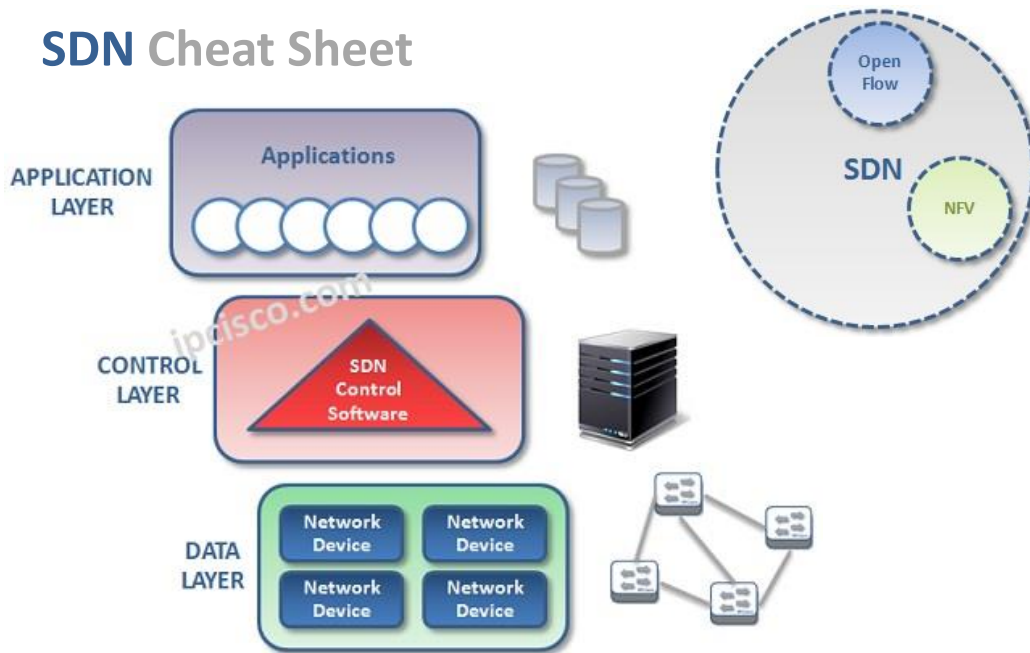
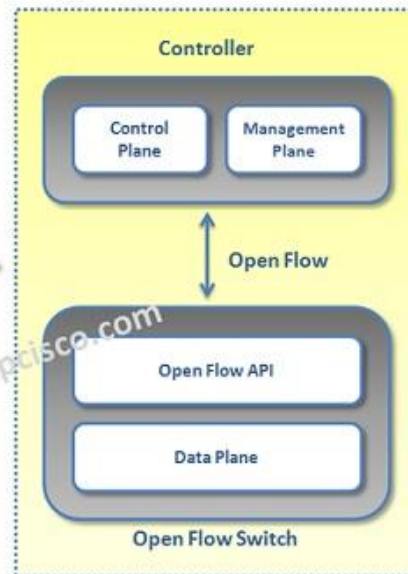


