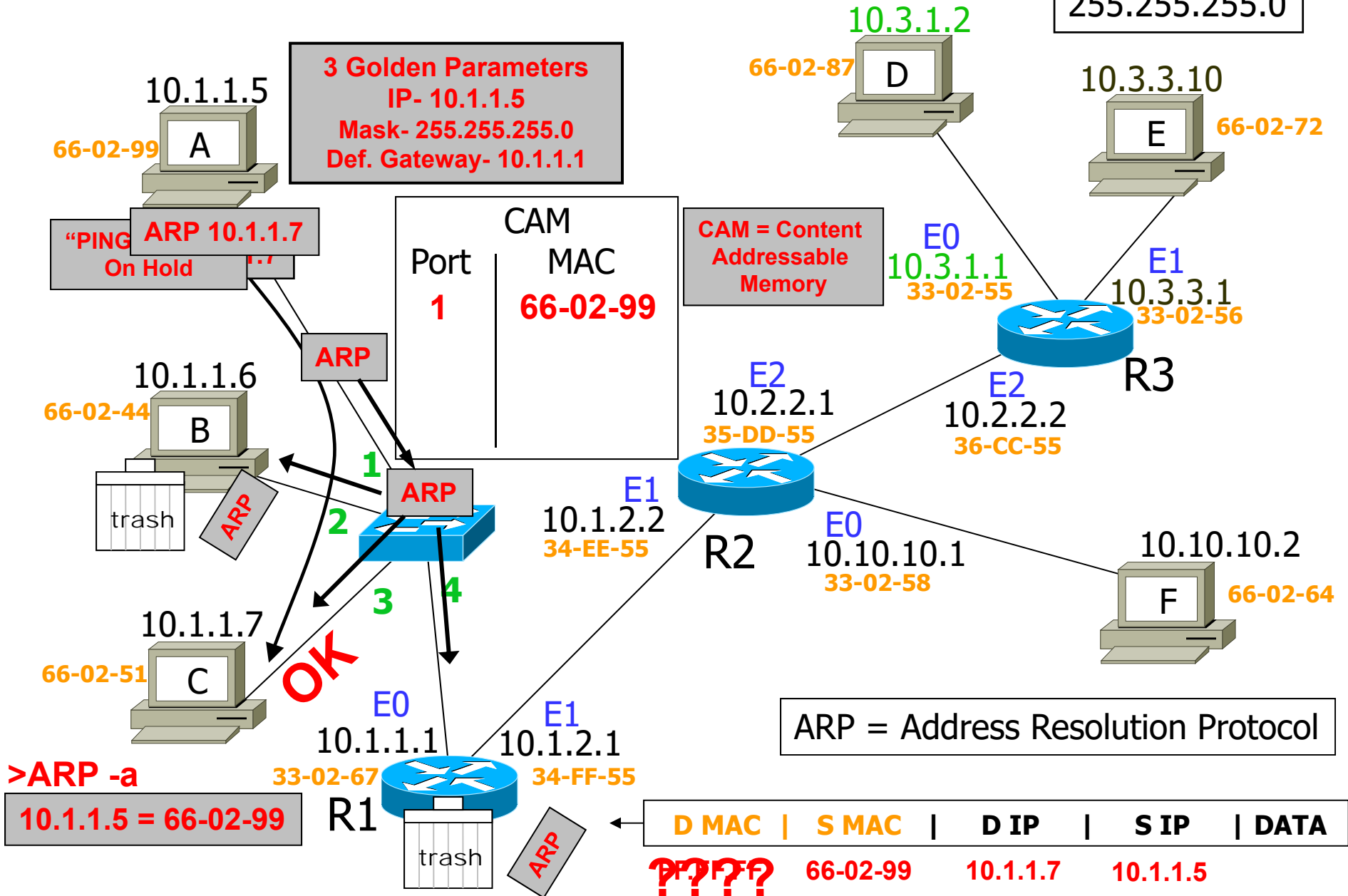


Day in the Life of a Packet!

