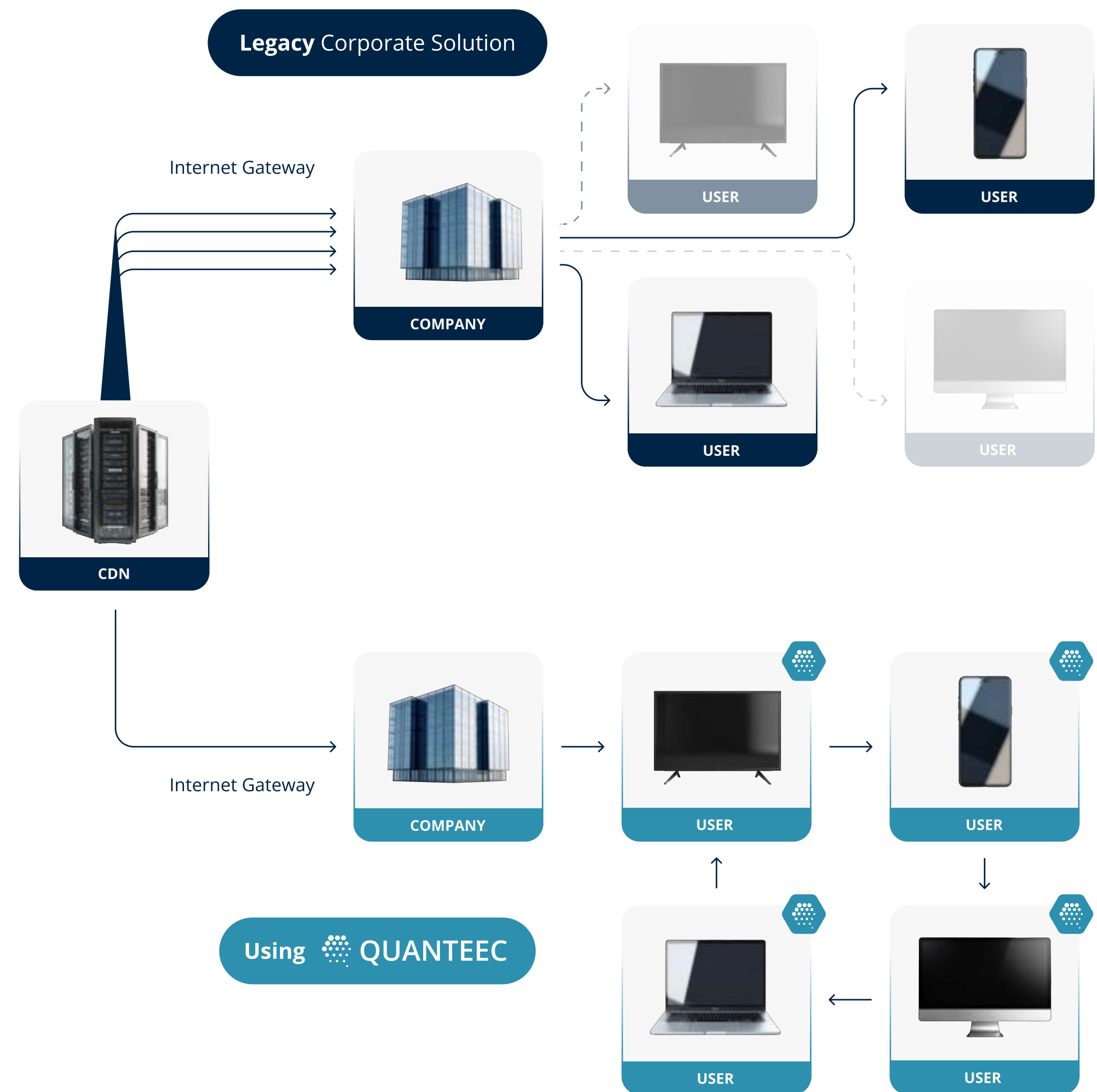


mDNS in eCDN Use Case



Quanteec eCDN



mDNS



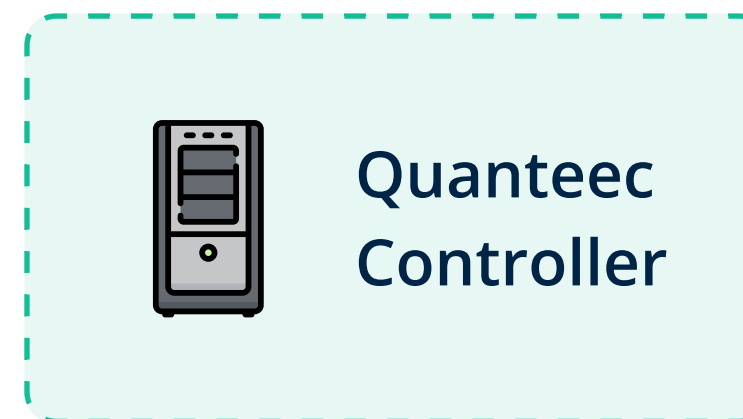
The protocol allows devices on the same local network to resolve hostnames (e.g., my-device.local) to IP addresses without needing a central DNS server.

