

# Management Information Systems

## B08. Interorganizational and Global Information Systems



- Code: 166137-01+02
- Course: Management Information Systems
- Period: Spring 2013
- Professor: Sync Sangwon Lee, Ph. D

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  - 04. E-Business and E-commerce
  - 05. Mobile, Wireless, and Pervasive Computing
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  - 07. Enterprise Systems: From Supply Chains to ERP to CRM
  - **08. Interorganizational and Global Information Systems**



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## Learning Objectives

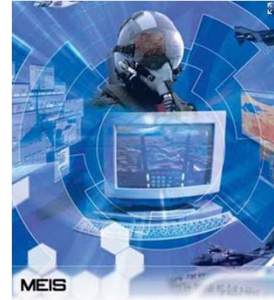
- 01. Define and classify IOSs.
- 02. Define and classify global information systems.
- 03. Present the major issues surrounding global information systems.
- 04. Describe B2B exchanges, hubs, and directories.
- 05. Describe virtual corporations and their IT support.
- 06. Describe EDI and EDI/Internet and their benefits and limitations.
- 07. Describe extranets, XML, and Web Services.
- 08. Present major IOS implementation issues.



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## 01. Interorganizational Information System

- Interorganizational Information System (IOS)
  - Interorganizational information system involves information flow among two or more organizations.
  - Its major objective is efficient processing of transactions, such as transmitting orders, bills, and payments.
  - It can be global or local.
  - When IOSs use telecommunications companies for communication, they employ value-added networks (VANS). These are private.
  - A growing trend is use of the Internet. These are publicly accessible.



<http://www.vandtransformation.com>

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## 01. Interorganizational Information System

- Types of Interorganizational Information System (IOS)
  - B2B trading systems
    - These systems are designed to facilitate trading between (among) business partners
    - The partners can be in the same or in different countries.
    - Examples of B2B trading systems are company-centric (private) e-marketplaces and many-to-many public exchanges.



<http://www.btobb2b.com>

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## 01. Interorganizational Information System

- Types of Interorganizational Information System (IOS)
  - B2B support systems.
    - These are nontrading systems such as hubs, directories, and other services.

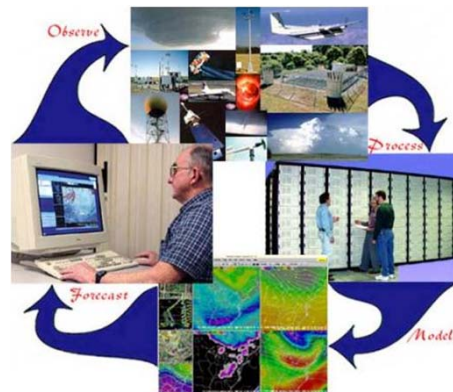


<http://blogs.exportersindia.com/tag/b2b-portals>

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## 01. Interorganizational Information System

- Types of Interorganizational Information System (IOS)
  - Global systems
    - Global information systems connect two or more companies in two or more countries.
    - The airline reservations system, SABRE, is an example of a huge global system.

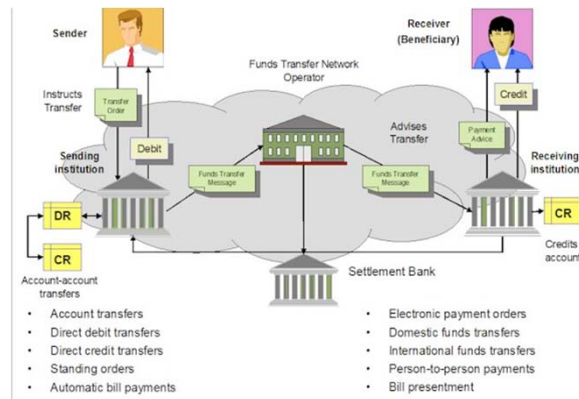


<http://www.esrl.noaa.gov>

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## 01. Interorganizational Information System

- Types of Interorganizational Information System (IOS)
  - Electronic funds transfer (EFT).
    - In EFT, telecommunications networks transfer money among financial institutions.



