```
No.     Time                           Source                Destination           Protocol Length Info
      5 2018-10-17 18:54:53.890814    10.173.88.157         202.117.112.3         DNS      94     Standard query 0x0001 PTR
3.112.117.202.in-addr.arpa
Frame 5: 94 bytes on wire (752 bits), 94 bytes captured (752 bits) on interface 0
    Interface id: 0 (\Device\NPF_{5D52E7A2-EE68-4250-BF9F-5249138CADE6})
        Interface name: \Device\NPF_{5D52E7A2-EE68-4250-BF9F-5249138CADE6}
    Encapsulation type: Ethernet (1)
    Arrival Time: Oct 17, 2018 18:54:53.890814000 中国标准时间
    [Time shift for this packet: 0.000000000 seconds]
    Epoch Time: 1539773693.890814000 seconds
    [Time delta from previous captured frame: 4.558441000 seconds]
    [Time delta from previous displayed frame: 0.000000000 seconds]
    [Time since reference or first frame: 5.308662000 seconds]
    Frame Number: 5
    Frame Length: 94 bytes (752 bits)
    Capture Length: 94 bytes (752 bits)
    [Frame is marked: False]
    [Frame is ignored: False]
    [Protocols in frame: eth:ethertype:pppoes:ppp:ip:udp:dns]
    [Coloring Rule Name: UDP]
    [Coloring Rule String: udp]
Ethernet II, Src: AsustekC_e2:8a:f0 (34:97:f6:e2:8a:f0), Dst: HuaweiTe_3e:8f:cf (94:db:da:3e:8f:cf)
    Destination: HuaweiTe_3e:8f:cf (94:db:da:3e:8f:cf)
        Address: HuaweiTe_3e:8f:cf (94:db:da:3e:8f:cf)
        .... ..0. .... .... .... .... = LG bit: Globally unique address (factory default)
        .... ...0 .... .... .... .... = IG bit: Individual address (unicast)
    Source: AsustekC_e2:8a:f0 (34:97:f6:e2:8a:f0)
        Address: AsustekC_e2:8a:f0 (34:97:f6:e2:8a:f0)
        .... ..0. .... .... .... .... = LG bit: Globally unique address (factory default)
        .... ...0 .... .... .... .... = IG bit: Individual address (unicast)
    Type: PPPoE Session (0x8864)
PPP-over-Ethernet Session
    0001 .... = Version: 1
    .... 0001 = Type: 1
    Code: Session Data (0x00)
    Session ID: 0x629d
    Payload Length: 74
Point-to-Point Protocol
    Protocol: Internet Protocol version 4 (0x0021)
Internet Protocol Version 4, Src: 10.173.88.157, Dst: 202.117.112.3
    0100 .... = Version: 4
    .... 0101 = Header Length: 20 bytes (5)
    Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
        0000 00.. = Differentiated Services Codepoint: Default (0)
        .... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
    Total Length: 72
    Identification: 0x38a8 (14504)
    Flags: 0x0000
        0... .... .... .... = Reserved bit: Not set
        .0.. .... .... .... = Don't fragment: Not set
        ..0. .... .... .... = More fragments: Not set
        ...0 0000 0000 0000 = Fragment offset: 0
    Time to live: 64
    Protocol: UDP (17)
    Header checksum: 0xa43a [validation disabled]
    [Header checksum status: Unverified]
    Source: 10.173.88.157
    Destination: 202.117.112.3
User Datagram Protocol, Src Port: 57437, Dst Port: 53
    Source Port: 57437
    Destination Port: 53
    Length: 52
    Checksum: 0xcf7f [unverified]
    [Checksum Status: Unverified]
    [Stream index: 0]
Domain Name System (query)
    Transaction ID: 0x0001
    Flags: 0x0100 Standard query
        0... .... .... .... = Response: Message is a query
        .000 0... .... .... = Opcode: Standard query (0)
        .... ..0. .... .... = Truncated: Message is not truncated
        .... ...1 .... .... = Recursion desired: Do query recursively
        .... .... .0.. .... = Z: reserved (0)
        .... .... ...0 .... = Non-authenticated data: Unacceptable
    Questions: 1
    Answer RRs: 0
    Authority RRs: 0
```

```
    Additional RRs: 0
    Queries
        3.112.117.202.in-addr.arpa: type PTR, class IN
            Name: 3.112.117.202.in-addr.arpa
            [Name Length: 26]
            [Label Count: 6]
            Type: PTR (domain name PoinTeR) (12)
            Class: IN (0x0001)