In WebRTC, mDNS is used to enhance privacy by hiding a user's real local IP address from websites.

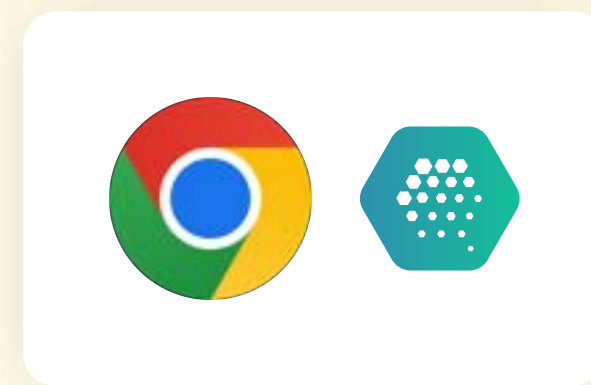
Instead of exposing private IPs directly during WebRTC sessions, mDNS generates obfuscated ICE candidates (e.g., 12345.local) that are resolved to private IP addresses only within the local network.



Local network connections with mDNS

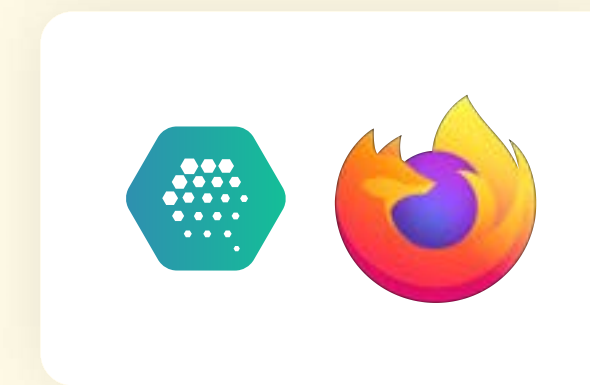


Local Network



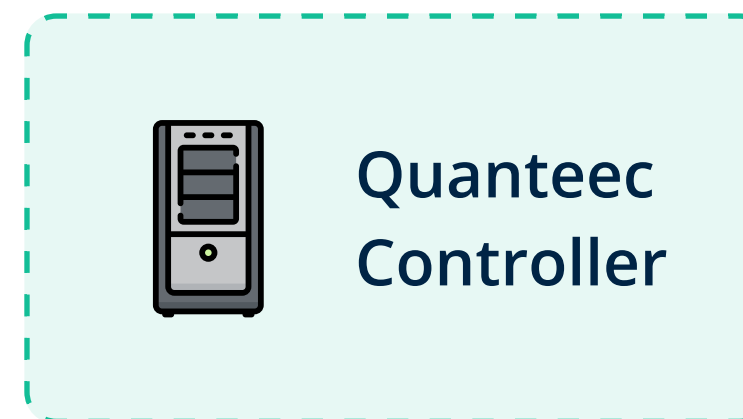
P1

Who is
abdc456.local ?

