

IPv6 Readiness Report

um.edu.my — um.edu.my




Scan to verify

Category: Education • Generated: 04 Jul 2026, 22:32 MYT • Last Checked: 04 Jul 2026, 03:15 MYT • Verification ID: 3496a003-e74a-4f4e-a0c7-bfa770d4edd1

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

Audit trail: <https://ipv6.my6.my/audit/3496a003-e74a-4f4e-a0c7-bfa770d4edd1>

 Partially Compliant <small>MGv6C-1.0</small>	60% Partial Support	IPV6-ONLY READINESS Website: ✗ Not Ready DNS: ✓ Ready Email: ✓ Ready
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IPV4 ADDRESSES 20.212.19.176
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Network Information (WHOIS / RDAP)

IPv4 Network	
Organization	Microsoft Corporation
Country	US
ASN	AS8075
ASN Name	MICROSOFT-CORP-MSN-AS-BLOCK - Microsoft Corporation, US
Network (CIDR)	20.192.0.0/10

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%)				4 / 5
#	CHECK	RESULT	DETAIL	
1	NS Has AAAA Record	PASS	Nameserver has IPv6 address.	
2	NS Reachable via IPv6	PASS	Nameserver is reachable via IPv6 on port 53.	
3	NS Answers Queries via IPv6	PASS	DNS queries answered over IPv6.	
4	DNSSEC Validated	PASS	DNSSEC fully validated.	
5	Reverse DNS (PTR)	FAIL	No PTR record found.	
6	DS Record at Parent	PASS	DS record found at parent zone.	
7	RRSIG Valid	PASS	RRSIG signatures are current and valid.	

#	CHECK	RESULT	DETAIL
8	Signing Algorithm	INFO	RSASHA256

Email Services (25%) 6 / 6

#	CHECK	RESULT	DETAIL
1	MX Record Exists	PASS	MX record found.
2	MX Server Has IPv6	PASS	MX server has AAAA record.
3	SMTP Reachable via IPv6	PASS	SMTP port 25 responds over IPv6.
4	STARTTLS over IPv6	PASS	STARTTLS supported over IPv6.
5	SPF Record	PASS	SPF record found.
6	DKIM Selector	INFO	DKIM selector found: google._domainkey
7	DMARC Record	PASS	DMARC record found.

IPv4 Baseline (15%) 3 / 3

#	CHECK	RESULT	DETAIL
1	A Record	PASS	20.212.19.176
2	HTTP over IPv4	PASS	HTTP (port 80) responds over IPv4 — 102ms TTFB.
3	HTTPS over IPv4	PASS	HTTPS (port 443) responds over IPv4 — 66ms TTFB.

Audit Trail & Evidence Record

Verification ID	3496a003-e74a-4f4e-a0c7-bfa770d4edd1
Domain	um.edu.my
Check Mode	Scheduled
Status	Completed
Started	04 Jul 2026, 03:15:41 MYT
Finished	04 Jul 2026, 03:15:47 MYT
Test Node Profile	dual stack
Engine Version	2.0.0
MGv6C Version	1.0.0
Audit URL	https://ipv6.my6.my/audit/3496a003-e74a-4f4e-a0c7-bfa770d4edd1

Integrity Verification

<p>✓ INTEGRITY VERIFIED</p>	
Algorithm	hmac-sha256-v1
Root Hash	ee4e2f8939c113871de779bcd9fbc379f87cdabf43a7d55095b683b7a2f851fd
http_headers	825c147e84511cbe7140a5eabfed2517430588877bfbda4b3a5fd0f7ddc14046
dns_responses	51f4cfa0514ba4777b5af90388bea3886003290d6d8eccad44cede5b184d35ae
tls_handshake	31e22aa24e0c926a327e00d717054e60767f5b2d85330257a3cce579991b4b1e
connectivity_log	987fbd873c21b8d8403099203f1771b801449be45b79a158866d1cb44358aa4f
dns_resolution_times	95e8751c88b640c075976da872dcf511f751b4402511f8ebd9e6665618bfbb5e

