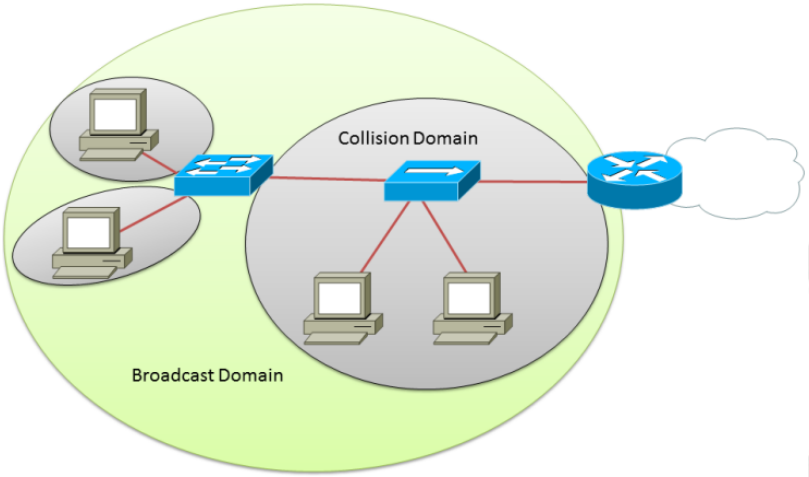
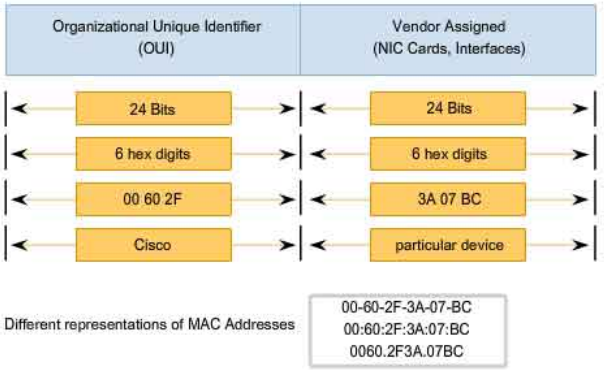
Ethernet



