

ISC2

Exam Questions SSCP

System Security Certified Practitioner (SSCP)



NEW QUESTION 1

- (Topic 1)

The Terminal Access Controller Access Control System (TACACS) employs which of the following?

- A. a user ID and static password for network access
- B. a user ID and dynamic password for network access
- C. a user ID and symmetric password for network access
- D. a user ID and asymmetric password for network access

Answer: A

Explanation:

For networked applications, the Terminal Access Controller Access Control System (TACACS) employs a user ID and a static password for network access.
Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 44.

NEW QUESTION 2

- (Topic 1)

Which type of password token involves time synchronization?

- A. Static password tokens
- B. Synchronous dynamic password tokens
- C. Asynchronous dynamic password tokens
- D. Challenge-response tokens

Answer: B

Explanation:

Synchronous dynamic password tokens generate a new unique password value at fixed time intervals, so the server and token need to be synchronized for the password to be accepted.
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 37).
Also check out: HARRIS, Shon, All-In-One CISSP Certification Exam Guide, McGraw- Hill/Osborne, 2002, chapter 4: Access Control (page 136).

NEW QUESTION 3

- (Topic 1)

Detective/Technical measures:

- A. include intrusion detection systems and automatically-generated violation reports from audit trail information.
- B. do not include intrusion detection systems and automatically-generated violation reports from audit trail information.
- C. include intrusion detection systems but do not include automatically-generated violation reports from audit trail information.
- D. include intrusion detection systems and customised-generated violation reports from audit trail information.

Answer: A

Explanation:

Detective/Technical measures include intrusion detection systems and automatically-generated violation reports from audit trail information. These reports can indicate variations from "normal" operation or detect known signatures of unauthorized access episodes. In order to limit the amount of audit information flagged and reported by automated violation analysis and reporting mechanisms, clipping levels can be set. Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 35.

NEW QUESTION 4

- (Topic 1)

Which is the last line of defense in a physical security sense?

- A. people
- B. interior barriers
- C. exterior barriers
- D. perimeter barriers

Answer: A

Explanation:

"Ultimately, people are the last line of defense for your company's assets" (Pastore & Dulaney, 2006, p. 529).
Pastore, M. and Dulaney, E. (2006). CompTIA Security+ study guide: Exam SY0-101. Indianapolis, IN: Sybex.

NEW QUESTION 5

- (Topic 1)

Physical security is accomplished through proper facility construction, fire and water protection, anti-theft mechanisms, intrusion detection systems, and security procedures that are adhered to and enforced. Which of the following is not a component that achieves this type of security?

- A. Administrative control mechanisms
- B. Integrity control mechanisms
- C. Technical control mechanisms
- D. Physical control mechanisms

Answer:

B

Explanation:

Integrity Controls Mechanisms are not part of physical security. All of the other detractors were correct this one was the wrong one that does not belong to Physical Security. Below you have more details extracted from the SearchSecurity web site: Information security depends on the security and management of the physical space in which computer systems operate. Domain 9 of the CISSP exam's Common Body of Knowledge addresses the challenges of securing the physical space, its systems and the people who work within it by use of administrative, technical and physical controls. The following QUESTION NO: s are covered:

Facilities management: The administrative processes that govern the maintenance and protection of the physical operations space, from site selection through emergency response.

Risks, issues and protection strategies: Risk identification and the selection of security protection components.

Perimeter security: Typical physical protection controls.

Facilities management

Facilities management is a complex component of corporate security that ranges from the planning of a secure physical site to the management of the physical information system environment. Facilities management responsibilities include site selection and physical security planning (i.e. facility construction, design and layout, fire and water damage protection, antitheft mechanisms, intrusion detection and security procedures.) Protections must extend to both people and assets. The necessary level of protection depends on the value of the assets and data. CISSP® candidates must learn the concept of critical-path analysis as a means of determining a component's business function criticality relative to the cost of operation and replacement. Furthermore, students need to gain an understanding of the optimal location and physical attributes of a secure facility. Among the QUESTION NO: s covered in this domain are site inspection, location, accessibility and obscurity, considering the area crime rate, and the likelihood of natural hazards such as floods or earthquakes.

This domain also covers the quality of construction material, such as its protective qualities and load capabilities, as well as how to lay out the structure to minimize risk of forcible entry and accidental damage. Regulatory compliance is also touched on, as is preferred proximity to civil protection services, such as fire and police stations. Attention is given to computer and equipment rooms, including their location, configuration (entrance/egress requirements) and their proximity to wiring distribution centers at the site.

Physical risks, issues and protection strategies

An overview of physical security risks includes risk of theft, service interruption, physical damage, compromised system integrity and unauthorized disclosure of information. Interruptions to business can manifest due to loss of power, services, telecommunications connectivity and water supply. These can also seriously compromise electronic security monitoring alarm/response devices. Backup options are also covered in this domain, as is a strategy for quantifying the risk exposure by simple formula.

Investment in preventive security can be costly. Appropriate redundancy of people skills, systems and infrastructure must be based on the criticality of the data and assets to be preserved. Therefore a strategy is presented that helps determine the selection of cost appropriate controls. Among the QUESTION NO: s covered in this domain are regulatory and legal requirements, common standard security protections such as locks and fences, and the importance of establishing service level agreements for maintenance and disaster support. Rounding out the optimization approach are simple calculations for determining mean time between failure and mean time to repair (used to estimate average equipment life expectancy) ?? essential for estimating the cost/benefit of purchasing and maintaining redundant equipment.

As the lifeblood of computer systems, special attention is placed on adequacy, quality and protection of power supplies. CISSP candidates need to understand power supply concepts and terminology, including those for quality (i.e. transient noise vs. clean power); types of interference (EMI and RFI); and types of interruptions such as power excess by spikes and surges, power loss by fault or blackout, and power degradation from sags and brownouts. A simple formula is presented for determining the total cost per hour for backup power. Proving power reliability through testing is recommended and the advantages of three power protection approaches are discussed (standby UPS, power line conditioners and backup sources) including minimum requirements for primary and alternate power provided.

Environmental controls are explored in this domain, including the value of positive pressure water drains and climate monitoring devices used to control temperature, humidity and reduce static electricity. Optimal temperatures and humidity settings are provided.

Recommendations include strict procedures during emergencies, preventing typical risks (such as blocked fans), and the use of antistatic armbands and hygrometers. Positive pressurization for proper ventilation and monitoring for air born contaminants is stressed.

The pros and cons of several detection response systems are deeply explored in this domain. The concept of combustion, the classes of fire and fire extinguisher ratings are detailed. Mechanisms behind smoke-activated, heat-activated and flame-activated devices and Automatic Dial-up alarms are covered, along with their advantages, costs and shortcomings. Types of fire sources are distinguished and the effectiveness of fire suppression methods for each is included. For instance, Halon and its approved replacements are covered, as are the advantages and the inherent risks to equipment of the use of water sprinklers.

Administrative controls

The physical security domain also deals with administrative controls applied to physical sites and assets. The need for skilled personnel, knowledge sharing between them, separation of duties, and appropriate oversight in the care and maintenance of equipment and environments is stressed. A list of management duties including hiring checks, employee maintenance activities and recommended termination procedures is offered. Emergency measures include accountability for evacuation and system shutdown procedures, integration with disaster and business continuity plans, assuring documented procedures are easily available during different types of emergencies, the scheduling of periodic equipment testing, administrative reviews of documentation, procedures and recovery plans, responsibilities delegation, and personnel training and drills.

Perimeter security

Domain nine also covers the devices and techniques used to control access to a space. These include access control devices, surveillance monitoring, intrusion detection and corrective actions. Specifications are provided for optimal external boundary protection, including fence heights and placement, and lighting placement and types. Selection of door types and lock characteristics are covered. Surveillance methods and intrusion-detection methods are explained, including the use of video monitoring, guards, dogs, proximity detection systems, photoelectric/photometric systems, wave pattern devices, passive infrared systems, and sound and motion detectors, and current flow sensitivity devices that specifically address computer theft. Room lock types ?? both preset and cipher locks (and their variations) -- device locks, such as portable laptop locks, lockable server bays, switch control locks and slot locks, port controls, peripheral switch controls and cable trap locks are also covered. Personal access control methods used to identify authorized users for site entry are covered at length, noting social engineering risks such as piggybacking. Wireless proximity devices, both user access and system sensing readers are covered (i.e. transponder based, passive devices and field powered devices) in this domain.

Now that you've been introduced to the key concepts of Domain 9, watch the Domain 9, Physical Security video

Return to the CISSP Essentials Security School main page

See all SearchSecurity.com's resources on CISSP certification training Source: HARRIS, Shon, All-In-One CISSP Certification Exam Guide, McGraw-Hill/Osborne, 2001, Page 280.

NEW QUESTION 6

- (Topic 1)

A potential problem related to the physical installation of the Iris Scanner in regards to the usage of the iris pattern within a biometric system is:

- A. concern that the laser beam may cause eye damage
- B. the iris pattern changes as a person grows older.
- C. there is a relatively high rate of false accepts.
- D. the optical unit must be positioned so that the sun does not shine into the aperture.

Answer: D

Explanation:

Because the optical unit utilizes a camera and infrared light to create the images, sun light can impact the aperture so it must not be positioned in direct light of any type. Because the subject does not need to have direct contact with the optical reader, direct light can impact the reader.

An Iris recognition is a form of biometrics that is based on the uniqueness of a subject's iris. A camera like device records the patterns of the iris creating what is known as Iriscode.

It is the unique patterns of the iris that allow it to be one of the most accurate forms of biometric identification of an individual. Unlike other types of biometrics, the iris rarely changes over time. Fingerprints can change over time due to scaring and manual labor, voice patterns can change due to a variety of causes, hand geometry can also change as well. But barring surgery or an accident it is not usual for an iris to change. The subject has a high-resolution image taken of their iris and this is then converted to Iriscode. The current standard for the Iriscode was developed by John Daugman. When the subject attempts to be authenticated an infrared light is used to capture the iris image and this image is then compared to the Iriscode. If there is a match the subject's identity is confirmed. The subject does not need to have direct contact with the optical reader so it is a less invasive means of authentication then retinal scanning would be.

Reference(s) used for this question: AIO, 3rd edition, Access Control, p 134. AIO, 4th edition, Access Control, p 182.

Wikipedia - http://en.wikipedia.org/wiki/Iris_recognition The following answers are incorrect:

concern that the laser beam may cause eye damage. The optical readers do not use laser so, concern that the laser beam may cause eye damage is not an issue. the iris pattern changes as a person grows older. The question asked about the physical installation of the scanner, so this was not the best answer. If the question would have been about long term problems then it could have been the best choice. Recent research has shown that Irises actually do change over time:

<http://www.nature.com/news/ageing-eyes-hinder-biometric-scans-1.10722>

there is a relatively high rate of false accepts. Since the advent of the Iriscode there is a very low rate of false accepts, in fact the algorithm used has never had a false match. This all depends on the quality of the equipment used but because of the uniqueness of the iris even when comparing identical twins, iris patterns are unique.

NEW QUESTION 7

- (Topic 1)

Which of following is not a service provided by AAA servers (Radius, TACACS and DIAMETER)?

- A. Authentication
- B. Administration
- C. Accounting
- D. Authorization

Answer: B

Explanation:

Radius, TACACS and DIAMETER are classified as authentication, authorization, and accounting (AAA) servers.

Source: TIPTON, Harold F. & KRAUSE, MICKI, Information Security Management Handbook, 4th Edition, Volume 2, 2001, CRC Press, NY, Page 33.

also see:

The term "AAA" is often used, describing cornerstone concepts [of the AIC triad] Authentication, Authorization, and Accountability. Left out of the AAA acronym is Identification which is required before the three "A's" can follow. Identity is a claim, Authentication proves an identity, Authorization describes the action you can perform on a system once you have been identified and authenticated, and accountability holds users accountable for their actions.

