

IPv6 Readiness Report

msu.edu.my — msu.edu.my




Scan to verify

Category: Education • Generated: 04 Jul 2026, 22:13 MYT • Last Checked: 04 Jul 2026, 03:51 MYT • Verification ID: 89e6b930-c471-43a3-b36c-9916b691ceac

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

Audit trail: <https://ipv6.my6.my/audit/89e6b930-c471-43a3-b36c-9916b691ceac>



Partially Compliant
MGv6C-1.0

82%
Partial Support

IPV6-ONLY READINESS

Website: ✓ Ready

DNS: ✓ Ready

Email: ✗ Not Ready

IPV6 ADDRESSES	IPV4 ADDRESSES
2606:4700:20::ac43:4663 2606:4700:20::681a:b27 2606:4700:20::681a:a27	104.26.11.39 104.26.10.39 172.67.70.99

Web Services (35%)				8 / 8
#	CHECK	RESULT	DETAIL	
1	AAAA Record	PASS	2606:4700:20::ac43:4663, 2606:4700:20::681a:b27, 2606:4700:20::681a:a27	
2	Globally Routable IPv6	PASS	All addresses are globally routable.	
3	HTTP over IPv6	PASS	HTTP (port 80) responds over IPv6 — 45ms TTFB.	
4	HTTPS over IPv6	PASS	HTTPS (port 443) responds over IPv6 — 136ms TTFB.	
5	IPv6-Only Reachability	PASS	Site is fully reachable via IPv6-only.	
6	TLS Certificate Valid (IPv6)	PASS	Certificate valid — issued by C = US, O = Google Trust Services, CN = WE1, expires Sep 17 08:34:22 2026 GMT	
7	Dual-Stack (IPv4 + IPv6)	PASS	Domain has both A and AAAA records.	
8	HTTP/3 (QUIC)	PASS	Alt-Svc: h3 header detected.	

DNS & DNSSEC (25%)				3 / 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	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	PASS	RRSIG signatures are current and valid.	
8	Signing Algorithm	INFO	ECDSAP256SHA256	

Email Services (25%)				4 / 6
#	CHECK	RESULT	DETAIL	
1	MX Record Exists	PASS	MX record found.	
2	MX Server Has IPv6	PASS	MX server has AAAA record.	

#	CHECK	RESULT	DETAIL
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%)

3 / 3

#	CHECK	RESULT	DETAIL
1	A Record	PASS	104.26.11.39, 104.26.10.39, 172.67.70.99
2	HTTP over IPv4	PASS	HTTP (port 80) responds over IPv4 — 34ms TTFB.
3	HTTPS over IPv4	PASS	HTTPS (port 443) responds over IPv4 — 188ms TTFB.

Audit Trail & Evidence Record

Verification ID	89e6b930-c471-43a3-b36c-9916b691ceac
Domain	msu.edu.my
Check Mode	Manual
Status	Completed
Started	04 Jul 2026, 03:50:53 MYT
Finished	04 Jul 2026, 03:51:19 MYT
Test Node Profile	dual stack
Engine Version	2.0.0
MGv6C Version	1.0.0
Audit URL	https://ipv6.my6.my/audit/89e6b930-c471-43a3-b36c-9916b691ceac

Integrity Verification

✓ INTEGRITY VERIFIED	
Algorithm	hmac-sha256-v1
Root Hash	9ce5a10b5fd929f399e1c196f9a016dfb34dfb1d761c7b3d3100b07f9f1a1b26
http_headers	8e62e433ed47bdf4041951eadfd249f21159eb1857f40098aa2cfbbebcd8c06b
dns_responses	85a6e10e49d116b8402995fed3e8659ba48031d042ad12c0674190f11293fb4b
tls_handshake	afb8cd8789c203237fd9e3d2fcf4913ea65fbbd12bedc85d21bc5a5b483feee3
connectivity_log	a207ff263803bf9e04b7aa9316119f8f191c8627d6a120b5f12ba9d75eb3ea53
dns_resolution_times	f0c3042db176923a95a4ea428c02b45162ab29814624532eb18957ed764758b5

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	21.28	23.94	20.39	21.69	-0.9
Google	IPv4	35.22	35.62	33.85	36.58	-1.4
Google	IPv6	22.98	36.92	24.08	30.82	+1.1
Cloudflare	IPv4	9.88	22.35	20.55	21.61	+10.7
Cloudflare	IPv6	21.83	22.63	36.05	36.31	+14.2

