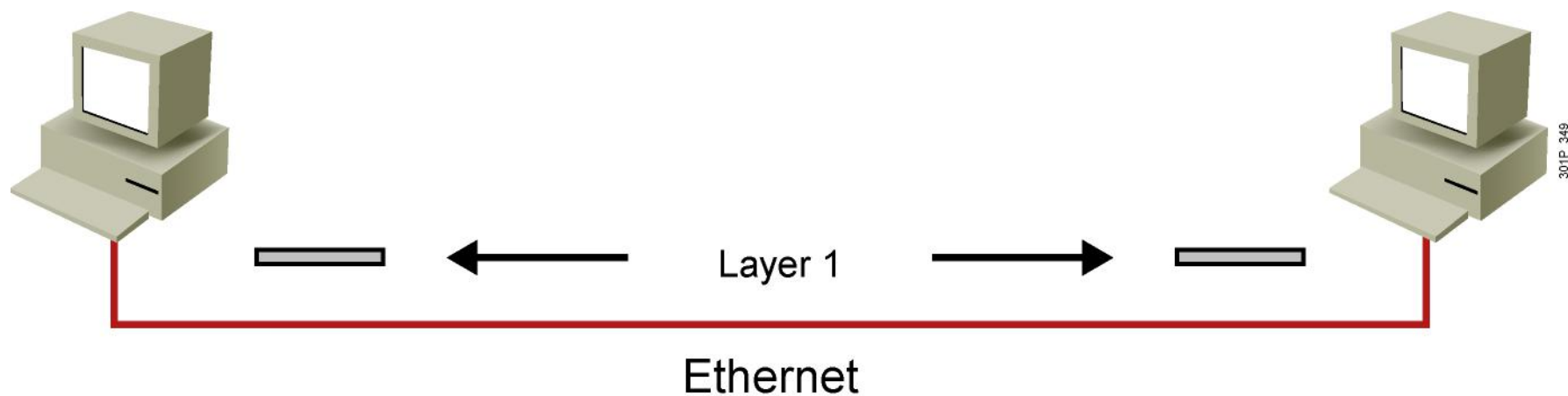


Exploring the Packet Delivery Process using ARP

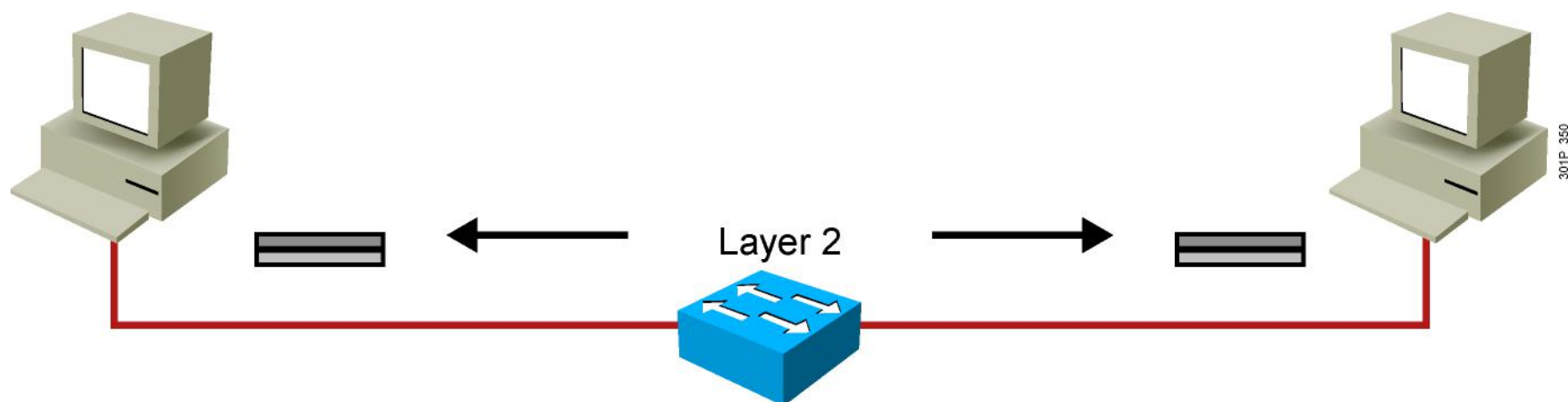


Layer 1 Devices



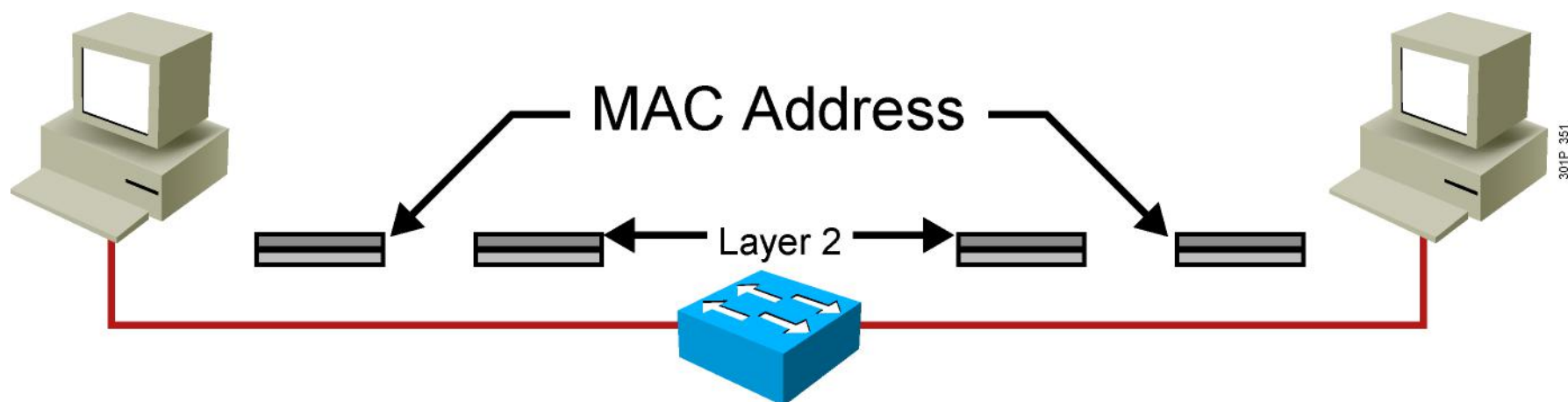
- Layer 1 provides the physical media and its encoding.
