

# IPv6 Readiness Report

kk.gov.my — kkr.gov.my



Scan to verify

Category: Government • Generated: 13 Jun 2026, 18:42 MYT • Last Checked: 13 Jun 2026, 00:54 MYT • Verification ID: a18bc9ca-cf97-4e2a-a956-0da0547d50f6

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

Audit trail: <https://ipv6.my6.my/audit/a18bc9ca-cf97-4e2a-a956-0da0547d50f6>

<p><b>X</b></p> <p><b>Non-Compliant</b></p> <p>MGv6C-1.0</p>	<p><b>47%</b></p> <p><b>No IPv6 Support</b></p>	<p><b>IPv6-ONLY READINESS</b></p> <p>Website: <b>X Not Ready</b></p> <p>DNS: <b>X Not Ready</b></p> <p>Email: <b>X Not Ready</b></p>
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<p><b>IPv4 ADDRESSES</b></p> <p>110.159.226.22</p>
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## Network Information (WHOIS / RDAP)

IPv4 Network	
Organization	UNIFI-HOME
Country	MY
ASN	AS4788
ASN Name	TTSSB-MY - TM TECHNOLOGY SERVICES SDN. BHD., MY
Network (CIDR)	110.159.224.0/19

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%)				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	FAIL	Nameserver does not answer queries 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	<b>Signing Algorithm</b>	<b>INFO</b>	RSASHA256

**Email Services** (25%) 4 / 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>PASS</b>	DMARC record found.

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

#	CHECK	RESULT	DETAIL
1	<b>A Record</b>	<b>PASS</b>	110.159.226.22
2	<b>HTTP over IPv4</b>	<b>PASS</b>	HTTP (port 80) responds over IPv4 — 39ms TTFB.
3	<b>HTTPS over IPv4</b>	<b>PASS</b>	HTTPS (port 443) responds over IPv4 — 52ms TTFB.

## Audit Trail & Evidence Record

Verification ID	a18bc9ca-cf97-4e2a-a956-0da0547d50f6
Domain	kkf.gov.my
Check Mode	Scheduled
Status	Completed
Started	13 Jun 2026, 00:54:20 MYT
Finished	13 Jun 2026, 00:54:57 MYT
Test Node Profile	dual stack
Engine Version	2.0.0
MGv6C Version	1.0.0
Audit URL	https://ipv6.my6.my/audit/a18bc9ca-cf97-4e2a-a956-0da0547d50f6

## Integrity Verification

✓ <b>INTEGRITY VERIFIED</b>	
Algorithm	hmac-sha256-v1
Root Hash	cb4a1aedca4d3dfa22ac984c6ed7cf03e16bc923135852744593f15a7865ebae
http_headers	dfe9a0019c6b59ca12be03d121727e05d53a941888607e9bb08491cb102bd196
dns_responses	ead4ea98410c6320a0839ac571cb2b649081d5b785d6a20fe643f164e74cc610
tls_handshake	aed45408c2611cb9cdf3218149eb2e8ef79dafc7a3423a02d26862fcd833aca
connectivity_log	af15532bd63433497d8e1c096d5a7e928f551674d3fb3a9a37314b7aac460cb9
dns_resolution_times	70a20a5b4ccf95f43b7375e0ded35523312f8d92423c61a2f69d1bfb37ec7631

## 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	15.34	31.95	24.52	35.15	+9.2
Google	IPv4	42.75	60.25	47.58	48.3	+4.8
Google	IPv6	56.08	57.41	54.05	64.37	-2
Cloudflare	IPv4	24.26	30.88	45.17	45.74	+20.9
Cloudflare	IPv6	30.88	64.66	39.09	50.84	+8.2



## DNS Evidence

### A

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 14969
;; flags: qr rd ra ad; QUERY: 1, ANSWER: 0, AUTHORITY: 1, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; AUTHORITY SECTION:
kk.gov.my. 003600 IN SOA dns1.gitn.net.my. root.dns1.gitn.net.my. 2026042313 10800 3600 172800 38400
```

### DS

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 61685
;; flags: qr rd ra ad; QUERY: 1, ANSWER: 2, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; ANSWER SECTION:
kk.gov.my. 0086364 IN DS 16051 8 2 5E64474DA2326D534F1D46DCD6120A9DB84DF554C9A979F3A7FD474A 1CF2B728
kk.gov.my. 0086364 IN DS 16051 8 1 8D267BB2C1D7C38F0A089A42885A57AC10E9C827
```

