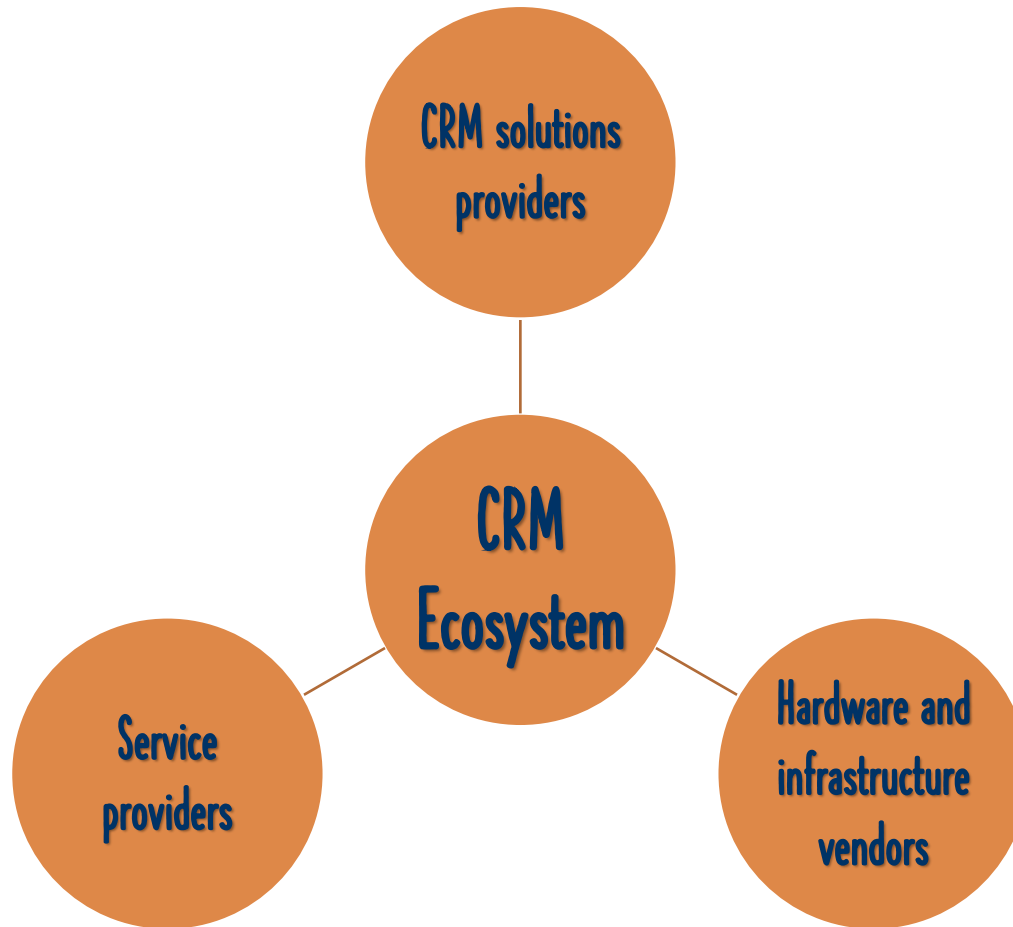
## The CRM Technology Challenge

- ❖ CRM must be flexible enough to stay in touch with a changing audience (the customer).
- ❖ CRM must satisfy the different requirements of different industries
- ❖ CRM must be accessible to external stakeholders and mobile professionals such as salespeople and field technicians
- ❖ CRM must operate over any communication channel
- ❖ CRM must integrate with other systems to provide a single view of, and for, the customer
- ❖ CRM must be implemented in such a way that appropriate work processes and skills are deployed





# The CRM Eco-system







## Enterprise CRM Suites

<b>Amdocs CRM</b>
<b>Chordiant Cx</b>
<b>Onyx CRM</b>
<b>Oracle's E-Business Suite CRM</b>
<b>Oracle's Siebel CRM</b>
<b>Oracle's PeopleSoft CRM</b>
<b>Infor CRM E.piphany</b>
<b>Pegasystems Customer Process Manager</b>
<b>mySAP CRM</b>





## Midmarket CRM Suites

Entellium

GoldMine Corporate Edition

Maximizer Enterprise

Microsoft Dynamics CRM

NetSuite

Oracle's Siebel CRM Professional Edition

Oracle's Siebel CRM On Demand

Pivotal CRM

RightNow

Sugar Enterprise

SageCRM

salesforce.com

Soffront CRM Suite





# CRM Specialty Tools

<b>Analytics tools</b>	<b>Customer service tools</b>
SAS	ATG
SPSS	Applix
Teradata	eGain
	Graham Technologies
<b>Customer data management tools</b>	KANA
Dun & Bradstreet	KNOVA
Initiate	Unipress
Purisma	
Siperian	<b>Marketing automation tools</b>
VisionWare	Aprimo
	Unica
<b>Partner channel management and collaboration</b>	
BlueRoads	<b>Sales force automation tools</b>
Click Commerce	Sage Saleslogix
Comergent (Sterling Commerce)	Saratoga