- Examples:
 - Ethernet
 - Serial
 - Repeater
 - Physical interface of the NIC

Layer 2 Devices



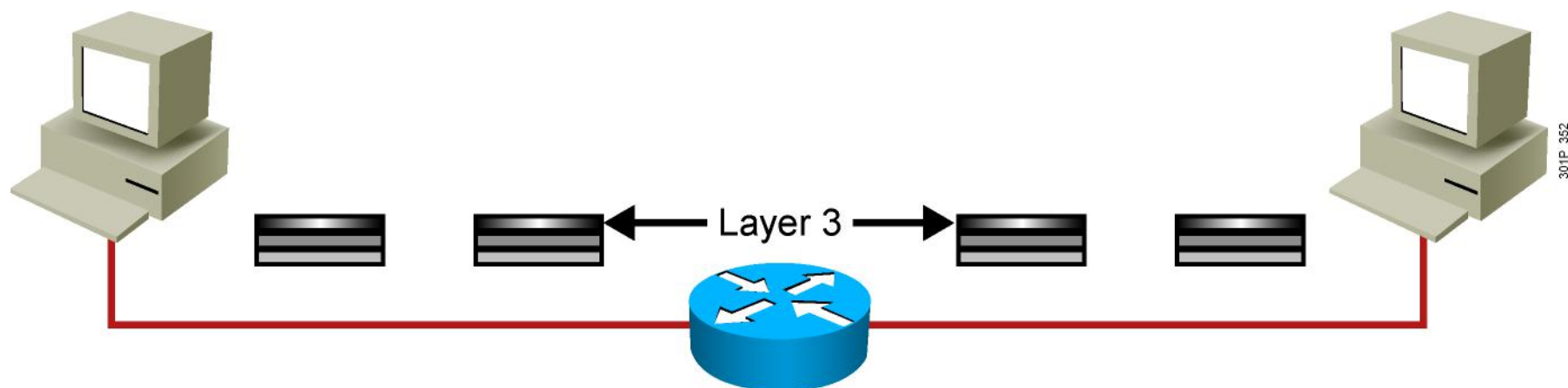
- Layer 2 devices provide an interface with the physical media.
- Examples:
 - NIC
 - Bridge
 - Switch