    [Response In: 6]
No.     Time                           Source                Destination           Protocol Length Info
      6 2018-10-17 18:54:53.891932    202.117.112.3         10.173.88.157         DNS      155    Standard query response
0x0001 PTR 3.112.117.202.in-addr.arpa PTR ns1.xidian.edu.cn NS ns1.xidian.edu.cn A 202.117.112.3
Frame 6: 155 bytes on wire (1240 bits), 155 bytes captured (1240 bits) on interface 0
    Interface id: 0 (\Device\NPF_{5D52E7A2-EE68-4250-BF9F-5249138CADE6})
        Interface name: \Device\NPF_{5D52E7A2-EE68-4250-BF9F-5249138CADE6}
    Encapsulation type: Ethernet (1)
    Arrival Time: Oct 17, 2018 18:54:53.891932000 中国标准时间
    [Time shift for this packet: 0.000000000 seconds]
    Epoch Time: 1539773693.891932000 seconds
    [Time delta from previous captured frame: 0.001118000 seconds]
    [Time delta from previous displayed frame: 0.001118000 seconds]
    [Time since reference or first frame: 5.309780000 seconds]
    Frame Number: 6
    Frame Length: 155 bytes (1240 bits)
    Capture Length: 155 bytes (1240 bits)
    [Frame is marked: False]
    [Frame is ignored: False]
    [Protocols in frame: eth:ethertype:pppoes:ppp:ip:udp:dns]
    [Coloring Rule Name: UDP]
    [Coloring Rule String: udp]
Ethernet II, Src: HuaweiTe_3e:8f:cf (94:db:da:3e:8f:cf), Dst: AsustekC_e2:8a:f0 (34:97:f6:e2:8a:f0)
    Destination: AsustekC_e2:8a:f0 (34:97:f6:e2:8a:f0)
        Address: AsustekC_e2:8a:f0 (34:97:f6:e2:8a:f0)
        .... ..0. .... .... .... .... = LG bit: Globally unique address (factory default)
        .... ...0 .... .... .... .... = IG bit: Individual address (unicast)
    Source: HuaweiTe_3e:8f:cf (94:db:da:3e:8f:cf)
        Address: HuaweiTe_3e:8f:cf (94:db:da:3e:8f:cf)
        .... ..0. .... .... .... .... = LG bit: Globally unique address (factory default)
        .... ...0 .... .... .... .... = IG bit: Individual address (unicast)
    Type: PPPoE Session (0x8864)
PPP-over-Ethernet Session
    0001 .... = Version: 1
    .... 0001 = Type: 1
    Code: Session Data (0x00)
    Session ID: 0x629d
    Payload Length: 135
Point-to-Point Protocol
    Protocol: Internet Protocol version 4 (0x0021)
Internet Protocol Version 4, Src: 202.117.112.3, Dst: 10.173.88.157
    0100 .... = Version: 4
    .... 0101 = Header Length: 20 bytes (5)
    Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
        0000 00.. = Differentiated Services Codepoint: Default (0)
        .... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
    Total Length: 133
    Identification: 0xc07d (49277)
    Flags: 0x0000
        0... .... .... .... = Reserved bit: Not set
        .0.. .... .... .... = Don't fragment: Not set
        ..0. .... .... .... = More fragments: Not set
        ...0 0000 0000 0000 = Fragment offset: 0
    Time to live: 60
    Protocol: UDP (17)
    Header checksum: 0x2028 [validation disabled]
    [Header checksum status: Unverified]
    Source: 202.117.112.3
    Destination: 10.173.88.157
User Datagram Protocol, Src Port: 53, Dst Port: 57437
    Source Port: 53
    Destination Port: 57437
    Length: 113
    Checksum: 0x5bf8 [unverified]
    [Checksum Status: Unverified]
    [Stream index: 0]
Domain Name System (response)
    Transaction ID: 0x0001
    Flags: 0x8580 Standard query response, No error
```

```
        1... .... .... .... = Response: Message is a response
        .000 0... .... .... = Opcode: Standard query (0)
        .... .1.. .... .... = Authoritative: Server is an authority for domain
        .... ..0. .... .... = Truncated: Message is not truncated
        .... ...1 .... .... = Recursion desired: Do query recursively
        .... .... 1... .... = Recursion available: Server can do recursive queries
        .... .... .0.. .... = Z: reserved (0)
        .... .... ..0. .... = Answer authenticated: Answer/authority portion was not authenticated by the server
