IPv6 Readiness Report

whatsapp.com — whatsapp.com

Scan to verify

Category: Social Media • Generated: 02 Nov 2026, 03:07 MYT • Last Checked: 08 Aug 2026, 18:20 MYT • Verification ID: 14096547-0a40-426e-a247-d2195cc19813
Report generated from National IPv6 Readiness Monitor — https://ipv6.my6.my
Audit trail: https://ipv6.my6.my/audit/14096547-0a40-426e-a247-d2195cc19813

⚠
Partially Compliant
MGv6C-1.0

83%
Partial Support

IPV6-ONLY READINESS
Website: ✓ **Ready**
DNS: ✓ **Ready**
Email: ✗ **Not Ready**

IPV6 ADDRESSES
`2a03:2880:f27f:1c0:face:b00c::167`

IPV4 ADDRESSES
`57.144.153.32`

Network Information (WHOIS / RDAP)

	IPv6 Network	IPv4 Network
Organization	meta-mnt	meta-mnt
Country	IE	IE
ASN	AS32934	AS32934
ASN Name	FACEBOOK - Facebook, Inc., US	FACEBOOK - Facebook, Inc., US
Network (CIDR)	2a03:2880::/29	57.141.0.0/16

Web Services (35%) — 8 / 8

#	CHECK	RESULT	DETAIL
1	**AAAA Record**	PASS	2a03:2880:f27f:1c0:face:b00c::167
2	**Globally Routable IPv6**	PASS	All addresses are globally routable.
3	**HTTP over IPv6**	PASS	HTTP (port 80) responds over IPv6 — 389ms TTFB.
4	**HTTPS over IPv6**	PASS	HTTPS (port 443) responds over IPv6 — 367ms TTFB.
5	**IPv6-Only Reachability**	PASS	Site is fully reachable via IPv6-only.
6	**TLS Certificate Valid (IPv6)**	PASS	Certificate valid — issued by C = US, O = DigiCert Inc, CN = DigiCert Global G2 TLS RSA SHA256 2020 CA1, expires Aug 15 23:59:59 2026 GMT
7	**Dual-Stack (IPv4 + IPv6)**	PASS	Domain has both A and AAAA records.
8	**HTTP/3 (QUIC)**	PASS	Alt-Svc: h3 header detected.

DNS & DNSSEC (25%) — 4 / 5

#	CHECK	RESULT	DETAIL
1	**NS Has AAAA Record**	PASS	Nameserver has IPv6 address.
2	**NS Reachable via IPv6**	PASS	Nameserver is reachable via IPv6 on port 53.
3	**NS Answers Queries via IPv6**	PASS	DNS queries answered over IPv6.
4	**DNSSEC Validated**	FAIL	DNSSEC validation failed or zone is unsigned.
5	**Reverse DNS (PTR)**	PASS	PTR record found in ip6.arpa.
6	**DS Record at Parent**	FAIL	No DS record at parent.
7	**RRSIG Valid**	FAIL	No valid RRSIG found.

#	CHECK	RESULT	DETAIL
8	**Signing Algorithm**	INFO	No DNSKEY record found.

Email Services (25%) 3 / 6

#	CHECK	RESULT	DETAIL
1	**MX Record Exists**	PASS	MX record found.
2	**MX Server Has IPv6**	FAIL	MX server has no IPv6 address.
3	**SMTP Reachable via IPv6**	FAIL	SMTP is not reachable over IPv6.
4	**STARTTLS over IPv6**	FAIL	STARTTLS not available over IPv6.
5	**SPF Record**	PASS	SPF record found.
6	**DKIM Selector**	INFO	DKIM selector found: google._domainkey
7	**DMARC Record**	PASS	DMARC record found.

IPv4 Baseline (15%) 3 / 3

#	CHECK	RESULT	DETAIL
1	**A Record**	PASS	57.144.153.32
2	**HTTP over IPv4**	PASS	HTTP (port 80) responds over IPv4 — 546ms TTFB.
3	**HTTPS over IPv4**	PASS	HTTPS (port 443) responds over IPv4 — 487ms TTFB.

Audit Trail & Evidence Record

Verification ID	14096547-0a40-426e-a247-d2195cc19813
Domain	whatsapp.com
Check Mode	Manual
Status	Completed
Started	08 Aug 2026, 18:20:18 MYT
Finished	08 Aug 2026, 18:20:26 MYT
Test Node Profile	ipv6 only
Engine Version	2.0.0
MGv6C Version	1.0.0
Audit URL	https://ipv6.my6.my/audit/14096547-0a40-426e-a247-d2195cc19813

Integrity Verification

✓ **INTEGRITY VERIFIED**

Algorithm	hmac-sha256-v1
Root Hash	c78ef859833b1b97665c44bf4e6a235e01f76ca0e0c845e48c7a0a48326218c8
http_headers	7e3b65880cd3b866515ffb403a37b14484d557bb958f447967650b71fec5103e
dns_responses	27c9fc6ee38d91aedc864d3a81bf9eb438f41e7f58cc308125c0a9b64b1197dc
tls_handshake	dbce2c6af7c9c0c71b4929410379eff1e8498d05a5d0e735a3cd5536abc4ea00
connectivity_log	cfd575646509103ad7945b6c3f765002a83603868796de1f1a0108ecb23119eb
dns_resolution_times	b04f36a74998abffa3ad97a18f948e01c2a83d541bcc75e8bdbd41ca9e89cc20

Test Node Identity

Os	Linux srv1440888 6.8.0-136-generic #136-Ubuntu SMP PREEMPT_DYNAMIC Wed Jul 1 21:53:05 UTC 2026 x86_64
Hostname	srv1440888
Php Version	8.3.33
Server Ipv4	76.13.221.142
Server Ipv6	2a02:4780:5e:2789::1

DNS Resolution Performance

Comparison of A (IPv4) vs AAAA (IPv6) query times across resolvers and transports. Shows median (p50) and 95th percentile (p95) of 3 samples per tuple.

Resolver	Transport	A p50 (ms)	A p95 (ms)	AAAA p50 (ms)	AAAA p95 (ms)	Delta (ms)
System	Default	21.01	21.61	20.75	21.49	-0.3
Google	IPv4	86.54	96.49	85.82	99.38	-0.7
Google	IPv6	88.04	93.96	64.28	98.89	-23.8
Cloudflare	IPv4	22	25.46	22.4	22.71	+0.4
Cloudflare	IPv6	25.88	32.04	22.37	22.95	-3.5

DNS Evidence

A

```
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 23620
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; ANSWER SECTION:
whatsapp.com.□□60□IN□A□163.70.132.60
```

DS

```
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 40805
;; flags: qr rd ra; QUERY: 1, ANSWER: 0, AUTHORITY: 1, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; AUTHORITY SECTION:
com.□□□865□IN□SOA□a.gtld-servers.net. nstld.verisign-grs.com. 1786184374 1800 900 604800 900
```

MX

```
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 31360
;; flags: qr rd ra; QUERY: 1, ANSWER: 2, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; ANSWER SECTION:
whatsapp.com.□□7200□IN□MX□10 mxb-00082601.gslb.pphosted.com.
whatsapp.com.□□7200□IN□MX□10 mxa-00082601.gslb.pphosted.com.
```

NS

```
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 33354
;; flags: qr rd ra; QUERY: 1, ANSWER: 4, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; ANSWER SECTION:
whatsapp.com.□□59173□IN□NS□b.ns.whatsapp.net.
whatsapp.com.□□59173□IN□NS□a.ns.whatsapp.net.
whatsapp.com.□□59173□IN□NS□c.ns.whatsapp.net.
whatsapp.com.□□59173□IN□NS□d.ns.whatsapp.net.
```

