

# IPv6 Readiness Report

uitm.edu.my — uitm.edu.my

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Report generated from National IPv6 Readiness Monitor — <https://ipv6.my6.my>Audit trail: <https://ipv6.my6.my/audit/d3c7e19f-1882-43fb-8c2d-6a5db46f3837>

<b>X</b> <b>Non-Compliant</b> MGv6C-1.0	<b>46%</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>IPv6 ADDRESSES</b> 2401:74a0:140::16	<b>IPv4 ADDRESSES</b> 202.58.83.54
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## Network Information (WHOIS / RDAP)

	IPv6 Network	IPv4 Network
Organization	Universiti Teknologi MARA	Universiti Teknologi MARA
Country	MY	MY
ASN	AS24020	AS24020
ASN Name	UITM-AS-AP University ITM, Shah Alam, Selangor Malaysia, MY	UITM-AS-AP University ITM, Shah Alam, Selangor Malaysia, MY
Network (CIDR)	2401:74a0::/32	202.58.80.0/20

Web Services (35%)				3 / 8
#	CHECK	RESULT	DETAIL	
1	AAAA Record	PASS	2401:74a0:140::16	
2	Globally Routable IPv6	PASS	All addresses are 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)	PASS	Domain has both A and AAAA records.	
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.	
8	Signing Algorithm	INFO	No DNSKEY record found.	

**Email Services** (25%) 3 / 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>	No common DKIM selector found.
7	<b>DMARC Record</b>	<b>FAIL</b>	No DMARC record found.

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

#	CHECK	RESULT	DETAIL
1	<b>A Record</b>	<b>PASS</b>	202.58.83.54
2	<b>HTTP over IPv4</b>	<b>PASS</b>	HTTP (port 80) responds over IPv4 — 153ms TTFB.
3	<b>HTTPS over IPv4</b>	<b>PASS</b>	HTTPS (port 443) responds over IPv4 — 205ms TTFB.

### Audit Trail & Evidence Record

Verification ID	d3c7e19f-1882-43fb-8c2d-6a5db46f3837
Domain	uitm.edu.my
Check Mode	Manual
Status	Completed
Started	07 Mar 2026, 01:25:38 MYT
Finished	07 Mar 2026, 01:30:12 MYT
Test Node Profile	dual stack
Engine Version	2.0.0
MGv6C Version	1.0.0
Audit URL	https://ipv6.my6.my/audit/d3c7e19f-1882-43fb-8c2d-6a5db46f3837

### Integrity Verification

<b>✓ INTEGRITY VERIFIED</b>	
Algorithm	hmac-sha256-v1
Root Hash	fd7d47f509b18a1e8da5e29a52b2e22b321eea02ad889b6d5aebda35a1eb64f5
http_headers	2e701866b822ccc3542762ae1b2748ca472ed182bbedf36e3fe648979a1a506b
dns_responses	8f5f4c2a64b4d275baf2333bdd2705ddf8cb260b4a23b0d71f0e7a730c0d58ec
tls_handshake	05d13a64313f216402b19a1925fc5203ca9291299175c813009beb88ea4feda8
connectivity_log	fdc9db05e893664451d70a91a3ef5d415a4081baed9607926b7cbc4811703dde
dns_resolution_times	689de601cc19ce33994e068eb2e9cdc161cfe175d6ce7dca2030c716b63e8aad

### 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	9.36	9.96	28.05	30.08	+18.7
Google	IPv4	19.08	40.61	41.43	51.05	+22.4
Google	IPv6	31.18	37.97	40.94	47.14	+9.8
Cloudflare	IPv4	19.79	21.45	14.18	25.57	-5.6
Cloudflare	IPv6	28.23	38.65	21.33	22.12	-6.9