### MX

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 43288
;; flags: qr rd ra ad; QUERY: 1, ANSWER: 5, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; ANSWER SECTION:
kk.gov.my. 00300 IN MX 5 alt2.aspmx.l.google.com.
kk.gov.my. 00300 IN MX 10 alt3.aspmx.l.google.com.
kk.gov.my. 00300 IN MX 10 alt4.aspmx.l.google.com.
kk.gov.my. 00300 IN MX 1 aspmx.l.google.com.
kk.gov.my. 00300 IN MX 5 alt1.aspmx.l.google.com.
```

### NS

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 52498
;; flags: qr rd ra ad; QUERY: 1, ANSWER: 2, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; ANSWER SECTION:
kk.gov.my. 0038400 IN NS dns2.gitn.net.my.
kk.gov.my. 0038400 IN NS dns1.gitn.net.my.
```

### TXT

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 48303
;; flags: qr rd ra ad; QUERY: 1, ANSWER: 4, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; ANSWER SECTION:
kk.gov.my. 003600 IN TXT "v=spf1 ip4:103.8.147.12/30 ip4:219.92.54.177/32 ip4:103.156.82.32/29 ip4:103.156.83.32/29 include:_spf.google.com -all"
kk.gov.my. 003600 IN TXT "_globalsign-domain-verification=ol-tF44wYbYYvNcets_K_OCEusDH0hCLFapPaKuVQFf"
kk.gov.my. 003600 IN TXT "google-site-verification=G-NR6IT-I4jFeBjH0p7Zhq8IITtK3sgklgJb5Ns_oc"
kk.gov.my. 003600 IN TXT "MS=ms58191056"
```

### AAAA

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 44622
;; flags: qr rd ra ad; QUERY: 1, ANSWER: 0, AUTHORITY: 1, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; AUTHORITY SECTION:
kk.gov.my. 003600 IN SOA dns1.gitn.net.my. root.dns1.gitn.net.my. 2026042313 10800 3600 172800 38400
```

RRSIG

```
dns1.gitn.net.my. root.dns1.gitn.net.my. 2026042313 10800 3600 172800 38400
SOA 8 3 38400 20260712112132 20260612102132 52179 kkr.gov.my. llaUsQ84FabfMxgnIrCbhg+Gb+6crZ07cKXe4tUuxbuqdmYrz53Wk47A
NixlBvxcTy0NwPhlKnYnu5HliLnVxoSp+rN06WhC/CF4/5B0W04EFil1 ex7GE6l979d50mLgm9ERIDzrnAtjrVLiYBrjs4MMCSu3KV0NTFSiFCsS b0Q=
```

DNSKEY

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 63416
;; flags: qr rd ra ad; QUERY: 1, ANSWER: 2, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; ANSWER SECTION:
kk.gov.my. 38365 IN DNSKEY 256 3 8 AwEAAAGqwbWFAAPXLIINFN/uNu0x6PomvYrMJUzXJohV1DreZhYSV3T WNWlLleyKHVzVCyEPFfGj/09ner9Yo4wr6QCtLl96guBUFRtQstJRNKW
wBh0e09N5wFKCzLNxDZSy7+q6pavrp75c182wXWCiYT4ynhPK/G3coVW /7vWtVir
kk.gov.my. 38365 IN DNSKEY 257 3 8 AwEAAABQiytYzsf8VeB7e+eah0WAAhMVHW0rcY/LwcEbaq0QWTFfag3C x4hha2vd87MSIVp3uQGUG0SxmfGwXrm5ut8Ev7j1240H/h8+0EfXqtYb
vRxKUIe5rr/ImTI+bCVR0en3tm9y/dqCqm0+t5vGF9F3EfRtgbz0Dt0h xo/Jr2i+YpmxLBVe6B40+wLHHYzcuYpASv+D7fTHs+iR+GM5oDzyd5R1
VkJy0rotew3lM8ae8jBgBR1NE3bxaLxRTcVuaFAaVuU2hTHiBNWgiyqm sypvnM0APTUJ0ni/28RVRo+asYnyovB9gz/jIjB0qv+qtV12PsY3Mey zCJ6FNLDwa0=
```

DNSSEC\_VALIDATION