# CRM Service Providers

Service	Details	Examples of service providers
Strategy consulting	Consulting support for the formulation of customer strategy, contact strategy, channel strategy, CRM strategy.	McKinsey, Peppers and Rogers
Business consulting	Services around business process re-engineering, process improvement, and best practices for CRM.	Accenture, Bearing Point, CGEY
Application consulting	Design and development of application modifications, project management of software package implementation and training.	CRM solutions companies, Accenture, CGEY, Bearing Point, IBM
Technical consulting	Design and implementation of technical infrastructure, and integration of this infrastructure with the existing business processes and applications.	Unisys, IBM, Logica
Outsource service providers	Technology outsourcers and business process outsourcers.	EDS, IBM, CSC, Acxiom





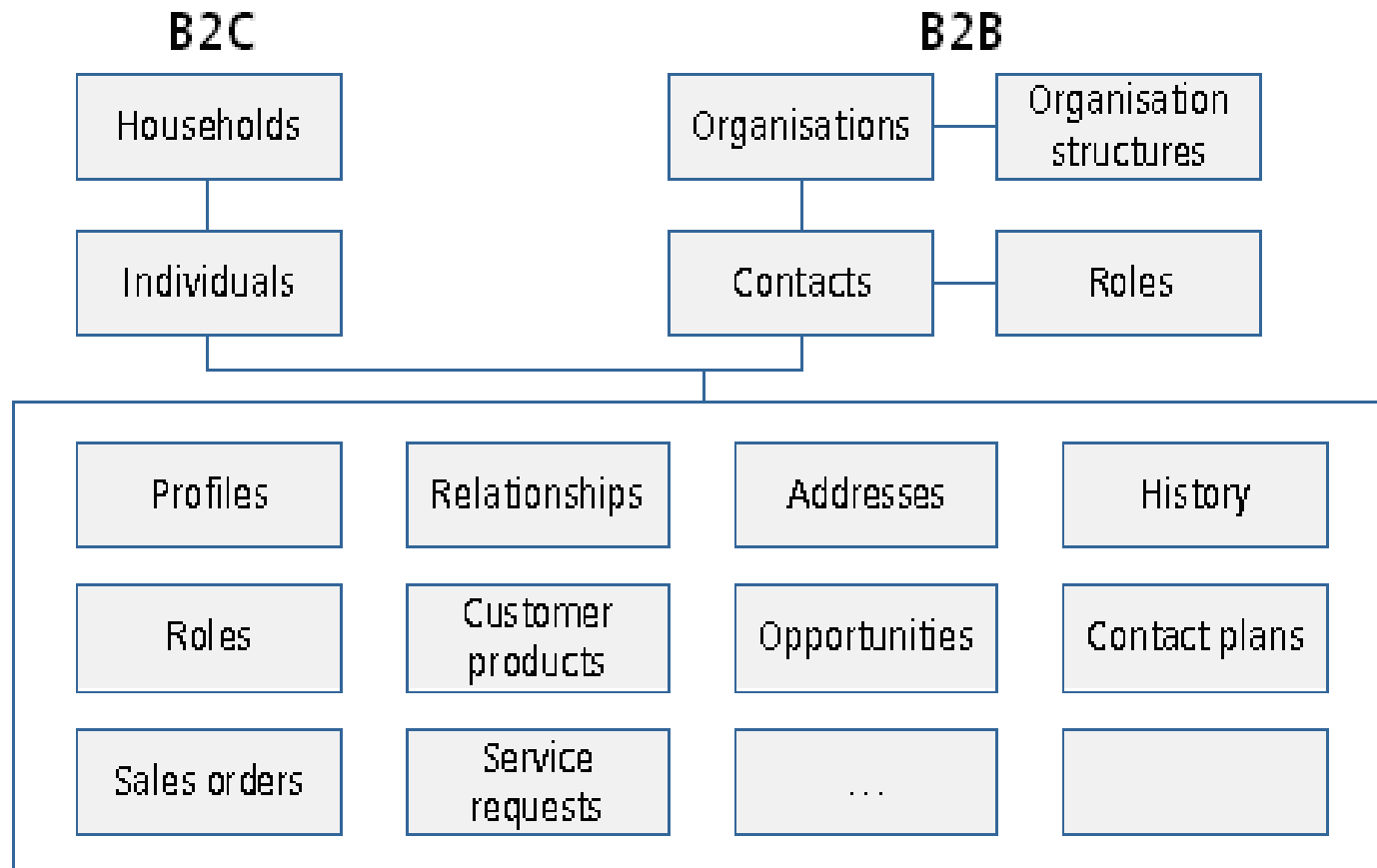
## Alignment of CRM Technologies

- ❖ **Not all CRM applications sit squarely in front-office functions of marketing, sales, and service**
  - **some CRM modules focus on customers or products**
    - **customer and product management applications offer a suite of dedicated functions and modules that sit across sales, marketing and service**
  - **companies that market, sell or service through channel partners use PRM (partner relationship management), rather than CRM, solutions**
  - **CRM analytics are often regarded as a separate suite of applications with specialist solutions and vendors**



