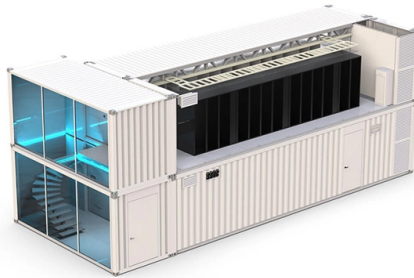


The corresponding layers of network security devices



AI Overview

A network security device typically implements seven layers of security to provide comprehensive protection. Network security devices are designed using a layered security approach, often referred to as defense-in-depth, which ensures that if one layer fails, others continue to protect the network. The seven commonly recognized layers include:

- Perimeter Security** – Protects the network boundary using firewalls, VPNs, and intrusion prevention systems to block unauthorized access.
- Network Segmentation** – Divides the network into smaller segments to limit lateral movement of attackers and enforce access controls.
- Endpoint Security** – Secures devices such as computers, mobile devices, and IoT devices against malware and exploitation.
- Antimalware/Antivirus Layer** – Continuously scans for viruses, ransomware, and other malicious software to prevent infection.
- Secure Web Gateways** – Monitors and filters web traffic to block malicious websites and enforce company policies.
- Email Security** – Protects against phishing, spam, malware, and data leakage through email communication.
- Human Layer** – Focuses on user awareness, training, and access management to reduce risks from human error or insider threats.

Each layer complements the others, creating a robust, multi-tiered defense that addresses technical, physical, and human vulnerabilities. By implementing all seven layers, organizations can significantly reduce the risk of cyberattacks and improve their ability to detect, respond to, and recover from security incidents.

Article Content

OSI Model Security Layers: Practical CISSP Study Guide for Modern

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OSI Model Reference Chart

The Cisco Learning Network has developed an OSI model chart to help aid in your learning. This chart organizes and describes the seven layers, providing examples in the form of protocols and devices,

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Each layer removes its header and trailer, leaving the original data from the application layer. Essentially, the OSI Model divides network communication into seven layers, each with specific

Layers of OSI Model

Divides network communication into seven functional layers. Assigns specific responsibilities to each layer. Promotes compatibility between different networking systems.

7 Layers of IT security

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