DNS Evidence

A

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 14064
;; flags: qr rd ra; QUERY: 1, ANSWER: 3, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; ANSWER SECTION:
msu.edu.my. 300 IN A 172.67.70.99
msu.edu.my. 300 IN A 104.26.11.39
msu.edu.my. 300 IN A 104.26.10.39
```

DS

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 13196
;; flags: qr rd ra; QUERY: 1, ANSWER: 0, AUTHORITY: 1, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; AUTHORITY SECTION:
edu.my. 2921 IN SOA e.nic.my. hostmaster.nic.my. 2026052757 1800 900 604800 3600
```

MX

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 45057
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; ANSWER SECTION:
msu.edu.my. 3600 IN MX 0 msu-edu-my.mail.protection.outlook.com.
```

NS

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 25465
;; flags: qr rd ra; QUERY: 1, ANSWER: 2, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; ANSWER SECTION:
msu.edu.my. 86400 IN NS mario.ns.cloudflare.com.
msu.edu.my. 86400 IN NS gwen.ns.cloudflare.com.
```

TXT

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 31942
;; flags: qr rd ra; QUERY: 1, ANSWER: 3, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; ANSWER SECTION:
msu.edu.my. 300 IN TXT "autodesk-domain-verification=qfJUzol-gw_Z02008_q2"
msu.edu.my. 300 IN TXT "v=spf1 ip4:203.121.83.0/24 ip4:40.92.0.0/15 ip4:40.107.0.0/16 ip4:52.100.0.0/14 ip4:52.238.78.88/32 ip4:104.47.0.0/17 ip4:219.92.5.43/32 include:spf.protection.outlook.com include:mx.msu.edu.my include:transmail.net -all"
msu.edu.my. 300 IN TXT "adobe-idp-site-verification=87c1f7d3affef1cb7a70ac52c41a9dc9fa23914c3cbcd3f1c1f907a2db7b2d62"
```

AAAA

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 31655
;; flags: qr rd ra; QUERY: 1, ANSWER: 3, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; ANSWER SECTION:
msu.edu.my. 300 IN AAAA 2606:4700:20::ac43:4663
msu.edu.my. 300 IN AAAA 2606:4700:20::681a:b27
msu.edu.my. 300 IN AAAA 2606:4700:20::681a:a27
```

RRSIG

```
gwen.ns.cloudflare.com. dns.cloudflare.com. 2408564015 10000 2400 604800 1800
```

```
SOA 13 3 1800 20260704205054 20260702185054 34505 msu.edu.my. crHeCe+xcgDVC4wm8YY3pZXqfJRLPawtrvhXaeb+T6tWuRzf/YLweAAj 4c6x/zwF0QX1TCM2mbfUSWeymvLSNg==
```

DNSKEY

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 15218
;; flags: qr rd ra; QUERY: 1, ANSWER: 2, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; ANSWER SECTION:
msu.edu.my. 3576 IN DNSKEY 257 3 13 mdsswUyr3DPW132m0i8V9xESWE8jTo0dxCjjnopKL+GqJxpVXckHAeF+ KkxLbxILfDLUT0rAK9iUzy1L53eKGQ==
msu.edu.my. 3576 IN DNSKEY 256 3 13 oJMRESz5E4gYzS/q6XDrvU1qMPYIjCwzJa0au8XNEZeqCYKD5ar0IRd8 KqXFXJkqmVfRvMGPmM1x8fGAa2XhSA==
```

DNSSEC_VALIDATION

```
;; validating msu.edu.my/SOA: no valid signature found
; unsigned answer
msu.edu.my. 1776 IN SOA gwen.ns.cloudflare.com. dns.cloudflare.com. 2408564015 10000 2400 604800 1800
msu.edu.my. 1776 IN RRSIG SOA 13 3 1800 20260704205054 20260702185054 34505 msu.edu.my. crHeCe+xcgDVC4wm8YY3pZXqfJRLPawtrvhXaeb+T6tWuRzf/YLweAAj
4c6x/zwF0QX1TCM2mbfUSWeymvLSNg==
```


TLS Handshake Evidence

IPV4 Connection

IP Used	104.26.11.39
IP Version	4