The Ethernet MAC Address Structure

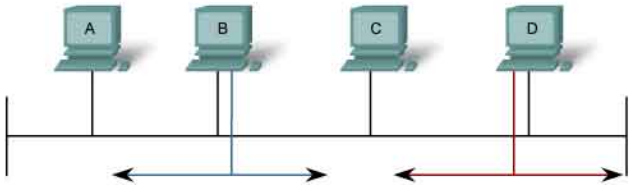


Different representations of MAC Addresses

00-60-2F-3A-07-BC
00:60:2F:3A:07:BC
0060.2F3A.07BC

Media Access Control in Ethernet

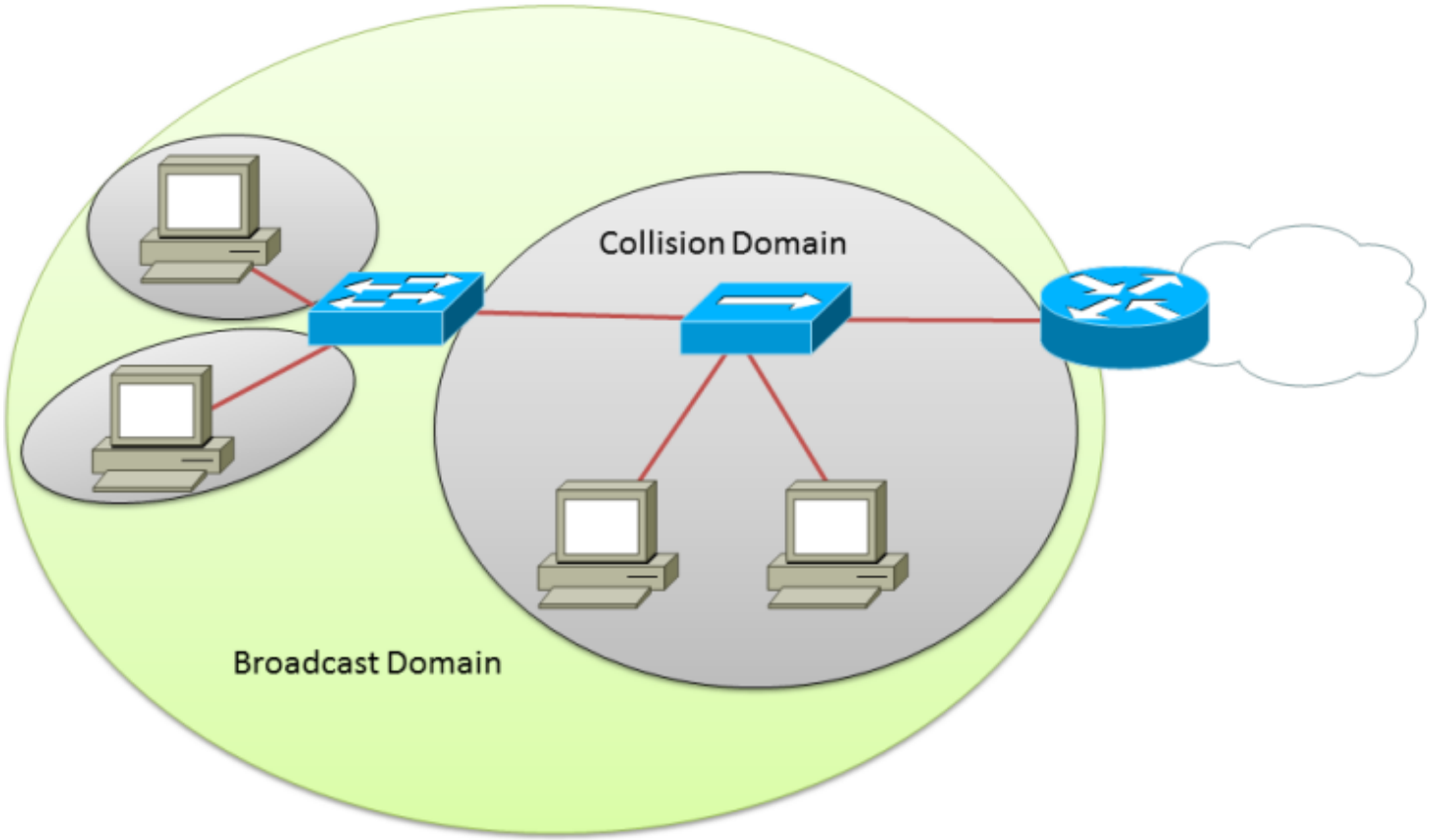
Carrier Sense Multiple Access with Collision Detection (CSMA/CD)



CSMA/CD controls access to the shared media. If there is a collision, it is detected and frames are retransmitted.

