BENCHMARK

Because the Internet is a Dangerous pla

the Internet is a Dangerous place Beca

net is a Dangerous place Because the In

WARNING!

Because The

Internet

is a

Dangerous

place

I-SECURIT

The Ultimate Network and Data Security Training System

*The total losses for 639 survey respondents came to just over $130 million**

And, that's just the figure for a random sample of 639 companies in one country. The total loss due to network security lapses probably cannot even be estimated. Moreover, these losses are not due to outright theft so much as a result of networks being compromised, DoS attacks, virus contamination and so on. All of which go to show that in today's world, computer networks and the information stored on them are under constant threat. Today, distributed computing is facing a growing number of network security threats that have, in the last few years, evolved in virulence and sophistication. The result? Governments, corporate entities and individuals are increasingly focusing on securing their IT assets. In addition, there are regulatory requirements for corporate entities to certify the confidentiality of customer information with them.

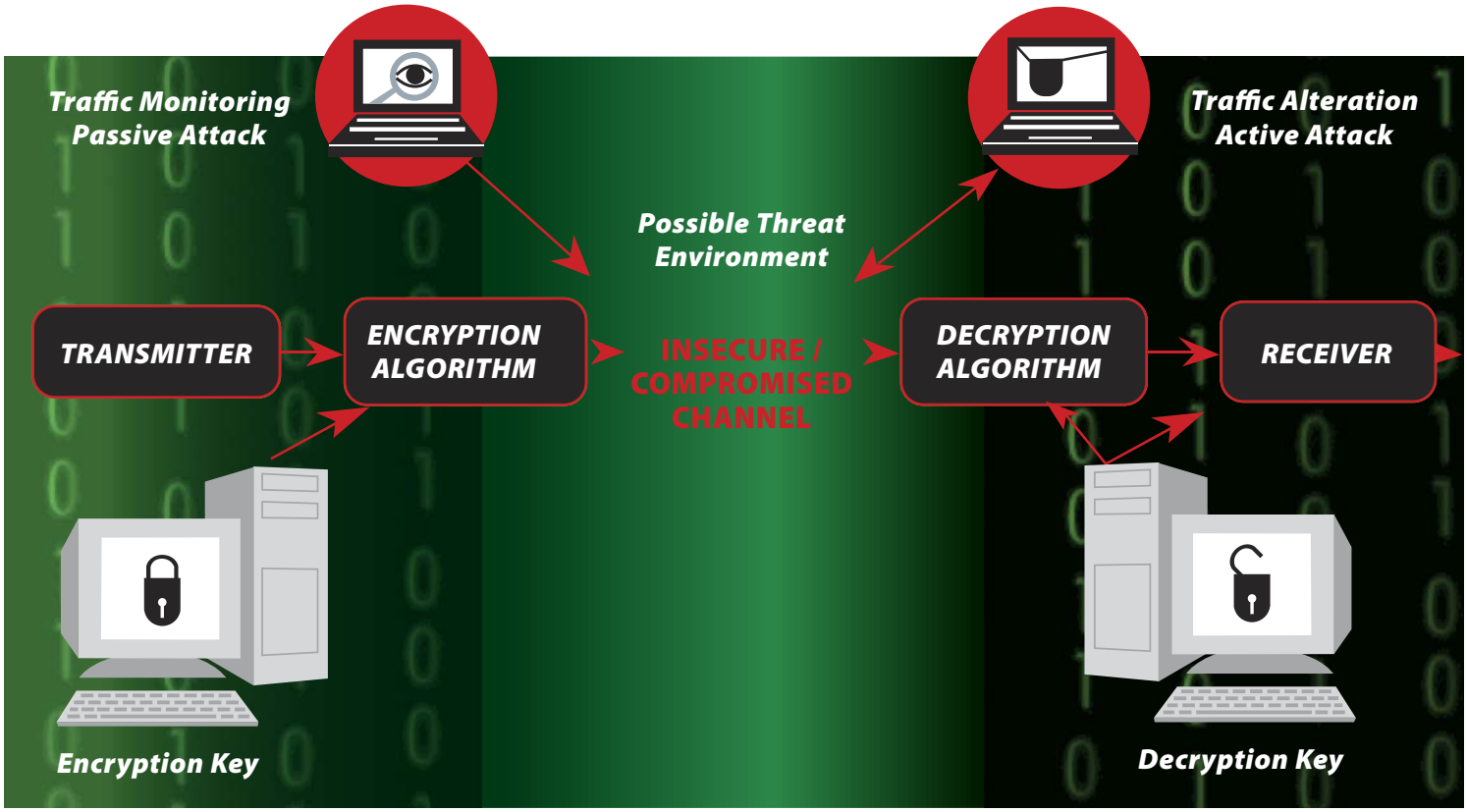
It is estimated that today, 13% of a company's IT budget is allocated for information security expenses – up from just 4% three years ago. However, the industry suffers from a lack of suitably trained network administrators to protect, detect and respond to network security threats. Moreover, the teaching community is constrained by the lack of a proper 'platform' which can create a real-life environment to work on network and data security issues.