<http://blog.techtalk.com/2009/electronic-fund-transfer-eft>

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## 01. Interorganizational Information System

- Types of Interorganizational Information System (IOS)
  - Groupware
    - Groupware technologies facilitate communication and collaboration between and among organizations.

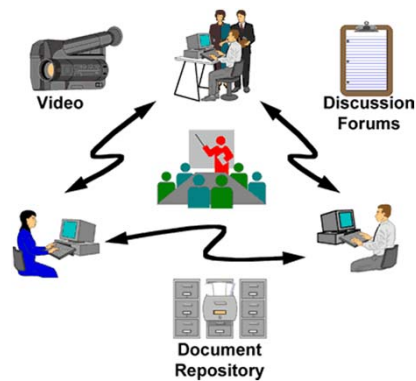


<http://www.bobyhermez.com>

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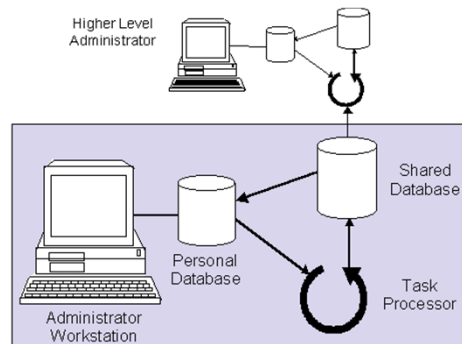
## 01. Interorganizational Information System

- Types of Interorganizational Information System (IOS)
  - Integrated messaging
    - A single transmission system can be used to deliver electronic mail and fax documents between organizations.



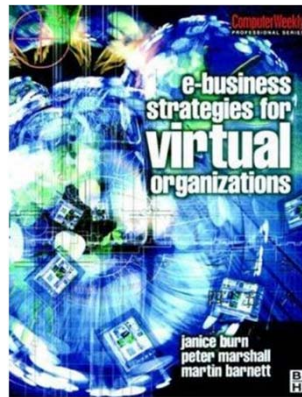
## 01. Interorganizational Information System

- Types of Interorganizational Information System (IOS)
  - Shared databases
    - Trading partners sometimes share databases in order to reduce time in communicating information between parties and to arrange cooperative activities.



## 01. Interorganizational Information System

- Types of Interorganizational Information System (IOS)
  - Systems that support virtual corporations
    - These IOSs provide support to virtual corporations— two or more business partners, in different locations, sharing costs and resources to provide a product or service.



<http://www.openlibrary.org>

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## 01. Interorganizational Information System

- ISO Support Technologies
  - The four major IOS technologies are:
    - Electronic Data Interchange (EDI), the electronic movement of business documents between business partners.
    - Extranets, extended intranets that link business partners.
    - XML, an emerging B2B standard, promoted as a companion or even a replacement for EDI systems.
    - WEB Services, the emerging technology for integrating B2B and intrabusiness applications.

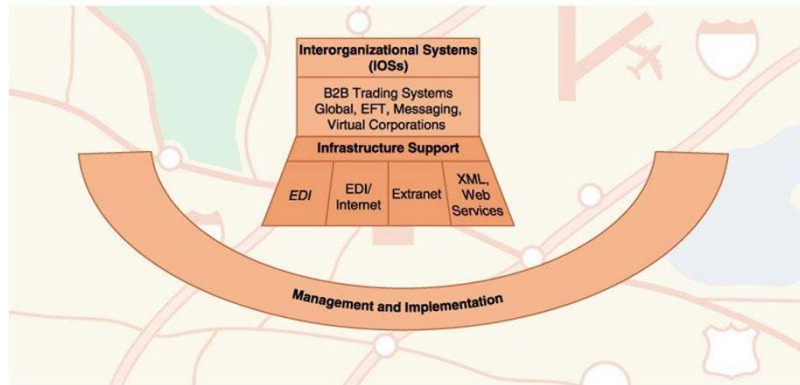


<http://smallbusiness.chron.com>

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## 01. Interorganizational Information System

