condition.

The more primitive detection method involves gluing a thin strip of conducting foil on the inside of the glass and putting low-power electrical current through it. Breaking the glass is practically guaranteed to tear the foil and break the circuit.

Smoke, heat, and carbon monoxide detectors



#### Heat Detection System

Most systems may also be equipped with smoke, heat, and/or carbon monoxide detectors. These are also known as 24 hour zones (which are on at all times). Smoke detectors and heat detectors protect from the risk of fire and carbon monoxide detectors protect from the risk of carbon monoxide. Although an intruder alarm panel may also have these detectors connected, it may not meet all the local fire code requirements of a fire alarm system.

Other types of volumetric sensors could be:

Active Infrared
Passive Infrared/Microware combined
Radar
Accoustical Sensor/Audio
Vibration Sensor (seismic)
Air Turbulence

### **QUESTION 33**

Which of the following centralized access control mechanisms is the least appropriate for mobile workers accessing the corporate network over analog lines?

- A. TACACS
- B. Call-back
- C. CHAP
- D. RADIUS

## Correct Answer: B Explanation:

Call-back allows for a distant user connecting into a system to be called back at a number already listed in a database of trusted users. The disadvantage of this system is that the user must be at a fixed location whose phone number is known to the authentication server. Being mobile workers, users are accessing the system from multiple locations, making call-back inappropriate for them. Source: KRUTZ, Ronald L.& VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, John Wiley & Sons, 2001, Chapter 2: Access control systems (page 44).

QUESTION 34

In Synchronous dynamic password tokens:

- A. The token generates a new password value at fixed time intervals (this password could be based on the time of day encrypted with a secret key).
- B. The token generates a new non-unique password value at fixed time intervals (this password could be based on the time of day encrypted with a secret key).
- C. The unique password is not entered into a system or workstation along with an owner's PIN.
- D. The authentication entity in a system or workstation knows an owner's secret key and PIN, and the entity verifies that the entered password is invalid and that it was entered during the invalid time window.

## Correct Answer: A Explanation:

Synchronous dynamic password tokens:

- The token generates a new password value at fixed time intervals (this password could be the time of day encrypted with a secret key).
- The unique password is entered into a system or workstation along with an owner's PIN.
- The authentication entity in a system or workstation knows an owner's secret key and PIN, and the entity verifies that the entered password is valid and that it was entered during the valid time window.

Source: KRUTZ, Ronald L.& VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 37.

#### **QUESTION 35**

What would be the name of a Logical or Virtual Table dynamically generated to restrict the information a user can access in a database?

- A. Database Management system
- B. Database views
- C. Database security
- D. Database shadowing

## Correct Answer: B Explanation:

The Correct Answer: Database views; Database views are mechanisms that restrict access to the information that a user can access in a database

Source: KRUTZ, Ronald L.& VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 35.

Wikipedia has a detailed explantion as well:

In database theory, a view is a virtual or logical table composed of the result set of a query. Unlike ordinary tables (base tables) in a relational database, a view is not part of the physical schema: it is a dynamic, virtual table computed or collated from data in the database. Changing the data in a table alters the data shown in the view.

Views can provide advantages over tables;

They can subset the data contained in a table

They can join and simplify multiple tables into a single virtual table Views can act as aggregated tables, where aggregated data (sum, average etc.) are calculated and presented as part of the

data

Views can hide the complexity of data, for example a view could appear as Sales2000 or Sales2001, transparently partitioning the actual underlying table Views do not incur any extra storage overhead

Depending on the SQL engine used, views can provide extra security. Limit the exposure to which a table or tables are exposed to outer world

Just like functions (in programming) provide abstraction, views can be used to create abstraction. Also, just like functions, views can be nested, thus one view can aggregate data from other views. Without the use of views it would be much harder to normalise databases above second normal form. Views can make it easier to create lossless join decomposition.

#### **QUESTION 36**

Which of the following statements pertaining to Kerberos is TRUE?

- A. Kerberos does not address availability
- B. Kerberos does not address integrity
- C. Kerberos does not make use of Symmetric Keys
- D. Kerberos cannot address confidentiality of information

## Correct Answer: A Explanation:

The question was asking for a TRUE statement and the only correct statement is "Kerberos does not address availability".

Kerberos addresses the confidentiality and integrity of information. It does not directly address availability.

Source: KRUTZ, Ronald L.& VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, John Wiley & Sons, 2001, Chapter 2: Access control systems (page 42).

### **QUESTION 37**

A department manager has read access to the salaries of the employees in his/her department but not to the salaries of employees in other departments. A database security mechanism that enforces this policy would typically be said to provide which of the following?

- A. Content-dependent access control
- B. Context-dependent access control
- C. Least privileges access control
- D. Ownership-based access control

## Correct Answer: A Explanation:

When access control is based on the content of an object, it is considered to be content dependent access control.