Reference: CISSP Study Guide, Conrad Misenar, Feldman p. 10-11, (c) 2010 Elsevier.

NEW QUESTION 8

- (Topic 1)

Which of the following biometric characteristics cannot be used to uniquely authenticate an individual's identity?

- A. Retina scans
- B. Iris scans
- C. Palm scans
- D. Skin scans

Answer: D

Explanation:

The following are typical biometric characteristics that are used to uniquely authenticate an individual's identity:

Fingerprints Retina scans Iris scans Facial scans Palm scans Hand geometry Voice

Handwritten signature dynamics

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 39.

And: HARRIS, Shon, All-In-One CISSP Certification Exam Guide, McGraw-Hill/Osborne, 2002, chapter 4: Access Control (pages 127-131).

NEW QUESTION 9

- (Topic 1)

To control access by a subject (an active entity such as individual or process) to an object (a passive entity such as a file) involves setting up:

- A. Access Rules
- B. Access Matrix
- C. Identification controls
- D. Access terminal

Answer: A

Explanation:

Controlling access by a subject (an active entity such as individual or process) to an object (a passive entity such as a file) involves setting up access rules.

These rules can be classified into three access control models: Mandatory, Discretionary, and Non-Discretionary.

An access matrix is one of the means used to implement access control.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 33.

NEW QUESTION 10

- (Topic 1)

Which of the following would be used to implement Mandatory Access Control (MAC)?

- A. Clark-Wilson Access Control
- B. Role-based access control
- C. Lattice-based access control
- D. User dictated access control

Answer: C

Explanation:

The lattice is a mechanism use to implement Mandatory Access Control (MAC)

Under Mandatory Access Control (MAC) you have: Mandatory Access Control

Under Non Discretionary Access Control (NDAC) you have: Rule-Based Access Control
Role-Based Access Control

Under Discretionary Access Control (DAC) you have: Discretionary Access Control

The Lattice Based Access Control is a type of access control used to implement other access control method. A lattice is an ordered list of elements that has a least upper bound and a most lower bound. The lattice can be used for MAC, DAC, Integrity level, File Permission, and more

For example in the case of MAC, if we look at common government classifications, we have the following:

TOP SECRET

SECRET -----I am the user at secret CONFIDENTIAL

SENSITIVE BUT UNCLASSIFIED UNCLASSIFIED

If you look at the diagram above where I am a user at SECRET it means that I can access document at lower classification but not document at TOP SECRET.

The lattice is a list of ORDERED ELEMENT, in this case the ordered elements are classification levels. My least upper bound is SECRET and my most lower bound is UNCLASSIFIED.

However the lattice could also be used for Integrity Levels such as: VERY HIGH

HIGH

MEDIUM -----I am a user, process, application at the medium level LOW

VERY LOW

In the case of of Integrity levels you have to think about TRUST. Of course if I take for example the the VISTA operating system which is based on Biba then Integrity Levels would be used. As a user having access to the system I cannot tell a process running with administrative privilege what to do. Else any users on the system could take control of the system by getting highly privilege process to do things on their behalf. So no read down would be allowed in this case and this is an example of the Biba model.

Last but not least the lattice could be use for file permissions: RWX

RW -----User at this level

R

If I am a user with READ and WRITE (RW) access privilege then I cannot execute the file

because I do not have execute permission which is the X under linux and UNIX.

Many people confuse the Lattice Model and many books says MAC = LATTICE, however the lattice can be use for other purposes.

There is also Role Based Access Control (RBAC) that exists out there. It COULD be used to simulate MAC but it is not MAC as it does not make use of Label on objects indicating sensitivity and categories. MAC also require a clearance that dominates the object.

You can get more info about RBAC at:<http://csrc.nist.gov/groups/SNS/rbac/faq.html#03> Also note that many book uses the same acronym for Role Based Access Control and Rule

Based Access Control which is RBAC, this can be confusing.

The proper way of writing the acronym for Rule Based Access Control is RuBAC, unfortunately it is not commonly used.

References:

There is a great article on technet that talks about the lattice in VISTA: <http://blogs.technet.com/b/steriley/archive/2006/07/21/442870.aspx>

also see:

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 33).

and

http://www.microsoft-watch.com/content/vista/gaging_vistas_integrity.html

NEW QUESTION 10

- (Topic 1)

Which of the following access control techniques best gives the security officers the ability to specify and enforce enterprise-specific security policies in a way that maps naturally to an organization's structure?

- A. Access control lists
- B. Discretionary access control
- C. Role-based access control
- D. Non-mandatory access control

Answer: C

Explanation:

Role-based access control (RBAC) gives the security officers the ability to specify and enforce enterprise-specific security policies in a way that maps naturally to an organization's structure. Each user is assigned one or more roles, and each role is assigned one or more privileges that are given to users in that role. An access control list (ACL) is a table that tells a system which access rights each user has to a particular system object. With discretionary access control, administration is decentralized and owners of resources control other users' access. Non-mandatory access control is not a defined access control technique.

Source: ANDRESS, Mandy, Exam Cram CISSP, Coriolis, 2001, Chapter 2: Access Control Systems and Methodology (page 9).

NEW QUESTION 15

- (Topic 1)

What does the (star) property mean in the Bell-LaPadula model?

- A. No write up
- B. No read up
- C. No write down
- D. No read down

Answer: C

Explanation:

The (star) property of the Bell-LaPadula access control model states that writing of information by a subject at a higher level of sensitivity to an object at a lower level of sensitivity is not permitted (no write down).
Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, John Wiley & Sons, 2001, Chapter 5: Security Architectures and Models (page 202).
Also check out: HARRIS, Shon, All-In-One CISSP Certification Exam Guide, McGraw- Hill/Osborne, 2002, Chapter 5: Security Models and Architecture (page 242, 243).

NEW QUESTION 17

- (Topic 1)

Which of the following questions is less likely to help in assessing identification and authentication controls?

- A. Is a current list maintained and approved of authorized users and their access?
- B. Are passwords changed at least every ninety days or earlier if needed?
- C. Are inactive user identifications disabled after a specified period of time?
- D. Is there a process for reporting incidents?

Answer: D

Explanation:

Identification and authentication is a technical measure that prevents unauthorized people (or unauthorized processes) from entering an IT system. Access control usually requires that the system be able to identify and differentiate among users. Reporting incidents is more related to incident response capability (operational control) than to identification and authentication (technical control).

Source: SWANSON, Marianne, NIST Special Publication 800-26, Security Self- Assessment Guide for Information Technology Systems, November 2001 (Pages A-30 to A-32).

NEW QUESTION 18

- (Topic 1)

What is the most critical characteristic of a biometric identifying system?

- A. Perceived intrusiveness
- B. Storage requirements
- C. Accuracy
- D. Scalability

Answer: C

Explanation:

Accuracy is the most critical characteristic of a biometric identifying verification system.

Accuracy is measured in terms of false rejection rate (FRR, or type I errors) and false acceptance rate (FAR or type II errors).

The Crossover Error Rate (CER) is the point at which the FRR equals the FAR and has become the most important measure of biometric system accuracy.

Source: TIPTON, Harold F. & KRAUSE, Micki, Information Security Management Handbook, 4th edition (volume 1), 2000, CRC Press, Chapter 1, Biometric Identification (page 9).

NEW QUESTION 19

- (Topic 1)

In biometrics, the "one-to-one" search used to verify claim to an identity made by a person is considered:

- A. Authentication
- B. Identification
- C. Auditing
- D. Authorization

Answer: A

Explanation:

Biometric devices can be use for either IDENTIFICATION or AUTHENTICATION

ONE TO ONE is for AUTHENTICATION

This means that you as a user would provide some biometric credential such as your fingerprint. Then they will compare the template that you have provided with the one stored in the Database. If the two are exactly the same that prove that you are who you pretend to be.

ONE TO MANY is for IDENTIFICATION

A good example of this would be within airport. Many airports today have facial recognition cameras, as you walk through the airport it will take a picture of your face and then compare the template (your face) with a database full of templates and see if there is a match between your template and the ones stored in the Database. This is for IDENTIFICATION of a person.

Some additional clarification or comments that might be helpful are: Biometrics establish authentication using specific information and comparing results to expected data. It does not perform well for identification purposes such as scanning for a person's face in a moving crowd for example.

Identification methods could include: username, user ID, account number, PIN, certificate, token, smart card, biometric device or badge.

Auditing is a process of logging or tracking what was done after the identity and authentication process is completed.

Authorization is the rights the subject is given and is performed after the identity is established.

Reference OIG (2007) p148, 167

Authentication in biometrics is a "one-to-one" search to verify claim to an identity made by a person.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 38.

NEW QUESTION 24

- (Topic 1)

In discretionary access environments, which of the following entities is authorized to grant information access to other people?

- A. Manager
- B. Group Leader

- C. Security Manager
- D. Data Owner

Answer: D

Explanation:

In Discretionary Access Control (DAC) environments, the user who creates a file is also considered the owner and has full control over the file including the ability to set permissions for that file.

The following answers are incorrect:

manager. Is incorrect because in Discretionary Access Control (DAC) environments it is the owner/user that is authorized to grant information access to other people.

group leader. Is incorrect because in Discretionary Access Control (DAC) environments it is the owner/user that is authorized to grant information access to other people.

security manager. Is incorrect because in Discretionary Access Control (DAC) environments it is the owner/user that is authorized to grant information access to other people.

IMPORTANT NOTE:

The term Data Owner is also used within Classifications as well. Under the subject of classification the Data Owner is a person from management who has been entrusted with a data set that belongs to the company. For example it could be the Chief Financial Officer (CFO) who is entrusted with all of the financial data for a company. As such the CFO would determine the classification of the financial data and who can access as well. The Data Owner would then tell the Data Custodian (a technical person) what the classification and need to know is on the specific set of data.

The term Data Owner under DAC simply means whoever created the file and as the creator of the file the owner has full access and can grant access to other subjects based on their identity.

NEW QUESTION 25

- (Topic 1)

Which one of the following authentication mechanisms creates a problem for mobile users?

- A. Mechanisms based on IP addresses
- B. Mechanism with reusable passwords
- C. one-time password mechanism.
- D. challenge response mechanism.

Answer: A

Explanation:

Anything based on a fixed IP address would be a problem for mobile users because their location and its associated IP address can change from one time to the next. Many providers will assign a new IP every time the device would be restarted. For example an insurance adjuster using a laptop to file claims online. He goes to a different client each time and the address changes every time he connects to the ISP.

NOTE FROM CLEMENT:

The term MOBILE in this case is synonymous with Road Warriors where a user is constantly traveling and changing location. With smartphone today that may not be an issue but it would be an issue for laptops or WIFI tablets. Within a carrier network the IP will tend to be the same and would change rarely. So this question is more applicable to devices that are not cellular devices but in some cases this issue could affect cellular devices as well.

The following answers are incorrect:

mechanism with reusable password. This is incorrect because reusable password mechanism would not present a problem for mobile users. They are the least secure and change only at specific interval.

one-time password mechanism. This is incorrect because a one-time password mechanism would not present a problem for mobile users. Many are based on a clock and not on the IP address of the user.

challenge response mechanism. This is incorrect because challenge response mechanism would not present a problem for mobile users.

NEW QUESTION 30

- (Topic 1)

Which of the following access control models is based on sensitivity labels?

- A. Discretionary access control
- B. Mandatory access control
- C. Rule-based access control
- D. Role-based access control

Answer: B

Explanation:

Access decisions are made based on the clearance of the subject and the sensitivity label of the object.

Example: Eve has a "Secret" security clearance and is able to access the "Mugwump Missile Design Profile" because its sensitivity label is "Secret." She is denied access to the "Presidential Toilet Tissue Formula" because its sensitivity label is "Top Secret."

The other answers are not correct because:

Discretionary Access Control is incorrect because in DAC access to data is determined by the data owner. For example, Joe owns the "Secret Chili Recipe" and grants read access to Charles.

