Networking and Security Aspects in Libraries

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Abstract

Now a day the libraries are made Digital using our modern computers. While implementing these types of tasks there is a keen notification towards the security of the network we are using, which means that the data and information present in our system should not be destructed or damaged by the users as well as the professional hackers. So security in Digital libraries has become a major task. This article explains you the various security aspects in detail.

Keywords : Modern Library, Library Networking, Library security, Information and data security

0. Introduction

The securing of conformations and other technologies has been highly beneficial to libraries. Libraries need to have policies. There should be highly protective and secure systems to be placed in Libraries so that the hackers could not destroy the contents of the Libraries.

The libraries are to be networked so that a distant client of that particular library can access the details of the Library. These can be done by having shared cataloguing, union cataloguing, document delivery services, inter library loan, e-mail, bulletin board, current awareness services and online public access services. Network security is the balanced act for Libraries. The data, which are in the local network, should be distributed throughout the system. The data should be accessed flexibly. The flexibility of assessment has made the system security a weak one. So the system security should be enabled. That is in other words the system should be avoided from the access of unauthorized persons who may hack the local library system. Not only the crackers but there may be butter fingered persons by which a small mistake can destroy or damage the data. The later problem is quite common and it cannot be driven out easily because the data are un intension ally corrupted. The past discussion about these facts tells us that in web enabled in house library and information services; each user should be given a user id and a password to browse the databases and downloading information. As most of the librarians were not much aware of the security problems which may engage the network there are so many causes occurs which may damage the network. Even most of the college courses even not depict the security constraints in libraries. Minimally, effective information security in libraries should include staff assigned to information security tasks, Training all personnel in information security issues and procedures, specific policies dealing with information privacy, physical security of equipment and computer security procedures, physical security plans, level of access of data and monitoring of different types of access.

The above points can be implemented for academic, corporate, special libraries and collections. They can be intended for libraries of all sizes, with all type of patrons, funding models and organized structures. The need of security should be of the same rate whether the data present is huge or small.

1. Information Security

Information security is not the same as that of the computer security. It is a part of the computer security. Computer security relates to securing computer systems against unwanted access and use; information security also includes issues such as information management, information privacy and data integrity. Having a proper security for all the data inside the library or else by having proper backups for all the data can do the information security. The physical integrity should also be well fit for a secure system. It can also be considered as the protection of data against accidental or intentional disclosure to unauthorized persons or unauthorized modifications and destructions. The holding of user name and a password as an important tool for securing data in a networked environment. This may be called to be as the Digital signature. It includes functions such as data integrity, authentication and non-repudiation. The security system is needed for the following reasons:

- Damage should be less. This is that the authorized person's carelessness may lead to the destruction of the whole setup or the destruction of a particular login
- There should be a confidential protection.
- Malicious damage should be prevented. some person who may have the authorization for the whole system may change or modify the performance which may lead to corruption or misleading of the system.

2. Data Security

The information stored in a computer system is more valuable than the equipment itself. The file information may be unique for a library and the information centre that created it. But the commercial hardware and software can be replaced or damaged by outside vendors. It is possible for the data to be either private to a particular user or be capable of being shares among a number of users in a way, which can be flexibly controlled. The operating system should provide various safe guards. They may be

- Granting a particular user permission to access the network
- Allowing the particular user to use it in restricted ways.
- Safety from accidental and malicious users.
- Safety from damages from the information centers.
- Privacy if needed with access by either the owner of the file or a specified user.
- Safety from malfunctioning.

3. Access Rights

All information networks allow establishing access rights to the network information. They differ in their degrees of sophistication and complexity. The access rights are based on two issues: one is keeping the people away from the data, and preventing errors that can occur when several people access the same data. Methods of ensuring data:

There are different types of attacks:

- a professional hacker with destructive mind could cause severe damage to a network.
- To come in lime light for recognition and appraise
- A company's competitor may cause such a attack

- In some cases it is noticed that the internal employees are also responsible for network attacks.

Thus the various attacks include interruption, interception and modification and fabrication. The security aspect can be done in two angles one is by logical access limit and other is the physical factor.

Some networks may posse's logical access to their system by using dial up capabilities, account numbers and other networking arrangements. Unfortunately this arrangement also creates security problems since they expose the system to unauthorized users. These unauthorized users may also be difficult to identify. There are various security measures and processes to be discussed they are as follows:

3.1 User account

The first level of network security is the use of user account to allow only authorized users access to the network. Without an account, an computer user can't log in and there by cannot use the network. Each user will be provided an User ID and a password. The user must enter them when he likes to log in. Some networks uses wildcards in the user ID. The problem here is that all the persons of the particular wild card has the same password. Because of the effectiveness of security system depends on the privacy of user password using wild card accounts defeat the purpose of using separate user accounts.

3.2 Intrusion detection system:

Intrusion detection system (IDS) is those systems, which tells about snooping element around the premises for security holes. It can be considered as proactive defense for damage prevention. It monitors network traffic or hosts access attempts. It notifies suspicious traffic or hosts access attempts. The notification is through alarming like bells. It prevents unauthorized accessing of data through intelligent surveillance, and intrusion and attack detection, inappropriate URL detection and blocking and alerting, logging and real time response.

3.3 Location based Network security solutions

It is a new approach to authentication that utilizes space geodetic methods to form a time dependant location signature that is virtually impossible to forge .It is service that restricts network access to unauthorized users who gain entry only from pre-authorized locations. This solution may be beneficial for those whose network security may benefit from a network access control mechanism featuring constantly varying location signature. Time and location signatures can generate one time security password that could be a helpful addition to network protection toolkits.

This system may avoid the interruption of various anonymous afforded persons. High valued networks can be benefited by this system.

3.4 Switches

A series of modules have been introduced by CISCO that integrate security into its catalyst 6500 series switches. It has a multi layer intelligent storage switching products for used in storage area network (SAN). It has high performance firewall, VPN, secured sockets and network analysis module into the core. These switches deliver a number of storage networking innovations to information customers and

will drive SAN consolidation, increase data availability and allow customer to be more efficiently manage their storage resources.

3.5 Firewalls

While considering a network there are some parts, which can be accessed by everyone and are some parts, which could not be accesses by the foreigners. When there is a huge rise in the demand of remote access there occurs a problem over the above said problem. An object called the firewall can do this. This can be explained as firewall is a security system that selectively denies all access to designated portions of the network, based on how the network is accesses. In library it acts as a separator between the intranet and the Internet.

3.6 Virtual private networks

Security experts say that WLAN can be allowed on the enterprise network if there is a VPN.VPN place authentication and encryption tools on the top of the WLANS. Preventing any unauthorized party from intercepting wireless traffic. It ensures that the person accessing the network is the right person with the proper access levels and provides integrity to a network connection.

4. Conclusion

As we all know that any kind of information is saved in computer for further use and in today's world the use of computer and network has been pervasive for the flow and access of data. Internet is being used for accessing the information from a remote computer system. But security is essential and many a tools and concepts are available with easy solutions. So it becomes necessary to be secure. In the coming time various new featured security means will be provided to secure the information network.

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