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CPRE 431

M07 HW

Assignments will be submitted in PDF format via Canvas.

Please submit your homework online through Canvas. Late homework will not be accepted.

Important: Your submission must be in .pdf format ONLY!

Please ensure that you support all your answers with the correct screenshots showing your solutions.

1. List and briefly define two IEEE 802.11 services
 - a. Authentication: The access point must prove the identity of the client before carrying out any operations.
 - b. Encryption: Any transactions between the client and the access point must be encrypted.
2. Identify a security flaw that appears in 2G and 3G networks
 - a. Both networks are vulnerable to man-in-the-middle attacks.
3. List and briefly define three cloud service models
 - a. Software as a Service: Cloud service enables customer to use software run by the service, where the customer can avoid the complexity of maintaining the software. Examples include Gmail and WebEx.
 - b. Platform as a Service: Cloud service provides an operating system in the cloud, allowing users to develop and run software as they would on a personal system.
 - c. Infrastructure as a Service: Cloud service provides only the base hardware and virtual machines, allowing the customer to deploy arbitrary software, including an OS, as they see fit.
4. Describe two of the main cloud-specific threats
 - a. Shared Technology Isolation Issues: Without proper configurations, a user may be able to use more resources than they have paid for.
 - b. Account or Service Hijacking: A user's account may be stolen, and the resources used by another unauthorized party.
5. What is OpenStack?

OpenStack is an open-source project that offers a cloud operating system. It enables creating and maintaining any number of servers and is massively scalable.
6. What is MiniSec?

MiniSec is an open-source security model and is a part of TinyOS. It is an operating system designed for high security with low memory and energy consumption.