

Troubleshooting the QUIC Protocol

Module Overview



Common Problems with QUIC

Version Incompatibility

Firewall/Network Support

Tools for Testing QUIC

Online/Browser Tools

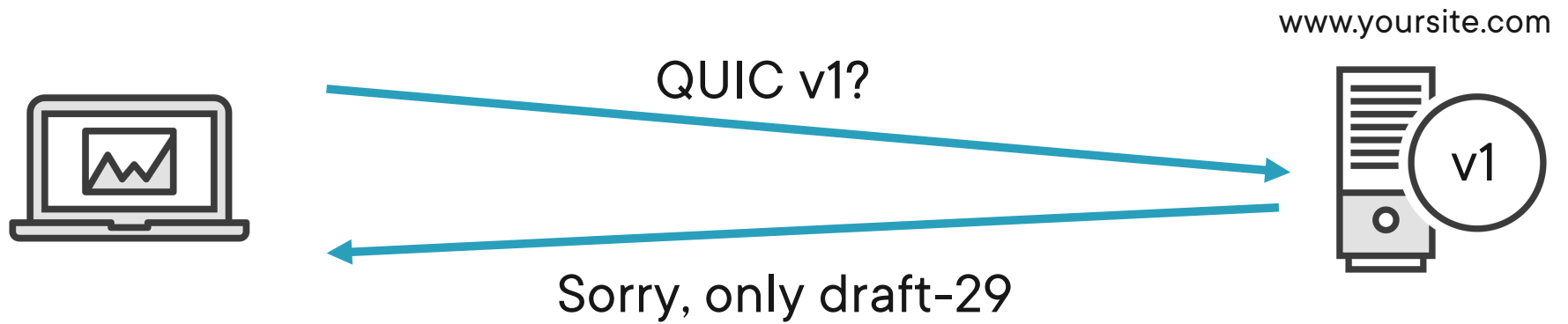
Command Line Tools

Demo: Testing QUIC Support

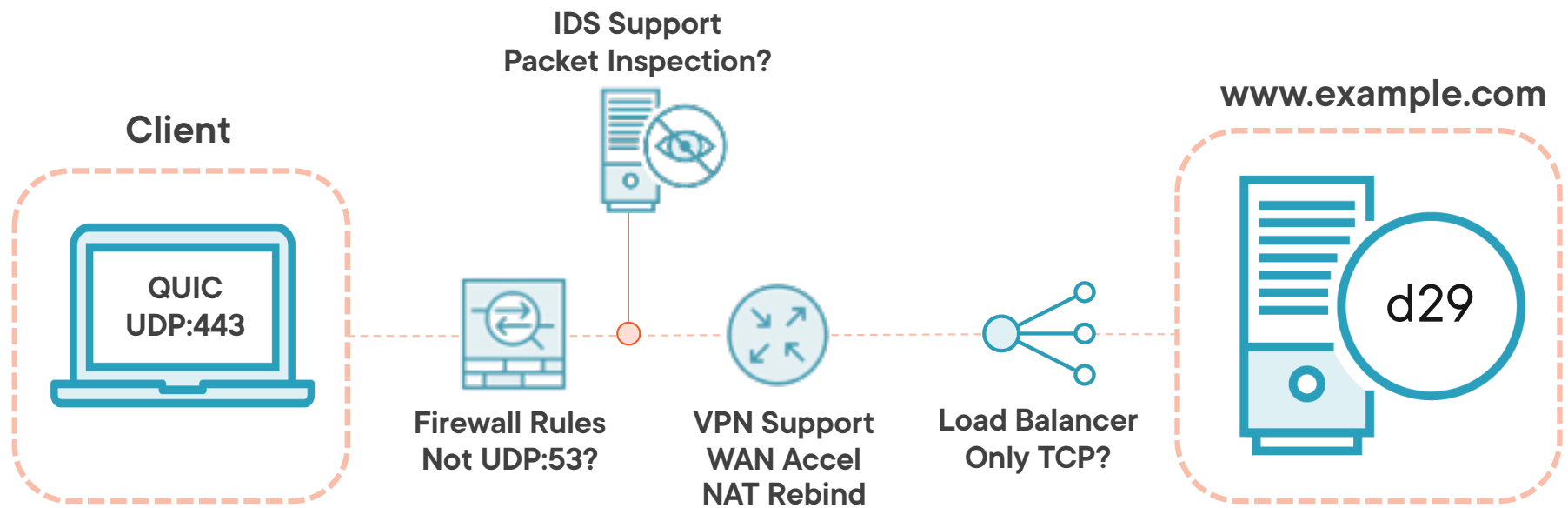
Demo: Troubleshooting QUIC with Wireshark