SDN Cheat Sheet

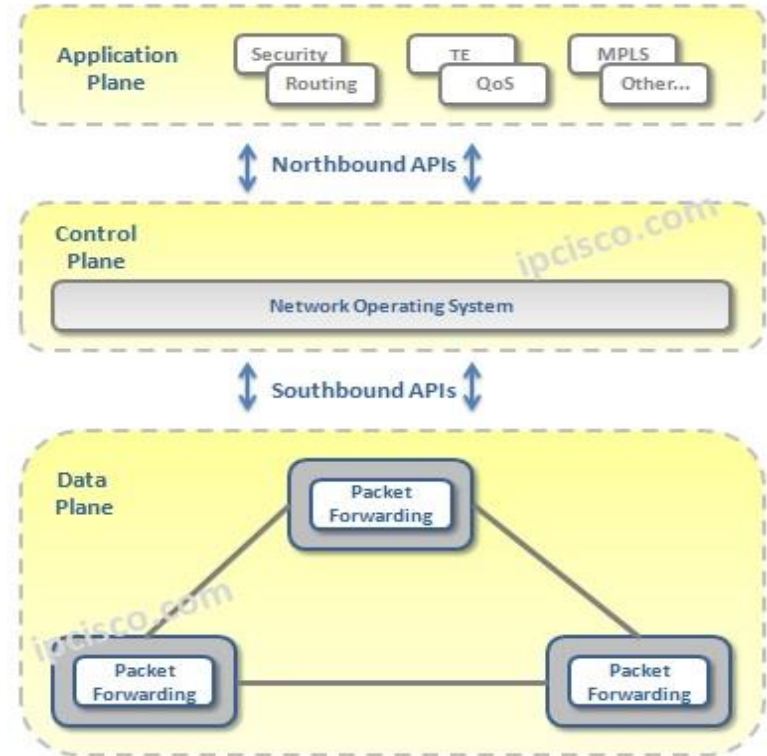


Traditional Networks

Software-Defined Networking



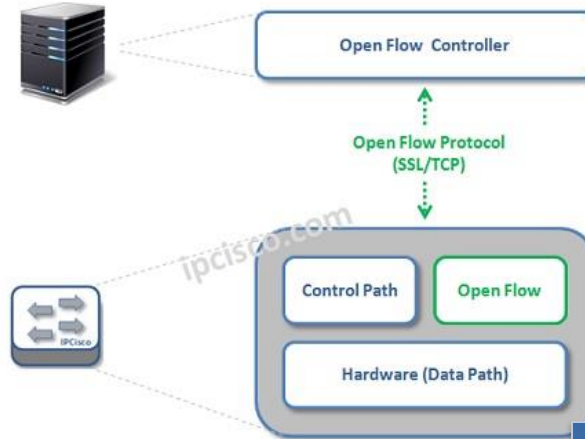
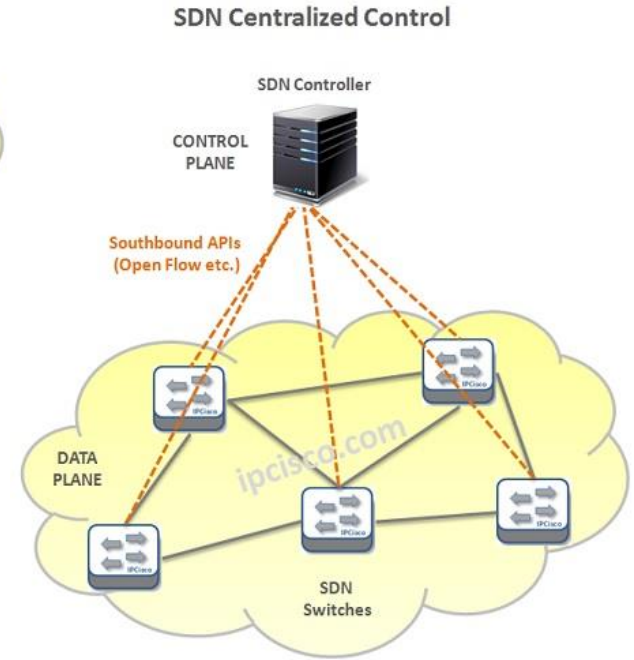
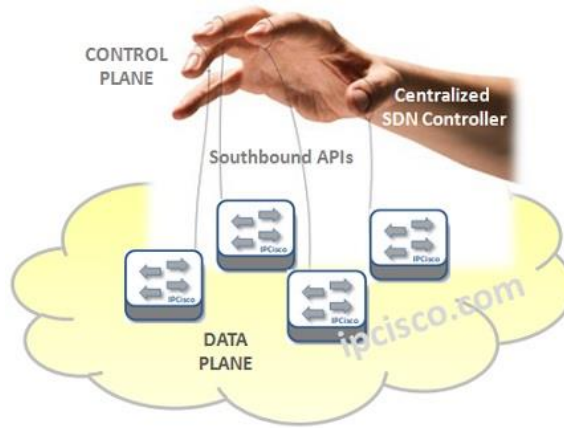
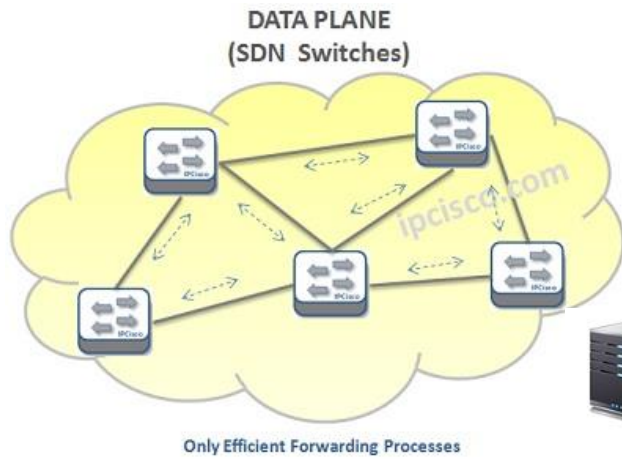
SDN
(Software Defined Networking)