- Overview of IOSs



<http://uvvome.blogspot.com>

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## 02. Global Information Systems

- Benefits
  - Effective communication at a reasonable cost.
    - The partners are far from each other, yet they are able to work together, make decisions, monitor transactions, and provide controls.
    - Business partners communicate through e-mail, EDI, Web Services, and extranets.
    - Communication is even more critical if the partners speak different languages.
    - Intelligent IT systems can provide automatic translation.



<http://www.googleoptimointl.net>

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## 02. Global Information Systems

- Benefits
  - Effective collaboration to overcome differences in distance, time, language, and culture.
  - Collaboration can be enhanced with groupware software, group decision support systems, extranets, and teleconferencing devices.



<http://www.globalinformationsystems.com>

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## 02. Global Information Systems

- Benefits
  - Access to databases of business partners and ability to work on the same projects while their members are in different locations.
  - Information technologies such as video teleconferencing and screen sharing are useful for this purpose.



<http://axiomamuse.wordpress.com>

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## 02. Global Information Systems

- Issues in Global IS Design
  - Cultural differences
    - Culture consists of the objects, values, and other characteristics of a particular society.
    - It includes many different aspects ranging from tradition, to legal and ethical issues, to what information is considered offensive.
    - When companies plan to do business in countries other than their own, they must consider the cultural environment.



<http://www.globalinformationssystem.com>

## 02. Global Information Systems

- Issues in Global IS Design
  - Localization
    - Many companies use different names, colors, sizes, and packaging for their overseas products and services.
    - This practice is referred to as localization.
    - In order to maximize the benefits of global information systems, the localization approach should also be used in the design and operation of such systems.



<http://www.futurepubliclibrary.com>

## 02. Global Information Systems

- Issues in Global IS Design
  - Economic and political differences
    - Countries also differ considerably in their economic and political environments.
    - One result of such variations is that the information infrastructures may differ from country to country.



<http://www.globalinformationsystems.com>

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## 02. Global Information Systems

- Issues in Global IS Design
  - Legal issues
    - Legal systems differ considerably among countries.
    - Examples are copyrights, patents, computer crimes, file sharing, privacy, and data transfer.

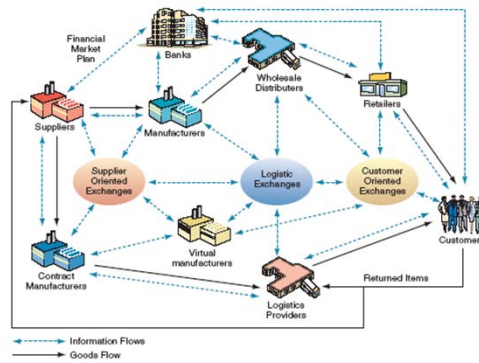


<http://www.asiainfo.net>

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### 03. B2B

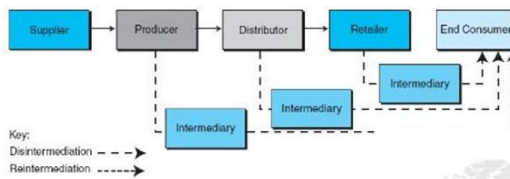
- B2B Exchanges, Hubs, and Directories
  - Computerized supply chains



Information Technology for Management, Ed. 5, Efraim Turban et al., Wiley

### 03. B2B

- B2B Exchanges, Hubs, and Directories
  - Electronic hub compared to traditional intermediaries



Information Technology for Management, Ed. 5, Efraim Turban et al., Wiley



<http://b2b-bpo.blogspot.com>

### 03. B2B

- B2B Exchanges, Hubs, and Directories
  - B2B exchanges are used mainly to facilitate trading among companies.
  - Hubs are used to facilitate communication and coordination among business partners, frequently along the supply chain.
  - Directories appear as B2B Information portals, which usually include catalogues of products offered by each seller, lists of buyers, and what they want, and other industry or general information.