```
depth=2 C = US, O = Google Trust Services LLC, CN = GTS Root R4
verify return:1
depth=1 C = US, O = Google Trust Services, CN = WE1
verify return:1
depth=0 CN = msu.edu.my
verify return:1
CONNECTED(00000010)
...
Certificate chain
0 s:CN = msu.edu.my
i:C = US, O = Google Trust Services, CN = WE1
a:PKEY: id-ecPublicKey, 256 (bit); sigalg: ecdsa-with-SHA256
v:NotBefore: Jun 19 07:34:41 2026 GMT; NotAfter: Sep 17 08:34:22 2026 GMT
-----BEGIN CERTIFICATE-----
MIIDezCCAyGgAwIBAgIRAN6WPJTd6okDvGUR21L0oMwCgYIKoZIzj0EAwIwOzEL
MAkGA1UEBhMCVVMxHjAcBgNVBAoTFUdvdzZsZSBUcncvZCBTZXJ2aWNLczEMMAoG
A1UEAxMvOXM4MDI1MDYxOTA3MzQ0MVoXDTI2MDkxNzA4MzQyMl9FTETMBEG
A1UEAxMkbnXN1LmVkdS5teTBZMBMGByqGSM49AgEGCCqGSM49AwEHA0IABIzYTU9C
qKc41R56M7LIZF41bbF0p7BRf7LcYtc8hMhvwxx+h7iZ83+twb/hCrLN6xwQt2866
Lq+FGFLfJghf5/0jggIqMIICJjA0BgNVHQ8BAf8EBAMCB4AwEwYDVR0LBAwwCgYI
KwYBBQUHAWAwEwYDVR0TAQH/BAIwADAdBgNVHQ4EFgQU5RiwjSpCCOZdmZgKeXCA
Kcmi6EwHwYDVR0jBBgwFoAUKHeSNWfE/6jMqeZ72YB5e8yT+TgwNQYIKwYBBQUH
AQEKTAnMCUGCCsGAQUFBzAChhLodHRwOi8vaS5wa2kuZ29vZy93ZTEuY3J0MCMG
A1UdEQQcMBQcCm1zdS5lZHUubXmCDoubXN1LmVkdS5teTATBgNVHSAEDDAKMAgG
BmeBDAECATA2BgNVHR8ELzAtMCugKaAnhiVodHRwOi8vYy5wa2kuZ29vZy93ZTEv
cmRvbmFQLUNFNkY3J3MIIBBgYKKwYBBAHwEQIEAgSB9wSB9ADyAHcALE5Dh/rs
we+B8xkkJqgYZQH0184AgE/cmd9VTcuGdgAAAGe3wSbfgAABAMASDBGAIEAuWrt
9CXOFeb5Qdbyaj04GZapZVUCoeA04cHA/GuL+z4CI0DG2UznmR1BK2D+ALLkV7fZ
J/W5d9c2JeaRd0gbuxY0QgB3ANDtFRDRp/V3wsfpX9cAv/mCyTNaZeHqsWfzF8DI
wL3AAABnt8Em3EAAQDAEgRgIhAMS9wbJ2Ng75IS8HeZB0jy+92NdLz63sxi3D
WcFQkX0yAiEakjzI7fULnY0fzhG7GmCVMKPUD+wppjPq2vscqgkqz4wCgYIKoZI
zj0EAwIDSAARQIhALaqs4opVNLj8Mreuw0sgVKG3eNiRneswqPjhoX01jAiAE
CiLpJfB70+eA6yrr1PEGUmyDD40JDT09Ucio5WEXpw==
-----END CERTIFICATE-----
1 s:C = US, O = Google Trust Services, CN = WE1
i:C = US, O = Google Trust Services LLC, CN = GTS Root R4
a:PKEY: id-ecPublicKey, 256 (bit); sigalg: ecdsa-with-SHA384
v:NotBefore: Dec 13 09:00:00 2023 GMT; NotAfter: Feb 20 14:00:00 2029 GMT
-----BEGIN CERTIFICATE-----