Layer 2 Addressing



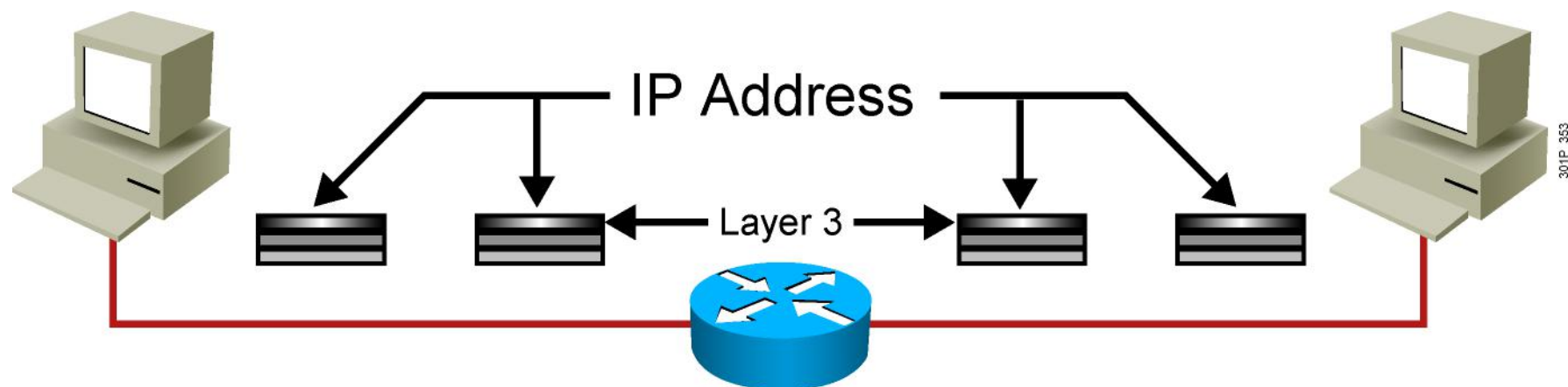
- MAC address
- Assigned to end devices

Layer 3 Devices and Their Function



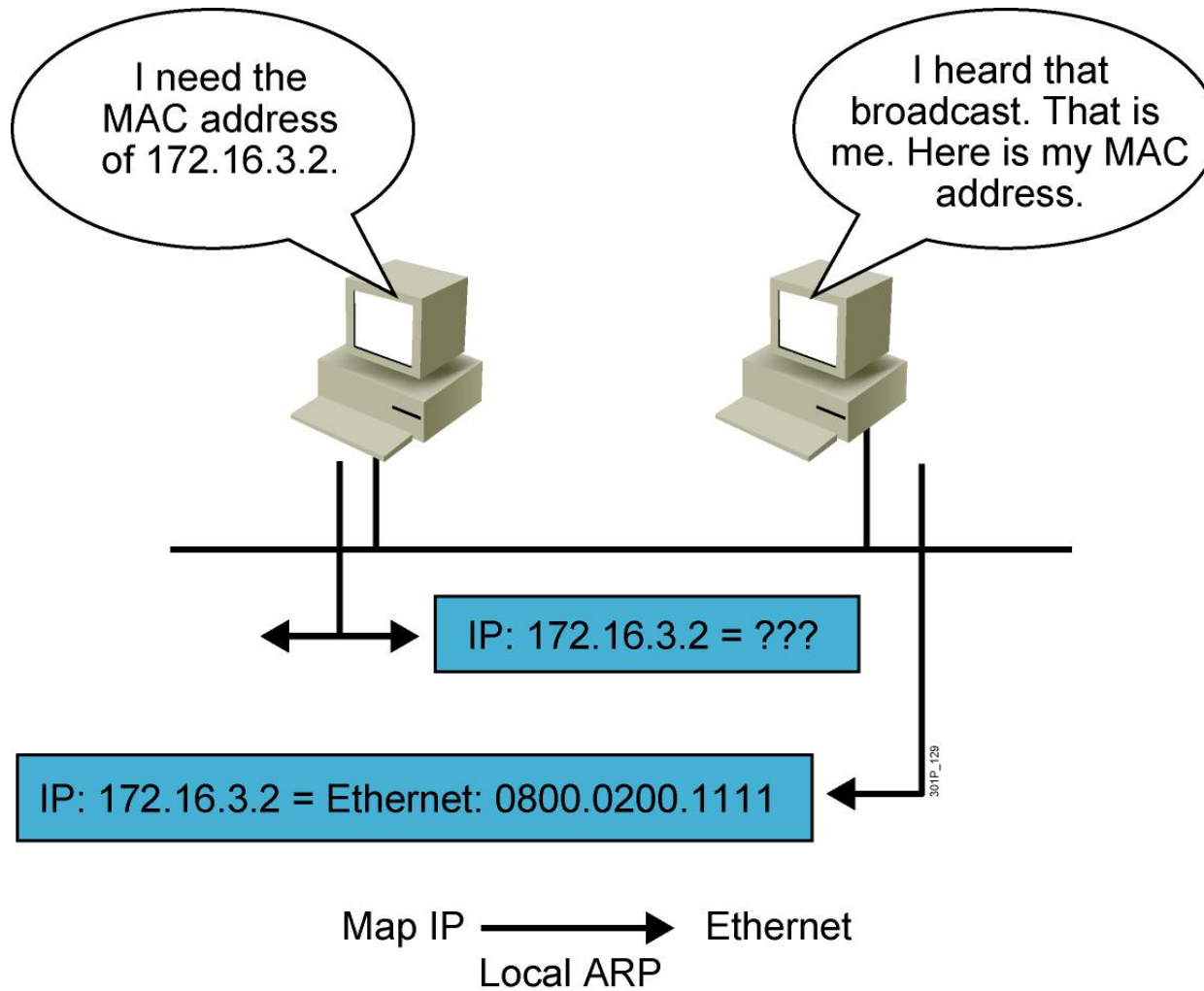
- The network layer provides connectivity and path selection between two host systems.
- In the host, this is the path between the data link layer and the upper layers of the NOS.
- In the router, it is the actual path across the network.