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	8.3.32
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	25.77	34.83	28.74	34.48	+3
Google	IPv4	40.39	43.92	39.9	41.92	-0.5
Google	IPv6	40.36	41.59	28.69	34.43	-11.7
Cloudflare	IPv4	35.69	43.83	35.59	46.99	-0.1
Cloudflare	IPv6	51.79	52.53	45.05	51.38	-6.7

DNS Evidence

A

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 15016
;; flags: qr rd ra ad; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; ANSWER SECTION:
um.edu.my. 60 IN A 20.212.19.176
```

DS

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 10808
;; flags: qr rd ra ad; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; ANSWER SECTION:
um.edu.my. 86396 IN DS 64186 8 2 13131E661822FD18C5DCF784645DB367A44682CB42FB5ECAB78D9B95 09F48C0F
```

MX

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 25865
;; flags: qr rd ra ad; QUERY: 1, ANSWER: 5, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; ANSWER SECTION:
um.edu.my. 38400 IN MX 20 ALT1.ASPMX.L.GOOGLE.COM.
um.edu.my. 38400 IN MX 10 ASPMX.L.GOOGLE.COM.
um.edu.my. 38400 IN MX 20 ALT2.ASPMX.L.GOOGLE.COM.
um.edu.my. 38400 IN MX 30 ASPMX2.GOOGLEMAIL.COM.
um.edu.my. 38400 IN MX 30 ASPMX3.GOOGLEMAIL.COM.
```

NS

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 20618
;; flags: qr rd ra ad; QUERY: 1, ANSWER: 4, AUTHORITY: 0, ADDITIONAL: 5

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; ANSWER SECTION:
um.edu.my. 86400 IN NS ns6.um.edu.my.
um.edu.my. 86400 IN NS ns7.um.edu.my.
um.edu.my. 86400 IN NS ns2.um.edu.my.
um.edu.my. 86400 IN NS ns1.um.edu.my.
```

TXT

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 47648
;; flags: qr rd ra ad; QUERY: 1, ANSWER: 5, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; ANSWER SECTION:
um.edu.my. 3600 IN TXT "workplace-domain-verification=3unoXNdw3zdwijFhz2c2to1jrbaRJw"
um.edu.my. 3600 IN TXT "MS=ms24629987"
um.edu.my. 3600 IN TXT "google-site-verification=G67JdMhJ0_M1mzWloei8A7sEl7SFbNIoLe0e062Deuw"
um.edu.my. 3600 IN TXT "google-site-verification=01CnYgh0YeyxctIL4_mpq31iIElXyUIoCAIQ8TFg_qA"
um.edu.my. 3600 IN TXT "v=spf1 mx a:smtp1.um.edu.my a:smtp10.um.edu.my include:_spf.google.com ~all"
```

AAAA

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 27969
;; flags: qr rd ra ad; QUERY: 1, ANSWER: 0, AUTHORITY: 1, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; AUTHORITY SECTION:
um.edu.my. 3600 IN SOA ns1.um.edu.my. faudzy.um.edu.my. 2026070406 10800 3600 604800 86400
```

RRSIG

```
ns1.um.edu.my. faudzy.um.edu.my. 2026070406 10800 3600 604800 86400
SOA 8 3 38400 20260802185819 20260703175819 53883 um.edu.my. bdwuLtAHcDi4qSYjhwKwtX1mK0rb896mPdEbx0BdJtDbnfkNx5JfXH55
jv9C4itllwf37xkivFQqgtNc32aRBNYQXKToxVgU18feS5azPDjSmJQw utt6L+pHrb77K2F8ImqnlVAIt+kym+AL80d8mIoF0hbjzcY/JbVV+mq m0Q=
```