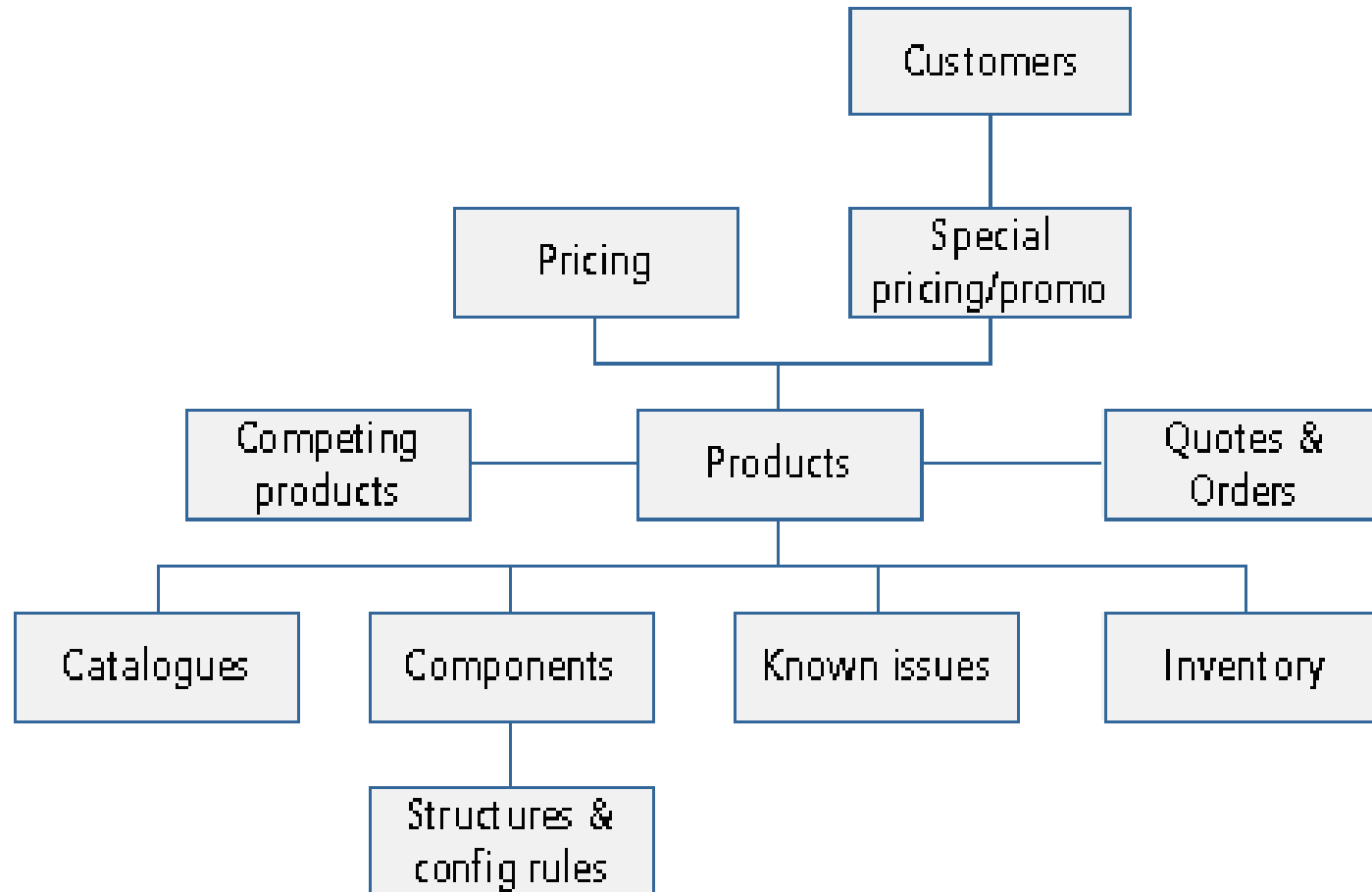


# CRM Components - Customers



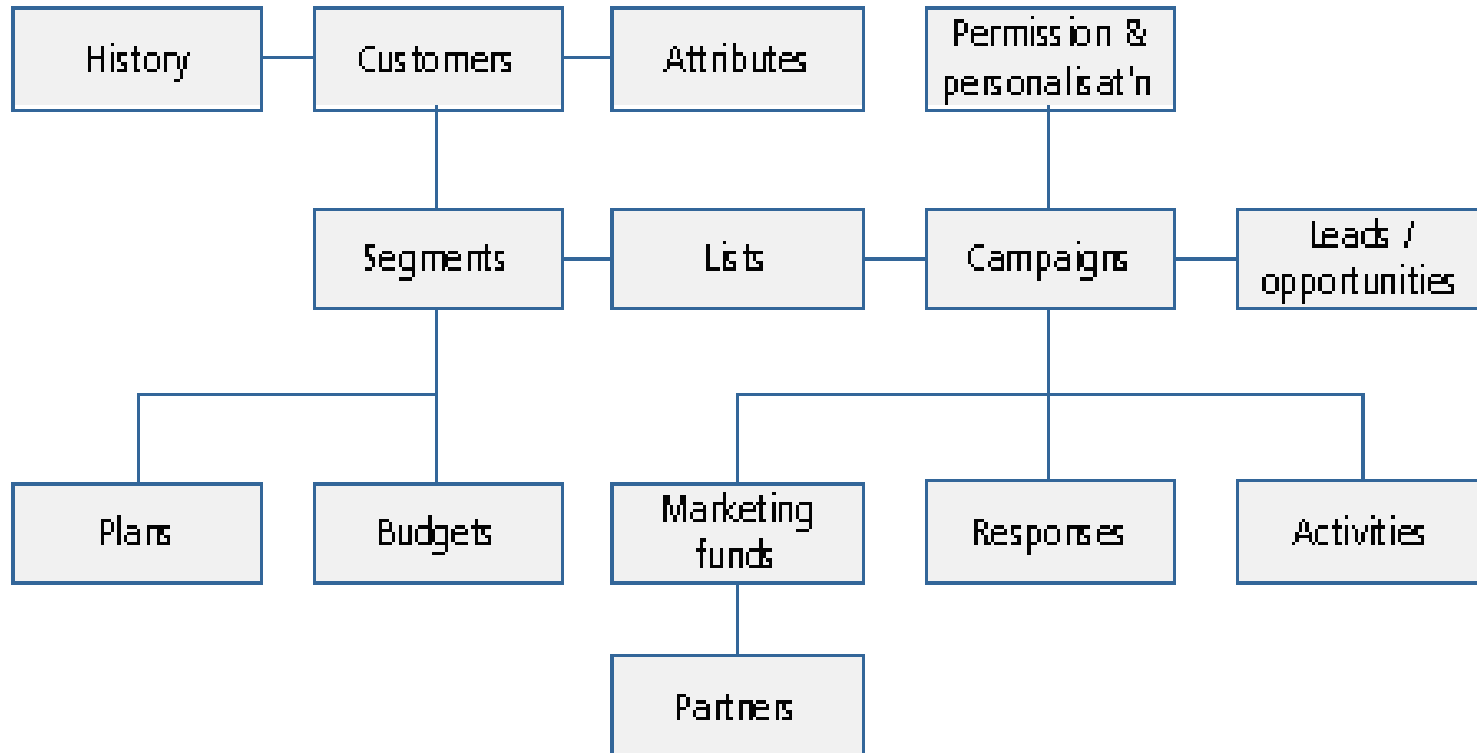


# CRM Components - Products





# CRM Components - Marketing Automation





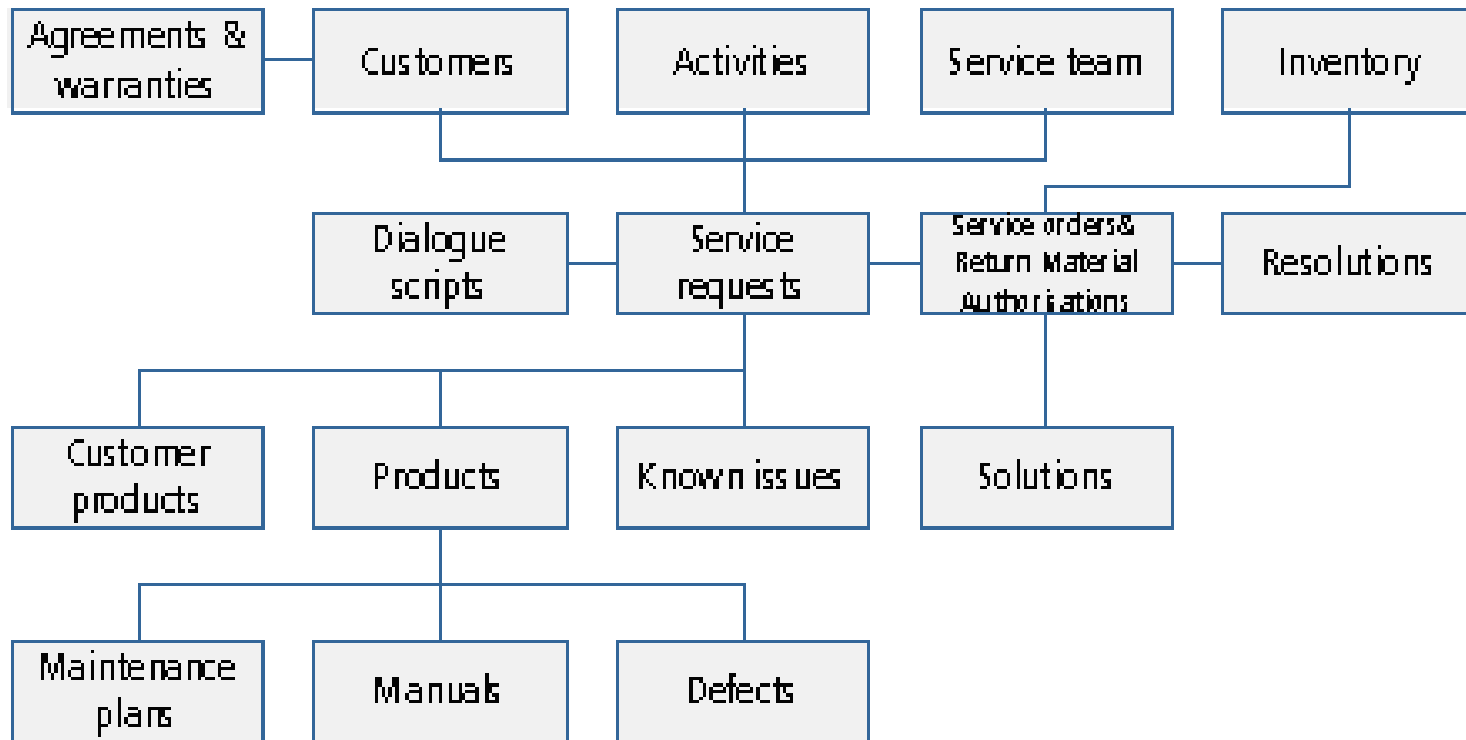


# CRM Components - Sales Force Automation



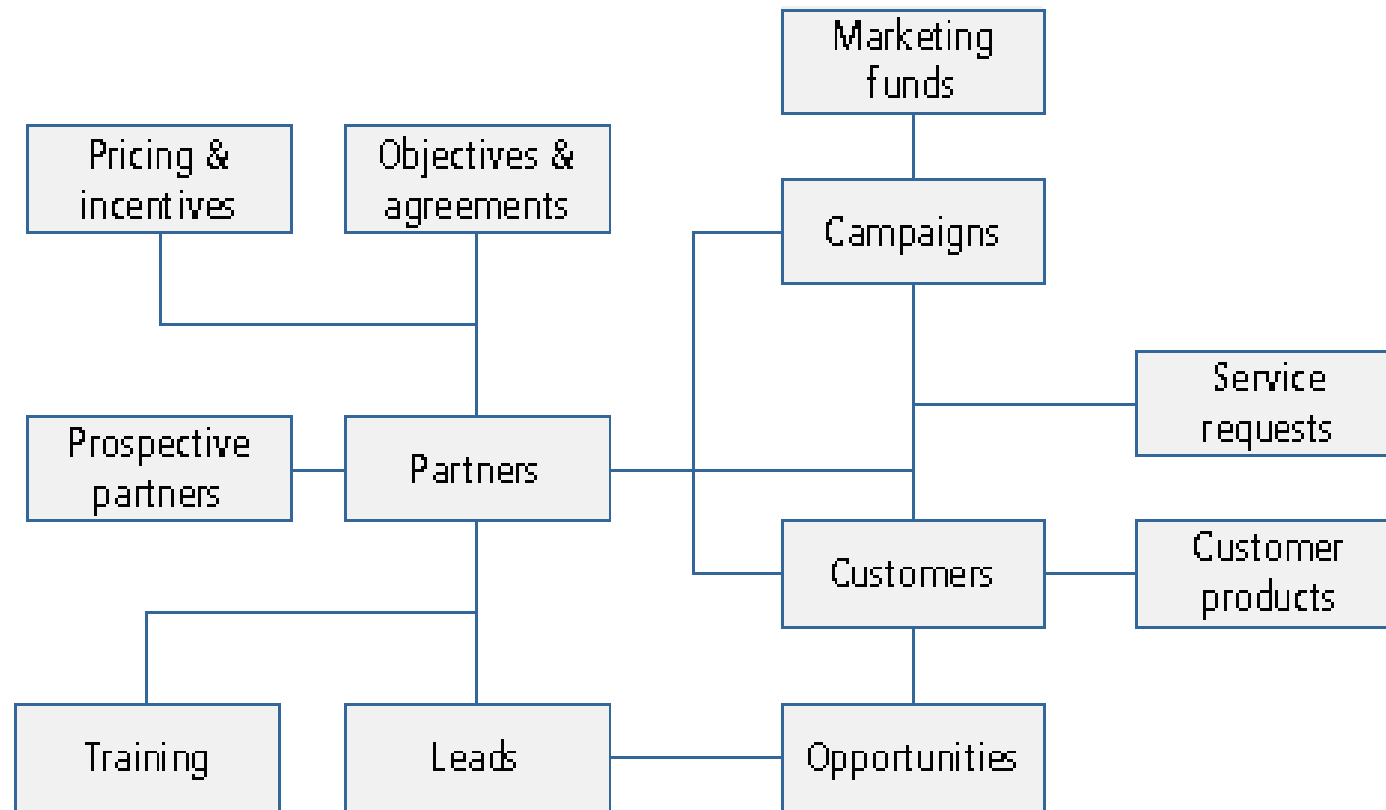


# CRM Components - Service Automation





# CRM Components - Partner Relationship Management





## Three Levels of CRM Analytics

- ❖ Standard reporting
- ❖ Online analytical processing (OLAP)
- ❖ Data mining





# Standard Reporting

- ❖ Reporting can be standardised (pre-defined), or query-based (ad-hoc)
  - Standardised reports are typically integrated into CRM software applications, but often need customization to suit the needs of the organisation
    - Some customization of the report can be done when it is run, for example in selecting options or filtering criteria, but the end result is limited to what the report designers envisaged
  - Query-based reporting presents the user with a selection of tools, which can then be used to construct a specific report