Networking StepbyStep

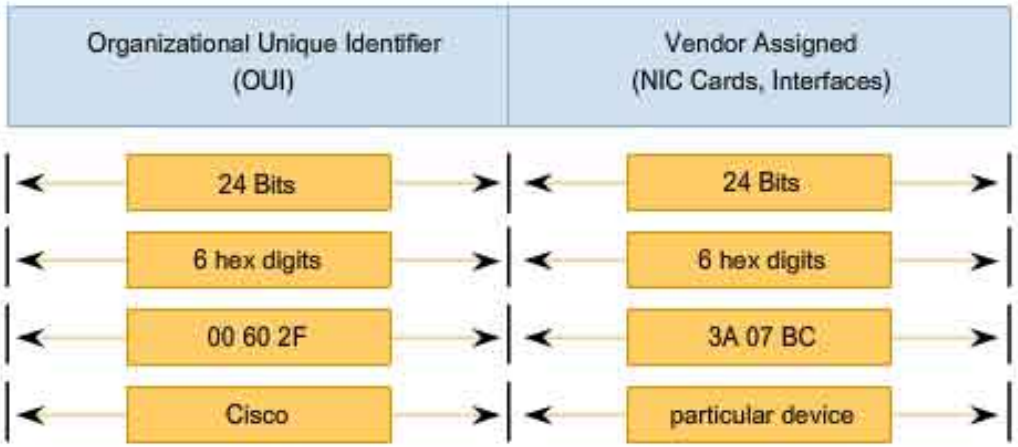
Broadcast and Collision



Networking StepbyStep

MAC

The Ethernet MAC Address Structure



Different representations of MAC Addresses

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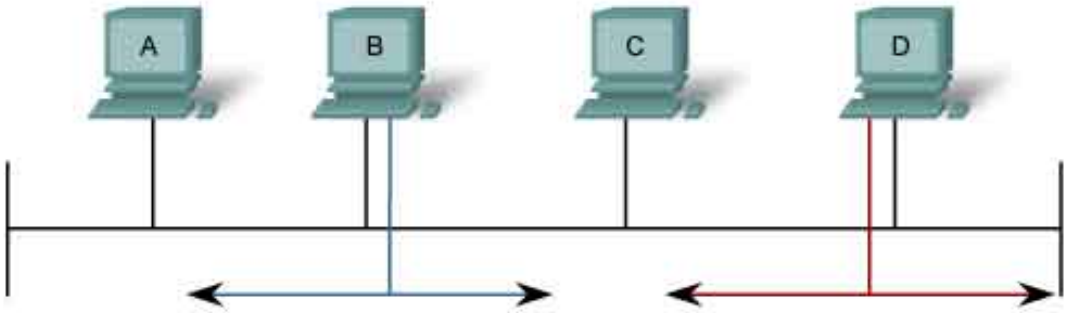
Networking StepbyStep

CSMA/CD

Media Access Control in Ethernet

Carrier Sense Multiple Access with Collision Detection (CSMA/CD)



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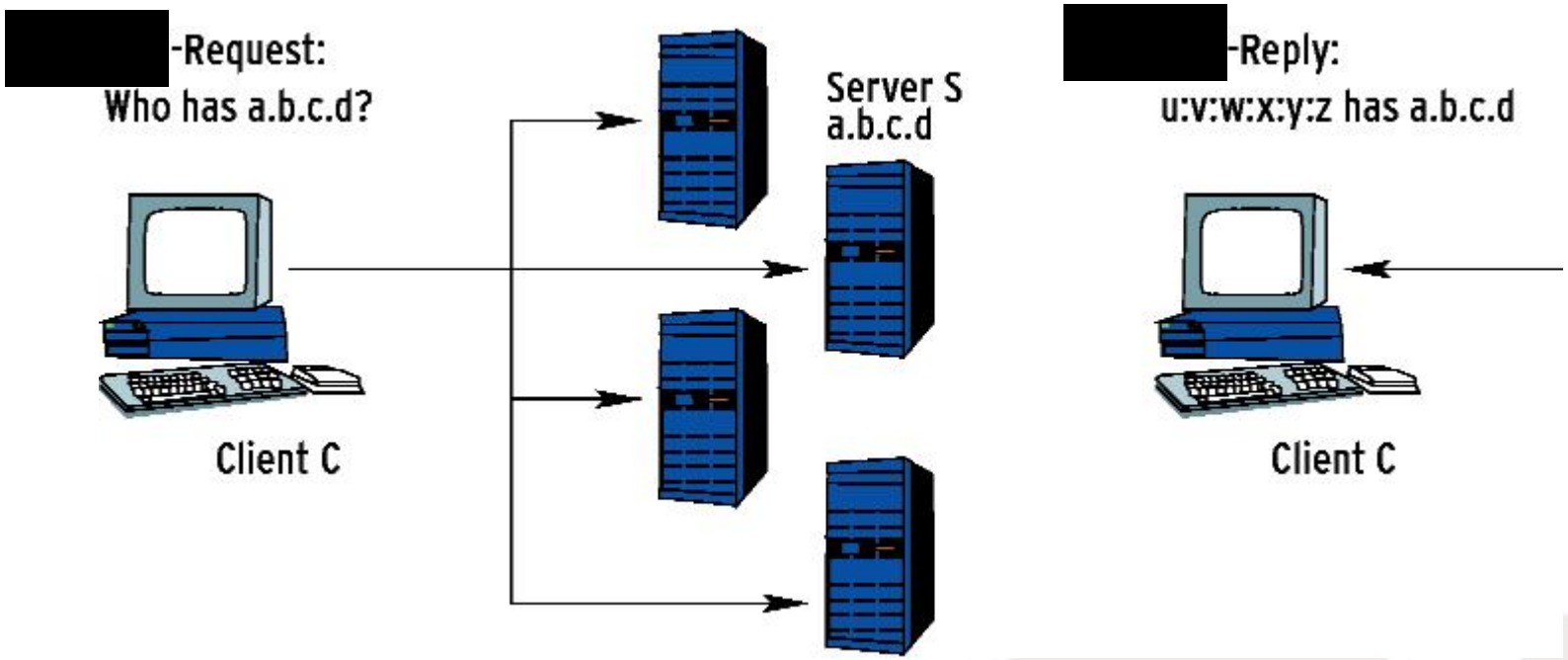
Reality Check

