

IPv6 Readiness Report

usm.my — usm.my



Scan to verify

Category: Education • Generated: 13 Jun 2026, 19:15 MYT • Last Checked: 13 Jun 2026, 01:00 MYT • Verification ID: 08c1a4cd-c809-4e10-9b44-fdbce3134ccc

Report generated from National IPv6 Readiness Monitor — <https://ipv6.my6.my>

Audit trail: <https://ipv6.my6.my/audit/08c1a4cd-c809-4e10-9b44-fdbce3134ccc>

<p>X</p> <p>Non-Compliant</p> <p>MGv6C-1.0</p>	<p>23%</p> <p>No IPv6 Support</p>	<p>IPv6-ONLY READINESS</p> <p>Website: X Not Ready</p> <p>DNS: X Not Ready</p> <p>Email: X Not Ready</p>
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<p>IPv4 ADDRESSES</p> <p>202.170.56.156</p>
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Network Information (WHOIS / RDAP)

IPv4 Network	
Organization	Universiti Sains Malaysia
Country	MY
ASN	AS24090
ASN Name	UNISAINS-AS-AP - Universiti Sains Malaysia (USM), MY
Network (CIDR)	202.170.48.0/20

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%)				1 / 5
#	CHECK	RESULT	DETAIL	
1	NS Has AAAA Record	PASS	Nameserver has IPv6 address.	
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.	
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: selector1_domainkey
7	DMARC Record	PASS	DMARC record found.

IPv4 Baseline (15%) 1 / 3

#	CHECK	RESULT	DETAIL
1	A Record	PASS	202.170.56.156
2	HTTP over IPv4	FAIL	HTTP is not accessible over IPv4.
3	HTTPS over IPv4	FAIL	HTTPS is not accessible over IPv4.

Audit Trail & Evidence Record

Verification ID	08c1a4cd-c809-4e10-9b44-fdbce3134ccc
Domain	usm.my
Check Mode	Scheduled
Status	Completed
Started	13 Jun 2026, 00:59:41 MYT
Finished	13 Jun 2026, 01:00:03 MYT
Test Node Profile	dual stack
Engine Version	2.0.0
MGv6C Version	1.0.0
Audit URL	https://ipv6.my6.my/audit/08c1a4cd-c809-4e10-9b44-fdbce3134ccc

Integrity Verification

✓ INTEGRITY VERIFIED	
Algorithm	hmac-sha256-v1
Root Hash	243e9218824d3f1ed8e2b3cb93071b5fa2e756495c8d3bf055bd56bf22fb1307
http_headers	23c3b2b580ccd0511efbd2ca4374ae29acf24e224b7490014920e0c034e09e18
dns_responses	f234b96e3d4c52ce6bc0cee6a03453d2217616fed3f4dcb10cd03e8086e932b0
tls_handshake	0da75111fcd6ad4cfb3a3868e308b5910af1440ffce14228b1d2a89727a04e9c
connectivity_log	c571529628ae93d3d5180dec20e307692d772428bf4569b1feeb29b40bc18e78
dns_resolution_times	a7ed93c3a9cfc723d75047eb2e21dbee98766332227309858998bebc2b278515

Test Node Identity

Os	Linux srv1440888 6.8.0-124-generic #124-Ubuntu SMP PREEMPT_DYNAMIC Tue May 26 13:00:45 UTC 2026 x86_64
Hostname	srv1440888
Php Version	8.3.31
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	19.74	28.05	18.46	20.89	-1.3
Google	IPv4	36.01	52.18	46.28	55.72	+10.3
Google	IPv6	41.14	46.29	32.55	39.2	-8.6
Cloudflare	IPv4	17.88	5021.19	12.73	21.16	-5.2
Cloudflare	IPv6	35.23	50.76	22.25	31.05	-13

DNS Evidence

A

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 5518
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; ANSWER SECTION:
usm.my. 0000864000IN0A0202.170.56.156
```

DS

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 16116
;; flags: qr rd ra; QUERY: 1, ANSWER: 0, AUTHORITY: 1, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; AUTHORITY SECTION:
my. 0000359000IN0S0A0e.nic.my. hostmaster.nic.my. 2026046676 1800 900 604800 3600
```

