Secure access of data in Intranet using Web Services

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Abstract— The Internet is a wide area network that connects computers, servers, and other networking devices. An intranet is used by organization or companies which prevents hacker intrusions a protected by a firewall. Intranets permit users to undertake the same responsibilities that can be done on the Web, such as posting documents, sending e-mail and chatting with other users. In addition, intranets are used as vehicles for keeping all workers up to date on institute or company policies and information.The Internet is a network of networks that is owned by no one and everyone. The key to understanding Intranetsafety involves recognizing the important differences between Intranets and the Internet and the several co-operation options that virtual networks offer. The specific security threats of Intranets can be found in communications, software, and data and operations security

Index Terms— Intranet security, private network, secures communication.

1 INTRODUCTION

ALTHOUGH the difference between Intranets and the Internet is not great in terms of technology, the transmission of data is completely different from the executive point of view. Concentrate on the variances and likenesses between Intranets and the Internet. Data security threats nearby Intranets and methods of safeguard against these threats. This tried to make the presentation free of the
industry area, so no references will be made to particular organizations or trademarks.

The use of Intranets as internal datatransfer channels within serves to highlight the importance of their secure grasp. Information security threats between Intranets and other networks and information systems are quite similar. The tools used in Intranets and the way that tool is used include a new threat basis. Data security solutions in Intranets are built both on experiences gained from the Internet and on new solutions develop mainly for Intranets. Special areas of interest within Intranet security are communications, software, data andprocesses security. By studyingthese four areas, we hope to find usage differences in information security solutions betweenIntranets and the Internet.

The technologies of the Internet and Intranets are quite similar, but the ways in which the tools are exploited are different. We could define the Internet as a computer network, which is based on minorfree networks owned by single organizations. These minor networks are linked by means of routers and fixed communications links to the global Internet. The Internet was originally only a communication network for scientists, researchers and specialists. Then, the introduction of browser software and the graphical user lineeasy data and information search.

Intranets have been defined as internal communication systems of establishments based on the principles of the Internet. Intranets are based on Internet skill, i.e. skills that all together generate the Internet. For example, Internet routers and their communication links constitute a part of this technology. Intranets could also be defined as the use of Internet technology inorganizational networks. In yet another case Intranets could be seen as private networks based on WWW servers.

The main clue of Intranets is the same as that of the Internet, i.e. to facilitate the stream ofdata. Intranets allow users to keep in touch with physically distant sites of theirorganizations by using the Internet or other communication source, which simplifies thetransmission of information between the different sites. When using the Internet, the dataprotection threats sit for by the Internet to the organization must be borne in mind at all times. Forexample, the Internet facility could be shut down for a while set up a severe threat for theease of use of data.One majorbenefit of using Intranets in link with other results based oncorresponding systems is the hardware freedom of the Internet technology.Internet technology has successfully solved the difficult of mismatched hardware and softwareand permits organizations to connect all their computers, operating systems and databases to asingle independent system. There is, however, an unresolved compatibility-problem in browser technology.

A newmain advantage of Intranets in link with other correspondingtools is the ease and usefulness of the Intranet user interface and the ease with whichvoice and images can be hand on to network. The WWW-based user interface is easy to learn and use.By clicking on hyperlinks it is easy to move from one document to another and to raise files toworkstations. The technology also allows the real time broadcast of voice and images.Intranets also permit one user interface to contain functions going to a number of different applications. Reports, announcements, notices, documents, phone and addressbooks could all be gain access by a single web browser. In addition, the maintenance and use ofdatabases can also be approvedvia Intranet.Moreover, Intranets make it is possible to distribute real time information to allorganizations, on condition thatevery information producer puts their documents immediately on aproper platform. The use of electronic platforms fall the distribution of paper documents as everyone can read and print only such documents asvital. The spreading of data over an Intranet makes it easier for everybody to follow important news.

The transfer of multienvironment requests to a single Intranet-based systemknowingly facilitates the use and repairs of the system. As every Intranet application isbased on the same rules of use, users are no longer required to learn the specific-details of every system. Also maintenance personnel have to deal with one working surroundingsas a replacement forseveral disparate systems.