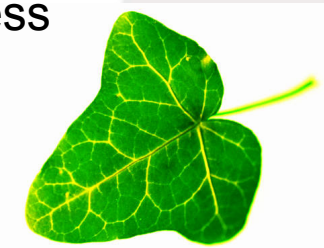
NetStep Challenge



Drops the frame

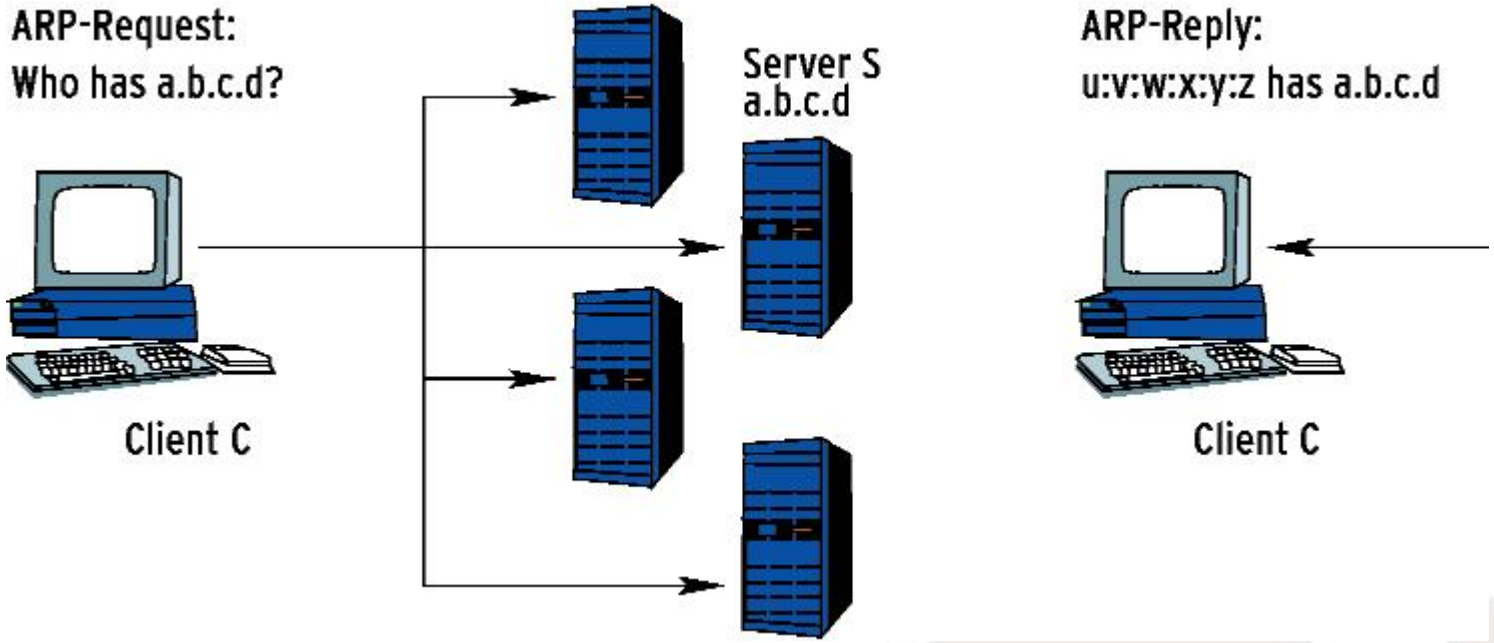
Sends out a Layer 3 broadcast message

sends out an ARP request with the destination IP address



Networking StepbyStep

NetStep Challenge



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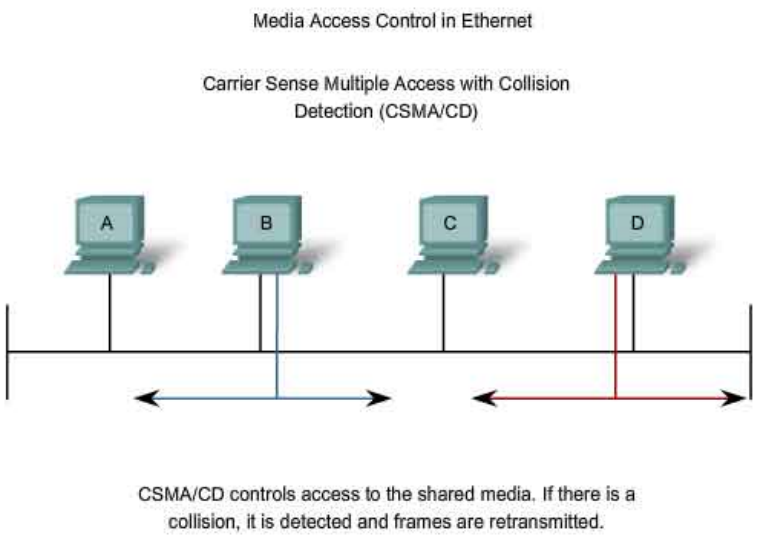
I AM NOT SAYING …….. I AM JUST SAYING

Networking StepbyStep

NetStep Challenge



In a CSMA/CD collision domain, multiple stations can successfully transmit data simultaneously.

