DISCOVER

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

dhcp

No.	Time	Source	Destination	Protocol	Length	Info
95	110.964199	0.0.0.0	255.255.255.255	DHCP	406	DHCP Discover - Transacti…
96	111.964243	0.0.0.0	255.255.255.255	DHCP	406	DHCP Discover - Transacti…
99	113.702718	10.10.1.3	10.10.1.1	DHCP	342	DHCP Offer - Transacti…
101	114.964587	0.0.0.0	255.255.255.255	DHCP	406	DHCP Request - Transacti…
102	114.979875	10.10.1.3	10.10.1.1	DHCP	342	DHCP ACK - Transacti…

> Frame 96: 406 bytes on wire (3248 bits), 406 bytes captured (3248 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)
> Internet Protocol Version 4, Src: 0.0.0.0, Dst: 255.255.255.255
  0100 .... = Version: 4
  .... 0101 = Header Length: 20 bytes (5)
> Differentiated Services Field: 0x10 (DSCP: Unknown, ECN: Not-ECT)
  Total Length: 392
  Identification: 0x0000 (0)
> 000. .... = Flags: 0x0
  ...0 0000 0000 0000 = Fragment Offset: 0
  Time to Live: 16
  Protocol: UDP (17)
  Header Checksum: 0xa956 [validation disabled]
  [Header checksum status: Unverified]
  Source Address: 0.0.0.0
  Destination Address: 255.255.255.255
> User Datagram Protocol, Src Port: 68, Dst Port: 67
> Dynamic Host Configuration Protocol (Discover)
  Message type: Boot Request (1)   Тип сообщения - Discover
  Hardware type: Ethernet (0x01)
  Hardware address length: 6
  Hops: 0
  Transaction ID: 0x03342f44
  Seconds elapsed: 0
> Bootp flags: 0x0000 (Unicast)
  Client IP address: 0.0.0.0   У клиента нет IP
  Your (client) IP address: 0.0.0.0
  Next server IP address: 0.0.0.0
  Relay agent IP address: 0.0.0.0
  Client MAC address: 00:50:79:66:68:00 (00:50:79:66:68:00)   MAC адрес клиента
  Client hardware address padding: 00000000000000000000
  Server host name not given
  Boot file name not given
  Magic cookie: DHCP
> Option: (53) DHCP Message Type (Discover)   Опция типа сообщения (Discover)
> Option: (12) Host Name
> Option: (61) Client identifier   Имя хоста и идентификатор (PC1/MAC клиента)
> Option: (255) End
  Padding: 0000000000000000000000000000…

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dhcp

No.	Time	Source	Destination	Protocol	Length	Info
25	97.559313	10.10.1.3	10.10.3.2	DHCP	406	DHCP Discover - Transacti…
28	99.284917	10.10.3.2	10.10.1.3	DHCP	342	DHCP Offer - Transacti…
29	100.556080	10.10.1.3	10.10.3.2	DHCP	406	DHCP Request - Transacti…
30	100.562703	10.10.3.2	10.10.1.3	DHCP	342	DHCP ACK - Transacti…

> Frame 25: 406 bytes on wire (3248 bits), 406 bytes captured (3248 bits) o
> Ethernet II, Src: cc:01:6f:04:00:10 (cc:01:6f:04:00:10), Dst: cc:02:6f:22
> Internet Protocol Version 4, Src: 10.10.1.3, Dst: 10.10.3.2
  0100 .... = Version: 4
  .... 0101 = Header Length: 20 bytes (5)
> Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
  Total Length: 392
  Identification: 0x0001 (1)
> 000. .... = Flags: 0x0
  ...0 0000 0000 0000 = Fragment Offset: 0
  Time to Live: 255
  Protocol: UDP (17)
  Header Checksum: 0xa24b [validation disabled]
  [Header checksum status: Unverified]
  Source Address: 10.10.1.3
  Destination Address: 10.10.3.2
> User Datagram Protocol, Src Port: 67, Dst Port: 67
> Dynamic Host Configuration Protocol (Discover)
  Message type: Boot Request (1)
  Hardware type: Ethernet (0x01)
  Hardware address length: 6
  Hops: 1
  Transaction ID: 0x03342f44
  Seconds elapsed: 0
> Bootp flags: 0x0000 (Unicast)
  Client IP address: 0.0.0.0
  Your (client) IP address: 0.0.0.0
  Next server IP address: 0.0.0.0
  Relay agent IP address: 10.10.1.3
  Client MAC address: 00:50:79:66:68:00 (00:50:79:66:68:00)
  Client hardware address padding: 00000000000000000000
  Server host name not given
  Boot file name not given
  Magic cookie: DHCP
> Option: (53) DHCP Message Type (Discover)
> Option: (12) Host Name
> Option: (61) Client identifier
> Option: (255) End
  Padding: 0000000000000000000000000000000…