        .... .... ...0 .... = Non-authenticated data: Unacceptable
        .... .... .... 0000 = Reply code: No error (0)
    Questions: 1
    Answer RRs: 1
    Authority RRs: 1
    Additional RRs: 1
    Queries
        3.112.117.202.in-addr.arpa: type PTR, class IN
            Name: 3.112.117.202.in-addr.arpa
            [Name Length: 26]
            [Label Count: 6]
            Type: PTR (domain name PoinTeR) (12)
            Class: IN (0x0001)
    Answers
        3.112.117.202.in-addr.arpa: type PTR, class IN, ns1.xidian.edu.cn
            Name: 3.112.117.202.in-addr.arpa
            Type: PTR (domain name PoinTeR) (12)
            Class: IN (0x0001)
            Time to live: 3600
            Data length: 19
            Domain Name: ns1.xidian.edu.cn
    Authoritative nameservers
        112.117.202.in-addr.arpa: type NS, class IN, ns ns1.xidian.edu.cn
            Name: 112.117.202.in-addr.arpa
            Type: NS (authoritative Name Server) (2)
            Class: IN (0x0001)
            Time to live: 3600
            Data length: 2
            Name Server: ns1.xidian.edu.cn
    Additional records
        ns1.xidian.edu.cn: type A, class IN, addr 202.117.112.3
            Name: ns1.xidian.edu.cn
            Type: A (Host Address) (1)
            Class: IN (0x0001)
            Time to live: 3600
            Data length: 4
            Address: 202.117.112.3
    [Request In: 5]
    [Time: 0.001118000 seconds]
No.     Time                       Source                Destination           Protocol Length Info
      7 2018-10-17 18:54:53.894252    10.173.88.157         202.117.112.3         DNS      75     Standard query 0x0002 NS
mit.edu
Frame 7: 75 bytes on wire (600 bits), 75 bytes captured (600 bits) on interface 0
    Interface id: 0 (\Device\NPF_{5D52E7A2-EE68-4250-BF9F-5249138CADE6})
        Interface name: \Device\NPF_{5D52E7A2-EE68-4250-BF9F-5249138CADE6}
    Encapsulation type: Ethernet (1)
    Arrival Time: Oct 17, 2018 18:54:53.894252000 中国标准时间
    [Time shift for this packet: 0.000000000 seconds]
    Epoch Time: 1539773693.894252000 seconds
    [Time delta from previous captured frame: 0.002320000 seconds]
    [Time delta from previous displayed frame: 0.002320000 seconds]
    [Time since reference or first frame: 5.312100000 seconds]
    Frame Number: 7
    Frame Length: 75 bytes (600 bits)
    Capture Length: 75 bytes (600 bits)
    [Frame is marked: False]
    [Frame is ignored: False]
    [Protocols in frame: eth:ethertype:pppoes:ppp:ip:udp:dns]
    [Coloring Rule Name: UDP]
    [Coloring Rule String: udp]
Ethernet II, Src: AsustekC_e2:8a:f0 (34:97:f6:e2:8a:f0), Dst: HuaweiTe_3e:8f:cf (94:db:da:3e:8f:cf)
    Destination: HuaweiTe_3e:8f:cf (94:db:da:3e:8f:cf)
        Address: HuaweiTe_3e:8f:cf (94:db:da:3e:8f:cf)
        .... ..0. .... .... .... .... = LG bit: Globally unique address (factory default)
        .... ...0 .... .... .... .... = IG bit: Individual address (unicast)
    Source: AsustekC_e2:8a:f0 (34:97:f6:e2:8a:f0)
        Address: AsustekC_e2:8a:f0 (34:97:f6:e2:8a:f0)
        .... ..0. .... .... .... .... = LG bit: Globally unique address (factory default)
        .... ...0 .... .... .... .... = IG bit: Individual address (unicast)
```

```
    Type: PPPoE Session (0x8864)
PPP-over-Ethernet Session
    0001 .... = Version: 1
    .... 0001 = Type: 1
    Code: Session Data (0x00)
    Session ID: 0x629d
    Payload Length: 55
Point-to-Point Protocol
    Protocol: Internet Protocol version 4 (0x0021)
Internet Protocol Version 4, Src: 10.173.88.157, Dst: 202.117.112.3
    0100 .... = Version: 4
    .... 0101 = Header Length: 20 bytes (5)
    Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
        0000 00.. = Differentiated Services Codepoint: Default (0)
        .... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
    Total Length: 53