TXT

```
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 63528
;; flags: qr rd ra; QUERY: 1, ANSWER: 9, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; ANSWER SECTION:
whatsapp.com.□□3600□IN□TXT□"dropbox-domain-verification=lfq0o9x85s8s"
whatsapp.com.□□3600□IN□TXT□"facebook-domain-verification=ziojpt80hl1748lx6agku0kpttifb2"
whatsapp.com.□□3600□IN□TXT□"google-site-verification=MXbDGih8wW-64G5maXGw8iIkFbH7iv_vLobZd-kxdNo"
whatsapp.com.□□3600□IN□TXT□"adobe-idp-site-verification=a0d9793b-fc40-430b-9ab4-d3c75e4dcfba"
whatsapp.com.□□3600□IN□TXT□"Ghm7XCdpYQEendZNsepA80OBAhbN9sfITvUxiy9FNdOGBxeAQICCmLbuXm23hNaysns+wZ6GskJWMtWD1/Ha9Q=="
whatsapp.com.□□3600□IN□TXT□"b42e0aa4-9d21-4a73-a111-fba236f1a835"
whatsapp.com.□□7200□IN□TXT□"v=spf1 include:_spf.fb.com include:facebookmail.com -all"
whatsapp.com.□□3600□IN□TXT□"bFwlY7J2JzFYHw5qkQFcBD6EOr9JL4VBpYSXSk3p8lA"
whatsapp.com.□□3600□IN□TXT□"MS=ms22994725"
```

AAAA

```
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 11232
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; ANSWER SECTION:
```

```
whatsapp.com.□□60□IN□AAAA□2a03:2880:f27f:c2:face:b00c:0:167
```

RRSIG

```
a.ns.whatsapp.net. dns.whatsapp.net. 4207849484 14400 1800 604800 300
```

DNSKEY

```
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 21681
;; flags: qr rd ra; QUERY: 1, ANSWER: 0, AUTHORITY: 1, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; AUTHORITY SECTION:
whatsapp.com.□□296□IN□SOA□a.ns.whatsapp.net. dns.whatsapp.net. 4207849484 14400 1800 604800 300
```

DNSSEC_VALIDATION

```
; unsigned answer
whatsapp.com.□□3596□IN□SOA□a.ns.whatsapp.net. dns.whatsapp.net. 4207849484 14400 1800 604800 300
```

