
Network Technology And Administration

Ch-5

Network Security , Internet Connection & Sharing

Index

- Network security
- Security paradigm
- CIA
- Policies, Standard, Procedures, Baseline
- Security Model
- Perimeter Security
- Security in Layers
- Security Wheel

➤ General Procedures:

- A) Security responsibility associated with NFIT information technology resources must be communicated to users.
- Location and identified of their unit computer support the Director / Manager for their division and the NFIT information security office.

➤ General Procedures:

B) Employee termination & Clearance :

The unit must establish a procedure to revoke or revise access right to NFIT resources immediately following any significant shift in job responsibilities.

C) Incident response :

Refer to NFIT 'S incident Response procedures for detailed guidance.

➤ General Procedures:

D) Investigation contact :

If anyone is contacted by a representative from an external law enforcement organization.

E) System / Management :

Specific computer system and network management details are noted in this section for implemented by the unit technical lead.

➤ General Procedures:

F) System & Network Performance Monitoring :

As part of its enterprise services and network management responsibilities , NFIT is responsible for providing scanning for malicious content.

➤ General Procedures:

G) Inspection of files and monitoring system and network usage :

A system administrator may access other files for the maintained of network and computer and storage system such as create backup copies of media.

- This monitoring includes all network based traffic , wireless traffic & NFIT System use.

➤ General Procedures:

H) Procedure for requesting new or extended network services :

The online user request from , “ Request for services ” web form should be used whenever possible as described in the previous section using email , fax or calling the helpdesk only backup alternatives.

I) Procedure for requesting networking policy exemptions :

➤ General Procedures:

J) Workstation Application Selection & Configuration :

While server are unique and have specific requirement based on function workstation should be as generic as possible with special administration being only with careful consideration of the appropriate academic or business need.

2 CIA Model :

- Confidentially Integrity Availability (CIA) information security means protecting information from unauthorized access , use , disclosure (leak) , damage , modification.
- Meaning and goal of all this term are protect your secret information from unauthorized person.

2 CIA Model :

- Government ,military ,financial institute,corpate institute,hospital & private business have confidential (secret) information about their employee, customer, product, research & finansialstatus.
- Information security has grown in resentary interfiled of in the field of computer network and database related application.

3 Security Police & Procedure :

- Security Police is document in this document security role are return .
- Security police is a guiding principle use to set security method in an organization.
- Procedure is a particular way of accomplish some thinking.
- In other word security procedures is step by step action to reach final state of security.

3 Security Police & Procedure :

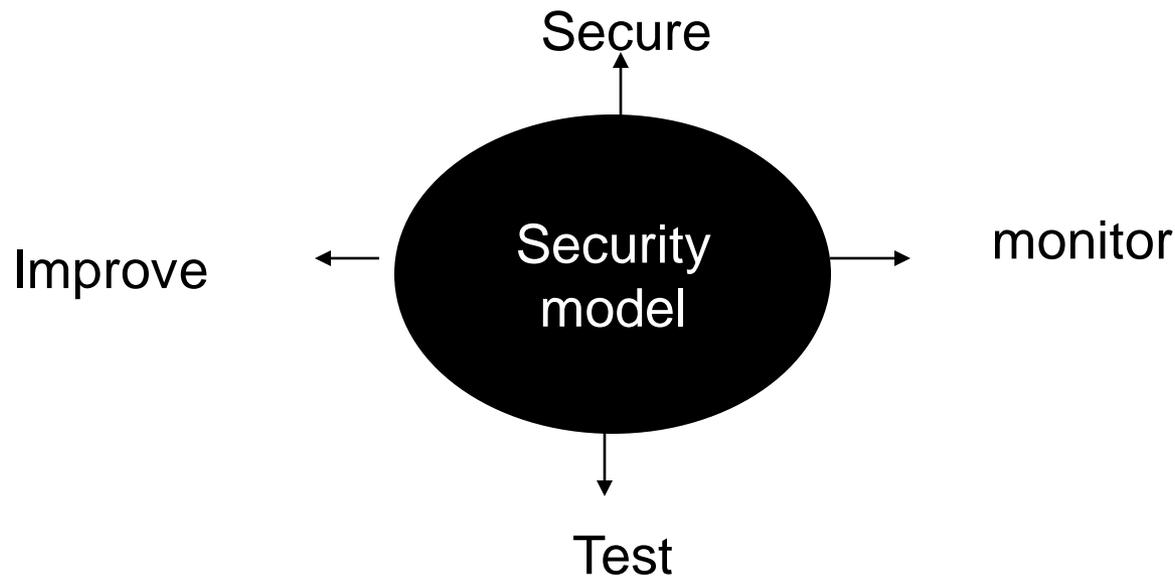
- Computer / program Access
- E-mail / computer Access
- Finance Plus
- School Plus
- Forgotten Password
- Guideline
- Network base lining

4 Security Model :

- Security model is formal description of security police.
- Security police means a document that explain how any particular organization will protect their secure information .