OFFER

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

dhcp

No.	Time	Source	Destination	Protocol	Length	Info
95	110.964199	0.0.0.0	255.255.255.255	DHCP	406	DHCP Discover - Transacti…
96	111.964243	0.0.0.0	255.255.255.255	DHCP	406	DHCP Discover - Transacti…
99	113.702718	10.10.1.3	10.10.1.1	DHCP	342	DHCP Offer - Transacti…
101	114.964587	0.0.0.0	255.255.255.255	DHCP	406	DHCP Request - Transacti…
102	114.979875	10.10.1.3	10.10.1.1	DHCP	342	DHCP ACK - Transacti…

> Frame 99: 342 bytes on wire (2736 bits), 342 bytes captured (2736 bits) on interface -, id 0
> Ethernet II, Src: cc:01:6f:04:00:00 (cc:01:6f:04:00:00), Dst: 00:50:79:66:68:00 (00:50:79:66:68:00)
> Internet Protocol Version 4, Src: 10.10.1.3, Dst: 10.10.1.1
  0100 .... = Version: 4
  .... 0101 = Header Length: 20 bytes (5)
> Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
  Total Length: 328
  Identification: 0x0002 (2)
> 000. .... = Flags: 0x0
  ...0 0000 0000 0000 = Fragment Offset: 0
  Time to Live: 255
  Protocol: UDP (17)
  Header Checksum: 0xa48b [validation disabled]
  [Header checksum status: Unverified]
  Source Address: 10.10.1.3
  Destination Address: 10.10.1.1
> User Datagram Protocol, Src Port: 67, Dst Port: 68
> Dynamic Host Configuration Protocol (Offer)
  Message type: Boot Reply (2)   Тип сообщения - Offer
  Hardware type: Ethernet (0x01)
  Hardware address length: 6
  Hops: 0
  Transaction ID: 0x03342f44
  Seconds elapsed: 0
> Bootp flags: 0x0000 (Unicast)
  Client IP address: 0.0.0.0   Адрес, выданный клиенту
  Your (client) IP address: 10.10.1.1
  Next server IP address: 0.0.0.0
  Relay agent IP address: 10.10.1.3
  Client MAC address: 00:50:79:66:68:00 (00:50:79:66:68:00)
  Client hardware address padding: 00000000000000000000
  Server host name not given
  Boot file name not given
  Magic cookie: DHCP
> Option: (53) DHCP Message Type (Offer)
> Option: (54) DHCP Server Identifier (10.10.3.2)   Информация об адресе и сервере
> Option: (51) IP Address Lease Time
> Option: (58) Renewal Time Value   Время аренды, маска,
> Option: (59) Rebinding Time Value   DNS итд
> Option: (1) Subnet Mask (255.255.255.0)
> Option: (3) Router
> Option: (6) Domain Name Server
> Option: (255) End
  Padding: 00000000000000000000000000

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dhcp

No.	Time	Source	Destination	Protocol	Length	Info
25	97.559313	10.10.1.3	10.10.3.2	DHCP	406	DHCP Discover - Transacti…
28	99.284917	10.10.3.2	10.10.1.3	DHCP	342	DHCP Offer - Transacti…
29	100.556080	10.10.1.3	10.10.3.2	DHCP	406	DHCP Request - Transacti…
30	100.562703	10.10.3.2	10.10.1.3	DHCP	342	DHCP ACK - Transacti…