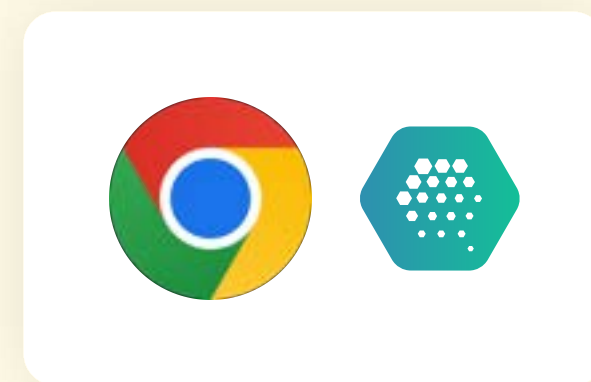


P2

Local network connections with mDNS



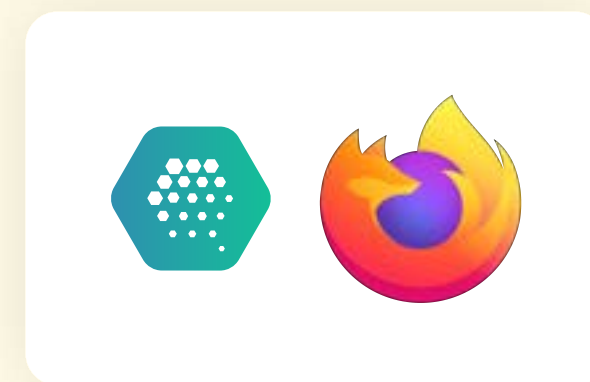
Local Network



P1

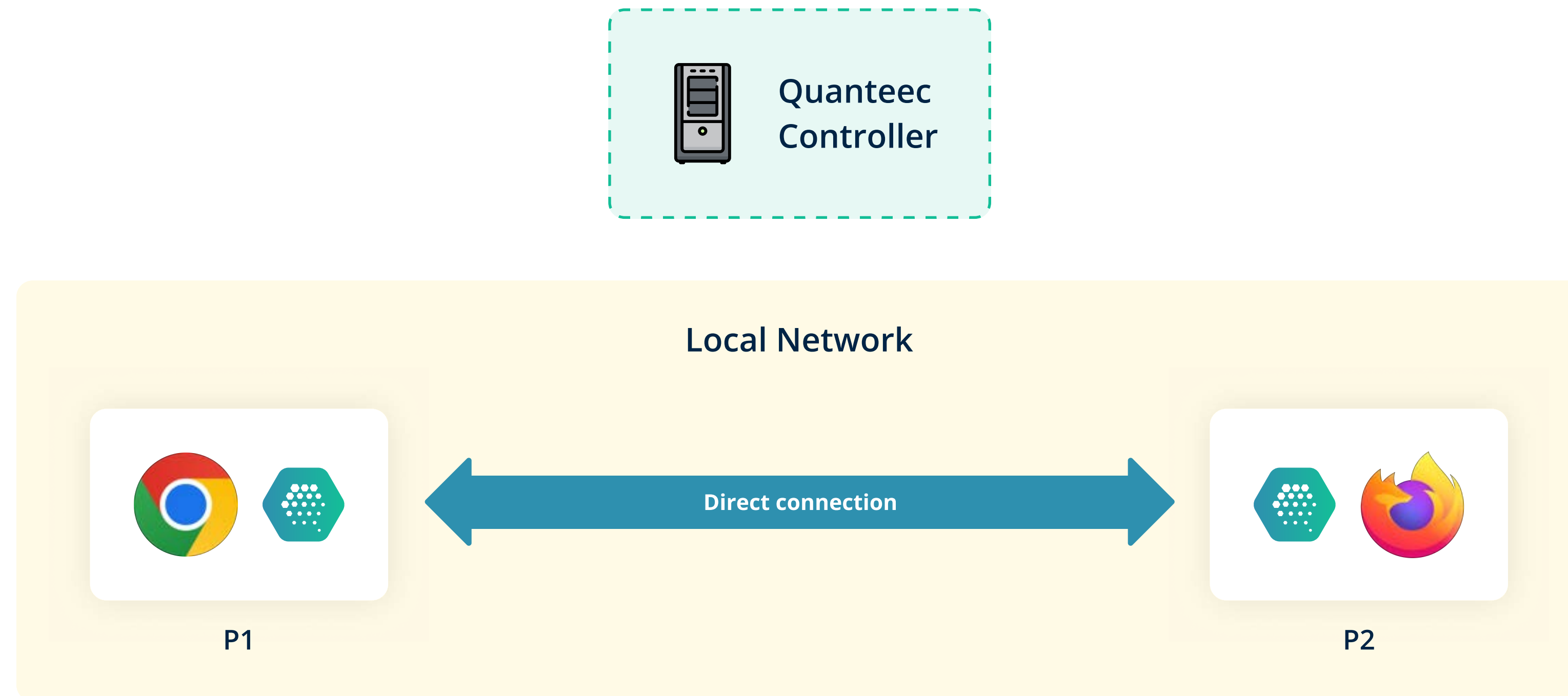
Who is
abdc456.local ?

