



meraki_mr20_init.pcapng

DHCP Discover

Transaction ID	0x24f408ef
Client IP address	0.0.0.0
IP	0.0.0.0
Client MAC address	34:56:fe:50:08:78
Client MAC address	34:56:fe:50:08:78
Hostname	first-floor-ap-3456fe500878

💡 DHCP – Meraki device obtains IP address, default gateway, and DNS servers; first step in cloud-managed initialization (DORA: Discover→Offer→Request→ACK)

DHCP Offer

Transaction ID	0x24f408ef
Client IP address	0.0.0.0
IP	192.168.1.164
Client MAC address	34:56:fe:50:08:78
DHCP Server Identifier	192.168.1.1
IP Address Lease Time	1 day (86400)

💡 DHCP – Meraki device obtains IP address, default gateway, and DNS servers; first step in cloud-managed initialization (DORA: Discover→Offer→Request→ACK)

DHCP Request

Transaction ID	0x24f408ef
Client IP address	0.0.0.0
IP	0.0.0.0
Client MAC address	34:56:fe:50:08:78
DHCP Server Identifier	192.168.1.1
Client MAC address	34:56:fe:50:08:78
Hostname	first-floor-ap-3456fe500878

💡 DHCP – Meraki device obtains IP address, default gateway, and DNS servers; first step in cloud-managed initialization (DORA: Discover→Offer→Request→ACK)

DHCP ACK

Transaction ID	0x24f408ef
Client IP address	0.0.0.0
IP	192.168.1.164
Client MAC address	34:56:fe:50:08:78
DHCP Server Identifier	192.168.1.1
IP Address Lease Time	1 day (86400)

💡 DHCP – Meraki device obtains IP address, default gateway, and DNS servers; first step in cloud-managed initialization (DORA: Discover→Offer→Request→ACK)

ARP request (1)

Sender MAC address	34:56:fe:50:08:78
Sender IP address	192.168.1.164
Target IP address	192.168.1.1

Frame 8 | 2022-07-09T00:40:53.388778Z

ARP reply (2)

Sender MAC address	48:5d:36:c9:c9:6b
Sender IP address	192.168.1.1
Target IP address	192.168.1.164

Frame 9 | 2022-07-09T00:40:53.389162Z

ARP request (1)

Sender MAC address	34:56:fe:50:08:78
Sender IP address	192.168.1.164
Target IP address	192.168.1.1

Frame 14 | 2022-07-09T00:40:59.911287Z

ARP reply (2)

Sender MAC address	48:5d:36:c9:c9:6b
Sender IP address	192.168.1.1
Target IP address	192.168.1.164

Frame 15 | 2022-07-09T00:40:59.911291Z

DNS Query

Transaction ID	0xb45c
Name	google.com
Type	AAAA (28) (IP6 Address)

💡 DNS Query – Meraki devices resolve cloud dashboard URLs (n###.meraki.com) and NTP servers during initialization; DNS failure prevents cloud management

DNS Response

Transaction ID	0xb45c
Reply code	No error (0)
Name	google.com
Time	11.838000 milliseconds

Frame 20 | 2022-07-09T00:41:00.965894Z

No IP

Broadcast

Default Gateway

Meraki MR20 AP

Meraki Cloud

DNS Query

Transaction ID	0xd6b5
Name	google.com
Type	A (1) (Host Address)

DNS Response

Transaction ID	0xd6b5
Reply code	No error (0)
Name	google.com
Address	142.250.80.46
Time	17.250000 milliseconds

DNS Query

Transaction ID	0xfbf9
Name	e.0.0.2.0.0.0.0.0.0.0.0.0.0.0.7.3.8-.0.4.0.0.4.0.b.8.f.7.0.6.2.ip6.arpa
Type	PTR (12) (domain name PoinTeR)

