# IPv6 Readiness Report

**kakao.com — kakao.com**

Scan to verify

Category: Social Media • Generated: 02 Nov 2026, 03:14 MYT • Last Checked: 08 Aug 2026, 18:20 MYT • Verification ID: 2bc4dfb0-c8e0-47fe-a0ee-149601a2e2ae
Report generated from National IPv6 Readiness Monitor — https://ipv6.my6.my
Audit trail: https://ipv6.my6.my/audit/2bc4dfb0-c8e0-47fe-a0ee-149601a2e2ae

✗

**Non-Compliant**

MGv6C-1.0

**28%**

**No IPv6 Support**

**IPV6-ONLY READINESS**

Website: ✗ **Not Ready**

DNS: ✗ **Not Ready**

Email: ✗ **Not Ready**

**IPV4 ADDRESSES**

211.249.251.46
211.242.11.41
121.53.93.60

## Network Information (WHOIS / RDAP)

| | IPv4 Network |
|---|---|
| Organization | DREAMX-KR |
| Country | KR |
| ASN | AS7625 |
| ASN Name | DAUM-AS-KR - Kakao Corp, KR |
| Network (CIDR) | 211.249.0.0/16 |

## Web Services (35%) 0 / 8

| # | CHECK | RESULT | DETAIL |
|---|---|---|---|
| 1 | **AAAA Record** | FAIL | No AAAA record found in DNS. |
| 2 | **Globally Routable IPv6** | FAIL | IPv6 address is not globally routable. |
| 3 | **HTTP over IPv6** | FAIL | HTTP is not accessible over IPv6. |
| 4 | **HTTPS over IPv6** | FAIL | HTTPS is not accessible over IPv6. |
| 5 | **IPv6-Only Reachability** | FAIL | Site is not reachable when limited to IPv6-only. |
| 6 | **TLS Certificate Valid (IPv6)** | FAIL | TLS certificate is invalid, expired, or hostname mismatch over IPv6. |
| 7 | **Dual-Stack (IPv4 + IPv6)** | FAIL | Domain is IPv6-only or IPv4-only. |
| 8 | **HTTP/3 (QUIC)** | FAIL | No HTTP/3 support detected. |

## DNS & DNSSEC (25%) 0 / 5

| # | CHECK | RESULT | DETAIL |
|---|---|---|---|
| 1 | **NS Has AAAA Record** | FAIL | No nameserver has an AAAA record. |
| 2 | **NS Reachable via IPv6** | FAIL | No nameserver is reachable over IPv6. |
| 3 | **NS Answers Queries via IPv6** | FAIL | Nameserver does not answer queries over IPv6. |
| 4 | **DNSSEC Validated** | FAIL | DNSSEC validation failed or zone is unsigned. |
| 5 | **Reverse DNS (PTR)** | FAIL | No PTR record found. |
| 6 | **DS Record at Parent** | FAIL | No DS record at parent. |

| # | CHECK | RESULT | DETAIL |
|---|---|---|---|
| 7 | **RRSIG Valid** | FAIL | No valid RRSIG found. |
| 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: default._domainkey |
| 7 | **DMARC Record** | PASS | DMARC record found. |

## IPv4 Baseline (15%) — 3 / 3

| # | CHECK | RESULT | DETAIL |
|---|---|---|---|
| 1 | **A Record** | PASS | 211.249.251.46, 211.242.11.41, 121.53.93.60 |
| 2 | **HTTP over IPv4** | PASS | HTTP (port 80) responds over IPv4. |
| 3 | **HTTPS over IPv4** | PASS | HTTPS (port 443) responds over IPv4. |

## Audit Trail & Evidence Record

| | |
|---|---|
| **Verification ID** | 2bc4dfb0-c8e0-47fe-a0ee-149601a2e2ae |
| **Domain** | kakao.com |
| **Check Mode** | Manual |
| **Status** | Completed |
| **Started** | 08 Aug 2026, 18:20:28 MYT |
| **Finished** | 08 Aug 2026, 18:20:36 MYT |
| **Test Node Profile** | dual stack |
| **Engine Version** | 2.0.0 |
| **MGv6C Version** | 1.0.0 |
| **Audit URL** | https://ipv6.my6.my/audit/2bc4dfb0-c8e0-47fe-a0ee-149601a2e2ae |