2 Literature Review

Within the context of shifting market conditions and rapid technological change, the workforce is becoming more and more geographically dispersed. The challenge to keep this workforce knowledgeable and educated is being met by distance education programs. These programs are being offered by more and more organizations over their computer network or intranet. It is important for training professionals to understand the use of these networks so they can optimize their use of educating workers via an intranet. The following review of literature will provide an understanding of distance learning, computer-based training and intranet-based training. Distance learning is the most important aspect of any distant education program is meeting the instructional need of the student. Additional challenges often pop up because students are often separated from others sharing their backgrounds and interests, and have few opportunities to interact with the instructor. The instructor needs to find additional methods for interacting with their students. Because communication is often inhibited between students and instructors it takes longer for student-instructor rapport to develop. The University of Idaho (1995) suggests that adult students and their instructors must face and overcome a number of challenges before learning can take place. Among the challenges noted is the amount of motivation required by distant learners, learners recognizing their strengths, limitations, goals and objectives, and the lack of opportunity for students interact with their peers.

Instructors need to provide timely feedback to learners via e-mail, fax, computer bulletin boards and telephone. Encouraging communication among students along with the aforementioned can help motivate distance learners. Instructors who take on less of an authoritative role and more as that of a facilitator will help give students a sense of ownership in the learning process making it more meaningful for them. When developing or adapting distance instruction, the core content remains basically unchanged, although its presentation requires new strategies and additional preparation time. Barley (1999), and Moore and Thompson (1990) give the following suggestions for delivering distance courses:

• Study distance education research findings
• Check and review existing materials for content and presentation ideas
• Analyze and understand the strengths and weaknesses of possible delivery systems available
• Hands-on training with the technology of delivery is critical for both teacher and students.

Instructional development gives the process a framework for planning, developing and adapting instruction based on identifiable learner needs and content requirements. Most instructional development models follow the basic ADDIE model. ADDIE stands for assess, design, develop, instruct and evaluate. In the assessment phase you determine the educational needs of your audience and whether it is a knowledge, skill or attitude deficiency. During the design phase instructional designers need to understand learners and their needs, consider their ages, cultural backgrounds, past experiences, interests and educational levels. Learner's familiarity with various delivery systems and instructional methods should also be considered. Instructional objectives and goals should also be established at this time. During the development stage the designer should create a content outline based on the answers received from the design stage. The designer should review existing materials and decide if they fit (partially, or not at all), the course. Content with relevant examples and the development of instructional materials and the selection of delivery methods should all be considered during this stage.

During the evaluation stage goals and objectives should be reviewed to determine
if the instructional methods and materials are meeting them. Evaluations can and should
take place both during instruction of the course and following its completion. Evaluating
the course as it is in progress can allow you to be responsive to learners needs.

Evaluation after instruction is completed can give you a base for course revision andfuture planning. Revision plans typically are the result of the evaluation process intandem with feedback from subject matter experts and colleagues. Reflection by theinstructor can also prove to be an invaluable tool when revising a course.Computers, computer networks and software have developed rapidly in recentyears. These developments have made the computer a dynamic force in distanceeducation. The computer has provided a new and interactive means of overcoming time
and distance to reach learners.

There are many advantages of using computers in distance learning. Computers can facilitate self-paced learning by individualizing learning while giving immediate reinforcement and feedback. Computers are a multimedia tool with integrated graphic, print, audio and video capabilities effectively linking various technologies. CD-ROM technologies are often incorporated in computer-based instructional units. Computers are interactive with various software packages being extremely flexible that maximizes learner control. Computers also allow for increased access through local, regional and national networks that link people and resources. Finally, computer technology is rapidly advancing while related costs drop.

III. Challenges of Implementing Intranet

While there appears to be many advantages of implementing intranet-based training, there are also significant challenges. Inexperience in a web-based learning environment is a challenge for the student, the instructor, and the designer. Proper course design is still essential for the training to be successful. The people needed to create and maintain such a system may also be more than the organization originally thought.

The biggest challenge is that it is so new that the companies that are doing don't know what to ask for. They don't know what type of staff they need to actually create the training. It is such a brand new technology that a lot of people are being attracted to it from a lot of different professions. Right now a lot of instructional designers and people that were traditionally involved in interactive software and educational software are moving into the web-based training arena.

The other challenge is really a technology challenges. And finally, one of the biggest challenges is managing the content

that is on the web system. If you have a very large web site with a lot of training material you will find that you'll need actually a full-time staff person just to manage the content on that site. Subject One agreed that the newness of intranet-based training has led to some unique problems. Observing that, not a lot of people know where it is or what it is and how to find it. One of my challenges is to educate the user community on how the intranet is going to be beneficial to them in being able to find what they are looking for and what other things can be beneficial to them out there. It is like having a library. If you don't know how to use indexing and where different pieces of information are, it is just going to sit there on the shelf.

3 INTERNET SECURITY

The Internet is vulnerable to attack from people who seek to beat the system or cause cyber graffiti by leaving their name in a remote computer. There is an increased interest in protecting the Internet as more of our economy is conducted in cyber space.