All Masks are 255.255.255.0

3 Golden Parameters
 IP- 10.1.1.5
 Mask- 255.255.255.0
 Def. Gateway- 10.1.1.1



>ARP -a
 10.1.1.5 = 66-02-99

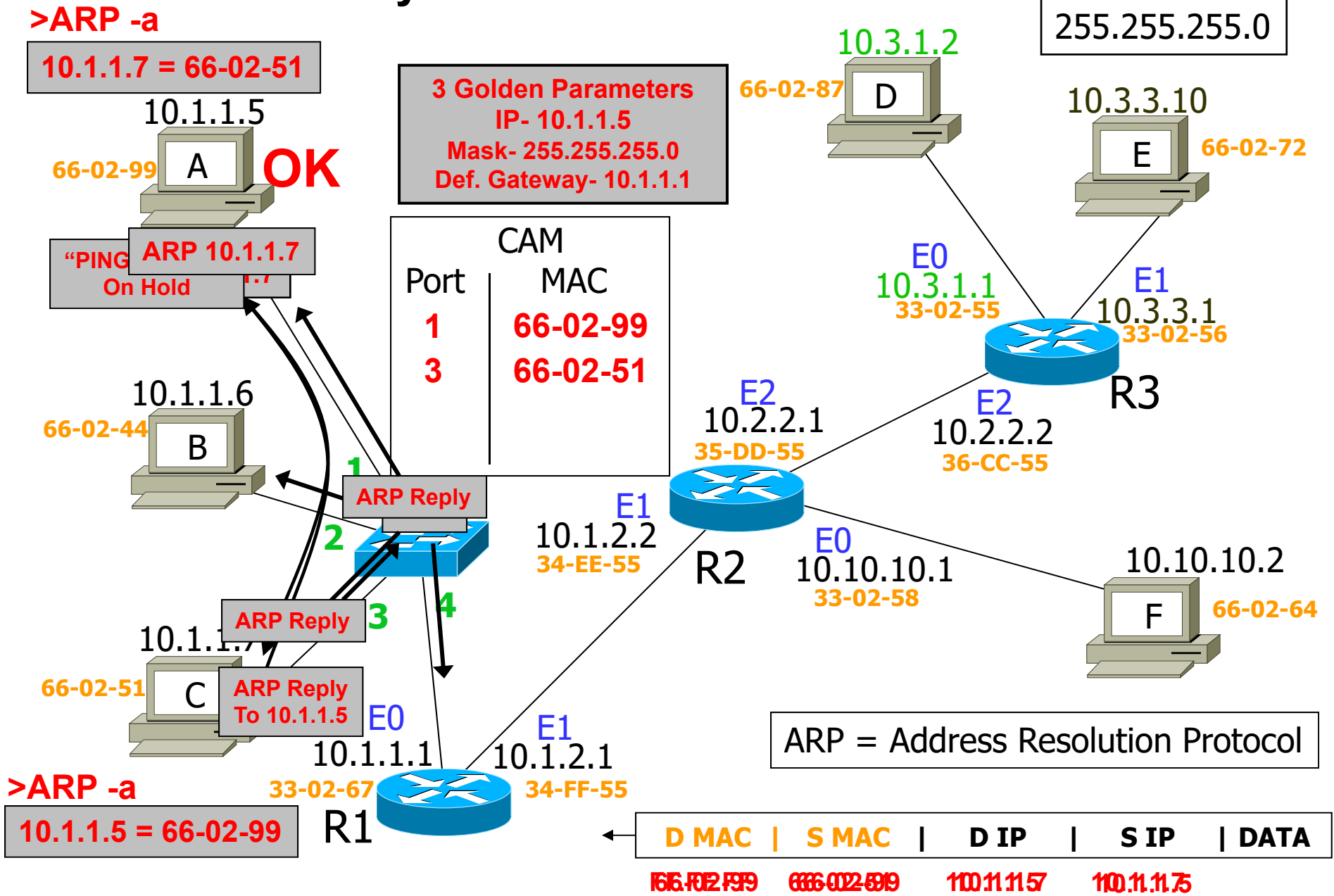
ARP = Address Resolution Protocol

D MAC	S MAC	D IP	S IP	DATA
?????	66-02-99	10.1.1.7	10.1.1.5	

?????