    Identification: 0x38a9 (14505)
    Flags: 0x0000
        0... .... .... .... = Reserved bit: Not set
        .0.. .... .... .... = Don't fragment: Not set
        ..0. .... .... .... = More fragments: Not set
        ...0 0000 0000 0000 = Fragment offset: 0
    Time to live: 64
    Protocol: UDP (17)
    Header checksum: 0xa44c [validation disabled]
    [Header checksum status: Unverified]
    Source: 10.173.88.157
    Destination: 202.117.112.3
User Datagram Protocol, Src Port: 57438, Dst Port: 53
    Source Port: 57438
    Destination Port: 53
    Length: 33
    Checksum: 0xa896 [unverified]
    [Checksum Status: Unverified]
    [Stream index: 1]
Domain Name System (query)
    Transaction ID: 0x0002
    Flags: 0x0100 Standard query
        0... .... .... .... = Response: Message is a query
        .000 0... .... .... = Opcode: Standard query (0)
        .... ..0. .... .... = Truncated: Message is not truncated
        .... ...1 .... .... = Recursion desired: Do query recursively
        .... .... .0.. .... = Z: reserved (0)
        .... .... ...0 .... = Non-authenticated data: Unacceptable
    Questions: 1
    Answer RRs: 0
    Authority RRs: 0
    Additional RRs: 0
    Queries
        mit.edu: type NS, class IN
            Name: mit.edu
            [Name Length: 7]
            [Label Count: 2]
            Type: NS (authoritative Name Server) (2)
            Class: IN (0x0001)
    [Response In: 8]
No.     Time                           Source                Destination           Protocol Length Info
      8 2018-10-17 18:54:54.052573    202.117.112.3         10.173.88.157         DNS      242    Standard query response
0x0002 NS mit.edu NS use5.akam.net NS ns1-37.akam.net NS eur5.akam.net NS asia1.akam.net NS ns1-173.akam.net NS
asia2.akam.net NS usw2.akam.net NS use2.akam.net
Frame 8: 242 bytes on wire (1936 bits), 242 bytes captured (1936 bits) on interface 0
    Interface id: 0 (\Device\NPF_{5D52E7A2-EE68-4250-BF9F-5249138CADE6})
        Interface name: \Device\NPF_{5D52E7A2-EE68-4250-BF9F-5249138CADE6}
    Encapsulation type: Ethernet (1)
    Arrival Time: Oct 17, 2018 18:54:54.052573000 中国标准时间
    [Time shift for this packet: 0.000000000 seconds]
    Epoch Time: 1539773694.052573000 seconds
    [Time delta from previous captured frame: 0.158321000 seconds]
    [Time delta from previous displayed frame: 0.158321000 seconds]
    [Time since reference or first frame: 5.470421000 seconds]
    Frame Number: 8
    Frame Length: 242 bytes (1936 bits)
    Capture Length: 242 bytes (1936 bits)
    [Frame is marked: False]
    [Frame is ignored: False]
    [Protocols in frame: eth:ethertype:pppoes:ppp:ip:udp:dns]
    [Coloring Rule Name: UDP]
```

```
    [Coloring Rule String: udp]
Ethernet II, Src: HuaweiTe_3e:8f:cf (94:db:da:3e:8f:cf), Dst: AsustekC_e2:8a:f0 (34:97:f6:e2:8a:f0)
    Destination: AsustekC_e2:8a:f0 (34:97:f6:e2:8a:f0)
        Address: AsustekC_e2:8a:f0 (34:97:f6:e2:8a:f0)
        .... ..0. .... .... .... .... = LG bit: Globally unique address (factory default)
        .... ...0 .... .... .... .... = IG bit: Individual address (unicast)
    Source: HuaweiTe_3e:8f:cf (94:db:da:3e:8f:cf)
        Address: HuaweiTe_3e:8f:cf (94:db:da:3e:8f:cf)
        .... ..0. .... .... .... .... = LG bit: Globally unique address (factory default)
        .... ...0 .... .... .... .... = IG bit: Individual address (unicast)
    Type: PPPoE Session (0x8864)
PPP-over-Ethernet Session
    0001 .... = Version: 1
    .... 0001 = Type: 1
    Code: Session Data (0x00)
    Session ID: 0x629d
    Payload Length: 222
Point-to-Point Protocol
    Protocol: Internet Protocol version 4 (0x0021)
Internet Protocol Version 4, Src: 202.117.112.3, Dst: 10.173.88.157
    0100 .... = Version: 4
    .... 0101 = Header Length: 20 bytes (5)
    Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