Common Problems with QUIC

Version Incompatibility



Firewall/Network Support



Tools for Testing QUIC

Beyond Packet Data

No.	Time	Delta	Source	Destination	Protocol	Info
5	1.752967	0.000000	192.168.0.39	216.58.195.68	QUIC	Initial, DCID=d52fada828345f56, PKN: 1, CRYPTO,
22	1.863245	0.110278	216.58.195.68	192.168.0.39	QUIC	Initial, SCID=d52fada828345f56, PKN: 1, ACK, CRY
23	1.863245	0.000000	216.58.195.68	192.168.0.39	QUIC	Handshake, SCID=d52fada828345f56
24	1.863245	0.000000	216.58.195.68	192.168.0.39	QUIC	Protected Payload (KP0)
25	1.864152	0.000907	192.168.0.39	216.58.195.68	QUIC	Protected Payload (KP0), DCID=d52fada828345f56
26	1.864553	0.000401	192.168.0.39	216.58.195.68	QUIC	Protected Payload (KP0), DCID=d52fada828345f56
27	1.864748	0.000195	192.168.0.39	216.58.195.68	QUIC	Protected Payload (KP0), DCID=d52fada828345f56
28	1.864935	0.000187	192.168.0.39	216.58.195.68	QUIC	Protected Payload (KP0), DCID=d52fada828345f56
29	1.865074	0.000139	192.168.0.39	216.58.195.68	QUIC	Protected Payload (KP0), DCID=d52fada828345f56
43	1.901793	0.036719	216.58.195.68	192.168.0.39	QUIC	Protected Payload (KP0)
44	1.901793	0.000000	216.58.195.68	192.168.0.39	QUIC	Protected Payload (KP0)
45	1.901793	0.000000	216.58.195.68	192.168.0.39	QUIC	Protected Payload (KP0)
46	1.901793	0.000000	216.58.195.68	192.168.0.39	QUIC	Protected Payload (KP0)
48	1.902126	0.000333	192.168.0.39	216.58.195.68	QUIC	Protected Payload (KP0), DCID=d52fada828345f56
49	1.905744	0.003618	216.58.195.68	192.168.0.39	QUIC	Protected Payload (KP0)
50	1.905942	0.000198	192.168.0.39	216.58.195.68	QUIC	Protected Payload (KP0), DCID=d52fada828345f56
51	1.921922	0.015980	216.58.195.68	192.168.0.39	QUIC	Protected Payload (KP0)
52	1.921922	0.000000	216.58.195.68	192.168.0.39	QUIC	Protected Payload (KP0)
53	1.922289	0.000367	192.168.0.39	216.58.195.68	QUIC	Protected Payload (KP0), DCID=d52fada828345f56
55	1.924482	0.002193	192.168.0.39	172.217.164.109	QUIC	Initial, DCID=58d97d8f5c818c3d, PKN: 1, CRYPTO,
56	1.938992	0.014510	216.58.195.68	192.168.0.39	QUIC	Protected Payload (KP0)
57	1.938992	0.000000	216.58.195.68	192.168.0.39	QUIC	Protected Payload (KP0)
58	1.939331	0.000339	192.168.0.39	216.58.195.68	QUIC	Protected Payload (KP0), DCID=d52fada828345f56
59	1.943806	0.004475	216.58.195.68	192.168.0.39	QUIC	Protected Payload (KP0)
61	1.944157	0.000351	192.168.0.39	216.58.195.68	QUIC	Protected Payload (KP0), DCID=d52fada828345f56
62	1.944850	0.000702	192.168.0.39	216.58.195.68	QUIC	Initial, DCID=d52fada828345f56, PKN: 1, CRYPTO,

