

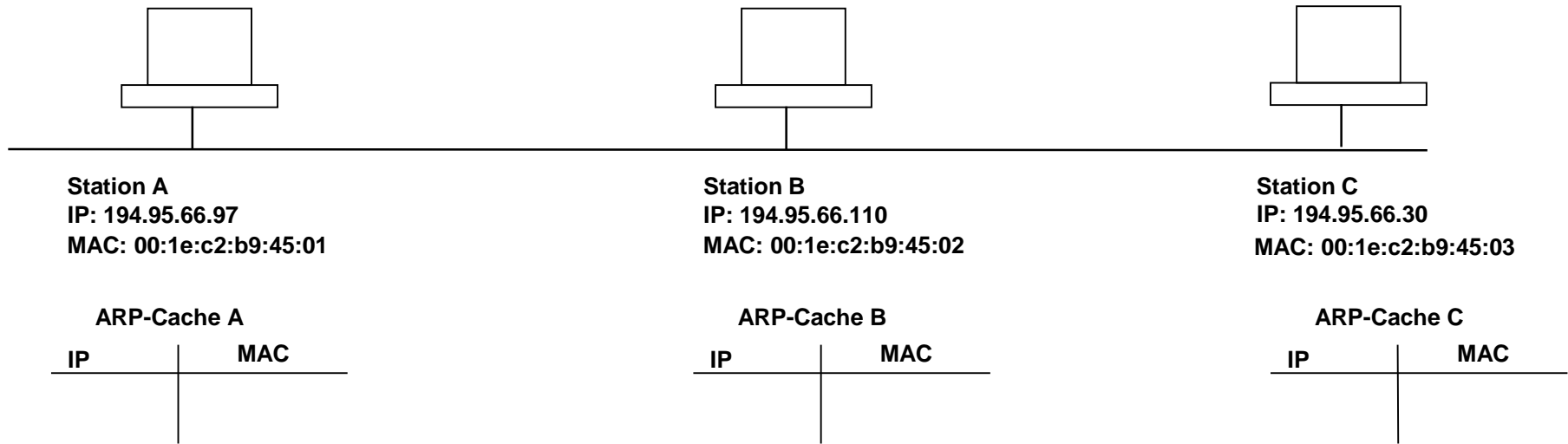
Praktikum Netze SS 2018

- Praktikumsblatt 2 -

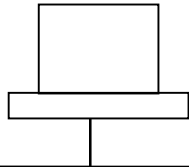
ARP-Cache

```
netlab@netlab: ~  
netlab@netlab:~$ arp -n  
Adresse Hardware-Typ Hardware-Adresse Optionen Maske Schnittstelle  
10.30.0.1 ether 00:0a:5e:20:37:82 C eth0  
10.30.0.74 ether 00:1c:c0:a4:0e:6f C eth0  
netlab@netlab:~$
```

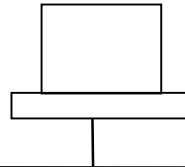
ARP-Szenario - 1



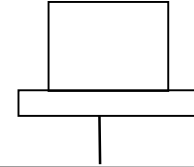
ARP-Szenario - 1



Station A
IP: 194.95.66.97
MAC: 00:1e:c2:b9:45:01



Station B
IP: 194.95.66.110
MAC: 00:1e:c2:b9:45:02



Station C
IP: 194.95.66.30
MAC: 00:1e:c2:b9:45:03

ARP-Cache A

IP	MAC
194.95.66.110	00:1e:c2:b9:45:02

ARP-Cache B

IP	MAC
194.95.66.97	00:1e:c2:b9:45:01

ARP-Cache C

IP	MAC
----	-----

ARP-Anfrage

The image shows a Wireshark packet capture interface. The filter is set to 'arp'. Two packets are visible in the packet list pane. The first packet is an ARP request (No. 1, Time 0.000000, Source 3com_50:b9:57, Destination Broadcast, Protocol ARP, Length 42, Info: Who has 10.30.0.67? Tell 10.30.0.30). The second packet is an ARP response (No. 2, Time 0.000444, Source IntelCor_a4:0e:6f, Destination 3com_50:b9:57, Protocol ARP, Length 60, Info: 10.30.0.67 is at 00:1c:c0:a4:0e:6f). The packet details pane for the first packet shows the following information:

