

# (ASA) فيكتل لباقل نامال زاغ نيوكت DHCP Relay

## تايوت حمل

[عمدق مل](#)

[قيساس ال تابل طت مل](#)

[تابل طت مل](#)

[عمدخت س مل تانوك مل](#)

[قيساس ا تامول عم](#)

[عمزحل ا قفدت](#)

[فيجراخل او فيلخ ادا ال ASA عمزحل ا طاقا ت ال مادخت س ال DHCP ليحرت](#)

[DHCP ليحرت تاكرحل syslogs و عاطخ ال احي حصت](#)

[نيوكت ال](#)

[كيش ل ال يطي طخت ال مسر ال](#)

[تايوكت ال](#)

[CLI مادخت س ال DHCP ليحرت نيوكت](#)

[DHCP ليحرت لي اهل ال نيوكت ال](#)

[DHCP مداخ نيوكت](#)

[عمدخت مل ال DHCP مداوخ مادخت س ال DHCP ليحرت](#)

[عمدخت مل ال DHCP مداوخ عم عاطخ ال احي حصت](#)

[عمدخت مل ال DHCP مداوخ عم طاقا ت ال](#)

[عمحص ال نم ققحت ال](#)

[اهج الص او عاطخ ال ا فاشكت س ال](#)

[قلص تا ذت امول عم](#)

## عمدق مل

حي حصت و مزحل ا طاقا ت ال تاي ل عم عم اس م ب Cisco ASA ال DHCP ليحرت دن ت س مل ا اذ ف صي نيوكت ل ال ا ا م مدقي و ، اه ا طخ ا

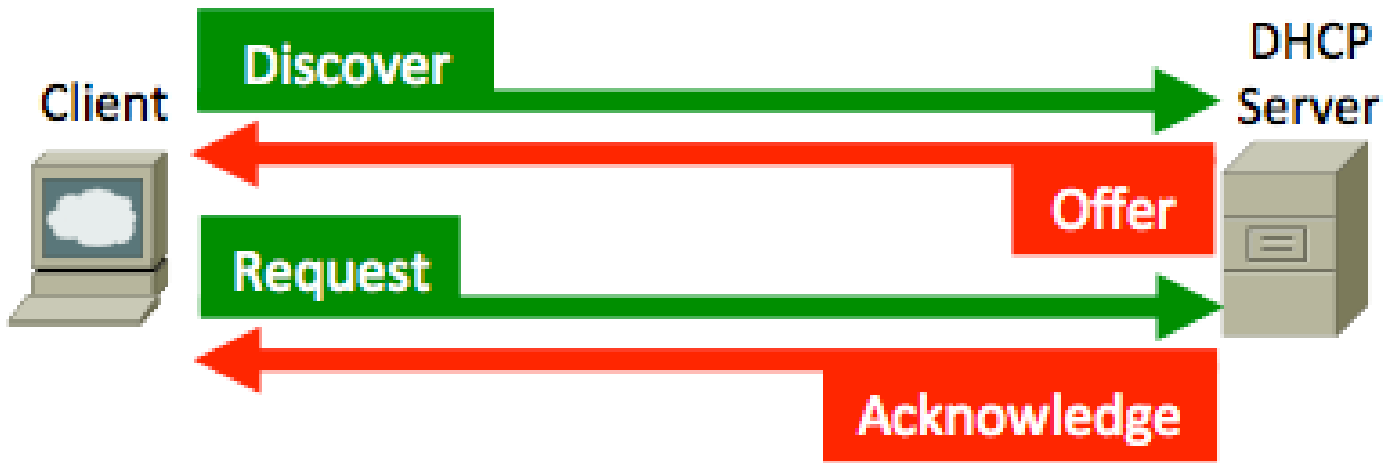
## قيساس ال تابل طت مل

عم ا ب نام ال زاغل (DHCP) في ضم ل ال في م اني دل نيوكت ال لوكوت و رب ليحرت ل في ك و ح م س ي عم ف ل ت خ م عم ا ب ل ص ت م ر خ ا DHCP مداخ و ا ه ج و م ال ا عم ال نم DHCP تابل طت هي ج و ت

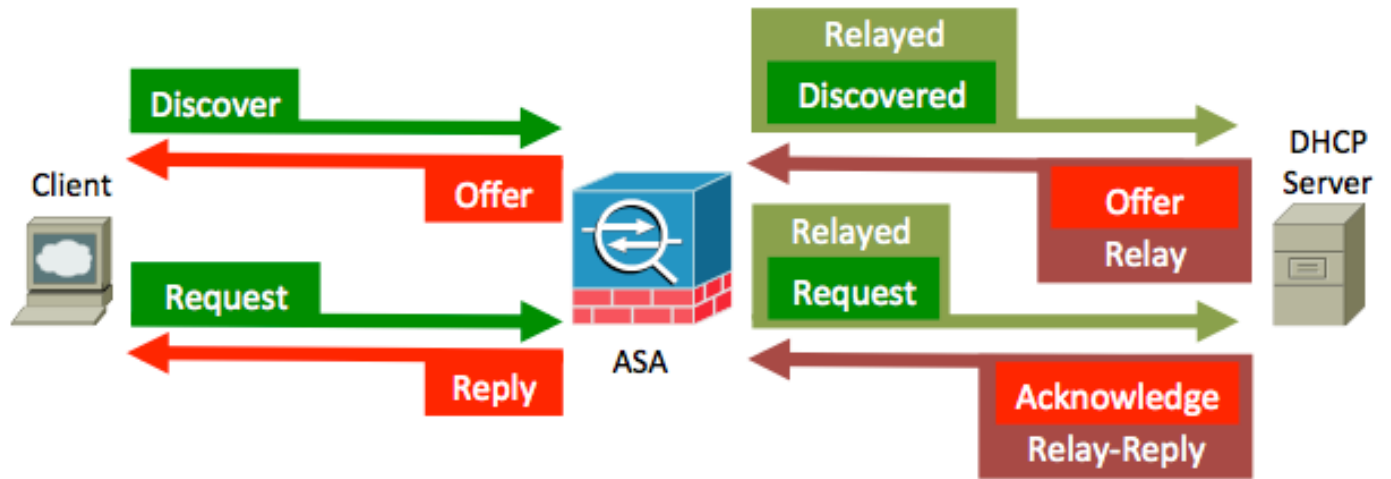
DHCP ليحرت ل في ك و مادخت س ال ط ق ف دو ي ق ال ا ه ذ ق ب ط ن ت

