


# IPv6 Readiness Report

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

Audit trail: <https://ipv6.my6.my/audit/78c0852e-f2c1-48c3-9f27-04d21eeb1e73>

 <b>Non-Compliant</b> <small>MGv6C-1.0</small>	<b>32%</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>IPV4 ADDRESSES</b> 58.26.44.10
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## Network Information (WHOIS / RDAP)

IPv4 Network	
Organization	TM TECHNOLOGY SERVICES SDN BHD
Country	MY
ASN	AS4788
ASN Name	TTSSB-MY TM TECHNOLOGY SERVICES SDN. BHD., MY
Network (CIDR)	58.26.0.0/16

Web Services (35%) <span style="float: right;">0 / 8</span>			
#	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%) <span style="float: right;">0 / 5</span>			
#	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%) 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>	58.26.44.10
2	<b>HTTP over IPv4</b>	<b>PASS</b>	HTTP (port 80) responds over IPv4 — 519ms TTFB.
3	<b>HTTPS over IPv4</b>	<b>PASS</b>	HTTPS (port 443) responds over IPv4 — 310ms TTFB.

### Audit Trail & Evidence Record

Verification ID	78c0852e-f2c1-48c3-9f27-04d21eeb1e73
Domain	bernama.com
Check Mode	Manual
Status	Completed
Started	07 Mar 2026, 01:18:09 MYT
Finished	07 Mar 2026, 01:18:35 MYT
Test Node Profile	dual stack
Engine Version	2.0.0
MGv6C Version	1.0.0
Audit URL	https://ipv6.my6.my/audit/78c0852e-f2c1-48c3-9f27-04d21eeb1e73

### Integrity Verification

<b>✓ INTEGRITY VERIFIED</b>	
Algorithm	hmac-sha256-v1
Root Hash	4db450a69a2e50f6bc0e26cf4dcad91e9912fcc8d3621d6b404acaf19de4308f
http_headers	ba87145e011f10f72703206a0fbc422838e4d7da4c9cdfca95b72e78cd2d5680
dns_responses	7e3fd183105c263df6000b50f39828b2ea47fddfd69bff3dcfe6ac616386e1b4
tls_handshake	88779b6f453a038bce9584823b209857a9b66a77f76c9936a70098846dbaf589
connectivity_log	4bbcc9a7fe765effd6b17e1241380a4793a5a9b49ba953815f57c5b5d05b06cd
dns_resolution_times	492bef5b4c5497eb89ba15a2df66002443f5590b2524ab17bf66aac8c14e743

### 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	17.11	17.17	6.89	16.95	-10.2
Google	IPv4	16.97	30.99	15.64	20.37	-1.3
Google	IPv6	7.76	24.03	26.05	31.11	+18.3
Cloudflare	IPv4	17.98	18.07	7.97	19.07	-10
Cloudflare	IPv6	15	16.05	17.7	25.35	+2.7



## DNS Evidence

### A

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 34779
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 512
;; ANSWER SECTION:
bernama.com. 243 IN A 58.26.44.10
```

### DS

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 26334
;; flags: qr rd ra; QUERY: 1, ANSWER: 0, AUTHORITY: 1, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 512
;; AUTHORITY SECTION:
com. 900 IN SOA a.gtld-servers.net. nstld.verisign-grs.com. 1772788691 1800 900 604800 900
```

### MX

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 20090
;; flags: qr rd ra; QUERY: 1, ANSWER: 5, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 512
;; ANSWER SECTION:
bernama.com. 223 IN MX 10 alt4.aspmx.l.google.com.
bernama.com. 223 IN MX 5 alt1.aspmx.l.google.com.
bernama.com. 223 IN MX 1 aspmx.l.google.com.
bernama.com. 223 IN MX 5 alt2.aspmx.l.google.com.
bernama.com. 223 IN MX 10 alt3.aspmx.l.google.com.
```

### NS

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 2247
;; flags: qr rd ra; QUERY: 1, ANSWER: 3, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 512
;; ANSWER SECTION:
bernama.com. 3600 IN NS ns4.bernama.com.
bernama.com. 3600 IN NS ns2.bernama.com.
bernama.com. 3600 IN NS ns.bernama.com.
```

### TXT

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 39598
;; flags: qr rd ra; QUERY: 1, ANSWER: 3, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 512
;; ANSWER SECTION:
bernama.com. 1 IN TXT "google-site-verification=fIMQ2r5493cXQDJNVoTjKs80jLDstyMZUWu2T65skzc"
bernama.com. 1 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"
bernama.com. 1 IN TXT "google-gws-recovery-domain-verification=55964765"
```

### AAAA

```
;; Got answer:
;; -->HEADER<<- opcode: QUERY, status: NOERROR, id: 16119
;; flags: qr rd ra; QUERY: 1, ANSWER: 0, AUTHORITY: 1, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 512
;; AUTHORITY SECTION:
bernama.com. 300 IN SOA ns.bernama.com. dnsadmin.bernama.com. 2016071284 3600 900 2419200 86400
```

### RRSIG

