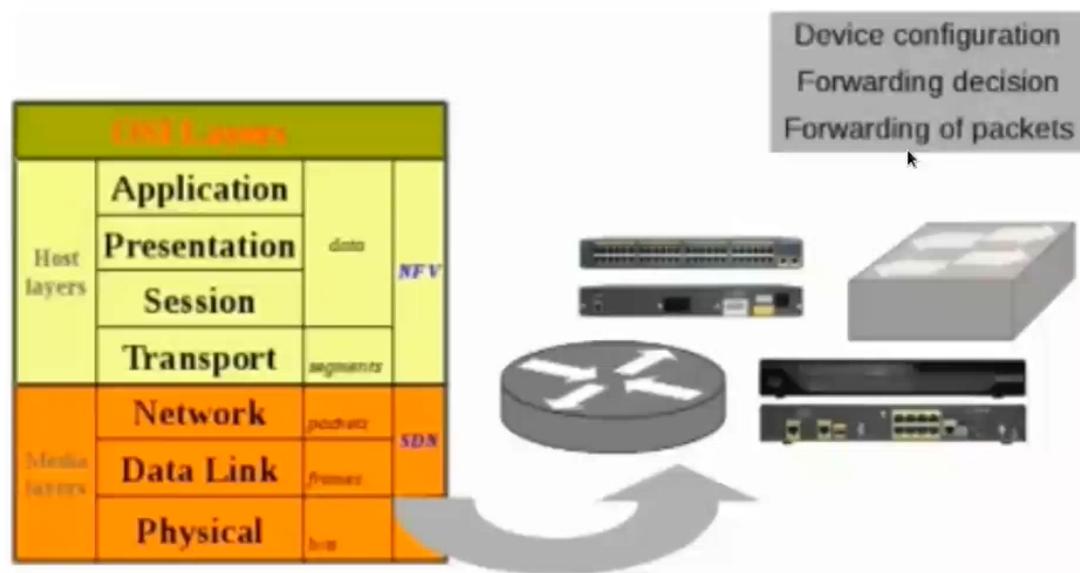
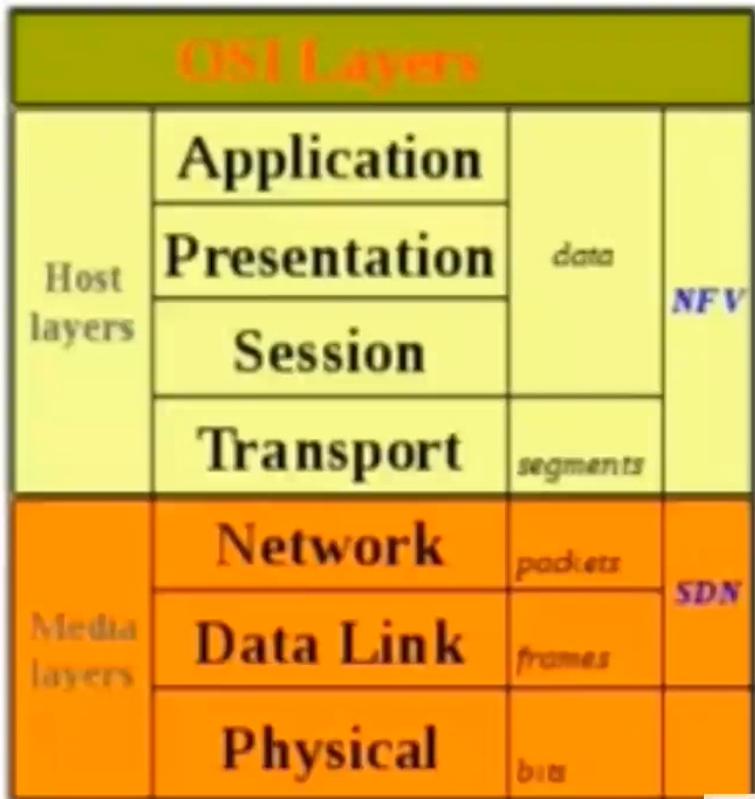