- Frame 1: 42 bytes on wire (336 bits), 42 bytes captured (336 bits)
- Ethernet II, Src: 3com_50:b9:57 (00:01:02:50:b9:57), Dst: Broadcast (ff:ff:ff:ff:ff:ff)
- Address Resolution Protocol (request)
 - Hardware type: Ethernet (1)
 - Protocol type: IP (0x0800)
 - Hardware size: 6
 - Protocol size: 4
 - Opcode: request (1)
 - [Is gratuitous: False]
 - Sender MAC address: 3com_50:b9:57 (00:01:02:50:b9:57)
 - Sender IP address: 10.30.0.30 (10.30.0.30)
 - Target MAC address: 00:00:00_00:00:00 (00:00:00:00:00:00)
 - Target IP address: 10.30.0.67 (10.30.0.67)

ARP-Antwort

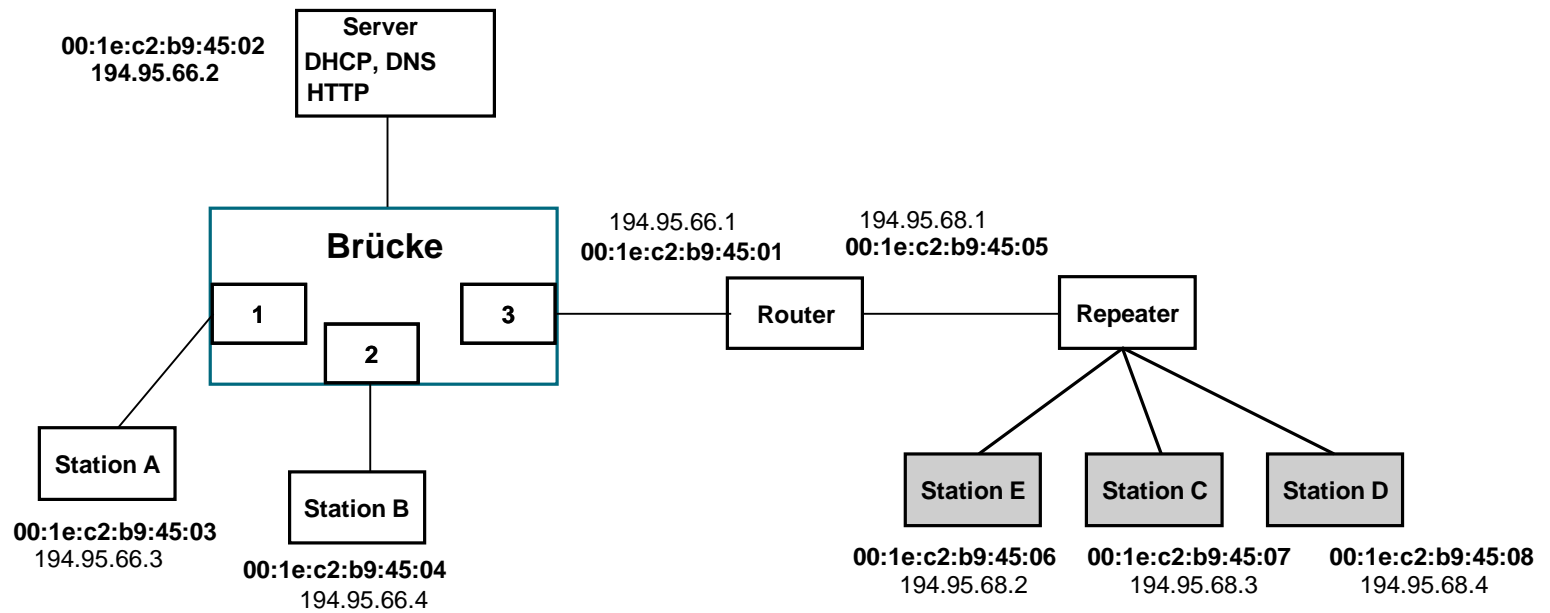
The screenshot shows the Wireshark interface with a filter set to 'arp'. The packet list pane displays two packets:

No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000	3com_50:b9:57	Broadcast	ARP	42	Who has 10.30.0.67? Tell 10.30.0.30
2	0.000444	IntelCor_a4:0e:6f	3com_50:b9:57	ARP	60	10.30.0.67 is at 00:1c:c0:a4:0e:6f

