I.C.P.A.K ANNUAL FORENSIC AUDIT SEMINAR-

CYBER FRAUD

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EAST AFRICA

ELECTRONIC TRANSFERS

E - COMMERCE

THE DIGITAL GENERATION

- The internet in Kenya is growing rapidly. It has given rise to new opportunities in every field we can think of— be it politics-voting process, business processes and education. Tools include Computers and internet enabled devices such as mobile phones.
- Even dating and getting a wife and paying dowry

- The higher the levels of dependency and complexity of systems, the higher cyber frauds and complex the tools of a fraudster.

HOW DOES THE INTERNET WORK?

- Type URL :-www.kemu.com

.com-root server

- .Kemu-Name of the company

www-host name of the server

- URL loads using a certain path.

CYBER CRIMES

Defining Cyber Fraud

- Any embezzlement or defalcation accomplished by tampering with computer programs resulting in losses sustained by the organization, in which computer was manipulated.

- Specifically, cyber fraud involves the use of internet to perpetuate fraud.

CYBER FRAUD - REALITY IN KENYA

- Recognition of cyber fraud as one of the big five economic crimes in Kenya at 22% incidence reporting and what this means and why it could be higher- P.W.C economic crime report 2014.

- Victims in most cases do not know incidences of cyber fraud exe files, freeware, kindly sent a report.

- Cyber threat evolving with enhanced security mechanisms, and the changing face of social engineering

CHALLENGES IN THIS FIGHT

- Lack of traditional paper trails- error and event log trail.
- Require an understanding of technology used by the perpetrator.
- Technology of victim organization
- Specialized knowledge required
- Victim knowledge on what is happening it is not known

CATEGORIES OF CYBER CRIME

- We can categorize cyber crime in three ways:- from an investigative point of view
- The computer as a target :- Cyber fraud attacks target a computer e.g. Hacking, virus/worms attacks, Dos attack etc.
- The computer as a weapon :- using a computer to attack other computers or to commit real world crime e.g. credit card fraud and pornography etc.
- Computer as a symbol that lends credibility to the perpetrator.

- Cyber can also be used to modify and accelerate normal frauds; stealing of cash, gambling, robbery

- There those that depend wholly on the computer.

- Again, this is growing trend and it is surprising that authorities have not taken stern actions to curb the growth of these cyber-crimes.

- The police have recorded 3,038 cases but made only 2,700 arrests in 3 years (between 2007 and 2010)
- India registered only 1,350 cases under the IT Act and IPC in 2010
- 50% of cybercrimes are not even reported.

FREQUENTLY USED TECHNIQUES

Learning the target

- Name tags on officers; procedures of handling visitors;
- Social Engineering techniques such as confirmed M-pesa number;
- Sniffing packets and operating systems of victim-passwords;
- NMAP Port Scanning and response from network to initiate communication;
- Shoulder surfing; webpage error data; who is in find out.

WEB BASED EXPLOITS

- Hacking- Simple process of enumeration and Pen tests;
- URL Poisoning and web services query;
- WEB Poisoning and credit fraud; wrong passwords used.
- URL Exploits-wikileaks and D.P Ruto account;
- SQL Poisoning of the query machine; government hackers.

CONT'D OF ATTACKS

- HTTP mode; Cookies monitoring and review.

- Password crackers, random user password change and downloads;

- Remote Access Trojans :- exe, download latest, updates on Microsoft-complete charge of the system and install backdoors remotely.