TLS Handshake Evidence

IPV4 Connection

IP Used	57.144.153.32
IP Version	4

```
depth=2 C = US, O = DigiCert Inc, OU = www.digicert.com, CN = DigiCert Global Root G2
verify return:1
depth=1 C = US, O = DigiCert Inc, CN = DigiCert Global G2 TLS RSA SHA256 2020 CA1
verify return:1
depth=0 C = US, ST = California, L = Menlo Park, O = "Meta Platforms, Inc.", CN = *.whatsapp.net
verify return:1
CONNECTED(00000010)
---
Certificate chain
 0 s:C = US, ST = California, L = Menlo Park, O = "Meta Platforms, Inc.", CN = *.whatsapp.net
   i:C = US, O = DigiCert Inc, CN = DigiCert Global G2 TLS RSA SHA256 2020 CA1
   a:PKEY: id-ecPublicKey, 256 (bit); sigalg: RSA-SHA256
   v:NotBefore: May 17 00:00:00 2026 GMT; NotAfter: Aug 15 23:59:59 2026 GMT
-----BEGIN CERTIFICATE-----
MIIGYzCCBUugAwIBAgIQBtODIfPWzZl5XJNV+kJtbjANBgkqhkiG9w0BAQsFADBZ
MQswCQYDVQQGEwJVUzEVMBMGA1UEChMMRGlnaUNlcnQgSW5jMTMwMQYDVQQDEypE
aWdpQ2VydCBHbG9iYWwgRzIgVExTIFJTQSBTSEEyNTYgMjAyMCBDQTEwHhcNMjYw
NTE3MDAwMDAwWhcNMjYwODE1MjM1OTU5WjBvMQswCQYDVQQGEwJVUzETMBEGA1UE
CBMKQ2FsaWZvcm5pYTETMBEGA1UEBxMKTWVubG8gUGFyazEdMBsGA1UEChMUTWV0
YSBQbGF0Zm9ybXMsIEluYy4xFzAVBgNVBAMMDioud2hhdHNhcHAubmV0MFkwEwYH
KoZIzj0CAQYIKoZIzj0DAQcDQgAEtIb835SHj1sZLVBRA4sWdStWc8IvG7kg93yG
vjntOIM9oCbWpZX21ZYeag8PdbaNrAc0Mrf56pH5TdoPzFYnVqOCA9owggPWMB8G
A1UdIwQYMBaAFHSFgMBmx9833s+9KTeqAx2+7c0XMB0GA1UdDgQWBBRQNC2Gj/a1
ixvvdK8iLeEihs7MXDB0BgNVHREEbTBrgg4qLndoYXRzYXBwLm5ldIISKi5jZG4u
d2hhdHNhcHAubmV0ghIqLnNuci53aGF0c2FwcC5uZXSCDioud2hhdHNhcHAuY29t
ggV3YS5tZYIMd2hhdHNhcHAuY29tggx3aGF0c2FwcC5uZXQwPgYDVR0gBDcwNTAz
BgZngQwBAgIwKTAnBggrBgEFBQcCARYbaHR0cDovL3d3dy5kaWdpY2VydC5jb20v
Q1BTMA4GA1UdDwEB/wQEAwIDiDATBgNVHSUEDDAKBggrBgEFBQcDATCBnwYDVR0f
BIGXMIGUMEigRqBEhkJodHRwOi8vY3JsMy5kaWdpY2VydC5jb20vRGlnaUNlcnRH
bG9iYWxHMlRMU1JTQVNIQTI1NjIwMjBDQTEtMS5jcmwwSKBGoESGQmh0dHA6Ly9j
cmw0LmRpZ2ljZXJ0LmNvbS9EaWdpQ2VydEdsb2JhbEcyVExTUlNBU0hBMjU2MjAy
MENBMS0xLmNybDCBhwYIKwYBBQUHAQEEezB5MCQGCCsGAQUFBzABhhhodHRwOi8v
b2NzcC5kaWdpY2VydC5jb20wUQYIKwYBBQUHMAKGRWh0dHA6Ly9jYWNlcnRzLmRp
Z2ljZXJ0LmNvbS9EaWdpQ2VydEdsb2JhbEcyVExTUlNBU0hBMjU2MjAyMENBMS0x
LmNydDAMBgNVHRMBAf8EAjAAMIIBfQYKKwYBBAHWeQIEAgSCAW0EggFpAWcAdQDC
MX5XRRmjRe5/ON6ykEHrx8IhWiK/f9W1rXaa2Q5SzQAAAZ4zhR2xAAAEAwBGMEQC
ICz3uDlhlL/xbEqzU3FkGmVDSS8KztFT4/vuPwpclegiAiAwLX4hYYLc7g1PA83P
FxajDODUCiZtOB9fCqmQbdd2KwB2ANgJVTuUT3r/yBYZb5RPhauw+Pxeh1UmDxXR
LnK7RUsUAAABnjOFHdMAAAQDAEcwRQIgY36CRTBb0YWCPEgy1ucyCMhJgVsL3OHu
1LTvslnpYGACIQCa6ZuyvkvNdeKa9WuQvCLH/UrkmsIqAQZCCYSFc9ZuQAB2AJRO
Q4f67MHvgfMZJCaoGGUBx9NfOAIBP3JnfVU3LhnYAAABnjOFHcMAAAQDAEcwRQIh
ALpypTysdz2E9YDUuxAmvqaayIA1TTsjCsNML5gSxsW+AiBryWtbx+ByOxy2ukea
kA3xut9oDb/qR/cuwOOsidfn5zANBgkqhkiG9w0BAQsFAAOCAQEAhwRSLFWo4SLM
dsQtr3yjx5vLWEqIze6+Z2XhqNcrk6+womMl7FsUD+lqBDPr21XysjTfwhbxkbMS
MnDe0eDz/Cgti5V6cmIP2JAn663YsytC1w8RcxGt6O/NB2PRkljk3QBgEZzm/vGZ
QvbVirAi/1Rldf+iGztZ9tKys4P/KYgPks3VlLM0lNIk121+jcDN/e13g5Eovanv
92qAx0uLl05mSLzzNGf65QZUC3SnFVHAT0yj3bx0i+rSay0xI2dhLO7qSqpsLbd3
vq4qM2/ofNVH1oh8LnsKOGyZM/eJ8hAWZtxtUo6YWlL2agZhia4QI9c0rMhufxMX
+uyOw9M3Mg==
-----END CERTIFICATE-----
 1 s:C = US, O = DigiCert Inc, CN = DigiCert Global G2 TLS RSA SHA256 2020 CA1
   i:C = US, O = DigiCert Inc, OU = www.digicert.com, CN = DigiCert Global Root G2
   a:PKEY: rsaEncryption, 2048 (bit); sigalg: RSA-SHA256
   v:NotBefore: Mar 30 00:00:00 2021 GMT; NotAfter: Mar 29 23:59:59 2031 GMT
-----BEGIN CERTIFICATE-----
MIIEyDCCA7CgAwIBAgIQDPW9BitWAvR6uFAsI8zwZjANBgkqhkiG9w0BAQsFADBh
MQswCQYDVQQGEwJVUzEVMBMGA1UEChMMRGlnaUNlcnQgSW5jMRkwFwYDVQQLExB3
d3cuZGlnaWNlcnQuY29tMSAwHgYDVQQDExdEaWdpQ2VydCBHbG9iYWwgUm9vdCBH
MjAeFw0yMTAzMzAwMDAwMDBaFw0zMTAzMjkyMzU5NTlaMFkxCzAJBgNVBAYTAlVT
MRUwEwYDVQQKEwxEaWdpQ2VydCBJbmMxMzAxBgNVBAMTKkRpZ2lDZXJ0IEdsb2Jh
bCBHMiBUTFMgUlNBIFNIQTI1NiAyMDIwIENBMTCCASIwDQYJKoZIhvcNAQEBBQAD
ggEPADCCAQoCggEBAMz3EGJPprtjb+2QUlbFbSd7ehJWivH0+dbn4Y+9lavyYEEV
cNsSAPonCrVXOFt9slGTcZUOakGUWzUb+nv6u8W+JDD+Vu/E832X4xT1FE3LpxDy
FuqrIvAxIhFhaZAmunjZlx/jfWardUSVc8is/+9dCopZQ+GssjoP80j812s3wWPc
3kbW20X+fSP9kOhRBx5Ro1/tSUZUfyyIxfQTnJcVPAPooTncaQwywa8WV0yUR0J8
osicfebUTVSvQpmowQTCd5zWSOTOEeAqgJnwQ3DPP3Zr0UxJqyRewg2C/Uaoq2yT
zGJSQnWS+Jr6Xl6ysGHlHx+5fwmY6D36g39HaaECAwEAAaOCAYIwggF+MBIGA1Ud
EwEB/wQIMAYBAf8CAQAwHQYDVR0OBBYEFHSFgMBmx9833s+9KTeqAx2+7c0XMB8G
A1UdIwQYMBaAFE4iVCAYlebjbuYP+vq5Eu0GF485MA4GA1UdDwEB/wQEAwIBhjAd
BgNVHSUEFjAUBggrBgEFBQcDAQYIKwYBBQUHAwIwdgYIKwYBBQUHAQEEajBoMCQG
CCsGAQUFBzABhhhodHRwOi8vb2NzcC5kaWdpY2VydC5jb20wQAYIKwYBBQUHMAKG
NGh0dHA6Ly9jYWNlcnRzLmRpZ2ljZXJ0LmNvbS9EaWdpQ2VydEdsb2JhbFJvb3RH
```

```
Mi5jcnQwQgYDVR0fBDswOTA3oDWgM4YxaHR0cDovL2NybDMuZGlnaWNlcnQuY29t
L0RpZ2lDZXJ0R2xvYmFsUm9vdEcyLmNybDA9BgNVHSAENjA0MAsGCWCGSAGG/WwC
ATAHBgVngQwBATAIBgZngQwBAgEwCAYGZ4EMAQICMAgGBmeBDAECAzANBgkqhkiG
9w0BAQsFAAOCAQEAkPFwyyiXaZd8dP3A+iZ7U6utzWX9upwGnIrXWkOH7U1MVl+t
wcW1BSAuWdH/SvWgKtiwla3JLko716f2b4gp/DA/JIS7w7d7kwcsr4drdjPtAFVS
slme5LnQ89/nD/7d+MS5EHKBCQRfz5eeLjJ1js+aWNJXMX43AYGyZm0pGrFmCW3R
bpD0ufovARTFXFZkAdl9h6g4U5+LXUZtXMYnhIHUfoyMo5tS58aI7Dd8KvvwVVo4
chDYABPPTHPbqjc1qCmBaZx2vN4Ye5DUys/vZwP9BFohFrH/6j/f3IL16/RZkiMN
JCqVJUzKoZHm1Lesh3Sz8W2jmdv51b2EQJ8HmA==
-----END CERTIFICATE-----
---
Server certificate
subject=C = US, ST = California, L = Menlo Park, O = "Meta Platforms, Inc.", CN = *.whatsapp.net
issuer=C = US, O = DigiCert Inc, CN = DigiCert Global G2 TLS RSA SHA256 2020 CA1
---
No client certificate CA names sent
Peer signing digest: SHA256
Peer signature type: ECDSA
Server Temp Key: X25519, 253 bits
---
SSL handshake has read 3204 bytes and written 378 bytes
Verification: OK
---
New, TLSv1.3, Cipher is TLS_CHACHA20_POLY1305_SHA256
Server public key is 256 bit
Secure Renegotiation IS NOT supported
Compression: NONE
Expansion: NONE
```