It's me!
IP: 192.168.1.36

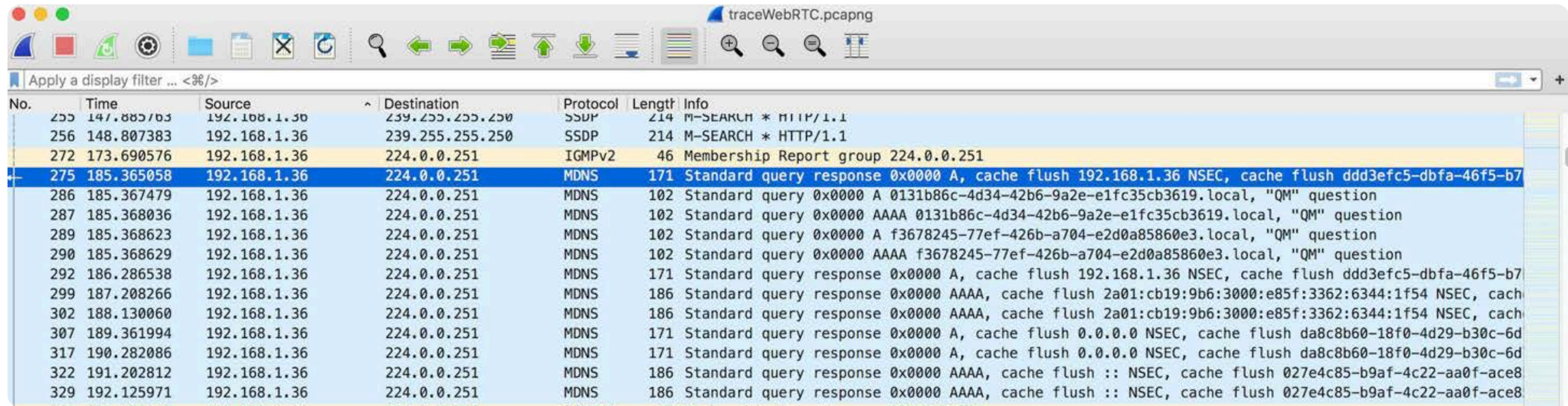


P2

Local network connections with mDNS



Local network connections with mDNS



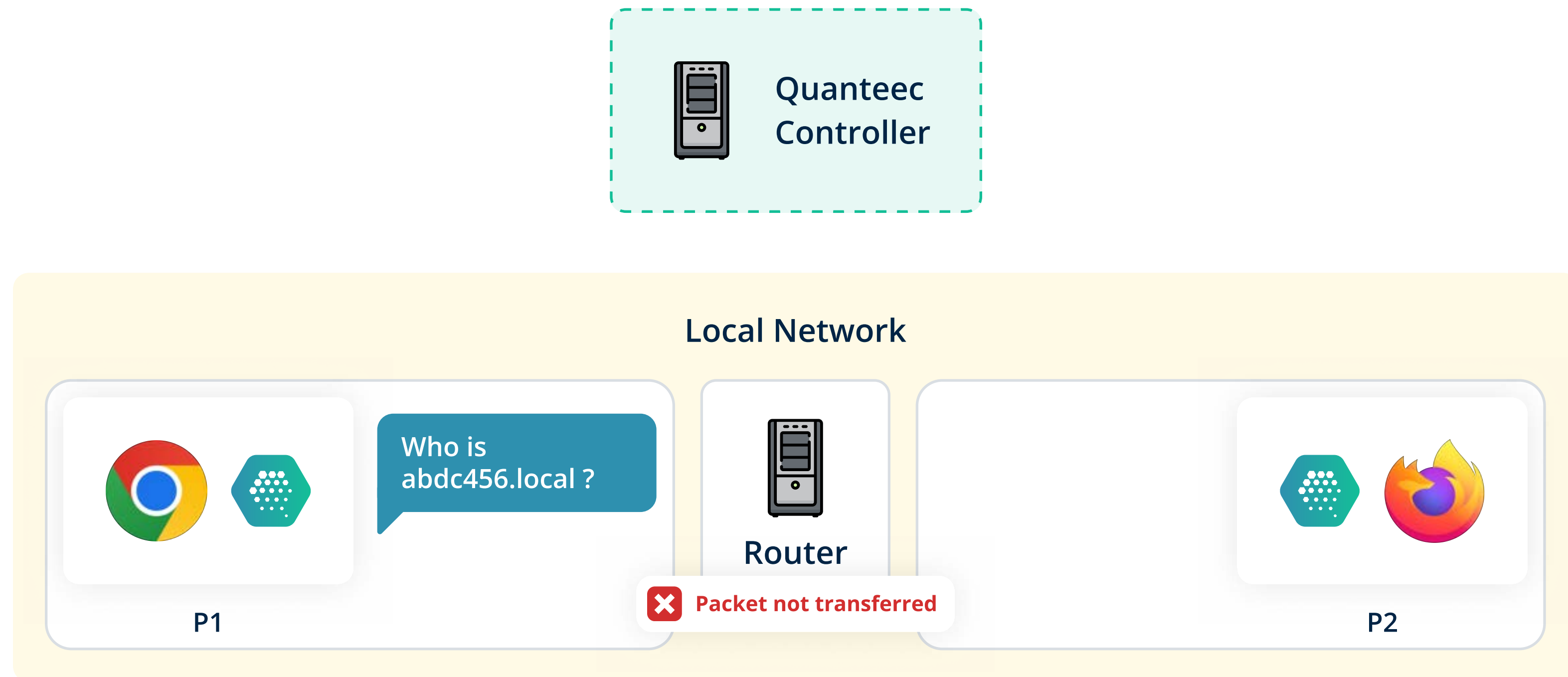
The screenshot shows a Wireshark capture of network traffic for a file named 'traceWebRTC.pcapng'. The interface includes a toolbar with various icons for navigation and analysis. Below the toolbar is a display filter set to '$\%$'. The main pane displays a list of network packets with columns for No., Time, Source, Destination, Protocol, Length, and Info. The selected packet (No. 275) is highlighted in blue and shows an MDNS protocol message: 'Standard query response 0x0000 A, cache flush 192.168.1.36 NSEC, cache flush ddd3efc5-dbfa-46f5-b7...'. Other packets include SSDP M-SEARCH requests and various MDNS queries and responses.