MIICnzCCAiwgAwIBAgIQf/MZd5csIkp2FV0TttaF4zAKBggqhkJ0PQQDAzBHMQsw
CQYDVQGEwJVUzEiMCAgA1UEChMZR29vZ2x1IFRydXN0IFNlcnZpY2VzIExkMQZEU
MBIGA1UEAxMLR1RTIFJvb3QgUjQwHhcNMjMxMjEzMDkwMDAwHcNMjMxMjIwMTQw
MDAwWjA7MQswCQYDVQGEwJVUzEeMBwGA1UEChMVR29vZ2x1IFRydXN0IFNlcnZp
Y2VzMQwvCgYDVQQDEwNXRTEwTATBgqhkJ0PQIBBggqhkJ0PQMBBwNCAARvzTr+
ZldhTCEdhUDCR127WecPQMFcF4XGGTfn1XztkhugbdnXGh0LCgP4mMTG6J7/EFmP
LCaY9eYmJbsPAvpWo4H+MIH7MA4GA1UdDwEB/wQEAwIBhjAdBgNVHSUEFjAUBggg
BgEFBQcDAQYIKwYBBQUHAWAwEwYDVR0TAQH/BAgwBgEB/wIBADAdBgNVHQ4EFgQU
kHeSNWfE/6jMqeZ72YB5e8yT+TgwHwYDVR0jBBgwFoAUgEzW63T/STaj1dj8tT7F
avCUHYwNAYIKwYBBQUHAQEEDAmMCQGCCsGAQUFBzAChhhdHRwOi8vaS5wa2ku
Z29vZy9yNC5jcnQwKwYDVR0fBcQwIjAgoB6GHIYaaHR0cDovL2MucGtPLmdvb2cv
ci9yNC5jcmwwEwYDVR0gBAwwCjAIBgZnQwBAGewCgYIKoZIzj0EAwMDaAAwZlX
A0cCq1HW90VznX+0RGU1cxAQXomvtgM8zITPZCUF08jSBJSjz5keR0v9aYsAm5V
sQIwJonMaAFi54mrfhf0FNZEfuNMQS6/bIBiNliyoX46FohQvKeIoJ99c7sxUkFN
7uJW
-----END CERTIFICATE-----
2 s:C = US, O = Google Trust Services LLC, CN = GTS Root R4
i:C = BE, O = GlobalSign nv-sa, OU = Root CA, CN = GlobalSign Root CA
a:PKEY: id-ecPublicKey, 384 (bit); sigalg: RSA-SHA256
v:NotBefore: Nov 15 03:43:21 2023 GMT; NotAfter: Jan 28 00:00:42 2028 GMT
-----BEGIN CERTIFICATE-----
MIIDejCCAmKgAwIBAgIQf+UwvzMTQ77dghYQST2KGzANBggqhkiG9w0BAQsFADBx
MQswCQYDVQGEwJCRTEZMBcGA1UEChMQR2xvYmFsU2lnbiBudilzYTEQMA4GA1UE
CxMHUm9vdCBDQTEbMBkGA1UEAxMSR2xvYmFsU2lnbiBSb290IENBMBA4XDTI2MTEz
NTAzNDMyMVoXDTI4MDEyODAwMDA0Ml9wRzELMAkGA1UEBhMCVVMxIjAgBgNVBAoT
GldvdzZsZSBUcncvZCBTZXJ2aWNLcyBMTEmxFDASBgNVBAMTC0duUyB5b290IFI0
MHYwEAYHkoZIzj0CAQYFK4EEACIDYgAE83Rzpj2iLYK50uDXFgTB750md+8Fhzube
Rr1r1WEYNa5A3XP3iZewWus87oV8okB206nGuEfyKuzSkwpz6bFyOZ8pn6KY019e
WIZLD6GEZQBR3IvJx3PIjGov5c5r0R2Ko4H/MIH8MA4GA1UdDwEB/wQEAwIBhjAd
BgNVHSUEFjAUBgggRBgEFBQcDAQYIKwYBBQUHAWAwEwYDVR0TAQH/BAUwAwEB/zAd
BgNVHQ4EFgQUgEzW63T/STaj1dj8tT7FavCUHYwHwYDVR0jBBgwFoAUyHtmGKUN
l8qJUC99BM00qP/8/UswnGyIKwYBBQUHAQEEDjAocMCQGCCsGAQUFBzAChhpdHRw
Oi8vaS5wa2kuZ29vZy9nc3IxlMlydDATBgNVHR8EJjAKMCKgIKAehhxodHRwOi8v
```