Role Based Access Control is incorrect because in RBAC access decisions are made based on the role held by the user. For example, Jane has the role "Auditor" and that role includes read permission on the "System Audit Log."

Rule Based Access Control is incorrect because it is a form of MAC. A good example would be a Firewall where rules are defined and apply to anyone connecting through the firewall.

References:

All in One third edition, page 164. Official ISC2 Guide page 187.

NEW QUESTION 33

- (Topic 1)

Logical or technical controls involve the restriction of access to systems and the protection of information. Which of the following statements pertaining to these types of controls is correct?

- A. Examples of these types of controls include policies and procedures, security awareness training, background checks, work habit checks but do not include a review of vacation history, and also do not include increased supervision.
- B. Examples of these types of controls do not include encryption, smart cards, access lists, and transmission protocols.
- C. Examples of these types of controls are encryption, smart cards, access lists, and transmission protocols.
- D. Examples of these types of controls include policies and procedures, security awareness training, background checks, work habit checks, a review of vacation history, and increased supervision.

Answer: C

Explanation:

Logical or technical controls involve the restriction of access to systems and the protection of information. Examples of these types of controls are encryption, smart cards, access lists, and transmission protocols.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 33.

NEW QUESTION 37

- (Topic 1)

Which of the following is most relevant to determining the maximum effective cost of access control?

- A. the value of information that is protected
- B. management's perceptions regarding data importance
- C. budget planning related to base versus incremental spending.
- D. the cost to replace lost data

Answer: A

Explanation:

The cost of access control must be commensurate with the value of the information that is being protected.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 49.

NEW QUESTION 41

- (Topic 1)

Which access control type has a central authority that determine to what objects the subjects have access to and it is based on role or on the organizational security policy?

- A. Mandatory Access Control
- B. Discretionary Access Control
- C. Non-Discretionary Access Control
- D. Rule-based Access control

Answer: C

Explanation:

Non Discretionary Access Control include Role Based Access Control (RBAC) and Rule Based Access Control (RBAC or RuBAC). RABC being a subset of NDAC, it was easy to eliminate RBAC as it was covered under NDAC already.

Some people think that RBAC is synonymous with NDAC but RuBAC would also fall into this category.

Discretionary Access control is for environment with very low level of security. There is no control on the dissemination of the information. A user who has access to a file can copy the file or further share it with other users.

Rule Based Access Control is when you have ONE set of rules applied uniformly to all users. A good example would be a firewall at the edge of your network. A single rule based is applied against any packets received from the internet.

Mandatory Access Control is a very rigid type of access control. The subject must dominate the object and the subject must have a Need To Know to access the information. Objects have labels that indicate the sensitivity (classification) and there is also categories to enforce the Need To Know (NTK).

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 33.

NEW QUESTION 45

- (Topic 1)

The control measures that are intended to reveal the violations of security policy using software and hardware are associated with:

- A. Preventive/physical
- B. Detective/technical
- C. Detective/physical
- D. Detective/administrative

Answer: B

Explanation:

The detective/technical control measures are intended to reveal the violations of security policy using technical means.

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

NEW QUESTION 46

- (Topic 1)

Which of the following describes the major disadvantage of many Single Sign-On (SSO) implementations?

- A. Once an individual obtains access to the system through the initial log-on, they have access to all resources within the environment that the account has access to.
- B. The initial logon process is cumbersome to discourage potential intruders.
- C. Once a user obtains access to the system through the initial log-on, they only need to logon to some applications.
- D. Once a user obtains access to the system through the initial log-on, he has to logout from all other systems

Answer: A

Explanation:

Single Sign-On is a distributed Access Control methodology where an individual only has to authenticate once and would have access to all primary and secondary network domains. The individual would not be required to re-authenticate when they needed additional resources. The security issue that this creates is if a fraudster is able to compromise those credentials they too would have access to all the resources that account has access to. All the other answers are incorrect as they are distractors.

NEW QUESTION 51

- (Topic 1)

Which security model is based on the military classification of data and people with clearances?

- A. Brewer-Nash model
- B. Clark-Wilson model
- C. Bell-LaPadula model
- D. Biba model

Answer: C

Explanation:

The Bell-LaPadula model is a confidentiality model for information security based on the military classification of data, on people with clearances and data with a classification or sensitivity model. The Biba, Clark-Wilson and Brewer-Nash models are concerned with integrity. Source: HARE, Chris, Security Architecture and Models, Area 6 CISSP Open Study Guide, January 2002.

NEW QUESTION 52

- (Topic 1)

Which of the following would constitute the best example of a password to use for access to a system by a network administrator?

- A. holiday
- B. Christmas12
- C. Jenny
- D. GyN19Za!

Answer: D

Explanation:

GyN19Za! would be the best answer because it contains a mixture of upper and lower case characters, alphabetic and numeric characters, and a special character making it less vulnerable to password attacks.

All of the other answers are incorrect because they are vulnerable to brute force or dictionary attacks. Passwords should not be common words or names. The addition of a number to the end of a common word only marginally strengthens it because a common password attack would also check combinations of words: Christmas23 Christmas123 etc...

NEW QUESTION 56

- (Topic 1)

Which of the following is not a physical control for physical security?

- A. lighting
- B. fences
- C. training
- D. facility construction materials

Answer: C

Explanation:

Some physical controls include fences, lights, locks, and facility construction materials. Some administrative controls include facility selection and construction, facility management, personnel controls, training, and emergency response and procedures.

From: HARRIS, Shon, All-In-One CISSP Certification Exam Guide, McGraw-Hill/Osborne, 3rd. Ed., Chapter 6, page 403.

NEW QUESTION 57

- (Topic 1)

Pin, Password, Passphrases, Tokens, smart cards, and biometric devices are all items that can be used for Authentication. When one of these items listed above in conjunction with a second factor to validate authentication, it provides robust authentication of the individual by practicing which of the following?

- A. Multi-party authentication
- B. Two-factor authentication
- C. Mandatory authentication
- D. Discretionary authentication

Answer: B

Explanation:

Once an identity is established it must be authenticated. There exist numerous technologies and implementation of authentication methods however they almost all fall under three major areas.

There are three fundamental types of authentication: Authentication by knowledge??something a person knows

Authentication by possession??something a person has

Authentication by characteristic??something a person is Logical controls related to these types are called ??factors.??

Something you know can be a password or PIN, something you have can be a token fob or smart card, and something you are is usually some form of biometrics.

Single-factor authentication is the employment of one of these factors, two-factor authentication is using two of the three factors, and three-factor authentication is

the combination of all three factors.

The general term for the use of more than one factor during authentication is multifactor authentication or strong authentication.

Reference(s) used for this question:

Hernandez CISSP, Steven (2012-12-21). Official (ISC)2 Guide to the CISSP CBK, Third Edition ((ISC)2 Press) (Kindle Locations 2367-2379). Auerbach Publications. Kindle Edition.

NEW QUESTION 59

- (Topic 1)

The three classic ways of authenticating yourself to the computer security software are by something you know, by something you have, and by something:

- A. you need.
- B. non-trivial
- C. you are.
- D. you can get.

Answer: C

Explanation:

This is more commonly known as biometrics and is one of the most accurate ways to authenticate an individual.

The rest of the answers are incorrect because they not one of the three recognized forms for Authentication.

NEW QUESTION 63

- (Topic 1)

The end result of implementing the principle of least privilege means which of the following?

- A. Users would get access to only the info for which they have a need to know
- B. Users can access all systems.
- C. Users get new privileges added when they change positions.
- D. Authorization creep.

Answer: A

Explanation:

The principle of least privilege refers to allowing users to have only the access they need and not anything more. Thus, certain users may have no need to access any of the files on specific systems.

The following answers are incorrect:

Users can access all systems. Although the principle of least privilege limits what access and systems users have authorization to, not all users would have a need to know to access all of the systems. The best answer is still Users would get access to only the info for which they have a need to know as some of the users may not have a need to access a system.

Users get new privileges when they change positions. Although true that a user may indeed require new privileges, this is not a given fact and in actuality a user may require less privileges for a new position. The principle of least privilege would require that the rights required for the position be closely evaluated and where possible rights revoked.

Authorization creep. Authorization creep occurs when users are given additional rights with new positions and responsibilities. The principle of least privilege should actually prevent authorization creep.

The following reference(s) were/was used to create this question: ISC2 OIG 2007 p.101,123

Shon Harris AIO v3 p148, 902-903

NEW QUESTION 64

- (Topic 1)

Which of the following control pairings include: organizational policies and procedures, pre- employment background checks, strict hiring practices, employment agreements, employee termination procedures, vacation scheduling, labeling of sensitive materials, increased supervision, security awareness training, behavior awareness, and sign-up procedures to obtain access to information systems and networks?

- A. Preventive/Administrative Pairing
- B. Preventive/Technical Pairing
- C. Preventive/Physical Pairing
- D. Detective/Administrative Pairing

Answer: A

Explanation:

The Answer: Preventive/Administrative Pairing: These mechanisms include organizational policies and procedures, pre-employment background checks, strict hiring practices, employment agreements, friendly and unfriendly employee termination procedures, vacation scheduling, labeling of sensitive materials, increased supervision, security awareness training, behavior awareness, and sign-up procedures to obtain access to information systems and networks.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 34.

NEW QUESTION 68

- (Topic 1)

Which of the following statements relating to the Bell-LaPadula security model is FALSE (assuming the Strong Star property is not being used) ?

- A. A subject is not allowed to read up.
- B. The property restriction can be escaped by temporarily downgrading a high level subject.
- C. A subject is not allowed to read down.
- D. It is restricted to confidentiality.

Answer: C

Explanation:

It is not a property of Bell LaPadula model. The other answers are incorrect because:

A subject is not allowed to read up is a property of the 'simple security rule' of Bell LaPadula model.
The property restriction can be escaped by temporarily downgrading a high level subject can be escaped by temporarily downgrading a high level subject or by identifying a set of trusted objects which are permitted to violate the property as long as it is not in the middle of an operation.
It is restricted to confidentiality as it is a state machine model that enforces the confidentiality aspects of access control.
Reference: Shon Harris AIO v3 , Chapter-5 : Security Models and Architecture , Page:279-282

NEW QUESTION 70

- (Topic 1)

Guards are appropriate whenever the function required by the security program involves which of the following?

- A. The use of discriminating judgment
- B. The use of physical force
- C. The operation of access control devices
- D. The need to detect unauthorized access

Answer: A

Explanation:

The Answer The use of discriminating judgment, a guard can make the determinations that hardware or other automated security devices cannot make due to its ability to adjust to rapidly changing conditions, to learn and alter recognizable patterns, and to respond to various conditions in the environment. Guards are better at making value decisions at times of incidents. They are appropriate whenever immediate, discriminating judgment is required by the security entity.

The following answers are incorrect:

The use of physical force This is not the best answer. A guard provides discriminating judgment, and the ability to discern the need for physical force.

The operation of access control devices A guard is often uninvolved in the operations of an automated access control device such as a biometric reader, a smart lock, mantrap, etc. The need to detect unauthorized access The primary function of a guard is not to detect unauthorized access, but to prevent unauthorized physical access attempts and may deter social engineering attempts.

The following reference(s) were/was used to create this question:

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, John Wiley & Sons, 2001, Chapter 10: Physical security (page 339).

Source: ISC2 Official Guide to the CBK page 288-289.

NEW QUESTION 74

- (Topic 1)

In the context of Biometric authentication, what is a quick way to compare the accuracy of devices. In general, the device that have the lowest value would be the most accurate. Which of the following would be used to compare accuracy of devices?

- A. the CER is used.
- B. the FRR is used
- C. the FAR is used
- D. the FER is used

Answer: A

Explanation:

equal error rate or crossover error rate (EER or CER): the rate at which both accept and reject errors are equal. The value of the EER can be easily obtained from the ROC curve. The EER is a quick way to compare the accuracy of devices with different ROC curves. In general, the device with the lowest EER is most accurate.