```
; fully validated
kk.gov.my. 38365 IN SOA dns1.gitn.net.my. root.dns1.gitn.net.my. 2026042313 10800 3600 172800 38400
kk.gov.my. 38365 IN RRSIG SOA 8 3 38400 20260712112132 20260612102132 52179 kkr.gov.my. llaUsQ84FabfMxgnIrCbhg+Gb+6crZ07cKXe4tUuxbuqdmYrz53Wk47A
NixlBvxcTy0NwPhlKnYnu5HliLnVxoSp+rN06WhC/CF4/5B0W04EFil1 ex7GE6l979d50mLgm9ERIDzrnAtjrVLiYBrjs4MMCSu3KV0NTFSiFCsS b0Q=
```





```
b20vcmVwb3NpdG9yeS8wDQYJKoZIhvcNAQELBQADggEBAJmQyC1fQorUC2bbmANz
EdSIhLIoU4r7rd/9c446ZwTbw1MUcBQJfMPg+NccmBqixD7b6QDjynCy8SIwIVbb
0615XoFYC20UgDX1b10d65pHBf9ZjQCxQNqQmJYaumxtf4z1s4dfjGRzNpZ5eWl0
6r/4ngGPoJVpjemEuunl1Ig423g7mNA2eymw0LIYkN5S0wCuaiFIFJ6GLazhgDEw
fpoLu4usBC0mmQDo8dIm7A9+04orkjgTHY+GzYZSR+Y0fFukAj6KYXwidlNaLFMz
hriSqHkvoFlShx8xpfywgVcvzft03PYkz6fiNJBonf6q8amaEsybwMbdqKwIX7e
SPY=
-----END CERTIFICATE-----
---
Server certificate
subject=C = MY, ST = KUALA LUMPUR, L = KUALA LUMPUR, O = KEMENTERIAN KERJA RAYA, CN = *.kk.gov.my
issuer=C = BE, O = GlobalSign nv-sa, CN = GlobalSign RSA OV SSL CA 2018
---
No client certificate CA names sent
Peer signing digest: SHA256
Peer signature type: RSA-PSS
Server Temp Key: X25519, 253 bits
---
SSL handshake has read 3451 bytes and written 405 bytes
Verification: OK
---
New, TLSv1.2, Cipher is ECDHE-RSA-AES256-GCM-SHA384
Server public key is 2048 bit
Secure Renegotiation IS supported
Compression: NONE
Expansion: NONE
No ALPN negotiated
```

## HTTP Response Evidence

### IPv4 HTTP (port 80)

HTTP Status	400
Connected IP	110.159.226.22
Connect Time	10.39 ms
TTFB	26.57 ms
Total Time	26.62 ms

#### Response Headers:

```
[
  "HTTP/1.1 400 Bad Request",
  "Date: Fri, 12 Jun 2026 16:54:57 GMT",
  "Server: Apache",
  "X-Powered-By: NasRule",
  "Cache-Control: no-cache, private",
  "X-Generator: NasRule",
  "X-Content-Type-Options: nosniff",
  "Connection: close",
  "Content-Type: text/plain; charset=UTF-8",
  "Set-Cookie: cookiesession1=678A8C3152A173A9424975B0A0B3F1F1;Expires=Sat, 12 Jun 2027 16:55:00 GMT;Path=/;HttpOnly"
]
```

### IPv4 HTTPS (port 443)

HTTP Status	400
Connected IP	110.159.226.22
Connect Time	8.72 ms
TTFB	48.54 ms
Total Time	48.56 ms

#### Response Headers:

```
[
  "HTTP/1.1 400 Bad Request",
  "Date: Fri, 12 Jun 2026 16:54:57 GMT",
  "Server: Apache",
  "X-Powered-By: NasRule",
  "Cache-Control: no-cache, private",
  "X-Generator: NasRule",
  "X-Content-Type-Options: nosniff",
  "Connection: close",
  "Content-Type: text/plain; charset=UTF-8",
  "Set-Cookie: cookiesession1=678A8C3272816B5ECE9610B2E5472A96;Expires=Sat, 12 Jun 2027 16:55:00 GMT;Path=/;HttpOnly"
]
```

## Connectivity Test Evidence

Test	Result
TCP Connect IPv4 → port 80	400 0.016517 0.032427
TCP Connect IPv4 → port 443	400 0.009482 0.076757

---

### Test Node Network Evidence

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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
```