

Course 758

Ensuring Data Security

(3 days)

Course Description

Of all the aspects of computer systems that need to be secured, the organization's data is second in importance behind the people who work in the organization. Each day new stories appear about personal credit card or other information being stolen or compromised. This course discusses the threats to the organization's data and the countermeasures to those threats. It also deals with the ongoing issue of ensuring data privacy to those who entrust the organization to keep their information from prying eyes.

Learning Objectives

- Understand the threat and countermeasure aspects of the security model
- Review the technology of data security and privacy
- Fashion creative ways of protecting the organization's data
- Examine the current trends in attacks against data security and privacy and the advances in data protection

Who should attend

Managers, technicians, developers, business people and anyone associated with the capture, storage and dissemination of data in the organization.

Prerequisites

A basic understanding of computer and database technology is required to understand some of the concepts advanced in this course.

See next page for a detailed course outline...



Course Outline

Unit 1 – The why, what and who of security

Language of security

- Why security
- Definition of computer security
- What are we protecting?
- Who are we protecting it from?

A security model

- Mainframe security
- Authenticity
- Integrity
- Privacy
- Availability

Methods

- Methods of Attack
- Stealing passwords
- Bugs and backdoors
- Protocol failures
- Information leakage
- Denial of service

The security policy

- Security policy
- Personal responsibility
- Internal policy
- External policy
- Acceptable Use Policy
- Privacy issues

Unit 2: Data Security

Data security issues

- Secure storage
- Secure exchange
- Secure access
- Secure passage
- Disaster security
- Secure data removal

Levels of data security

- Access
- Authentication
- Encryption

Threat model

- General Vulnerabilities
- Usual suspects
- The vortex point
- Hiding in wait



Examining the storage options

- Hierarchical and networked
- Relational
- Object-oriented
- Flat files and walk-away data
- Non-structured data

New software problems

- Scanning
- Steganography
- Content inspection
- More sophisticated brute force

The legal issues

Unit 3: Data Privacy

What is data privacy?

- Personal Privacy
- Organization privacy
- Attacks and countermeasures
- Encryption and cryptography

General software Principles

- Weaknesses in data access software
- The SQL issue

General storage principles

- Location of data
- Changing locations
- Schema weaknesses
- Aging data and archiving
- The data warehouse issue

Issues in data privacy

- Personal privacy
- Organizational privacy

Privacy statements

- Overall effect of privacy statements
- Legal issues

Unit 4: Data Integrity

Database integrity issues

- Modification
- Referential integrity

Information Assurance

- Availability
- Integrity
- Authentication
- Confidentiality
- Non-repudiation



Data integrity concerns

- Masquerade
- Attacks
- E-Mail
- Importing data

Countermeasures

- One-way hash
- Message digest
- Digital signature
- Public key cryptosystems

Unit 5: Directions in Data security

Common security standards (CDSA)

Embedding software

Monitoring flow

Dynamic isolation

Virtual Private networks

Unit 6: The Bottom Line

Last words

Where to look for more information

Please contact your ROI representative to discuss course tailoring!!!