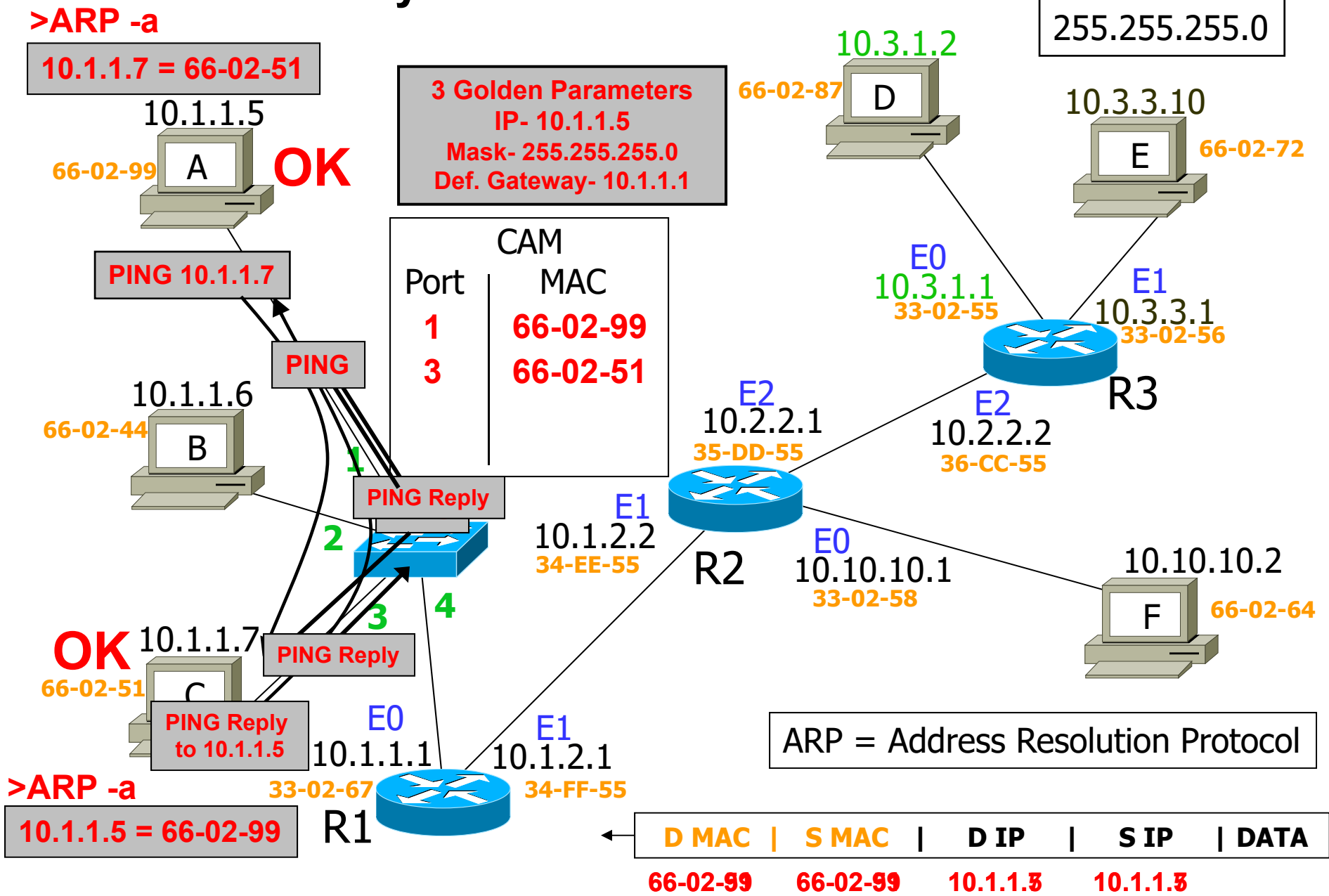
The default gateway is always a router's interface on the same subnet as the device.

Day in the Life of a Packet!