```

Yy5wa2kuZ29vZy9yL2dzcjEuY3JsMBMGAIUdIAQMMAowCAYGZ4EMAQIBMA0GCSqG
S1b3DQEBECwUAA4IBAQAQYQrsPBtYDh5bjP20BDwmkoWhIDDkic574y04tfzHpn+cJ
odID2d4SseesQ6bDrarZ7C30ddLibZatoKivs3UL9xnELz4ct92vID24FvbiIhY
+SWFoVhKNeWIP0GCbaM4C6uVdF5dTuMVs/ZbzNnIdCp5Gxmx5ejvEau8otR/Cs
kGN+hr/W5GvT1tMBjgwKZ1i4//emhA1JG1BbPz0LQvyEotc03LxjTaCzv8mEbeb
8RqZ7a2CPsgRbuVTPBwcOMBmBmuFeU88+FSBX6+71P0i18b4Z00FqIwwMHfs/L6K1
vepuoxTGi4CZ68zJpiq1UvSqTbFjtbD4seiMHL
-----END CERTIFICATE-----
---
Server certificate
subject=CN = msu.edu.my
issuer=C = US, 0 = Google Trust Services, CN = WE1
---
No client certificate CA names sent
Peer signing digest: SHA256
Peer signature type: ECDSA
Server Temp Key: X25519, 253 bits
---
SSL handshake has read 2783 bytes and written 392 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

```

IPv6 Connection

IP Used	2606:4700:20::ac43:4663
IP Version	6

```

depth=2 C = US, 0 = Google Trust Services LLC, CN = GTS Root R4
verify return:1
depth=1 C = US, 0 = Google Trust Services, CN = WE1
verify return:1
depth=0 CN = msu.edu.my
verify return:1
CONNECTED(00000010)
---
Certificate chain
0 s:CN = msu.edu.my
  i:C = US, 0 = Google Trust Services, CN = WE1
  a:PKEY: id-ecPublicKey, 256 (bit); sigalg: ecdsa-with-SHA256
  v:NotBefore: Jun 19 07:34:41 2026 GMT; NotAfter: Sep 17 08:34:22 2026 GMT
-----BEGIN CERTIFICATE-----
MIIDezCCAYGgAwIBAgIRAN6WPjTd6okdDvGUR21L0oMwCgYIKoZIzj0EAwIwOZEL
MAkGA1UEBhMCVVMxHjAcBgNVBAoTFUdvb2dsZSBSUcnVzdCBTZXJ2aWNLczEMMAoG
A1UEAxMDV0xMB4XDTE2MDYxOTA3MzQ0MVoXDTI2MDkxNzA4MzQyMlowFTETMBEG
A1UEAxMKbXN1LmVkdS5teTBZMBMGByqGSM49AgEGCCcGSM49AwEHA0IABIZyTu9C
qKc41R56M7LIZF41bbFQp7BRf7LCyTc8hMhvwX+h7iZ83+twb/hCrLN6xwQt2866
Lq+FGFLfJghf5/0jggIqMIICjA0BgNVHQ8BAf8EBAMCB4AwEwYDVR0LBAwwCgYI
KwYBBQUHAwEwDAYDVR0TAQH/BAIwADAdBgNVHQ4EFgQU5RiwjSpCCOZdmZgKeXCA
Kcmmi6EwHwYDVR0jBBgwFoAukHeSNWfE/6jMqeZ7YB5e8yT+TgwNQYIKwYBBQUH
AQEKTAnMCGCCsGAQUBzAChhLodHRwOi8va55wa2kuZ29vZy93ZTEuY3J0MCMG
A1UdEQQCMBQCcm1zdS5lZHUubXmDCoubXN1LmVkdS5teTATBGNVHSAEDDAKMAg
BmeBDAECATA2BgNVHR8ELzAtMCugKaAnhiVodHRwOi8vYy5wa2kuZ29vZy93ZTEu
cmRvbmFQLUNFNfKuY3JsMIIBBgYKKwYBBAHwEIQIEAgSB9wSB9ADyAHCAlE5Dh/rs
we+B8xkkJqgYZQHH0184AgE/cmd9VTcuGdGAAAGe3wSbfGAAABAMASDBGAIEAuWwt
9CX0FeB5Qdbyaj04GZapZVUCoeA04cHA/GuL+z4CI0DG2UznmR1BK2D+ALLkV7fZ
J/WsD9c2JeArdgQbuxY0QgB3ANDtFRDRp/V3wsfpX9cAv/mCyTNaZeHQswFzF8DI
xWL3AAABnt8Em3EAAQAQAEgwRgIhAMS9wbJ2Ng75IS8HeZB0jy+92NdLz63sxi3D
WcfKX0yAiEAKjzI7FULnY0fzhG7GmCVWKPUD+wppjPq2vscWgqkz4wCgYIKoZI
zj0EAwIDSAAwRQIhALaqs4opVNLj8MreuwQsgVkg3eNiiRnesqwPJhox01jAiAE
CiLpJfB70+eA6yYr1PEGUyDD40JDT09Ucio5WEXpw==
-----END CERTIFICATE-----
1 s:C = US, 0 = Google Trust Services, CN = WE1
  i:C = US, 0 = Google Trust Services LLC, CN = GTS Root R4
  a:PKEY: id-ecPublicKey, 256 (bit); sigalg: ecdsa-with-SHA384
  v:NotBefore: Dec 13 09:00:00 2023 GMT; NotAfter: Feb 20 14:00:00 2029 GMT
-----BEGIN CERTIFICATE-----
MIICnzCAiWgAwIBAgIQf/MZd5csIkp2FV0TttaF4zAKBggqhkJOPQDAzBHMQsw
CQYDVQQGEwJVUzEiMCAgA1UEChMZR29vZ2x1IFRydXN0IFNlcnZpY2VzIExMQzEU
MBIGA1UEAxMLR1RTIFJvb3Q0UjQwHhcNMjMxMjEzMDk0MDAwMjMxMjEzMDk0MDAw
MDAwMjMxMjEzMDk0MDAwMjMxMjEzMDk0MDAwMjMxMjEzMDk0MDAwMjMxMjEzMDk0
Y2VzMQwwCgYDVQQDEwNXRTEwTATBgqhkJOPQIBBggqhkJOPQMBBwNCAARvzTr+
Z1dHTCEDhUDCR127WecPQMFcF4XGGTfn1XzthkubgdngXGh01CgP4mMTG6J7/EFmP

```