In the context of Biometric Authentication almost all types of detection permit a system's sensitivity to be increased or decreased during an inspection process. If the system's sensitivity is increased, such as in an airport metal detector, the system becomes increasingly selective and has a higher False Reject Rate (FRR). Conversely, if the sensitivity is decreased, the False Acceptance Rate (FAR) will increase. Thus, to have a valid measure of the system performance, the CrossOver Error Rate (CER) is used.

The following are used as performance metrics for biometric systems:

false accept rate or false match rate (FAR or FMR): the probability that the system incorrectly matches the input pattern to a non-matching template in the database. It measures the percent of invalid inputs which are incorrectly accepted. In case of similarity scale, if the person is imposter in real, but the matching score is higher than the threshold, then he is treated as genuine that increase the FAR and hence performance also depends upon the selection of threshold value.

false reject rate or false non-match rate (FRR or FNMR): the probability that the system fails to detect a match between the input pattern and a matching template in the database. It measures the percent of valid inputs which are incorrectly rejected.

failure to enroll rate (FTE or FER): the rate at which attempts to create a template from an input is unsuccessful. This is most commonly caused by low quality inputs.

failure to capture rate (FTC): Within automatic systems, the probability that the system fails to detect a biometric input when presented correctly.

template capacity: the maximum number of sets of data which can be stored in the system. Reference(s) used for this question:

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

Wikipedia at: <https://en.wikipedia.org/wiki/Biometrics>

NEW QUESTION 77

- (Topic 1)

What is called the verification that the user's claimed identity is valid and is usually implemented through a user password at log-on time?

- A. Authentication
- B. Identification
- C. Integrity
- D. Confidentiality

Answer: A

Explanation:

Authentication is verification that the user's claimed identity is valid and is usually implemented through a user password at log-on time.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 36.

NEW QUESTION 79

- (Topic 1)

What can be defined as a list of subjects along with their access rights that are authorized to access a specific object?

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

Answer: B

Explanation:

"It [ACL] specifies a list of users [subjects] who are allowed access to each object" CBK, p. 188

A capability table is incorrect. "Capability tables are used to track, manage and apply controls based on the object and rights, or capabilities of a subject. For example, a table identifies the object, specifies access rights allowed for a subject, and permits access based on the user's possession of a capability (or ticket) for the object." CBK, pp. 191-192. The distinction that makes this an incorrect choice is that access is based on possession of a capability by the subject.

To put it another way, as noted in AIO3 on p. 169, "A capability table is different from an ACL because the subject is bound to the capability table, whereas the object is bound to the ACL."

An access control matrix is incorrect. The access control matrix is a way of describing the rules for an access control strategy. 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.

AIO3, p. 169 describes it as a table of 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 role-based matrix is incorrect. Again, a matrix of roles vs objects could be used as a tool for thinking about the access control to be applied to a set of objects.

The results of the analysis could then be implemented using RBAC.

References:

CBK, Domain 2: Access Control. AIO3, Chapter 4: Access Control

NEW QUESTION 80

- (Topic 1)

Identification and authentication are the keystones of most access control systems. Identification establishes:

- A. User accountability for the actions on the system.
- B. Top management accountability for the actions on the system.
- C. EDP department accountability for the actions of users on the system.
- D. Authentication for actions on the system

Answer: A

Explanation:

Identification and authentication are the keystones of most access control systems. Identification establishes user accountability for the actions on the system.

The control environment can be established to log activity regarding the identification, authentication, authorization, and use of privileges on a system. This can be used to detect the occurrence of errors, the attempts to perform an unauthorized action, or to validate when provided credentials were exercised. The logging system as a detective device provides evidence of actions (both successful and unsuccessful) and tasks that were executed by authorized users.

Once a person has been identified through the user ID or a similar value, she must be authenticated, which means she must prove she is who she says she is.

Three general factors can be used for authentication: something a person knows, something a person has, and something a person is. They are also commonly called authentication by knowledge, authentication by ownership, and authentication by characteristic.

For a user to be able to access a resource, he first must prove he is who he claims to be, has the necessary credentials, and has been given the necessary rights or privileges to perform the actions he is requesting. Once these steps are completed successfully, the user can access and use network resources; however, it is necessary to track the user's activities and enforce accountability for his actions.

Identification describes a method of ensuring that a subject (user, program, or process) is the entity it claims to be. Identification can be provided with the use of a username or account number. To be properly authenticated, the subject is usually required to provide a second piece to the credential set. This piece could be a password, passphrase,

cryptographic key, personal identification number (PIN), anatomical attribute, or token.

These two credential items are compared to information that has been previously stored for this subject. If these credentials match the stored information, the subject is authenticated. But we are not done yet. Once the subject provides its credentials and is properly identified, the system it is trying to access needs to determine if this subject has been given the necessary rights and privileges to carry out the requested actions. The system will look at some type of access control matrix or compare security labels to verify that this subject may indeed access the requested resource and perform the actions it is attempting. If the system determines that the subject may access the resource, it authorizes the subject.

Although identification, authentication, authorization, and accountability have close and complementary definitions, each has distinct functions that fulfill a specific requirement in the process of access control. A user may be properly identified and authenticated to the network, but he may not have the authorization to access the files on the file server. On the other hand, a user may be authorized to access the files on the file server, but until she is properly identified and authenticated, those resources are out of reach.

Reference(s) used for this question:

Schneiter, Andrew (2013-04-15). Official (ISC)2 Guide to the CISSP CBK, Third Edition: Access Control ((ISC)2 Press) (Kindle Locations 889-892). Auerbach Publications. Kindle Edition.

and

Harris, Shon (2012-10-25). CISSP All-in-One Exam Guide, 6th Edition (Kindle Locations 3875-3878). McGraw-Hill. Kindle Edition.

and

Harris, Shon (2012-10-25). CISSP All-in-One Exam Guide, 6th Edition (Kindle Locations 3833-3848). McGraw-Hill. Kindle Edition.

and

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 36.

NEW QUESTION 82

- (Topic 1)

Which of the following statements pertaining to access control is false?

- A. Users should only access data on a need-to-know basis.
- B. If access is not explicitly denied, it should be implicitly allowed.
- C. Access rights should be granted based on the level of trust a company has on a subject.
- D. Roles can be an efficient way to assign rights to a type of user who performs certain tasks.

Answer: B

Explanation:

Access control mechanisms should default to no access to provide the necessary level of security and ensure that no security holes go unnoticed. If access is not explicitly allowed, it should be implicitly denied.

Source: HARRIS, Shon, All-In-One CISSP Certification Exam Guide, McGraw- Hill/Osborne, 2002, Chapter 4: Access Control (page 143).

NEW QUESTION 85

- (Topic 1)

The Orange Book is founded upon which security policy model?

- A. The Biba Model
- B. The Bell LaPadula Model
- C. Clark-Wilson Model
- D. TEMPEST

Answer: B

Explanation:

From the glossary of Computer Security Basics:

The Bell-LaPadula model is the security policy model on which the Orange Book requirements are based. From the Orange Book definition, "A formal state transition model of computer security policy that describes a set of access control rules. In this formal model, the entities in a computer system are divided into abstract sets of subjects and objects. The notion of secure state is defined and it is proven that each state transition preserves security by moving from secure state to secure state; thus, inductively proving the system is secure. A system state is defined to be 'secure' if the only permitted access modes of subjects to objects are in accordance with a specific security policy. In order to determine whether or not a specific access mode is allowed, the clearance of a subject is compared to the classification of the object and a determination is made as to whether the subject is authorized for the specific access mode."

The Biba Model is an integrity model of computer security policy that describes a set of rules. In this model, a subject may not depend on any object or other subject that is less trusted than itself.

The Clark Wilson Model is an integrity model for computer security policy designed for a commercial environment. It addresses such concepts as nondiscretionary access control, privilege separation, and least privilege. TEMPEST is a government program that prevents the compromising electrical and electromagnetic signals that emanate from computers and related equipment from being intercepted and deciphered.

Source: RUSSEL, Deborah & GANGEMI, G.T. Sr., Computer Security Basics, O'Reilly, 1991.

Also: U.S. Department of Defense, Trusted Computer System Evaluation Criteria (Orange Book), DOD 5200.28-STD. December 1985 (also available here).

NEW QUESTION 89

- (Topic 1)

How would nonrepudiation be best classified as?

- A. A preventive control
- B. A logical control
- C. A corrective control
- D. A compensating control

Answer: A

Explanation:

Systems accountability depends on the ability to ensure that senders cannot deny sending information and that receivers cannot deny receiving it. Because the mechanisms implemented in nonrepudiation prevent the ability to successfully repudiate an action, it can be considered as a preventive control.

Source: STONEBURNER, Gary, NIST Special Publication 800-33: Underlying Technical Models for Information Technology Security, National Institute of Standards and Technology, December 2001, page 7.

NEW QUESTION 91

- (Topic 1)

Which of the following Operation Security controls is intended to prevent unauthorized intruders from internally or externally accessing the system, and to lower the amount and impact of unintentional errors that are entering the system?

- A. Detective Controls
- B. Preventative Controls
- C. Corrective Controls
- D. Directive Controls

Answer: B

Explanation:

In the Operations Security domain, Preventative Controls are designed to prevent unauthorized intruders from internally or externally accessing the system, and to lower the amount and impact of unintentional errors that are entering the system. Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 217.

NEW QUESTION 96

- (Topic 1)

Which of the following choices describe a Challenge-response tokens generation?

- A. A workstation or system that generates a random challenge string that the user enters into the token when prompted along with the proper PIN.
- B. A workstation or system that generates a random login id that the user enters when prompted along with the proper PIN.

- C. A special hardware device that is used to generate random text in a cryptography system.
- D. The authentication mechanism in the workstation or system does not determine if the owner should be authenticated.

Answer: A

Explanation:

Challenge-response tokens are:

- A workstation or system generates a random challenge string and the owner enters the string into the token along with the proper PIN.
- The token generates a response that is then entered into the workstation or system.
- The authentication mechanism in the workstation or system then determines if the owner should be authenticated.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 37.
Also: HARRIS, Shon, All-In-One CISSP Certification Exam Guide, McGraw-Hill/Osborne, 2002, chapter 4: Access Control (pages 136-137).

NEW QUESTION 99

- (Topic 1)

This baseline sets certain thresholds for specific errors or mistakes allowed and the amount of these occurrences that can take place before it is considered suspicious?

- A. Checkpoint level
- B. Ceiling level
- C. Clipping level
- D. Threshold level

Answer: C

Explanation:

Organizations usually forgive a particular type, number, or pattern of violations, thus permitting a predetermined number of user errors before gathering this data for analysis. An organization attempting to track all violations, without sophisticated statistical computing ability, would be unable to manage the sheer quantity of such data. To make a violation listing effective, a clipping level must be established.

The clipping level establishes a baseline for violation activities that may be normal user errors. Only after this baseline is exceeded is a violation record produced. This solution is particularly effective for small- to medium-sized installations. Organizations with large-scale computing facilities often track all violations and use statistical routines to cull out the minor infractions (e.g., forgetting a password or mistyping it several times).

If the number of violations being tracked becomes unmanageable, the first step in correcting the problems should be to analyze why the condition has occurred.

Do users understand how they are to interact with the computer resource? Are the rules too difficult to follow? Violation tracking and analysis can be valuable tools in assisting an organization to develop thorough but useable controls. Once these are in place and records are produced that accurately reflect serious violations, tracking and analysis become the first line of defense. With this procedure, intrusions are discovered before major damage occurs and sometimes early enough to catch the perpetrator. In addition, business protection and preservation are strengthened.