Layer 3 Addressing

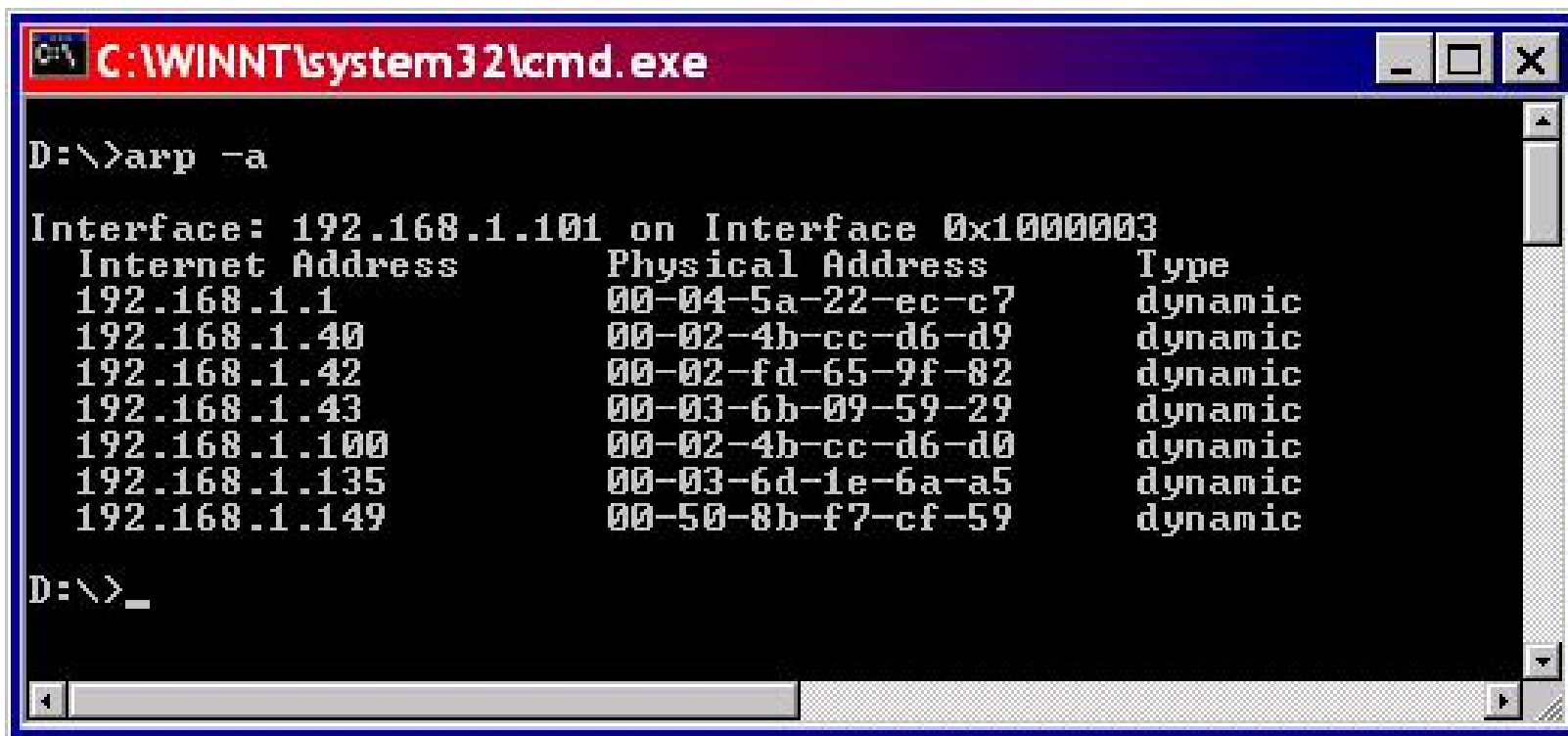


- OSI uses an NSAP.
- TCP/IP uses IP.

