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E-Business Security Environment and ethical challenges.

Abstract

This is the age of technology. Every day a new innovation in this field emerges. The technologies are developing and deploying web applications with an exponential growth. A clear conceptual understanding of these technologies and the component approach to software design is essential for the development of successful E-Business applications. Whilst the maturing technology is simplifying the technical challenge, it should not be forgotten that a full understanding of the business requirements and the design of innovative solutions to meet these requirements are the overriding objectives and remain as challenging as ever.

How the use of information technologies in e-business effects employment, individuality, working conditions, privacy, crime, health and solution to societal problems. Identifying several types of security, management strategies and defences, how they can be used to ensure the security of e-business applications.

Technological Components of an e-business

With the evolvement of Client-Server architecture computing introduced another echelon of intricacy to software development, deployment and maintenance over traditional host computing. Client-Server applications are two layers and require a database on the server, connectivity software and the actual application on the client.

Application components of an e-business

E-Business applications are n-layer applications and require an even more intricate environment to execute, such as:

- Web Browser,
- Web Server,
- Application Server,
- Transaction Server and
- Database Server.

- Additional components,
    - o   Firewalls
    - o   Proxy servers etc

These are required to ensure security and performance. Other software components enable activity on the Web site to be monitored and the access paths of Web site browsers to be analysed.

Requirement of an Application and Transaction Server

The functional requirement for the software which is responsible to create execution environment for an application component and it is needed at the first place. E-business application can at once be assessed by any numbers of users with its availability round the clock without errors. If the message of error or unavailability is displayed user simply search for its alternate. As the user commences a transaction on a web site, integrity of this transaction has to be 100 % . Transaction integrity, even under erroneous conditions due to infrastructure failures, is of vital importance for a successful E-Business application. Thus, the execution environment has to provide availability at all time and to everyone with fail-over mechanisms and theoretically unlimited scalability. It further has to provide mechanisms which guarantee the integrity of transactions, even across multiple databases.
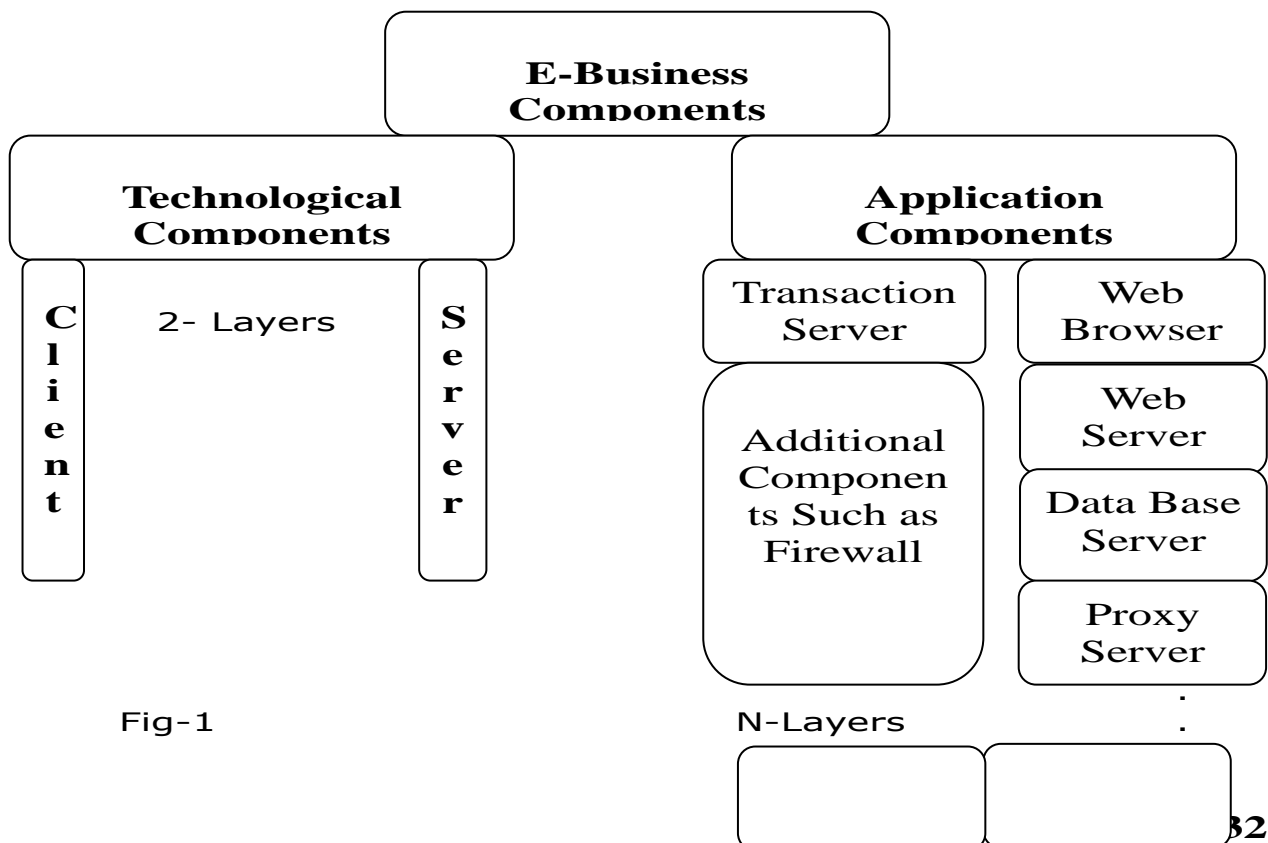