> Frame 28: 342 bytes on wire (2736 bits), 342 bytes captured (2736 bits) o
> Ethernet II, Src: cc:02:6f:22:00:00 (cc:02:6f:22:00:00), Dst: cc:01:6f:04
> Internet Protocol Version 4, Src: 10.10.3.2, Dst: 10.10.1.3
  0100 .... = Version: 4
  .... 0101 = Header Length: 20 bytes (5)
> Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
  Total Length: 328
  Identification: 0x0000 (0)
> 000. .... = Flags: 0x0
  ...0 0000 0000 0000 = Fragment Offset: 0
  Time to Live: 255
  Protocol: UDP (17)
  Header Checksum: 0xa28c [validation disabled]
  [Header checksum status: Unverified]
  Source Address: 10.10.3.2
  Destination Address: 10.10.1.3
> User Datagram Protocol, Src Port: 67, Dst Port: 67
> Dynamic Host Configuration Protocol (Offer)
  Message type: Boot Reply (2)
  Hardware type: Ethernet (0x01)
  Hardware address length: 6
  Hops: 0
  Transaction ID: 0x03342f44
  Seconds elapsed: 0
> Bootp flags: 0x0000 (Unicast)
  Client IP address: 0.0.0.0
  Your (client) IP address: 10.10.1.1
  Next server IP address: 0.0.0.0
  Relay agent IP address: 10.10.1.3
  Client MAC address: 00:50:79:66:68:00 (00:50:79:66:68:00)
  Client hardware address padding: 00000000000000000000
  Server host name not given
  Boot file name not given
  Magic cookie: DHCP
> Option: (53) DHCP Message Type (Offer)
> Option: (54) DHCP Server Identifier (10.10.3.2)
> Option: (51) IP Address Lease Time
> Option: (58) Renewal Time Value
> Option: (59) Rebinding Time Value
> Option: (1) Subnet Mask (255.255.255.0)
> Option: (3) Router
> Option: (6) Domain Name Server
> Option: (255) End
  Padding: 00000000000000000000000000

REQUEST

DHCP from PC.pcapng [Layer2Switch-1 Ethernet2 to R1 FastEthernet0/0]

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

dhcp

No.	Time	Source	Destination	Protocol	Length Info
95	110.964199	0.0.0.0	255.255.255.255	DHCP	406 DHCP Discover - Transacti...
96	111.964243	0.0.0.0	255.255.255.255	DHCP	406 DHCP Discover - Transacti...
99	113.702718	10.10.1.3	10.10.1.1	DHCP	342 DHCP Offer - Transacti...
101	114.964587	0.0.0.0	255.255.255.255	DHCP	406 DHCP Request - Transacti...
102	114.979875	10.10.1.3	10.10.1.1	DHCP	342 DHCP ACK - Transacti...

> Frame 101: 406 bytes on wire (3248 bits), 406 bytes captured (3248 bits) on interface -, id 0
> Ethernet II, Src: 00:50:79:66:68:00 (00:50:79:66:68:00), Dst: cc:01:6f:04:00:00 (cc:01:6f:04:00:00)
> Internet Protocol Version 4, Src: 0.0.0.0, Dst: 255.255.255.255
    0100 .... = Version: 4
    .... 0101 = Header Length: 20 bytes (5)
> Differentiated Services Field: 0x10 (DSCP: Unknown, ECN: Not-ECT)
    Total Length: 392
    Identification: 0x0000 (0)
> 000. .... = Flags: 0x0
    ...0 0000 0000 0000 = Fragment Offset: 0
    Time to Live: 16
    Protocol: UDP (17)
    Header Checksum: 0xa956 [validation disabled]
    [Header checksum status: Unverified]
    Source Address: 0.0.0.0
    Destination Address: 255.255.255.255
> User Datagram Protocol, Src Port: 68, Dst Port: 67
> Dynamic Host Configuration Protocol (Request)   **Тип сообщения - Request**
    Message type: Boot Request (1)
    Hardware type: Ethernet (0x01)
    Hardware address length: 6
    Hops: 0
    Transaction ID: 0x03342f44
    Seconds elapsed: 0
> Bootp flags: 0x0000 (Unicast)   **Клиент соглашается с выданным адресом**
    Client IP address: 10.10.1.1
    Your (client) IP address: 0.0.0.0
    Next server IP address: 0.0.0.0
    Relay agent IP address: 0.0.0.0
    Client MAC address: 00:50:79:66:68:00 (00:50:79:66:68:00)
    Client hardware address padding: 00000000000000000000
    Server host name not given
    Boot file name not given
    Magic cookie: DHCP
    Option: (53) DHCP Message Type (Request)
    Option: (54) DHCP Server Identifier (10.10.3.2)
    Option: (50) Requested IP Address (10.10.1.1)
    Option: (61) Client identifier
    Option: (12) Host Name
    Option: (55) Parameter Request List
    Option: (255) End
    Padding: 0000000000000000...