No.	Time	Source	Destination	Protocol	Length	Info
255	147.885763	192.168.1.36	239.255.255.250	SSDP	214	M-SEARCH * HTTP/1.1
256	148.807383	192.168.1.36	239.255.255.250	SSDP	214	M-SEARCH * HTTP/1.1
272	173.690576	192.168.1.36	224.0.0.251	IGMPv2	46	Membership Report group 224.0.0.251
275	185.365058	192.168.1.36	224.0.0.251	MDNS	171	Standard query response 0x0000 A, cache flush 192.168.1.36 NSEC, cache flush ddd3efc5-dbfa-46f5-b7...
286	185.367479	192.168.1.36	224.0.0.251	MDNS	102	Standard query 0x0000 A 0131b86c-4d34-42b6-9a2e-e1fc35cb3619.local, "QM" question
287	185.368036	192.168.1.36	224.0.0.251	MDNS	102	Standard query 0x0000 AAAA 0131b86c-4d34-42b6-9a2e-e1fc35cb3619.local, "QM" question
289	185.368623	192.168.1.36	224.0.0.251	MDNS	102	Standard query 0x0000 A f3678245-77ef-426b-a704-e2d0a85860e3.local, "QM" question
290	185.368629	192.168.1.36	224.0.0.251	MDNS	102	Standard query 0x0000 AAAA f3678245-77ef-426b-a704-e2d0a85860e3.local, "QM" question
292	186.286538	192.168.1.36	224.0.0.251	MDNS	171	Standard query response 0x0000 A, cache flush 192.168.1.36 NSEC, cache flush ddd3efc5-dbfa-46f5-b7...
299	187.208266	192.168.1.36	224.0.0.251	MDNS	186	Standard query response 0x0000 AAAA, cache flush 2a01:cb19:9b6:3000:e85f:3362:6344:1f54 NSEC, cach...
302	188.130060	192.168.1.36	224.0.0.251	MDNS	186	Standard query response 0x0000 AAAA, cache flush 2a01:cb19:9b6:3000:e85f:3362:6344:1f54 NSEC, cach...
307	189.361994	192.168.1.36	224.0.0.251	MDNS	171	Standard query response 0x0000 A, cache flush 0.0.0.0 NSEC, cache flush da8c8b60-18f0-4d29-b30c-6d...
317	190.282086	192.168.1.36	224.0.0.251	MDNS	171	Standard query response 0x0000 A, cache flush 0.0.0.0 NSEC, cache flush da8c8b60-18f0-4d29-b30c-6d...
322	191.202812	192.168.1.36	224.0.0.251	MDNS	186	Standard query response 0x0000 AAAA, cache flush :: NSEC, cache flush 027e4c85-b9af-4c22-aa0f-ace8...
329	192.125971	192.168.1.36	224.0.0.251	MDNS	186	Standard query response 0x0000 AAAA, cache flush :: NSEC, cache flush 027e4c85-b9af-4c22-aa0f-ace8...

