

[illegible]

MAC-Адрес отправителя

Широковещательный

Контрольная сумма

PC1-Switch.pcapng

Файл Правка Вид Запуск Захват Анализ Статистика Телефония Беспроводная связь Инструменты Справка

arp

No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000	00:50:79:66:68:00	Broadcast	ARP	64	who has 192.168.1.207
2	0.000297	00:50:79:66:68:01	00:50:79:66:68:00	ARP	64	192.168.1.20 is at 00:

Frame 2: 64 bytes on wire (512 bits), 64 bytes captured (512 bits) on interface -, id 0

Ethernet II, Src: 00:50:79:66:68:01 (00:50:79:66:68:01), Dst: 00:50:79:66:68:00 (00:50:79:66:68:00)

Address Resolution Protocol (reply)

Hardware type: Ethernet (1) Тип оборудования (Ethernet)

Protocol type: IPv4 (0x0800) Тип протокола

Hardware size: 6 Длина MAC-Адреса

Protocol size: 4 Длина IP-Адреса (IPv4 = 4)

Opcode: reply (2) ARP-Сообщение (Reply = 2)

Sender MAC address: 00:50:79:66:68:01 (00:50:79:66:68:01) Мас-Адрес и Ip-Адрес отправителя

Sender IP address: 192.168.1.20

Target MAC address: 00:50:79:66:68:00 (00:50:79:66:68:00) Мас-Адрес и Ip-Адрес получателя

Target IP address: 192.168.1.10

л Правка Вид Запуск Дакват Анализ Статистика Телефония Беспроводная связь Инструменты Справка
PC2-Switch.pcapng

Time	Source	Destination	Protocol	Length	Info
1 0.000000	00:50:79:66:68:00	Broadcast	ARP	64	Who has 192.168.1.20? Tell 192.168.1.10
2 0.000174	00:50:79:66:68:01	00:50:79:66:68:00	ARP	64	192.168.1.20 is at 00:50:79:66:68:01

1: 64 bytes on wire (512 bits), 64 bytes captured (512 bits) on interface --, id 0  
 Ethernet II, Src: 00:50:79:66:68:00 (00:50:79:66:68:00), Dst: Broadcast (ff:ff:ff:ff:ff:ff)  
 Address Resolution Protocol (request)  
 Hardware type: Ethernet (1) Тип оборудования (Ethernet)  
 Protocol type: IPv4 (0x0800) Тип протокола  
 Hardware size: 6 Длина MAC-Адреса  
 Protocol size: 4 Длина IP-Адреса (IPv4 = 4)  
 Opcode: request (1) ARP-Сообщение (Request = 1)  
 Sender MAC address: 00:50:79:66:68:00 (00:50:79:66:68:00) Мас-Адрес и Ip-Адрес отправителя  
 Sender IP address: 192.168.1.10  
 Target MAC address: Broadcast (ff:ff:ff:ff:ff:ff) Мас-Адрес и Ip-Адрес получателя  
 Target IP address: 192.168.1.20

[illegible]

The screenshot shows the Wireshark network protocol analyzer interface. The top menu bar includes File, Edit, View, Go, Capture, Analyze, Statistics, Telephony, Wireless, Instruments, and Help. Below the menu is a toolbar with various icons for file operations, navigation, and analysis.

The main window displays a packet capture from the interface 'eth0'. The selected packet is #11, an ARP Request (ICMP Echo (ping) request). The packet details pane on the right shows the following information:

- Ethernet II**: Src: cc:02:48:79:00:10 (cc:02:48:79:00:10), Dst: Broadcast (ff:ff:ff:ff:ff:ff)
- Internet Protocol Version 4**: Src: 192.168.2.2, Dst: 192.168.2.2
- ARP**: Operation: Request, Sender MAC Address: cc:02:48:79:00:10, Target MAC Address: ff:ff:ff:ff:ff:ff, Target IP Address: 192.168.2.2

The packet bytes pane at the bottom shows the raw data of the packet, which is a broadcast ARP request. Annotations with arrows point to specific fields: "MAC-Адрес получателя" points to the Destination MAC address (ff:ff:ff:ff:ff:ff), and "MAC-Адрес отправителя" points to the Source MAC address (cc:02:48:79:00:10).