```
LCaY9eYmJbsPAvpWo4H+MIH7MA4GA1UdDwEB/wQEAwIBhjAdBgNVHSUEFjAUBgggr
BgEFBQcDAQYIKwYBBQUHAWIwEgYDVR0TAQH/BAgwBgEB/wIBADAdBgNVHQ4EFgQU
kHeSNwF6/6jMqeZ72YB5e8yT+TgwHwYDVR0jBBgwFoAUgEzW63T/STaj1dj8tT7F
avCUHYwNAYIKwYBBQUHAQEEDAmcCQGCCsGAQUFBzACChhodHRwOi8vaS5wa2ku
Z29vZy9yNC5jcnQwKwYDVR0fBcQwIjAgoB6gHIYaaHR0cDovL2MucGtpLmdvb2cv
ci9yNC5jcmwwEwYDVR0gBAwwCjAIBGZngQwBAGwEwCgYIKoZizj0EAAwMDaAAwZQIX
A0cCqLHW90VznX+0RGUJLcxAQXomvtgM8zITPZCUF08jSBJ5jz5keR0v9aYsAm5V
sQIwJonMaAFi54mrfhf0FNZEfuNMQS06/bIBiNliyoX46FohQvKeIoJ99cx7sUkFN
7uJW
```

```
-----END CERTIFICATE-----
2 s:C = US, 0 = Google Trust Services LLC, CN = GTS Root R4
i:C = BE, 0 = GlobalSign nv-sa, OU = Root CA, CN = GlobalSign Root CA
a:PKKEY: id-ecPublicKey, 384 (bit); sigalg: RSA-SHA256
v:NotBefore: Nov 15 03:43:21 2023 GMT; NotAfter: Jan 28 00:00:42 2028 GMT
```

