

**Automation And Programmability**

CCNA



1. Explain How Automation Impacts Network Management

A: Automation in network management speeds up tasks, reduces errors, and ensures consistency, making networks more efficient, secure, and cost-effective.

1. Compare Traditional network with Controller based networking

A: Traditional networking requires manual setup of each device, while controller-based networking uses a central controller for automated, scalable, and simplified management.

1. Explain Virtualization

A: Virtualization lets you run multiple virtual operating systems on one physical machine, making resource use more efficient and flexible.

1. Describe Characteristics of REST-based API

A: REST-based APIs are stateless, meaning each request must contain all needed information. They follow a client-server model where the client handles the interface and the server manages data. They use standard HTTP methods and URIs to interact with resources, which are represented in formats like JSON or XML.

1. Explain methods of Automation

A: Automation methods include scripting for custom tasks, orchestration for coordinating processes, and tools with pre-built functions for managing workflows.

1. Explain SDN

A: SDN (Software-Defined Networking) separates network control from hardware, allowing centralized management and dynamic configuration of network resources through software. This simplifies network management and enables more flexible, efficient operations.

1. Explain DNA Center

A: Cisco DNA Center is a network management platform that provides centralized control, automation, and insights for enterprise networks, simplifying operations and enhancing network performance through a user-friendly interface.

1. Explain SD-Access and SD-WAN

A: SD-Access automates network management and access control, while SD-WAN improves and automates WAN performance and flexibility.