## Integrity Verification

✓ **INTEGRITY VERIFIED**

| | |
|---|---|
| **Algorithm** | hmac-sha256-v1 |
| **Root Hash** | 24ccf264d0072ec4148d4940697c6249cbbaf2db2605193db6c1a7faeccaa03c |
| **http_headers** | 6810732c38245c481091dcf66ca399cbf1159510a1e638ce7a71ca805be6cfb9 |
| **dns_responses** | 500b11d4fb3ee5da65fa8aae6751fafc2683e4a4ece60659350c5d7018eeb99a |
| **tls_handshake** | 9665e8249b69f494501a649da90238c07216688d75f70ac532caebc3e32df74f |
| **connectivity_log** | edd4550d8281444fbfd16f75b38fabcb1eb2b6c4b4c590e59640b6968f988ca5 |
| **dns_resolution_times** | 89e36e21e3c6312afaa7efe902e1d3d377722db4a8b2dc96968f53db4b5c5fb2 |

## 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 | 24.89 | 40.73 | 23.94 | 34.63 | -0.9 |
| **Google** | IPv4 | 87.97 | 98.6 | 67.1 | 86.99 | -20.9 |
| **Google** | IPv6 | 255.74 | 258.37 | 146.52 | 261.98 | -109.2 |
| **Cloudflare** | IPv4 | 24.55 | 25.99 | 24.94 | 25.68 | +0.4 |
| **Cloudflare** | IPv6 | 32.73 | 51.66 | 30.19 | 30.48 | -2.5 |

## DNS Evidence

### A

```
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 15078
;; flags: qr rd ra; QUERY: 1, ANSWER: 3, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; ANSWER SECTION:
kakao.com.□□600□IN□A□121.53.93.60
kakao.com.□□600□IN□A□211.242.11.41
kakao.com.□□600□IN□A□211.249.251.46
```

### DS

```
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 37958
;; flags: qr rd ra; QUERY: 1, ANSWER: 0, AUTHORITY: 1, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; AUTHORITY SECTION:
com.□□□895□IN□SOA□a.gtld-servers.net. nstld.verisign-grs.com. 1786184404 1800 900 604800 900
```

### MX

```
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 64007
;; flags: qr rd ra; QUERY: 1, ANSWER: 4, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; ANSWER SECTION:
kakao.com.□□600□IN□MX□10 mx4.kakao.com.
kakao.com.□□600□IN□MX□10 mx3.kakao.com.
kakao.com.□□600□IN□MX□10 mx1.kakao.com.
kakao.com.□□600□IN□MX□10 mx2.kakao.com.
```

### NS

```
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 40074
;; flags: qr rd ra; QUERY: 1, ANSWER: 2, AUTHORITY: 0, ADDITIONAL: 3

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; ANSWER SECTION:
kakao.com.□□600□IN□NS□ns1.kakao.com.
kakao.com.□□600□IN□NS□ns2.kakao.com.
```

### TXT

```
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 2451
;; flags: qr rd ra; QUERY: 1, ANSWER: 7, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; ANSWER SECTION:
kakao.com.□□600□IN□TXT□"google-site-verification=rk_MxsjBvzXTt_F1ZI6877Z3V2dAH3B1BMc7bmdcWng"
kakao.com.□□600□IN□TXT□"v=spf1 ip4:103.246.58.76 ip4:103.246.58.77 ip4:103.246.58.78 ip4:103.246.58.79 ip4:103.246.58.61 ip4:103.246.58.62 ip4:103.246.58.63
ip4:103.246.58.64 ip4:103.246.58.65 include:_spf.daum.net include:_spf.kakao.com ~all"
kakao.com.□□600□IN□TXT□"google-site-verification=OVqf3b_fME-xxHijfDRV8CIZmbAbauZlS97ScYKYy7I"
kakao.com.□□600□IN□TXT□"rovag_verification_token=D6FFB92C646749648E94FA00D3D0584D"
kakao.com.□□600□IN□TXT□"google-site-verification=WO3BhsNNCPrfc_jvi4eOZoqNPaY2rw1o95tmtXUXXG8"
kakao.com.□□600□IN□TXT□"google-site-verification=Qljvs5WkxGiGJL4EzIB-BmmzJ9aOivVkrm0PrmWSZss"
kakao.com.□□600□IN□TXT□"google-site-verification=puTbVVviI88yMTQf88LO_8L9y2pdlP6bI98p3qO0XdA"
```

### AAAA

```
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 12510
;; flags: qr rd ra; QUERY: 1, ANSWER: 0, AUTHORITY: 1, ADDITIONAL: 1

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