- اض ي ا DHCP مداخ عمي م ني ك م ت م ا ذ ا ليحرت ال ل في ك و ني ك م ت ن ك م ي ال
- لي ك و ل ال خ نم تابل طت ل ل س ر ا ك ن ك م ي ال و نام ال زاغل عم رش ا ب م ال ص ت م نو ك ت ن ا ب ج ي ه ج و م و ر خ ا ليحرت
- مداخ نيوكت و ا ، DHCP ليحرت ني ك م ت ك ن ك م ي ال ، عم دخت م ال ق ا ي س ل ا ع ض و ل عم ب س ن ل ا ب





قېسنت لېحرت DHCP ي ف مه ي نثي و طبر اذه ASA ل ا ضر تعي



قېجراخ لاو قېلخ ادلا ASA قه جاو ي ل ع مزح لا طاقت لا مادختساب DHCP لېحرت

فلتخم ASA اه ب لدعي يت لا قيرطالا وه كلذ نأل، رمحالاب ع فرم لا يوتحمل ل طخال م نود لوقح لا.

1. in order to (DHCPDISCOVER) قلاسر ش ب تلسراو ماظن لا تدهم، قېلمع DHCP ل ا تادب ل ا 67ءانيم UDP - 255.255.255.255 ناو نع قياغلا يلا

```

# Frame 1: 342 bytes on wire (2736 bits), 342 bytes captured (2736 bits)
# Ethernet II, Src: Vmware_84:39:6a (00:50:56:84:39:6a), Dst: Broadcast (ff:ff:ff:ff:ff:ff)
# Internet Protocol Version 4, Src: 0.0.0.0 (0.0.0.0), Dst: 255.255.255.255 (255.255.255.255)
# User Datagram Protocol, Src Port: bootpc (68), Dst Port: bootps (67)
# Bootstrap Protocol
    Message type: Boot Request (1)
    Hardware type: Ethernet
    Hardware address length: 6
    Hops: 0
    Transaction ID: 0x79dbf3a7
    Seconds elapsed: 0
    Bootp flags: 0x0000 (unicast)
    Client IP address: 0.0.0.0 (0.0.0.0)
    Your (client) IP address: 0.0.0.0 (0.0.0.0)
    Next server IP address: 0.0.0.0 (0.0.0.0)
    Relay agent IP address: 0.0.0.0 (0.0.0.0)
    Client MAC address: Vmware_84:39:6a (00:50:56:84:39:6a)
    Client hardware address padding: 00000000000000000000
    Server host name not given
    Boot file name not given
    Magic cookie: DHCP
    Option: (t=53,l=1) DHCP Message Type = DHCP Discover
    Option: (t=116,l=1) DHCP Auto-Configuration = AutoConfigure
    Option: (t=61,l=7) Client identifier
    Option: (t=12,l=14) Host Name = 
    Option: (t=60,l=8) Vendor class identifier = "MSFT 5.0"
    Option: (t=55,l=11) Parameter Request List
    End Option
    Padding

```

Src IP: No ip on client  
Dst: L3 Broadcast

Transaction id should be same for Discover, Offer, Request and Ack (DORA)

DHCP Discover sent by client



لأول مرة ليحترت الـ IP ناوونع لإف، IP ناوونع VPN كة بش لي مع بلط إذا: عظة الم DHCP-network-scope، رمألة طساوب هف يرت متي مادخت سأل ل لباق IP ناوونع. عة ومجمل جهن نمض.

