


# IPv6 Readiness Report

x.com — x.com

Category: Social Media • Generated: 20 Apr 2026, 21:17 MYT • Last Checked: 07 Mar 2026, 01:15 MYT • Verification ID: fac44e29-1155-444a-8693-4d184b4b5a43  
Report generated from National IPv6 Readiness Monitor — <https://ipv6.my6.my>  
Audit trail: <https://ipv6.my6.my/audit/fac44e29-1155-444a-8693-4d184b4b5a43>

 <b>Non-Compliant</b> <small>MGv6C-1.0</small>	<b>32%</b> <b>Partial Support</b>	<b>IPv6-ONLY READINESS</b> Website: <b>X Not Ready</b> DNS: <b>X Not Ready</b> Email: <b>X Not Ready</b>
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<b>IPv4 ADDRESSES</b> 162.159.140.229
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## Network Information (WHOIS / RDAP)

IPv4 Network	
Organization	Cloudflare, Inc.
Country	US
ASN	AS13335
ASN Name	CLOUDFLARENET - Cloudflare, Inc., US
Network (CIDR)	162.158.0.0/15

Web Services (35%) <span style="float: right;">0 / 8</span>			
#	CHECK	RESULT	DETAIL
1	<b>AAAA Record</b>	<b>FAIL</b>	No AAAA record found in DNS.
2	<b>Globally Routable IPv6</b>	<b>FAIL</b>	IPv6 address is not globally routable.
3	<b>HTTP over IPv6</b>	<b>FAIL</b>	HTTP is not accessible over IPv6.
4	<b>HTTPS over IPv6</b>	<b>FAIL</b>	HTTPS is not accessible over IPv6.
5	<b>IPv6-Only Reachability</b>	<b>FAIL</b>	Site is not reachable when limited to IPv6-only.
6	<b>TLS Certificate Valid (IPv6)</b>	<b>FAIL</b>	TLS certificate is invalid, expired, or hostname mismatch over IPv6.
7	<b>Dual-Stack (IPv4 + IPv6)</b>	<b>FAIL</b>	Domain is IPv6-only or IPv4-only.
8	<b>HTTP/3 (QUIC)</b>	<b>FAIL</b>	No HTTP/3 support detected.

DNS & DNSSEC (25%) <span style="float: right;">0 / 5</span>			
#	CHECK	RESULT	DETAIL
1	<b>NS Has AAAA Record</b>	<b>FAIL</b>	No nameserver has an AAAA record.
2	<b>NS Reachable via IPv6</b>	<b>FAIL</b>	No nameserver is reachable over IPv6.
3	<b>NS Answers Queries via IPv6</b>	<b>FAIL</b>	Nameserver does not answer queries over IPv6.
4	<b>DNSSEC Validated</b>	<b>FAIL</b>	DNSSEC validation failed or zone is unsigned.
5	<b>Reverse DNS (PTR)</b>	<b>FAIL</b>	No PTR record found.
6	<b>DS Record at Parent</b>	<b>FAIL</b>	No DS record at parent.
7	<b>RRSIG Valid</b>	<b>FAIL</b>	No valid RRSIG found.
8	<b>Signing Algorithm</b>	<b>INFO</b>	No DNSKEY record found.

**Email Services** (25%) 4 / 6

#	CHECK	RESULT	DETAIL
1	<b>MX Record Exists</b>	<b>PASS</b>	MX record found.
2	<b>MX Server Has IPv6</b>	<b>PASS</b>	MX server has AAAA record.
3	<b>SMTP Reachable via IPv6</b>	<b>FAIL</b>	SMTP is not reachable over IPv6.
4	<b>STARTTLS over IPv6</b>	<b>FAIL</b>	STARTTLS not available over IPv6.
5	<b>SPF Record</b>	<b>PASS</b>	SPF record found.
6	<b>DKIM Selector</b>	<b>INFO</b>	DKIM selector found: google._domainkey
7	<b>DMARC Record</b>	<b>PASS</b>	DMARC record found.

**IPv4 Baseline** (15%) 3 / 3

#	CHECK	RESULT	DETAIL
1	<b>A Record</b>	<b>PASS</b>	162.159.140.229
2	<b>HTTP over IPv4</b>	<b>PASS</b>	HTTP (port 80) responds over IPv4 — 218ms TTFB.
3	<b>HTTPS over IPv4</b>	<b>PASS</b>	HTTPS (port 443) responds over IPv4 — 220ms TTFB.