```
;; AUTHORITY SECTION:
kakao.com.□□298□IN□SOA□ns.kakaocorp.com. root.kakaocorp.com. 1669035311 1800 600 2419200 300
```

### RRSIG

```
ns.kakaocorp.com. root.kakaocorp.com. 1669035311 1800 600 2419200 300
```

### DNSKEY

```
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 61190
;; flags: qr rd ra; QUERY: 1, ANSWER: 0, AUTHORITY: 1, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; AUTHORITY SECTION:
kakao.com.□□297□IN□SOA□ns.kakaocorp.com. root.kakaocorp.com. 1669035311 1800 600 2419200 300
```

### DNSSEC_VALIDATION

```
; unsigned answer
kakao.com.□□597□IN□SOA□ns.kakaocorp.com. root.kakaocorp.com. 1669035311 1800 600 2419200 300
```

## TLS Handshake Evidence

### IPV4 Connection

| | |
|---|---|
| **IP Used** | 211.249.251.46 |
| **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, OU = www.digicert.com, CN = Thawte TLS RSA CA G1
verify return:1
depth=0 C = KR, ST = Jeju-do, L = Jeju-si, O = Kakao Corp., CN = *.kakao.com
verify return:1
CONNECTED(00000010)
---
Certificate chain
 0 s:C = KR, ST = Jeju-do, L = Jeju-si, O = Kakao Corp., CN = *.kakao.com
   i:C = US, O = DigiCert Inc, OU = www.digicert.com, CN = Thawte TLS RSA CA G1
   a:PKEY: rsaEncryption, 2048 (bit); sigalg: RSA-SHA384
   v:NotBefore: Sep  1 00:00:00 2025 GMT; NotAfter: Sep 29 23:59:59 2026 GMT
-----BEGIN CERTIFICATE-----
MIIGXDCCBUSgAwIBAgIQDc6L2uQtXoUdG2prQtW4QTANBgkqhkiG9w0BAQwFADBe
MQswCQYDVQQGEwJVUzEVMBMGA1UEChMMRGlnaUNlcnQgSW5jMRkwFwYDVQQLExB3
d3cuZGlnaWNlcnQuY29tMR0wGwYDVQQDExRUaGF3dGUgVExTIFJTQSBDQSBHMTAe
Fw0yNTA5MDEwMDAwMDBaFw0yNjA5MjkyMzU5NTlaMF0xCzAJBgNVBAYTAktSMRAw
DgYDVQQIEwdKZWp1LWRvMRAwDgYDVQQHEwdKZWp1LXNpMRQwEgYDVQQKEwtLYWth
byBDb3JwLjEUMBIGA1UEAwwLKi5rYWthby5jb20wggEiMA0GCSqGSIb3DQEBAQUA
A4IBDwAwggEKAoIBAQDJ4Qpj/3NM1CYxYJsqKV70ZvvQu1fUaYvdSisWrr35Crml
tf5yYJoCQElJqY++lGQmXbs7A67o2kXvxc7MLOBLOuV0/9H6+JC6ffp1iP3oG+/G
gf2VB+YlXL8QnbRbi1u7y/okAidYUqCLwCKirGtJXCquB+I95RDpFkJq1BrBIXQE
tAevzo58SpuQjkQOtcqiV5u6mo/+SrttPLy6EO/CB0M6XBEpmqFw0G9X8N/cDSVs
8Dh7ST9Ja0zNJAlHHBgHMRFn2CARjomUK2RG9xUWd8HtP0m2oR21AGajEr8AUVSU
IYEPUO/VOxrEz0rzURljMag6+mvGBQsKb0djxAndAgMBAAGjggMVMIIDETAfBgNV
HSMEGDAWgBSljP4yzOsPLNQZxgi4ACSIXcPFtzAdBgNVHQ4EFgQUTGToyVyYp9ir