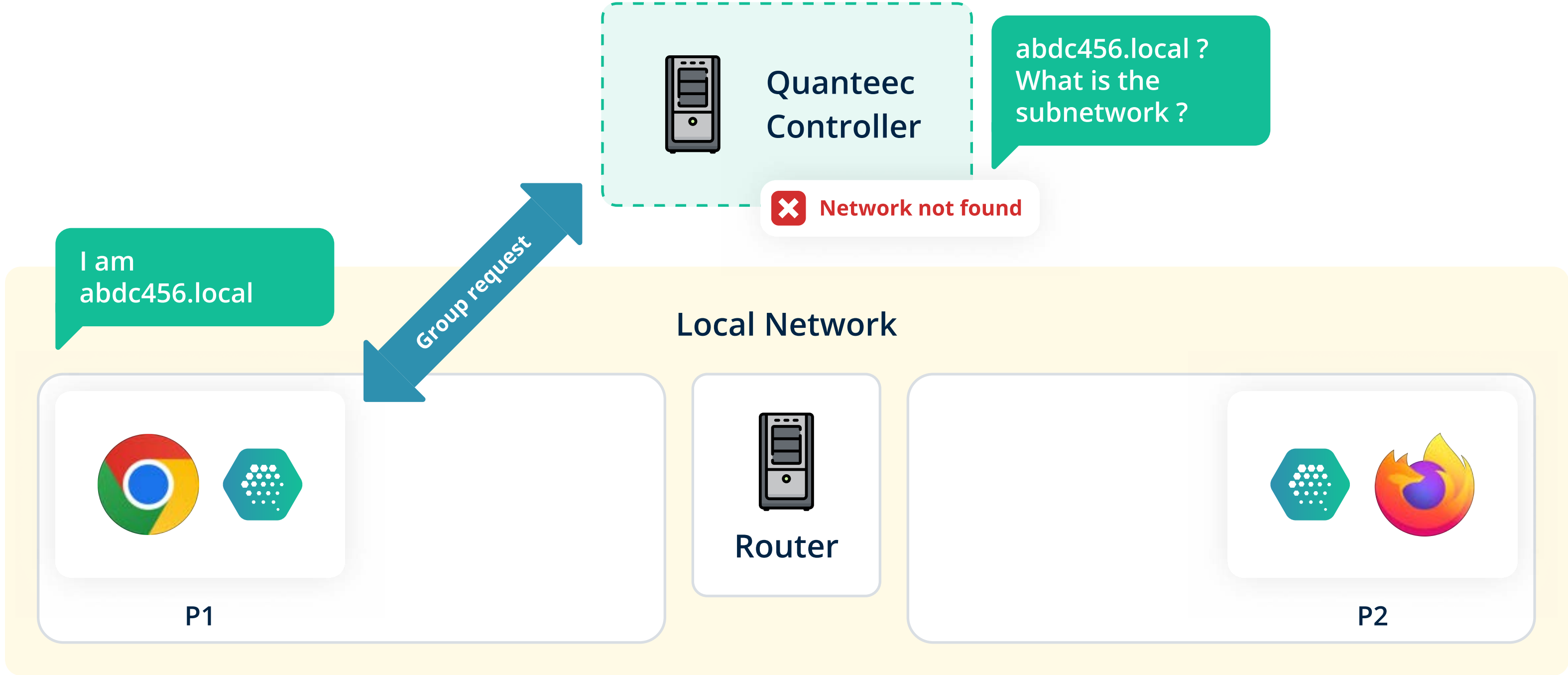
Issue 1: mDNS not authorized in the network