The following answers are incorrect:

All of the other choices presented were simply detractors. The following reference(s) were used for this question:

Handbook of Information Security Management

NEW QUESTION 103

- (Topic 1)

In addition to the accuracy of the biometric systems, there are other factors that must also be considered:

- A. These factors include the enrollment time and the throughput rate, but not acceptability.
- B. These factors do not include the enrollment time, the throughput rate, and acceptability.
- C. These factors include the enrollment time, the throughput rate, and acceptability.
- D. These factors include the enrollment time, but not the throughput rate, neither the acceptability.

Answer: C

Explanation:

In addition to the accuracy of the biometric systems, there are other factors that must also be considered.

These factors include the enrollment time, the throughput rate, and acceptability. Enrollment time is the time it takes to initially "register" with a system by providing samples

of the biometric characteristic to be evaluated. An acceptable enrollment time is around two minutes.

For example, in fingerprint systems, the actual fingerprint is stored and requires approximately 250kb per finger for a high quality image. This level of information is required for one-to-many searches in forensics applications on very large databases.

In finger-scan technology, a full fingerprint is not stored-the features extracted from this fingerprint are stored using a small template that requires approximately 500 to 1000 bytes of storage. The original fingerprint cannot be reconstructed from this template.

Updates of the enrollment information may be required because some biometric characteristics, such as voice and signature, may change with time.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 37 & 38.

NEW QUESTION 104

- (Topic 1)

Access control is the collection of mechanisms that permits managers of a system to exercise a directing or restraining influence over the behavior, use, and content of a system. It does not permit management to:

- A. specify what users can do
- B. specify which resources they can access
- C. specify how to restrain hackers
- D. specify what operations they can perform on a system.

Answer: C

Explanation:

Access control is the collection of mechanisms that permits managers of a system to exercise a directing or restraining influence over the behavior, use, and

content of a system. It permits management to specify what users can do, which resources they can access, and what operations they can perform on a system. Specifying HOW to restrain hackers is not directly linked to access control.

Source: DUPUIS, Clement, Access Control Systems and Methodology, Version 1, May 2002, CISSP Open Study Group Study Guide for Domain 1, Page 12.

NEW QUESTION 107

- (Topic 1)

What is the primary role of smartcards in a PKI?

- A. Transparent renewal of user keys
- B. Easy distribution of the certificates between the users
- C. Fast hardware encryption of the raw data
- D. Tamper resistant, mobile storage and application of private keys of the users

Answer: D

Explanation:

Reference: HARRIS, Shon, All-In-One CISSP Certification Exam Guide, 2001, McGraw- Hill/Osborne, page 139;
SNYDER, J., What is a SMART CARD?.

Wikipedia has a nice definition at: http://en.wikipedia.org/wiki/Tamper_resistance Security

Tamper-resistant microprocessors are used to store and process private or sensitive information, such as private keys or electronic money credit. To prevent an attacker from

retrieving or modifying the information, the chips are designed so that the information is not accessible through external means and can be accessed only by the embedded software, which should contain the appropriate security measures.

Examples of tamper-resistant chips include all secure cryptoprocessors, such as the IBM 4758 and chips used in smartcards, as well as the Clipper chip.

It has been argued that it is very difficult to make simple electronic devices secure against tampering, because numerous attacks are possible, including:

physical attack of various forms (microprobing, drills, files, solvents, etc.) freezing the device

applying out-of-spec voltages or power surges applying unusual clock signals

inducing software errors using radiation

measuring the precise time and power requirements of certain operations (see power analysis)

Tamper-resistant chips may be designed to zeroise their sensitive data (especially cryptographic keys) if they detect penetration of their security encapsulation or out-of- specification environmental parameters. A chip may even be rated for "cold zeroisation", the ability to zeroise itself even after its power supply has been crippled.

Nevertheless, the fact that an attacker may have the device in his possession for as long as he likes, and perhaps obtain numerous other samples for testing and practice, means that it is practically impossible to totally eliminate tampering by a sufficiently motivated opponent. Because of this, one of the most important elements in protecting a system is overall system design. In particular, tamper-resistant systems should "fail gracefully" by ensuring that compromise of one device does not compromise the entire system. In this manner, the attacker can be practically restricted to attacks that cost less than the expected return from compromising a single device (plus, perhaps, a little more for kudos). Since the most sophisticated attacks have been estimated to cost several hundred thousand dollars to carry out, carefully designed systems may be invulnerable in practice.

NEW QUESTION 109

- (Topic 1)

Who developed one of the first mathematical models of a multilevel-security computer system?

- A. Diffie and Hellman.
- B. Clark and Wilson.
- C. Bell and LaPadula.
- D. Gasser and Lipner.

Answer: C

Explanation:

In 1973 Bell and LaPadula created the first mathematical model of a multi- level security system.

The following answers are incorrect:

Diffie and Hellman. This is incorrect because Diffie and Hellman was involved with cryptography.

Clark and Wilson. This is incorrect because Bell and LaPadula was the first model. The Clark-Wilson model came later, 1987.

Gasser and Lipner. This is incorrect, it is a distractor. Bell and LaPadula was the first model.

NEW QUESTION 110

- (Topic 1)

Almost all types of detection permit a system's sensitivity to be increased or decreased during an inspection process. If the system's sensitivity is increased, such as in a biometric authentication system, the system becomes increasingly selective and has the possibility of generating:

- A. Lower False Rejection Rate (FRR)
- B. Higher False Rejection Rate (FRR)
- C. Higher False Acceptance Rate (FAR)
- D. It will not affect either FAR or FRR

Answer: B

Explanation:

Almost all types of detection permit a system's sensitivity to be increased or decreased during an inspection process. If the system's sensitivity is increased, such as in a biometric authentication system, the system becomes increasingly selective and has a higher False Rejection Rate (FRR).

Conversely, if the sensitivity is decreased, the False Acceptance Rate (FRR) will increase. Thus, to have a valid measure of the system performance, the Cross Over Error (CER) rate is used. The Crossover Error Rate (CER) is the point at which the false rejection rates and the false acceptance rates are equal. The lower the value of the CER, the more accurate the system.

There are three categories of biometric accuracy measurement (all represented as percentages):

False Reject Rate (a Type I Error): When authorized users are falsely rejected as unidentified or unverified.

False Accept Rate (a Type II Error): When unauthorized persons or imposters are falsely accepted as authentic.

Crossover Error Rate (CER): The point at which the false rejection rates and the false acceptance rates are equal. The smaller the value of the CER, the more accurate the system.

NOTE:

Within the ISC2 book they make use of the term Accept or Acceptance and also Reject or Rejection when referring to the type of errors within biometrics. Below we make use of Acceptance and Rejection throughout the text for consistency. However, on the real exam you could see either of the terms.

Performance of biometrics

Different metrics can be used to rate the performance of a biometric factor, solution or application. The most common performance metrics are the False Acceptance Rate FAR and the False Rejection Rate FRR.

When using a biometric application for the first time the user needs to enroll to the system. The system requests fingerprints, a voice recording or another biometric factor from the

operator, this input is registered in the database as a template which is linked internally to a user ID. The next time when the user wants to authenticate or identify himself, the biometric input provided by the user is compared to the template(s) in the database by a matching algorithm which responds with acceptance (match) or rejection (no match).

FAR and FRR

The FAR or False Acceptance rate is the probability that the system incorrectly authorizes a non-authorized person, due to incorrectly matching the biometric input with a valid template. The FAR is normally expressed as a percentage, following the FAR definition this is the percentage of invalid inputs which are incorrectly accepted.

The FRR or False Rejection Rate is the probability that the system incorrectly rejects access to an authorized person, due to failing to match the biometric input provided by the user with a stored template. The FRR is normally expressed as a percentage, following the FRR definition this is the percentage of valid inputs which are incorrectly rejected.

FAR and FRR are very much dependent on the biometric factor that is used and on the technical implementation of the biometric solution. Furthermore the FRR is strongly person dependent, a personal FRR can be determined for each individual.

Take this into account when determining the FRR of a biometric solution, one person is insufficient to establish an overall FRR for a solution. Also FRR might increase due to environmental conditions or incorrect use, for example when using dirty fingers on a fingerprint reader. Mostly the FRR lowers when a user gains more experience in how to use the biometric device or software.

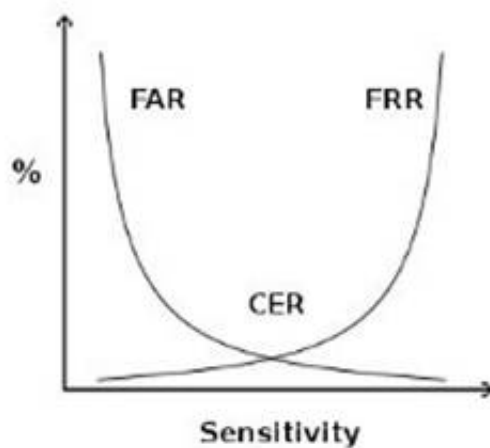
FAR and FRR are key metrics for biometric solutions, some biometric devices or software even allow to tune them so that the system more quickly matches or rejects. Both FRR and FAR are important, but for most applications one of them is considered most important. Two examples to illustrate this:

When biometrics are used for logical or physical access control, the objective of the application is to disallow access to unauthorized individuals under all circumstances. It is clear that a very low FAR is needed for such an application, even if it comes at the price of a higher FRR.

When surveillance cameras are used to screen a crowd of people for missing children, the objective of the application is to identify any missing children that come up on the screen. When the identification of those children is automated using a face recognition software, this software has to be set up with a low FRR. As such a higher number of matches will be false positives, but these can be reviewed quickly by surveillance personnel.

False Acceptance Rate is also called False Match Rate, and False Rejection Rate is sometimes referred to as False Non-Match Rate.

crossover error rate



crossover error rate

Above see a graphical representation of FAR and FRR errors on a graph, indicating the CER

CER

The Crossover Error Rate or CER is illustrated on the graph above. It is the rate where both FAR and FRR are equal.

The matching algorithm in a biometric software or device uses a (configurable) threshold which determines how close to a template the input must be for it to be considered a match. This threshold value is in some cases referred to as sensitivity, it is marked on the X axis of the plot. When you reduce this threshold there will be more false acceptance errors (higher FAR) and less false rejection errors (lower FRR), a higher threshold will lead to lower FAR and higher FRR.

Speed

Most manufacturers of biometric devices and softwares can give clear numbers on the time it takes to enroll as well on the time for an individual to be authenticated or identified using their application. If speed is important then take your time to consider this, 5 seconds might seem a short time on paper or when testing a device but if hundreds of people will use the device multiple times a day the cumulative loss of time might be significant.

Reference(s) used for this question:

Hernandez CISSP, Steven (2012-12-21). Official (ISC)2 Guide to the CISSP CBK, Third Edition ((ISC)2 Press) (Kindle Locations 2723-2731). Auerbach Publications. Kindle Edition.

and

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

and

http://www.biometric-solutions.com/index.php?story=performance_biometrics

NEW QUESTION 113

- (Topic 1)

What are the components of an object's sensitivity label?

- A. A Classification Set and a single Compartment.
- B. A single classification and a single compartment.
- C. A Classification Set and user credentials.
- D. A single classification and a Compartment Set.

Answer: D

Explanation:

Both are the components of a sensitivity label. The following are incorrect:

A Classification Set and a single Compartment. Is incorrect because the nomenclature "Classification Set" is incorrect, there only one classification and it is not a "single compartment" but a Compartment Set.

A single classification and a single compartment. Is incorrect because while there only is one classification, it is not a "single compartment" but a Compartment Set.

A Classification Set and user credentials. Is incorrect because the nomenclature "Classification Set" is incorrect, there only one classification and it is not "user credential" but a Compartment Set. The user would have their own sensitivity label.

NEW QUESTION 116

- (Topic 1)

Who first described the DoD multilevel military security policy in abstract, formal terms?