Content-dependent access control is based on the content itself.

The following answers are incorrect:

context-dependent access control. Is incorrect because this type of control is based on what the context is, facts about the data rather than what the object contains.

least privileges access control. Is incorrect because this is based on the least amount of rights needed to perform their jobs and not based on what is contained in the database. ownership-based access control. Is incorrect because this is based on the owner of the data and and not based on what is contained in the database.

#### References:

OIG CBK Access Control (page 191)

### **QUESTION 38**

Which of the following is a trusted, third party authentication protocol that was developed under Project Athena at MIT?

- A. Kerberos
- B. SESAME
- C. KryptoKnight
- D. NetSP

# **Correct Answer:** A **Explanation:**

Kerberos is a trusted, third party authentication protocol that was developed under Project Athena at MIT.

Kerberos is a network authentication protocol. It is designed to provide strong authentication for client/server applications by using secret-key cryptography. A free implementation of this protocol is available from the Massachusetts Institute of Technology. Kerberos is available in many commercial products as well.

The Internet is an insecure place. Many of the protocols used in the Internet do not provide any security. Tools to "sniff" passwords off of the network are in common use by systems crackers. Thus, applications which send an unencrypted password over the network are extremely vulnerable. Worse yet, other client/server applications rely on the client program to be "honest" about the identity of the user who is using it. Other applications rely on the client to restrict its activities to those which it is allowed to do, with no other enforcement by the server.

Some sites attempt to use firewalls to solve their network security problems. Unfortunately, firewalls assume that "the bad guys" are on the outside, which is often a very bad assumption. Most of the really damaging incidents of computer crime are carried out by insiders. Firewalls also have a significant disadvantage in that they restrict how your users can use the Internet. (After all, firewalls are simply a less extreme example of the dictum that there is nothing more secure then a computer which is not connected to the network --- and powered off!) In many places, these restrictions are simply unrealistic and unacceptable.

Kerberos was created by MIT as a solution to these network security problems. The Kerberos protocol uses strong cryptography so that a client can prove its identity to a server (and vice versa) across an insecure network connection. After a client and server have used Kerberos to prove their identity, they can also encrypt all of their communications to assure privacy and data integrity as they go about their business.

Kerberos is freely available from MIT, under a copyright permission notice very similar to the one used for the BSD operating and X11 Windowing system. MIT provides Kerberos in source form, so that anyone who wishes to use it may look over the code for themselves and assure themselves that the code is trustworthy. In addition, for those who prefer to rely on a professional supported product, Kerberos is available as a product from many different vendors.

In summary, Kerberos is a solution to your network security problems. It provides the tools of authentication and strong cryptography over the network to help you secure your information systems across your entire enterprise. We hope you find Kerberos as useful as it has been to us. At MIT, Kerberos has been invaluable to our Information/Technology architecture.

KryptoKnight is a Peer to Peer authentication protocol incorporated into the NetSP product from IBM.

SESAME is an authentication and access control protocol, that also supports communication confidentiality and integrity. It provides public key based authentication along with the Kerberos style authentication, that uses symmetric key cryptography. Sesame supports the Kerberos protocol and adds some security extensions like public key based authentication and an ECMA-style Privilege Attribute Service. The complete Sesame protocol is a two step process. In the first step, the client successfully authenticates itself to the Authentication Server and obtains a ticket that can be presented to the Privilege Attribute Server. In the second step, the initiator obtains proof of his access rights in the form of Privilege Attributes Certificate (PAC). The PAC is a specific form of Access Control Certificate as defined in the ECMA-219 document. This document describes the extensions to Kerberos for public key based authentication as adopted in Sesame.

SESAME, KryptoKnight, and NetSP never took off and the protocols are no longer commonly used.

#### References:

http://www.cmf.nrl.navy.mil/CCS/people/kenh/kerberos-faq.html#whatis and Source: KRUTZ, Ronald L.& VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 40.

#### **QUESTION 39**

What can be defined as a table of subjects and objects indicating what actions individual subjects can take upon individual objects?

- A. A capacity table
- B. An access control list
- C. An access control matrix
- D. A capability table

# Correct Answer: C Explanation:

The matrix lists the users, groups and roles down the left side and the resources and functions across the top. The cells of the matrix can either indicate that access is allowed or indicate the type of access. CBK pp 317 - 318.

AlO3, p. 169 describes it as a table if subjects and objects specifying the access rights a certain subject possesses pertaining to specific objects. In either case, the matrix is a way of analyzing the access control needed by a population of subjects to a population of objects. This access control can be applied using rules, ACL's, capability tables, etc.

"A capacity table" is incorrect.

This answer is a trap for the unwary -- it sounds a little like "capability table" but is just there to distract you.

"An access control list" is incorrect.