Network Management

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Week 2

1.

Applying the FCAPS model to a cloud service network helps administrators manage the network in an organized and effective way. FCAPS stands for Fault, Configuration, Accounting, Performance, and Security management. In a cloud network, fault management is used to detect problems such as server failures, downtime, or connection errors. These faults are fixed quickly to reduce service disruption. Configuration management ensures that all routers, servers, and virtual machines are correctly set up and updated. Accounting management tracks how network resources are used, which helps with billing and planning. Performance management monitors speed, bandwidth usage, and response times to ensure good service quality. Security management protects data from hackers, malware, and unauthorized access. Using FCAPS helps keep the cloud network reliable, secure, and efficient.

2.

SNMP stands for Simple Network Management Protocol. It is a management model used to monitor and control network devices such as routers, switches, and servers. SNMP works using a manager and agent system. Agents collect information from network devices and send it to the SNMP manager. SNMP helps detect faults, monitor performance, and manage configurations. Its main role is to make network management easier by providing real-time information. SNMP is widely used because it is simple, flexible, and supports many device types.

3.

Using Cisco Packet Tracer, I created a simple network with routers, switches, and computers. I configured IP addresses and tested connectivity between devices using ping commands. This helped me understand how network configuration affects communication. Packet Tracer allows safe testing without affecting real networks. Wireshark can also be used to analyze network traffic by capturing data packets. It helps identify delays, errors, or suspicious activity. These tools are important for monitoring, troubleshooting, and improving network performance.

4.

An FCAPS diagram visually represents the five areas of network management. Fault management focuses on detecting and fixing network errors. Configuration management ensures devices are set up correctly. Accounting management tracks resource usage.

Performance management monitors speed and efficiency. Security management protects the network from threats. Using an FCAPS diagram helps administrators understand how these components work together. It provides a clear overview of responsibilities and helps ensure smooth and secure network operation.