Информация о сервере, хосте, адресе и списке параметров, доступных хосту для опроса сервера

DHCP from Server.pcapng [R1 FastEthernet1/0 to R2 FastEthernet0/0]

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dhcp

No.	Time	Source	Destination	Protocol	Length Info
25	97.559313	10.10.1.3	10.10.3.2	DHCP	406 DHCP Discover - Transacti...
28	99.284917	10.10.1.3	10.10.3.2	DHCP	342 DHCP Offer - Transacti...
29	100.556080	10.10.1.3	10.10.3.2	DHCP	406 DHCP Request - Transacti...
30	100.562703	10.10.3.2	10.10.1.3	DHCP	342 DHCP ACK - Transacti...

> Frame 29: 406 bytes on wire (3248 bits), 406 bytes captured (3248 bits) on interface -, id 0
> Ethernet II, Src: cc:01:6f:04:00:10 (cc:01:6f:04:00:10), Dst: cc:02:6f:22:00:00 (cc:02:6f:22:00:00)
> Internet Protocol Version 4, Src: 10.10.1.3, Dst: 10.10.3.2
    0100 .... = Version: 4
    .... 0101 = Header Length: 20 bytes (5)
> Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
    Total Length: 392
    Identification: 0x0003 (3)
> 000. .... = Flags: 0x0
    ...0 0000 0000 0000 = Fragment Offset: 0
    Time to Live: 255
    Protocol: UDP (17)
    Header Checksum: 0xa249 [validation disabled]
    [Header checksum status: Unverified]
    Source Address: 10.10.1.3
    Destination Address: 10.10.3.2
> User Datagram Protocol, Src Port: 67, Dst Port: 67
> Dynamic Host Configuration Protocol (Request)
    Message type: Boot Request (1)
    Hardware type: Ethernet (0x01)
    Hardware address length: 6
    Hops: 1
    Transaction ID: 0x03342f44
    Seconds elapsed: 0
> Bootp flags: 0x0000 (Unicast)
    Client IP address: 10.10.1.1
    Your (client) IP address: 0.0.0.0
    Next server IP address: 0.0.0.0
    Relay agent IP address: 10.10.1.3
    Client MAC address: 00:50:79:66:68:00 (00:50:79:66:68:00)
    Client hardware address padding: 00000000000000000000
    Server host name not given
    Boot file name not given
    Magic cookie: DHCP
    Option: (53) DHCP Message Type (Request)
    Option: (54) DHCP Server Identifier (10.10.3.2)
    Option: (50) Requested IP Address (10.10.1.1)
    Option: (61) Client identifier
    Option: (12) Host Name
    Option: (55) Parameter Request List
    Option: (255) End
    Padding: 0000000000000000...

ACK

DHCP from PC.pcapng [Layer2Switch-1 Ethernet2 to R1 FastEthernet0/0]

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

dhcp

No.	Time	Source	Destination	Protocol	Length Info
95	110.964199	0.0.0.0	255.255.255.255	DHCP	406 DHCP Discover - Transacti...
96	111.964243	0.0.0.0	255.255.255.255	DHCP	406 DHCP Discover - Transacti...
99	113.702718	10.10.1.3	10.10.1.1	DHCP	342 DHCP Offer - Transacti...
101	114.964587	0.0.0.0	255.255.255.255	DHCP	406 DHCP Request - Transacti...
102	114.979875	10.10.1.3	10.10.1.1	DHCP	342 DHCP ACK - Transacti...