-Hidden folders option

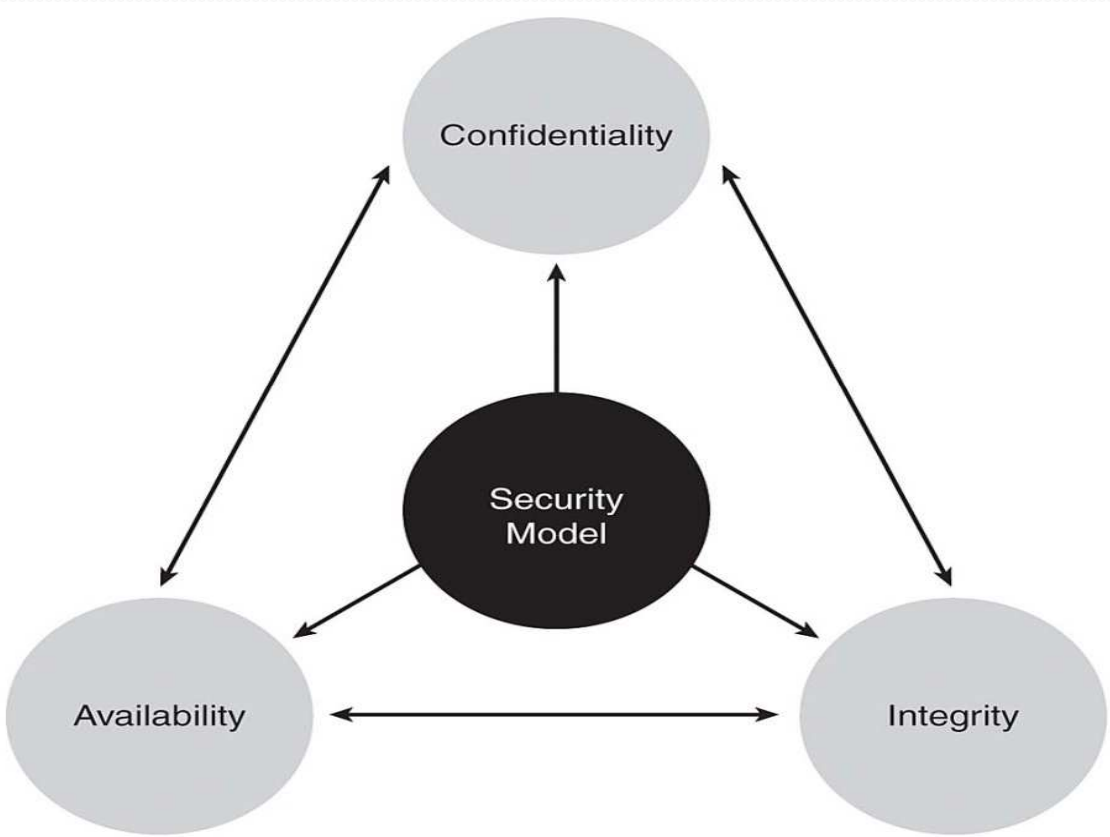
- Ping of death


CYBER
CRIMINAL

WHO IS DOING ALL THIS

- University Students for leisure and learning case of government exploit;
- Organized hacktivists
- Disgruntled employees
- Professional hackers
- Employees with sizeable experience and stay aaat the firm

COMPUTER SECURITY



HOW

- Continually evaluate IT Risks;
- Keep it Simple and prioritize resources based on sensitivity;
- Maintain and Review Logs
- Play victim and monitor access to critical information
- Do not lock out the attacker- use of honey pots and other mechanisms of detecting fraud as it occurs

COMPUTER SECURITY - TOOLS

- Proactive ICT Assessments
- Intrusions Detection Systems
- Proper Firewall Configuration
- Encryption of Data
- Use HTTPS for internet banking

CYBER LAWS

- Law governing cyber space; encompasses laws relating to:
  — Cyber Crimes and origin of IP

  — Intellectual Property

  — Data Protection and Privacy

- Intellectual property: it refers to legal concept which refers to creations of the mind for which exclusive rights are recognized.

- Data protection and privacy: it refers to effective legislation helps minimize monitoring by governments , regulate surveillance by information is properly protected.