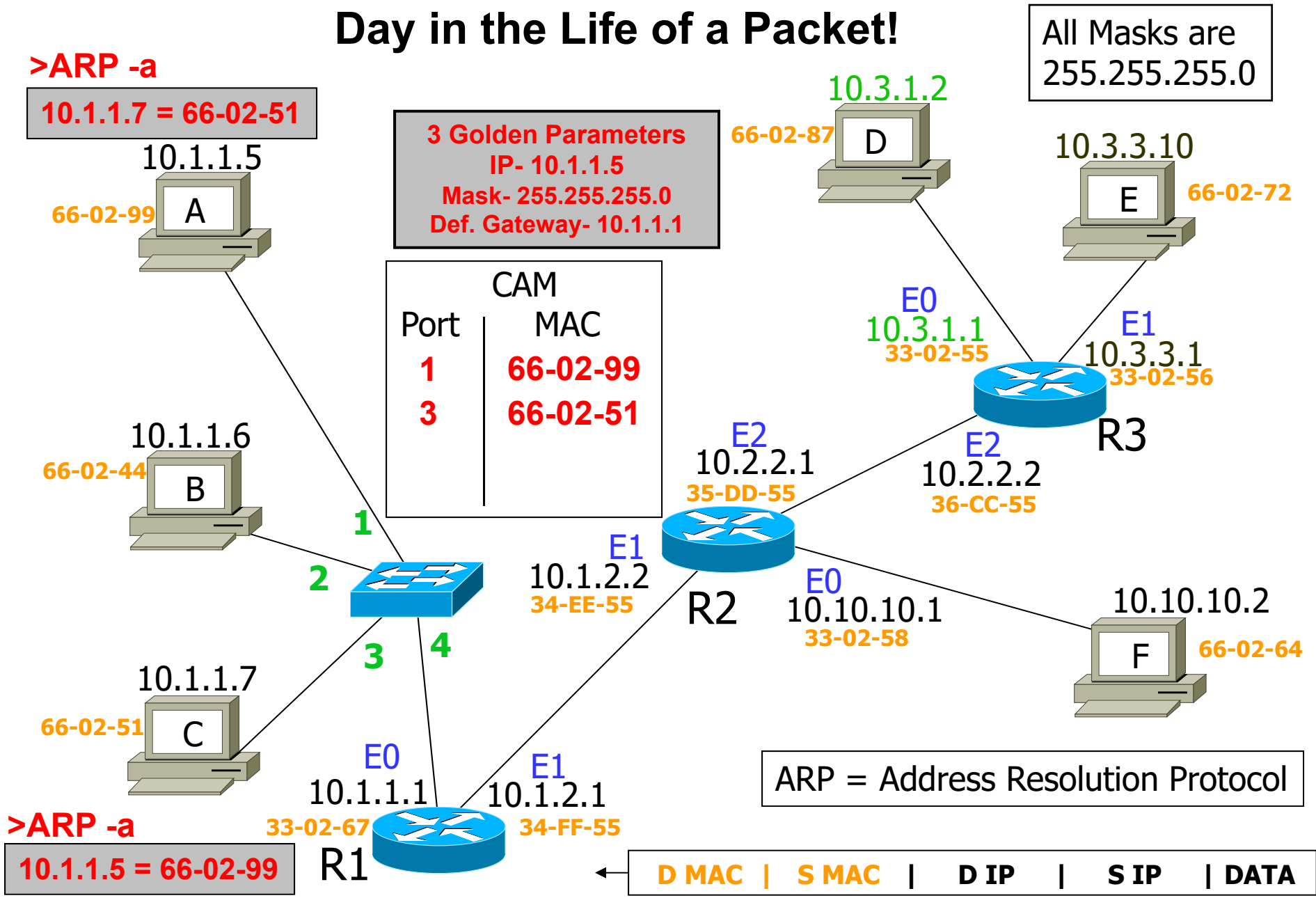
The default gateway is always a router's interface on the same subnet as the device.

Day in the Life of a Packet!



