Creating the E-Business

Part A- Foundations of E-Business

(4)
E-Business Infrastructure
E-Business Infrastructure

**E-business infrastructure**

The architecture of hardware, software, content and data used to deliver e-business services to employees, customers and partners.
OSI Model

Transmit Data

User

Application Layer

Presentation Layer

Session Layer

Transport Layer

Network Layer

Data Link Layer

Physical Layer

Receive Data

Browser

Operating System

HTTP, FTP

TCP/IP

IP

Physical Link

The Internet

• **Client/server**
The client/server architecture consists of *client computers, such as* PCs, sharing resources such as a database stored on a more powerful *server computer*.

• **Internet service provider (ISP)**
A provider providing home or business users with a connection to access the Internet. They can also host web-based applications.

• **Backbones**
High-speed communications links used to enable Internet communications across a country and internationally.

• **Hosting provider**
A service provider that manages the server used to host an organization web site and its connection to the Internet backbones.
Extranet Applications

Any network connected to another network for the purpose of sharing information and data. An extranet is created when two businesses connect their respective intranets

**Advantages:**

- Information sharing in secure environment
- Cost reduction for managing orders
- Better Order processing and distribution
- Better Customer service
Extranet Applications

Issues involved with managing extranets:

• Are the levels of usage sufficient?

• Is it effective and efficient?

• Who has ownership of the extranet? (privileges)

• What are the levels of service quality?
Intranet Applications

Intranets are used extensively for supporting sell-side e-commerce and are also used to support core supply-chain management activities

**Advantages:**
- Reduced product lifecycles by getting products to market faster
- Reduced costs through higher productivity, and savings on hard copy
- Better and personalized support and customer service
- Used for internal marketing communications
- Can help reduce the total cost of ownership (TCO)
Web Technologies

User requests page

http 'send' communication

Server returns page requested

http 'get' communication

Server running web server software

Client PC running web browser

The Internet

ISP

Transaction log file

HTML and graphics files

Database and applications servers

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Web Technologies

**Hyperlink**
A method of moving between one web site page and another, indicated to the user by an image or text.

**Web browsers**
Browsers such as Mozilla Firefox or Microsoft Internet Explorer provide an easy method of accessing and viewing information stored as web documents on different servers.

**Browser compatibility?**

**Web servers**
Store and present the web pages accessed by web browsers.

**Static web page**
A page on the web server that is invariant.
Web Technologies

**Dynamically created web page**
A page that is created in real time, often with reference to a database query, in response to a user request.

**Web application server**
A collection of software processes which is accessed by a standard programming interface (API) of a web application framework to serve dynamic website functionality in response to requests received from many users at once.
VOIP is a new web technology.

Is it Disruptive? Why? Why not?
Web Presentation And Data Exchange Standards

• **HTML (Hypertext Markup Language)**
  A standard web-page presentation format used to define the text and layout of web pages.

• **Meta-data**
  Data about data

• **Popular Programming Languages for the Web**
  PHP *(Open Source)*
  ASP and ASP.NET (Microsoft)
  JavaScript, Ruby on Rails, Python and others
Web Presentation And Data Exchange Standards

• **HTML meta-tags**

Standard HTML codes used to specify the content and characteristics of the document

```html
<HEAD>
<TITLE>An intranet document example</TITLE>
<META name="author" content="Dave Chaffey">
</HEAD>
```
Web Presentation And Data Exchange Standards

• **Bandwidth**
  Indicates the speed at which data are transferred using a particular network medium. It is measured in bits per second (bps).

• **Service-level Agreement**
  A contractual specification of service standards a contractor must meet.
Summary

1. E-Business Fundamentals
2. E-Business Environment
3. E-Business Infrastructure
References


• Turban, et al. (2004), Electronic Commerce- A Managerial Perspective, FT Prentice Hall