Pndw6iUrt3b8EAAwIQYDVR0RBBowGIILKi5rYWthby5jb22CCWtha2FvLmNvbTA+
BgNVHSAENzA1MDMGBmeBDAECAjApMCcGCCsGAQUFBwIBFhtodHRwOi8vd3d3LmRp
Z2ljZXJ0LmNvbS9DUFMwDgYDVR0PAQH/BAQDAgWgMB0GA1UdJQQWMBQGCCsGAQUF
BwMBBggrBgEFBQcDAjA7BgNVHR8ENDAyMDCgLqAshipodHRwOi8vY2RwLnRoYXd0
ZS5jb20vVGhhd3RlVExTUlNBQ0FHMS5jcmwwcAYIKwYBBQUHAQEEZDBiMCQGCCsG
AQUFBzABhhhodHRwOi8vc3RhdHVzLnRoYXd0ZS5jb20wOgYIKwYBBQUHMAKGLmh0
dHA6Ly9jYWNlcnRzLnRoYXd0ZS5jb20vVGhhd3RlVExTUlNBQ0FHMS5jcnQwDAYD
VR0TAQH/BAIwADCCAX4GCisGAQQB1nkCBAIEggFuBIIBagFoAHcA1219ENGn9XfC
x+lf1wC/+YLJM1pl4dCzAXMXwMjFaXcAAAGZA8l8oAAABAMASDBGAiEAgnkhT2Ii
ILk/R0w6uWWK6JviBLF2zZJSGb7pqbVLeE4CIQDd213JT/8Xa+8gHZRuKx0Woy/i
uol3abpn6xgbOom8rAB2AMIxfldFGaNF7n843rKQQevHwiFaIr9/1bWtdprZDlLN
AAABmQPJfF4AAAQDAEcwRQIgCHfdDZwlLXqluN9yUmSQLpQ1Tys5ykUUHW9LRS4j
WJACIQDvNg+bK8hKZI9l6yhMtaayOLn7VXbTWuEyoPV00tvVSgB1AJROQ4f67MHv
gfMZJCaoGGUBx9NfOAIBP3JnfVU3LhnYAAABmQPJfG0AAAQDAEYwRAIgTN6h6iYj
a4nZihEN6E+9gkWMU2ZehjJRUsmGSOfMv8MCIBLerWgDOK1eAiisf+oBiy2X3HQv
7lvILAIaK3uPdmBKMA0GCSqGSIb3DQEBDAUAA4IBAQBiUCst/HpOjyiGf5W4OQiZ
aVhubTdS0VfbiIPBvwlVGAuftkwY18+BtT+zEtJJt95uO7NV8I5dKJ68NzUIBbym
RbVNMFbJxo+7Sqs4OKd7xdGW4SZWqB6FrKiUSQDtjtgtn5gZwSGEbPGGaheyPCV4
8NMzPxaS1m/eQl+V1+iq8xYBWLclgLc80IwVoz1zXc4PqpeChRF0S1mHNtcFUWkp
7NgpFzd0+2iwAx59o/JJ/sxPGgvrooXsEV5Pd7E/COhHs6r0biK/zh32DT78fzYz
Yd7HpBL/v2VwaZ+xMPypSPTR+ODg3wVnc8zm1GVVsGJUB2xUpnVaIV7i4ah1pZ7J
-----END CERTIFICATE-----
 1 s:C = US, O = DigiCert Inc, OU = www.digicert.com, CN = Thawte TLS RSA CA G1
   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: Nov  2 12:24:25 2017 GMT; NotAfter: Nov  2 12:24:25 2027 GMT
-----BEGIN CERTIFICATE-----
MIIEizCCA3OgAwIBAgIQCQ7oxd5b+mLSri/3CXxIVzANBgkqhkiG9w0BAQsFADBh
MQswCQYDVQQGEwJVUzEVMBMGA1UEChMMRGlnaUNlcnQgSW5jMRkwFwYDVQQLExB3
d3cuZGlnaWNlcnQuY29tMSAwHgYDVQQDExdEaWdpQ2VydCBHbG9iYWwgUm9vdCBH
MjAeFw0xNzExMDIxMjI0MjVaFw0yNzExMDIxMjI0MjVaMF4xCzAJBgNVBAYTAlVT
MRUwEwYDVQQKEwxEaWdpQ2VydCBJbmMxGTAXBgNVBAsTEHd3dy5kaWdpY2VydC5j
b20xHTAbBgNVBAMTFFRoYXd0ZSBUTFMgUlNBIENBIEcxMIIBIjANBgkqhkiG9w0B
AQEFAAOCAQ8AMIIBCgKCAQEAxjngmPhVetC0b/ozbYJdzOBUA1sMog47030cAP+P
23ANUN8grXECL8NhDEF4F1R9tL0wY0mczHaR0a7lYanlxtwWo1s2uGnnyDs6mOCs
66ew2w3YETr6Tb14xgjpu1gGFtAeewaikO9Fud8hxGJTSwn8xeNkfKVWpD2L4vFN
36FNgxeilK6aE4ykgGAzNlokTp6hNOLAYpDySdLAPKzuJSQ7JCEZ6O+SDKywIdXL