2. DHCP ليحترتك لمعلل هنيوكت مت هنأل ارطن نكلو، ثبلا طاقسإب ASA موقوي، عدا. نم DHCP مداخل IP ردصم سأل يداخل ثبمة مذك DHCPdiscover ةلسر هيجوت ديعي هنإف ربيغتل لظحال. ناوونع ةجراخل ةجاولا وه، ةلأجل هذه يف. مداخل هجاوت يتل IP ةجاولا ليحترت الـ IP سأل ل قح يف:

```

Frame 1: 342 bytes on wire (2736 bits), 342 bytes captured (2736 bits)
Ethernet II, Src: Cisco_6c:b8:c7 (58:8d:09:6c:b8:c7), Dst: Cisco_dd:48:c8 (00:19:e7:dd:48:c8)
Internet Protocol Version 4, Src: 198.51.100.1 (198.51.100.1), Dst: 198.51.100.2 (198.51.100.2)
User Datagram Protocol, Src Port: bootps (67), Dst Port: bootps (67)
Bootstrap Protocol
  Message type: Boot Request (1)
  Hardware type: Ethernet
  Hardware address length: 6
  Hops: 1
  Transaction ID: 0x79dbf3a7
  Seconds elapsed: 0
  Bootp flags: 0x0000 (Unicast)
  Client IP address: 0.0.0.0 (0.0.0.0)
  Your (client) IP address: 0.0.0.0 (0.0.0.0)
  Next server IP address: 0.0.0.0 (0.0.0.0)
  Relay agent IP address: 192.0.2.1 (192.0.2.1)
  Client MAC address: vmware_84:39:6a (00:50:56:84:39:6a)
  Client hardware address padding: 00000000000000000000
  Server host name not given
  Boot file name not given
  Magic cookie: DHCP
  Option: (t=53,l=1) DHCP Message Type = DHCP Discover
  Option: (t=116,l=1) DHCP Auto-Configuration = AutoConfigure
  Option: (t=61,l=7) client identifier
  Option: (t=12,l=14) Host Name = 
  Option: (t=60,l=8) vendor class identifier = "MSFT 5.0"
  Option: (t=55,l=11) Parameter Request List
  End Option
  Padding

```

Src: ASA outside IP facing the server  
Dst: DHCP server

Relay agent/IP of ASA interface facing the clients, where relay is enabled



Cisco CSCuo89924، ن م ءاطخألا ححصت فرعم يف جمدمال حالصالا ب بسب :ةظالم  
 يدأالا ثبل مزح هيحوت ءءاع| نكمي ءعب اميفو ،(1)9.3 و 9.1(5.7) تاراءصالا يف  
 ثيح (giaddr) ليمعلا هءاوي يذلا ءهءاولل IP ناوع نم DHCP مءاأل IP رءصم  
 ناونع يءلءاء نراقلا تنك عيطتسي وه ،ءالءا هءه يف . dhcpPrelay نينكمتم تي

3. ليجرتلا ليكو لىلا ءهءوم ،ASA لىلا unicast ءمزك DHCPpoffer ءلاسر مءاأل لسري  
 نم IP ناوع وه ،ءالءا هءه يف . 67 ءانيم UDP DHCPDISCOVER- يف هءاءع| م تيذلا  
 :سأر 3 ءقبطاللا يف IP ءيألا تظءال . تنك dhcprelay ثيح ،(giaddr) يءلءاء نراقلا

```

⊞ Frame 2: 342 bytes on wire (2736 bits), 342 bytes captured (2736 bits)
⊞ Ethernet II, Src: Cisco_dd:48:c8 (00:19:e7:dd:48:c8), Dst: Cisco_6c:b8:c7 (58:8d:09:6c:b8:c7)
⊞ Internet Protocol Version 4, Src: 198.51.100.2 (198.51.100.2), Dst: 192.0.2.1 (192.0.2.1)
⊞ User Datagram Protocol, Src Port: bootps (67), Dst Port: bootps (67)
⊞ Bootstrap Protocol
    Src: DHCP server
    Dst: Relay agent IP
    Message type: Boot Reply (2)
    Hardware type: Ethernet
    Hardware address length: 6
    Hops: 0
    Transaction ID: 0x79dbf3a7
    Seconds elapsed: 0
⊞ Bootp flags: 0x0000 (Unicast)
    Client IP address: 0.0.0.0 (0.0.0.0)
    Your (client) IP address: 192.0.2.4 (192.0.2.4) Offered IP
    Next server IP address: 0.0.0.0 (0.0.0.0)
    Relay agent IP address: 192.0.2.1 (192.0.2.1)
    Client MAC address: vmware_84:39:6a (00:50:56:84:39:6a)
    Client hardware address padding: 00000000000000000000
    Server host name not given
    Boot file name not given
    Magic cookie: DHCP
⊞ Option: (t=53,l=1) DHCP Message Type = DHCP Offer
    DHCP offer
⊞ Option: (t=54,l=4) DHCP Server Identifier = 198.51.100.2
    DHCP server IP
⊞ Option: (t=51,l=4) IP Address Lease Time = 1 day
    Lease
⊞ Option: (t=58,l=4) Renewal Time Value = 12 hours
⊞ Option: (t=59,l=4) Rebinding Time Value = 21 hours
⊞ Option: (t=1,l=4) Subnet Mask = 255.255.255.0
    Subnet mask info
⊞ Option: (t=6,l=8) Domain Name Server
⊞ Option: (t=15,l=9) Domain Name = "cisco.com"
    Domain name
    End option
    Padding