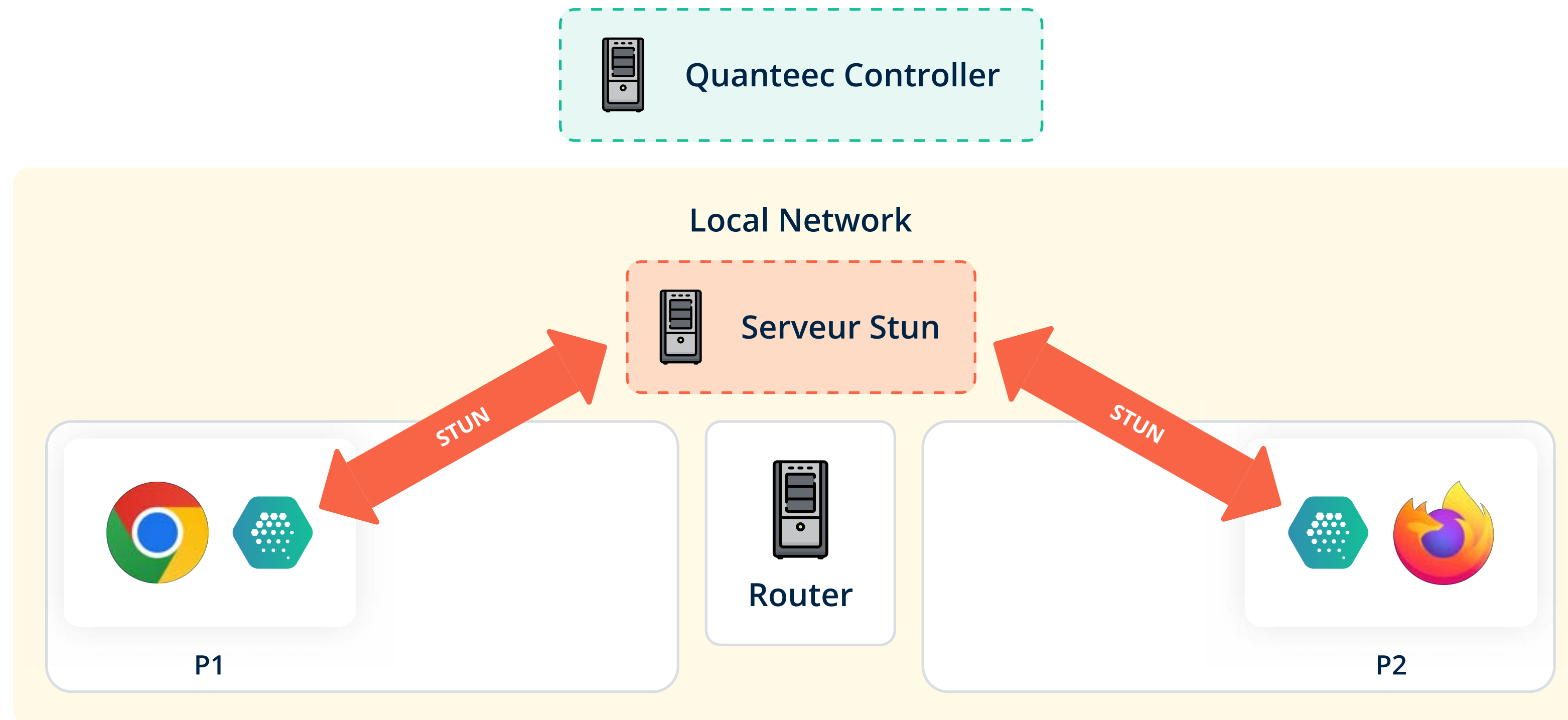
Issue 2: mDNS not forwarded by a router



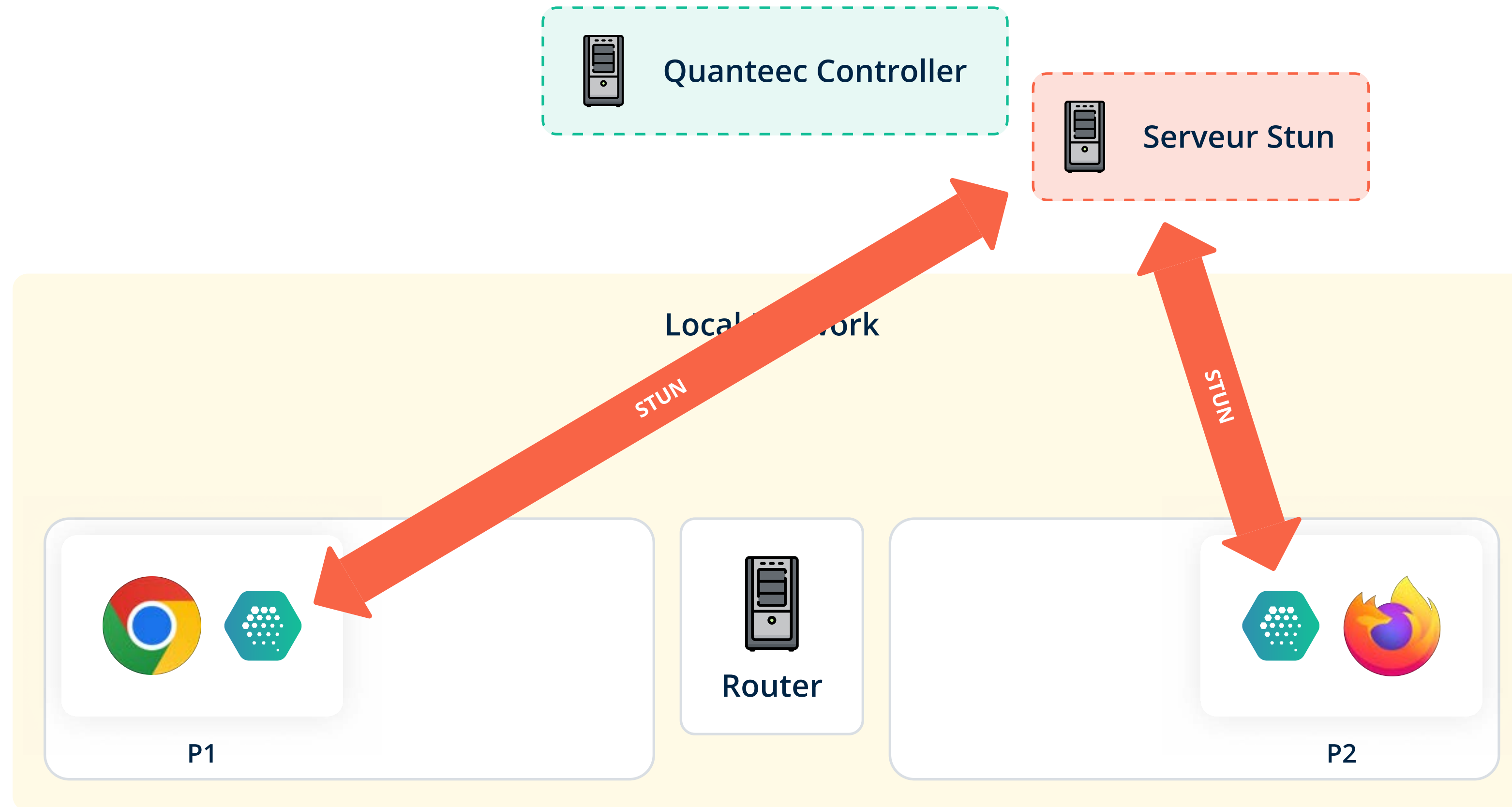
Issue 3: Quanteec can not see the IP to associate the peer in the subnetwork



Idea: local STUN/TURN ? For issues 1 & 2 only.



