

# IPv6 Readiness Report

hea.uum.edu.my — hea.uum.edu.my

Category: Education • Generated: 20 Apr 2026, 21:26 MYT • Last Checked: 07 Mar 2026, 01:29 MYT • Verification ID: 50928a82-f4cd-413e-9991-97e22865a7e0

Report generated from National IPv6 Readiness Monitor — <https://ipv6.my6.my>Audit trail: <https://ipv6.my6.my/audit/50928a82-f4cd-413e-9991-97e22865a7e0>**Non-Compliant**

MGv6C-1.0

**10%****No IPv6 Support****IPv6-ONLY READINESS**Website: **X Not Ready**DNS: **X Not Ready**Email: **X Not Ready****IPv4 ADDRESSES**

103.5.180.127

**Network Information (WHOIS / RDAP)**

IPv4 Network	
Organization	Universiti Utara Malaysia
Country	MY
ASN	AS132035
ASN Name	UUM-MY-AS-AP Computer Center, MY
Network (CIDR)	103.5.180.0/22

**Web Services** (35%)

0 / 8

#	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%)

0 / 5

#	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%) 0 / 6

#	CHECK	RESULT	DETAIL
1	<b>MX Record Exists</b>	<b>FAIL</b>	No MX record found in DNS.
2	<b>MX Server Has IPv6</b>	<b>FAIL</b>	MX server has no IPv6 address.
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>FAIL</b>	No 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%) 2 / 3

#	CHECK	RESULT	DETAIL
1	<b>A Record</b>	<b>PASS</b>	103.5.180.127
2	<b>HTTP over IPv4</b>	<b>PASS</b>	HTTP (port 80) responds over IPv4 — 22ms TTFB.
3	<b>HTTPS over IPv4</b>	<b>FAIL</b>	HTTPS is not accessible over IPv4.

### Audit Trail & Evidence Record

Verification ID	50928a82-f4cd-413e-9991-97e22865a7e0
Domain	hea.uum.edu.my
Check Mode	Manual
Status	Completed
Started	07 Mar 2026, 01:26:10 MYT
Finished	07 Mar 2026, 01:29:01 MYT
Test Node Profile	dual stack
Engine Version	2.0.0
MGv6C Version	1.0.0
Audit URL	https://ipv6.my6.my/audit/50928a82-f4cd-413e-9991-97e22865a7e0

### Integrity Verification

<b>✓ INTEGRITY VERIFIED</b>	
Algorithm	hmac-sha256-v1
Root Hash	4de9f94ea61d01f0681f343e59183b8c472d3d9f6ec6d14599177799aba3085b
http_headers	d615f74ea869e33b36f2b0a4f594db4681a6e866dd62f53ff3d067e02441b733
dns_responses	f81a28c435f975519e01c3f477acc9a4ecb9829a94e58526b895e75774986859
tls_handshake	53b21aaf4bca628369c2c514cecafefbeac5ffb8f9855b02e7f8b856d8e9bc2a
connectivity_log	dd028f38ba3dd1d8253496fea2f5403fc5b248d276bc372eacb2415fb8af32ef
dns_resolution_times	64d717b8e85b15d1d1c06e109ba9054054861c4068eca0bf0401a895e014afd

### 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	7.81	7.9	6.16	6.94	-1.7
Google	IPv4	38.67	43.71	36.99	47.71	-1.7
Google	IPv6	39.94	50.87	47.38	49.84	+7.4
Cloudflare	IPv4	9.88	21.83	8.06	19.96	-1.8
Cloudflare	IPv6	33.2	44.66	7.99	30.05	-25.2



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## DNS Evidence

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### A

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 56810
;; flags: qr rd ra ad; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 512
;; ANSWER SECTION:
hea.uum.edu.my. 300 IN A 103.5.180.127
```

### DS

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 1038
;; flags: qr rd ra ad; QUERY: 1, ANSWER: 0, AUTHORITY: 1, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 512
;; AUTHORITY SECTION:
uum.edu.my. 300 IN SOA dns1.uum.edu.my. admin.dnsvault.net. 2026030315 10800 3600 604800 86400
```

### MX

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 23029
;; flags: qr rd ra ad; QUERY: 1, ANSWER: 0, AUTHORITY: 1, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 512
;; AUTHORITY SECTION:
uum.edu.my. 300 IN SOA dns1.uum.edu.my. admin.dnsvault.net. 2026030315 10800 3600 604800 86400
```

### NS

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 44998
;; flags: qr rd ra ad; QUERY: 1, ANSWER: 0, AUTHORITY: 1, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 512
;; AUTHORITY SECTION:
uum.edu.my. 300 IN SOA dns1.uum.edu.my. admin.dnsvault.net. 2026030315 10800 3600 604800 86400
```

### TXT

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 25167
;; flags: qr rd ra ad; QUERY: 1, ANSWER: 0, AUTHORITY: 1, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 512
;; AUTHORITY SECTION:
uum.edu.my. 300 IN SOA dns1.uum.edu.my. admin.dnsvault.net. 2026030315 10800 3600 604800 86400
```

### AAAA

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 4439
;; flags: qr rd ra ad; QUERY: 1, ANSWER: 0, AUTHORITY: 1, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 512
;; AUTHORITY SECTION:
uum.edu.my. 300 IN SOA dns1.uum.edu.my. admin.dnsvault.net. 2026030315 10800 3600 604800 86400
```

### RRSIG

### DNSKEY

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 19599
;; flags: qr rd ra ad; QUERY: 1, ANSWER: 0, AUTHORITY: 1, ADDITIONAL: 1
```

```
;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 512
;; AUTHORITY SECTION:
uum.edu.my. 300 IN SOA dns1.uum.edu.my. admin.dnsvault.net. 2026030315 10800 3600 604800 86400
```

**DNSSEC\_VALIDATION**

```
;; resolution failed: ncache nxrrset
; negative response, fully validated
; hea.uum.edu.my. 288 IN \-SOA; -$NXRRSET
; uum.edu.my. SOA dns1.uum.edu.my. admin.dnsvault.net. 2026030315 10800 3600 604800 86400
; uum.edu.my. RRSIG SOA ...
; DEK3638LQVKIUFM2G0ERBVG5Q2T7TM0.uum.edu.my. RRSIG NSEC3 ...
; DEK3638LQVKIUFM2G0ERBVG5Q2T7TM0.uum.edu.my. NSEC3 1 0 0 DC8EBCBA33EE44B3 DG9UGP4TN0KG4FJ8ELSJ7AC509J031NM A RRSIG
```

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## TLS Handshake Evidence

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### IPv4 Connection

IP Used	103.5.180.127
IP Version	4

```
4007CA128C750000:error:8000006E:system library: BIO_connect: Connection timed out:../crypto/bio/bio_sock2.c:114:calling connect()
4007CA128C750000: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	500
Connected IP	103.5.180.127
Connect Time	10.88 ms
TTFB	23.13 ms
Total Time	23.22 ms

#### Response Headers:

```
[
  "HTTP/1.1 500 Internal Server Error",
  "Content-Length: 40130",
  "Content-Type: text/html"
]
```

### IPv4 HTTPS (port 443)

HTTP Status	0
Connected IP	
Connect Time	0 ms
TTFB	0 ms
Total Time	8002.49 ms
Error	Failed to connect to hea.uum.edu.my port 443 after 8002 ms: Timeout was reached

## Connectivity Test Evidence

Test	Result
TCP Connect IPv4 → port 80	200 0.011076 0.344391
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
```