IPV6 Connection

IP Used	2a03:2880:f27f:1c0:face:b00c::167
IP Version	6

```
depth=2 C = US, O = DigiCert Inc, OU = www.digicert.com, CN = DigiCert Global Root G2
verify return:1
depth=1 C = US, O = DigiCert Inc, CN = DigiCert Global G2 TLS RSA SHA256 2020 CA1
verify return:1
depth=0 C = US, ST = California, L = Menlo Park, O = "Meta Platforms, Inc.", CN = *.whatsapp.net
verify return:1
CONNECTED(00000010)
---
Certificate chain
 0 s:C = US, ST = California, L = Menlo Park, O = "Meta Platforms, Inc.", CN = *.whatsapp.net
   i:C = US, O = DigiCert Inc, CN = DigiCert Global G2 TLS RSA SHA256 2020 CA1
   a:PKEY: id-ecPublicKey, 256 (bit); sigalg: RSA-SHA256
   v:NotBefore: May 17 00:00:00 2026 GMT; NotAfter: Aug 15 23:59:59 2026 GMT
-----BEGIN CERTIFICATE-----
MIIGYzCCBUugAwIBAgIQBtODIfPWzZl5XJNV+kJtbjANBgkqhkiG9w0BAQsFADBZ
MQswCQYDVQQGEwJVUzEVMBMGA1UEChMMRGlnaUNlcnQgSW5jMTMwMQYDVQQDEypE
aWdpQ2VydCBHbG9iYWwgRzIgVExTIFJTQSBTSEEyNTYgMjAyMCBDQTEwHhcNMjYw
NTE3MDAwMDAwWhcNMjYwODE1MjM1OTU5WjBvMQswCQYDVQQGEwJVUzETMBEGA1UE
CBMKQ2FsaWZvcm5pYTETMBEGA1UEBxMKTWVubG8gUGFyazEdMBsGA1UEChMUTWV0
YSBQbGF0Zm9ybXMsIEluYy4xFzAVBgNVBAMMDioud2hhdHNhcHAubmV0MFkwEwYH
KoZIzj0CAQYIKoZIzj0DAQcDQgAEtIb835SHj1sZLVBRA4sWdStWc8IvG7kg93yG
vjntOIM9oCbWpZX21ZYeag8PdbaNrAc0Mrf56pH5TdoPzFYnVqOCA9owggPWMB8G
A1UdIwQYMBaAFHSFgMBmx9833s+9KTeqAx2+7c0XMB0GA1UdDgQWBBRQNC2Gj/a1
ixvvdK8iLeEihs7MXDB0BgNVHREEbTBrgg4qLndoYXRzYXBwLm5ldIISKi5jZG4u
d2hhdHNhcHAubmV0ghIqLnNuci53aGF0c2FwcC5uZXSCDioud2hhdHNhcHAuY29t
ggV3YS5tZYIMd2hhdHNhcHAuY29tggx3aGF0c2FwcC5uZXQwPgYDVR0gBDcwNTAz
BgZngQwBAgIwKTAnBggrBgEFBQcCARYbaHR0cDovL3d3dy5kaWdpY2VydC5jb20v
Q1BTMA4GA1UdDwEB/wQEAwIDiDATBgNVHSUEDDAKBggrBgEFBQcDATCBnwYDVR0f
BIGXMIGUMEigRqBEhkJodHRwOi8vY3JsMy5kaWdpY2VydC5jb20vRGlnaUNlcnRH
bG9iYWxHMlRMU1JTQVNIQTI1NjIwMjBDQTEtMS5jcmwwSKBGoESGQmh0dHA6Ly9j
cmw0LmRpZ2ljZXJ0LmNvbS9EaWdpQ2VydEdsb2JhbEcyVExTUlNBU0hBMjU2MjAy
MENBMS0xLmNybDCBhwYIKwYBBQUHAQEEezB5MCQGCCsGAQUFBzABhhhodHRwOi8v
b2NzcC5kaWdpY2VydC5jb20wUQYIKwYBBQUHMAKGRWh0dHA6Ly9jYWNlcnRzLmRp
Z2ljZXJ0LmNvbS9EaWdpQ2VydEdsb2JhbEcyVExTUlNBU0hBMjU2MjAyMENBMS0x
LmNydDAMBgNVHRMBAf8EAjAAMIIBfQYKKwYBBAHWeQIEAgSCAW0EggFpAWcAdQDC
MX5XRRmjRe5/ON6ykEHrx8IhWiK/f9W1rXaa2Q5SzQAAAZ4zhR2xAAAEAwBGMEQC
ICz3uD1hlL/xbEqzU3FkGmVDSS8KztFT4/vuPwpclegiAiAwLX4hYYLc7g1PA83P
FxajDODUCiZtOB9fCqmQbdd2KwB2ANgJVTuUT3r/yBYZb5RPhauw+Pxeh1UmDxXR
LnK7RUsUAAABnjOFHdMAAAQDAEcwRQIgY36CRTBb0YWCPEgy1ucyCMhJgVsL3OHu
1LTvslnpYGACIQCa6ZuyvkvNdeKa9WuQvCLH/UrkmsIqAQZCCYSFc9ZuQAB2AJRO
Q4f67MHvgfMZJCaoGGUBx9NfOAIBP3JnfVU3LhnYAAABnjOFHcMAAAQDAEcwRQIh
ALpypTysdz2E9YDUuxAmvqaayIA1TTsjCsNML5gSxsW+AiBryWtbx+ByOxy2ukea
kA3xut9oDb/qR/cuwOOsidfn5zANBgkqhkiG9w0BAQsFAAOCAQEAhwRSLFWo4SLM
dsQtr3yjx5vLWEqIze6+Z2XhqNcrk6+womMl7FsUD+lqBDPr21XysjTfwhbxkbMS
MnDe0eDz/Cgti5V6cmIP2JAn663YsytC1w8RcxGt6O/NB2PRkljk3QBgEZzm/vGZ
```

```
QvbVirAi/1Rldf+iGztZ9tKys4P/KYgPks3VlLM0lNIk121+jcDN/e13g5Eovanv
92qAx0uLl05mSLzzNGf65QZUC3SnFVHAT0yj3bx0i+rSay0xI2dhLO7qSqpsLbd3
vq4qM2/ofNVH1oh8LnsKOGyZM/eJ8hAWZtxtUo6YWlL2agZhia4QI9c0rMhufxMX
+uyOw9M3Mg==
-----END CERTIFICATE-----
 1 s:C = US, O = DigiCert Inc, CN = DigiCert Global G2 TLS RSA SHA256 2020 CA1
   i:C = US, O = DigiCert Inc, OU = www.digicert.com, CN = DigiCert Global Root G2
   a:PKEY: rsaEncryption, 2048 (bit); sigalg: RSA-SHA256
   v:NotBefore: Mar 30 00:00:00 2021 GMT; NotAfter: Mar 29 23:59:59 2031 GMT
-----BEGIN CERTIFICATE-----
MIIEyDCCA7CgAwIBAgIQDPW9BitWAvR6uFAsI8zwZjANBgkqhkiG9w0BAQsFADBh
MQswCQYDVQQGEwJVUzEVMBMGA1UEChMMRGlnaUNlcnQgSW5jMRkwFwYDVQQLExB3
d3cuZGlnaWNlcnQuY29tMSAwHgYDVQQDExdEaWdpQ2VydCBHbG9iYWwgUm9vdCBH
MjAeFw0yMTAzMzAwMDAwMDBaFw0zMTAzMjkyMzU5NTlaMFkxCzAJBgNVBAYTAlVT
MRUwEwYDVQQKEwxEaWdpQ2VydCBJbmMxMzAxBgNVBAMTKkRpZ2lDZXJ0IEdsb2Jh
bCBHMiBUTFMgUlNBIFNIQTI1NiAyMDIwIENBMTCCASIwDQYJKoZIhvcNAQEBBQAD
ggEPADCCAQoCggEBAMz3EGJPprtjb+2QUlbFbSd7ehJWivH0+dbn4Y+9lavyYEEV
cNsSAPonCrVXOFt9slGTcZUOakGUWzUb+nv6u8W+JDD+Vu/E832X4xT1FE3LpxDy
FuqrIvAxIhFhaZAmunjZlx/jfWardUSVc8is/+9dCopZQ+GssjoP80j812s3wWPc
3kbW20X+fSP9kOhRBx5Ro1/tSUZUfyyIxfQTnJcVPAPooTncaQwywa8WV0yUR0J8
osicfebUTVSvQpmowQTCd5zWSOTOEeAqgJnwQ3DPP3Zr0UxJqyRewg2C/Uaoq2yT
zGJSQnWS+Jr6Xl6ysGHlHx+5fwmY6D36g39HaaECAwEAAaOCAYIwggF+MBIGA1Ud
EwEB/wQIMAYBAf8CAQAwHQYDVR0OBBYEFHSFgMBmx9833s+9KTeqAx2+7c0XMB8G
A1UdIwQYMBaAFE4iVCAYlebjbuYP+vq5Eu0GF485MA4GA1UdDwEB/wQEAwIBhjAd
BgNVHSUEFjAUBggrBgEFBQcDAQYIKwYBBQUHAwIwdgYIKwYBBQUHAQEEajBoMCQG
CCsGAQUFBzABhhhodHRwOi8vb2NzcC5kaWdpY2VydC5jb20wQAYIKwYBBQUHMAKG
NGh0dHA6Ly9jYWNlcnRzLmRpZ2ljZXJ0LmNvbS9EaWdpQ2VydEdsb2JhbFJvb3RH
Mi5jcnQwQgYDVR0fBDswOTA3oDWgM4YxaHR0cDovL2NybDMuZGlnaWNlcnQuY29t
L0RpZ2lDZXJ0R2xvYmFsUm9vdEcyLmNybDA9BgNVHSAENjA0MAsGCWCGSAGG/WwC
ATAHBgVngQwBATAIBgZngQwBAgEwCAYGZ4EMAQICMAgGBmeBDAECAzANBgkqhkiG
9w0BAQsFAAOCAQEAkPFwyyiXaZd8dP3A+iZ7U6utzWX9upwGnIrXWkOH7U1MVl+t
wcW1BSAuWdH/SvWgKtiwla3JLko716f2b4gp/DA/JIS7w7d7kwcsr4drdjPtAFVS
slme5LnQ89/nD/7d+MS5EHKBCQRfz5eeLjJ1js+aWNJXMX43AYGyZm0pGrFmCW3R
bpD0ufovARTFXFZkAdl9h6g4U5+LXUZtXMYnhIHUfoyMo5tS58aI7Dd8KvvwVVo4
chDYABPPTHPbqjc1qCmBaZx2vN4Ye5DUys/vZwP9BFohFrH/6j/f3IL16/RZkiMN
JCqVJUzKoZHm1Lesh3Sz8W2jmdv51b2EQJ8HmA==
-----END CERTIFICATE-----
---
Server certificate
subject=C = US, ST = California, L = Menlo Park, O = "Meta Platforms, Inc.", CN = *.whatsapp.net
issuer=C = US, O = DigiCert Inc, CN = DigiCert Global G2 TLS RSA SHA256 2020 CA1
---
No client certificate CA names sent
Peer signing digest: SHA256
Peer signature type: ECDSA
Server Temp Key: X25519, 253 bits
---
SSL handshake has read 3205 bytes and written 378 bytes
Verification: OK
---
New, TLSv1.3, Cipher is TLS_CHACHA20_POLY1305_SHA256
Server public key is 256 bit
Secure Renegotiation IS NOT supported
Compression: NONE
Expansion: NONE
```