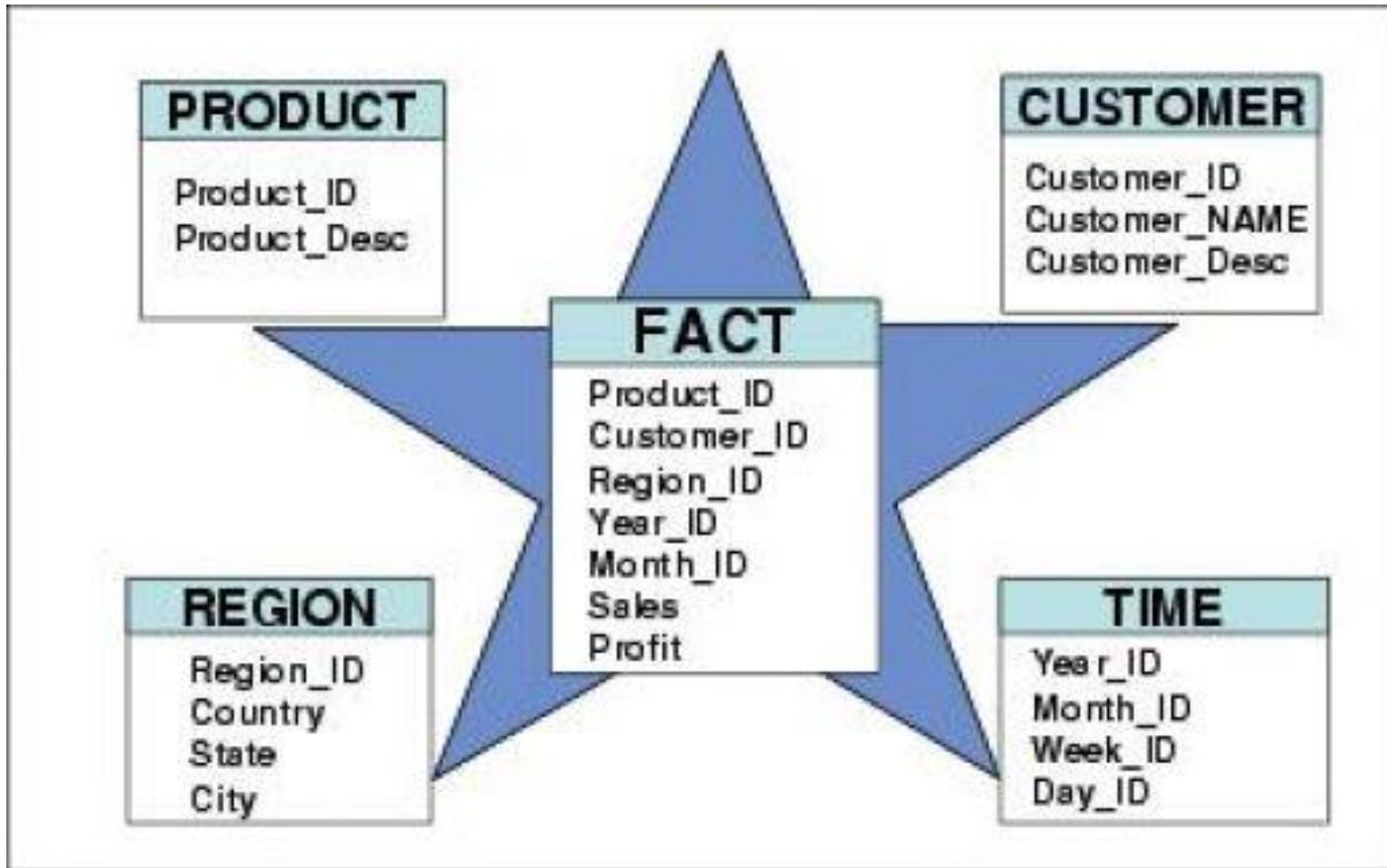
# OLAP

- ❖ OLAP technologies allow warehoused data to be subjected to analysis and ad-hoc inquiry
- ❖ Warehoused data is stored in one or more star schema, allowing users to drill down into graphs and tables to analyze how a certain figure or problem may have arisen