Fig-1

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Application Server

The Application Server allows the execution of code modules on the server within the context of a web application, thus offering functionality for dynamic web sites.

Transaction Server

A Transaction server provides the execution environment for software components whilst offering full transaction control. It also provides load balancing across multiple servers and fail-over mechanisms. Transaction servers support one or multiple protocols to communicate with requestors.

Web Server

Web server is an essential component of an e-business environment. As it is the main characteristic of a "standard" Web Server enables the return of static HTML pages, stored in a virtual system, upon request. The Web Server further offers interfaces to extend its functionality. The Web Server routes a request to the Application Server, which processes it and returns generated HTML, which the Web Server sends back to the requesting browser client. MS Active Server Pages (ASP) extends the Internet Information Server (IIS) to allow the execution of code on the server (server side scripting)

Elements of E-Business Security : The main elements of e-business security are displayed in figure-1. The requirement of security of e-business is not unique. Therefore the steps taken may be similar and may be published earlier. The idea is to safe guard the business entity as the fund of general public is circulated in business.
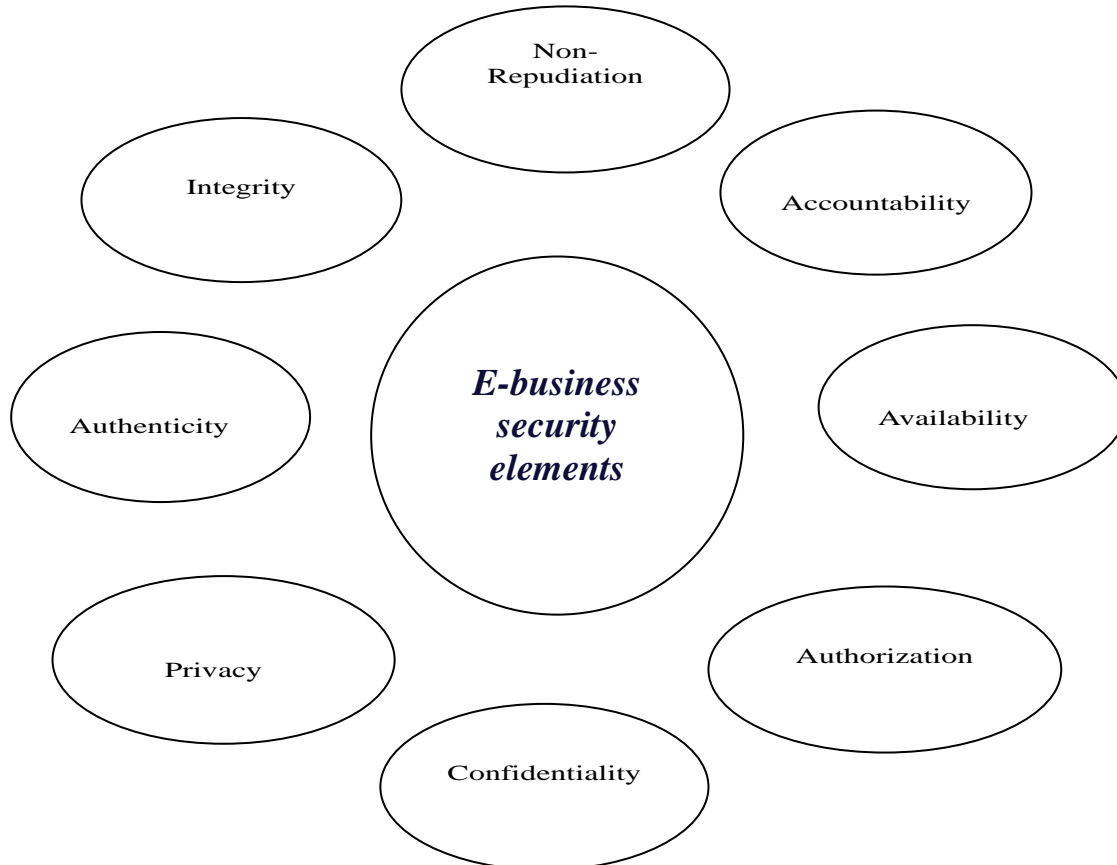