oMTnpxuBKGSG88NWTo3CHCOGmQECia2yqdPDjgLqnEiYNjwQL8uMqj8rOvlMgviB
cHA7xty+7/uYLN6ZS7Vq1/F/lVhVOf5ej6jZdmB85szFbQIDAQABo4IBQDCCATww
HQYDVR0OBBYEFKWM/jLM6w8s1BnGCLgAJIhdw8W3MB8GA1UdIwQYMBaAFE4iVCAY
lebjbuYP+vq5Eu0GF485MA4GA1UdDwEB/wQEAwIBhjAdBgNVHSUEFjAUBggrBgEF
BQcDAQYIKwYBBQUHAwIwEgYDVR0TAQH/BAgwBgEB/wIBADA0BggrBgEFBQcBAQQo
MCYwJAYIKwYBBQUHMAGGGGh0dHA6Ly9vY3NwLmRpZ2ljZXJ0LmNvbTBCBgNVHR8E
OzA5MDegNaAzhjFodHRwOi8vY3JsMy5kaWdpY2VydC5jb20vRGlnaUNlcnRHbG9i
YWxSb290RzIuY3JsMD0GA1UdIAQ2MDQwMgYEVR0gADAqMCgGCCsGAQUFBwIBFhxo
dHRwczovL3d3dy5kaWdpY2VydC5jb20vQ1BTMA0GCSqGSIb3DQEBCwUAA4IBAQC6
```

```
km0KA4sTb2VYpEBm/uL2HL/pZX9B7L/hbJ4NcoBe7V56oCnt7aeIo8sMjCRWTCWZ
D1dY0+2KZOC1dKj8d1VXXAtnjytDDuPPf6/iow0mYQTO/GAg/MLyL6CDm3FzDB8V
tsH/aeMgP6pgD1XQqz+haDnfnJTKBuxhcpnx3Adbleue/QnPf1hHYa8L+Rv8Pi5U
h4V9FwHOfphdMXOxi14OqmsiTbc5cOs9/uukH+YVsuFdWTna6IVw1qh+tEtyH16R
vmi7pkqyZYULOPMIE7avrljVVBZuikwARtY8tCVV6Pp9l3VeagBqb2ffgqNJt3C0
TYNYQI+BXG1R1cABlold
-----END CERTIFICATE-----
 2 s:C = US, O = DigiCert Inc, OU = www.digicert.com, CN = DigiCert Global Root G2
   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: Aug  1 12:00:00 2013 GMT; NotAfter: Jan 15 12:00:00 2038 GMT
-----BEGIN CERTIFICATE-----
MIIDjjCCAnagAwIBAgIQAzrx5qcRqaC7KGSxHQn65TANBgkqhkiG9w0BAQsFADBh
MQswCQYDVQQGEwJVUzEVMBMGA1UEChMMRGlnaUNlcnQgSW5jMRkwFwYDVQQLExB3
d3cuZGlnaWNlcnQuY29tMSAwHgYDVQQDExdEaWdpQ2VydCBHbG9iYWwgUm9vdCBH
MjAeFw0xMzA4MDExMjAwMDBaFw0zODAxMTUxMjAwMDBaMGExCzAJBgNVBAYTAlVT
MRUwEwYDVQQKEwxEaWdpQ2VydCBJbmMxGTAXBgNVBAsTEHd3dy5kaWdpY2VydC5j
b20xIDAeBgNVBAMTF0RpZ2lDZXJ0IEdsb2JhbCBSb290IEcyMIIBIjANBgkqhkiG
9w0BAQEFAAOCAQ8AMIIBCgKCAQEAuzfNNNx7a8myaJCtSnX/RrohCgiN9RlUyfuI
2/Ou8jqJkTx65qsGGmvPrC3oXgkkRLpimn7Wo6h+4FR1IAWsULecYxpsMNzaHxmx
1x7e/dfgy5SDN67sH0NO3Xss0r0upS/kqbitOtSZpLYl6ZtrAGCSYP9PIUkY92eQ
q2EGnI/yuum06ZIya7XzV+hdG82MHauVBJVJ8zUtluNJbd134/tJS7SsVQepj5Wz
tCO7TG1F8PapspUwtP1MVYwnSlcUfIKdzXOS0xZKBgyMUNGPHgm+F6HmIcr9g+UQ
vIOlCsRnKPZzFBQ9RnbDhxSJITRNrw9FDKZJobq7nMWxM4MphQIDAQABo0IwQDAP
BgNVHRMBAf8EBTADAQH/MA4GA1UdDwEB/wQEAwIBhjAdBgNVHQ4EFgQUTiJUIBiV
5uNu5g/6+rkS7QYXjzkwDQYJKoZIhvcNAQELBQADggEBAGBnKJRvDkhj6zHd6mcY
1Yl9PMWLSn/pvtsrF9+wX3N3KjITOYFnQoQj8kVnNeyIv/iPsGEMNKSuIEyExtv4
```