The SDN Components

- Network Devices (Data Plane)
- SDN Controller (Control Plane)
- Southbound Interface
- Northbound Interface
- Network Operating System (NOS)
- Application and Services (Application Plane)

SDN Cheat Sheet



Without NFV



With NFV



What SDN Brings :

- Separation of Control Plane and Data Plane,
- Central maintenance mechanism,
- Network devices responsible for only Forwarding,
- General purpose hardware,
- Network Operating System,
- New Applications instead of Protocols,
- New Protocol, Open Flow, NETCONF etc.
- Decrease CAPEX and Opex Costs,
- Increased Reliability and Security,
- Better Troubleshooting,
- Fully Controlled Network.

SDN Cheat Sheet

SDN Terminology

SDN : Software-Defined Networking. It is a new network architecture that comprised different network technologies to build a flexible, scalable, agile and easy manageable networks. SDN does this job by separating control and forwarding planes.

Forwarding Plane : The bottom layer of SDN that is full of physical or virtual forwarding devices. Data Plane.

Control Plane : The middle layer of SDN that includes Network Operating System and SDN Controller.

Application Plane: The top layer of SDN that includes Applications.

Southbound Interface : The interface between the controller and the data plane forwarding devices.

Northbound Interface : The interface between the controller and the application plane.

API : Application Programmable Interface. Provide systems and software interaction.

Forwarding Switch : SDN Forwarding Switch that is used in data plane

Controller : The central control mechanisms of SDN network that controls forwarding plane.

NFV : Network Functions Virtualization. Virtualisation of the different skilled physical network devices with their virtual counterparts.

Flow : Sequence of packet between the source and the destination.

Flow Rules : Actions set for the flow

Flow Table : Tables on the switch that handles the traffic flow

Open Flow : Southbound Interface API, that provide the communication of SDN Controller and SDN Data Plane devices.

OVSDB : Open vSwitch Database Management Protocol is an Open Flow management protocol that manages Open Flow switches.

RPC : Remote Procedure Call is a protocol that is used by programs to request service from another programs located in different devices.

Netconf : A network configuration management protocol used with SDN instead SNMP

Restconf : A protocol running over HTTP for accessing the data that is defined with YANG.

gRPC : A Remote Procedure Call platform that is developed by Google.

YANG : A programming language that is used to model and state the data that will be modified by NETCONF like protocols.

XMPP : Extensible Messaging and Presence Protocol is an XML based protocol that is an alternative to Open Flow protocol in SDN networks.

Open Daylight : An open project for SDN controller development.

Orchestration System : The system that provide configuration and management of networks automatically.

Cloud : The collection of computing resources that are connected over the Internet.

Cloud Computing : The delivery of computing services like physical devices, softwares or application over the internet.

IaaS : The cloud system used to provide Network Infrastructure

PaaS : The cloud system used to provide Computing Platforms

SaaS : The cloud system used to provide Application