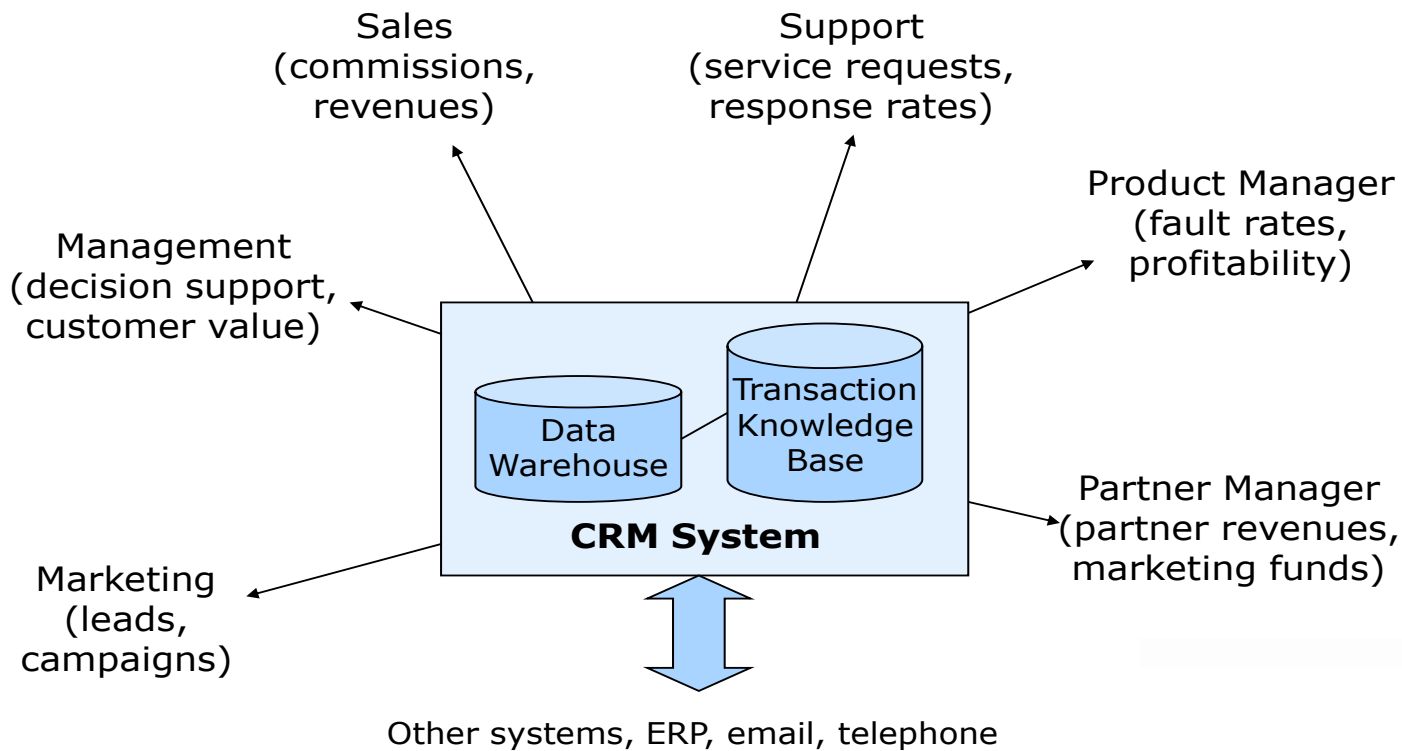


# Star Schema (Example)





# Users Demand Different Reports using OLAP Technology







# Data mining

- ❖ The data mining process seeks to **identify patterns and relationships in the data**, using selection, exploration and modelling processes
- ❖ The results include, for example, churn scoring (likelihood that the customer will leave), fraud detection, customer value scoring, and campaign effectiveness scoring
- ❖ A number of CRM vendors specialise in advanced analytical and data-mining applications





## CRM Architecture

- ❖ A key consideration in effective CRM is the way in which the system is constructed, or the "architecture"
  - CRM systems must be able to **operate in the office, out of the office, and over the web**
  - They must **tie together multiple communication channels each using very different technologies (web, email, telephone)**
  - They must **perform well enough, and be flexible enough**, to suit a constantly changing, potentially growing user community





## Challenges of Multi-channel CRM

- ❖ multiple communication technology channels
- ❖ multiple organizational touch-points





## Multiple Communication Channels

- ❖ Customers can choose to communicate with an organization by telephone, email, web chat or face-to-face
- ❖ They expect a consistent dialogue
- ❖ CRM technology lets companies create and track a consistent dialogue that reflects the value of the customer





## Multiple Organisational Touch-points

- ❖ Customers communicate with different people in an organization.
  - Marketing sends out customer offer, sales reps call to negotiate terms and the customer calls the service desk for assistance.
- ❖ The marketing offer should be visible in order for the customer service agent to treat the customer correctly.
- ❖ Channel partners must be included in the communication loop if channel conflict over pricing, leads, and commissions is to be avoided.





# Multi-channel View of the Customer

360-Degree View
Relationship Viewer

\*Return:

2 - Accounts

Name	Role	Phone	Email	Customer Value
Ted Pepper	Individual Consumer	925/254-2839	tpepper@sofgear_psft.com	☆☆☆☆ Gold

\*Role: Individual Consumer
Go To:   Go

**Activities**  
 \*Date Filter: 5-Last Month

Left | Right

**Overview of - Ted Pepper**

- + **Accounts (1)**
  - 100250070:Active - Pepper,TED:Ind Acct
- + **Cases (1)**
  - 220410:Complaint - Open - New Case:Connection
- + **Inst. Services (3)**
  - INS0250508:Pending-A - Wireless Service
  - INS0250700:Activated - DSL Service
  - INS0250367:Activated - Wireless Service
- + **Orders (1)**
  - 2003-01-30 - Pending:Nokia 6220
- + **Quotes (1)**
  - 2003-01-30 - Pending:New Cable connect
- + **Interactions (3)**
  - Jan 30 2003 5:18PM - Phone:In Progress
  - Jan 30 2003 4:00PM - Phone:In Progress
  - Jan 30 2003 3:58PM - Phone:Completed

**Profile**

**Name:** Ted Pepper

**Customer:**

**Address:** 23819 Anover Way,Sacramento,CA,95054,USA

**Churn Actions:** Very Likely to Churn

**Log Interaction**

**Date:** 01/30/2003      **Time:** 5:18PM

**Contact Method:** Inbound Phone

**Interaction Status:** Callback

**Callback Date:**   **Time:**  

**Add Note:**

Save  
 Email

**Related Transactions (Interaction ID:300273)**

Number	Description	Comments
1	Case	Viewed/Updated Case No. 220410
2	Order	Viewed/Updated Order 6acbbfc634af11d7b388
3	Account	Viewed/Updated Account No. 100250070

Finish and Return to Search

† Date filter does not apply to this node





# Technologies for Mobile Professionals

## ❖ Mobile (synchronized)

- Mobile synchronized solutions include a handheld or laptop device, with a small resident database that is a replica of the particular individual's information in the main CRM system
- These systems are not "online" or permanently connected, but they rely on sophisticated synchronization technology

## ❖ Wireless (online)

- Wireless devices are connected to the main system using a wireless connection such as a mobile phone unit or card
- Technologies such as Bluetooth have enhanced user experience





# Integration

- ❖ Specialist integration middleware providers such as Webmethods, IBM, SeeBeyond, and Tibco play an essential role in large scale, complex CRM projects
- ❖ The integration challenge is largely a function of the **complexity of the applications environment, and the need for timeliness of information transfer**
- ❖ There are two main types of integration: batch and real time