HTTP Response Evidence

IPv4 HTTP (port 80)

HTTP Status	200
Connected IP	163.70.137.60
Connect Time	19.65 ms
TTFB	487.08 ms
Total Time	487.21 ms

Response Headers:


```
{
    "0": "HTTP/1.1 301 Moved Permanently",
    "1": "Location: https://whatsapp.com/",
    "2": "Content-Type: text/plain",
    "3": "Server: proxygen-bolt",
    "4": "Date: Sat, 08 Aug 2026 10:20:25 GMT",
    "5": "Connection: keep-alive",
    "6": "Content-Length: 0",
    "8": "HTTP/2 302",
    "9": "location: https://www.whatsapp.com/",
    "10": "strict-transport-security: max-age=31536000; preload; includeSubDomains",
    "11": "content-type: text/plain",
    "12": "content-length: 0",
    "13": "server: proxygen-bolt",
    "14": "date: Sat, 08 Aug 2026 10:20:25 GMT",
    "15": "x-fb-connection-quality: EXCELLENT; q=0.9, rtt=6, rtx=0, c=13, mss=1380, tbw=3510, tp=-1, tpl=-1, uplat=0, ullat=-1",
    "16": "alt-svc: h3=\":443\"; ma=86400",
    "18": "HTTP/2 200",
    "19": "vary: Accept-Encoding",
    "20": "set-cookie: wa_csrf=rQfNjuEBt59QbkosVAuB6q; path=/; domain=.whatsapp.com; secure; httponly; SameSite=Lax",
    "21": "set-cookie: wa_lang_pref=en; expires=Sat, 15-Aug-2026 10:20:25 GMT; Max-Age=604800; path=/; domain=.whatsapp.com; secure; SameSite=Lax",
    "22": "set-cookie: wa_ul=51d0286c-34d1-45b7-9622-505727a4aaa8; expires=Fri, 06-Nov-2026 10:20:25 GMT; Max-Age=7776000; path=/; domain=.www.whatsapp.com; secure;
httponly; SameSite=Lax",
    "23": "reporting-endpoints: coop_report=\"https://www.facebook.com/browser_reporting/coop/?minimize=0\",
coep_report=\"https://www.facebook.com/browser_reporting/coep/?minimize=0\",
default=\"https://www.whatsapp.com/whatsapp_browser_error_reports/?device_level=unknown&brsid=7671603690350182199&cpp=C3&cv=1044788042&st=1786184425907\",
permissions_policy=\"https://www.whatsapp.com/whatsapp_browser_error_reports/\"",
    "24": "report-to:
{\"max_age\":2592000,\"endpoints\":[{\"url\":\"https:\\/\\/www.facebook.com\\/browser_reporting\\/coop\\/?minimize=0\"}],\"group\":\"coop_report\",\"include_subdomains\":true},
{\"max_age\":86400,\"endpoints\":[{\"url\":\"https:\\/\\/www.facebook.com\\/browser_reporting\\/coep\\/?minimize=0\"}],\"group\":\"coep_report\"},
{\"max_age\":259200,\"endpoints\":[{\"url\":\"https:\\/\\/www.whatsapp.com\\/whatsapp_browser_error_reports\\/?device_level=unknown&brsid=7671603690350182199&cpp=C3&cv=1044788042
{\"max_age\":21600,\"endpoints\":[{\"url\":\"https:\\/\\/www.whatsapp.com\\/whatsapp_browser_error_reports\\/\"}],\"group\":\"permissions_policy\"}",
    "25": "x-frame-options: DENY",
    "26": "content-security-policy: default-src 'self' blob:;script-src *.whatsapp.com *.whatsapp.net *.facebook.com *.facebook.net 'nonce-eWbkvnO6' 'self'
blob:;style-src *.whatsapp.com *.whatsapp.net 'unsafe-inline' *.facebook.com 'self' data: blob:;connect-src *.whatsapp.com *.whatsapp.net wss://*.facebook.com:*
*.fbcdn.net 'self' data: blob:;font-src *.whatsapp.com *.whatsapp.net *.facebook.com static.xx.fbcdn.net data:;img-src *.whatsapp.com *.whatsapp.net *.facebook.com
*.fbcdn.net *.fbsbx.com static.xx.fbcdn.net *.cdninstagram.com 'self' data: blob:;media-src *.fbcdn.net 'self' data: blob:;child-src 'self' data: blob:;frame-src
*.facebook.com *.whatsapp.com 'self' data: blob:;manifest-src 'self' data: blob:;object-src 'self' data: blob:;worker-src *.whatsapp.com *.whatsapp.net
*.facebook.com *.facebook.net 'nonce-eWbkvnO6' 'self' data: blob:;block-all-mixed-content;upgrade-insecure-requests;",
    "27": "document-policy: include-js-call-stacks-in-crash-reports",
    "28": "permissions-policy: accelerometer=(), attribution-reporting=(), autoplay=(), bluetooth=(), camera=(), ch-device-memory=(), ch-downlink=(), ch-dpr=(), ch-
ect=(), ch-rtt=(), ch-save-data=(), ch-ua-arch=(), ch-ua-bitness=(), ch-viewport-height=(), ch-viewport-width=(), ch-width=(), clipboard-read=(), clipboard-write=(),
compute-pressure=(), display-capture=(), encrypted-media=(), fullscreen=(self), gamepad=(), geolocation=(), gyroscope=(), hid=(), idle-detection=(), interest-
cohort=(), keyboard-map=(), local-fonts=(), magnetometer=(), microphone=(), midi=(), otp-credentials=(), payment=(), picture-in-picture=(), private-state-token-
issuance=(), publickey-credentials-get=(), screen-wake-lock=(), serial=(), shared-storage=(), shared-storage-select-url=(), private-state-token-redemption=(),
usb=(), unload=(self), window-management=(), xr-spatial-tracking=();report-to=\"permissions_policy\"",
    "29": "cross-origin-resource-policy: same-origin",
    "30": "cross-origin-embedder-policy-report-only: require-corp;report-to=\"coep_report\"",
    "31": "cross-origin-opener-policy: same-origin-allow-popups;report-to=\"coop_report\"",
    "32": "pragma: no-cache",
    "33": "cache-control: private, no-cache, no-store, must-revalidate",
    "34": "expires: Sat, 01 Jan 2000 00:00:00 GMT",
    "35": "x-content-type-options: nosniff",
    "36": "x-xss-protection: 0",
    "37": "origin-agent-cluster: ?1",
    "38": "strict-transport-security: max-age=31536000; preload; includeSubDomains",
    "39": "content-type: text/html; charset=\"utf-8\"",
    "40": "x-fb-debug: PMu0/YhZIjPAcsE1P0z1lz3ta4Gho+Uf1OKBTdB34ub80e/n6kV1055ExpI6ElRlycaGMOuK4aYvLjUV1NrROg==",
    "41": "date: Sat, 08 Aug 2026 10:20:26 GMT",
    "42": "x-fb-connection-quality: EXCELLENT; q=0.9, rtt=1, rtx=0, c=15, mss=1380, tbw=3512, tp=-1, tpl=-1, uplat=436, ullat=0",
    "43": "alt-svc: h3=\":443\"; ma=86400"
}
```