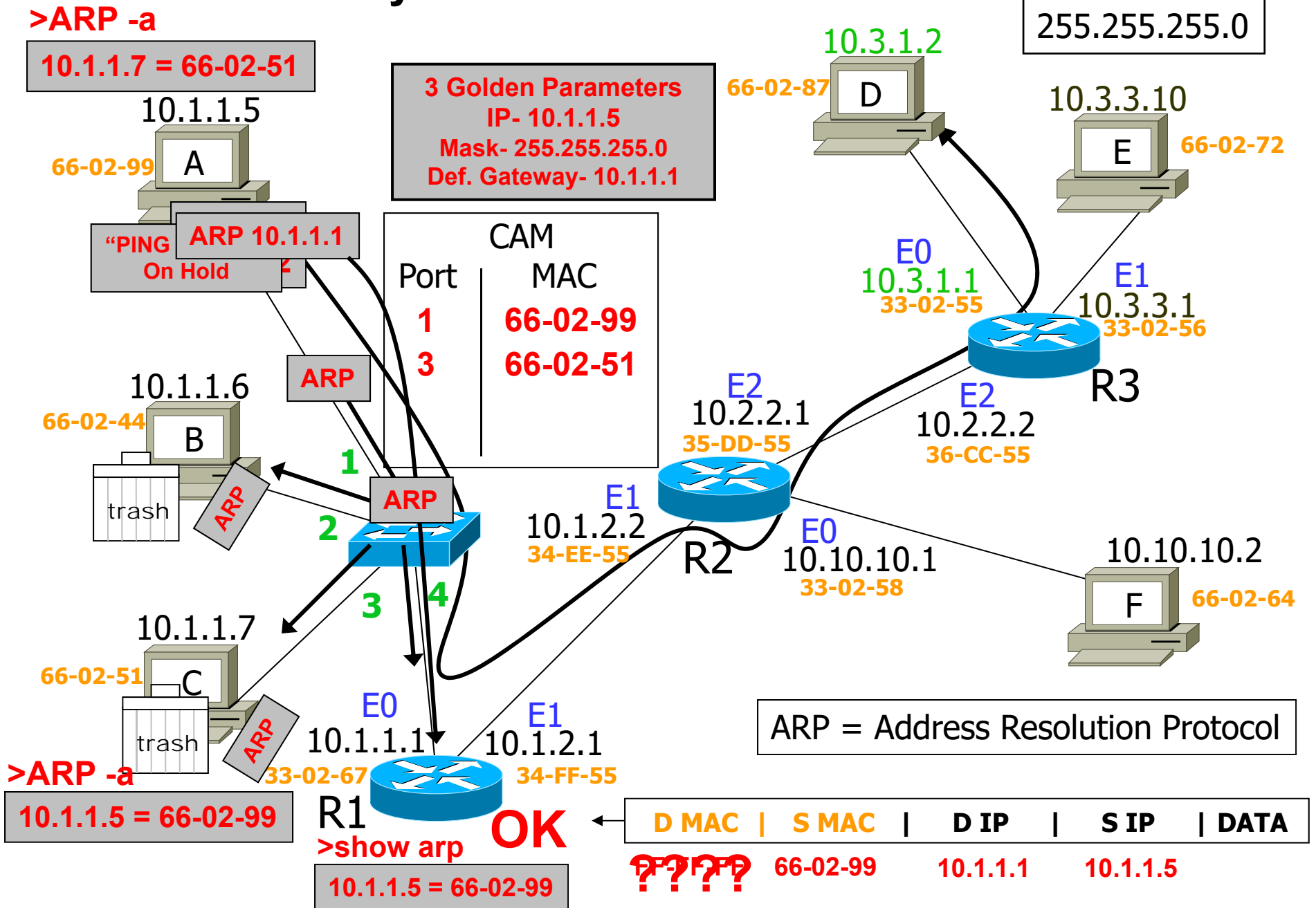
The default gateway is always a router's interface on the same subnet as the device.

Day in the Life of a Packet!



The default gateway is always a router's interface on the same subnet as the device.

Day in the Life of a Packet!