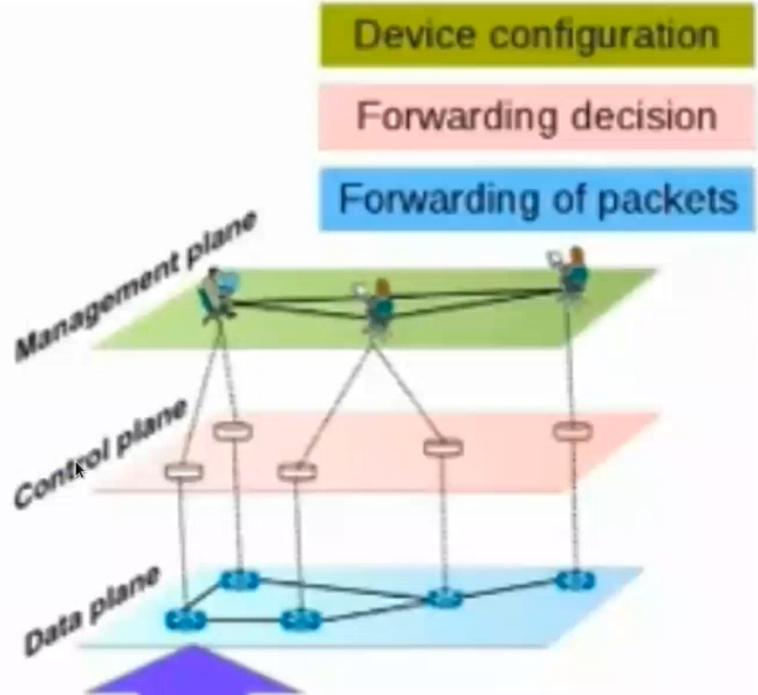
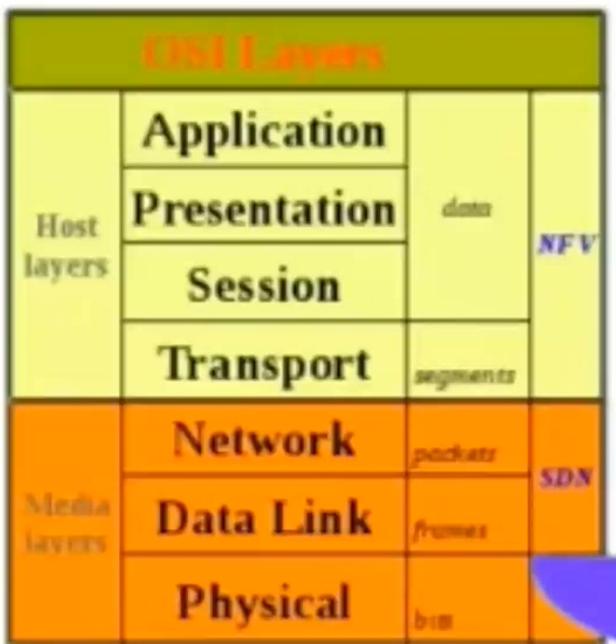
# What is SDN