```
ns.bernama.com. dnsadmin.bernama.com. 2016071283 3600 900 2419200 86400
```

**DNSKEY**

```
;; Got answer:  
;; ->HEADER<<- opcode: QUERY, status: NOERROR, id: 21083  
;; flags: qr rd ra; QUERY: 1, ANSWER: 0, AUTHORITY: 1, ADDITIONAL: 1  
  
;; OPT PSEUDOSECTION:  
; EDNS: version: 0, flags:; udp: 512  
;; AUTHORITY SECTION:  
bernama.com. IN SOA ns.bernama.com. dnsadmin.bernama.com. 2016071283 3600 900 2419200 86400
```

**DNSSEC\_VALIDATION**

```
; unsigned answer  
bernama.com. IN SOA ns.bernama.com. dnsadmin.bernama.com. 2016071284 3600 900 2419200 86400
```





```

BgEFBQcBAQRqMGgwPwYIKwYBBQUHMAKGM2h0dHA6Ly9jcnQuZXNlcnRydXN0LmNv
bS9VU0VSUHJ1c3RSU0FBZGRUcnVzdENBLmNydDA1BggrBgEFBQcwAYYZaHR0cDov
L29jc3AudXNlcnRydXN0LmNvbTANBgkqhkiG9w0BAQwFAAOCAGEMr9hvQ5Iw0/H
ukdN+Jx4GQHcEx2Ab/zDcLR5mjEzmldS+zGea6TvVKqJjUAXaPgREHzSyrHxVYbH
7rM2kYb20VG/Rr8PoLq0935JxCo2F57kaD16r5R0Vm+yezu/Coa9zcV3HA040LGi
H19+24rcRki2aArPsrw04jTkZ6k4ZgLe0rj8nSg6F0AnwnJOKf0hPHzPE/uWLMUX
RP0T7dWbqWlod3zu4f+k+TY4CFM5ooQ0nBnzvg6s1SQ36y0eNDT5++SR2Ri0SLv
xvcRv1KFxmZEJCa0EDKNyJ0uB56DPi/Z+fVGjm0+wea03KbNIaiGCPxZLOUmGv38
sbZXQm2V0TP2ORQGgkE49Y9Y3IBbpNV9LXj9p5v//cWoaasm56ekBYdbqbe4oyAL
l6lFhd2zi+WJN44pDfwGF/Y4QA5C5BIG+3vzxhFoYt/jmPQT2BVPi7Fp2RBgvGQq
6jG35LWj0hSbJuMLe/0CjraZwTiXWTb2qHSihrZe68Zk6s+go/LunrotEbaGmAhY
LcmsJWTyXnW00MGuf1pGg+pRyrbxmRE1a6Vqe8YAsOf4vmSyrCjC8azjUeqkk+B5
y0GBQMkKw+ESPMFgKu0XwILCypTPRpgSabuY0MLTDXJLR27Lk80yKGOHQ+SwMj4K
00u/ISsUKUErmgQfky3xxz1IPK1aEn8=
-----END CERTIFICATE-----
2 s:C = US, ST = New Jersey, L = Jersey City, O = The USERTRUST Network, CN = USERTrust RSA Certification Authority
i:C = GB, ST = Greater Manchester, L = Salford, O = Comodo CA Limited, CN = AAA Certificate Services
a:PKKEY: rsaEncryption, 4096 (bit); sigalg: RSA-SHA384
v:NotBefore: Mar 12 00:00:00 2019 GMT; NotAfter: Dec 31 23:59:59 2028 GMT
-----BEGIN CERTIFICATE-----
MIIFgTCCBgmgAwIBAgIQ0XJE0vkit1HX02wQ3TE1LTANBgkqhkiG9w0BAQwFADB7
MQswCQYDVQQGEwJH0jEbmBkGA1UECAwSR3JlYXRlc1BNYW5jaGVzdGVyMRAwDgYD
VQHQDAAdTYwmb3JkMR0wGAYDVQQKBFDb21vZG8gQ0EgTGltaxRlZDEhMB8GA1UE
AwwYQUFBIENlcnRpdzljYXRlIFNlcnZpY2VzMB4XDTE5MDMxMjAwMDAwMFoXDTE4
MTIzMTIzNTk1OVowYgxCzAJBgNVBAYTALVTRMRWEOYDVQVQIEwp0ZXcgSmVyc2V5
MRQwEgYDVQQHEwtKZjZzZXkgQ2l0eTEeMBwGA1UEChMVVGVhLlFVTRVJUULVTVCB0
ZXR3b3JrMS4wLAYDVQQDEyVUU0VSUHJ1c3Q0guUNBIENlcnRpdzljYXRpb24gQXV0

```



## HTTP Response Evidence

### IPv4 HTTP (port 80)

HTTP Status	200
Connected IP	58.26.44.10
Connect Time	8.34 ms
TTFB	599.82 ms
Total Time	599.91 ms

#### Response Headers:

