

Abstract

Cyber Security and why we should be concerned

Over 60% of Personal Computers in India are vulnerable to various cyber-attacks. 18% routers, 17% phones 14% printers and 25% of the networks are prone to serious security breach. With the rapid growth of IoT (Internet of things) and smart home systems damages done by the Cyber espionage is becoming more serious day by day. So being aware of these kind of attacks and having preventative measure is always necessary. In this seminar we will see some typical attacks and methodology behind it and how can we prevent it.

To prevent unlawful cyber-attacks we need to have a full-proof system which is non-existent. Alternatively we can design a fully patched system which is patched against all known attacks. Not only that, the system should be updated regularly too. But a fully patched system cannot also guarantee that a negligence from human side will not compromise the whole system. A system is as secure as its weakest link. So to prevent these attacks at least some basic attack procedure and its prevention techniques should be known to all computer operator. If you want to prevent a Cyber-attack then you need to think like one of them. In this Report I tried to achieve that. I discussed four different kind of attacks.

1. Web Based : SQL Injection
2. Network Based: Man In The Middle Attack
3. Crypto Based: Padding Oracle attack
4. OS Based: Buffer Overflow

By discussing what is the vulnerability and how it is exploited and how can we prevent that we can have a better understanding of computer and network itself and can make it safe and risk free.

Subhajit Barh

Roll-18MA60R33