- A. David Bell and Leonard LaPadula
- B. Rivest, Shamir and Adleman
- C. Whitfield Diffie and Martin Hellman
- D. David Clark and David Wilson

Answer: A

Explanation:

It was David Bell and Leonard LaPadula who, in 1973, first described the DoD multilevel military security policy in abstract, formal terms. The Bell-LaPadula is a Mandatory Access Control (MAC) model concerned with confidentiality. Rivest, Shamir and Adleman (RSA) developed the RSA encryption algorithm. Whitfield Diffie and Martin Hellman published the Diffie-Hellman key agreement algorithm in 1976. David Clark and David Wilson developed the Clark-Wilson integrity model, more appropriate for security in commercial activities.

Source: RUSSEL, Deborah & GANGEMI, G.T. Sr., Computer Security Basics, O'Reilly, July 1992 (pages 78,109).

NEW QUESTION 117

- (Topic 1)

Which of the following is true about Kerberos?

- A. It utilizes public key cryptography.
- B. It encrypts data after a ticket is granted, but passwords are exchanged in plain text.
- C. It depends upon symmetric ciphers.
- D. It is a second party authentication system.

Answer: C

Explanation:

Kerberos depends on secret keys (symmetric ciphers). Kerberos is a third party authentication protocol. It was designed and developed in the mid 1980's by MIT. It is considered open source but is copyrighted and owned by MIT. It relies on the user's secret keys. The password is used to encrypt and decrypt the keys.

The following answers are incorrect:

It utilizes public key cryptography. Is incorrect because Kerberos depends on secret keys (symmetric ciphers).

It encrypts data after a ticket is granted, but passwords are exchanged in plain text. Is incorrect because the passwords are not exchanged but used for encryption and decryption of the keys.

It is a second party authentication system. Is incorrect because Kerberos is a third party authentication system, you authenticate to the third party (Kerberos) and not the system you are accessing.

References:

MIT <http://web.mit.edu/kerberos/>

Wikipedi http://en.wikipedia.org/wiki/Kerberos_%28protocol%29

OIG CBK Access Control (pages 181 - 184) AIOv3 Access Control (pages 151 - 155)

NEW QUESTION 119

- (Topic 1)

What is called the percentage at which the False Rejection Rate equals the False Acceptance Rate?

- A. False Rejection Rate (FRR) or Type I Error
- B. False Acceptance Rate (FAR) or Type II Error
- C. Crossover Error Rate (CER)
- D. Failure to enroll rate (FTE or FER)

Answer: C

Explanation:

The percentage at which the False Rejection Rate equals the False Acceptance Rate is called the Crossover Error Rate (CER). Another name for the CER is the Equal Error Rate (EER), any of the two terms could be used.

Equal error rate or crossover error rate (EER or CER)

It is the rate at which both accept and reject errors are equal. The EER is a quick way to compare the accuracy of devices with different ROC curves. In general, the device with the lowest EER is most accurate.

The other choices were all wrong answers:

The following are used as performance metrics for biometric systems:

false accept rate or false match rate (FAR or FMR): the probability that the system incorrectly matches the input pattern to a non-matching template in the database. It measures the percent of invalid inputs which are incorrectly accepted. This is when an impostor would be accepted by the system.

False reject rate or false non-match rate (FRR or FNMR): the probability that the system fails to detect a match between the input pattern and a matching template in the database. It measures the percent of valid inputs which are incorrectly rejected. This is when a valid company employee would be rejected by the system.

Failure to enroll rate (FTE or FER): the rate at which attempts to create a template from an input is unsuccessful. This is most commonly caused by low quality inputs.

Reference(s) used for this question:

KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 38.

and <https://en.wikipedia.org/wiki/Biometrics>

NEW QUESTION 122

- (Topic 1)

Which of the following would be true about Static password tokens?

- A. The owner identity is authenticated by the token
- B. The owner will never be authenticated by the token.
- C. The owner will authenticate himself to the system.
- D. The token does not authenticates the token owner but the system.

Answer: A

Explanation:

Password Tokens

Tokens are electronic devices or cards that supply a user's password for them. A token system can be used to supply either a static or a dynamic password. There is a big difference between the static and dynamic systems, a static system will normally log a user in but a dynamic system the user will often have to log themselves in.

Static Password Tokens:

The owner identity is authenticated by the token. This is done by the person who issues the token to the owner (normally the employer). The owner of the token is now authenticated by "something you have". The token authenticates the identity of the owner to the information system. An example of this occurring is when an employee swipes his or her smart card over an electronic lock to gain access to a store room.

Synchronous Dynamic Password Tokens:

This system is a lot more complex then the static token password. The synchronous dynamic password tokens generate new passwords at certain time intervals that are synched with the main system. The password is generated on a small device similar to a pager or a calculator that can often be attached to the user's key ring. Each password is only valid for a certain time period, typing in the wrong password in the wrong time period will invalidate the authentication. The time factor can also be the systems downfall. If a clock on the system or the password token device becomes out of synch, a user can have troubles authenticating themselves to the system.

Asynchronous Dynamic Password Tokens:

The clock synching problem is eliminated with asynchronous dynamic password tokens. This system works on the same principal as the synchronous one but it does not have a time frame. A lot of big companies use this system especially for employee's who may work from home on the companies VPN (Virtual private Network).

Challenge Response Tokens:

This is an interesting system. A user will be sent special "challenge" strings at either random or timed intervals. The user inputs this challenge string into their token device and the device will respond by generating a challenge response. The user then types this response into the system and if it is correct they are authenticated.

Reference(s) used for this question: <http://www.informit.com/guides/content.aspx?g=security&seqNum=146>
and

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

NEW QUESTION 125

- (Topic 1)

In an organization where there are frequent personnel changes, non-discretionary access control using Role Based Access Control (RBAC) is useful because:

- A. people need not use discretion
- B. the access controls are based on the individual's role or title within the organization.
- C. the access controls are not based on the individual's role or title within the organization
- D. the access controls are often based on the individual's role or title within the organization

Answer: B

Explanation:

In an organization where there are frequent personnel changes, non- discretionary access control (also called Role Based Access Control) is useful because the access controls are based on the individual's role or title within the organization. You can easily configure a new employee access by assigning the user to a role that has been predefine. The user will implicitly inherit the permissions of the role by being a member of that role.

These access permissions defined within the role do not need to be changed whenever a new person takes over the role.

Another type of non-discretionary access control model is the Rule Based Access Control (RBAC or RuBAC) where a global set of rule is uniformly applied to all subjects accessing the resources. A good example of RuBAC would be a firewall.

This question is a sneaky one, one of the choice has only one added word to it which is often. Reading questions and their choices very carefully is a must for the real exam. Reading it twice if needed is recommended.

Shon Harris in her book list the following ways of managing RBAC: Role-based access control can be managed in the following ways:

Non-RBAC Users are mapped directly to applications and no roles are used. (No roles being used)

Limited RBAC Users are mapped to multiple roles and mapped directly to other types of applications that do not have role-based access functionality. (A mix of roles for applications that supports roles and explicit access control would be used for applications that do not support roles)

Hybrid RBAC Users are mapped to multiapplication roles with only selected rights assigned to those roles.

Full RBAC Users are mapped to enterprise roles. (Roles are used for all access being granted)

NIST defines RBAC as:

Security administration can be costly and prone to error because administrators usually specify access control lists for each user on the system individually. With RBAC, security is managed at a level that corresponds closely to the organization's structure. Each user is assigned one or more roles, and each role is assigned one or more privileges that are permitted to users in that role. Security administration with RBAC consists of determining the operations that must be executed by persons in particular jobs, and assigning employees to the proper roles. Complexities introduced by mutually exclusive roles or role hierarchies are handled by the RBAC software, making security administration easier.

Reference(s) used for this question:

KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 32.
and

Harris, Shon (2012-10-25). CISSP All-in-One Exam Guide, 6th Edition McGraw-Hill. and
<http://csrc.nist.gov/groups/SNS/rbac/>

NEW QUESTION 128

- (Topic 1)

What does the (star) integrity axiom mean in the Biba model?

- A. No read up
- B. No write down
- C. No read down
- D. No write up

Answer: D

Explanation:

The (star) integrity axiom of the Biba access control model states that an object at one level of integrity is not permitted to modify an object of a higher level of integrity (no write up).

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, John Wiley & Sons, 2001, Chapter 5: Security Architectures and Models (page 205).

NEW QUESTION 133

- (Topic 1)

What is called a sequence of characters that is usually longer than the allotted number for a password?

- A. passphrase
- B. cognitive phrase
- C. anticipated phrase
- D. Real phrase

Answer: A

Explanation:

A passphrase is a sequence of characters that is usually longer than the allotted number for a password.

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

NEW QUESTION 138

- (Topic 1)

Which of the following is not a logical control when implementing logical access security?

- A. access profiles.
- B. userids.
- C. employee badges.
- D. passwords.

Answer: C

Explanation:

Employee badges are considered Physical so would not be a logical control. The following answers are incorrect:

userids. Is incorrect because userids are a type of logical control.

access profiles. Is incorrect because access profiles are a type of logical control. passwords. Is incorrect because passwords are a type of logical control.

NEW QUESTION 142

- (Topic 1)

What does the simple integrity axiom mean in the Biba model?

- A. No write down
- B. No read down
- C. No read up
- D. No write up

Answer: B

Explanation:

The simple integrity axiom of the Biba access control model states that a subject at one level of integrity is not permitted to observe an object of a lower integrity (no read down).

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, John Wiley & Sons, 2001, Chapter 5: Security Architectures and Models (page 205).

NEW QUESTION 147

- (Topic 1)

Which of the following is NOT a compensating measure for access violations?

- A. Backups
- B. Business continuity planning
- C. Insurance
- D. Security awareness

Answer: D

Explanation:

Security awareness is a preventive measure, not a compensating measure for access violations.

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 50).

NEW QUESTION 151

- (Topic 1)

What physical characteristic does a retinal scan biometric device measure?

- A. The amount of light reaching the retina

- B. The amount of light reflected by the retina
- C. The pattern of light receptors at the back of the eye
- D. The pattern of blood vessels at the back of the eye

Answer: D

Explanation:

The retina, a thin nerve (1/50th of an inch) on the back of the eye, is the part of the eye which senses light and transmits impulses through the optic nerve to the brain - the equivalent of film in a camera. Blood vessels used for biometric identification are located along the neural retina, the outermost of retina's four cell layers.

The following answers are incorrect:

The amount of light reaching the retina The amount of light reaching the retina is not used in the biometric scan of the retina.

The amount of light reflected by the retina The amount of light reflected by the retina is not used in the biometric scan of the retina.

The pattern of light receptors at the back of the eye This is a distractor The following reference(s) were/was used to create this question: Reference: Retina Scan Technology.

ISC2 Official Guide to the CBK, 2007 (Page 161)

NEW QUESTION 154

- (Topic 1)

Which of the following is the FIRST step in protecting data's confidentiality?

- A. Install a firewall
- B. Implement encryption
- C. Identify which information is sensitive
- D. Review all user access rights

Answer: C

Explanation:

In order to protect the confidentiality of the data. The following answers are incorrect because :

Install a firewall is incorrect as this would come after the information has been identified for sensitivity levels.

Implement encryption is also incorrect as this is one of the mechanisms to protect the data once it has been identified.

Review all user access rights is also incorrect as this is also a protection mechanism for the identified information.

Reference : Shon Harris AIO v3 , Chapter-4 : Access Control , Page : 126

NEW QUESTION 155

- (Topic 1)

What is called an automated means of identifying or authenticating the identity of a living person based on physiological or behavioral characteristics?

- A. Biometrics
- B. Micrometrics
- C. Macrometrics
- D. MicroBiometrics

Answer: A

Explanation:

The Answer Biometrics; Biometrics are defined as an automated means of identifying or authenticating the identity of a living person based on physiological or behavioral characteristics.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Pages 37,38.