arp  icmp						arp  icmp					
No.	Time	Source	Destination	Protocol	Length Info	No.	Time	Source	Destination	Protocol	Length Info
2 6.737766		cc:02:48:79:00:00	Broadcast	ARP	60 who has 192.168.1.2? Tell me	2 6.603781		192.168.2.2	192.168.1.2	ICMP	98 Echo (ping) request id=0x3298, seq=1/256, ttl=64 (no diff)
3 6.737772		00:50:79:66:68:02	cc:02:48:79:00:00	ARP	60 192.168.1.2 is at 00:50:79:66:68:02	3 8.683840		192.168.2.2	192.168.1.2	ICMP	98 Echo (ping) request id=0x3498, seq=2/512, ttl=64 (no diff)
4 8.729160		192.168.2.2	192.168.1.2	ICMP	98 Echo (ping) request id=0	4 8.699925		cc:02:48:79:00:10	Broadcast	ARP	60 who has 192.168.2.2? Tell 192.168.2.1
5 8.729247		192.168.1.2	192.168.2.2	ICMP	98 Echo (ping) reply id=0	5 8.699992		00:50:79:66:68:03	cc:02:48:79:00:10	ARP	60 192.168.2.2 is at 00:50:79:66:68:03
6 10.730788		192.168.2.2	192.168.1.2	ICMP	98 Echo (ping) request id=0	6 10.684012		192.168.2.2	192.168.1.2	ICMP	98 Echo (ping) request id=0x3698, seq=3/768, ttl=64 (no diff)
7 10.730875		192.168.1.2	192.168.2.2	ICMP	98 Echo (ping) reply id=0	7 10.700633		192.168.1.2	192.168.2.2	ICMP	98 Echo (ping) reply id=0x3698, seq=3/768, ttl=64 (no diff)
8 11.746692		192.168.2.2	192.168.1.2	ICMP	98 Echo (ping) request id=0	8 11.701005		192.168.2.2	192.168.1.2	ICMP	98 Echo (ping) request id=0x3798, seq=4/1024, ttl=64 (no diff)
9 11.746781		192.168.1.2	192.168.2.2	ICMP	98 Echo (ping) reply id=0	9 11.716519		192.168.1.2	192.168.2.2	ICMP	98 Echo (ping) reply id=0x3798, seq=4/1024, ttl=64 (no diff)
10 12.763379		192.168.2.2	192.168.1.2	ICMP	98 Echo (ping) request id=0	10 12.716972		192.168.2.2	192.168.1.2	ICMP	98 Echo (ping) request id=0x3898, seq=5/1280, ttl=64 (no diff)
11 12.763462		192.168.1.2	192.168.2.2	ICMP	98 Echo (ping) reply id=0	11 12.733239		192.168.1.2	192.168.2.2	ICMP	98 Echo (ping) reply id=0x3898, seq=5/1280, ttl=64 (no diff)
Frame 3: 60 bytes on wire (480 bits), 60 bytes captured (480 bits) on interface -, id 0						Frame 4: 60 bytes on wire (480 bits), 60 bytes captured (480 bits) on interface -, id 0					
Ethernet II, Src: 00:50:79:66:68:02 (00:50:79:66:68:02), Dst: cc:02:48:79:00:00 (cc:02:48:79:00:00)						Ethernet III, Src: cc:02:48:79:00:10 (cc:02:48:79:00:10), Dst: Broadcast (ff:ff:ff:ff:ff:ff)					
Destination: cc:02:48:79:00:00 (cc:02:48:79:00:00)						Destination: Broadcast (ff:ff:ff:ff:ff:ff)					
Address: cc:02:48:79:00:00 (cc:02:48:79:00:00)						Address: Broadcast (ff:ff:ff:ff:ff:ff)					
.....0..... = LG bit: Globally unique address (factory default)						.....1..... = LG bit: Locally administered address (this is NOT the factory default)					
.....0..... = IG bit: Individual address (unicast)						.....1..... = IG bit: Group address (multicast/broadcast)					
Source: 00:50:79:66:68:02 (00:50:79:66:68:02)						Source: cc:02:48:79:00:10 (cc:02:48:79:00:10)					
Address: 00:50:79:66:68:02 (00:50:79:66:68:02)						Address: cc:02:48:79:00:10 (cc:02:48:79:00:10)					
.....0..... = LG bit: Globally unique address (factory default)						.....0..... = LG bit: Globally unique address (factory default)					
.....0..... = IG bit: Individual address (unicast)						.....0..... = IG bit: Individual address (unicast)					
Type: ARP (0x0806)						Type: ARP (0x0806)					
Padding: 00000000000000000000000000000000						Padding: 00000000000000000000000000000000					
Address Resolution Protocol (reply)						Address Resolution Protocol (request)					
Hardware type: Ethernet (1) Тип оборудования (Ethernet = 1)						Hardware type: Ethernet (1) Тип оборудования (Ethernet = 1)					
Protocol type: IPv4 (0x0800) Тип протокола IPv4						Protocol type: IPv4 (0x0800) Тип протокола IPv4					
Hardware size: 6 Длина Мас-Адреса и IP-Адреса (6 = Ethernet, 4 = IPv4)						Hardware size: 6 Длина Мас-Адреса и IP-Адреса (6 = Ethernet, 4 = IPv4)					
Protocol size: 4 ARP-Сообщение (Reply = 2)						Protocol size: 4 ARP-Сообщение (Request = 1)					
Opcode: reply (2)						Opcode: request (1)					