## HTTP Response Evidence

### IPv4 HTTP (port 80)

| | |
|---|---|
| **HTTP Status** | 302 |
| **Connected IP** | 211.249.251.46 |
| **Connect Time** | 85.83 ms |
| **TTFB** | 436.15 ms |
| **Total Time** | 436.41 ms |
| **Error** | Maximum (3) redirects followed |

**Response Headers:**


```
{
    "0": "HTTP/1.1 302",
    "1": "Date: Sat, 08 Aug 2026 10:20:35 GMT",
    "2": "Connection: keep-alive",
    "3": "Location: /error/500",
    "4": "Content-Language: ko",
    "5": "Cache-Control: no-cache,must-revalidate",
    "7": "HTTP/1.1 302",
    "8": "Date: Sat, 08 Aug 2026 10:20:35 GMT",
    "9": "Connection: keep-alive",
    "10": "Location: /error/500",
    "11": "Content-Language: ko",
    "12": "Cache-Control: no-cache,must-revalidate",
    "14": "HTTP/1.1 302",
    "15": "Date: Sat, 08 Aug 2026 10:20:35 GMT",
    "16": "Connection: keep-alive",
    "17": "Location: /error/500",
    "18": "Content-Language: ko",
    "19": "Cache-Control: no-cache,must-revalidate",
    "21": "HTTP/1.1 302",
    "22": "Date: Sat, 08 Aug 2026 10:20:35 GMT",
    "23": "Connection: keep-alive",
    "24": "Location: /error/500",
    "25": "Content-Language: ko",
    "26": "Cache-Control: no-cache,must-revalidate"
}
```


### IPv4 HTTPS (port 443)

| | |
|---|---|
| **HTTP Status** | 302 |
| **Connected IP** | 211.249.251.46 |
| **Connect Time** | 88.44 ms |
| **TTFB** | 541.49 ms |
| **Total Time** | 541.69 ms |
| **Error** | Maximum (3) redirects followed |

**Response Headers:**


```
{
    "0": "HTTP/2 302",
    "1": "date: Sat, 08 Aug 2026 10:20:35 GMT",
    "2": "location: /error/500",
    "3": "content-language: ko",
    "4": "strict-transport-security: max-age=31536000",
    "5": "cache-control: no-cache,must-revalidate",
    "7": "HTTP/2 302",
    "8": "date: Sat, 08 Aug 2026 10:20:35 GMT",
    "9": "location: /error/500",
    "10": "content-language: ko",
    "11": "strict-transport-security: max-age=31536000",
    "12": "cache-control: no-cache,must-revalidate",
    "14": "HTTP/2 302",
    "15": "date: Sat, 08 Aug 2026 10:20:35 GMT",
    "16": "location: /error/500",
    "17": "content-language: ko",
    "18": "strict-transport-security: max-age=31536000",
    "19": "cache-control: no-cache,must-revalidate",
    "21": "HTTP/2 302",
    "22": "date: Sat, 08 Aug 2026 10:20:35 GMT",
```

```
    "23": "location: /error/500",
    "24": "content-language: ko",
    "25": "strict-transport-security: max-age=31536000",
    "26": "cache-control: no-cache,must-revalidate"
}
```


## Connectivity Test Evidence

| Test | Result |
|---|---|
| **TCP Connect IPv4 → port 80** | 302 0.085733 0.172543 |
| **TCP Connect IPv4 → port 443** | 302 0.089358 0.277790 |

## Test Node Network Evidence

| | |
|---|---|
| **Node Profile** | dual stack |

### Egress Connectivity

| | |
|---|---|
| **IPv4 Egress** | 76.13.221.142 |
| **IPv6 Egress** | 2a02:4780:5e:2789::1 |

### 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
```