DNS Response

Transaction ID	0xfbf9
Reply code	No error (0)
Name	e.0.0.2.0.0.0.0.0.0.0.0.0.0.0.7.3.8-.0.4.0.0.4.0.b.8.f.7.0.6.2.ip6.arpa
Time	14.243000 milliseconds

DNS Query

Transaction ID	0xa5ce
Name	46.80.250.142.in-addr.arpa
Type	PTR (12) (domain name PoinTeR)

DNS Response

Transaction ID	0xa5ce
Reply code	No error (0)
Name	46.80.250.142.in-addr.arpa
Time	14.166000 milliseconds

DNS Query

Transaction ID	0xe15f
Name	mtunnel3.meraki.com
Type	AAAA (28) (IP6 Address)

DNS Response

Transaction ID	0xe15f
Reply code	No error (0)
Name	mtunnel3.meraki.com
CNAME	dal165.meraki.com
Time	37.290000 milliseconds

DNS Query

Transaction ID	0x2dbc
Name	mtunnel3.meraki.com
Type	A (1) (Host Address)

DNS Response

Transaction ID	0x2dbc
Reply code	No error (0)
Name	mtunnel3.meraki.com
CNAME	dal165.meraki.com
Time	14.807000 milliseconds

DNS Query

Transaction ID	0xdfea
Name	mtunnel.meraki.com
Type	AAAA (28) (IP6 Address)

DNS Response

Transaction ID	0xdfea
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💡 DNS Query – Meraki devices resolve cloud dashboard URLs (n###.meraki.com) and NTP servers during initialization; DNS failure prevents cloud management

Frame 22 | 2022-07-09T00:41:00.984289Z

💡 DNS Query – Meraki devices resolve cloud dashboard URLs (n###.meraki.com) and NTP servers during initialization; DNS failure prevents cloud management

Frame 24 | 2022-07-09T00:41:00.999958Z

💡 DNS Query – Meraki devices resolve cloud dashboard URLs (n###.meraki.com) and NTP servers during initialization; DNS failure prevents cloud management

Frame 26 | 2022-07-09T00:41:01.018329Z

💡 DNS Query – Meraki devices resolve cloud dashboard URLs (n###.meraki.com) and NTP servers during initialization; DNS failure prevents cloud management

Frame 28 | 2022-07-09T00:41:04.82272Z

💡 DNS Query – Meraki devices resolve cloud dashboard URLs (n###.meraki.com) and NTP servers during initialization; DNS failure prevents cloud management

Frame 30 | 2022-07-09T00:41:04.838934Z

💡 DNS Query – Meraki devices resolve cloud dashboard URLs (n###.meraki.com) and NTP servers during initialization; DNS failure prevents cloud management

Frame 32 | 2022-07-09T00:41:04.877442Z



Reply code	No error (0)
Name	mtunnel.meraki.com
CNAME	dal558.meraki.com
Time	37.001000 milliseconds

DNS Query

Transaction ID	0xe00e
Name	mtunnel.meraki.com
Type	A (1) (Host Address)

DNS Response

Transaction ID	0xe00e
Reply code	No error (0)
Name	mtunnel.meraki.com
CNAME	dal558.meraki.com
Address	209.206.52.7
Time	8.975000 milliseconds

DNS Query

Transaction ID	0xf616
Name	cs40-2037.meraki.com
Type	AAAA (28) (IP6 Address)

DNS Response

Transaction ID	0xf616
Reply code	No error (0)
Name	cs40-2037.meraki.com
CNAME	sdg899.meraki.com
Time	39.263000 milliseconds

DNS Query

Transaction ID	0xfb0e
Name	cs40-2037.meraki.com
Type	A (1) (Host Address)

DNS Response

Transaction ID	0xfb0e
Reply code	No error (0)
Name	cs40-2037.meraki.com
CNAME	sdg899.meraki.com
Address	209.206.49.163
Time	11.288000 milliseconds