5 Security wheel :

- Network security wheel is methodology how the network security of an organization are maintain.



5 Security wheel :

- Network security is continues process means security engineer in any organization minted four step :
 - Secure
 - Monitor
 - Test
 - Mange & Improve

5 Security wheel :

- **Secure :**
- Secure is first step in which we implemented our security in particular organization through firewall, encryption.

5 Security wheel :

- **Monitor :**
- In this step we monitor our security means which type of security and at host state security are implemented .
- **Test :**
- This step where a security engineer or security specialist try to break their own security and check whether it work properly or not.

5 Security wheel :

- **Mange & Improve :**
- We can think this step as the continuation of the previous step.
- Once we find a something that employee productivity then we can improve it here.

- Basic of internet
- How internet is connect with computer
- Technology related internet
- VPN
- VPN Protocol
- Proxy server
- GPS , GPRS
- CCTV tech

➤ Basic Of Internet :

- The internet is worldwide telecommunication system that provides connectivity for millions of other , smaller networks therefore the internet is often referred to as a network of networks.
- The internet began in 1969 as the U.S Department of Defense Advanced Research Project Agency (ARPA) to provide immediate communication.

➤ Basic Of Internet :

- The internet acts as a pipeline to transport electronic messages from one network to another network.
- At the heart of most networks is a server a fast computer with large amounts of memory and large space.
- You can connect to the internet through telephone lines , cables modems , cellphones and other mobile devices.

➤ How Internet Connect To Computer :

- All modern computer and laptops are capable of connecting to the internet as are many other devices , including mobiles , tablets , e-reader ,televisions ,video games consoles.

➤ Technology related internet :

1) Dial up :

This type of internet connection is the most common way that individuals use to connect to the internet .

- In this type of connection , you can connect to the internet via a modem and regular telephone line.
- The major advantage of dial up connection is that it is less expensive as the dedicated connection.

➤ Technology related internet :

2) **Lease line** : In your computer needs to be connected to the internet all the time .

- Lease line come in various speeds.
- Leased line cost more than the dial up connection.

3) **ISDN** : Integrated Services Digital Network , is available from nearly all local telephone companies .

- ISDN is an upgrade phone line that can be used for faster internet access & for regular voice calls.

➤ **Technology related internet :**

- Using a single line of ISDN you can talk on phone while you are surfing on a web.
- ISDN is all digital which means that data does not have to be converted to an analog signal for transmission.

➤ VPN :

- VPN is a network that is constructed by using public wires usually the internet to connect to a private networks , such as a company `s internet networks.
- There are a number of system that enable you to create network using the internet as the medium for transporting data.
- VPN follows client and server.

VPN

- VPN client authenticate users , encrypt data and other wise manage session with VPN server utilizing a technique called tunneling.
- VPN users typically interact with simple graphical client programs.
- VPN servers can also connect directly to other VPN servers.
- There are Using Two Protocol On VPN :
 - PPTP
 - L2TP

- 1) **PPTP** : Point to Point Tunneling Protocol standards for traditional dial up networking.
 - PPTP is best suited for the remote access application of VPN ,but also supports LAN internetworking.
- 2) **L2TP** : Layer Two Tunneling Protocol is extension of the PPTP used by an ISP to an enable the operation of a VPN over the internet.

➤ Proxy Server :

- A proxy server is a computer that offers networks services to allow clients to make indirect network connection to other network services.
- A client connect to the proxy server , and then request a connection , file , or other resource available on a different server.
- The proxy may alter the client request or the server `s response for various purpose.

- **The Global Positioning System (GPS)** is a technical marvel made possible by a group of satellite in earth orbit that transmit precise signal , allowing GPS receiver to calculate and display accurate location , speed , and time information to the user.
- GPC receiver are able to convert location , speed , and time information into a useful display format.

➤ GPS :

- GPS was originally created by the United States Department Of Defense (DOD) as a military application.
- GPS has since become a multibillion dollar industry with a wide array of product , service and internet based utilities.
- GPS receivers are generally accurate within 15 meters , and newer models that use Wide Area Augmentation System (WAAS) signals are accurate within 3 meters.

➤ GPRS :

- GPRS (General Packet Radio Service) is a step between GSM & 3G cellular networks.
- GPRS offers faster data transmission via a GSM network within a range of 9.6kbps to 115kbps.
- This new technology makes it possible for a user to make a telephone call and transmit data at the same time.

➤ CCTV tech :

- CCTV (Closed Circuit Television) is a TV system in which signal are not publicly distributed but are monitored , primarily for surveillance and security purpose.
- CCTV relies on strategic placement of cameras and observation of the camera's input on monitor somewhere.

➤ CCTV tech :

- Because the cameras communicate with monitor and video recorders across private coaxial cable runs or wireless communication links they gain the destination “closed circuit” to indicate that access to their content is limited by design only to those able to see it.
- Older CCTV system used small , low resolution black and white monitors with no interactive capability.
- Modern CCTV display can be color ,high resolution display & zoom in image their features.