SYSTEM TECHNOLOGIES – Computer Management

Extend computer management issues regarding safeguarding against threats:

✓ **Threats**

  ✓ *Network vulnerability*

    ✓ *Virus, worm, Trojan, rootkit, spoofing, phishing*

✓ *Remedies*

  ✓ *Backup, UPS, passwords, rights, firewalls, anti-virus,*

                                    validation

SYSTEM TECHNOLOGIES – Computer Management

* **SAFETY AND SECURITY**
* *Network vulnerability*
  * *Virus*

    A computer virus is a program or piece of code that is loaded onto your computer without your knowledge and runs against your wishes. Viruses can also replicate themselves. All computer viruses are man-made. A simple virus that can make a copy of itself over and over again is relatively easy to produce. Even such a simple virus is dangerous because it will quickly use all available memory and bring the system to a halt.

  * *Worm*

    A program or algorithm that replicates itself over a computer network and usually performs malicious actions, such as using up the computer's resources and possibly shutting the system down. It cannot attach itself to other programs

SYSTEM TECHNOLOGIES – Computer Management

* *Network vulnerability*
    * *Trojan*

        A destructive program that masquerades as a benign application. Unlike viruses, Trojan horses do not replicate themselves but they can be just as destructive. Trojans can also create a backdoor that provides for unauthorised access to the computer.

    * *Rootkit*

        A rootkit is a type of malicious software that is activated each time your system boots up. Rootkits are difficult to detect because they are activated before your system's Operating System has completely booted up. Rootkits can install hidden applications, add hidden user accounts and intercept data from network connections.

education
Department: Education
GAUTENG PROVINCE

SYSTEM TECHNOLOGIES – Computer Management

* *Network vulnerability*

* *Spoofing*

    E-mail spoofing: Forging an e-mail header to make it appear as if it came from somewhere or someone other than the actual source.

    Website spoofing: Forging a website to make it appear as if it is the same as the target website.

    * *Phishing*

        An email that falsely claims to be a legitimate enterprise in an attempt to scam the user into surrendering private information to be used for identity theft.

SYSTEM TECHNOLOGIES – Computer Management

* *REMEDIES*
  * *Backup*

    To copy files to a second medium (a disk or tape) as a precaution in case the first medium fails. You can back up files using operating system commands, or you can buy a special-purpose backup utility. Backup programs often compress the data so that backups require fewer disks.

    Full backup *A complete backup of all the data.*

    Incremental backup *After the first full backup, only files that changed or new files are backed up.*

    Hot backup *A technique used in data storage and backup that enables a system to perform a routine backup of data, even if the data is being accessed by a user. Hot backups are a popular backup solution for multi-user systems as no downtime to perform the backup is required.*

    Remote backup *In storage terminology, a remote backup is an online managed backup service for backing up data to a remote, cloud-based server ("cloud backup").*

SYSTEM TECHNOLOGIES – Computer Management

* **REMEDIES**
* **UPS** *(uninterruptible power supply)*

    A power supply that includes a battery to maintain power in the event of a power outage. Typically, a UPS keeps a computer running for several minutes after a power outage, enabling you to save data that is in RAM and shut down the computer gracefully.

* **Passwords and rights**

    *If **user names** and **passwords** are authenticated by the server operating system, it allows access and applies the user's profile include security **rights**.*

    The user's security rights specifies the access the user has on the network resources.

* **Firewalls**

    Firewall systems prevent unauthorized access to or from a private network. Firewalls can be implemented in both hardware and software, or a combination of both.

SYSTEM TECHNOLOGIES – Computer Management

* **REMEDIES**

* *Anti virus*

    Virus protection software is designed to prevent viruses, worms and Trojan horses from getting into a computer as well as remove any malicious software code that has already infected a computer.

    Viruses are detected by locating the virus's signature code.

* *Validation*

    Verification that input is correct or conforms to a certain standard. It is the process of ensuring that the data that is entered falls within the accepted boundaries of the application collecting the data.

education
Department: Education
GAUTENG PROVINCE