TCP SYN

Window	29200
MSS Value	1460

TCP SYN-ACK

Window	65160
MSS Value	1460

TLS Client Hello

Version	TLS 1.2 (0x0303)
Cipher Suites (64 suites)	
SNI	cs40-2037.meraki.com
ALPN Next Protocol	http/1.1

TLSv1.2 Record Layer: Handshake Protocol: Server Hello

Version	TLS 1.2 (0x0303)
Handshake Type	Server Hello (2)

TLSv1.2 Record Layer: Handshake Protocol: Certificate

Version	TLS 1.2 (0x0303)
Handshake Type	Certificate (11)

TLSv1.2 Record Layer: Handshake Protocol: Server Key Exchange

DNS Query – Meraki devices resolve cloud dashboard URLs (n###.meraki.com) and NTP servers during initialization; DNS failure prevents cloud management

Frame 34 | 2022-07-09T00:41:04.887596Z

DNS Query – Meraki devices resolve cloud dashboard URLs (n###.meraki.com) and NTP servers during initialization; DNS failure prevents cloud management

Frame 48 | 2022-07-09T00:41:27.323041Z

DNS Query – Meraki devices resolve cloud dashboard URLs (n###.meraki.com) and NTP servers during initialization; DNS failure prevents cloud management

Frame 50 | 2022-07-09T00:41:27.335748Z

Frame 51 | 2022-07-09T00:41:27.544853Z

Frame 53 | 2022-07-09T00:41:27.621624Z

TLS Client Hello – Meraki device establishes encrypted tunnel to cloud dashboard; SNI shows the Meraki cloud endpoint (n###.meraki.com); required for configuration, monitoring, and firmware updates

Frame 56 | 2022-07-09T00:41:28.558969Z

Frame 58 | 2022-07-09T00:41:28.559071Z

Frame 59 | 2022-07-09T00:41:28.559122Z



Version	TLS 1.2 (0x0303)
Handshake Type	Server Key Exchange (12)

TLV1.2 Record Layer: Handshake Protocol: Certificate Request

Version	TLS 1.2 (0x0303)
Handshake Type	Certificate Request (13)

TLV1.2 Record Layer: Handshake Protocol: Server Hello Done

Version	TLS 1.2 (0x0303)
Handshake Type	Server Hello Done (14)

TLS Change Cipher Spec

TLS Change Cipher Spec

TLS Application Data

Length	295
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TLS Alert

Alert Message	Encrypted Alert
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TCP FIN

TCP FIN

DNS Query

Transaction ID	0xe072
Name	pool.ntp.org
Type	AAAA (28) (IP6 Address)

DNS Response

Transaction ID	0xe072
Reply code	No error (0)
Name	pool.ntp.org
Time	12.321000 milliseconds

DNS Query

Transaction ID	0x4f9b
Name	pool.ntp.org
Type	A (1) (Host Address)

DNS Response

Transaction ID	0x4f9b
Reply code	No error (0)
Name	pool.ntp.org
Address	65.100.46.164
Address	45.83.234.123
Address	144.172.118.20
Address	108.61.56.35
Time	17.855000 milliseconds

Frame 64 | 2022-07-09T00:41:29.448713Z

Frame 65 | 2022-07-09T00:41:29.524114Z

Frame 67 | 2022-07-09T00:41:29.526664Z

Frame 86 | 2022-07-09T00:41:31.161774Z

Frame 87 | 2022-07-09T00:41:31.162668Z

Frame 89 | 2022-07-09T00:41:31.239064Z

💡 DNS Query – Meraki devices resolve cloud dashboard URLs (n###.meraki.com) and NTP servers during initialization; DNS failure prevents cloud management

Frame 103 | 2022-07-09T00:41:50.363399Z

💡 DNS Query – Meraki devices resolve cloud dashboard URLs (n###.meraki.com) and NTP servers during initialization; DNS failure prevents cloud management

Frame 105 | 2022-07-09T00:41:50.382341Z