# Batch and Real-time Integration

## ❖ Batch integration

- Batch processing stores information in a file or batch, then moves the information across the interface into the destination system in one go

## ❖ Real-time integration

- RTI takes place immediately
- For example once a customer record is updated in one system, the change is immediately reflected in the destination system





# Integration Challenges [1]

## ❖ Application integration

- Application integration **ties together the CRM system and other business systems** such as accounting, billing, inventory and human resources

## ❖ Telephony integration

- Telephony integration **ties the CRM application in to the telephone system**, allowing inbound calls to be routed to the right person based on caller profile, and outbound calls to be automatically made from the call center desktop





## Integration Challenges [2]

### ❖ Email integration

- Email integration can **involve both the generation of emails as a result of an internal workflow process** (e.g., once an order is ready for shipment, automatically email the customer to advise dispatch details), **and automated email routing and response**

### ❖ Web integration

- Most Western business have a web site, and this **web site contains large amounts of content that is duplicated in the CRM system** (customer registration details, solution knowledge base, product information, price lists, etc)





# Call Centre Service Application

Logout Help Welcome marcb E.PIPHANY

Home Search Individual

Customer Save New New Related Next Steps Search

Customer Summary Go To

Eva Beamon Requests(1)  
ID(1) Orders(1)  
Tier(Silver) Interactions(22)  
evab@epnydemo.com  
9987-6543

Interaction  
No current interaction.

Customer (Individual)

Active Status: Active ID: 1 Created: Nov 29, 2002 9:04:53 PM Updated: Nov 29, 2002 9:06:47 PM  
by: marcb by: marcb

Salutation: Ms. First Name: Eva Middle Name: Last Name: Beamon

Generation: ----- Honorific: ----- Date Entered: Oct 6, 2002 Locale: English (United States)

Gender: Female Birth Date: Apr 23, 1959 Household:  Head of Household

Natural Tier: Silver Job Title: Project Manager Income: 50,000-100,000

Telephone Numbers E-mail Addresses

Addresses

Preferred Touch Point: E-mail  Ok to Send Promo  Ok to Mail  Ok to Call

Timezone: Australia/Sydney  Ok to Send News  Ok to E-mail  Send HTML E-mail

Choose Dialog: Launch Dialog

Agent Notes Clear



# Email Response Screenshot

## Approve Email

11/09/01 10:58:21 AM PDT My Time Zone

Email ID	Email Subject	Date Due	Customer	Status
34568	Help! My printer deos not work.	05/31/2002	Joe Smith	Open

**Profile**

**Name:** Joe Smith

**Role:** Contact

**Customer:** Smith Associates

**Customer Value:** 1000

**Primary Phone:** 415-777-2459

**Primary Address:** 4460 Hacienda Blvd, Pleasanton, CA 94588

**Primary Email:** citicorp@citicorp.com

[Lookup](#) [+ Create Customer](#) [Edit/Update](#) [Clear](#)

**Related Objects**

Related Object Summary		
Type	Object ID	Summary
Lead	56789	Printer Model 2005 Lead
Case	98765	Printer Driver Problem

Relate New Object:  [Go](#)

**Date Due:** 05/31/2002

**Date Received:** 05/29/2002 08:00:00 AM PDT

**To:** joe@smith.com

**From:** printers@acme.com

**Subject:** RE: Help! My printer won't work

**Response Template:** Header and Footer [Refresh](#)

**Message:**  
Dear Joe,  
  
A Customer Support case has been created for your problem, CaseID 999999. You might want to consider buying a new printer too. If you are interested, please call our Sales Hotline at 1-800-222-3434.  
  
For future correspondence related to this email, please respond with all previous text included.

**Attachments:** [warranty.doc](#)  
[Add Attachments](#)

**Include Suggested Responses** [Customize](#) [Find](#) [View All](#) [First](#) 1-11 of 11 [Last](#)

Select	Relevance	Response ID	Summary	Source
<input checked="" type="checkbox"/>	95%	87543445	<a href="#">Drivers for printer model 2002</a>	Case
<input type="checkbox"/>	70%	34478783	<a href="#">Buy a new printer</a>	Sales
<input type="checkbox"/>	50%	46798765	<a href="#">Add paper to the paper tray</a>	Support
<input type="checkbox"/>	25%	96455425	<a href="#">Replace ink cartridge</a>	Support

[Approve and Send](#) [Re-Work](#) [Re-Route](#) [Delete](#) [Return to Worklist](#)





# Knowledge Management Definition

- ❖ The organizational practice of consciously gathering, organizing, storing, interpreting, distributing and judiciously applying that knowledge to fulfill the mission of the organization





## Automated Workflow

- ❖ Many customer-related processes can be predefined and automated in modern CRM applications, meaning that business rules that are critical to the success of sales, marketing and service no longer need to be manually managed
- ❖ Workflow technologies can also be programmed to monitor for predefined conditions





## Examples of Automated Workflow Engineering

- ❖ Service enquiry
- ❖ Email response
- ❖ Lead assignment
- ❖ Dialogue scripting
- ❖ Log-in navigation
- ❖ System integration







## References

- ❖ Francis Buttle, *Customer Relationship Management: Concepts and Technologies, 2e*, Elsevier Ltd., 2009
- ❖ Baran, Galka and Strunk, *Principles of Customer Relationship Management*, South-Western, 2008





THANK YOU