## Audit Trail & Evidence Record

Verification ID	fac44e29-1155-444a-8693-4d184b4b5a43
Domain	x.com
Check Mode	Manual
Status	Completed
Started	07 Mar 2026, 01:14:59 MYT
Finished	07 Mar 2026, 01:15:29 MYT
Test Node Profile	dual stack
Engine Version	2.0.0
MGv6C Version	1.0.0
Audit URL	https://ipv6.my6.my/audit/fac44e29-1155-444a-8693-4d184b4b5a43

## Integrity Verification

✓ <b>INTEGRITY VERIFIED</b>	
Algorithm	hmac-sha256-v1
Root Hash	b5cf73ca1fee7af5547c55ced93f76383c314b0d1268d241345db3ce362ce367
http_headers	957377e79638afe0e4af80ec5dc4f59f6c56905c7707041e5aa747a166b9849c
dns_responses	44a7b5da9c5ba323785064c206454bcc5a2569c53008da21fe226a29e91a2efa
tls_handshake	ce4590e4dfbe383e93f9ca3cd61c55fa39e38962b3ba6b4b84818b3a0f5e1f13
connectivity_log	d9dedfd268a884578092c69e41e2aa8f3bc41e51fd371b6f2e333fdbb57d97e0
dns_resolution_times	0f2b77629e0125cf628a8c9b4aa329c7bb918d05fa32ad69176905018dddaf4e

## Test Node Identity

Os	Linux srv1440888 6.8.0-101-generic #101-Ubuntu SMP PREEMPT_DYNAMIC Mon Feb 9 10:15:05 UTC 2026 x86_64
Hostname	srv1440888
Php Version	8.3.30
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	8.95	18.02	8.28	9.71	-0.7
Google	IPv4	6.99	7.97	17.23	19.81	+10.2
Google	IPv6	15.99	17.87	7.91	18.18	-8.1
Cloudflare	IPv4	17	18.21	9.02	9.09	-8
Cloudflare	IPv6	14.89	25.25	19.88	25.86	+5



## DNS Evidence

## A

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 56921
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 512
;; ANSWER SECTION:
x.com. 0002060IN0A0172.66.0.227
```

## DS

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 8987
;; flags: qr rd ra; QUERY: 1, ANSWER: 0, AUTHORITY: 1, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 512
;; AUTHORITY SECTION:
com. 000690IN0S0A0a.gtld-servers.net. nstld.verisign-grs.com. 1772787676 1800 900 604800 900
```

## MX

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 32247
;; flags: qr rd ra; QUERY: 1, ANSWER: 5, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 512
;; ANSWER SECTION:
x.com. 0003000IN0MX05 alt2.aspmx.l.google.com.
x.com. 0003000IN0MX05 alt1.aspmx.l.google.com.
x.com. 0003000IN0MX01 aspmx.l.google.com.
x.com. 0003000IN0MX010 alt4.aspmx.l.google.com.
x.com. 0003000IN0MX010 alt3.aspmx.l.google.com.
```

## NS

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 19837
;; flags: qr rd ra; QUERY: 1, ANSWER: 8, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 512
;; ANSWER SECTION:
x.com. 00049980IN0NS0d.u10.twtrdns.net.
x.com. 00049980IN0NS0b.r10.twtrdns.net.
x.com. 00049980IN0NS0a.r10.twtrdns.net.
x.com. 00049980IN0NS0a.u10.twtrdns.net.
x.com. 00049980IN0NS0d.r10.twtrdns.net.
x.com. 00049980IN0NS0c.r10.twtrdns.net.
x.com. 00049980IN0NS0c.u10.twtrdns.net.
x.com. 00049980IN0NS0b.u10.twtrdns.net.
```