```
-----BEGIN CERTIFICATE-----
MIIDeJCCAmKgAwIBAgIQf+UwvzMTQ77dghyQST2KGzANBqkqhkiG9w0BAQsFADBX
MQswCQYDVQQGEwJCRTEZMBCcGA1UEChMQR2xvYmFsU2lnbiBudIzYTEQMA4GA1UE
CxMHUm9vdCBDQTEbMBkGA1UEAxMSR2xvYmFsU2lnbiBSb290IENBMB4XDTEzMTEx
NTAzNDMyMVoXDTI0MDEyODAwMDA0MlowRzELMAkGA1UEBhMCVVMxIjAgBgNVBAoT
Gldvb2dsZSBucnVzdCBTZXJ2aWNlcyBMTExmFDASBgNVBAMTC0UUYB5b290IFI0
MHYwEAYHKoZIzj0CAQYFK4EEACIDYgAE83Rzp2iLYK5DuDXFgTB750md+8Fhzube
Rr1r1WEYNa5A3XP3iZEWwus87oV8okB206nGuEfyKueSkWpZ6bFy0Z8pn6KY019e
WIZLD6GEZQbR3IvJx3PIjGov5cSr0R2Ko4H/MIH8MA4GA1UdDwEB/wQEAwIBhjAd
BgNVHSUEFjAUBgggrBgEFBQcDAQYIKwYBBQUHAWIwDwYDVR0TAQH/BAUwAwEB/zAd
BgNVHQ4EFgQUgEzW63T/STaj1dj8tT7FavCUHYwHwYDVR0jBBgwFoAUyHtmGKUN
l8qJUC99BM00qP/8/UsWNgYIKwYBBQUHAQEEDjAoMCYGCCsGAQUFBzACChpodHRw
O18vaS5wa2kuZ29vZy9yNC5jcnQwKwYDVR0fBcQwIjAgoB6gHIYaaHR0cDovL2MucGtp
Lmdvb2cvci9yNC5jcmwwEwYDVR0gBAwwCjAIBGZngQwBAGwEwCgYIKoZizj0EAAwMDaAAwZQIX
A0cCqLHW90VznX+0RGUJLcxAQXomvtgM8zITPZCUF08jSBJ5jz5keR0v9aYsAm5V
sQIwJonMaAFi54mrfhf0FNZEfuNMQS06/bIBiNliyoX46FohQvKeIoJ99cx7sUkFN
7uJW
```

```
-----END CERTIFICATE-----
```

```
---
Server certificate
subject=CN = msu.edu.my
issuer=C = US, 0 = Google Trust Services, CN = WE1
---
```

```
No client certificate CA names sent
Peer signing digest: SHA256
Peer signature type: ECDSA
Server Temp Key: X25519, 253 bits
---
```

```
SSL handshake has read 2783 bytes and written 392 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
```



```

"12": "server: cloudflare",
"13": "cf-ray: a1586c99ea95ce6a-SIN",
"14": "alt-svc: h3=\":443\"; ma=86400",
"16": "HTTP/2 200",
"17": "date: Fri, 03 Jul 2026 19:51:19 GMT",
"18": "content-type: text/html; charset=UTF-8",
"19": "server: cloudflare",
"20": "vary: Accept-Encoding",
"21": "expires: Thu, 19 Nov 1981 08:52:00 GMT",
"22": "cache-control: no-store, no-cache, must-revalidate",
"23": "pragma: no-cache",
"24": "set-cookie: PHPSESSID=srfho2g260js963autclj5g35k; path=/; SameSite=Lax",
"25": "strict-transport-security: max-age=15768000",
"26": "x-xss-protection: 1; mode=block",
"27": "cf-cache-status: BYPASS",
"28": "speculation-rules: \"/cdn-cgi/speculation\"",
"29": "report-to: {\\"group\\":\\"cf-
nel\\",\\"max_age\\":604800,\\"endpoints\\":{\\"url\\":\\"https://a.nel.cloudflare.com/report/v4?s=cw4PtUeUulGhc5ZTand404g45jrM72v5nEu3Wt0quWr06Hsm%2FimmpT4Cvap8vt3DvHoLcREgm1VoBkcHSWFo
"30": "nel: {\\"report_to\\":\\"cf-nel\\",\\"success_fraction\\":0.0,\\"max_age\\":604800}",
"31": "expect-ct: max-age=86400, enforce",
"32": "referrer-policy: same-origin",
"33": "x-content-type-options: nosniff",
"34": "x-frame-options: SAMEORIGIN",
"35": "cf-ray: a1586c9a2fab243f-SIN",
"36": "alt-svc: h3=\":443\"; ma=86400"
    }
    
```

Connectivity Test Evidence

Test	Result
TCP Connect IPv4 → port 80	301 0.008531 0.040164
TCP Connect IPv6 → port 80	301 0.007629 0.030148
TCP Connect IPv4 → port 443	301 0.007591 0.037264
TCP Connect IPv6 → port 443	301 0.007805 0.040427

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
    
```