In a CSMA/CD collision domain, stations must wait until the media is not in use before transmitting

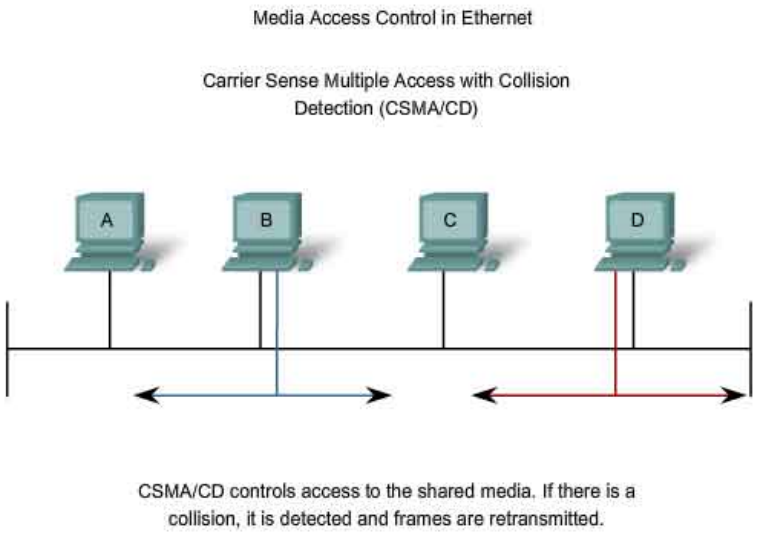
After a collision, all stations involved run an identical back off algorithm and then synchronize with each other prior to transmitting data.

After a collision, all stations run a random backoff algorithm. When the backoff delay period has expired. all stations have equal priority to transmit data.

Networking StepbyStep

NetStep Resolution

I AM NOT SAYING …….. I AM JUST SAYING



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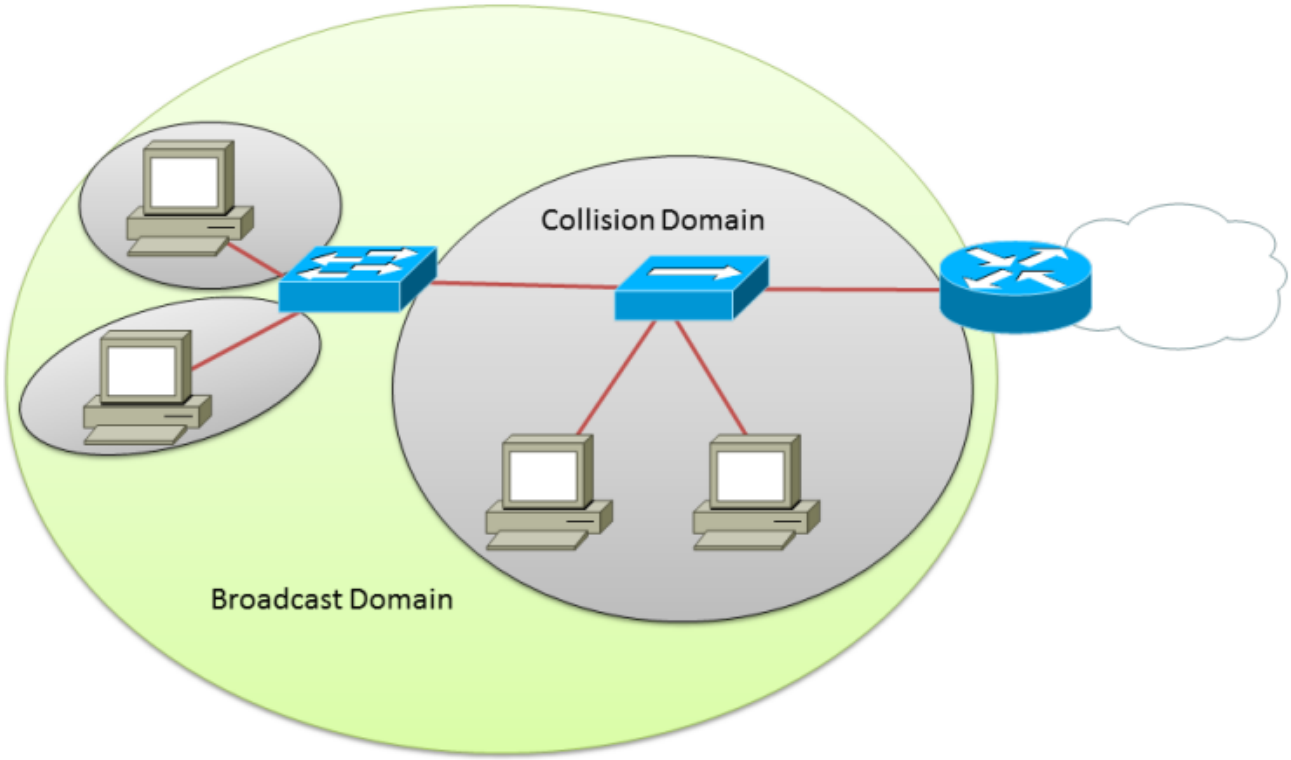
Networking StepbyStep