IPv6 HTTP (port 80)

HTTP Status	200

Connected IP	2a03:2880:f34c:120:face:b00c:0:167
Connect Time	13.67 ms
TTFB	384.81 ms
Total Time	384.9 ms

Response Headers:


```
{
    "0": "HTTP/1.1 301 Moved Permanently",
    "1": "Location: https://whatsapp.com/",
    "2": "Content-Type: text/plain",
    "3": "Server: proxygen-bolt",
    "4": "Date: Sat, 08 Aug 2026 10:20:24 GMT",
    "5": "Connection: keep-alive",
    "6": "Content-Length: 0",
    "8": "HTTP/2 302",
    "9": "location: https://www.whatsapp.com/",
    "10": "strict-transport-security: max-age=31536000; preload; includeSubDomains",
    "11": "content-type: text/plain",
    "12": "content-length: 0",
    "13": "server: proxygen-bolt",
    "14": "date: Sat, 08 Aug 2026 10:20:25 GMT",
    "15": "x-fb-connection-quality: EXCELLENT; q=0.9, rtt=1, rtx=0, c=13, mss=1380, tbw=3511, tp=-1, tpl=-1, uplat=0, ullat=-1",
    "16": "alt-svc: h3=\":443\"; ma=86400",
    "18": "HTTP/2 200",
    "19": "vary: Accept-Encoding",
    "20": "set-cookie: wa_csrf=W7YhW--8cF8_LUVj30RLoW; path=/; domain=.whatsapp.com; secure; httponly; SameSite=Lax",
    "21": "set-cookie: wa_lang_pref=en; expires=Sat, 15-Aug-2026 10:20:25 GMT; Max-Age=604800; path=/; domain=.whatsapp.com; secure; SameSite=Lax",
    "22": "set-cookie: wa_ul=e113ec35-0b43-4bdb-81fc-b7adccde182a; expires=Fri, 06-Nov-2026 10:20:25 GMT; Max-Age=7776000; path=/; domain=.www.whatsapp.com; secure;
httponly; SameSite=Lax",
    "23": "reporting-endpoints: coop_report=\"https://www.facebook.com/browser_reporting/coop/?minimize=0\",
coep_report=\"https://www.facebook.com/browser_reporting/coep/?minimize=0\",
default=\"https://www.whatsapp.com/whatsapp_browser_error_reports/?device_level=unknown&brsid=7671603691684962146&cpp=C3&cv=1044788042&st=1786184425124\",
permissions_policy=\"https://www.whatsapp.com/whatsapp_browser_error_reports/\"",
    "24": "report-to:
{\"max_age\":2592000,\"endpoints\":[{\"url\":\"https:\\/\\/www.facebook.com\\/browser_reporting\\/coop\\/?minimize=0\"}],\"group\":\"coop_report\",\"include_subdomains\":true},
{\"max_age\":86400,\"endpoints\":[{\"url\":\"https:\\/\\/www.facebook.com\\/browser_reporting\\/coep\\/?minimize=0\"}],\"group\":\"coep_report\"},
{\"max_age\":259200,\"endpoints\":[{\"url\":\"https:\\/\\/www.whatsapp.com\\/whatsapp_browser_error_reports\\/?device_level=unknown&brsid=7671603691684962146&cpp=C3&cv=1044788042&
{\"max_age\":21600,\"endpoints\":[{\"url\":\"https:\\/\\/www.whatsapp.com\\/whatsapp_browser_error_reports\\/\"}],\"group\":\"permissions_policy\"}",
    "25": "x-frame-options: DENY",
    "26": "content-security-policy: default-src 'self' blob:;script-src *.whatsapp.com *.whatsapp.net *.facebook.com *.facebook.net 'nonce-s0GTkkJt' 'self'
blob:;style-src *.whatsapp.com *.whatsapp.net 'unsafe-inline' *.facebook.com 'self' data: blob:;connect-src *.whatsapp.com *.whatsapp.net wss://*.facebook.com:*
*.fbcdn.net 'self' data: blob:;font-src *.whatsapp.com *.whatsapp.net *.facebook.com static.xx.fbcdn.net data:;img-src *.whatsapp.com *.whatsapp.net *.facebook.com
*.fbcdn.net *.fbsbx.com static.xx.fbcdn.net *.cdninstagram.com 'self' data: blob:;media-src *.fbcdn.net 'self' data: blob:;child-src 'self' data: blob:;frame-src
*.facebook.com *.whatsapp.com 'self' data: blob:;manifest-src 'self' data: blob:;object-src 'self' data: blob:;worker-src *.whatsapp.com *.whatsapp.net
*.facebook.com *.facebook.net 'nonce-s0GTkkJt' 'self' data: blob:;block-all-mixed-content;upgrade-insecure-requests;",
    "27": "document-policy: include-js-call-stacks-in-crash-reports",
    "28": "permissions-policy: accelerometer=(), attribution-reporting=(), autoplay=(), bluetooth=(), camera=(), ch-device-memory=(), ch-downlink=(), ch-dpr=(), ch-
ect=(), ch-rtt=(), ch-save-data=(), ch-ua-arch=(), ch-ua-bitness=(), ch-viewport-height=(), ch-viewport-width=(), ch-width=(), clipboard-read=(), clipboard-write=(),
compute-pressure=(), display-capture=(), encrypted-media=(), fullscreen=(self), gamepad=(), geolocation=(), gyroscope=(), hid=(), idle-detection=(), interest-
cohort=(), keyboard-map=(), local-fonts=(), magnetometer=(), microphone=(), midi=(), otp-credentials=(), payment=(), picture-in-picture=(), private-state-token-
issuance=(), publickey-credentials-get=(), screen-wake-lock=(), serial=(), shared-storage=(), shared-storage-select-url=(), private-state-token-redemption=(),
usb=(), unload=(self), window-management=(), xr-spatial-tracking=();report-to=\"permissions_policy\"",
    "29": "cross-origin-resource-policy: same-origin",
    "30": "cross-origin-embedder-policy-report-only: require-corp;report-to=\"coep_report\"",
    "31": "cross-origin-opener-policy: same-origin-allow-popups",
    "32": "pragma: no-cache",
    "33": "cache-control: private, no-cache, no-store, must-revalidate",
    "34": "expires: Sat, 01 Jan 2000 00:00:00 GMT",
    "35": "x-content-type-options: nosniff",
    "36": "x-xss-protection: 0",
    "37": "origin-agent-cluster: ?1",
    "38": "strict-transport-security: max-age=31536000; preload; includeSubDomains",
    "39": "content-type: text/html; charset=\"utf-8\"",
    "40": "x-fb-debug: 6/ve5/sKS5zGNzPiiHVCtRz4x6P5R/2/2K0FFeZnuZhkpBmUadMMsZcSvISDnvlsfM3z9/yLAMHOFOzgZgBMaA==",
    "41": "date: Sat, 08 Aug 2026 10:20:25 GMT",
    "42": "x-fb-connection-quality: EXCELLENT; q=0.9, rtt=7, rtx=0, c=16, mss=1380, tbw=3512, tp=-1, tpl=-1, uplat=346, ullat=0",
    "43": "alt-svc: h3=\":443\"; ma=86400"
}
```


