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**Nombre de la materia:**  
**Fundamento de telecomunicaciones**

**Nombre de la licenciatura:**  
**SISTEMAS COMPUTACIONALES**

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## What is SDN

Software-defined networking (SDN) is an agile network architecture designed to help organizations keep pace with the dynamic nature of today's applications. It separates network management from the underlying network infrastructure, allowing users to dynamically adjust traffic flow throughout the network to meet changing needs.

Software-defined networks seek to reduce the complexity of statistically defined networks, automate network functions, accelerate the deployment of applications and services, and simplify the deployment and management of network resources.

A software-defined network consists of three layers (the application layer, the control layer and the infrastructure layer), connected through upstream and downstream communication APIs.

The application layer includes applications and network functions, such as firewalls and load balancing. Traditional networks use a specialized appliance for these functions, but a software-defined network uses the controller to manage the behavior of the data plane. The control layer manages policies and the flow of traffic through the network. And the infrastructure layer contains the physical switches of the network.

The move to software-defined networking (SDN) brings programmability and agility to your network, allowing you to keep up with today's business demands.

A software-defined network allows you to:

- Support dynamic movement, replication and virtual resource allocation.
- Ease the administrative burden of configuring and provisioning features such as quality of service and security