> Frame 102: 342 bytes on wire (2736 bits), 342 bytes captured (2736 bits) on interface -, id 0
> Ethernet II, Src: cc:01:6f:04:00:00 (cc:01:6f:04:00:00), Dst: 00:50:79:66:68:00 (00:50:79:66:68:00)
> Internet Protocol Version 4, Src: 10.10.1.3, Dst: 10.10.1.1
    0100 .... = Version: 4
    .... 0101 = Header Length: 20 bytes (5)
> Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
    Total Length: 328
    Identification: 0x0004 (4)
> 000. .... = Flags: 0x0
    ...0 0000 0000 0000 = Fragment Offset: 0
    Time to Live: 255
    Protocol: UDP (17)
    Header Checksum: 0xa489 [validation disabled]
    [Header checksum status: Unverified]
    Source Address: 10.10.1.3
    Destination Address: 10.10.1.1
> User Datagram Protocol, Src Port: 67, Dst Port: 68
> Dynamic Host Configuration Protocol (ACK)   **Тип сообщения - ACK**
    Message type: Boot Reply (2)
    Hardware type: Ethernet (0x01)
    Hardware address length: 6
    Hops: 0
    Transaction ID: 0x03342f44
    Seconds elapsed: 0
> Bootp flags: 0x0000 (Unicast)   **Клиент и сервер "договорились" об арендуемом адресе**
    Client IP address: 10.10.1.1
    Your (client) IP address: 10.10.1.1
    Next server IP address: 0.0.0.0
    Relay agent IP address: 10.10.1.3
    Client MAC address: 00:50:79:66:68:00 (00:50:79:66:68:00)
    Client hardware address padding: 00000000000000000000
    Server host name not given
    Boot file name not given
    Magic cookie: DHCP
    Option: (53) DHCP Message Type (ACK)
    Option: (54) DHCP Server Identifier (10.10.3.2)
    Option: (51) IP Address Lease Time
    Option: (58) Renewal Time Value
    Option: (59) Rebinding Time Value
    Option: (1) Subnet Mask (255.255.255.0)
    Option: (3) Router
    Option: (6) Domain Name Server
    Option: (255) End
    Padding: 00000000000000000000000000

Информация о сервере и адресе

DHCP from Server.pcapng [R1 FastEthernet1/0 to R2 FastEthernet0/0]

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dhcp

No.	Time	Source	Destination	Protocol	Length Info
25	97.559313	10.10.1.3	10.10.3.2	DHCP	406 DHCP Discover - Transacti...
28	99.284917	10.10.3.2	10.10.1.3	DHCP	342 DHCP Offer - Transacti...
29	100.556080	10.10.1.3	10.10.3.2	DHCP	406 DHCP Request - Transacti...
30	100.562703	10.10.3.2	10.10.1.3	DHCP	342 DHCP ACK - Transacti...

> Frame 30: 342 bytes on wire (2736 bits), 342 bytes captured (2736 bits) on interface -, id 0
> Ethernet II, Src: cc:02:6f:22:00:00 (cc:02:6f:22:00:00), Dst: cc:01:6f:04:00:10 (cc:01:6f:04:00:10)
> Internet Protocol Version 4, Src: 10.10.3.2, Dst: 10.10.1.3
    0100 .... = Version: 4
    .... 0101 = Header Length: 20 bytes (5)
> Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
    Total Length: 328
    Identification: 0x0001 (1)
> 000. .... = Flags: 0x0
    ...0 0000 0000 0000 = Fragment Offset: 0
    Time to Live: 255
    Protocol: UDP (17)
    Header Checksum: 0xa28b [validation disabled]
    [Header checksum status: Unverified]
    Source Address: 10.10.3.2
    Destination Address: 10.10.1.3
> User Datagram Protocol, Src Port: 67, Dst Port: 67
> Dynamic Host Configuration Protocol (ACK)
    Message type: Boot Reply (2)
    Hardware type: Ethernet (0x01)
    Hardware address length: 6
    Hops: 0
    Transaction ID: 0x03342f44
    Seconds elapsed: 0
> Bootp flags: 0x0000 (Unicast)
    Client IP address: 10.10.1.1
    Your (client) IP address: 10.10.1.1
    Next server IP address: 0.0.0.0
    Relay agent IP address: 10.10.1.3
    Client MAC address: 00:50:79:66:68:00 (00:50:79:66:68:00)
    Client hardware address padding: 00000000000000000000
    Server host name not given
    Boot file name not given
    Magic cookie: DHCP
    Option: (53) DHCP Message Type (ACK)
    Option: (54) DHCP Server Identifier (10.10.3.2)
    Option: (51) IP Address Lease Time
    Option: (58) Renewal Time Value
    Option: (59) Rebinding Time Value
    Option: (1) Subnet Mask (255.255.255.0)
    Option: (3) Router
    Option: (6) Domain Name Server
    Option: (255) End
    Padding: 00000000000000000000000000