IPv4 HTTPS (port 443)

HTTP Status	200
Connected IP	57.144.153.32
Connect Time	16.65 ms

TTFB	534.7 ms
Total Time	534.8 ms

Response Headers:


```
{
    "0": "HTTP/2 302",
    "1": "location: https://www.whatsapp.com/",
    "2": "strict-transport-security: max-age=31536000; preload; includeSubDomains",
    "3": "content-type: text/plain",
    "4": "content-length: 0",
    "5": "server: proxygen-bolt",
    "6": "date: Sat, 08 Aug 2026 10:20:26 GMT",
    "7": "x-fb-connection-quality: EXCELLENT; q=0.9, rtt=7, rtx=0, c=13, mss=1380, tbw=3512, tp=-1, tpl=-1, uplat=0, ullat=-1",
    "8": "alt-svc: h3=\":443\"; ma=86400",
    "10": "HTTP/2 200",
    "11": "vary: Accept-Encoding",
    "12": "set-cookie: wa_csrf=jUgQm3bivFXEEb8sJrAKuT; path=/; domain=.whatsapp.com; secure; httponly; SameSite=Lax",
    "13": "set-cookie: wa_lang_pref=en; expires=Sat, 15-Aug-2026 10:20:26 GMT; Max-Age=604800; path=/; domain=.whatsapp.com; secure; SameSite=Lax",
    "14": "set-cookie: wa_ul=a9e7e757-5a49-40dd-8b7f-903859eab6b0; expires=Fri, 06-Nov-2026 10:20:26 GMT; Max-Age=7776000; path=/; domain=.www.whatsapp.com; secure;
httponly; SameSite=Lax",
    "15": "reporting-endpoints: coop_report=\"https://www.facebook.com/browser_reporting/coop/?minimize=0\",
coep_report=\"https://www.facebook.com/browser_reporting/coep/?minimize=0\",
default=\"https://www.whatsapp.com/whatsapp_browser_error_reports/?device_level=unknown&brsid=7671603694397552223&cpp=C3&cv=1044788042&st=1786184426390\",
permissions_policy=\"https://www.whatsapp.com/whatsapp_browser_error_reports/\"",
    "16": "report-to:
{\"max_age\":2592000,\"endpoints\":[{\"url\":\"https:\\/\\/www.facebook.com\\/browser_reporting\\/coop\\/?minimize=0\"}],\"group\":\"coop_report\",\"include_subdomains\":true},
{\"max_age\":86400,\"endpoints\":[{\"url\":\"https:\\/\\/www.facebook.com\\/browser_reporting\\/coep\\/?minimize=0\"}],\"group\":\"coep_report\"},
{\"max_age\":259200,\"endpoints\":[{\"url\":\"https:\\/\\/www.whatsapp.com\\/whatsapp_browser_error_reports\\/?device_level=unknown&brsid=7671603694397552223&cpp=C3&cv=1044788042&
{\"max_age\":21600,\"endpoints\":[{\"url\":\"https:\\/\\/www.whatsapp.com\\/whatsapp_browser_error_reports\\/\"}],\"group\":\"permissions_policy\"}",
    "17": "x-frame-options: DENY",
    "18": "content-security-policy: default-src 'self' blob:;script-src *.whatsapp.com *.whatsapp.net *.facebook.com *.facebook.net 'nonce-8LJu6x3D' 'self'
blob:;style-src *.whatsapp.com *.whatsapp.net 'unsafe-inline' *.facebook.com 'self' data: blob:;connect-src *.whatsapp.com *.whatsapp.net wss://*.facebook.com:*
*.fbcdn.net 'self' data: blob:;font-src *.whatsapp.com *.whatsapp.net *.facebook.com static.xx.fbcdn.net data:;img-src *.whatsapp.com *.whatsapp.net *.facebook.com
*.fbcdn.net *.fbsbx.com static.xx.fbcdn.net *.cdninstagram.com 'self' data: blob:;media-src *.fbcdn.net 'self' data: blob:;child-src 'self' data: blob:;frame-src
*.facebook.com *.whatsapp.com 'self' data: blob:;manifest-src 'self' data: blob:;object-src 'self' data: blob:;worker-src *.whatsapp.com *.whatsapp.net
*.facebook.com *.facebook.net 'nonce-8LJu6x3D' 'self' data: blob:;block-all-mixed-content;upgrade-insecure-requests;",
    "19": "document-policy: include-js-call-stacks-in-crash-reports",
    "20": "permissions-policy: accelerometer=(), attribution-reporting=(), autoplay=(), bluetooth=(), camera=(), ch-device-memory=(), ch-downlink=(), ch-dpr=(), ch-
ect=(), ch-rtt=(), ch-save-data=(), ch-ua-arch=(), ch-ua-bitness=(), ch-viewport-height=(), ch-viewport-width=(), ch-width=(), clipboard-read=(), clipboard-write=(),
compute-pressure=(), display-capture=(), encrypted-media=(), fullscreen=(self), gamepad=(), geolocation=(), gyroscope=(), hid=(), idle-detection=(), interest-
cohort=(), keyboard-map=(), local-fonts=(), magnetometer=(), microphone=(), midi=(), otp-credentials=(), payment=(), picture-in-picture=(), private-state-token-
issuance=(), publickey-credentials-get=(), screen-wake-lock=(), serial=(), shared-storage=(), shared-storage-select-url=(), private-state-token-redemption=(),
usb=(), unload=(self), window-management=(), xr-spatial-tracking=();report-to=\"permissions_policy\"",
    "21": "cross-origin-resource-policy: same-origin",
    "22": "cross-origin-embedder-policy-report-only: require-corp;report-to=\"coep_report\"",
    "23": "cross-origin-opener-policy: same-origin-allow-popups",
    "24": "pragma: no-cache",
    "25": "cache-control: private, no-cache, no-store, must-revalidate",
    "26": "expires: Sat, 01 Jan 2000 00:00:00 GMT",
    "27": "x-content-type-options: nosniff",
    "28": "x-xss-protection: 0",
    "29": "origin-agent-cluster: ?1",
    "30": "strict-transport-security: max-age=31536000; preload; includeSubDomains",
    "31": "content-type: text/html; charset=\"utf-8\"",
    "32": "x-fb-debug: ibWIygMUGqs6fh3R2UxPnVTyve6FqLCCqaMfLDalKxi4I5TvavPTS5AsZmDCr/pZ7FW5iJLG4qbtWAs+ucGLbA==",
    "33": "date: Sat, 08 Aug 2026 10:20:26 GMT",
    "34": "x-fb-connection-quality: EXCELLENT; q=0.9, rtt=7, rtx=0, c=16, mss=1380, tbw=3512, tp=-1, tpl=-1, uplat=483, ullat=0",
    "35": "alt-svc: h3=\":443\"; ma=86400"
}
```


IPv6 HTTPS (port 443)

HTTP Status	200
Connected IP	2a03:2880:f34c:120:face:b00c:0:167
Connect Time	11.41 ms
TTFB	389.94 ms
Total Time	390.03 ms