```

4. ام نې ب IP س ا ر ي ف ر ي ي غ ت ل ا ط ح ا ل . 68 ء ا ن ي م UDP - ي ل خ ا د ن ر ا ق ل ل ا ن م ط ب ر ا ذ ه ASA ل س ر ي .  
 ة ي ل خ ا د ل ا ة ح ا و ل ا ة م ز ح ل ل ك ر ت ت

```

④ Frame 2: 348 bytes on wire (2784 bits), 348 bytes captured (2784 bits)
④ Ethernet II, Src: Cisco_6c:b8:c6 (58:8d:09:6c:b8:c6), Dst: Vmware_84:39:6a (00:50:56:84:39:6a)
④ Internet Protocol Version 4, Src: 192.0.2.1 (192.0.2.1), Dst: 192.0.2.4 (192.0.2.4)
④ User Datagram Protocol, Src Port: bootps (67), Dst Port: bootpc (68)
④ Bootstrap Protocol
    Src: ASA interface/Relay agent IP
    Dst: Offered IP
    Message type: Boot Reply (2)
    Hardware type: Ethernet
    Hardware address length: 6
    Hops: 0
    Transaction ID: 0x79dbf3a7
    Seconds elapsed: 0
    Bootp flags: 0x0000 (Unicast)
    Client IP address: 0.0.0.0 (0.0.0.0)
    Your (client) IP address: 192.0.2.4 (192.0.2.4) Offered IP
    Next server IP address: 0.0.0.0 (0.0.0.0)
    Relay agent IP address: 192.0.2.1 (192.0.2.1) ASA interface IP
    Client MAC address: vmware_84:39:6a (00:50:56:84:39:6a)
    Client hardware address padding: 00000000000000000000
    Server host name not given
    Boot file name not given
    Magic cookie: DHCP
    Option: (t=53,l=1) DHCP Message Type = DHCP Offer DHCP Offer
    Option: (t=54,l=4) DHCP Server Identifier = 198.51.100.2 DHCP server IP
    Option: (t=51,l=4) IP Address Lease Time = 1 day Lease
    Option: (t=58,l=4) Renewal Time Value = 12 hours
    Option: (t=59,l=4) Rebinding Time Value = 21 hours
    Option: (t=1,l=4) Subnet Mask = 255.255.255.0 Subnet mask info
    Option: (t=6,l=8) Domain Name Server
    Option: (t=15,l=9) Domain Name = "cisco.com" Domain name
    Option: (t=3,l=4) Router = 192.0.2.1 Default Gateway for client
    End option
    Padding

```

5. نأ تلد in order to راسر DHCPprequest تل سراً، ةلاسر DHCPoffer لآ تل نأ ملت سي نإ ام .  
 ضرع لآ لبق ت تل نأ

```

Frame 3: 366 bytes on wire (2928 bits), 366 bytes captured (2928 bits)
Ethernet II, Src: Vmware_84:39:6a (00:50:56:84:39:6a), Dst: Broadcast (ff:ff:ff:ff:ff:ff)
Internet Protocol Version 4, Src: 0.0.0.0 (0.0.0.0), Dst: 255.255.255.255 (255.255.255.255)
User Datagram Protocol, Src Port: bootpc (68), Dst Port: bootps (67)
Bootstrap Protocol
  Message type: Boot Request (1)
  Hardware type: Ethernet
  Hardware address length: 6
  Hops: 0
  Transaction ID: 0x79dbf3a7
  Seconds elapsed: 0
  Bootp flags: 0x0000 (Unicast)
  Client IP address: 0.0.0.0 (0.0.0.0)
  Your (client) IP address: 0.0.0.0 (0.0.0.0)
  Next server IP address: 0.0.0.0 (0.0.0.0)
  Relay agent IP address: 0.0.0.0 (0.0.0.0)
  Client MAC address: vmware_84:39:6a (00:50:56:84:39:6a)
  Client hardware address padding: 00000000000000000000
  Server host name not given
  Boot file name not given
  Magic cookie: DHCP
  Option: (t=53,l=1) DHCP Message Type = DHCP Request
  Option: (t=61,l=7) Client identifier
  Option: (t=50,l=4) Requested IP Address = 192.0.2.4
  Option: (t=54,l=4) DHCP Server Identifier = 198.51.100.2
  Option: (t=12,l=14) Host Name = 
  Option: (t=81,l=18) Client Fully Qualified Domain Name
  Option: (t=60,l=8) Vendor class identifier = "MSFT 5.0"
  Option: (t=55,l=11) Parameter Request List
  End option

```

Src: 0.0.0.0 as client hasn't accepted the IP yet  
Dst: L3 broadcast

DHCP request

Requested IP  
DHCP server IP  
Hostname

## 6. DHCP مداخلی | DHCPprequest ASA لى ررمي

```

Frame 3: 366 bytes on wire (2928 bits), 366 bytes captured (2928 bits)
Ethernet II, Src: Cisco_6c:b8:c7 (58:8d:09:6c:b8:c7), Dst: Cisco_dd:48:c8 (00:19:e7:dd:48:c8)
Internet Protocol Version 4, Src: 198.51.100.1 (198.51.100.1), Dst: 198.51.100.2 (198.51.100.2)
User Datagram Protocol, Src Port: bootps (67), Dst Port: bootps (67)
Bootstrap Protocol
  Message type: Boot Request (1)
  Hardware type: Ethernet
  Hardware address length: 6
  Hops: 1
  Transaction ID: 0x79dbf3a7
  Seconds elapsed: 0
  Bootp flags: 0x0000 (Unicast)
  Client IP address: 0.0.0.0 (0.0.0.0)
  Your (client) IP address: 0.0.0.0 (0.0.0.0)
  Next server IP address: 0.0.0.0 (0.0.0.0)
  Relay agent IP address: 192.0.2.1 (192.0.2.1)
  Client MAC address: vmware_84:39:6a (00:50:56:84:39:6a)
  Client hardware address padding: 00000000000000000000
  Server host name not given
  Boot file name not given
  Magic cookie: DHCP
  Option: (t=53,l=1) DHCP Message Type = DHCP Request
  Option: (t=61,l=7) Client identifier
  Option: (t=50,l=4) Requested IP Address = 192.0.2.4
  Option: (t=54,l=4) DHCP Server Identifier = 198.51.100.2
  Option: (t=12,l=14) Host Name = 
  Option: (t=81,l=18) Client Fully Qualified Domain Name
  Option: (t=60,l=8) Vendor class identifier = "MSFT 5.0"
  Option: (t=55,l=11) Parameter Request List
  End option