## TXT

```
;; Truncated, retrying in TCP mode.
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 65429
;; flags: qr rd ra; QUERY: 1, ANSWER: 18, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 512
;; ANSWER SECTION:
x.com. 0003000IN0TXT0_w548xs1kfxtlqk3jyx19bzwk34c473i"
x.com. 0003000IN0TXT0_kkd13qb3tcrmdhfsm803p67r0my0svs8"
x.com. 0003000IN0TXT0_google-site-verification=F6u9mGL--d2lbLjvH3b1UUGXtevQPdcamKr9c8914A"
x.com. 0003000IN0TXT0_stripe-verification=46F7B88485621DC18923B43D12E90E6CDBCE232F2FEBFC084E6EFA91F6BA707D"
x.com. 0003000IN0TXT0_3089463"
x.com. 0003000IN0TXT0_google-site-verification=reUF-TgZq93ZGtzImw42sfYgLI2hy0Q1GRmfc4jeKbs"
x.com. 0003000IN0TXT0_google-site-verification=8yQmoVhQedzlt36RPeQP41ytrEFK9aHEnde_xm0626g"
x.com. 0003000IN0TXT0_v=spf1 ip4:199.16.156.0/22 ip4:199.59.148.0/22 include:_spf.google.com include:_spf.salesforce.com include:_oerp.x.com
include:phx1.rp.oracleemaildelivery.com include:iad1.rp.oracleemaildelivery.com -all"
x.com. 0003000IN0TXT0_slack-domain-verification=Csk4bjCPFmJaDLLaKFUwCTFuUpCVvnyLAm2Tba0i"
x.com. 0003000IN0TXT0_atlassian-sending-domain-verification=bd424180-8645-4de5-bd6a-285479c7577a"
```

```
x.com. 000300 IN TXT "adobe-sign-verification=c693a744ee2d282a36a43e6e724c5ea"
x.com. 000300 IN TXT "adobe-idp-site-verification=ab4d9ce3473a73e81f46238da34ea4967fd5ac80e5c43fbfa8dff46d06a5321c"
x.com. 000300 IN TXT "google-site-verification=LEZNYWieV7-UbdJafAm0u_RvNFb7GGqIYWAP4JmG5qs"
x.com. 000300 IN TXT "atlassian-domain-verification=j6u0o1PTkobCXC84uEF/sWpIPtaZURBVYqKzmTvT8wugLcHT1vvrzzA63iP1qSLN"
x.com. 000300 IN TXT "google-site-verification=rbRGYLOADDbtUYJTGd8GEDm0PwPZExviDSaSH4JLR8Q"
x.com. 000300 IN TXT "figma-domain-verification=ee8420edd01965ba297f3438c907cf6fbbaa1ee90a07b28f28bcfca8e6017bb-1729630998"
x.com. 000300 IN TXT "apple-domain-verification=sEij6tJ0W11fVNrG"
x.com. 000300 IN TXT "shopify-verification-code=cUZazKrqCWgcsHrcGvgfFR1lieuhRF"
```

**AAAA**

```
;; Got answer:
;; ->HEADER<<- opcode: QUERY, status: NOERROR, id: 945
;; flags: qr rd ra; QUERY: 1, ANSWER: 0, AUTHORITY: 1, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 512
;; AUTHORITY SECTION:
x.com. 000235 IN SOA a.u10.twtrdns.net. noc.twitter.com. 2023121201 3600 600 604800 300
```

**RRSIG**

```
a.u10.twtrdns.net. noc.twitter.com. 2023121201 3600 600 604800 300
```

**DNSKEY**

```
;; Got answer:
;; ->HEADER<<- opcode: QUERY, status: NOERROR, id: 56520
;; flags: qr rd ra; QUERY: 1, ANSWER: 0, AUTHORITY: 1, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 512
;; AUTHORITY SECTION:
x.com. 000300 IN SOA a.u10.twtrdns.net. noc.twitter.com. 2023121201 3600 600 604800 300
```

**DNSSEC\_VALIDATION**

```
; unsigned answer
x.com. 000300 IN SOA a.u10.twtrdns.net. noc.twitter.com. 2023121201 3600 600 604800 300
```





```
Server Temp Key: X25519, 253 bits
---
SSL handshake has read 2352 bytes and written 387 bytes
Verification: OK
---
New, TLSv1.3, Cipher is TLS_AES_256_GCM_SHA384
Server public key is 256 bit
Secure Renegotiation IS NOT supported
Compression: NONE
Expansion: NONE
No ALPN negotiated
Early data was not sent
Verify return code: 0 (ok)
---
DONE
```



HTTP Response Evidence

IPv4 HTTP (port 80)

HTTP Status	403
Connected IP	162.159.140.229
Connect Time	3.4 ms
TTFB	210.29 ms
Total Time	210.36 ms