## DNS Evidence

### A

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 3584
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 512
;; ANSWER SECTION:
uitm.edu.my. 300 IN A 202.58.83.54
```

### DS

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 41293
;; flags: qr rd ra; QUERY: 1, ANSWER: 0, AUTHORITY: 1, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 512
;; AUTHORITY SECTION:
edu.my. 911 IN SOA b.nic.my. hostmaster.nic.my. 2026018482 1800 900 604800 3600
```

### MX

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 12647
;; flags: qr rd ra; QUERY: 1, ANSWER: 5, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 512
;; ANSWER SECTION:
uitm.edu.my. 300 IN MX 10 ASPMX2.GOOGLEMAIL.COM.
uitm.edu.my. 300 IN MX 10 ASPMX3.GOOGLEMAIL.COM.
uitm.edu.my. 300 IN MX 5 ALT1.ASPMX.L.GOOGLE.COM.
uitm.edu.my. 300 IN MX 5 ALT2.ASPMX.L.GOOGLE.COM.
uitm.edu.my. 300 IN MX 1 ASPMX.L.GOOGLE.COM.
```

### NS

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 55855
;; flags: qr rd ra; QUERY: 1, ANSWER: 3, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 512
;; ANSWER SECTION:
uitm.edu.my. 282 IN NS ns1.uitm.edu.my.
uitm.edu.my. 282 IN NS ns2.uitm.edu.my.
uitm.edu.my. 282 IN NS ns3.uitm.edu.my.
```

### TXT

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 53405
;; flags: qr rd ra; QUERY: 1, ANSWER: 12, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 512
;; ANSWER SECTION:
uitm.edu.my. 300 IN TXT "google-site-verification=xIRyiQ_3uhwBg40vH5E1e0NtQFnu0vAn0b53JmxTat0"
uitm.edu.my. 300 IN TXT "google-site-verification=K2CodNStu6F-cYSenDcqVTgwo4Q2wMc0VA7sC7sJK4g"
uitm.edu.my. 300 IN TXT "adobe-idp-site-verification=fb1f5c68-f32b-487f-97a4-6b8fc1165137"
uitm.edu.my. 300 IN TXT "v=spf1 ip4:202.58.82.126 ip4:202.58.84.87 ip4:202.58.84.88 ip4:202.58.84.89 include:_spf.google.com ~all"
uitm.edu.my. 300 IN TXT "cisco-ci-domain-verification=3d24323685c864adbc7c8dcee2dedefc509618b0e54472a5c086f20d8d077508"
uitm.edu.my. 300 IN TXT "MS=ms99834528"
uitm.edu.my. 300 IN TXT "google-site-verification=LZd0qS4AHNX2QTPj1BfuXxBIHQ9zpx0eS4wsFVhkf0w"
uitm.edu.my. 300 IN TXT "google-site-verification=HxBt7l0cRdN0jB4fYPF4mrvccKniF0_NoqC5QbCbbVY"
uitm.edu.my. 300 IN TXT "google-site-verification=gDQWcC9MPRNwKms2RVZcBmLjgYjPK6LtkfAvoEvB904"
uitm.edu.my. 300 IN TXT "google-site-verification=LLOYL3gt-FWIn00Shi17N_LUVmPFWo0AtayuI8dFsS8"
uitm.edu.my. 300 IN TXT "adobe-idp-site-verification=fb1f5c68f32b487f97a46b8fc1165137"
uitm.edu.my. 300 IN TXT "google-site-verification=50USztdHYiKcdPt7BYK_udFk4zkaTMDxtdnaYliwCMI"
```

### AAAA

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 34441
```

```
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 512
;; ANSWER SECTION:
uitm.edu.my. 300 IN AAAA 2401:74a0:140::16
```

**RRSIG**

```
ns1.uitm.edu.my. postmaster.salam.uitm.edu.my. 2026022501 14400 3600 1209600 3600
```

**DNSKEY**

```
;; Got answer:
;; ->HEADER<<- opcode: QUERY, status: NOERROR, id: 50375
;; flags: qr rd ra; QUERY: 1, ANSWER: 0, AUTHORITY: 1, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 512
;; AUTHORITY SECTION:
uitm.edu.my. 266 IN SOA ns1.uitm.edu.my. postmaster.salam.uitm.edu.my. 2026022501 14400 3600 1209600 3600
```