Testing QUIC Support



Online Tools
Testing Public Sites

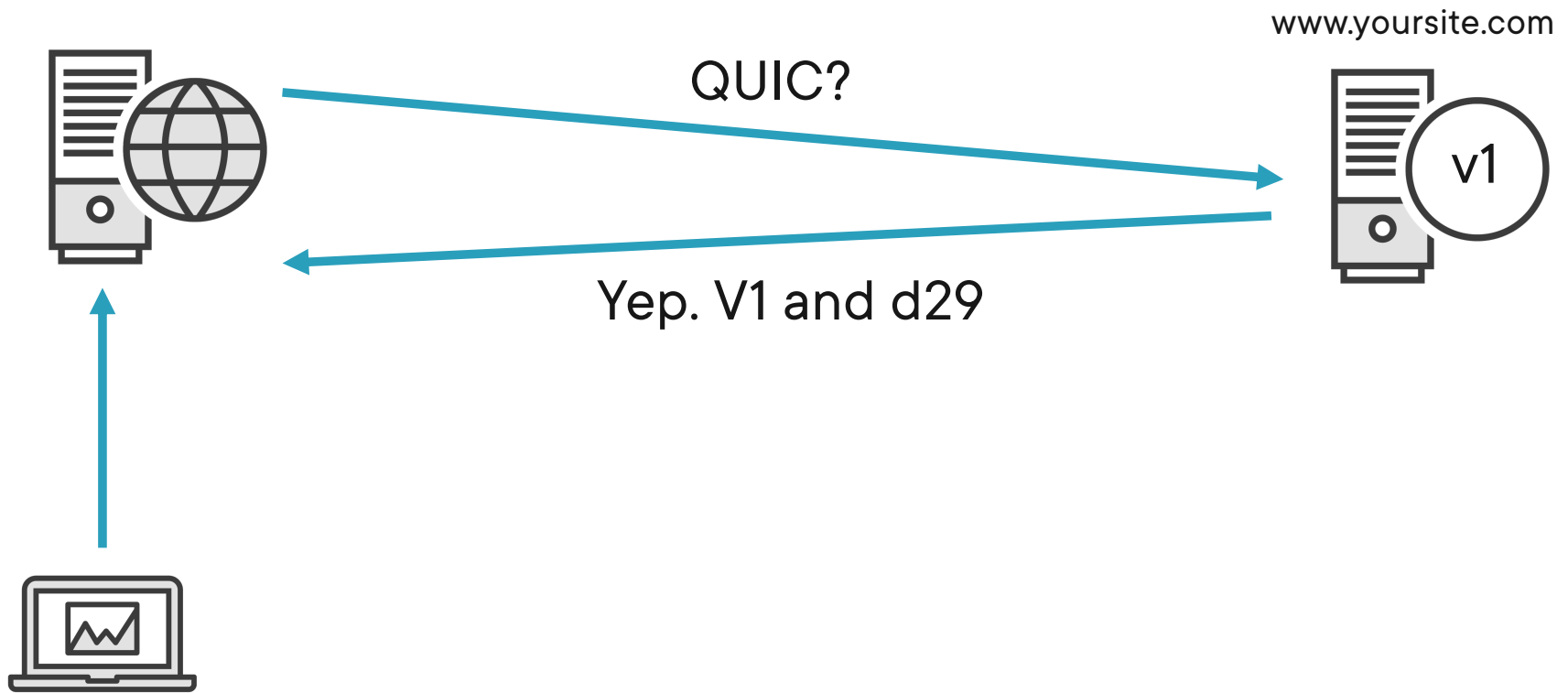


Browser Tools
**Testing Public and
Private Servers**

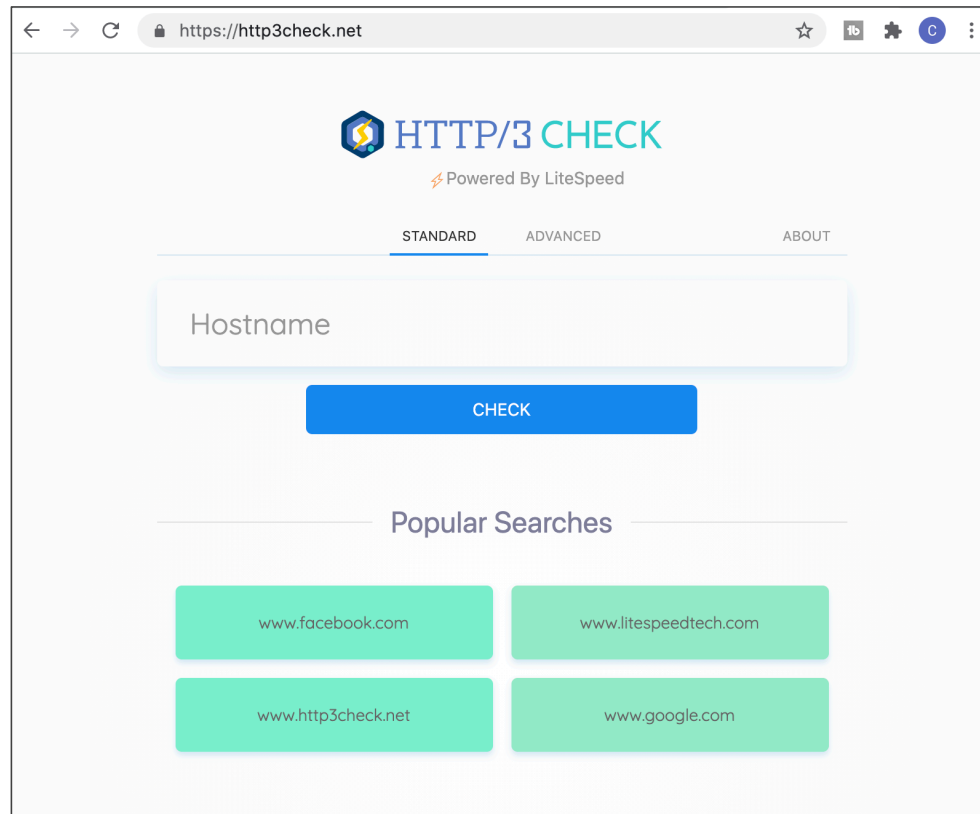


Command Line
In-Depth Testing

Online Tools

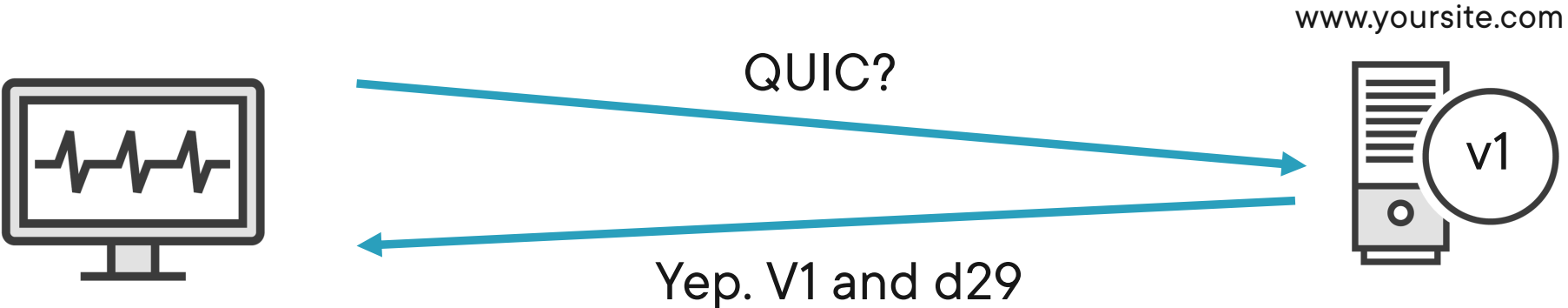


Online Tools



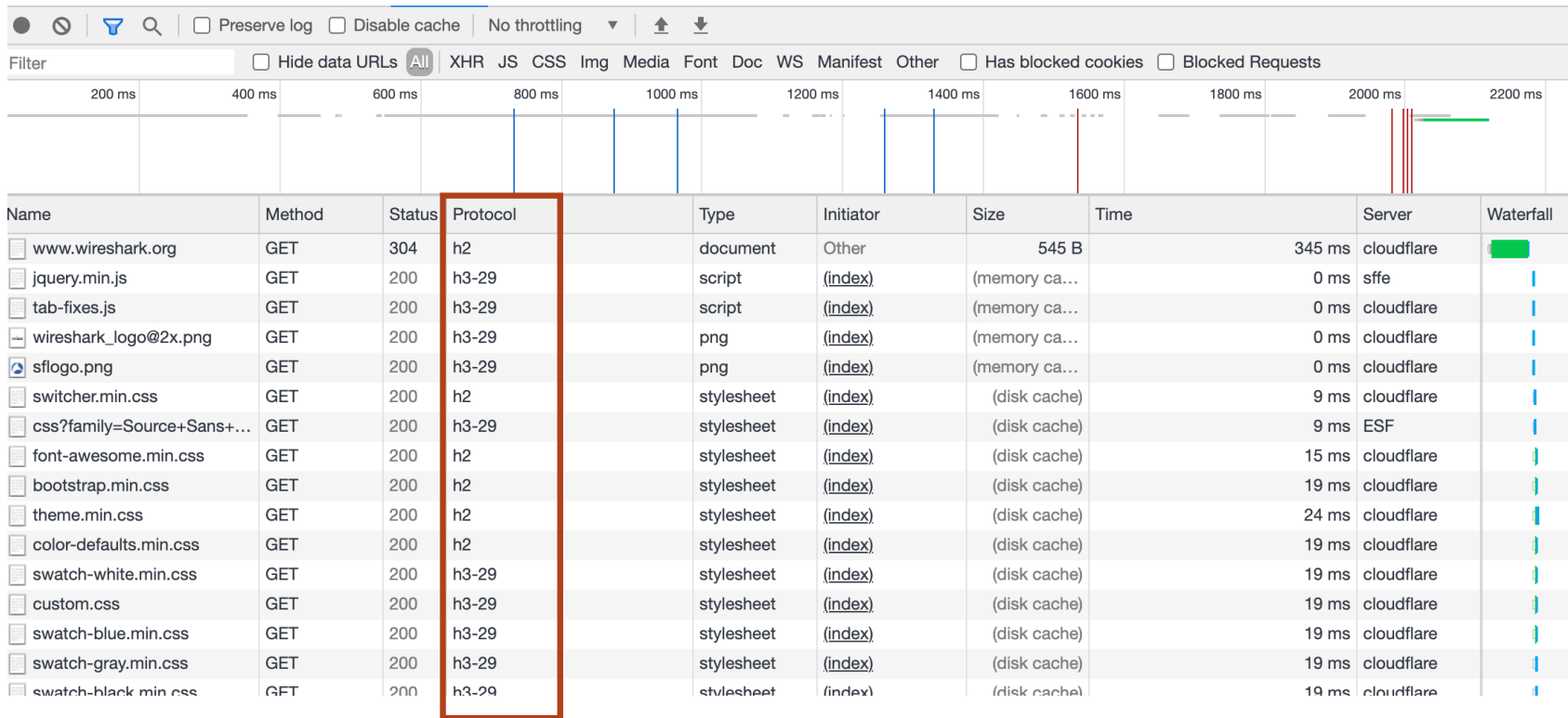
The screenshot shows a web browser window with the URL <https://http3check.net>. The page features the "HTTP/3 CHECK" logo, which includes a lightning bolt icon and the text "Powered By LiteSpeed". Below the logo are three navigation tabs: "STANDARD" (selected), "ADVANCED", and "ABOUT". A large text input field labeled "Hostname" is centered on the page, with a blue "CHECK" button positioned directly below it. Underneath the input field is a section titled "Popular Searches" containing four light green buttons with the following URLs: www.facebook.com, www.litespeedtech.com, www.http3check.net, and www.google.com.

Browser Tools



Example: Chrome Developer Tools

Chrome Developer Tools



Command Line Tools

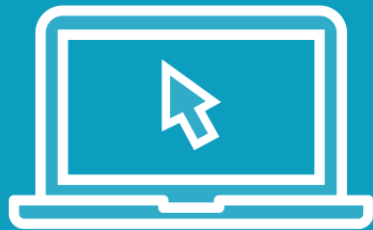


Demo



Testing QUIC Support with Online and Browser tools

Demo



Troubleshooting QUIC with Wireshark

Course Overview



Module 2 – Introduction to QUIC

Module 3 – Analyzing QUIC with Wireshark

Module 4 – Troubleshooting QUIC

Module 2 - Who Uses QUIC?