```

Src: ASA outside interface  
Dst: DHCP server

DHCP request

Requested IP  
DHCP server IP  
Hostname



7. IP ديكتاتل ىرأ ةرم DHCPACK لسري هنإف، DHCPprequest ىلع مداخال لصحي نأ درجمب لاضورع ل.

```

⊕ Frame 4: 342 bytes on wire (2736 bits), 342 bytes captured (2736 bits)
⊕ Ethernet II, Src: Cisco_dd:48:c8 (00:19:e7:dd:48:c8), Dst: Cisco_6c:b8:c7 (58:8d:09:6c:b8:c7)
⊕ Internet Protocol Version 4, Src: 198.51.100.2 (198.51.100.2), Dst: 192.0.2.1 (192.0.2.1)
⊕ User Datagram Protocol, Src Port: bootps (67), Dst Port: bootps (67)
⊕ Bootstrap Protocol
    Src: DHCP server
    Dst: Relay agent IP
    Message type: Boot Reply (2)
    Hardware type: Ethernet
    Hardware address length: 6
    Hops: 0
    Transaction ID: 0x79dbf3a7
    Seconds elapsed: 0
    ⊕ Bootp flags: 0x0000 (Unicast)
        Client IP address: 0.0.0.0 (0.0.0.0)
        Your (client) IP address: 192.0.2.4 (192.0.2.4)
        Next server IP address: 0.0.0.0 (0.0.0.0)
        Relay agent IP address: 192.0.2.1 (192.0.2.1)
        Client MAC address: vmware_84:39:6a (00:50:56:84:39:6a)
        Client hardware address padding: 00000000000000000000
        Server host name not given
        Boot file name not given
        Magic cookie: DHCP
        ⊕ option: (t=53,l=1) DHCP Message Type = DHCP ACK
        ⊕ option: (t=54,l=4) DHCP Server Identifier = 198.51.100.2
        ⊕ option: (t=51,l=4) IP Address Lease Time = 1 day
        ⊕ option: (t=58,l=4) Renewal Time value = 12 hours
        ⊕ option: (t=59,l=4) Rebinding Time value = 21 hours
        ⊕ option: (t=1,l=4) Subnet Mask = 255.255.255.0
        ⊕ option: (t=6,l=8) Domain Name Server
        ⊕ option: (t=15,l=9) Domain Name = "cisco.com"
    End option
    Padding
    DHCP Ack
    DHCP server IP
    Lease
    Subnet mask info
    Domain name
    Default gateway for client
    
```

8. ةكرحلل م تي نأو، تنأ ىلإ لدان DHCP لىل DHCPack لىل ASA ررمي.

```

④ Frame 4: 348 bytes on wire (2784 bits), 348 bytes captured (2784 bits)
④ Ethernet II, Src: Cisco_6c:b8:c6 (58:8d:09:6c:b8:c6), Dst: Vmware_84:39:6a (00:50:56:84:39:6a)
④ Internet Protocol Version 4, Src: 192.0.2.1 (192.0.2.1), Dst: 192.0.2.4 (192.0.2.4)
④ User Datagram Protocol, Src Port: bootps (67), Dst Port: bootpc (68)
④ Bootstrap Protocol
    Message type: Boot Reply (2)
    Hardware type: Ethernet
    Hardware address length: 6
    Hops: 0
    Transaction ID: 0x79dbf3a7
    Seconds elapsed: 0
    Bootp flags: 0x0000 (unicast)
    Client IP address: 0.0.0.0 (0.0.0.0)
    Your (client) IP address: 192.0.2.4 (192.0.2.4)
    Next server IP address: 0.0.0.0 (0.0.0.0)
    Relay agent IP address: 192.0.2.1 (192.0.2.1)
    Client MAC address: vmware_84:39:6a (00:50:56:84:39:6a)
    Client hardware address padding: 00000000000000000000
    Server host name not given
    Boot file name not given
    Magic cookie: DHCP
    Option: (t=53,l=1) DHCP Message Type = DHCP ACK
    Option: (t=54,l=4) DHCP Server Identifier = 198.51.100.2
    Option: (t=51,l=4) IP Address Lease Time = 1 day
    Option: (t=58,l=4) Renewal Time Value = 12 hours
    Option: (t=59,l=4) Rebinding Time Value = 21 hours
    Option: (t=1,l=4) Subnet Mask = 255.255.255.0
    Option: (t=6,l=8) Domain Name Server
    Option: (t=15,l=9) Domain Name = "cisco.com"
    Option: (t=3,l=4) Router = 192.0.2.1
    End option
    Padding
    Src: Relay agent IP/ASA int
    Dst: IP offered to client
    Current IP on client
    IP offered to client
    DHCP Ack
    DHCP server IP
    Lease
    Subnet mask info
    Domain name
    Default gateway for client

```

## DHCP ليحرت تاكرحل syslogs و عا طخال حيحصت

DHCP 198.51.100.2 مداخله جاولي لسري DHCP بلط اذه

DHCPRA: relay binding created for client 0050.5684.396a.DHCPD:  
setting giaddr to 192.0.2.1.