Response Headers:

```
{
  "0": "HTTP/1.1 301 Moved Permanently",
  "1": "Date: Fri, 06 Mar 2026 09:15:28 GMT",
  "2": "Connection: keep-alive",
  "3": "Location: https://x.com/",
  "4": "set-cookie: __cf_bm=FiFnu0xCLtFmk9BdWLFYmcGhp_50ANJMcTNXuMdoKZ0-1772788528.8950307-1.0.1.1-2k3RUkxmAxVnjL8aXvfxVN3oxUVmXSoBZycNrEWQTsnnqYU1hxC4JE6Sv52bhDshIviT592Rj3N1UDG7Mhc_s2Kz.srvkyNZRF2Tue2Ej_JP2fw0pN5UKWz3KdAP6a0; HttpOnly; Path=/; Domain=x.com; Expires=Fri, 06 Mar 2026 09:45:28 GMT",
  "5": "Server: cloudflare",
  "6": "CF-RAY: 9d8041919980b2e8-KUL",
  "8": "HTTP/2 403",
  "9": "date: Fri, 06 Mar 2026 09:15:29 GMT",
  "10": "perf: 7402827104",
  "11": "server: cloudflare envoy",
  "12": "x-powered-by: Express",
  "13": "cache-control: no-cache, no-store, max-age=0",
  "14": "x-transaction-id: 01fb311f54385416",
  "15": "x-response-time: 7",
  "16": "origin-cf-ray: 9d804191ac124a9b-KUL",
  "17": "strict-transport-security: max-age=631138519; includeSubdomains",
  "18": "x-served-by: t4_p",
  "19": "vary: Accept-Encoding",
  "20": "cf-cache-status: DYNAMIC",
  "21": "set-cookie: guest_id_marketing=v1%3A177278852899472753; Max-Age=63072000; Expires=Sun, 05 Mar 2028 09:15:28 GMT; Path=/; Domain=.x.com; Secure; SameSite=None",
  "22": "set-cookie: guest_id_ads=v1%3A177278852899472753; Max-Age=63072000; Expires=Sun, 05 Mar 2028 09:15:28 GMT; Path=/; Domain=.x.com; Secure; SameSite=None",
  "23": "set-cookie: personalization_id=v1_vhXPypexpJ30WrUf3Vm3mPw=; Max-Age=63072000; Expires=Sun, 05 Mar 2028 09:15:28 GMT; Path=/; Domain=.x.com; Secure; SameSite=None",
  "24": "set-cookie: guest_id=v1%3A177278852899472753; Max-Age=63072000; Expires=Sun, 05 Mar 2028 09:15:28 GMT; Path=/; Domain=.x.com; Secure; SameSite=None",
  "25": "set-cookie: __cf_bm=Lmd8EyZuoCuiNRLPvABw8na183_xL4vfDlj5LUDfAX4-1772788528.9044445-1.0.1.1-_4gM7DxSi8mJhY8GZCT.1BFJrATd4wHHLTrX1DH7anHUzXu1XRmOwEILBNf5agqVto.U3eybprkYm34PuIAan_wei_yJwCFTGEBj6P6NAGQ7FxtRH.u5rMDWridSbw; HttpOnly; Secure; Path=/; Domain=x.com; Expires=Fri, 06 Mar 2026 09:45:29 GMT",
  "26": "cf-ray: 9d804191ac124a9b-KUL"
}
```

IPv4 HTTPS (port 443)

HTTP Status	403
Connected IP	162.159.140.229
Connect Time	1.43 ms
TTFB	228.36 ms
Total Time	228.41 ms

Response Headers:

```
[
  "HTTP/2 403",
  "date: Fri, 06 Mar 2026 09:15:29 GMT",
  "perf: 7402827104",
  "server: cloudflare envoy",
  "x-powered-by: Express",
  "cache-control: no-cache, no-store, max-age=0",
  "x-transaction-id: 1dd0a58d1760f254",
  "x-response-time: 6",
  "origin-cf-ray: 9d8041943e35e454-KUL",
  "strict-transport-security: max-age=631138519; includeSubdomains",
  "x-served-by: t4_p",
  "vary: Accept-Encoding",
  "cf-cache-status: DYNAMIC",
  "set-cookie: guest_id_marketing=v1%3A177278852941142305; Max-Age=63072000; Expires=Sun, 05 Mar 2028 09:15:29 GMT; Path=/; Domain=.x.com; Secure; SameSite=None",
  "set-cookie: guest_id_ads=v1%3A177278852941142305; Max-Age=63072000; Expires=Sun, 05 Mar 2028 09:15:29 GMT; Path=/; Domain=.x.com; Secure; SameSite=None",
  "set-cookie: personalization_id=v1_fg1FhGi3MMXf0RftqWkdg=; Max-Age=63072000; Expires=Sun, 05 Mar 2028 09:15:29 GMT; Path=/; Domain=.x.com; Secure;"
]
```

```
SameSite=None",
"set-cookie: guest_id=v1%3A177278852941142305; Max-Age=63072000; Expires=Sun, 05 Mar 2028 09:15:29 GMT; Path=/; Domain=.x.com; Secure; SameSite=None",
"set-cookie: __cf_bm=mX6RME0lKITtb1Xp6rBmD7fCnZduP7ge30UkwLd2hA-1772788529.3142292-1.0.1.1-
A41XxeKU_aEuo_XN5vgqngIMhQdq8bUcKxQaQZo_yPQvQGHw918361iw6bqiHuMghBL3E67QX3Nq5BmmmoaiLqguauy0a80QLsjdnChR08xglb08d4dKHER_7AvXV_q; HttpOnly; Secure; Path=/;
Domain=x.com; Expires=Fri, 06 Mar 2026 09:45:29 GMT",
"cf-ray: 9d8041943e35e454-KUL"
]
```

### Connectivity Test Evidence

Test	Result
TCP Connect IPv4 → port 80	301 0.000998 0.004977
TCP Connect IPv4 → port 443	200 0.002071 0.251017

### Test Node Network Evidence

Node Profile	dual stack
--------------	------------

### 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
fe80::/64 dev eth0 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
76.13.221.0/24 dev eth0 proto kernel scope link src 76.13.221.142
```