**DNSSEC\_VALIDATION**

```
; unsigned answer
uitm.edu.my. 266 IN SOA ns1.uitm.edu.my. postmaster.salam.uitm.edu.my. 2026022501 14400 3600 1209600 3600
```





```

KwYBBQUHAWEGCCsGAQUFBwMCMBSGA1UdIAQUMBIwBgYEVR0gADAI BgZngQwBAGew
VAYDVR0fBE0wSzBjOeEgRYZDaHR0cDovL2Ny bC5zZWNoawdvLmNvbS9TZWNoawdv
UHVibGljU2VydmVyQXV0aGVudGljYXRpb255b290UjQ2LmNy bDCBhAYIKwYBBQUH
AQEEeDB2ME8GCCsGAQUFBzACHkNodHRwOi8vY3J0LnNlY3RpZ28uY29tL1NlY3Rp
Z290dWJsaWNTZXJ2ZXJkdXR0ZW50aW NhdGlvb1Jvb3RSNDYucDdjMCMGCCsGAQUF
BzABhdodHRwOi8vb2Nzc5zZWNoawdvLmNvbTANBgkqhkiG9w0BAQwFAAOCAgEA
YtOC9Fy+TqECFw40IospI92klGgoSZGPOSQXMBqmsGWZUQ7rux7cjl1du6d9rD6C8
ze1B2eQjkrGkIL/0F1s7vSmgYVafsRoZd/IHUrkoQvX8FZwUsmPu7amgBfaY3g+d
q1x0jNGKbI6Bzd16LgMD9qxp+3i7GQ0nd9J8LFSietY6Z4jUBzVo0oz8iAU840F
h2HhAuiPw1ai0VnY38RTI+8kepGWVfGxfBWzW9uIjeoIeaosVFvE8cmYUB4TSH
5dUyD0jHct2+8ceKEtIoFU/FfHq/mDaVnvcDCZxtIgitdMFQdMzaVehmObyhRdDD
4NQCs0gaI9AAgFj4L90tkARzhQLNyRf87Kln+YU0lgCGr9HLg3rG08q+Y4ppls0d
unQZ6ZxPNGIf0ApbPVf5hCe58EZwiwdHIMn9LPP6+F404y8NNugb0ixBber+x536
WrZhfZLjEkhp7fFXf9r32rNPFb74X/U90Bdy4Lzpz+X1ukh1BuMxA/EEhdTOS3L
7ABvc7BYSQubQ24900cdkIzUh3ZwDrakMvrbaTxUM2p24N6dB+ns2zptWCva6jzW
r8IWKIMxzxLPv5Kt3ePKcUdvkBU/smqjSczTzzSjIoR5QqA6lN1ZRSnuHIWcVh
JELtkYnTAH41QJ6SAW066GrrUESwN/cgZzL4JLEqZ1Y=
-----END CERTIFICATE-----
2 s:C = GB, 0 = Sectigo Limited, CN = Sectigo Public Server Authentication Root R46
i:C = US, ST = New Jersey, L = Jersey City, 0 = The USERTRUST Network, CN = USERTrust RSA Certification Authority
a:PKKEY: rsaEncryption, 4096 (bit); sigalg: RSA-SHA384
v:NotBefore: Mar 22 00:00:00 2021 GMT; NotAfter: Jan 18 23:59:59 2038 GMT
-----BEGIN CERTIFICATE-----
MIIGLTCCBH2gAwIBAgIRANJ/u8HeNz5SFq1hSVhgmcQwDQYJKoZIhvcNAQEMBQAw
gYxgCzAJBgNVBAYTALVTMRMwEQYDQVQIEwpOZXcgSmVyc2V5MRQwEgYDVOQHEwtK
ZXJzZXkgQ2l0eTEeMBwGA1UEChMVVGVhLlFVTRVJUULVTVCB0ZXR3b3JrMS4wLWYD
VQDEYyVU0VSUHJlc3Q0U1NBIENlcnRpZmljYXRpb2g0XV0aG9yaXR5MB4XDTEx
MDMyMjAwMDAwMFoXDTE4MDEwODIzNTkxOVowXzELMAkGA1UEBHMCR0IXGDAWBgNV