NetStep Challenge

Ports
48

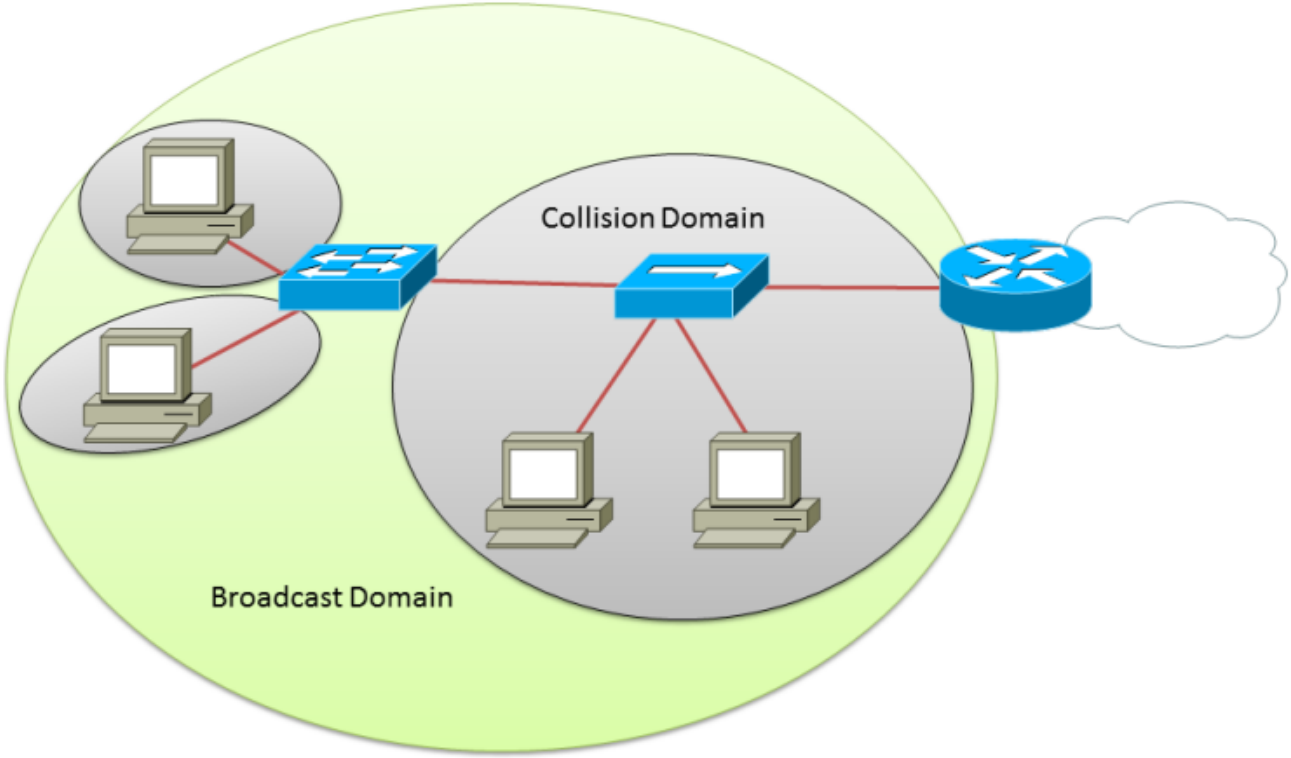


VLANs
4

Networking StepbyStep

NetStep Resolution

Collision
48



Broadcast
4