DNSKEY

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 18701
;; flags: qr rd ra ad; QUERY: 1, ANSWER: 2, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; ANSWER SECTION:
um.edu.my. 38396 IN DNSKEY 257 3 8 AwEAAAdK3hHZTNDnRGt5Ay7XtMd6rV6F8a5SLPEa6kYm/5kvnPmAy9HK uq41rCw8//yoiCeJCSkowSb0gai0hpp1x0gkZk1mGrs6NQeGgS9lpD8
esxv3RR7HZ0cwm++2IHIi0feoCwT4v3eM6ZEplKibapILYJ6vJBpt/yn +HKszfr2LY0dBliGtWJtxVJAES/M07L0pw7m32XUzjvJ4rqCXRqkyTIS
t0e5NqWBZfLPQ16Hunz03mwXmMUMmJPQ1yOu85k/7wgU8ARDXGlydN/K dLHKAmIm6eaXTC0mMFMjyu9ijEA0wPDAHb5S9SgLU9o49xGqc9mH4jE hYuCb0nNWtM=
um.edu.my. 38396 IN DNSKEY 256 3 8 AwEAAazIvZ1qTWgIaiqRXic58LJzIre+hAEWPKRjzjYZS0a5qsx8D0jK JnVL8zZgXGKKDorePkxHn8jizI7bmfRgDAnGQ7tMoRfo+A07KYK6zyE0
c5VbWnQvzqr9wqWtVmjB52I1hraaROEQK0L8NiCt1onMriqZXH4LEgnI Koj8VLPv
```

DNSSEC_VALIDATION

```
; fully validated
um.edu.my. 38396 IN SOA ns1.um.edu.my. faudzy.um.edu.my. 2026070406 10800 3600 604800 86400
um.edu.my. 38396 IN RRSIG SOA 8 3 38400 20260802185819 20260703175819 53883 um.edu.my. bdwuLtAHcDi4qSYjhwKwtX1mK0rb896mPdEbx0BdJtDbnfkNx5JfXH55
jv9C4itllwf37xkivFQqgtNc32aRBNYQXKToxVgU18feS5azPDjSmJQw utt6L+pHrb77K2F8ImqnlVAIt+kym+AL80d8mIoF0hbjzcY/JbVV+mq m0Q=
```



```

dHRwczovL3d3dy5kaWdpY2VydC5jb20vQ1BTMA0GCSqGSIb3DQEBwUAA4IBAQC6
km0KA4sTb2VYpEBm/ul2HL/pZX9B7L/hbJ4NcoBe7V56oCnt7aeIo8sMjCRWTCWZ
D1dY0+2KZOC1dKj8d1VXXAtnjytDDuPPf6/iow0mYQTO/GAg/MLyL6CDm3FzDB8V
tsH/aeMgP6pgD1XQqz+haDnfnJTKBuxhcnx3AdbLeue/QnPf1hHYa8L+Rv8P15U
h4V9FwH0fphdMX0xi140qmsiTbc5c0s9/uukH+YVsuFdwTna6IvW1qh+tEtyH16R
vmi7pkqyZYUL0PMIE7avrLjVVBZuikwARTY8tCVV6Pp9L3VeagBqb2ffgqNJt3C0
TYNYQI+BXG1R1cABl0ld
-----END CERTIFICATE-----
2 s:C = US, 0 = DigiCert Inc, OU = www.digicert.com, CN = DigiCert Global Root G2
i:C = US, 0 = DigiCert Inc, OU = www.digicert.com, CN = DigiCert Global Root G2
a:PKKEY: 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-----
MIIDjjCCAnagAwIBAgIQAzrx5qcRqaC7KGSxH0n65TANBgkqhkiG9w0BAQsFADBh
MQswCQYDVQQGEwJVUzEVMBMGA1UEChMMRGlna0GCSqGSIb3DQEBwUAA4IBAQC6
d3cuZGlnaWNLcnQuY29tMSAwHgYDVQOExdEaWdpQ2VydCBHbG9iYWwUm9vdCBH
MjAeFw0xMzA4MDExMjAwMDBaFw0zODAxMTUxMjAwMDBaMGExCzAJBgNVBAYTALVT
MRUwEwYDVQQKEwEaWdpQ2VydCBHbG9iYWwvMDEwMDA0MDExMjAwMDBaMGExCzAJ
b20xIDAeBgNVBAMTF0RpZ21kZXJ0IEEdsb2JhbCBSb290IEcyMIIIBjANBgkqhkiG
9w0BAQEFAAOCAQ8AMIIBCgKCAQEaUzfNnN7a8myaJcTsnX/RrohCgiN9RLUyfuI
2/0u8jqkT65qsGGmvPrC3oXgkRkLpimn7Wo6h+4FR1IAWsuLEcYxpsMNzaHxmx
1x7e/dfgy5SDN67sH0N03Xs0r0upS/kqbit0tSZpLYL6ZtrAGCSYP9PIUkY92eQ
q2EGnI/yuum06ZiYa7XzV+hdG82MHauVBjVJ8zUtluNjbd134/tJ57SsVQepj5Wz
tC07TG1F8PapsPuwTPIMVYwnSlcUfIKdzX0S0xZKBgyMUNGPHgm+F6HmIcr9g+UQ
vI0LcsRnKPzZFBQ9RnbDhxSJITRNrw9FDKZJobq7nMwX4MphQIDAQABo0IwQDAP
BgNVHRMBAf8EBTADAQH/MA4GA1UdDwEB/wQEAwIBhjAdBgNVHQ4EFgOUTiJUIBiv
5uNu5g/6+rks7QYXjzkW0QYJKoZIhvcNAQELBQADggEBAGBnKJRvDkhj6zHd6mcY

```

HTTP Response Evidence

IPv4 HTTP (port 80)

HTTP Status	200
Connected IP	20.212.19.176
Connect Time	19.87 ms
TTFB	87.16 ms
Total Time	87.26 ms

Response Headers:

```
{
  "0": "HTTP/1.1 301 Moved Permanently",
  "1": "Server: nginx/1.20.1",
  "2": "Date: Fri, 03 Jul 2026 19:15:46 GMT",
  "3": "Content-Type: text/html",
  "4": "Content-Length: 169",
  "5": "Connection: keep-alive",
  "6": "Location: https://um.edu.my",
  "8": "HTTP/1.1 200 OK",
  "9": "Server: nginx/1.20.1",
  "10": "Date: Fri, 03 Jul 2026 19:15:46 GMT",
  "11": "Content-Type: text/html; charset=UTF-8",
  "12": "Content-Length: 89127",
  "13": "Connection: keep-alive",
  "14": "Last-Modified: Fri, 03 Jul 2026 14:29:00 GMT",
  "15": "ETag: \"15c27-655b5bedfc51f\"",
  "16": "Accept-Ranges: bytes",
  "17": "Cache-Control: max-age=2592000",
  "18": "Expires: Sun, 02 Aug 2026 19:15:46 GMT",
  "19": "Strict-Transport-Security: max-age=63072000; includeSubdomains;",
  "20": "Public-Key-Pins: pin-sha256=\"kl023nT2ehFDXCfx3eHTDRESMz3asj1mu0+4aIdjiuY=\"; pin-sha256=\"633lt352PKRXb0wf4xSEa1M517scpD3l5f79xMD9r9Q=\"; max-age=2592000; includeSubDomains",
  "21": "X-Frame-Options: SAMEORIGIN"
}
```

IPv4 HTTPS (port 443)

HTTP Status	200
Connected IP	20.212.19.176
Connect Time	11.09 ms
TTFB	61.77 ms
Total Time	61.81 ms

Response Headers:

```
[
  "HTTP/1.1 200 OK",
  "Server: nginx/1.20.1",
  "Date: Fri, 03 Jul 2026 19:15:47 GMT",
  "Content-Type: text/html; charset=UTF-8",
  "Content-Length: 89127",
  "Connection: keep-alive",
  "Last-Modified: Fri, 03 Jul 2026 14:29:00 GMT",
  "ETag: \"15c27-655b5bedfc51f\"",
  "Accept-Ranges: bytes",
  "Cache-Control: max-age=2592000",
  "Expires: Sun, 02 Aug 2026 19:15:46 GMT",
  "Strict-Transport-Security: max-age=63072000; includeSubdomains;",
  "Public-Key-Pins: pin-sha256=\"kl023nT2ehFDXCfx3eHTDRESMz3asj1mu0+4aIdjiuY=\"; pin-sha256=\"633lt352PKRXb0wf4xSEa1M517scpD3l5f79xMD9r9Q=\"; max-age=2592000; includeSubDomains",
  "X-Frame-Options: SAMEORIGIN"
]
```

Connectivity Test Evidence

Test	Result
TCP Connect IPv4 → port 80	301 0.010764 0.019172
TCP Connect IPv4 → port 443	200 0.008399 0.111949

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
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
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
```