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### 03. B2B

- Virtual Corporations and IT Support
  - A virtual corporation (VC) is an organization composed of two or more business partners, in different locations, sharing costs and resources for the purpose of producing a product or service.



<http://www.lifeshift365.com>

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### 03. B2B

- Virtual Corporations and IT Support
  - Most VCs cannot exist without information technology.
    - E-mail
    - Desktop videoconferencing
    - Screen sharing and other groupware technologies
    - EDI and EFT
    - Database and network sharing



<http://www.insightaccountingservices.com>

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### 04. Electronic Data Interchange

- Electronic Data Interchange (EDI)
  - EDI is a communication standard that enables the electronic transfer of routine documents, such as purchasing orders, between business partners.
  - Traditional EDI has been around for about 30 years.
  - EDI reduces costs, delays, and errors inherent in a manual document – delivery system.



<http://www.apcsnh.com>

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## 04. Electronic Data Interchange

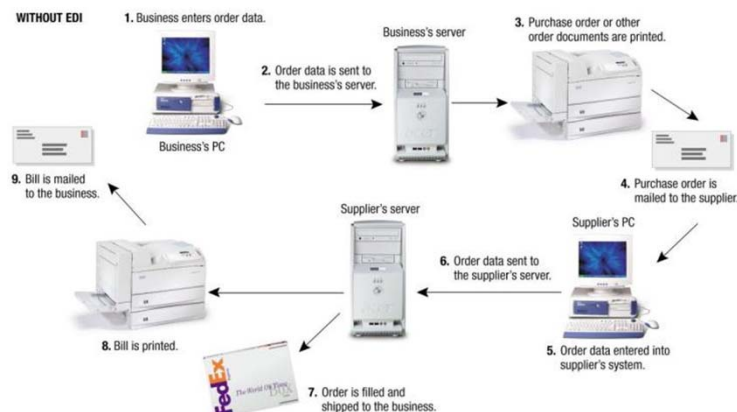
- Electronic Data Interchange (EDI)
  - EDI translators
    - An EDI translator converts data into a standard format before it is transmitted; then the standard form is converted to the original data.
  - Business transactions messages
    - These include purchase orders, invoices, credit approvals, shipping notices, confirmations, and so on.
  - Data formatting standards
    - Because EDI messages are repetitive, it makes sense to use formatting (coding) standards.
    - In the United States and Canada, EDI data are formatted according to the ANSI X.12 standard.
    - An international standard developed by the United Nations is called EDIFACT.



<http://www.e-datasolution.com>

## 04. Electronic Data Interchange

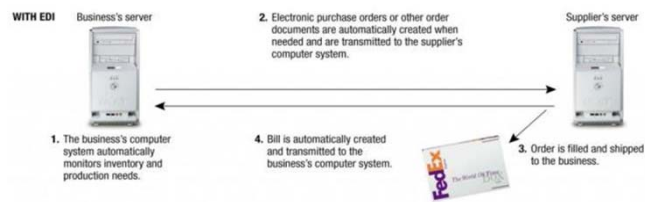
- Electronic Data Interchange (EDI)
  - Without EDI



<http://help-abap.zevolving.com>

## 04. Electronic Data Interchange

- Electronic Data Interchange (EDI)
  - With EDI

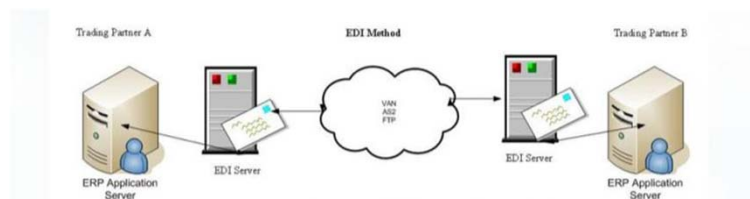


<http://help-abap.zevolving.com>

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## 04. Electronic Data Interchange