HANDLING CYBER CRIME INCIDENCE

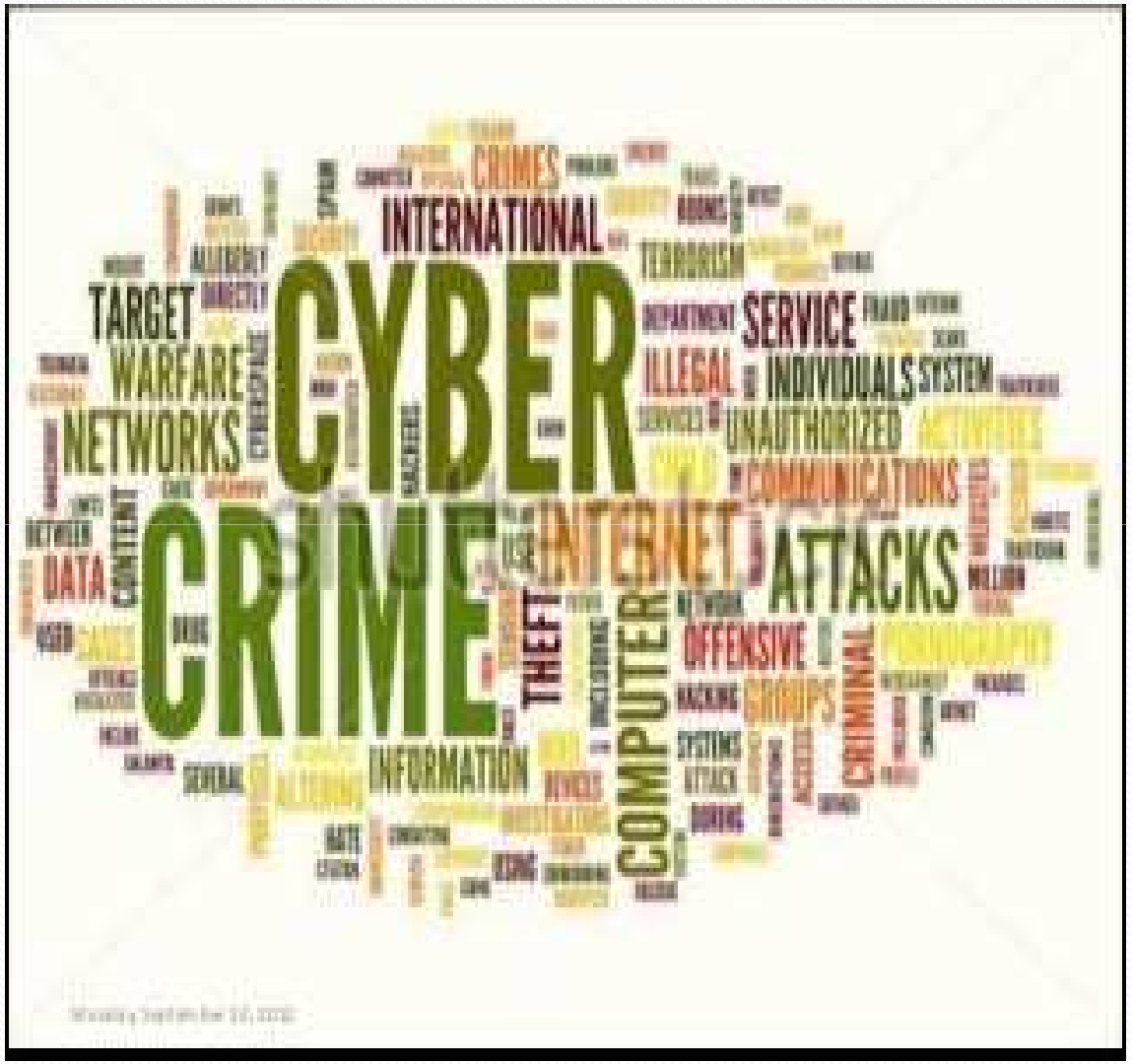
- Disable and log off a specific user account to prevent access;
- Preserve activity and event logs as much as possible;
- Disable and log off a group of user accounts which access a particular service that is being attacked;
- Disable and dismount specific (network) devices, for instance disk devices that are being swamped.

- Disable specific applications, for example, an e-mail system subjected to a SPAM attack.

- Close down an entire system, and divert processing to an alternative or backup service on a secondary network.

CONCLUSION

- As such, investigators will know what and which materials to search and seize, the electronic evidence to recover, and the chain of custody to maintain.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QUESTION AND ANSWER