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# What is SDN





# What is SDN

What is Control plane and Data plane

Decoupling of Control plane and Data plane

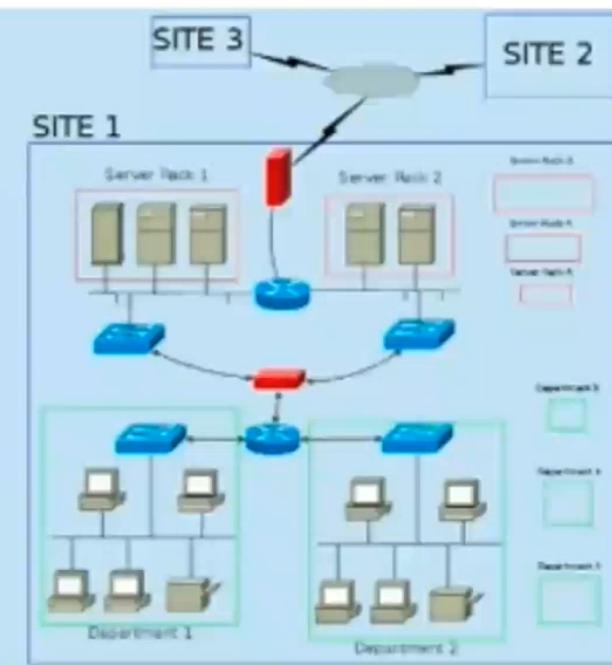
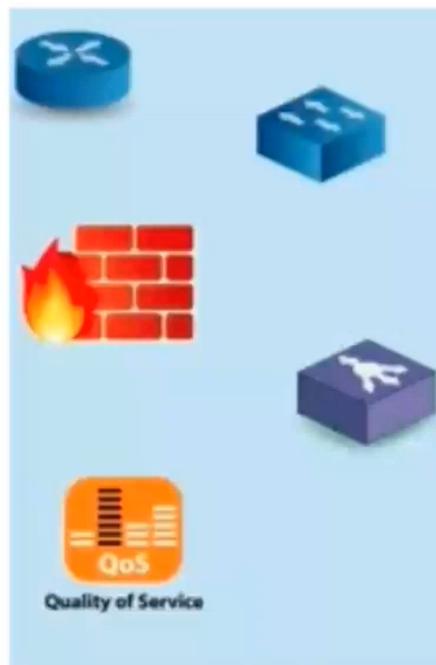
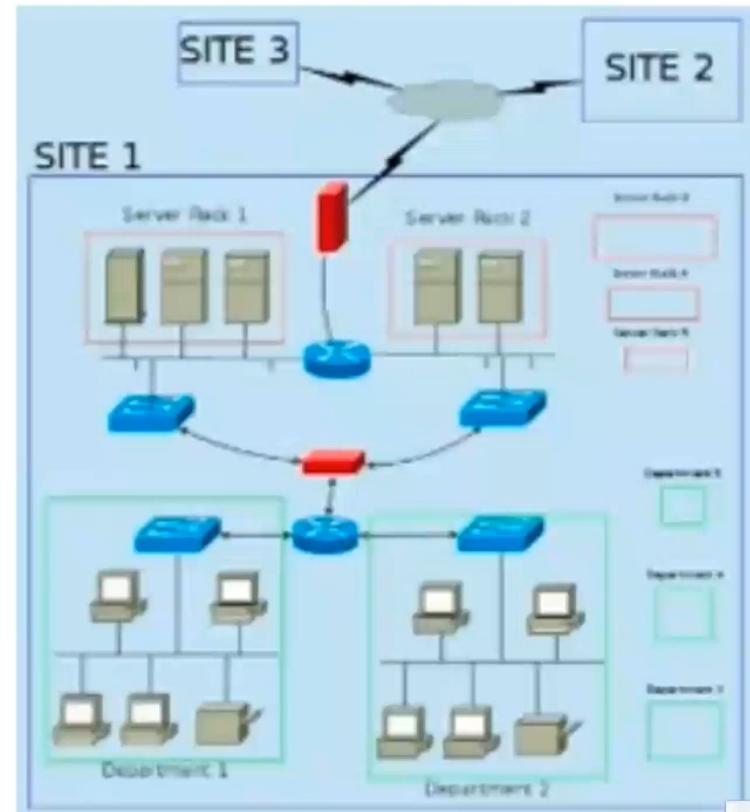
Software Defined Networking is about having customizable software as part of network devices

Control plane is made available for customization and centralized management

Data plane is a programmable network device that a user can manage from a centralized control plane outside of the device



