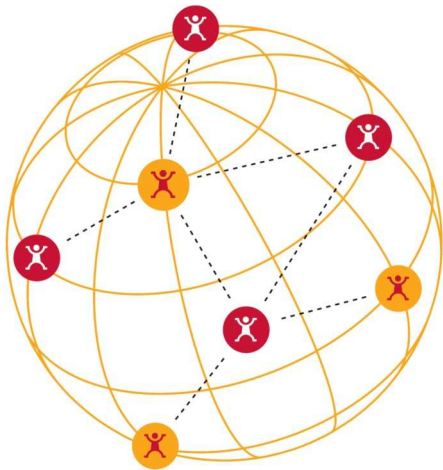


TRAINING PROGRAM OUTLINE



ENG-406E IP NETWORK SECURITY

DESCRIPTION

This 3-day training program will provide the participants with the tools required to implement security measures to Internet Protocol (IP) networks. Through the study of the various aspects of network security, the architecture considerations and technologies required to accomplish these tasks will be revealed.

Through practical hands-on activities, the participant will learn about different ways to provide added security to an IP network.

PREREQUISITE

To fully appreciate the contents of this Training Program, the participant should have attended the following Training Program or have acquired the equivalent experience in the subject matter:

- ENG-401E Introduction to Data Networks & TCP/IP



OBJECTIVES

At the end of this Training Program, the participant will be able to:

- Describe today's networking environment and its associated security challenges
- Identify the 5 technical and non-technical pillars of network security
- Structure a security policy and a network security process
- Provide an overview of cryptography
- Characterize the access control and authentication technologies
- Explain how to effectively add security to the network perimeter
- Define the strategies that must be adopted to enhance internal network security
- Present the available options to enhance the security of information travelling through the Internet

TOPICS

- Basic Principles
 - Today's networking environment
 - Security challenges, goals and requirements
 - Potential threats and attacks
 - The 5 technical and non-technical pillars of network security
 - The first step towards building a more secure network: establish a security policy
 - The next step towards building a more secure network: implement a continuous network security process
- Cryptography
 - The need for cryptography
 - Definitions
 - Symmetrical/asymmetrical encryption
 - Encryption modes
 - Encryption algorithms
 - Hashing



- Digital certificates
- Key management

- Access Control and Authentication, Authorization and Accounting (AAA) Technologies
 - Definitions
 - Access control and authentication methods and factors
 - Access control and authentication protocols: Password Authentication Protocol (PAP), Challenge-Handshake Authentication Protocol (CHAP), 802.1x, Extensible Authentication Protocol (EAP)
 - Server-based authentication protocols: Terminal Access Controller Access-Control System (TACACS) (+), RADIUS, DIAMETER
 - Token and upper-layer authentication: Internet Protocol Security (IPSec), Transport Layer Security (TLS)/ Secure Sockets Layer (SSL), Kerberos

- Perimeter Defense
 - The big picture: definition, methods and limitations/challenges
 - Firewalls and packet filters
 - Proxies
 - Network Address Translation (NAT)
 - Virtual Private Networks (VPN)

- Internal Defense
 - The big picture: definition, methods and limitations/challenges
 - Physical security
 - Internal network segmentation
 - User certificates
 - Intrusion detection and prevention
 - Malicious code detection and removal software
 - Deceptive countermeasures

- Enhancing Security over the Internet
 - Securing web traffic and remote connections
 - Securing e-mail traffic
 - Securing commercial transactions



TARGET AUDIENCE

- Technical personnel in engineering or operations interested in understanding how to enhance network security
- Technical managers or others looking to complement their skill-set by gaining a better understanding of network security

METHODOLOGY

Our Training Programs combine expert presentations, workshops, case studies, hands-on activities and discussions on real-life situations faced by participants. Complete training material is provided to all participants for future reference and follow-up action plans.

LOCATION

Our Training Programs are held at regular intervals in selected cities around the world. Upon request, our expert trainers can lead Training Programs at the location of your choice. If interested, please contact us at neotelis.training@neotelis.com.

EXPERTISE

Neotelis provides consulting and training services to organizations worldwide. Its team of experts has trained thousands of individuals in technical, managerial and executive roles, who are working for operators, regulators, policy-makers, governments and private sector corporations in over 100 countries around the world.