>ARP -a
 10.1.1.7 = 66-02-51

>ARP -a
 10.1.1.5 = 66-02-99

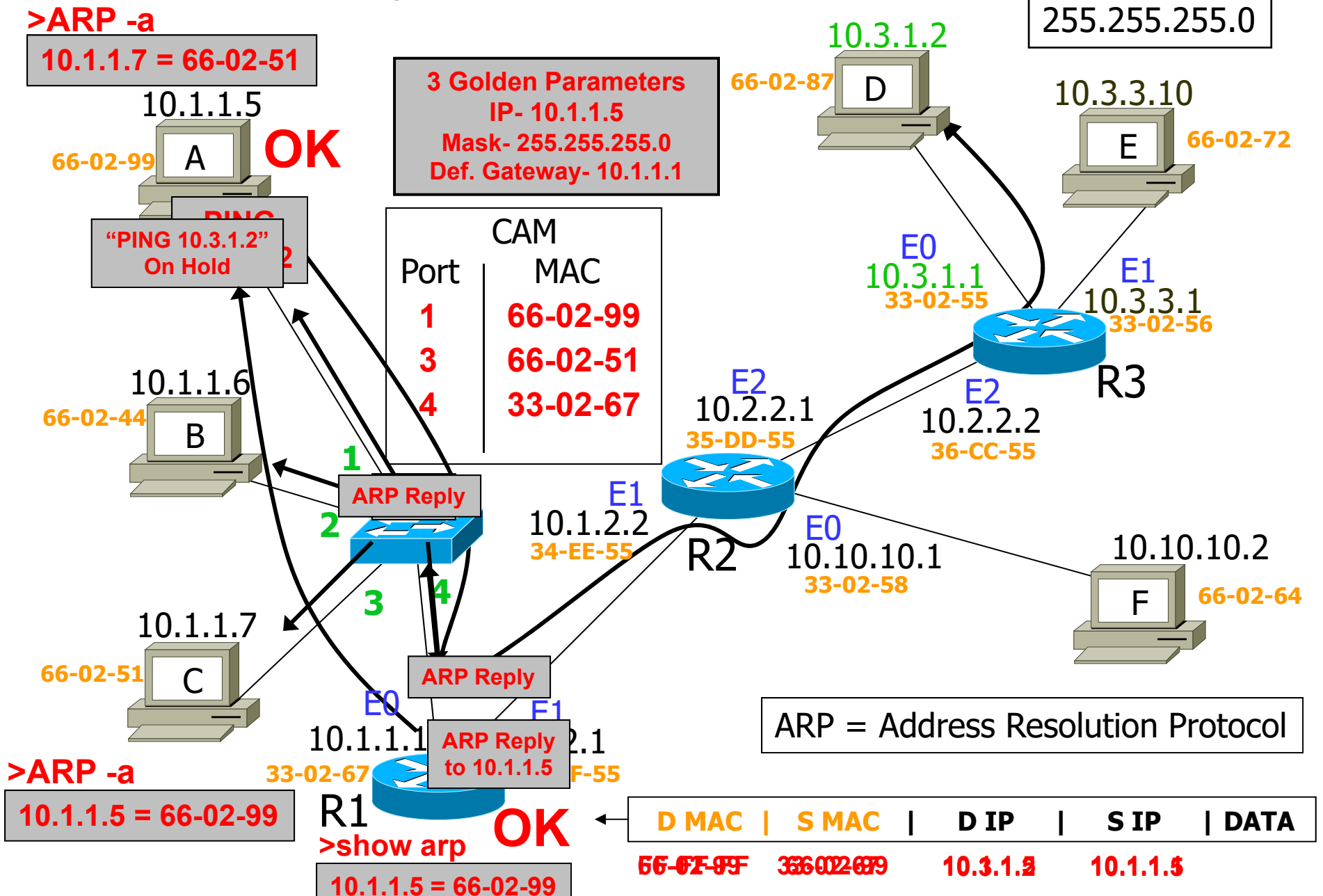
R1
 >show arp
 10.1.1.5 = 66-02-99
OK

All Masks are
 255.255.255.0

ARP = Address Resolution Protocol

The default gateway is always a router's interface on the same subnet as the device.

Day in the Life of a Packet!



The default gateway is always a router's interface on the same subnet as the device.

Day in the Life of a Packet!

>ARP -a

10.1.1.7 = 66-02-51

10.1.1.1 = 33-02-67

10.1.1.5

66-02-99

A

OK

"PING 10.3.1.2"
On Hold

10.1.1.6

66-02-44

B

10.1.1.7

66-02-51

C

>ARP -a

10.1.1.5 = 66-02-99

10.1.1.1 = 33-02-67

R1

>show arp

10.1.1.5 = 66-02-99

3 Golden Parameters

IP- 10.1.1.5

Mask- 255.255.255.0

Def. Gateway- 10.1.1.1

CAM

Port

MAC

1

66-02-99

3

66-02-51

4

33-02-67

ARP Reply

1

2

3

4

E0

10.1.1.1

33-02-67

E1

10.1.2.1

34-FF-55

E1

10.1.2.2

34-EE-55

E2

10.2.2.1

35-DD-55

E0

10.10.10.1

33-02-58

E2

10.2.2.2

36-CC-55

E0

10.3.1.1

33-02-55

E1

10.3.3.1

33-02-56

10.3.1.2

66-02-87

D

All Masks are

255.255.255.0

10.3.3.10

66-02-72

E

ARP = Address Resolution Protocol

D MAC | S MAC | D IP | S IP | DATA

66-02-99

33-02-67

10.3.1.2

10.1.1.5

The default gateway is always a router's interface on the same subnet as the device.