        0000 00.. = Differentiated Services Codepoint: Default (0)
        .... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
    Total Length: 220
    Identification: 0xc07e (49278)
    Flags: 0x0000
        0... .... .... .... = Reserved bit: Not set
        .0.. .... .... .... = Don't fragment: Not set
        ..0. .... .... .... = More fragments: Not set
        ...0 0000 0000 0000 = Fragment offset: 0
    Time to live: 60
    Protocol: UDP (17)
    Header checksum: 0x1fd0 [validation disabled]
    [Header checksum status: Unverified]
    Source: 202.117.112.3
    Destination: 10.173.88.157
User Datagram Protocol, Src Port: 53, Dst Port: 57438
    Source Port: 53
    Destination Port: 57438
    Length: 200
    Checksum: 0x6186 [unverified]
    [Checksum Status: Unverified]
    [Stream index: 1]
Domain Name System (response)
    Transaction ID: 0x0002
    Flags: 0x8180 Standard query response, No error
        1... .... .... .... = Response: Message is a response
        .000 0... .... .... = Opcode: Standard query (0)
        .... .0.. .... .... = Authoritative: Server is not an authority for domain
        .... ..0. .... .... = Truncated: Message is not truncated
        .... ...1 .... .... = Recursion desired: Do query recursively
        .... .... 1... .... = Recursion available: Server can do recursive queries
        .... .... .0.. .... = Z: reserved (0)
        .... .... ..0. .... = Answer authenticated: Answer/authority portion was not authenticated by the server
        .... .... ...0 .... = Non-authenticated data: Unacceptable
        .... .... .... 0000 = Reply code: No error (0)
    Questions: 1
    Answer RRs: 8
    Authority RRs: 0
    Additional RRs: 0
    Queries
        mit.edu: type NS, class IN
            Name: mit.edu
            [Name Length: 7]
            [Label Count: 2]
            Type: NS (authoritative Name Server) (2)
            Class: IN (0x0001)
    Answers
        mit.edu: type NS, class IN, ns use5.akam.net
            Name: mit.edu
            Type: NS (authoritative Name Server) (2)
            Class: IN (0x0001)
            Time to live: 1800
            Data length: 15
            Name Server: use5.akam.net
```

```
    mit.edu: type NS, class IN, ns ns1-37.akam.net
        Name: mit.edu
        Type: NS (authoritative Name Server) (2)
        Class: IN (0x0001)
        Time to live: 1800
        Data length: 9
        Name Server: ns1-37.akam.net
    mit.edu: type NS, class IN, ns eur5.akam.net
        Name: mit.edu
        Type: NS (authoritative Name Server) (2)
        Class: IN (0x0001)
        Time to live: 1800
        Data length: 7
        Name Server: eur5.akam.net
    mit.edu: type NS, class IN, ns asia1.akam.net
        Name: mit.edu
        Type: NS (authoritative Name Server) (2)
        Class: IN (0x0001)
        Time to live: 1800
        Data length: 8
        Name Server: asia1.akam.net
    mit.edu: type NS, class IN, ns ns1-173.akam.net
        Name: mit.edu
        Type: NS (authoritative Name Server) (2)
        Class: IN (0x0001)
        Time to live: 1800
        Data length: 10
        Name Server: ns1-173.akam.net
    mit.edu: type NS, class IN, ns asia2.akam.net
        Name: mit.edu
        Type: NS (authoritative Name Server) (2)
        Class: IN (0x0001)
        Time to live: 1800
        Data length: 8
        Name Server: asia2.akam.net
    mit.edu: type NS, class IN, ns usw2.akam.net
        Name: mit.edu
        Type: NS (authoritative Name Server) (2)
        Class: IN (0x0001)
        Time to live: 1800
        Data length: 7
        Name Server: usw2.akam.net
    mit.edu: type NS, class IN, ns use2.akam.net
        Name: mit.edu
        Type: NS (authoritative Name Server) (2)
        Class: IN (0x0001)
        Time to live: 1800
        Data length: 7
        Name Server: use2.akam.net
[Request In: 7]
[Time: 0.158321000 seconds]
```