dhcpd\_forward\_request: request from 0050.5684.396a forwarded to 198.51.100.2.  
DHCPD/RA: Punt 198.51.100.2/17152 --> 192.0.2.1/17152 to CP  
DHCPRA: Received a BOOTREPLY from interface 2  
DHCPRA: relay binding found for client 0050.5684.396a.  
DHCPRA: Adding rule to allow client to respond using offered address 192.0.2.4

مادختساب DHCP لييمع يلى ههيجوت دعاعباب نامألا زاهج موقوي، DHCP مداخل نم درلا يقلت دعب هب عصالا لةلخادلا ههجالا يلى عابوابلا ناوع ريغيو، MAC 0050.5684.396a ناوع

DHCPRA: forwarding reply to client 0050.5684.396a.  
DHCPRA: relay binding found for client 0050.5684.396a.  
DHCPD: setting giaddr to 192.0.2.1.  
dhcpd\_forward\_request: request from 0050.5684.396a forwarded to 198.51.100.2.  
DHCPD/RA: Punt 198.51.100.2/17152 --> 192.0.2.1/17152 to CP  
DHCPRA: Received a BOOTREPLY from interface 2  
DHCPRA: relay binding found for client 0050.5684.396a.  
DHCPRA: exchange complete - relay binding deleted for client 0050.5684.396a.  
DHCPD: returned relay binding 192.0.2.1/0050.5684.396a to address pool.

```
dhcpd_destroy_binding() removing NP rule for client 192.0.2.1
DHCPR: forwarding reply to client 0050.5684.396a.
```

اضى syslogs في قلماعمل س فن رهظت:

```
%ASA-7-609001: Built local-host inside:0.0.0.0
%ASA-7-609001: Built local-host identity:255.255.255.255
%ASA-6-302015: Built inbound UDP connection 13 for inside:
 0.0.0.0/68 (0.0.0.0/68) to identity:255.255.255.255/67 (255.255.255.255/67)
%ASA-7-609001: Built local-host identity:198.51.100.1
%ASA-7-609001: Built local-host outside:198.51.100.2
%ASA-6-302015: Built outbound UDP connection 14 for outside:
 198.51.100.2/67 (198.51.100.2/67) to identity:198.51.100.1/67 (198.51.100.1/67)

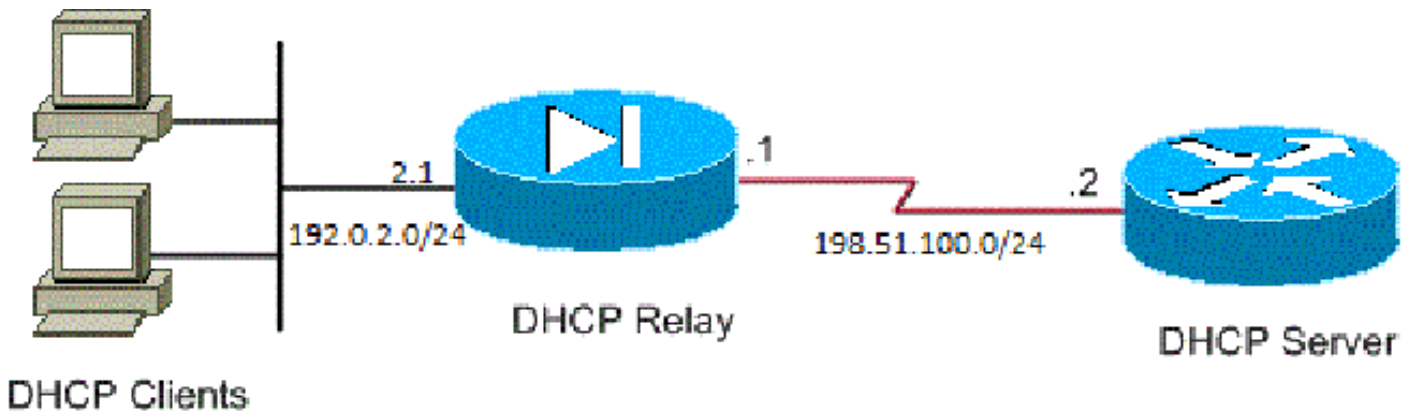
%ASA-7-609001: Built local-host inside:192.0.2.4
%ASA-6-302020: Built outbound ICMP connection for
 faddr 192.0.2.4/0 gaddr 198.51.100.2/1 laddr 198.51.100.2/1
%ASA-7-609001: Built local-host identity:192.0.2.1
%ASA-6-302015: Built inbound UDP connection 16 for outside:
 198.51.100.2/67 (198.51.100.2/67) to identity:192.0.2.1/67 (192.0.2.1/67)
%ASA-6-302015: Built outbound UDP connection 17 for inside:
 192.0.2.4/68 (192.0.2.4/68) to identity:192.0.2.1/67 (192.0.2.1/67)
%ASA-6-302021: Teardown ICMP connection for
 faddr 192.0.2.4/0 gaddr 198.51.100.2/1 laddr 198.51.100.2/1
```

## نيوكتلا

اذه في ءحضوملا تازيملا نيوكتلا ءمدختسملا تامولعمل كل مدقت ،مسقلا اذه في دنسمل.