- Features of EDI
  - Accessibility
    - The Internet is a publicly accessible network with few geographical constraints.
    - Its largest attribute, large-scale connectivity (without the need for any special company networking architecture), is a seedbed for growth of a vast range of business applications.
  - Reach
    - The Internet's global network connections offer the potential to reach the widest possible number of trading partners of any viable alternative currently available.



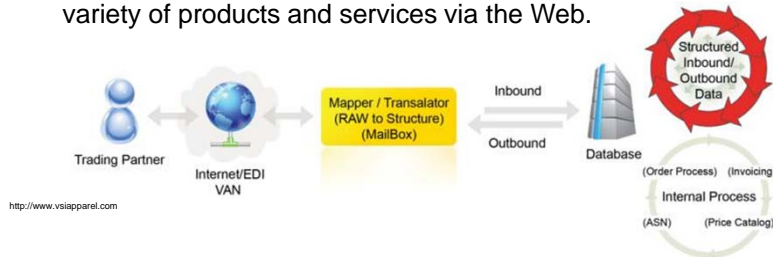
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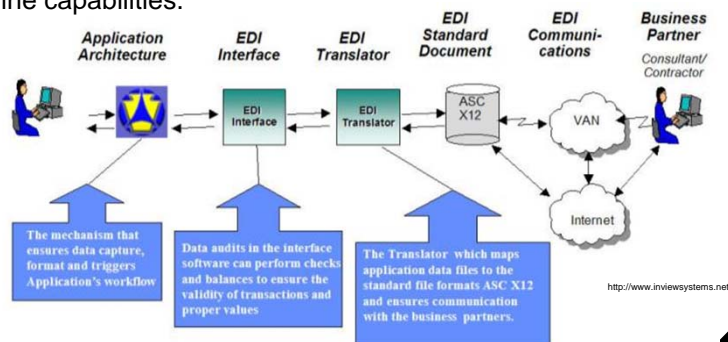
## 04. Electronic Data Interchange

- Features of EDI
  - Cost
    - The Internet's communication cost can be 40 to 70 percent lower than that of VANs.
    - Transmission of sensitive data can be made secure with VPN.
  - Use of Web technology
    - Internet-based EDI can complement or replace many current EDI applications.
    - Using the Internet to exchange EDI transactions is consistent with the growing interest of business in delivering an ever increasing variety of products and services via the Web.



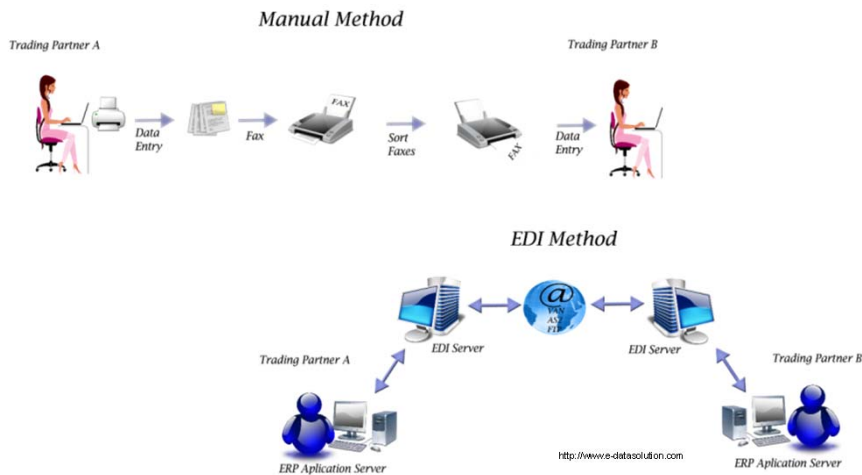
## 04. Electronic Data Interchange

- Features of EDI
  - Ease of use
    - Internet tools such as browsers and search engines are very user friendly, and most employees today know how to use them.
  - Added functionalities
    - Internet-based EDI has several functionalities not provided by traditional EDI, which include collaboration, workflow, and search engine capabilities.