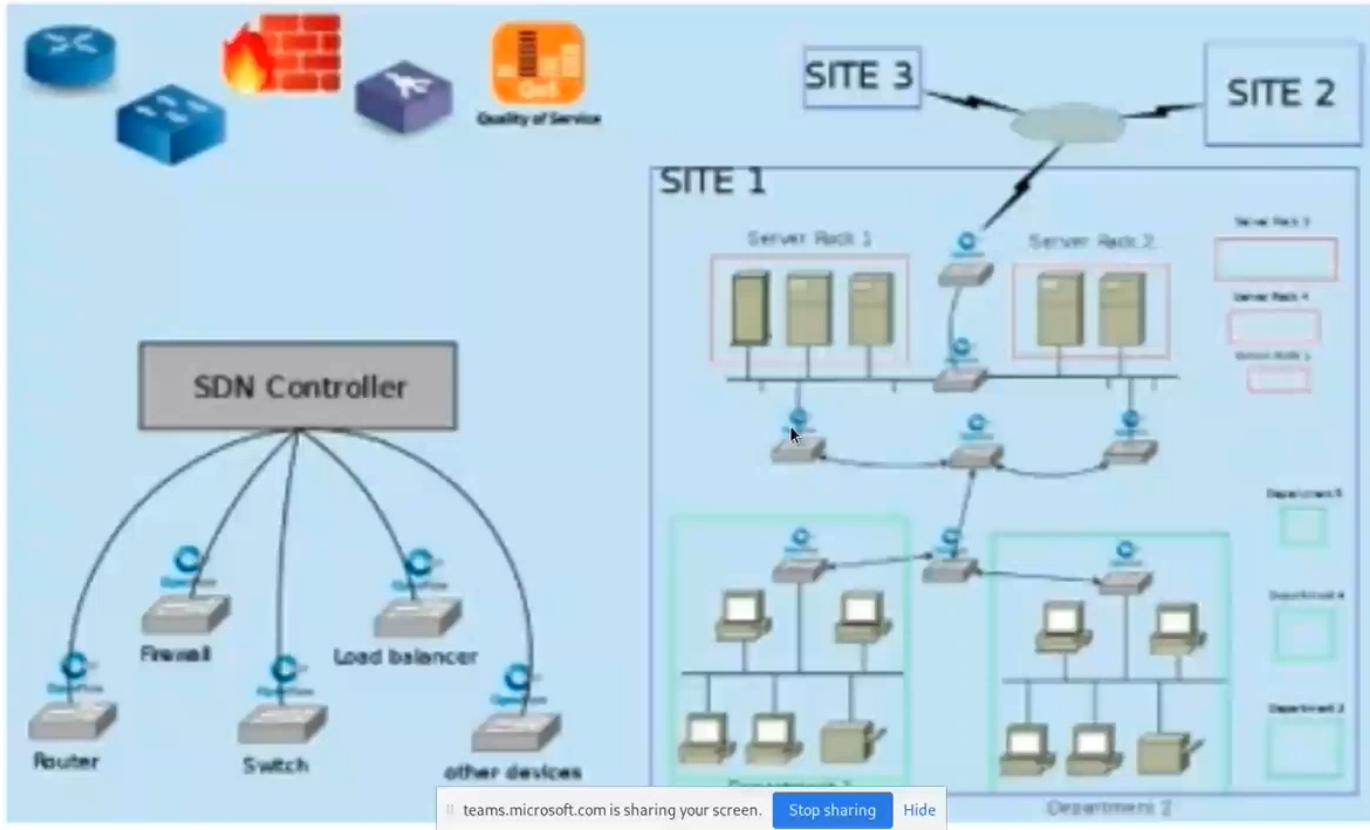
# Why SDN



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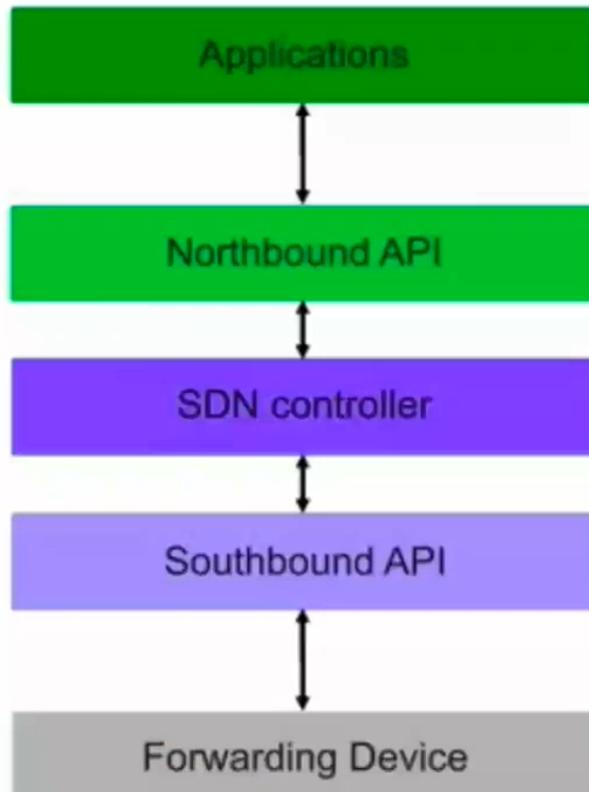
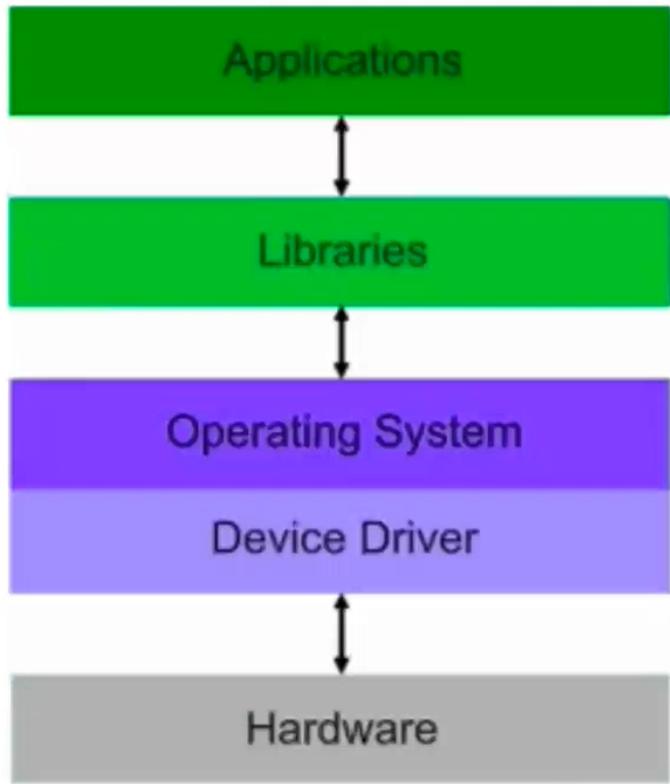