```

IPv6 Connection

IP Used	2401:74a0:140::16
IP Version	6

```

40376F45217A0000:error:8000006E:system library: BIO_connect:Connection timed out:../crypto/bio/bio_sock2.c:114:calling connect()
40376F45217A0000:error:10000067: BIO routines: BIO_connect:connect error:../crypto/bio/bio_sock2.c:116:
connect:errno=110

```



## HTTP Response Evidence

### IPv4 HTTP (port 80)

HTTP Status	200
Connected IP	202.58.83.54
Connect Time	8 ms
TTFB	165.08 ms
Total Time	165.19 ms

#### Response Headers:

```
[
  "HTTP/1.1 200 OK",
  "Date: Fri, 06 Mar 2026 09:29:59 GMT",
  "Server:XXXXXXX",
  "Set-Cookie: 96cf2b6d733363bd0723f19b64e8fb52=6a2e7671ae1a0fa5d1f2424c8a7584d3; path=/; HttpOnly",
  "X-Content-Type-Options: nosniff",
  "Content-Type: text/html; charset=UTF-8",
  "Set-Cookie: cookiesession1=678B28CE48823F921C5CAF1CAEE31833;Expires=Sat, 06 Mar 2027 09:30:01 GMT;Path=/;HttpOnly",
  "X-Frame-Options: SAMEORIGIN",
  "X-XSS-Protection: 1; mode=block",
  "Content-Security-Policy: upgrade-insecure-requests"
]
```

### IPv6 HTTP (port 80)

HTTP Status	0
Connected IP	
Connect Time	0 ms
TTFB	0 ms
Total Time	8002.35 ms
Error	Failed to connect to uitm.edu.my port 80 after 8002 ms: Timeout was reached

### IPv4 HTTPS (port 443)

HTTP Status	200
Connected IP	202.58.83.54
Connect Time	10.91 ms
TTFB	199.97 ms
Total Time	200.01 ms

#### Response Headers:

```
[
  "HTTP/1.1 200 OK",
  "Date: Fri, 06 Mar 2026 09:29:59 GMT",
  "Server:XXXXXXX",
  "Set-Cookie: 96cf2b6d733363bd0723f19b64e8fb52=9589272ee1c5bd16ce3e5d19b080caf8; path=/; HttpOnly",
  "X-Content-Type-Options: nosniff",
  "Content-Type: text/html; charset=UTF-8",
  "Set-Cookie: cookiesession1=678B28D1915C3321D09F6294FD1E4AF3;Expires=Sat, 06 Mar 2027 09:30:01 GMT;Path=/;HttpOnly",
  "Strict-Transport-Security: max-age=15552000",
  "X-Frame-Options: SAMEORIGIN",
  "X-XSS-Protection: 1; mode=block",
  "Content-Security-Policy: upgrade-insecure-requests"
]
```

### IPv6 HTTPS (port 443)

HTTP Status	0
Connected IP	
Connect Time	0 ms
TTFB	0 ms
Total Time	8002.57 ms
Error	Failed to connect to uitm.edu.my port 443 after 8002 ms: Timeout was reached

Connectivity Test Evidence

Test	Result
TCP Connect IPv4 → port 80	200 0.009096 0.152778
TCP Connect IPv6 → port 80	000 0.000000 0.000000
TCP Connect IPv4 → port 443	200 0.007742 0.186567
TCP Connect IPv6 → 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
--------------------------------	---

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
```