## 04. Electronic Data Interchange

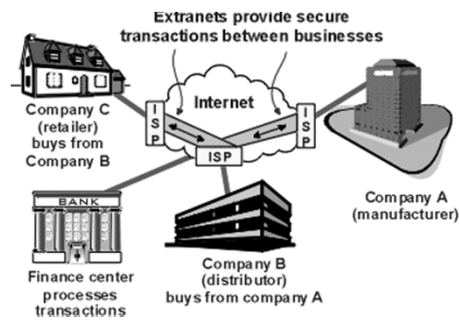
- Traditional and Web-based EDI



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## 05. Extranets

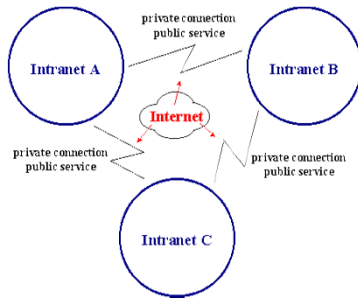
- Extranets
  - Extranets are networks that link business partners to one another over the Internet by providing access to certain areas of each other's corporate intranets.



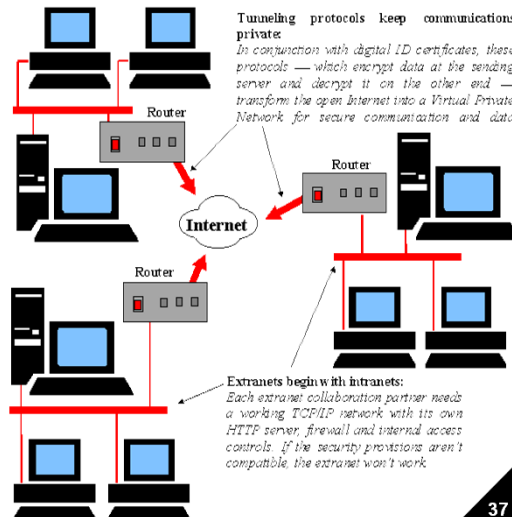
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## 05. Extranets

### • The Structure of Extranets



<http://publiespe.espe.edu.ec>

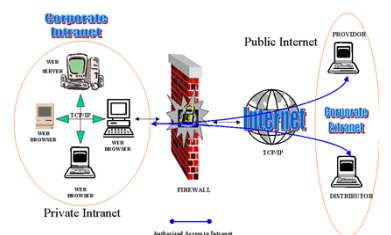


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## 05. Extranets

### • Three major types of Extranets

- A company and its dealers, customers, or suppliers.
  - An example is FEDEX Extranet that allows customers to track the status of a package.
- An industry's extranet
  - The world's largest industry based, collaborative extranet is by General Motors, Ford, and DaimlerChrysler.
  - That Extranet, called Automobile Network Exchange (ANX), links the carmakers to 10,000 suppliers.
- Joint ventures and other business partnerships.
  - An example is Bank Of America's Extranet for commercial loans.

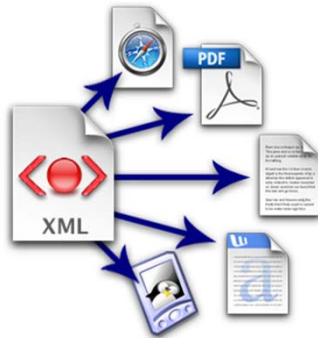


<http://raoulbyx.livejournal.com>

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## 06. XML

- XML
  - XML (eXtensible Markup Language) is a simplified version of a general data description language known as SGML.

