



E-Business management and strategy

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Lecture 6

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Stage 2.

Common Gateway Interface (CGI)

- ▶ **Common Gateway Interface**, commonly abbreviated as CGI, is a crucial concept in computer science related to web development and server programming. It serves as a protocol that enables web servers to interact with external programs or scripts, generating dynamic web content.
- ❖ **Purpose:** CGI is used to create dynamic and interactive web applications. It allows web servers to communicate with external programs, often written in languages like Perl, Python, or C, to process user requests and generate customized web content.

Common Gateway Interface (CGI)

How It Works: When a user interacts with a web page that requires dynamic content, the web server invokes a CGI program to process the request. This program processes the input data (e.g., form submissions) and generates HTML or other content that is sent back to the user's browser.

Scripting Languages: CGI scripts are often written in scripting languages, making it relatively easy to develop dynamic web applications. These scripts can be embedded within HTML pages, denoted by special tags or file extensions (e.g., .cgi or .pl).

Common Gateway Interface (CGI)

Input and Output: CGI scripts take input from the web server, typically via environment variables and standard input, and produce output through standard output. This input can include information about the user's request, such as form data, and the output is usually in the form of HTML or other data to be displayed in the browser.

Industry Standards

Industry Standards in the computer science sector are essential for ensuring compatibility, security, and interoperability across a wide range of technologies, systems, and software. They are developed and maintained by various organizations and play a significant role in shaping the digital landscape and fostering innovation.

- ❑ **industry standards** serve to establish common guidelines, protocols, and specifications for hardware, software, and networking to ensure that different components and systems can work together seamlessly.

Types of Standards in Industry Standards

Types of Standards: standards encompass a wide range of areas, including:

1. **Networking Standards:** Examples include TCP/IP, Ethernet, and Wi-Fi standards, which govern how data is transmitted over networks.
2. **Data Exchange Standards:** Formats like XML, JSON, and CSV are standards for structuring and exchanging data between applications.
3. **Programming Language Standards:** Standards for languages like C, C++, and Java define the syntax and functionality, ensuring compatibility and portability of code.
4. **Web Standards:** HTML, CSS, and JavaScript are standards that define how web pages are created and displayed.
5. **Security Standards:** Standards like TLS/SSL ensure secure communication over the internet, while OAuth and OpenID define authentication and authorization protocols.

Key Business Capability

E-business has made some advances towards standardization with the XML schema leading the way. Figure 2.1 lists the main business capabilities that firms require from an integrated system.

1. Reduce the cost of doing business.
2. Reduce the cost of entry into e-business.
3. Provide an easy-to-use set of tools.
4. Improve data integrity and accessibility.
5. Provide appropriate security and control.
6. Provide extendable and controllable technology.
7. Integrate with current systems.
8. Utilise open standards.
9. Provide interoperability.
10. Be globally deployable and maintainable.

Figure 2.1
Key business
capabilities of
integrated
e-marketplace
systems

Universal Description Discovery and Integration (UDDI)

UDDI, which stands for Universal Description Discovery and Integration, is an open industry standard that defines a framework for describing, publishing, and discovering web services. It enables businesses to **find and connect** with each other over the internet and share information about the services they offer.

The UDDI model has middleware connectivity as its main focus and also uses XML to describe the systems that interface with each other.

Payment Systems

One of the most important aspects of secure payment systems for e-business and e-commerce is the **authenticity of transactions**. A mechanism that facilitates the transfer of monetary value between parties. It plays a crucial role in the economy by enabling transactions for **goods and services**. Payment systems have evolved over time, driven by technological advancements and the changing needs of **businesses and consumers**.

payment systems

Types of Payment Systems:

- 1. Cash Payments**
- 2. Non-Cash Payments**
- 3. Electronic Funds Transfer (EFT)**
- 4. Online and Mobile Payments**
- 5. Cryptocurrency and Blockchain Payments**
- 6. Contactless Payments**
- 7. Peer-to-Peer (P2P) Payments**

Open Buying on the Internet (OBI)

The most advanced e-business standard is aimed at **business-to-business (B2B)** procurement. OBI provides an open architecture that brings **buyers and sellers** together to transact high-volume, low-value products between companies that form the majority of trade between businesses.

Open Trading Protocol (OTP)

The OTP is designed to deliver a virtual analog of the traditional trading environment across the supply chain from negotiation to delivery of products. Participants can undertake any of the key roles in effecting a transaction including **offer, payment, delivery, and authentication.**