There are many safety issues involving the internetis comprised of many pieces, each of which must work together to provide successful transmission of information. The Internet is organized as a client/server network in which at least one computer contains the information other computers want. The computer that contains the information is called a server and the computer requesting the information is called the client.Information that is intercepted can be altered or left intact and used for illegal purposes is detected.

The most critical information in an e-commerce transaction is your credit card information. E-trailers, the name given to merchants on the Internet, protect credit card information by encrypting the data using a secured Web site. A cyber-criminal still might intercept your credit card information, but the information is garbled and must be decoded with a special key.

Servers on the Internet are vulnerable to a frontal attack by cyber crooks trying to use various methods to gain access to IDs, passwords, and back doors that give them direct access to files located anywhere on the server.

For example, a cyber-criminal might begin the attack by war dialing, in which programs are used to automatically dial thousands of telephone numbers trying to find those that are connected to modems. The idea is that where there is a modem, there must be a computer, which might contain interesting and confidential information.

Of course, the cyber-criminal still needs an ID and a password to gain access to the server. Several techniques are used to overcome this obstacle. First, a password cracker can be used, which is software that tries to guess an ID and a password by attempting hundreds of combinations.

The good guys fight back by disconnecting the telephone call after three failed log-in attempts. Many times a call must be made to the administrator of the server to re-establish the ID. However, this too may not pose a problem because once the cyber-criminal identifies the company that owns the server, he or she uses the social engineering tactic to gain access.Because of their nature (loosely coupled connections) and their use of open access (mainlyHTTP), SOA infrastructures implemented by web services add a new set of requirements to thesecurity landscape.

Web services security includes several aspects:

• *Authentication*: Verifying that the user is who they claim to be. A user's identity is verified basedon the credentials presented by that user, such as username/password, digital certificate,standard Security Assertion Markup Language (SAML) token, or Kerberos token (more onthis later in this document). In the case of web services, credentials are presented by a clientapplication on behalf of the end user.

• *Authorization (or Access Control)*: Granting access to specific resources based on an authenticateduser's entitlements or specific role (e.g., corporate buyer).

• *Confidentiality, privacy*: Keeping information secret. Personally Identifiable Information (PII) orconfidential business data could be present in web service request or response messages.Confidentiality of such data can be achieved by encrypting the content of request or responsemessages using the XML Encryption standard.

• *Integrity, non-repudiation*: Making sure that a message remains unaltered during transit by havingan authority digitally sign that message; a digital signature also validates the sender andprovides a time stamp ensuring that a transaction can't be later repudiated by either the senderor the receiver. XML messages are signed using the XML Signature standard.

4 CONCLUSION

Internet technology is also used within an organization and its business partners by creating an Intranet. An Intranet is an organization's private Internet that enables employees to share information and access corporate data. An Extranet isalso a private Internet, but it is used to link business partners, such as key vendors, andto track orders, sales, and other information typically exchanged by business partners.

REFERENCES

1. Abernathy, D.J. (1998 September) The WWW of Distance Learning: Who Does What and Where? Training and Development, 52(9), 29-33.
2. Abernathy, D. J. (1999 August). An Intranet Renaissance. Training and Development, 52(8).
3. Banhazl, P. (1999). Franchise Training and the Internet. Franchising World, 31(5), 20- 25.
4. Barley, S. R. (1999). Computer-Based Distance Education: Why and Why Not? The Education Digest, 65(2), 55-59.
5. Berry (1999 November 15). Web Learning Starts to Pay Off: Companies say web training is cheaper and more measurable. Intranetweek, 789, 35-38.

6. Bickman, L. & Rog, D. (1998) Handbook of Applied Social Research Methods, Thousand Oaks, CA: SAGE Publications
7. Canterrucci,J (1998) The Organizational Impact of Intranets Study, Intranets: Exceeding Expectations. Available http://www.corpchange.com/Org_Impact_article.htm
8. Denzin, N.K. (1989) Interpretive Interactionism. Newbury Park, CA SAGE Publications
9. Finegan, J. (1997 December 1). Joining Forces. CIO Magazine, WebBusiness Section 2, 7 pp.
10. Frankel, Alex (1997 November 1). New Growth. CIO Magazine, WebBusiness Section, 7 pp.
11. Franz, T., J. Hassen & R. Major (1997 December). Internet/Intranet Training Delivery: What's available, what works? Naval Air Warfare Center Training Systems Division, Orlando, FL.

Gates, B. (1996). Intranets Help Solve the Puzzle of Sharing Information.