NEW QUESTION 157

- (Topic 1)

The controls that usually require a human to evaluate the input from sensors or cameras to determine if a real threat exists are associated with:

- A. Preventive/physical
- B. Detective/technical
- C. Detective/physical
- D. Detective/administrative

Answer: C

Explanation:

Detective/physical controls usually require a human to evaluate the input from sensors or cameras to determine if a real threat exists.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 36.

NEW QUESTION 159

- (Topic 1)

What is one disadvantage of content-dependent protection of information?

- A. It increases processing overhead.
- B. It requires additional password entry.
- C. It exposes the system to data locking.
- D. It limits the user's individual address space.

Answer: A

Explanation:

Source: TIPTON, Hal, (ISC)2, Introduction to the CISSP Exam presentation.

NEW QUESTION 163

- (Topic 1)

The following is NOT a security characteristic we need to consider while choosing a biometric identification systems:

- A. data acquisition process
- B. cost
- C. enrollment process
- D. speed and user interface

Answer: B

Explanation:

Cost is a factor when considering Biometrics but it is not a security characteristic.

All the other answers are incorrect because they are security characteristics related to Biometrics.

data acquisition process can cause a security concern because if the process is not fast and efficient it can discourage individuals from using the process.

enrollment process can cause a security concern because the enrollment process has to be quick and efficient. This process captures data for authentication.

speed and user interface can cause a security concern because this also impacts the users acceptance rate of biometrics. If they are not comfortable with the interface and speed they might sabotage the devices or otherwise attempt to circumvent them.

References:

OIG Access Control (Biometrics) (pgs 165-167)

From: TIPTON, Harold F. & KRAUSE, MICKI, Information Security Management Handbook, 4th Edition, Volume 1, Pages 5-6.

in process of correction

NEW QUESTION 165

- (Topic 1)

The National Institute of Standards and Technology (NIST) standard pertaining to perimeter protection states that critical areas should be illuminated up to?

- A. Illuminated at nine feet high with at least three foot-candles
- B. Illuminated at eight feet high with at least three foot-candles
- C. Illuminated at eight feet high with at least two foot-candles
- D. Illuminated at nine feet high with at least two foot-candles

Answer: B

Explanation:

The National Institute of Standards and Technology (NIST) standard pertaining to perimeter protection states that critical areas should be illuminated eight feet high with at least two foot-candles.

It can also be referred to as illuminating to a height of eight feet, with a BRIGHTNESS of two foot-candles.

One footcandle 10.764 lux. The footcandle (or lumen per square foot) is a non-SI unit of illuminance. Like the BTU, it is obsolete but it is still in fairly common use in the United States, particularly in construction-related engineering and in building codes. Because lux and footcandles are different units of the same quantity, it is perfectly valid to convert footcandles to lux and vice versa.

The name "footcandle" conveys "the illuminance cast on a surface by a one-candela source one foot away." As natural as this sounds, this style of name is now frowned upon, because the dimensional formula for the unit is not foot • candela, but lumens per square foot.

Some sources do however note that the "lux" can be thought of as a "metre-candle" (i.e. the illuminance cast on a surface by a one-candela source one meter away). A source that is farther away casts less illumination than one that is close, so one lux is less illuminance than one footcandle. Since illuminance follows the inverse-square law, and since one foot = 0.3048 m, one lux = 0.30482 footcandle 1/10.764 footcandle.

TIPS FROM CLEMENT:

Illuminance (light level) ?C The amount of light, measured in foot-candles (US unit), that falls n a surface, either horizontal or vertical.

Parking lots lighting needs to be an average of 2 foot candles; uniformity of not more than 3:1, no area less than 1 fc.

All illuminance measurements are to be made on the horizontal plane with a certified light meter calibrated to NIST standards using traceable light sources.

The CISSP Exam Cram 2 from Michael Gregg says: Lighting is a commonly used form of perimeter protection.

Some studies have found that up to 80% of criminal acts at businesses and shopping centers happen in adjacent parking lots. Therefore, it's easy to see why lighting can be such an important concern.

Outside lighting discourages prowlers and thieves.

The National Institute of Standards and Technologies (NIST) states that, for effective perimeter control, buildings should be illuminated 8 feet high, with 2-foot candle power.

Reference used for this question:

HARRIS, Shon, All-In-One CISSP Certification Exam Guide, McGraw-Hill/Osborne, 2001, Page 325.

and

Shon's AIO v5 pg 459 and

<http://en.wikipedia.org/wiki/Foot-candle>

NEW QUESTION 169

- (Topic 1)

What is the main focus of the Bell-LaPadula security model?

- A. Accountability
- B. Integrity
- C. Confidentiality
- D. Availability

Answer: C

Explanation:

The Bell-LaPadula model is a formal model dealing with confidentiality.

The Bell?CLaPadula Model (abbreviated BLP) is a state machine model used for enforcing access control in government and military applications. It was developed by David Elliott Bell and Leonard J. LaPadula, subsequent to strong guidance from Roger R. Schell to formalize the U.S. Department of Defense (DoD) multilevel security (MLS) policy. The model is a formal state transition model of computer security policy that describes a set of access control rules which use

security labels on objects and clearances for subjects. Security labels range from the most sensitive (e.g. "Top Secret"), down to the least sensitive (e.g., "Unclassified" or "Public").

The Bell-LaPadula model focuses on data confidentiality and controlled access to classified information, in contrast to the Biba Integrity Model which describes rules for the protection of data integrity. In this formal model, the entities in an information system are divided into subjects and objects.

The notion of a "secure state" is defined, and it is proven that each state transition preserves security by moving from secure state to secure state, thereby inductively proving that the system satisfies the security objectives of the model. The Bell-LaPadula model is built on the concept of a state machine with a set of allowable states in a computer network system. The transition from one state to another state is defined by transition functions.

A system state is defined to be "secure" if the only permitted access modes of subjects to objects are in accordance with a security policy. To determine whether a specific access mode is allowed, the clearance of a subject is compared to the classification of the object (more precisely, to the combination of classification and set of compartments, making up the security level) to determine if the subject is authorized for the specific access mode.

The clearance/classification scheme is expressed in terms of a lattice. The model defines two mandatory access control (MAC) rules and one discretionary access control (DAC) rule with three security properties:

The Simple Security Property - a subject at a given security level may not read an object at a higher security level (no read-up).

The -property (read "star"-property) - a subject at a given security level must not write to any object at a lower security level (no write-down). The -property is also known as the Confinement property.

The Discretionary Security Property - use of an access matrix to specify the discretionary access control.

The following are incorrect answers:

Accountability is incorrect. Accountability requires that actions be traceable to the user that performed them and is not addressed by the Bell-LaPadula model.

Integrity is incorrect. Integrity is addressed in the Biba model rather than Bell-LaPadula. Availability is incorrect. Availability is concerned with assuring that data/services are available to authorized users as specified in service level objectives and is not addressed by the Bell-LaPadula model.

References: CBK, pp. 325-326

AIO3, pp. 279 - 284

AIOv4 Security Architecture and Design (pages 333 - 336) AIOv5 Security Architecture and Design (pages 336 - 338)

Wikipedia at https://en.wikipedia.org/wiki/Bell-La_Padula_model

NEW QUESTION 172

- (Topic 1)

What security model implies a central authority that define rules and sometimes global rules, dictating what subjects can have access to what objects?

- A. Flow Model
- B. Discretionary access control
- C. Mandatory access control
- D. Non-discretionary access control

Answer: D

Explanation:

As a security administrator you might configure user profiles so that users cannot change the system's time, alter system configuration files, access a command prompt, or install unapproved applications. This type of access control is referred to as nondiscretionary, meaning that access decisions are not made at the discretion of the user. Nondiscretionary access controls are put into place by an authoritative entity (usually a security administrator) with the goal of protecting the organization's most critical assets.

Non-discretionary access control is when a central authority determines what subjects can have access to what objects based on the organizational security policy. Centralized access control is not an existing security model.

Both, Rule Based Access Control (RuBAC or RBAC) and Role Based Access Controls (RBAC) falls into this category.

Reference(s) used for this question:

Harris, Shon (2012-10-18). CISSP All-in-One Exam Guide, 6th Edition (p. 221). McGraw-Hill. Kindle Edition.

and

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 33).

NEW QUESTION 175

- (Topic 1)

What does it mean to say that sensitivity labels are "incomparable"?

- A. The number of classification in the two labels is different.
- B. Neither label contains all the classifications of the other.
- C. the number of categories in the two labels are different.
- D. Neither label contains all the categories of the other.

Answer: D

Explanation:

If a category does not exist then you cannot compare it. Incomparable is when you have two disjointed sensitivity labels, that is a category in one of the labels is not in the other label. "Because neither label contains all the categories of the other, the labels can't be compared. They're said to be incomparable"

COMPARABILITY:

The label:

TOP SECRET [VENUS ALPHA]

is "higher" than either of the labels:

SECRET [VENUS ALPHA] TOP SECRET [VENUS]

But you can't really say that the label:

TOP SECRET [VENUS]

is higher than the label:

SECRET [ALPHA]

Because neither label contains all the categories of the other, the labels can't be compared. They're said to be incomparable. In a mandatory access control system, you won't be allowed access to a file whose label is incomparable to your clearance.

The Multilevel Security policy uses an ordering relationship between labels known as the dominance relationship. Intuitively, we think of a label that dominates another as being "higher" than the other. Similarly, we think of a label that is dominated by another as being "lower" than the other. The dominance relationship is used to determine permitted operations and information flows.

DOMINANCE

The dominance relationship is determined by the ordering of the Sensitivity/Clearance component of the label and the intersection of the set of Compartments.

Sample Sensitivity/Clearance ordering are:

Top Secret > Secret > Confidential > Unclassified s3 > s2 > s1 > s0

Formally, for label one to dominate label 2 both of the following must be true: The sensitivity/clearance of label one must be greater than or equal to the sensitivity/clearance of label two.

The intersection of the compartments of label one and label two must equal the compartments of label two.

Additionally:

Two labels are said to be equal if their sensitivity/clearance and set of compartments are exactly equal. Note that dominance includes equality.

One label is said to strictly dominate the other if it dominates the other but is not equal to the other.

Two labels are said to be incomparable if each label has at least one compartment that is not included in the other's set of compartments.

The dominance relationship will produce a partial ordering over all possible MLS labels, resulting in what is known as the MLS Security Lattice.

The following answers are incorrect:

The number of classification in the two labels is different. Is incorrect because the categories are what is being compared, not the classifications.

Neither label contains all the classifications of the other. Is incorrect because the categories are what is being compared, not the classifications.

the number of categories in the two labels is different. Is incorrect because it is possible a category exists more than once in one sensitivity label and does exist in the other so they would be comparable.

Reference(s) used for this question:

O'Reilly - Computer Systems and Access Control (Chapter 3) <http://www.oreilly.com/catalog/csb/chapter/ch03.html>

and http://rubix.com/cms/mls_dom

NEW QUESTION 178

- (Topic 1)

Sensitivity labels are an example of what application control type?

- A. Preventive security controls
- B. Detective security controls
- C. Compensating administrative controls
- D. Preventive accuracy controls

Answer: A

Explanation:

Sensitivity labels are a preventive security application controls, such as are firewalls, reference monitors, traffic padding, encryption, data classification, one-time passwords, contingency planning, separation of development, application and test environments.

The incorrect answers are:

Detective security controls - Intrusion detection systems (IDS), monitoring activities, and audit trails.

Compensating administrative controls - There no such application control. Preventive accuracy controls - data checks, forms, custom screens, validity checks, contingency planning, and backups. Sources:

KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, John Wiley & Sons, 2001, Chapter 7:

Applications and Systems Development (page 264).

KRUTZ, Ronald & VINES, Russel, The CISSP Prep Guide: Gold Edition, Wiley Publishing Inc., 2003, Chapter 7: Application Controls, Figure 7.1 (page 360).

NEW QUESTION 180

- (Topic 1)

What is called the percentage of valid subjects that are falsely rejected by a Biometric Authentication system?