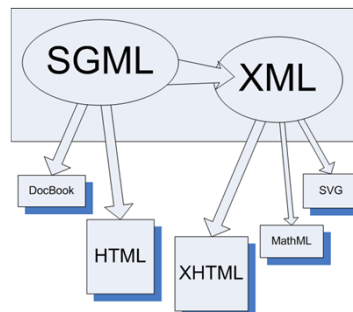


<http://www.priog.org>

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## 06. XML

- Features of XML
  - XML describes data and information.
  - XML does not say how the data will be displayed.
  - XML can be used to send complex messages that include different files.
  - XML and HTML are not the same.
  - XML is a flexible language.
  - XML is easily read and understood.
  - XML requires less specialized skills.

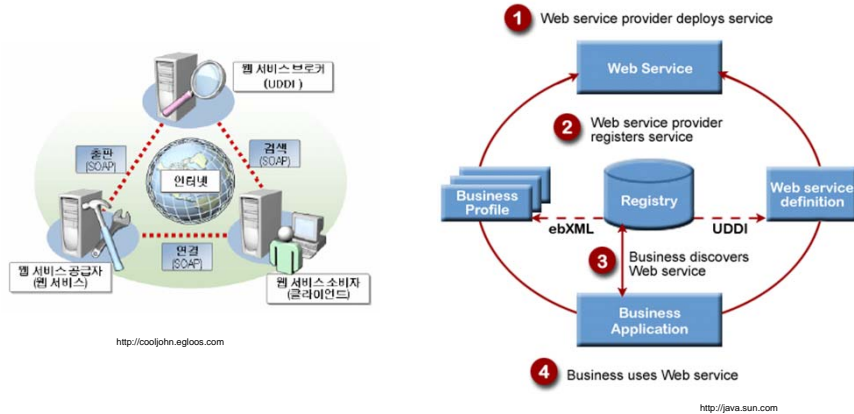


<http://en.matasoft.com>

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## 07. WEB Services

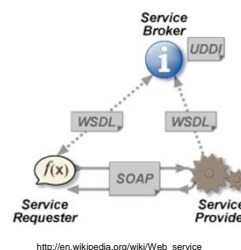
- WEB Services
  - WEB services are universal, prefabricated business process software modules, delivered over the Internet, that users can select and combine through almost any device, enabling disparate systems to share data and services.



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## 07. WEB Services

- Features of WEB Services
  - Web services can support IOSs by providing easy integration for different internal and external systems.
  - Such integration enables companies to develop new applications .An example is Allstate Financial Group used Microsoft.NET (a Web Services implementation) to create AccessAllstate.com, a Web Portal that allows its 350,000 sales representatives to access information about Allstate investment, retirement, and insurance products.



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## 08. Partner Relationship Management

- Partner Relationship Management (PRM)
  - Every company that has business partners has to manage the relationships with them.
  - Information needs to flow between the firms and constantly updated and shared.



<http://www.relayware.com>

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## 08. Partner Relationship Management

- Partner Relationship Management (PRM)
  - Manual methods include phone, fax, and mail.
  - EDI is typically used by large corporations.
  - EC PRM functions include:
    - Partner profiles
    - Partner communications
    - Lead management (of clients)
    - Targeted information distribution
    - Connecting the extended enterprise
    - Partner planning
    - Centralized forecasting
    - Group planning
    - E-mail
    - Price lists



<http://www.ilivecorp.com>

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## 08. Partner Relationship Management

- Partner Relationship Management (PRM)



Information Technology for Management, Ed. 5, Efraim Turban et al., Wiley

## 09. Supplier Relationship Management

- Supplier Relationship Management (SRM)
  - One of the major categories of PRM is SRM, where the partners are the suppliers.
  - PeopleSoft's SRM model is an example.
  - It is a model for managing relationships with suppliers in real time.
  - It includes 12 steps using the core idea that an e-supply chain is based on integration and collaboration.