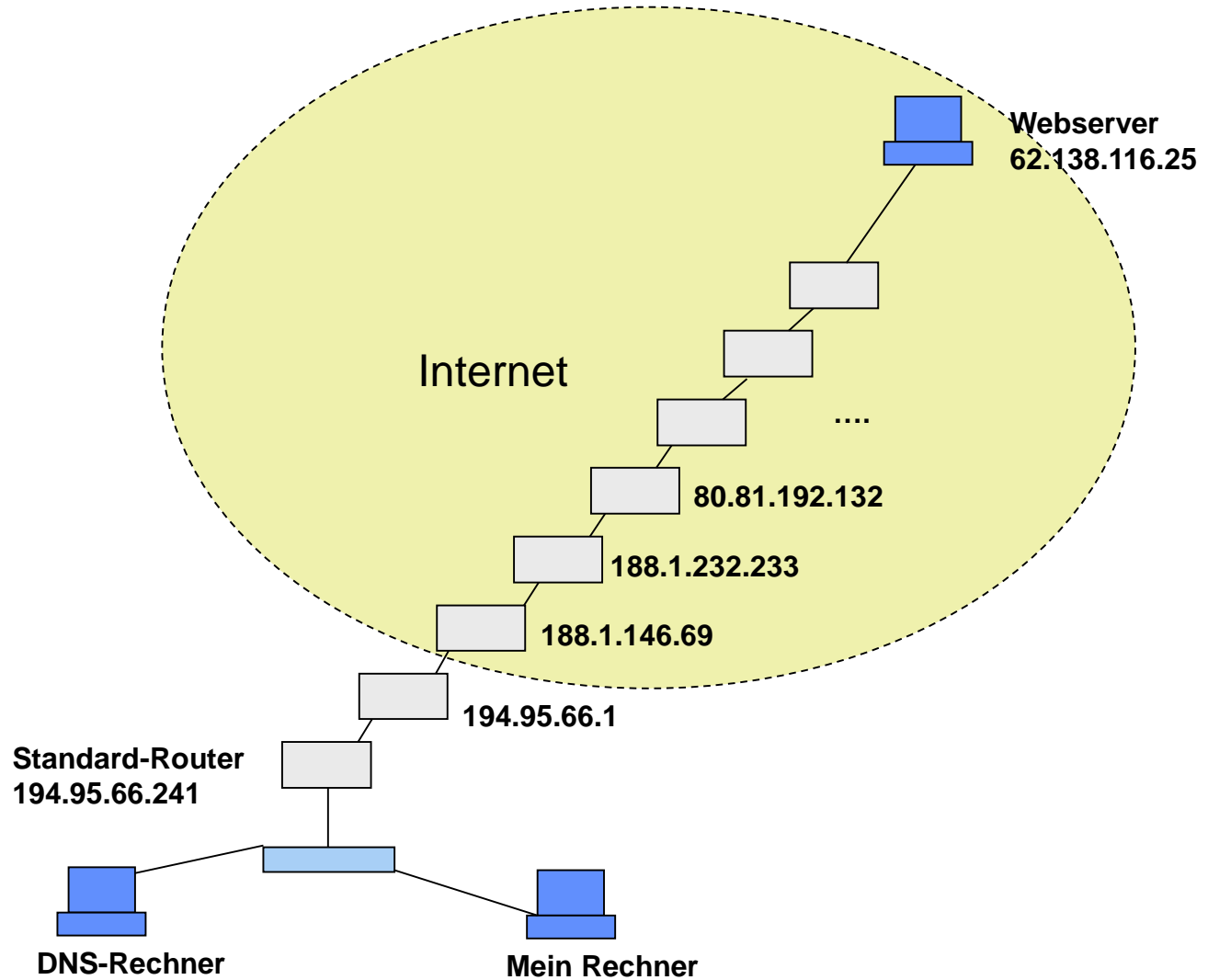
The packet details pane for the selected packet (No. 2) shows the following information:

- Frame 2: 60 bytes on wire (480 bits), 60 bytes captured (480 bits)
- Ethernet II, Src: IntelCor_a4:0e:6f (00:1c:c0:a4:0e:6f), Dst: 3com_50:b9:57 (00:01:02:50:b9:57)
- Address Resolution Protocol (reply)
 - Hardware type: Ethernet (1)
 - Protocol type: IP (0x0800)
 - Hardware size: 6
 - Protocol size: 4
 - Opcode: reply (2)
 - [Is gratuitous: False]
 - Sender MAC address: IntelCor_a4:0e:6f (00:1c:c0:a4:0e:6f)
 - Sender IP address: 10.30.0.67 (10.30.0.67)
 - Target MAC address: 3com_50:b9:57 (00:01:02:50:b9:57)
 - Target IP address: 10.30.0.30 (10.30.0.30)

ARP-Szenario - 2



Ping zu www.spiegel.de



Ende

ARP-Kommunikationsdiagramm