Issue 2: mDNS not forwarded by a router



Disabling mDNS is not needed when



mDNS is not blocked in the local network

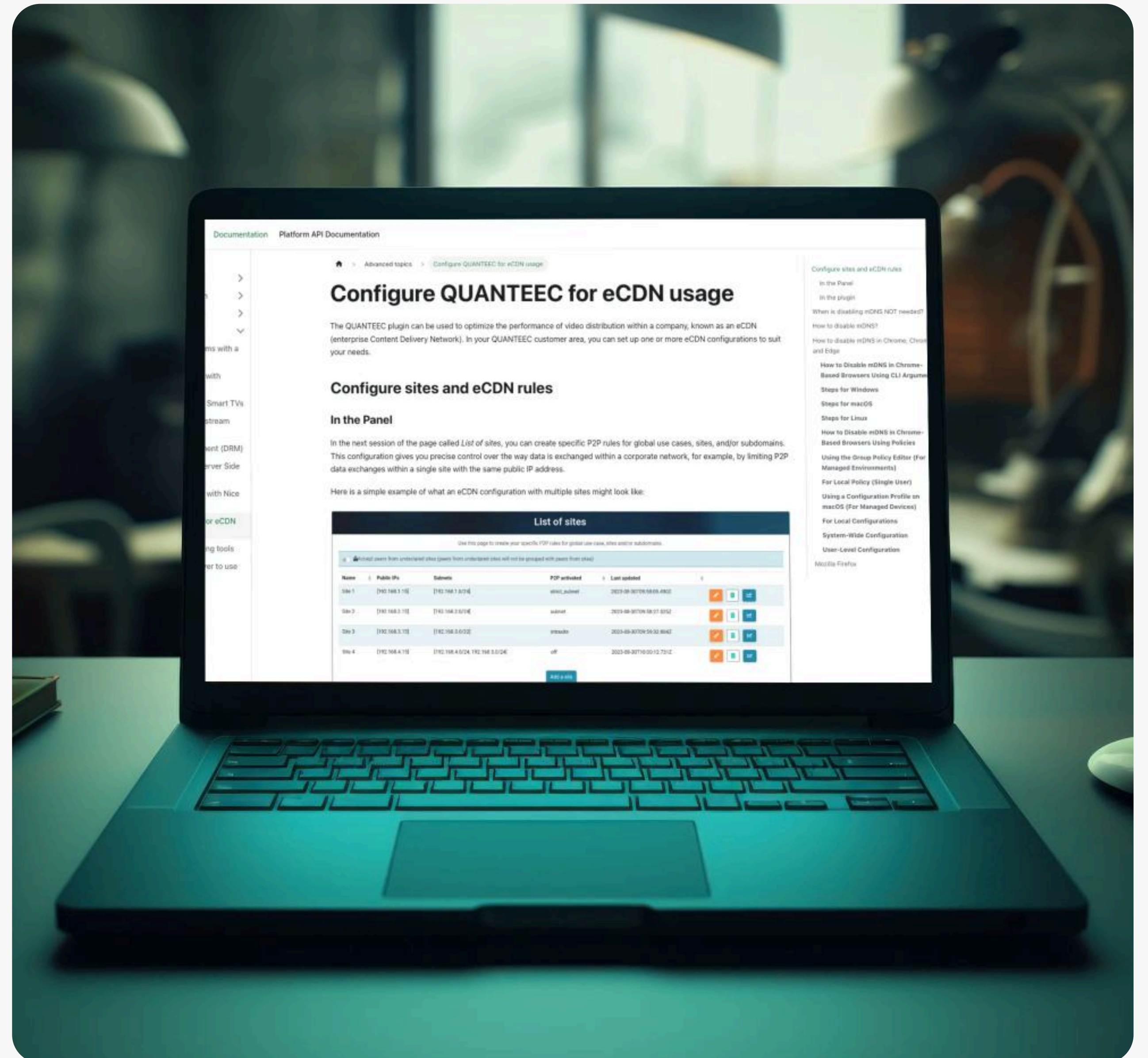
users are behind the same router



How to disable mDNS in the browsers?



All informations at:
<https://doc.quanteec.com/advanced-topics/ecdn>





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Website: www.quanteec.com

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