ءكبش ل لطيطختلا مسرلا

يالاتلا ءكبش ل دادع | دنسمل اذه مدختسي



تانيوكتلا

يالاتلا تانيوكتلا دنسمل اذه مدختسي

- CLI مداخلت ساب DHCP ليحرت نيوكت
- DHCP ليحرت ل يئاها نل نيوكت ل
- DHCP مداخل نيوكت

CLI مداخلت ساب DHCP ليحرت نيوكت

```

dhcprelay server 198.51.100.2 outside
dhcprelay enable inside
dhcprelay setroute inside
dhcprelay timeout 60

```

DHCP ليحرت ل يئاها نل نيوكت ل

```

show run
!
hostname ASA
names
!
interface Ethernet0/0
 nameif inside
 security-level 0
 ip address 192.0.2.1 255.255.255.0
!
interface Ethernet0/1
 nameif outside
 security-level 100
 ip address 198.51.100.1 255.255.255.0
!
interface Ethernet0/2
 no nameif
 no security-level
 no ip address
!
interface Ethernet0/3
 no nameif
 no security-level
 no ip address
!
interface Management0/0
 shutdown
 no nameif
 no security-level
 no ip address
!
ftp mode passive
no pager
logging enable
logging buffer-size 40960
logging buffered debugging
mtu inside 1500
mtu outside 1500
no failover
icmp unreachable rate-limit 1 burst-size 1

```

```

no asdm history enable
arp timeout 14400
timeout xlate 0:30:00
timeout pat-xlate 0:00:30
timeout conn 3:00:00 half-closed 0:30:00 udp 0:15:00 icmp 0:00:02
timeout sunrpc 0:10:00 h323 0:05:00 h225 0:30:00 mgcp 0:05:00 mgcp-pat 0:05:00
timeout sip 0:30:00 sip_media 0:02:00 sip-invite 0:03:00 sip-disconnect 0:02:00
timeout sip-provisional-media 0:02:00 uauth 0:05:00 absolute
timeout tcp-proxy-reassembly 0:01:00
timeout floating-conn 0:00:00
dynamic-access-policy-record DfltAccessPolicy
http server enable
http 0.0.0.0 0.0.0.0 inside
no snmp-server location
no snmp-server contact
crypto ipsec security-association lifetime seconds 28800
crypto ipsec security-association lifetime kilobytes 4608000
telnet timeout 5
ssh timeout 5
console timeout 0

dhcprelay server 198.51.100.2 Outside
dhcprelay enable inside
dhcprelay setroute inside

//Defining DHCP server IP and interface//
//Enables DHCP relay on inside/client facing interface//
//Sets ASA inside as DG for clients in DHCP reply packets//

dhcprelay timeout 60
threat-detection basic-threat
threat-detection statistics access-list
no threat-detection statistics tcp-intercept
webvpn
!
!
prompt hostname context
no call-home reporting anonymous
call-home
profile CiscoTAC-1
no active
destination address http https://tools.cisco.com/its/service/oddce/services/DDCEService
destination address email callhome@cisco.com
destination transport-method http
subscribe-to-alert-group diagnostic
subscribe-to-alert-group environment
subscribe-to-alert-group inventory periodic monthly
subscribe-to-alert-group configuration periodic monthly
subscribe-to-alert-group telemetry periodic daily
Cryptochecksum:7ae5f655ffe399c8a88b61cb13425972
: end

```

## مداخل DHCP نڤوكت

```

show run
Building configuration...

```

```
Current configuration : 1911 bytes
!
! Last configuration change at 18:36:05 UTC Tue May 28 2013
version 15.1
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname Router
!
boot-start-marker
boot-end-marker
!
!
Logging buffered 4096
!
no aaa new-model
!
crypto pki token default removal timeout 0
!
!
dot11 syslog
ip source-route
!
ip dhcp excluded-address 192.0.2.1 192.0.2.2
ip dhcp excluded-address 192.0.2.10 192.0.2.254

//IP addresses excluded from DHCP scope//
!
ip dhcp pool pool1
  import all network 192.0.2.0 255.255.255.0
  dns-server 192.0.2.10 192.0.2.11 domain-name cisco.com

//DHCP pool configuration and various parameters//
!
!
!
ip cef
no ipv6 cef
!
multilink bundle-name authenticated
!
!
!
license udi pid CISC01811W-AG-A/K9 sn FCTxxxx
!
!
!
interface Dot11Radio0
  no ip address
  shutdown
  speed basic-1.0 basic-2.0 basic-5.5 6.0 9.0 basic-11.0 12.0 18.0 24.0 36.0 48.0 54.0
  station-role root
!
interface Dot11Radio1
  no ip address
  shutdown
  speed basic-6.0 9.0 basic-12.0 18.0 basic-24.0 36.0 48.0 54.0
  station-role root
!
interface FastEthernet0
  ip address 198.51.100.2 255.255.255.0
```

```
duplex auto
speed auto
!
interface FastEthernet1
no ip address
duplex auto
speed auto
!
interface FastEthernet2
no ip address
!
interface FastEthernet3
no ip address
!
interface FastEthernet4
no ip address
!
interface FastEthernet5
no ip address
!
interface FastEthernet6
no ip address
!
interface FastEthernet7
no ip address
!
interface FastEthernet8
no ip address
!
interface FastEthernet9
no ip address
!
interface Vlan1
no ip address
!
interface Async1
no ip address
encapsulation slip
!
ip forward-protocol nd
no ip http server
no ip http secure-server
!
!
ip route 192.0.2.0 255.255.255.0 198.51.100.1

//Static route to ensure replies are routed to relay agent IP//
!
!
!
control-plane
!
!
line con 0
line 1
modem InOut
stopbits 1
speed 115200
flowcontrol hardware
line aux 0
line vty 0 4
login
```

```
transport input all
!  
end
```