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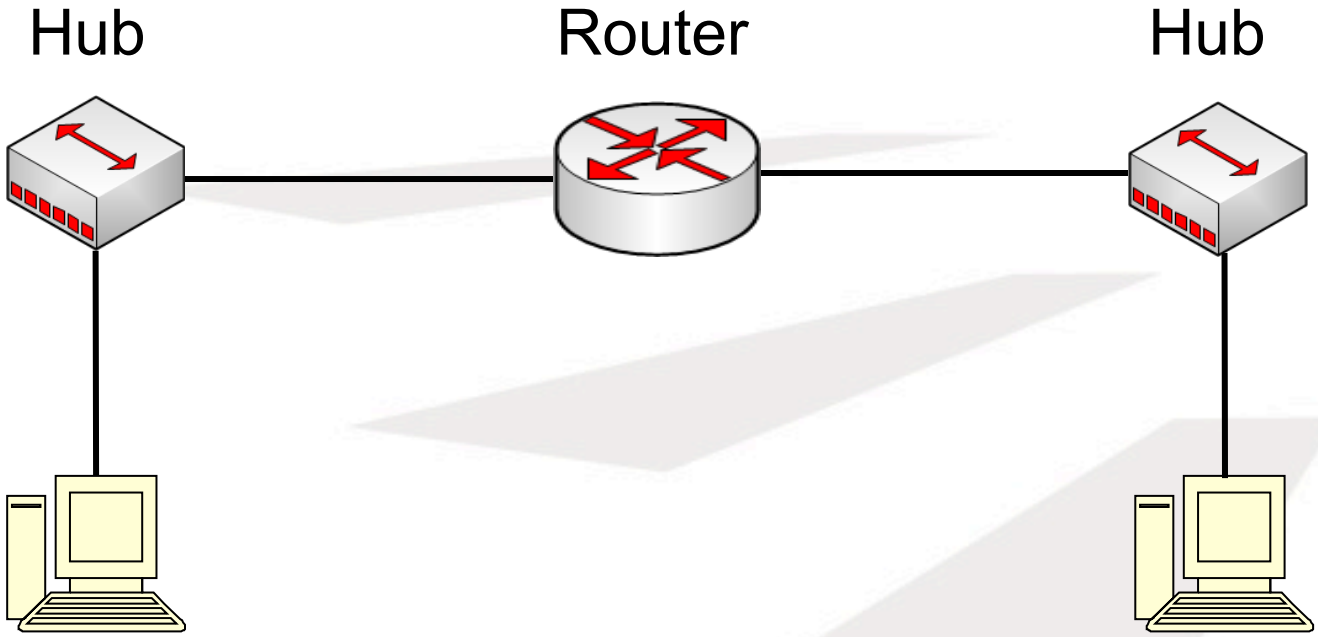
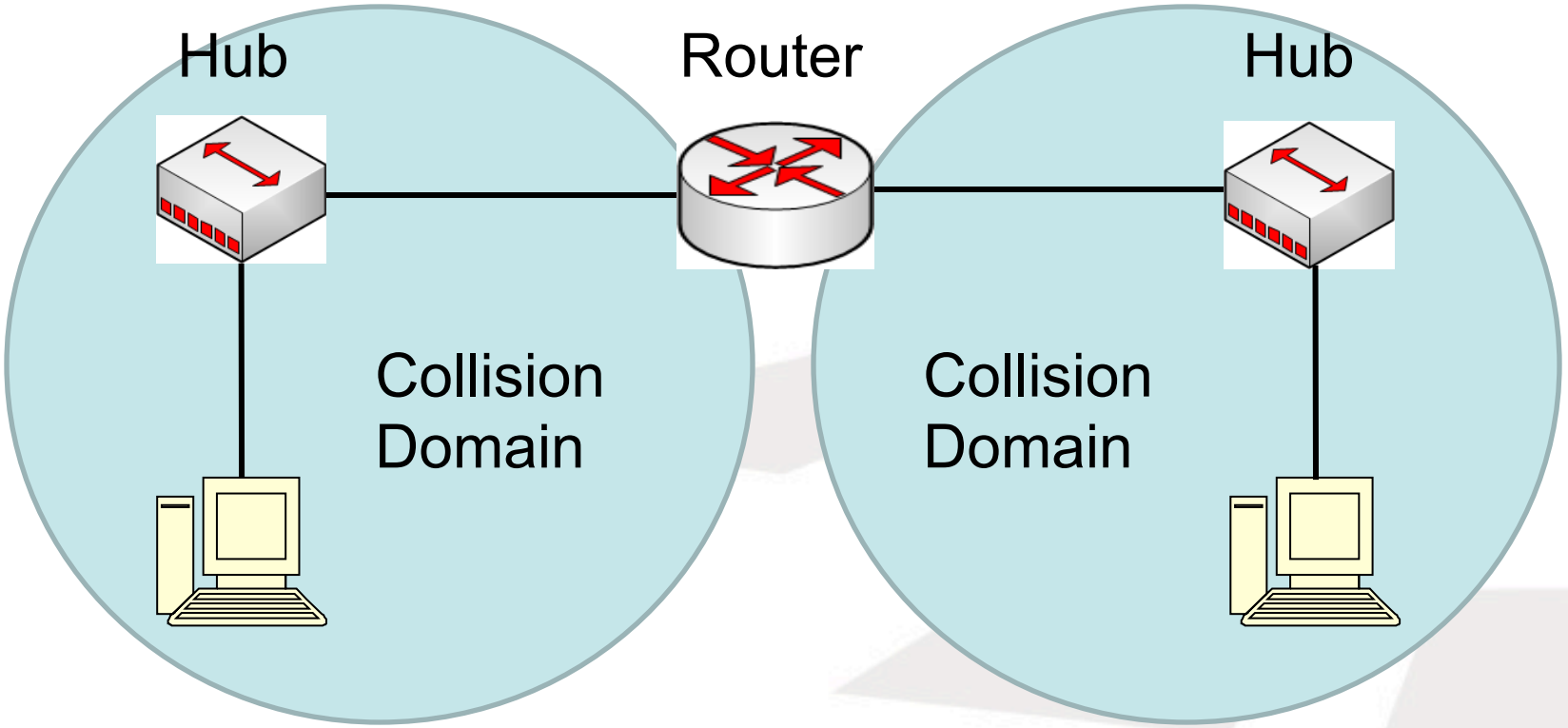
Networking StepbyStep