ARP



ARP Table

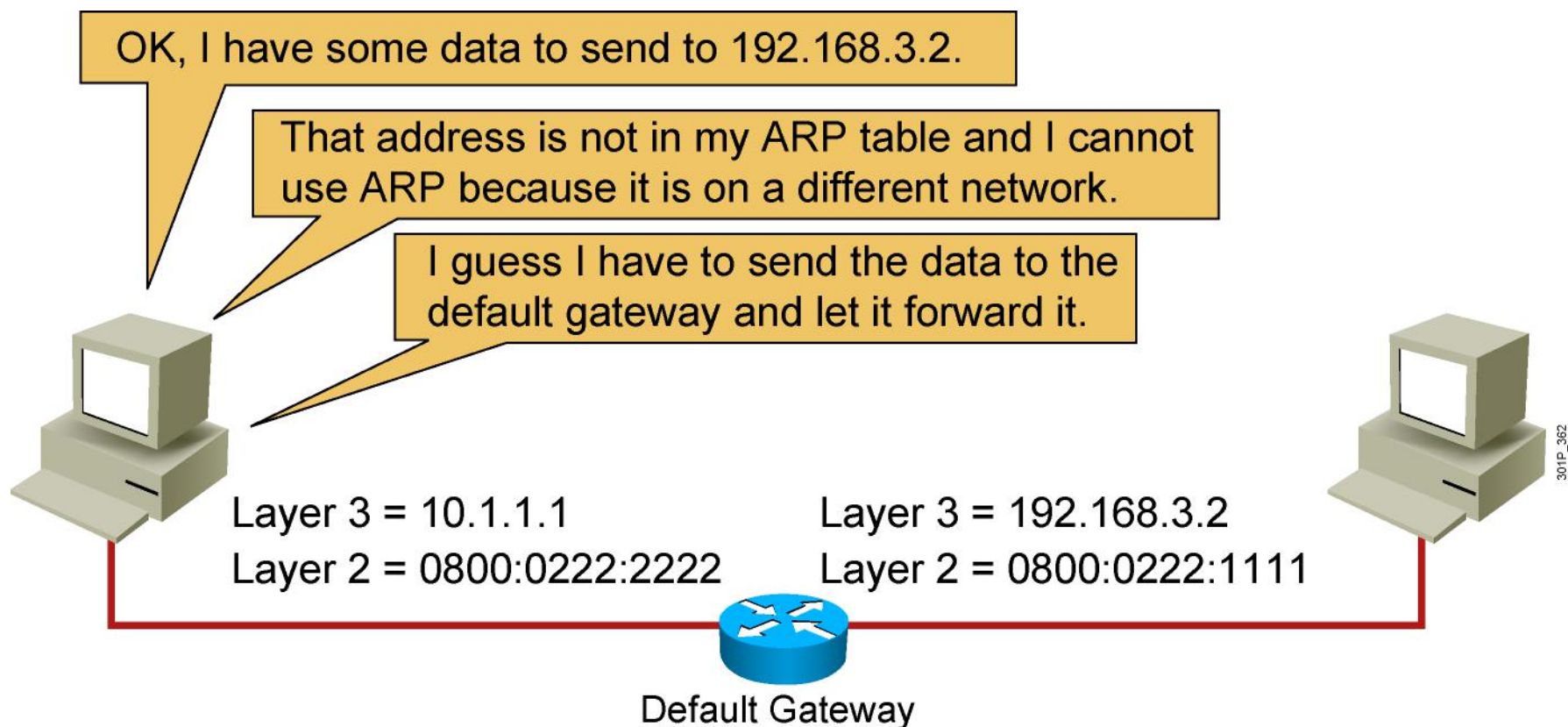


```
C:\WINNT\system32\cmd.exe
D:\>arp -a

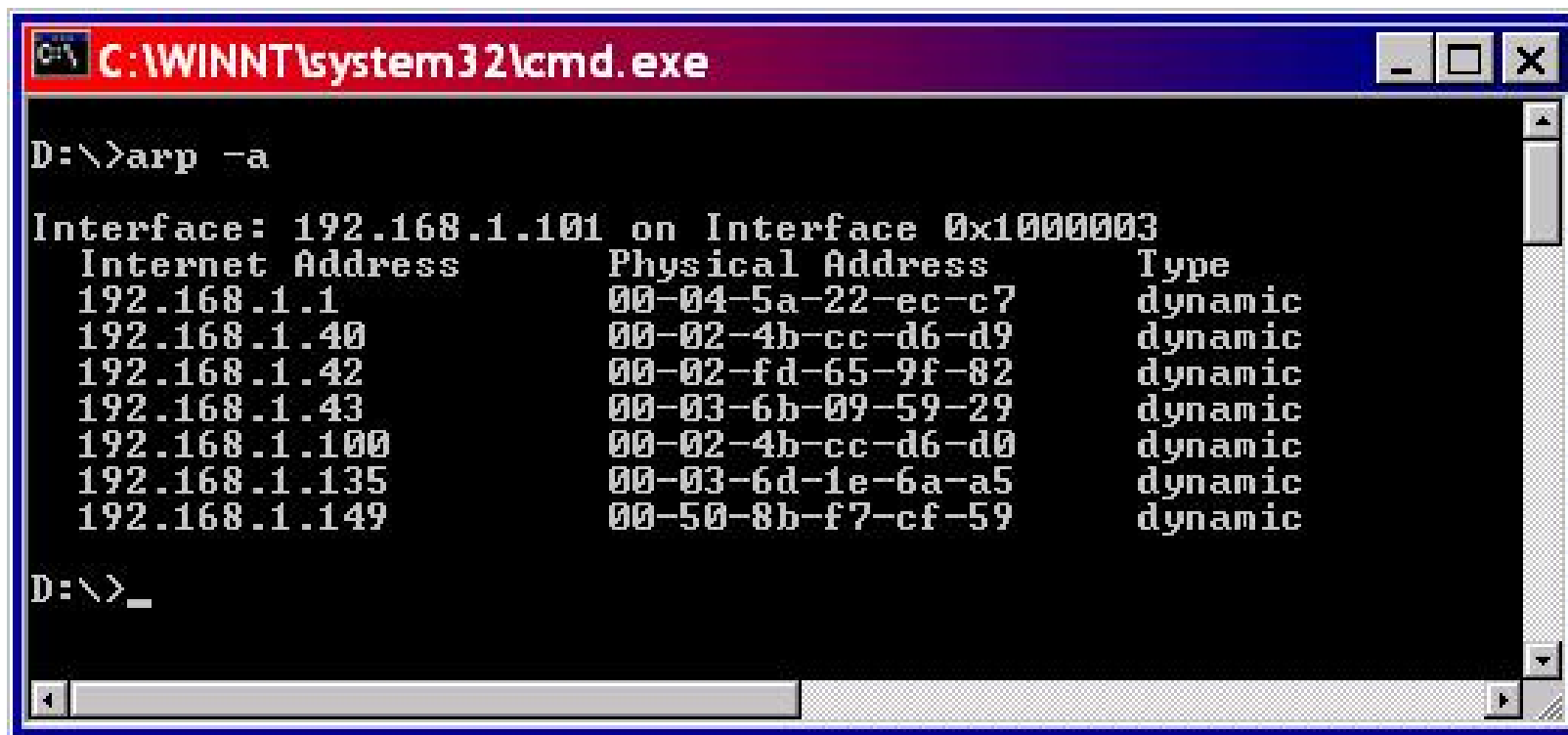
Interface: 192.168.1.101 on Interface 0x1000003
Internet Address      Physical Address      Type
192.168.1.1          00-04-5a-22-ec-c7    dynamic
192.168.1.40         00-02-4b-cc-d6-d9    dynamic
192.168.1.42         00-02-fd-65-9f-82    dynamic
192.168.1.43         00-03-6b-09-59-29    dynamic
192.168.1.100        00-02-4b-cc-d6-d0    dynamic
192.168.1.135        00-03-6d-1e-6a-a5    dynamic
192.168.1.149        00-50-8b-f7-cf-59    dynamic

D:\>_
```

Default Gateway



Host-Based Tools: Table



```
C:\WINNT\system32\cmd.exe
D:\>arp -a

Interface: 192.168.1.101 on Interface 0x1000003
Internet Address      Physical Address      Type
192.168.1.1          00-04-5a-22-ec-c7    dynamic
192.168.1.40         00-02-4b-cc-d6-d9    dynamic
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192.168.1.43         00-03-6b-09-59-29    dynamic
192.168.1.100        00-02-4b-cc-d6-d0    dynamic
192.168.1.135        00-03-6d-1e-6a-a5    dynamic
192.168.1.149        00-50-8b-f7-cf-59    dynamic

D:\>_
```