# Why SDN





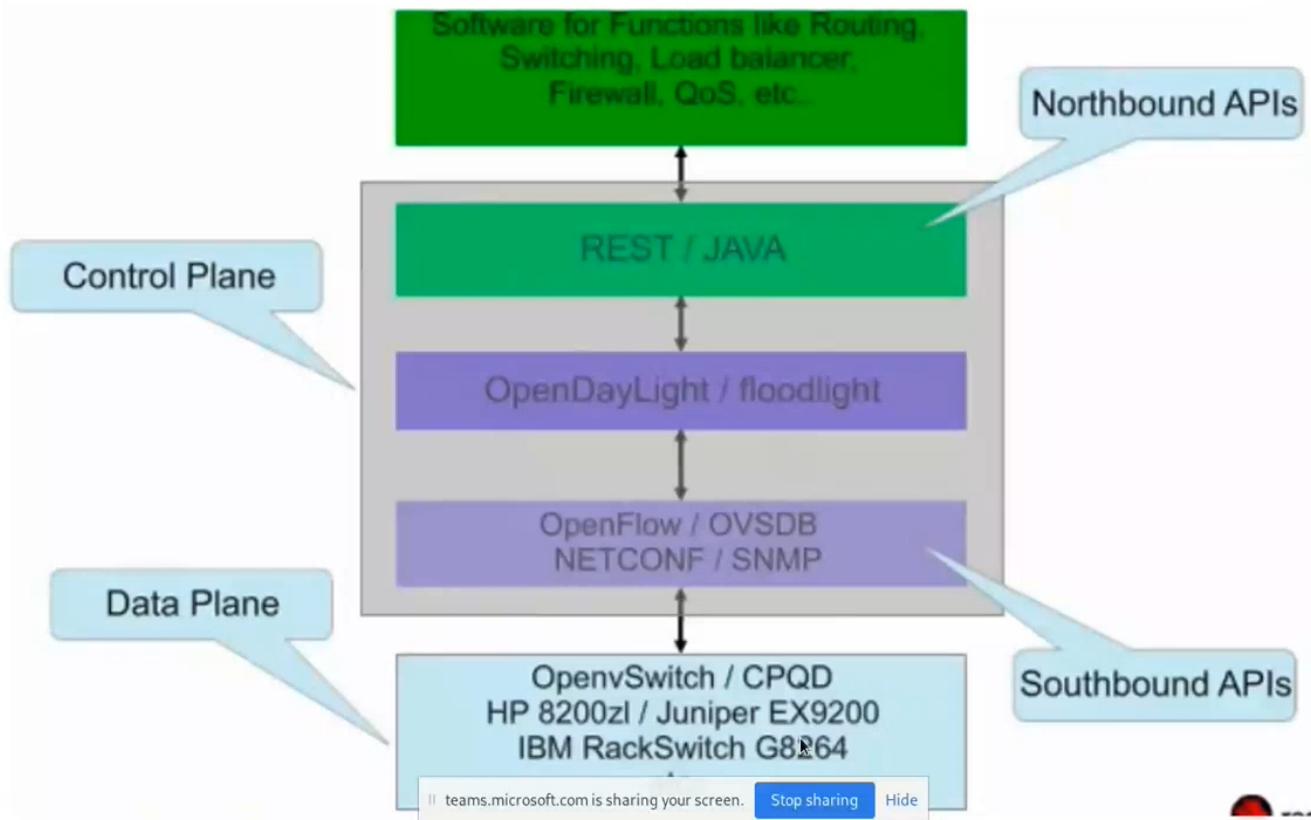
# Abstraction



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# SDN components



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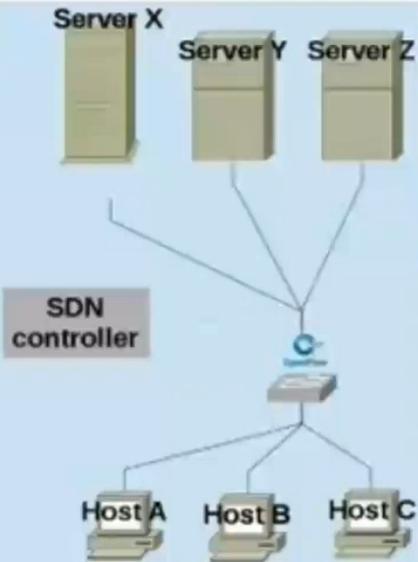


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## How SDN works?

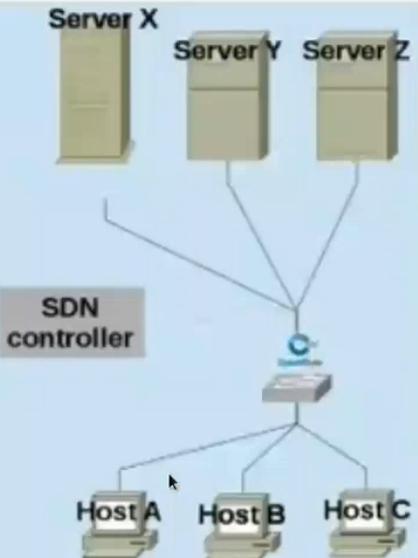
| Flow Table |          |       |        |
|------------|----------|-------|--------|
| SRC        | DST      | DATA  | ACTION |
| Host A     | Server X | Red   | Allow  |
| Any        | Any      | Black | Drop   |
| Host C     | Server Y | Blue  | Allow  |





## How SDN works?

| Flow Table |          |        |        |
|------------|----------|--------|--------|
| SRC        | DST      | DATA   | ACTION |
| Host A     | Server X | Red    | Allow  |
| Any        | Any      | Black  | Drop   |
| Host C     | Server Y | Blue   | Allow  |
| Host *     | Host *   | Yellow | Drop   |
| Any        | Any      | White  | Allow  |





# Why to use SDN

## Challenges with a traditional network

- Manage huge number of devices
- Configure each device separately
- No centralized view of network topology
- Different vendors involved with vendor specific software on device (vendor locking)
- Specialized devices are costly

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# What is NFV?

Network Functions Virtualization (NFV) is targeted at virtualizing the tasks performed by traditional network hardware