NetStep Challenge



Networking StepbyStep

NetStep Resolution



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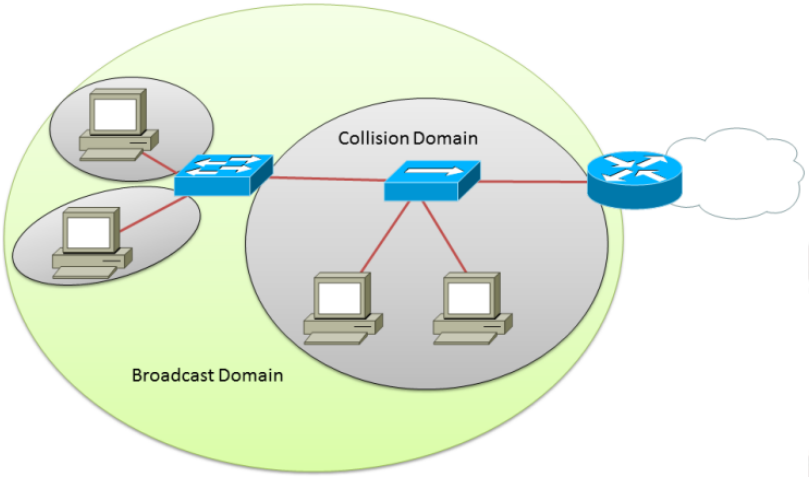
Networking StepbyStep

Ethernet



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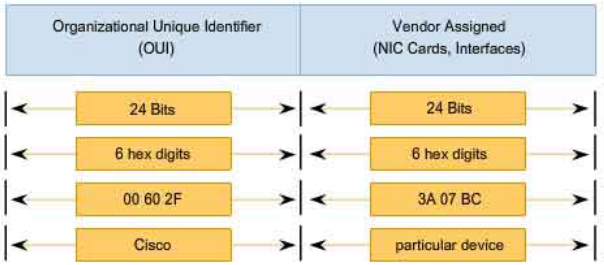

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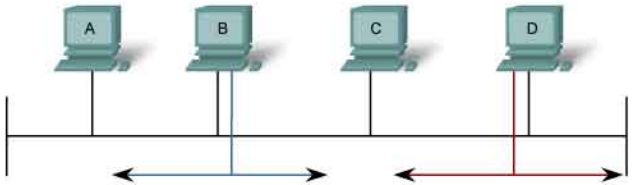

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Networking StepbyStep