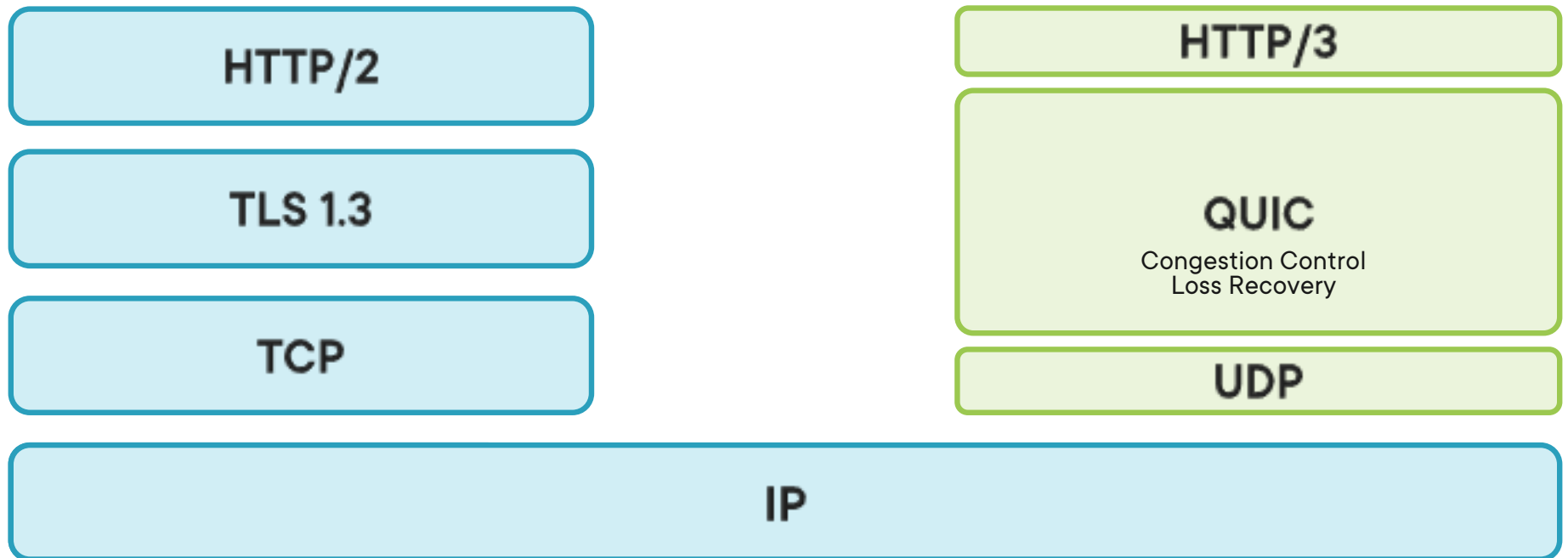


Google

You Tube



Module 2 – The QUIC Protocol Stack



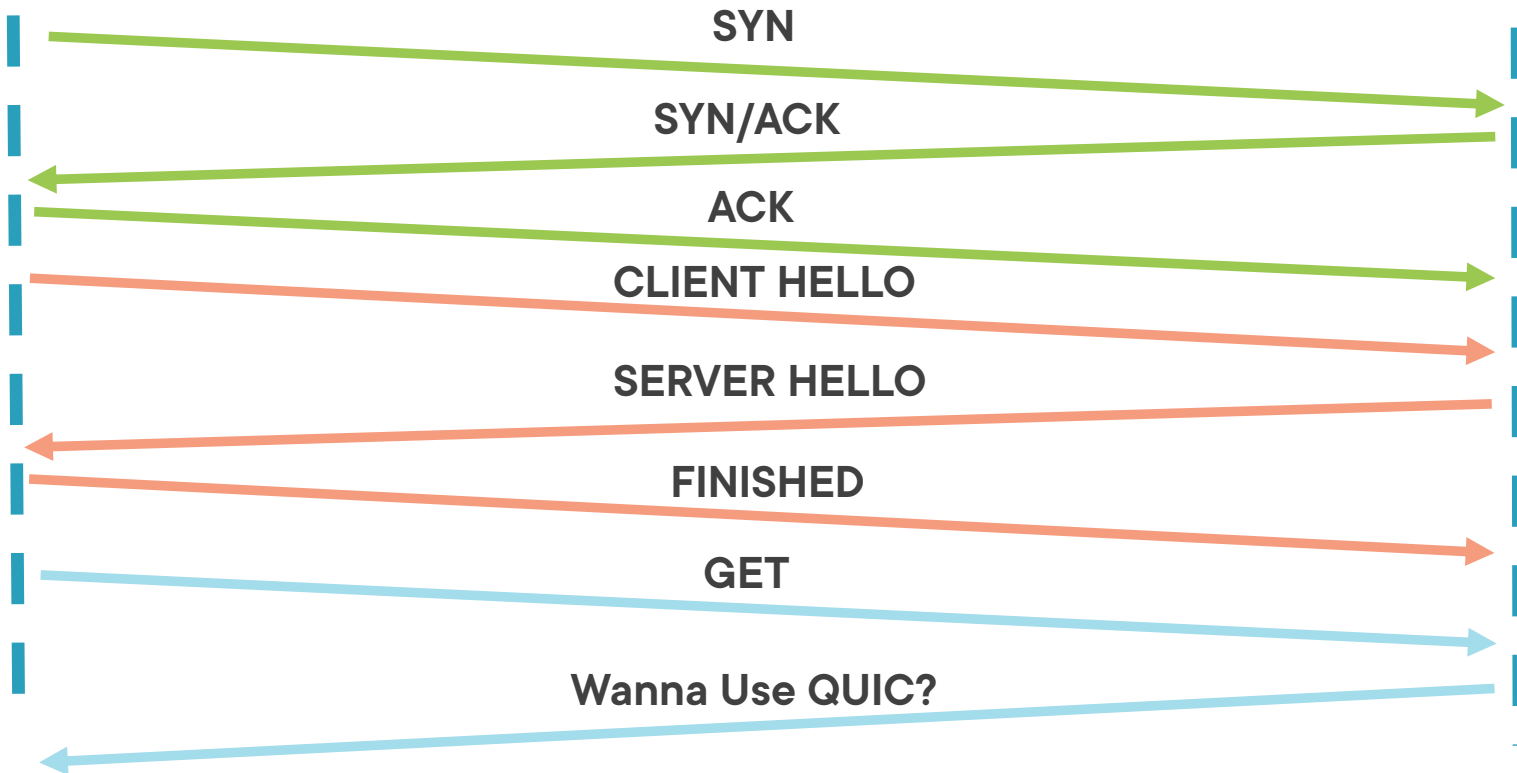
Module 3 - QUIC Handoff



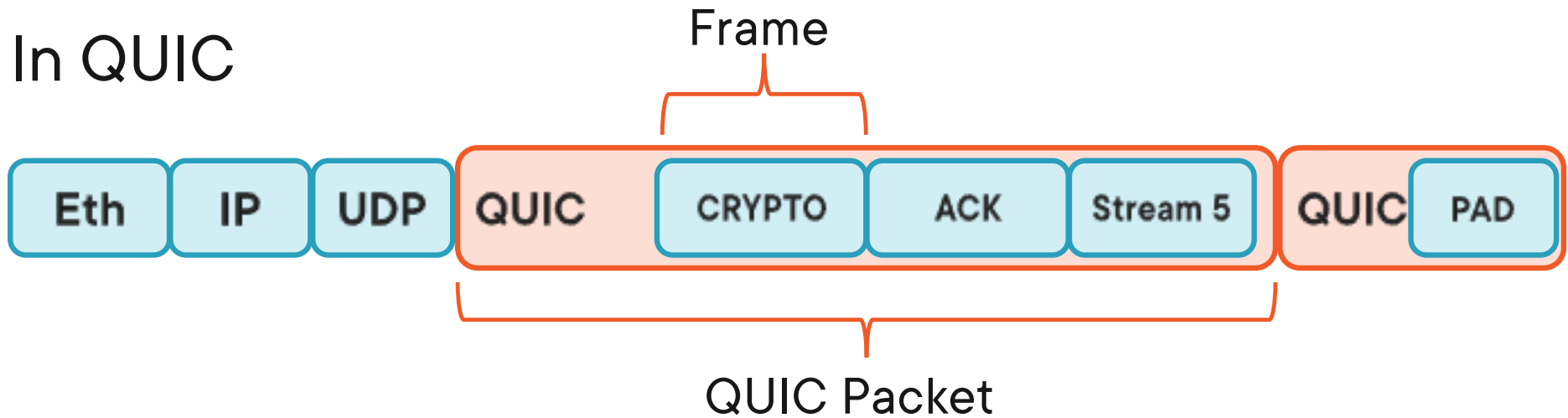
192.168.1.100 : 1000



10.1.1.100 : 443



Module 3 – QUIC Packets and Frame



Testing QUIC Support



Online Tools
Testing Public Sites

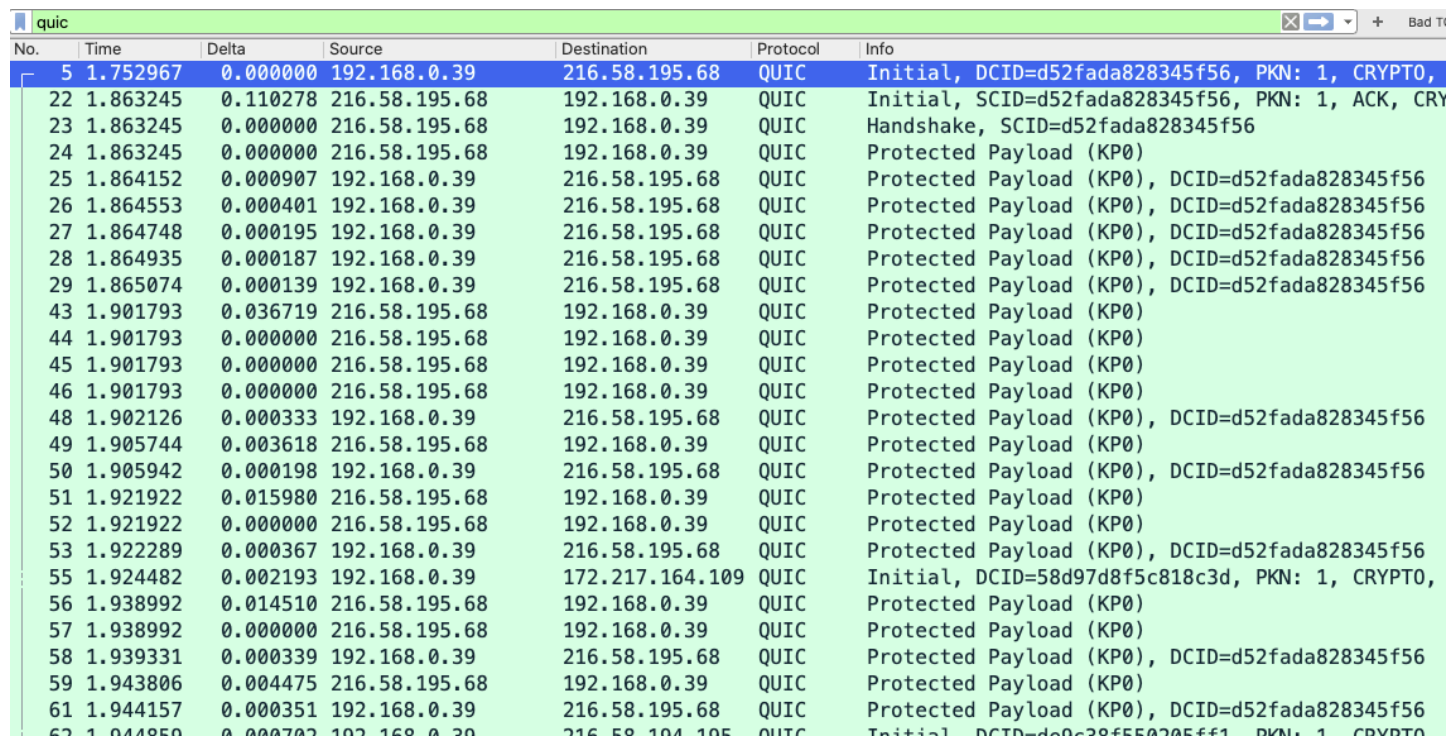


Browser Tools
**Testing Public and
Private Servers**



Command Line
In-Depth Testing

Module 4 - QUIC in Wireshark



The image shows a Wireshark packet capture window titled 'quic'. The main pane displays a list of captured packets with columns for No., Time, Delta, Source, Destination, Protocol, and Info. The packets are numbered 5 through 62. Packet 5 is the initial handshake from 192.168.0.39 to 216.58.195.68. Packets 22-23 show the handshake completion and acknowledgment. Packets 24-62 consist of protected payloads (KP0) sent from 192.168.0.39 to 216.58.195.68, with some packets also showing a DCID value.

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Protocol Deep Dive: QUIC



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