Day in the Life of a Packet!

>ARP -a

10.1.1.7 = 66-02-51

10.1.1.1 = 33-02-67

10.1.1.5

66-02-99

PING
10.3.1.2

10.1.1.6

66-02-44

PING

PING

10.1.1.7

66-02-51

C

E0
10.1.1.1

PING

E1
10.1.2.1

PING

>ARP -a

10.1.1.5 = 66-02-99

R1

>show arp

10.1.1.5 = 66-02-99

3 Golden Parameters
IP- 10.1.1.5
Mask- 255.255.255.0
Def. Gateway- 10.1.1.1

Port	CAM MAC
1	66-02-99
3	66-02-51
4	33-02-67

10.3.1.2

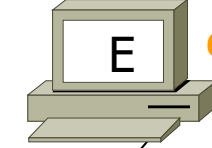
66-02-87



All Masks are 255.255.255.0

10.3.3.10

66-02-72



E0
10.3.1.1
33-02-55

E1
10.3.3.1
33-02-56

R3

E2
10.2.2.1
35-DD-55

PING

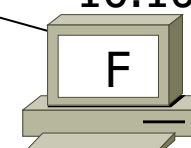
E2
10.2.2.2
36-CC-55

PING

E0
10.10.10.1
33-02-58

10.10.10.2

66-02-64



ARP = Address Resolution Protocol

D MAC	S MAC	D IP	S IP	DATA
33-02-55	66-02-99	10.3.1.2	10.1.1.5	

33-02-55 66-02-99 10.3.1.2 10.1.1.5

The default gateway is always a router's interface on the same subnet as the device.

Day in the Life of a Packet!

>ARP -a

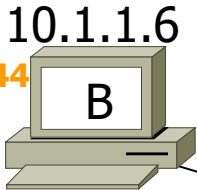
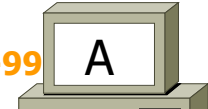
10.1.1.7 = 66-02-51

10.1.1.1 = 33-02-67

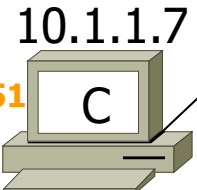
10.1.1.5

66-02-99

PING
10.3.1.2



66-02-44



66-02-51

1

2

3

4

E0

10.1.1.1

33-02-67

R1

>show arp

10.1.1.5 = 66-02-99

3 Golden Parameters
IP- 10.1.1.5
Mask- 255.255.255.0
Def. Gateway- 10.1.1.1

CAM

Port	MAC
1	66-02-99
3	66-02-51
4	33-02-67

E1

10.1.2.2
34-EE-55

R2

E2
10.2.2.1
35-DD-55

E0
10.10.10.1
33-02-58

10.3.1.2

66-02-87

OK

E0

10.3.1.1
33-02-55

PING on hold

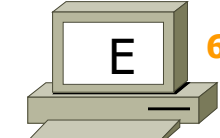
PING

E2
10.2.2.2
36-CC-55

All Masks are
255.255.255.0

10.3.3.10

66-02-72



E1

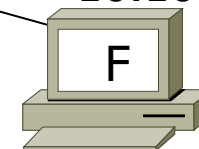
10.3.3.1
33-02-56

R3

OK

10.10.10.2

66-02-64



ARP = Address Resolution Protocol

>ARP -a

10.1.1.5 = 66-02-99

D MAC	S MAC	D IP	S IP	DATA
35-DD-55	36-CC-55	10.3.1.2	10.3.1.5	

PING on Hold

The default gateway is always a router's interface on the same subnet as the device.

Day in the Life of a Packet!