Sender MAC address: 00:50:79:66:68:02 (00:50:79:66:68:02) Мас-Адрес и IP-Адрес отправителя						Sender MAC address: cc:02:48:79:00:10 (cc:02:48:79:00:10) Мас-Адрес и IP-Адрес отправителя					
Sender IP address: 192.168.1.2						Sender IP address: 192.168.2.1					
Target MAC address: cc:02:48:79:00:00 (cc:02:48:79:00:00)						Target MAC address: 00:00:00:00:00:00 (00:00:00:00:00:00)					
Target IP address: 192.168.1.1 Мас-Адрес и IP-Адрес получателя						Target IP address: 192.168.2.2 Мас-Адрес и IP-Адрес получателя					
*Несохраненный файл						*Несохраненный файл					
5 8.729247		192.168.1.2	192.168.2.2	ICMP	98 Echo (ping) reply id=0	5 8.699992		00:50:79:66:68:03	cc:02:48:79:00:10	ARP	60 192.168.2.2 is at 00:50:79:66:68:03
6 10.730788		192.168.2.2	192.168.1.2	ICMP	98 Echo (ping) request id=0	6 10.684012		192.168.2.2	192.168.1.2	ICMP	98 Echo (ping) request id=0x3698, seq=3/768, ttl=64 (no diff)
7 10.730875		192.168.1.2	192.168.2.2	ICMP	98 Echo (ping) reply id=0	7 10.700633		192.168.1.2	192.168.2.2	ICMP	98 Echo (ping) reply id=0x3698, seq=3/768, ttl=64 (no diff)
8 11.746692		192.168.2.2	192.168.1.2	ICMP	98 Echo (ping) request id=0	8 11.701005		192.168.2.2	192.168.1.2	ICMP	98 Echo (ping) request id=0x3798, seq=4/1024, ttl=64 (no diff)
9 11.746781		192.168.1.2	192.168.2.2	ICMP	98 Echo (ping) reply id=0	9 11.716519		192.168.1.2	192.168.2.2	ICMP	98 Echo (ping) reply id=0x3798, seq=4/1024, ttl=64 (no diff)
10 12.763379		192.168.2.2	192.168.1.2	ICMP	98 Echo (ping) request id=0	10 12.716972		192.168.2.2	192.168.1.2	ICMP	98 Echo (ping) request id=0x3898, seq=5/1280, ttl=64 (no diff)
11 12.763462		192.168.1.2	192.168.2.2	ICMP	98 Echo (ping) reply id=0	11 12.733239		192.168.1.2	192.168.2.2	ICMP	98 Echo (ping) reply id=0x3898, seq=5/1280, ttl=64 (no diff)
IPv4						IPv4					
0100 .... = Version: 4						0100 .... = Version: 4					
....0101 = Header Length: 20 bytes (5) Длина заголовка						....0101 = Header Length: 20 bytes (5)					
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)						Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)					
Total Length: 84						Total Length: 84					
Identification: 0x9835 (38965)						Identification: 0x9835 (38965)					
0000 .... = Flags: 0x0						0000 .... = Flags: 0x0					
...0 0000 0000 0000 = Fragment Offset: 0						...0 0000 0000 0000 = Fragment Offset: 0					
Time to Live: 64						Time to Live: 64					
Protocol: ICMP (1)						Protocol: ICMP (1)					
Header Checksum: 0x5e1f [validation disabled]						Header Checksum: 0x5e1f [validation disabled]					
[Header checksum status: Unverified]						[Header checksum status: Unverified]					
Source Address: 192.168.1.2						Source Address: 192.168.2.2					
Destination Address: 192.168.2.2						Destination Address: 192.168.1.2					
Internet Control Message Protocol						Internet Control Message Protocol					
Type: 0 (Echo (ping) reply) Тип-ICMP (0 = Reply)						Type: 0 (Echo (ping) request) Тип-ICMP (0 = Request)					
Code: 0 Код (0 = пинг)						Code: 0 Код (0 = пинг)					
Checksum: 0xf06f [correct] Контрольная сумма (правильно)						Checksum: 0xe06f [correct] Контрольная сумма (правильно)					
[Checksum Status: Good]						[Checksum Status: Good]					
Identifier (BE): 14232 (0x3798) Идентификатор						Identifier (BE): 14232 (0x3798) Идентификатор					
Identifier (LE): 38967 (0x9837)						Identifier (LE): 38967 (0x9837)					
Sequence Number (BE): 4 (0x0004) Номер последовательности						Sequence Number (BE): 4 (0x0004) Номер последовательности					
Sequence Number (LE): 1024 (0x0400)						Sequence Number (LE): 1024 (0x0400)					
[Request frame: 8] Время ответа						[Response frame: 9]					
[Response time: 0.089 ms]						[Response time: 0.089 ms]					
Data (56 bytes)						Data (56 bytes)					
Data: 00000a0b0c0d0e0f101112131415161718191a1b1c1d1e1f202122232425262728292a2b2c2d2e2f303132333435363738393a3b3c3d3e3f						Data: 00000a0b0c0d0e0f101112131415161718191a1b1c1d1e1f202122232425262728292a2b2c2d2e2f303132333435363738393a3b3c3d3e3f					