Fig-2

Confidentiality – It ensures the necessary level of secrecy at each data processing entity, and prevents unauthorised disclosure; it ensures that information is not made available to unauthorised parties;

Integrity – It involves maintaining the accuracy and reliability of information and processing methods, and preventing unauthorised modification of data, thereby ensuring that data is correct, as defined by the process designer;

Availability – It involves ensuring timely access to data and resources to authorised users, so that data, information and other elements of information systems are accessible and useable by an authorised user. (The above three definitions are based on those given in []).

Accountability – It ensures that actions affecting an information system can be uniquely traced back to the responsible entity [   ].

Non-repudiation- It is a service that enables the participant in a communications session to prevent another party in the session from denying having taken a particular action.

Authorization : It allows a person or computer system to determine if someone has the authority to request or approve an action or information.

Authentication : This is the ability to say that an electronic communication does genuinely come from who it purport to.

Privacy : It is the ability to ensure that information is accesses and changed by only by the intended user or an authorised parties.

Security and Ethical Challenges

Sometime e-business information systems elevate new and amazing ethical problems. The challenges posed by internet and e-business to the protection of privacy and intellectual property. Other ethical issues raised using of information systems include establishing the following

- Accountability for the consequences of information systems,
- Setting standards to safeguard system quality that protect the safety of individuals
- Society, and preserving values and institutions considered essential to the quality of life in an information society.

Whether we run our own business or work in a large company, we will be coming across these issues, and we will need to know how to deal with them.

- If our career is in finance and accounting, we will need to ensure that the information systems we work with are protected from computer fraud and abuse.
- If our career is in human resources, we will be involved in developing and enforcing a corporate ethics policy and in providing special training to sensitize managers and employees to the new ethical issues surrounding information systems.
- If our career is in information systems, we will need to make management aware of the ethical implications of the technologies used by the firm and help management establish code of ethics for information systems.
- If our career is in manufacturing, production, or operations management, we will need to deal with data quality and software problems that could interrupt the smooth and accurate flow of information among disparate manufacturing and production systems and among supply chain partners.

- If our career is in sales and marketing, we will need to balance systems that gather and analyze customer data with the need for protecting consumer privacy.

TECHNOLOGY TRENDS THAT RAISE ETHICAL ISSUES TREND IMPACT

Computing power increase exponentially and almost doubles every 18 months	More organizations depend on computer systems for critical operations.
Cost reduced as the technology advances. So Data storage costs rapidly declining	Organizations can easily maintain detailed databases on individuals.
Data analysis advances	Companies can analyze vast quantities of data gathered on individuals to develop detailed profiles of individual behaviour.
Networking advances and the Internet	Copying data from one location to another and accessing personal data from remote locations are much easier.

Conclusion

Business and information technology activities involve many ethical considerations. Ethic principals and standards of conduct can serve as guidelines for dealing with ethical business issues. Information technology has raised new possibilities for behaviour for which laws and rules of acceptable conduct have not yet been developed. Information technology is introducing changes that create new ethical issues for societies to debate and resolve. Increasing computing power, storage, and networking capabilities—including the Internet—can expand the reach of individual and organizational actions and magnify their impacts. The ease and anonymity with which information can be communicated, copied, and manipulated in online environments are challenging traditional rules of right and wrong behaviour. Ethical, social, and political issues are closely related. Ethical issues confront individuals who must choose a course of action, often in a situation in which two or more ethical principles are in conflict (a dilemma). Social issues spring from ethical issues as societies develop expectations in individuals about the correct course of action. Political issues spring from social conflict and are mainly concerned with using laws that prescribe behaviour to create situations in which individuals behave correctly. Security tools and policies can ensure the accuracy, integrity, and safety of e-business system and resources.