>ARP -a

10.1.1.7 = 66-02-51

10.1.1.1 = 33-02-67

10.1.1.5

66-02-99

PING
10.3.1.2

10.1.1.6

66-02-44

B

10.1.1.7

66-02-51

C

>ARP -a

10.1.1.5 = 66-02-99

33-02-67

R1

>show arp

10.1.1.5 = 66-02-99

>ARP -a

10.3.1.1 = 33-02-55

10.3.1.2

66-02-87

ARP Reply
to 10.3.1.1

E0
10.3.1.1
33-02-55

ARP Reply
ARP

ARP
10.3.1.2

PING on hold

10.3.3.10

66-02-72

E

E1
10.3.3.1
33-02-56

>show arp

10.3.1.2 = 66-02-87

E2
10.2.2.1
35-DD-55

E2
10.2.2.2
36-CC-55

E0
10.10.10.1
33-02-58

10.10.10.2

66-02-64

F

Port	CAM MAC
1	66-02-99
3	66-02-51
4	33-02-67

All Masks are
255.255.255.0

ARP = Address Resolution Protocol

D MAC	S MAC	D IP	S IP	DATA
66-02-87	33-02-55	10.3.1.1	10.3.1.2	
		10.3.1.2	10.1.1.5	

The default gateway is always a router's interface on the same subnet as the device.

Day in the Life of a Packet!

>ARP -a

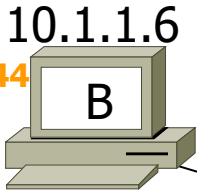
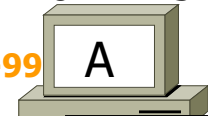
10.1.1.7 = 66-02-51

10.1.1.1 = 33-02-67

10.1.1.5

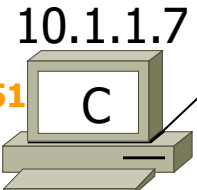
66-02-99

PING
10.3.1.2



66-02-44

10.1.1.6



66-02-51

10.1.1.7

Port	CAM MAC
1	66-02-99
3	66-02-51
4	33-02-67

1

2

3

4

E0
10.1.1.1

E1
10.1.2.1

33-02-67

R1

>show arp

10.1.1.5 = 66-02-99

>ARP -a

10.3.1.1 = 33-02-55

66-02-87

10.3.1.2



PING Reply
to 10.1.1.5



10.3.3.10

66-02-72

PING Reply
PING

E0
10.3.1.1

33-02-55

PING Reply

E1
10.3.3.1

33-02-56

PING

PING Reply

E2
10.2.2.1

35-DD-55

E2
10.2.2.2

36-CC-55

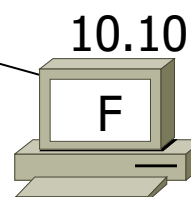
PING Reply

E0
10.10.10.1

33-02-58

>show arp

10.3.1.2 = 66-02-87



10.10.10.2

66-02-64

ARP = Address Resolution Protocol

D MAC	S MAC	D IP	S IP	DATA
33-02-55	33-02-55	10.3.1.2	10.3.1.2	

← 33-02-55 | 33-02-55 | 10.3.1.2 | 10.3.1.2

The default gateway is always a router's interface on the same subnet as the device.

All Masks are 255.255.255.0

Day in the Life of a Packet!

>ARP -a

10.1.1.7 = 66-02-51

10.1.1.1 = 33-02-67

10.1.1.5
66-02-99
A

OK

10.1.1.6
66-02-44
B

10.1.1.7
66-02-51
C

>ARP -a

10.1.1.5 = 66-02-99

10.1.1.1 = 33-02-67

>show arp

10.1.1.5 = 66-02-99

OK

>ARP -a

10.3.1.1 = 33-02-55

10.3.1.2
66-02-87
D

All Masks are 255.255.255.0

10.3.3.10
66-02-72
E

Port	CAM MAC
1	66-02-99
3	66-02-51
4	33-02-67

1
2
3
4
PING Reply

PING Reply

PING Reply

10.1.1.1 = 33-02-67

PING Reply

10.1.2.1 = 34-FF-55

PING Reply

OK

10.1.2.2
34-EE-55
E1

PING Reply

10.2.2.1
35-DD-55
E2

PING Reply

10.10.10.1
33-02-58
E0

PING Reply

10.2.2.2
36-CC-55
E2

PING Reply

10.3.1.1
33-02-55
E0

10.3.1.2
66-02-87
E0

10.3.3.1
33-02-56
E1

>show arp
10.3.1.2 = 66-02-87

10.10.10.2
66-02-64
F

ARP = Address Resolution Protocol

D MAC	S MAC	D IP	S IP	DATA
33-02-99	33-02-67	10.1.1.5	10.3.1.2	

The default gateway is always a router's interface on the same subnet as the device.