- A. False Rejection Rate (FRR) or Type I Error
- B. False Acceptance Rate (FAR) or Type II Error
- C. Crossover Error Rate (CER)
- D. True Rejection Rate (TRR) or Type III Error

Answer: A

Explanation:

The percentage of valid subjects that are falsely rejected is called the False Rejection Rate (FRR) or Type I Error.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 38.

NEW QUESTION 184

- (Topic 1)

Which of the following protection devices is used for spot protection within a few inches of the object, rather than for overall room security monitoring?

- A. Wave pattern motion detectors
- B. Capacitance detectors
- C. Field-powered devices
- D. Audio detectors

Answer: B

Explanation:

Capacitance detectors monitor an electrical field surrounding the object being monitored. They are used for spot protection within a few inches of the object, rather than for overall room security monitoring used by wave detectors. Penetration of this field changes the electrical capacitance of the field enough to generate and alarm. Wave pattern motion detectors generate a frequency wave pattern and send an alarm if the pattern is disturbed as it is reflected back to its receiver. Field-powered devices are a type of personnel access control devices. Audio detectors simply monitor a room for any abnormal sound wave generation and trigger an alarm.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, John Wiley & Sons, 2001, Chapter 10: Physical security (page 344).

NEW QUESTION 189

- (Topic 1)

Access Control techniques do not include which of the following?

- A. Rule-Based Access Controls
- B. Role-Based Access Control
- C. Mandatory Access Control
- D. Random Number Based Access Control

Answer: D

Explanation:

Access Control Techniques Discretionary Access Control

Mandatory Access Control Lattice Based Access Control Rule-Based Access Control Role-Based Access Control

Source: DUPUIS, Clement, Access Control Systems and Methodology, Version 1, May 2002, CISSP Open Study Group Study Guide for Domain 1, Page 13.

NEW QUESTION 190

- (Topic 1)

The throughput rate is the rate at which individuals, once enrolled, can be processed and identified or authenticated by a biometric system. Acceptable throughput rates are in the range of:

- A. 100 subjects per minute.
- B. 25 subjects per minute.
- C. 10 subjects per minute.
- D. 50 subjects per minute.

Answer: C

Explanation:

The throughput rate is the rate at which individuals, once enrolled, can be processed and identified or authenticated by a biometric system.

Acceptable throughput rates are in the range of 10 subjects per minute.

Things that may impact the throughput rate for some types of biometric systems may include:

A concern with retina scanning systems may be the exchange of body fluids on the eyepiece.

Another concern would be the retinal pattern that could reveal changes in a person's health, such as diabetes or high blood pressure.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 38.

NEW QUESTION 192

- (Topic 1)

Controls provide accountability for individuals who are accessing sensitive information. This accountability is accomplished:

- A. through access control mechanisms that require identification and authentication and through the audit function.
- B. through logical or technical controls involving the restriction of access to systems and the protection of information.
- C. through logical or technical controls but not involving the restriction of access to systems and the protection of information.
- D. through access control mechanisms that do not require identification and authentication and do not operate through the audit function.

Answer: A

Explanation:

Controls provide accountability for individuals who are accessing sensitive information. This accountability is accomplished through access control mechanisms that require identification and authentication and through the audit function. These controls must be in accordance with and accurately represent the organization's security policy. Assurance procedures ensure that the control mechanisms correctly implement the security policy for the entire life cycle of an information system.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 33.

NEW QUESTION 193

- (Topic 1)

Examples of types of physical access controls include all EXCEPT which of the following?

- A. badges
- B. locks
- C. guards
- D. passwords

Answer: D

Explanation:

Passwords are considered a Preventive/Technical (logical) control. The following answers are incorrect:

badges Badges are a physical control used to identify an individual. A badge can include a smart device which can be used for authentication and thus a Technical control, but the actual badge itself is primarily a physical control.

locks Locks are a Preventative Physical control and has no Technical association. guards Guards are a Preventative Physical control and has no Technical association.

The following reference(s) were/was used to create this question:

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 35).

NEW QUESTION 198

- (Topic 1)

Which of the following access control models introduces user security clearance and data classification?

- A. Role-based access control
- B. Discretionary access control
- C. Non-discretionary access control
- D. Mandatory access control

Answer: D

Explanation:

The mandatory access control model is based on a security label system. Users are given a security clearance and data is classified. The classification is stored in the security labels of the resources. Classification labels specify the level of trust a user must have to access a certain file.

Source: HARRIS, Shon, All-In-One CISSP Certification Exam Guide, McGraw- Hill/Osborne, 2002, Chapter 4: Access Control (Page 154).

NEW QUESTION 201

- (Topic 1)

What Orange Book security rating is reserved for systems that have been evaluated but fail to meet the criteria and requirements of the higher divisions?

- A. A
- B. D
- C. E
- D. F

Answer: B

Explanation:

D or "minimal protection" is reserved for systems that were evaluated under the TCSEC but did not meet the requirements for a higher trust level.

A is incorrect. A or "Verified Protection" is the highest trust level under the TCSEC. E is incorrect. The trust levels are A - D so "E" is not a valid trust level.

F is incorrect. The trust levels are A - D so "F" is not a valid trust level.

CBK, pp. 329 - 330

AIO3, pp. 302 - 306

NEW QUESTION 206

- (Topic 1)

Which of the following is NOT an advantage that TACACS+ has over TACACS?

- A. Event logging
- B. Use of two-factor password authentication
- C. User has the ability to change his password
- D. Ability for security tokens to be resynchronized

Answer: A

Explanation:

Although TACACS+ provides better audit trails, event logging is a service that is provided with TACACS.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, John Wiley & Sons, 2001, Chapter 3: Telecommunications and Network Security (page 121).

NEW QUESTION 209

- (Topic 1)

Which of the following is NOT true of the Kerberos protocol?

- A. Only a single login is required per session.
- B. The initial authentication steps are done using public key algorithm.
- C. The KDC is aware of all systems in the network and is trusted by all of them
- D. It performs mutual authentication

Answer: B

Explanation:

Kerberos is a network authentication protocol. It is designed to provide strong authentication for client/server applications by using secret-key cryptography. It has the following characteristics:

It is secure: it never sends a password unless it is encrypted.

Only a single login is required per session. Credentials defined at login are then passed between resources without the need for additional logins.

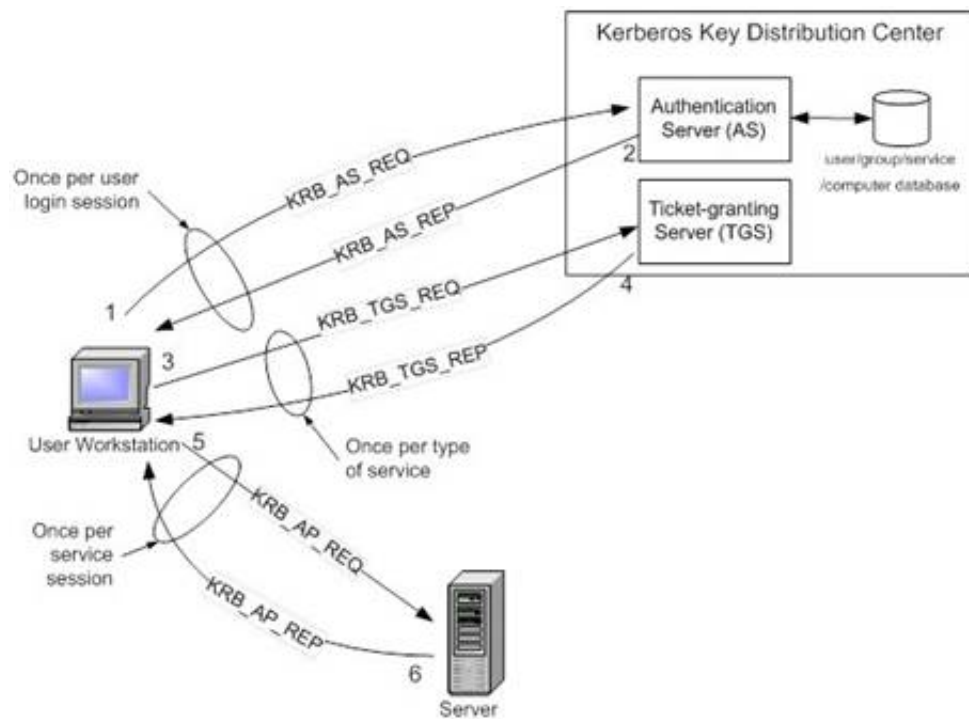
The concept depends on a trusted third party ?C a Key Distribution Center (KDC). The KDC is aware of all systems in the network and is trusted by all of them.

It performs mutual authentication, where a client proves its identity to a server and a server proves its identity to the client.

Kerberos introduces the concept of a Ticket-Granting Server/Service (TGS). A client that wishes to use a service has to receive a ticket from the TGS ?C a ticket is a time-limited

cryptographic message ?C giving it access to the server. Kerberos also requires an Authentication Server (AS) to verify clients. The two servers combined make up a KDC.

Within the Windows environment, Active Directory performs the functions of the KDC. The following figure shows the sequence of events required for a client to gain access to a service using Kerberos authentication. Each step is shown with the Kerberos message associated with it, as defined in RFC 4120 ??The Kerberos Network Authorization Service (V5)??.



C:\Users\MCS\Desktop\1.jpg Kerberos Authentication Step by Step

Step 1: The user logs on to the workstation and requests service on the host. The workstation sends a message to the Authorization Server requesting a ticket granting ticket (TGT).

Step 2: The Authorization Server verifies the user's access rights in the user database and creates a TGT and session key. The Authorization Server encrypts the results using a key derived from the user's password and sends a message back to the user workstation.

The workstation prompts the user for a password and uses the password to decrypt the incoming message. When decryption succeeds, the user will be able to use the TGT to request a service ticket.

Step 3: When the user wants access to a service, the workstation client application sends a request to the Ticket Granting Service containing the client name, realm name and a timestamp. The user proves his identity by sending an authenticator encrypted with the session key received in Step 2.

Step 4: The TGS decrypts the ticket and authenticator, verifies the request, and creates a ticket for the requested server. The ticket contains the client name and optionally the client IP address. It also contains the realm name and ticket lifespan. The TGS returns the ticket to the user workstation. The returned message contains two copies of a server session key

?C one encrypted with the client password, and one encrypted by the service password.

Step 5: The client application now sends a service request to the server containing the ticket received in Step 4 and an authenticator. The service authenticates the request by decrypting the session key. The server verifies that the ticket and authenticator match, and then grants access to the service. This step as described does not include the authorization performed by the Intel AMT device, as described later.

Step 6: If mutual authentication is required, then the server will reply with a server authentication message.

The Kerberos server knows "secrets" (encrypted passwords) for all clients and servers under its control, or it is in contact with other secure servers that have this information. These "secrets" are used to encrypt all of the messages shown in the figure above.

To prevent "replay attacks," Kerberos uses timestamps as part of its protocol definition. For timestamps to work properly, the clocks of the client and the server need to be in synch as much as possible. In other words, both computers need to be set to the same time and date. Since the clocks of two computers are often out of synch, administrators can establish a policy to establish the maximum acceptable difference to Kerberos between a client's clock and server's clock. If the difference between a client's clock and the server's clock is less than the maximum time difference specified in this policy, any timestamp used in a session between the two computers will be considered authentic. The maximum difference is usually set to five minutes.

Note that if a client application wishes to use a service that is "Kerberized" (the service is configured to perform Kerberos authentication), the client must also be Kerberized so that it expects to support the necessary message responses.

For more information about Kerberos, see <http://web.mit.edu/kerberos/www/>.

References:

Introduction to Kerberos Authentication from Intel

and

<http://www.zeroshell.net/eng/kerberos/Kerberos-definitions/#1.3.5.3> and

<http://www.ietf.org/rfc/rfc4120.txt>

NEW QUESTION 212

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