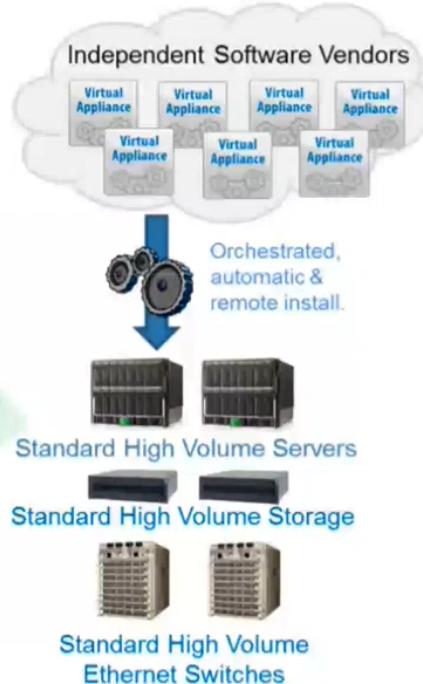
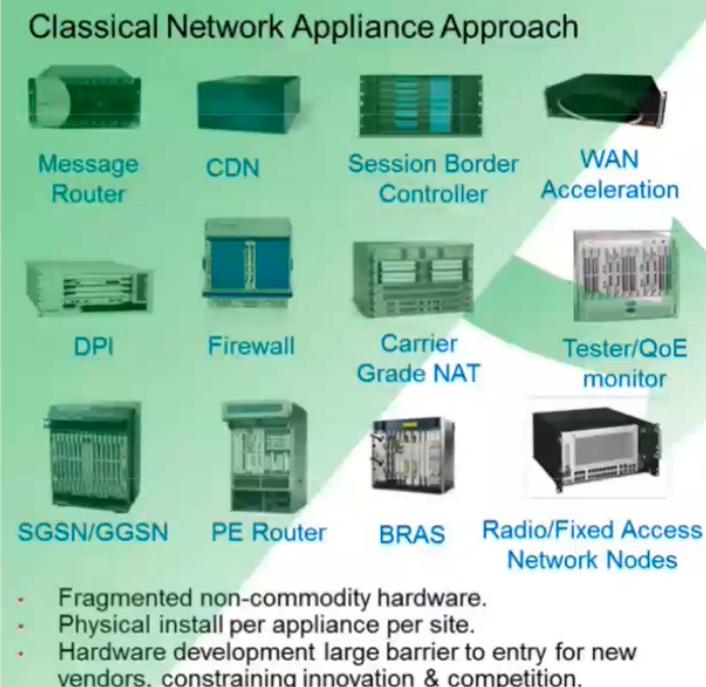
The software performing a specific task is separated from specialized hardware

The software is made available in the form of virtual environment

The hardware in question is replaced by generic hardware performing tasks based on the instructions received from external software in virtualized form