Response Headers:


```
{
    "0": "HTTP/2 302",
    "1": "location: https://www.whatsapp.com/",
    "2": "strict-transport-security: max-age=31536000; preload; includeSubDomains",
    "3": "content-type: text/plain",
```

```
    "4": "content-length: 0",
    "5": "server: proxygen-bolt",
    "6": "date: Sat, 08 Aug 2026 10:20:25 GMT",
    "7": "x-fb-connection-quality: EXCELLENT; q=0.9, rtt=1, rtx=0, c=13, mss=1380, tbw=3532, tp=-1, tpl=-1, uplat=0, ullat=-1",
    "8": "alt-svc: h3=\":443\"; ma=86400",
    "10": "HTTP/2 200",
    "11": "vary: Accept-Encoding",
    "12": "set-cookie: wa_csrf=qL_kdIOwHzOjvFWebIWQ8E; path=/; domain=.whatsapp.com; secure; httponly; SameSite=Lax",
    "13": "set-cookie: wa_lang_pref=en; expires=Sat, 15-Aug-2026 10:20:25 GMT; Max-Age=604800; path=/; domain=.whatsapp.com; secure; SameSite=Lax",
    "14": "set-cookie: wa_ul=b88c0cf8-1178-48ef-9a36-66985d35a6cf; expires=Fri, 06-Nov-2026 10:20:25 GMT; Max-Age=7776000; path=/; domain=.www.whatsapp.com; secure;
httponly; SameSite=Lax",
    "15": "reporting-endpoints: coop_report=\"https://www.facebook.com/browser_reporting/coop/?minimize=0\",
coep_report=\"https://www.facebook.com/browser_reporting/coep/?minimize=0\",
default=\"https://www.whatsapp.com/whatsapp_browser_error_reports/?device_level=unknown&brsid=7671603691244493420&cpp=C3&cv=1044788042&st=1786184425507\",
permissions_policy=\"https://www.whatsapp.com/whatsapp_browser_error_reports/\"",
    "16": "report-to:
{\"max_age\":2592000,\"endpoints\":[{\"url\":\"https:\\/\\/www.facebook.com\\/browser_reporting\\/coop\\/?minimize=0\"}],\"group\":\"coop_report\",\"include_subdomains\":true},
{\"max_age\":86400,\"endpoints\":[{\"url\":\"https:\\/\\/www.facebook.com\\/browser_reporting\\/coep\\/?minimize=0\"}],\"group\":\"coep_report\"},
{\"max_age\":259200,\"endpoints\":[{\"url\":\"https:\\/\\/www.whatsapp.com\\/whatsapp_browser_error_reports\\/?device_level=unknown&brsid=7671603691244493420&cpp=C3&cv=1044788042
{\"max_age\":21600,\"endpoints\":[{\"url\":\"https:\\/\\/www.whatsapp.com\\/whatsapp_browser_error_reports\\/\"}],\"group\":\"permissions_policy\"}",
    "17": "x-frame-options: DENY",
    "18": "content-security-policy: default-src 'self' blob:;script-src *.whatsapp.com *.whatsapp.net *.facebook.com *.facebook.net 'nonce-fy2YjEz7' 'self'
blob:;style-src *.whatsapp.com *.whatsapp.net 'unsafe-inline' *.facebook.com 'self' data: blob:;connect-src *.whatsapp.com *.whatsapp.net wss://*.facebook.com:*
*.fbcdn.net 'self' data: blob:;font-src *.whatsapp.com *.whatsapp.net *.facebook.com static.xx.fbcdn.net data:;img-src *.whatsapp.com *.whatsapp.net *.facebook.com
*.fbcdn.net *.fbsbx.com static.xx.fbcdn.net *.cdninstagram.com 'self' data: blob:;media-src *.fbcdn.net 'self' data: blob:;child-src 'self' data: blob:;frame-src
*.facebook.com *.whatsapp.com 'self' data: blob:;manifest-src 'self' data: blob:;object-src 'self' data: blob:;worker-src *.whatsapp.com *.whatsapp.net
*.facebook.com *.facebook.net 'nonce-fy2YjEz7' 'self' data: blob:;block-all-mixed-content;upgrade-insecure-requests;",
    "19": "document-policy: include-js-call-stacks-in-crash-reports",
    "20": "permissions-policy: accelerometer=(), attribution-reporting=(), autoplay=(), bluetooth=(), camera=(), ch-device-memory=(), ch-downlink=(), ch-dpr=(), ch-
ect=(), ch-rtt=(), ch-save-data=(), ch-ua-arch=(), ch-ua-bitness=(), ch-viewport-height=(), ch-viewport-width=(), ch-width=(), clipboard-read=(), clipboard-write=(),
compute-pressure=(), display-capture=(), encrypted-media=(), fullscreen=(self), gamepad=(), geolocation=(), gyroscope=(), hid=(), idle-detection=(), interest-
cohort=(), keyboard-map=(), local-fonts=(), magnetometer=(), microphone=(), midi=(), otp-credentials=(), payment=(), picture-in-picture=(), private-state-token-
issuance=(), publickey-credentials-get=(), screen-wake-lock=(), serial=(), shared-storage=(), shared-storage-select-url=(), private-state-token-redemption=(),
usb=(), unload=(self), window-management=(), xr-spatial-tracking=();report-to=\"permissions_policy\"",
    "21": "cross-origin-resource-policy: same-origin",
    "22": "cross-origin-embedder-policy-report-only: require-corp;report-to=\"coep_report\"",
    "23": "cross-origin-opener-policy: same-origin-allow-popups",
    "24": "pragma: no-cache",
    "25": "cache-control: private, no-cache, no-store, must-revalidate",
    "26": "expires: Sat, 01 Jan 2000 00:00:00 GMT",
    "27": "x-content-type-options: nosniff",
    "28": "x-xss-protection: 0",
    "29": "origin-agent-cluster: ?1",
    "30": "strict-transport-security: max-age=31536000; preload; includeSubDomains",
    "31": "content-type: text/html; charset=\"utf-8\"",
    "32": "x-fb-debug: N7p8AtiqfpgNSOxdYR8F2PW1V5ZHJYV7PUcRYklaO9FUTAFe9XEW3MpbKURzqQUeACApWGwN6WSB6aylsscyzw==",
    "33": "date: Sat, 08 Aug 2026 10:20:25 GMT",
    "34": "x-fb-connection-quality: EXCELLENT; q=0.9, rtt=12, rtx=0, c=16, mss=1380, tbw=3511, tp=-1, tpl=-1, uplat=353, ullat=0",
    "35": "alt-svc: h3=\":443\"; ma=86400"
}
```


Connectivity Test Evidence

Test	Result
TCP Connect IPv4 → port 80	301 0.007754 0.015517
TCP Connect IPv6 → port 80	301 0.002073 0.005185
TCP Connect IPv4 → port 443	302 0.009326 0.040847
TCP Connect IPv6 → port 443	302 0.001553 0.022193

Test Node Network Evidence

Node Profile	ipv6 only

Egress Connectivity

IPv4 Egress	unreachable
IPv6 Egress	unreachable

Sysctl IPv6 Flags

net.ipv6.conf.all.disable_ipv6	0

IPv6 Routes

```
2a02:4780:5e::/48 dev eth0 proto kernel metric 256 pref medium
fd7a:115c:a1e0::1136:5807 dev tailscale0 proto kernel metric 256 pref medium
fe80::/64 dev eth0 proto kernel metric 256 pref medium
fe80::/64 dev tailscale0 proto kernel metric 256 pref medium
default via 2a02:4780:5e::1 dev eth0 proto static metric 1024 pref medium
```

IPv4 Routes

```
default via 76.13.221.254 dev eth0 proto static
10.6.101.0/24 dev wg0 scope link
10.6.102.0/24 dev wg0 scope link
76.13.221.0/24 dev eth0 proto kernel scope link src 76.13.221.142
172.29.0.0/24 dev wg0 scope link
```