```
{
  "0": "HTTP/1.1 301 Moved Permanently",
  "1": "Date: Fri, 06 Mar 2026 09:18:33 GMT",
  "2": "Server: Apache",
  "3": "Strict-Transport-Security: max-age=31536000",
  "4": "Location: https://bernama.com/",
  "5": "Cache-Control: max-age=172800",
  "6": "Expires: Sun, 08 Mar 2026 09:18:33 GMT",
  "7": "Content-Type: text/html; charset=iso-8859-1",
  "9": "HTTP/2 302",
  "10": "strict-transport-security: max-age=31536000",
  "11": "x-frame-options: SAMEORIGIN",
  "12": "x-content-type-options: nosniff",
  "13": "referrer-policy: strict-origin",
  "14": "permissions-policy: geolocation=(),midi=(),sync-xhr=(),microphone=(),camera=(),magnetometer=(),gyroscope=(),fullscreen=(self),payment=()",
  "15": "location: https://bernama.com/en/",
  "16": "cache-control: max-age=172800",
  "17": "expires: Sun, 08 Mar 2026 09:18:33 GMT",
  "18": "content-type: text/html; charset=iso-8859-1",
  "19": "date: Fri, 06 Mar 2026 09:18:33 GMT",
  "20": "server: Apache",
  "22": "HTTP/2 200",
  "23": "x-powered-by: PHP/8.2.28",
  "24": "expires: Thu, 19 Nov 1981 08:52:00 GMT",
  "25": "cache-control: no-store, no-cache, must-revalidate",
  "26": "pragma: no-cache",
  "27": "set-cookie: PHPSESSID=3iaf7o5qbm8j1kten0ur149re4; path=/",
  "28": "strict-transport-security: max-age=31536000",
  "29": "x-frame-options: SAMEORIGIN",
  "30": "x-content-type-options: nosniff",
  "31": "referrer-policy: strict-origin",
  "32": "permissions-policy: geolocation=(),midi=(),sync-xhr=(),microphone=(),camera=(),magnetometer=(),gyroscope=(),fullscreen=(self),payment=()",
  "33": "x-xss-protection: 1; mode=block",
  "34": "vary: User-Agent",
  "35": "content-type: text/html; charset=UTF-8",
  "36": "date: Fri, 06 Mar 2026 09:18:33 GMT",
  "37": "server: Apache"
}
```

### IPv4 HTTPS (port 443)

HTTP Status	200
Connected IP	58.26.44.10
Connect Time	8.56 ms
TTFB	647.54 ms
Total Time	647.63 ms

#### Response Headers:

```
{
  "0": "HTTP/2 302",
  "1": "strict-transport-security: max-age=31536000",
  "2": "x-frame-options: SAMEORIGIN",
  "3": "x-content-type-options: nosniff",
  "4": "referrer-policy: strict-origin",
  "5": "permissions-policy: geolocation=(),midi=(),sync-xhr=(),microphone=(),camera=(),magnetometer=(),gyroscope=(),fullscreen=(self),payment=()",
  "6": "location: https://bernama.com/en/",
  "7": "cache-control: max-age=172800",
  "8": "expires: Sun, 08 Mar 2026 09:18:34 GMT",
  "9": "content-type: text/html; charset=iso-8859-1",
  "10": "date: Fri, 06 Mar 2026 09:18:34 GMT",
  "11": "server: Apache",
}
```

```

"13": "HTTP/2 200",
"14": "x-powered-by: PHP/8.2.28",
"15": "expires: Thu, 19 Nov 1981 08:52:00 GMT",
"16": "cache-control: no-store, no-cache, must-revalidate",
"17": "pragma: no-cache",
"18": "set-cookie: PHPSESSID=4humvocdauh0fslb92marq8hcs; path=/",
"19": "strict-transport-security: max-age=31536000",
"20": "x-frame-options: SAMEORIGIN",
"21": "x-content-type-options: nosniff",
"22": "referrer-policy: strict-origin",
"23": "permissions-policy: geolocation=(),midi=(),sync-xhr=(),microphone=(),camera=(),magnetometer=(),gyroscope=(),fullscreen=(self),payment=()",
"24": "x-xss-protection: 1; mode=block",
"25": "vary: User-Agent",
"26": "content-type: text/html; charset=UTF-8",
"27": "date: Fri, 06 Mar 2026 09:18:34 GMT",
"28": "server: Apache"
}
    
```

### Connectivity Test Evidence

Test	Result
TCP Connect IPv4 → port 80	301 0.013771 0.026990
TCP Connect IPv4 → port 443	302 0.011677 0.036104

### 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
    
```