## تدعيم الـ DHCP مداخلت سابـ DHCP ليحرت

الـ DHCP فاشتكاه موزح لي معلق لسري ام دنع . DHCP مداخلتة رشع لى لصي ام فيرعت كنكمي  
الـ DHCP مداخلتة عيمج لى اوهيجوت اداعامت

لاثلثم يلي اميف:

```
dhcprelay server 198.51.100.2 outside  
dhcprelay server 198.51.100.3 outside  
dhcprelay server 198.51.100.4 outside  
dhcprelay enable inside  
dhcprelay setroute inside
```

## تدعيم الـ DHCP مداخلتة عم ااطخال حيحصت

تدعيم الـ DHCP مداخلتة دن عم ااطخال حيحصت لى ع لثم االضعب يلي اميف:

```
DHCP: Received a BOOTREQUEST from interface 2 (size = 300)  
DHCPR: relay binding found for client 000c.291c.34b5.  
DHCPR: setting giaddr to 192.0.2.1.  
dhcpd_forward_request: request from 000c.291c.34b5 forwarded to 198.51.100.2.  
dhcpd_forward_request: request from 000c.291c.34b5 forwarded to 198.51.100.3.  
dhcpd_forward_request: request from 000c.291c.34b5 forwarded to 198.51.100.4.
```

## تدعيم الـ DHCP مداخلتة عم طاقالتا

تدعيم الـ DHCP مداخلتة دن عم مزحالتا لى ع لثم يلي اميف:

```
ASA# show cap out
```

```
3 packets captured
```

```
1: 18:48:41.211628      192.0.2.1.67 > 198.51.100.2.67:  udp 300  
2: 18:48:41.211689      192.0.2.1.67 > 198.51.100.3.67:  udp 300  
3: 18:48:41.211704      192.0.2.1.67 > 198.51.100.4.67:  udp 300
```

## تدعيم الـ DHCP مداخلتة عم طاقالتا



ححص لكش ب نيوكتلا لمع ديكأتل مسقلا اذه مدختسا

show dhcpPreIay statistics رملأل لخدأ، DHCP ليحرت تامدخ لوح ةيئاصحإلا تامولعملل ضرعل  
ASA ب ةصاخلا (CLI) رماوأل رطس ةهجاو ىلع

```
ASA# show dhcprelay statistics
```

```
DHCP UDP Unreachable Errors: 1  
DHCP Other UDP Errors: 0
```

```
Packets Relayed  
BOOTREQUEST          0  
DHCPDISCOVER         1  
DHCPREQUEST          1  
DHCPDECLINE          0  
DHCPRELEASE          0  
DHCPINFORM           0  
  
BOOTREPLY             0  
DHCPOFFER            1  
DHCPACK              1  
DHCPNAK              0
```

DHCP، ب ل ط DHCP، DHCPdiscover، لثم، عون ةلاس ر DHCP ةدع ىلع ةمولعملل جاتنإ اذه دوزي  
DHCP ACK، و، ق ال ط DHCP، لدان

- show dhcprelay ىلع ةلود ASA CLI
- هجوملل (CLI) رماوأل رطس ةهجاو ىلع ip dhcp مداخ تايئاصحإ ضرع

## اهحالصإو ءاطخالأ فاشك ت سا

اهحالصإو نيوكتلا ءاطخالأ فاشك ت سا ال اهم ادختسا كنكمي تامولعملل مسقلا اذه رفوي

```
Router#show ip dhcp server statistics
```

```
Memory usage          56637  
Address pools         1  
Database agents       0  
Automatic bindings   1  
Manual bindings       0  
Expired bindings      0  
Malformed messages   0  
Secure arp entries    0
```

```
Message                Received  
BOOTREQUEST           0  
DHCPDISCOVER          1  
DHCPREQUEST           1  
DHCPDECLINE           0  
DHCPRELEASE           0
```

DHCPINFORM 0

Message Sent

BOOTREPLY 0

DHCPOFFER 1

DHCPACK 1

DHCPNAK 0

ASA# show dhcprelay state

Context Configured as DHCP Relay

Interface inside, Configured for DHCP RELAY SERVER

Interface outside, Configured for DHCP RELAY

ةيلا ءاطخألا ءي ءص ء رماوأ ما ءءءسا اءي أ ءن ءمي:

- debug dhcprelay packet
- debug dhcprelay event
- طاقءلا
- Syslogs



debug رماوأ ما ءءءسا لءق ءي ءص ءلا رماوأ لءق ءمهم ءامولءم ىلا ءءرا :ةظءالم

## ةلص ءا ءامولءم

- [ASA ىلء طاقءلا](#)
- [ءا ءءءسا مل او ىنقءلا مءءلا - Cisco Systems](#)

ةمچرتل هذه لوج

ةللأل تاي نقتل نم ةومچم مادختساب دن تسمل اذہ Cisco تچرت  
ملاعلاء انءمچ يف نيمدختسمل معدى وتحم مي دقتل ةيرشبلاو  
امك ةقيقد نوك تنل ةللأل ةمچرت لصف أن ةظحال مچرئ. ةصاغل مهتغب  
Cisco يلخت. فرتحم مچرت مامدقي يتل ةيفارتحال ةمچرتل عم لالحل وه  
ىلإ أمئاد عوچرلاب يصوت وتامچرتل هذه ةقد نع اهتيلوئسم Cisco  
Systems (رفوتم طبارلا) يلصلأل يزيلچنلإ دن تسمل