** Source: CSI/FBI Computer Crime and Security Survey*

i-SECURIT – A ONE STOP SOLUTION

- Training for Network Administrators and Security Experts
- Emulates a real-life network to give hands on training on live security threats
- Complete courseware for classroom or self-paced learning

The Benchmark i-SECURIT is a network and data security training system, that has been jointly developed by Benchmark Electronic Systems and AU-KBC Research Centre, Anna University to educate and train users on different real world network security threats and data encryption methods



Innovative Design Allows Real Life Training

The Benchmark i-SECURIT is a complete system with two interconnected real life networks – the "Trusted Network" and the "Black Network". These networks are isolated from the real world i.e. any corporate or campus LAN and the Internet. The i-SECURIT Central Control Unit (CCU) runs the network services, administration and control methods. The Black Network users attempt to compromise the services by different attacks, such as Intrusions, Password Cracking, and Denial of Service. The trusted network users simultaneously work on, and are trained to deploy, suitable counter measures to keep network services running properly.

The Benchmark i-SECURIT covers a large gamut of network security threats and its users can obtain hands-on experience with a wide variety of network security issues and cryptography methods. The course design allows the learner to read about a concept, witness a demonstration and then actually practice its execution. This meets the study flow of beginners as well as industry professionals.

Through a single Benchmark i-SECURIT, you can connect up to 15 PCs, with one slot reserved for the network administrator, and can start working with as little as two to three PCs.

Developed with AU-KBC Research Centre, Anna University, Chennai

Courseware

Benchmark has worked with experts in the field of network security and cryptography to create comprehensive learning material for conducting complete network security courses. The course material has been presented by pedagogy experts for ease of learning and long term retention. Users can follow the theory and go through the exercises for a complete understanding of the concepts through self study. This also makes it ideal for user paced learning.

Training Design Approach

Benchmark i-SECURIT Experiment Topics are designed at three levels

Level I: Running Network Services
Network services to be run and procedures to be adopted are discussed.

Level II: Attack the Trusted Network and shut down the services
The methods used in attacking network services and shutting them down are explained in this level. The manual explains the same with step-by-step instructions.

Level III: Training on Network Security Counter Measures
The user is trained on Network administration and monitoring methods used to protect a network from the cyber attacks – as experienced in Level II – as well as on different techniques such as cryptography, honeypots, etc., to ensure data and information security.

EXPERIMENTS

Network Security Fundamentals – An Introduction

- Networking basics – Setting up and invoking network elements
- Ethics and Legality – Policy & practices that need to be followed in security practices including exploits, reporting methods, necessity of ethical hacking, social engineering practices, etc.

Network / System threats

- Denial of Service (DoS)
- Distributed Denial of Service (DDoS)
- Sniffing – Packet / Mail sniffing
- Spoofing – IP, MAC

Web Vulnerabilities

- Web based password capturing, SQL injection (injection discovery, form validations), Buffer overflow
- Honeypots – Active, anti-intrusion technique

Malware

- Trojans & Backdoors
- Virus & AV methods

Network Identification

- Enumeration – TCP ping, Ping sweep, ICMP ping, NULL Scan, Fast Scan, UDP port scan, Syn Stealth, Fin Stealth
- OS detection

Cryptography

- Symmetric encryption scheme, Stream Cipher – RC4
- Symmetric encryption scheme, Block Cipher – S-DES, 3-DES
- Asymmetric encryption scheme, Block Cipher – RSA
- Hashing scheme – MD5
- Block Cipher modes – ECB, CBC, CFB, OFB

Web services using crypto techniques

- PKI
- Authentication schemes – Different authentication schemes including password based authentication, IP Based Authentication and Challenge Handshake Authentication Protocol (CHAP)
- Steganography

Product Specifications

Central Control Unit (CCU)

- Network ports: 100Base-T ports – 2
  - One each to connect to switches of Trusted and Black networks
  - RJ45 interface, auto negotiating
- Remote login to configure the CCU
  Up to 14 user logins
- Power input: 220V AC, 50Hz

Ordering Information

i-SECURIT – Network and Data Security Training System, comprising:

- CCU – 1
- Manual (Technical manual and Experiment manual) – 1
- Network cable – 2

Note: Network cabling to be done by the client for the number of users intended

System Requirements

Minimum Setup:
No of PC's required: 3
Windows – 2 machines
Linux with FTP server – 1 machine

Full Setup:
No of PC's required: 14
Windows – 7 machines
Linux with FTP server – 1 machine
Windows / Linux – 6 machines

Windows system configuration: Windows 2000 with SP4 or Windows XP with SP2
Linux system configuration: Redhat Linux ver 7.3 or ver 9.0

Required Dependencies:
Java Runtime Environment ver 1.5 (or above), WinPCap (for Windows)
Wireshark
Internet Explorer 8.0 or above / Firefox 10 or above
Adobe Flash Player compatible with the specified browsers

FEATURES

- Single Trainer solution for practicing several different Network Security & Cryptography topics
- Comprehensive set of exercises for different security threats and attacks
  - System threats – Identification & hacking, Backdoors, Virus, Worms & Trojans
  - Web Vulnerabilities
  - Cryptography
  - Intrusion threats – Sniffing, Spoofing,SQL injection
- Central Control Unit (CCU) to control and emulate real life network under study
  - Remote login, Packet handling, routing, etc.
- Variable network size – up to 7 nodes in each network (Trusted and Black) can be controlled
- Comprehensive learning material written by experts and presented by pedagogy experts
- Instruction Manuals
  - Technical manual emphasizing practical aspects of network and information security. Can be used as reference and for self study
  - Experiment manual – Step-by-step instructions covering all levels of experiments

BENCHMARK
ELECTRONIC SYSTEMS
Benchmark Electronic Systems (P) Ltd.
#5C, East Ellaiamman Koil Street, Kottur, Chennai - 600 085, India
Phone: +91 44 2447 0014, 2447 0020 Fax: +91 44 2447 0077
e-mail: info@benchmarkgroup.com