# What is NFV?



Network Functions Virtualisation  
Approach

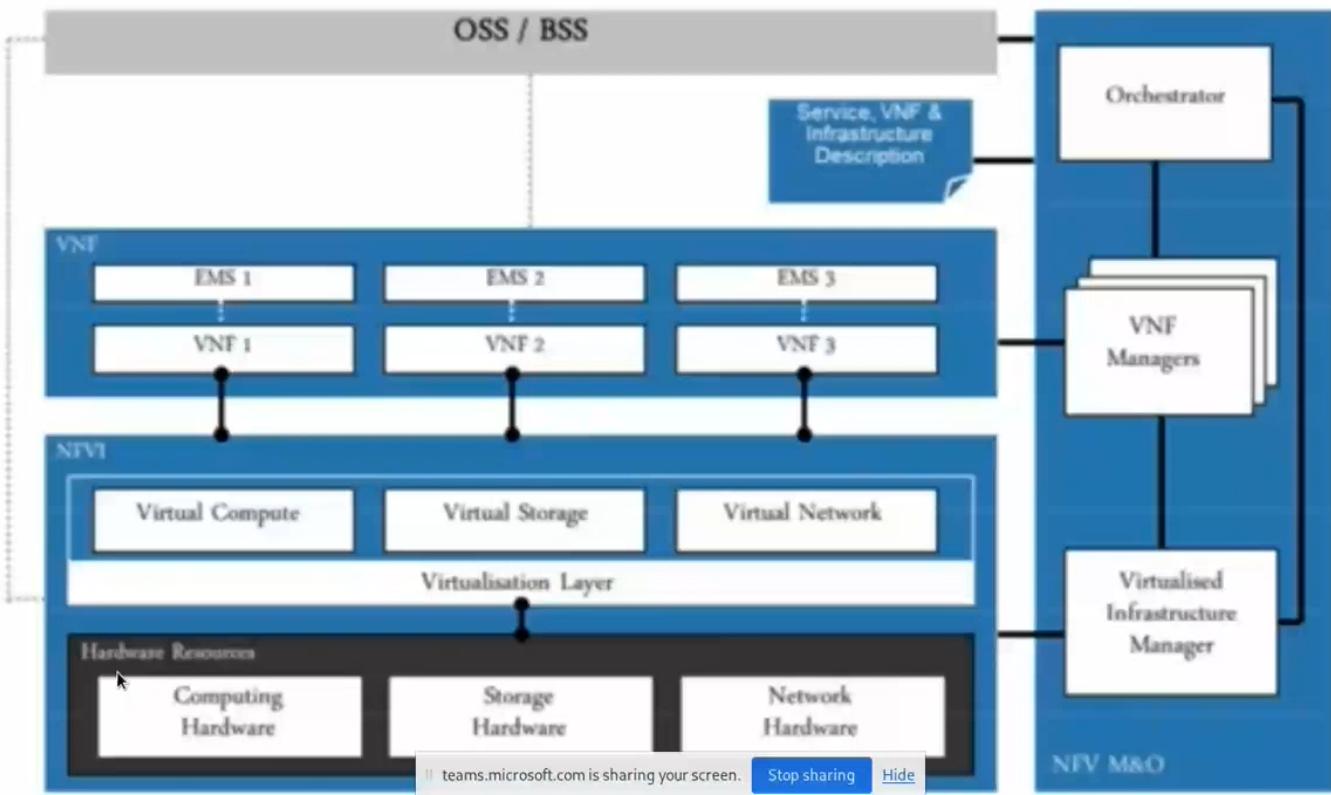
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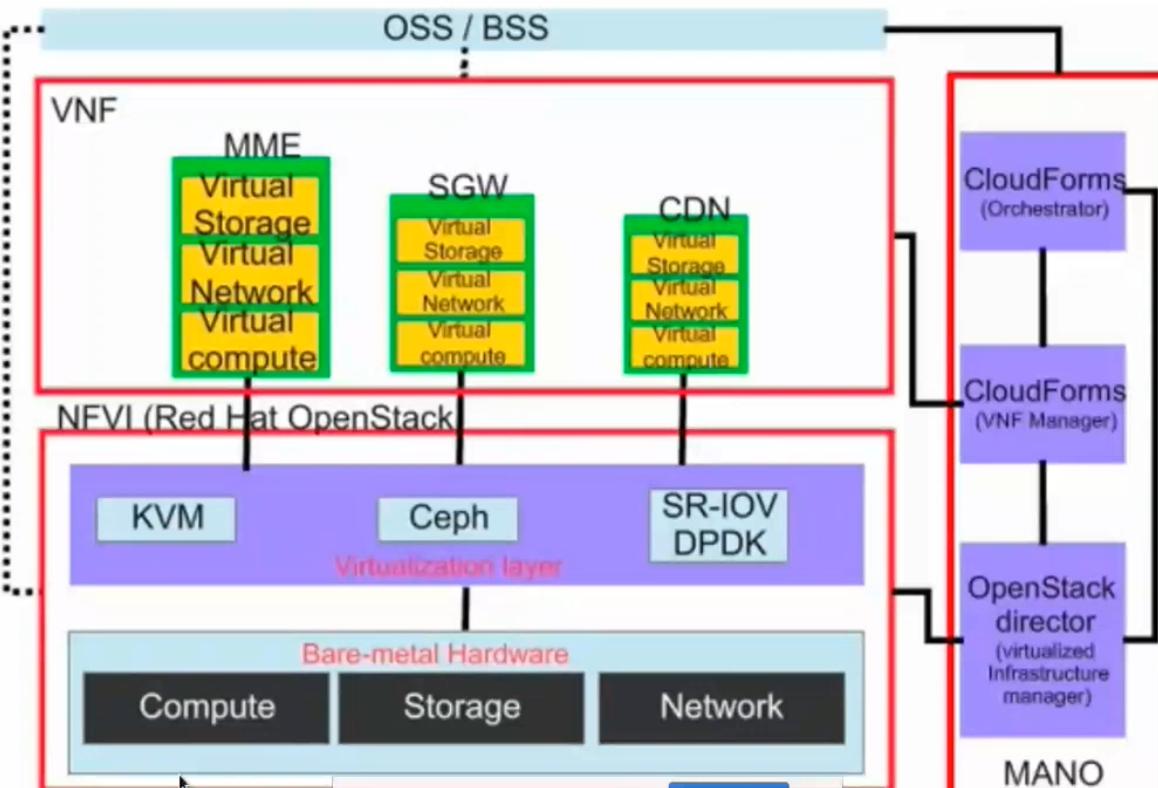


# Architectural Framework of NFV





# Components involved in NFV





# NFV vs. SDN

NFV and SDN are not substitutes for each other

SDN focuses on separating the control plane and data plane of networking hardware

NFV focuses on virtualization of network functions performed by specialized hardware devices

NFV and SDN are complimentary to each other can work together in the same infrastructure



# Revolution with SDN and NFV

Enable innovation in networking domain

Improve manageability due to centralized administration

Introduce abstraction to encourage new development

Prevent vendor locking

Offer easy deployment, scalability and elasticity

Reduce capital and operational expenditures (CAPEX and OPEX)