MX

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 19827
;; flags: qr rd ra; QUERY: 1, ANSWER: 2, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; ANSWER SECTION:
usm.my. 0000288000IN0MX010 majriti.usm.my.
usm.my. 0000288000IN0MX010 hytham.usm.my.
```

NS

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 4135
;; flags: qr rd ra; QUERY: 1, ANSWER: 3, AUTHORITY: 0, ADDITIONAL: 5

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; ANSWER SECTION:
usm.my. 0000288000IN0NS0ns03.usm.my.
usm.my. 0000288000IN0NS0ns01.usm.my.
usm.my. 0000288000IN0NS0ns02.usm.my.
```

TXT

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 19136
;; flags: qr rd ra; QUERY: 1, ANSWER: 10, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; ANSWER SECTION:
usm.my. 0000288000IN0TXT0"f4v5Z4afcgwF56eJtr/GahA9NkjJBzUHF9znggXT1/w0dy1iB0wSgkw9Hzg3gaZwcD+klxRj4RtP3C7WEoxiw=="
usm.my. 0000288000IN0TXT0"ReleaseWLDNamespace=true"
usm.my. 0000288000IN0TXT0"MS=ms73819898"
usm.my. 0000288000IN0TXT0"google-site-verification=78xV_NOAfvI8oRoIihHjN_bJw-FrQsBvVx4Ca3AxI8"
usm.my. 0000288000IN0TXT0"google-site-verification=mFeL0BxVpM_qhmbIqvWmCgaisFUEzCXSS5DmyRTA-rk"
usm.my. 0000288000IN0TXT0"have-i-been-pwned-verification=680b96187e9017a7a819037390978fd8"
usm.my. 0000288000IN0TXT0"ciscocidomainverification=5f49a1c9eab9651ba991f9e8e3bd629f6421686c72352892bc53b201f2cdf6f"
usm.my. 0000288000IN0TXT0"v=spf1 include:spf.protection.outlook.com ip4:202.170.57.213/32 ip4:202.170.57.214/32 ip4:202.170.57.215/32 ?all"
usm.my. 0000288000IN0TXT0"duo_sso_verification=HT4I5DSpNlykwtKEabg6E6GhkWxOK5coNl2L5VAdn7Fp9lBy3d21ehCL5U7DRMjY"
usm.my. 0000288000IN0TXT0"adobe-idp-site-verification=4a86b90a948a3eda470a1ddb256503b634398074ce8e082f09b6be78bfd20b12"
```

AAAA

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 40388
;; flags: qr rd ra; QUERY: 1, ANSWER: 0, AUTHORITY: 1, ADDITIONAL: 1

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

```
usm.my.00035980IN0SOA0ns03.usm.my. nfaizal.usm.my. 2019021367 10800 3600 2419200 3600
```

RRSIG

```
ns03.usm.my. nfaizal.usm.my. 2019021367 10800 3600 2419200 3600
```

DNSKEY

```
;; Got answer:
;; ->HEADER<<- opcode: QUERY, status: NOERROR, id: 18204
;; flags: qr rd ra; QUERY: 1, ANSWER: 0, AUTHORITY: 1, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; AUTHORITY SECTION:
usm.my.00035980IN0SOA0ns03.usm.my. nfaizal.usm.my. 2019021367 10800 3600 2419200 3600
```

DNSSEC_VALIDATION

```
; unsigned answer
usm.my.000287900IN0SOA0ns03.usm.my. nfaizal.usm.my. 2019021367 10800 3600 2419200 3600
```

TLS Handshake Evidence

IPv4 Connection

IP Used	202.170.56.156
IP Version	4

```
40A73D7EE87C0000:error:80000071:system library:BI0_connect:No route to host:../crypto/bio/bio_sock2.c:114:calling connect()
40A73D7EE87C0000:error:10000067:BI0 routines:BI0_connect:connect error:../crypto/bio/bio_sock2.c:116:
connect:errno=113
```

HTTP Response Evidence

IPv4 HTTP (port 80)

HTTP Status	0
Connected IP	
Connect Time	0 ms
TTFB	0 ms
Total Time	11.97 ms
Error	Failed to connect to usm.my port 80 after 11 ms: Couldn't connect to server

IPv4 HTTPS (port 443)

HTTP Status	0
Connected IP	
Connect Time	0 ms
TTFB	0 ms
Total Time	12.38 ms
Error	Failed to connect to usm.my port 443 after 12 ms: Couldn't connect to server

Connectivity Test Evidence

Test	Result
TCP Connect IPv4 → port 80	000 0.000000 0.000000
TCP Connect IPv4 → port 443	000 0.000000 0.000000

Test Node Network Evidence

Node Profile	dual stack
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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
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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
```