



Malaysia's Strategy and Experience in IPv6 and IPv6-Only Development and Deployment

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VNNIC INTERNET CONFERENCE 2026 (VIC 2026)
Sheraton Saigon Grand Opera Hotel, Ho Chi Minh City, Vietnam
19 July 2026

MCMC'S ROLE IN ENABLING DIGITAL INFRASTRUCTURE



Communications and Multimedia Act 1998 (CMA 1998)

The Communications and Multimedia Act 1998 (CMA 1998) provides MCMC with legal authority, obligations and responsibilities over digital resources i.e. Internet resource management, including numbering and electronic addressing.

Section 3(2) National Policy Objectives

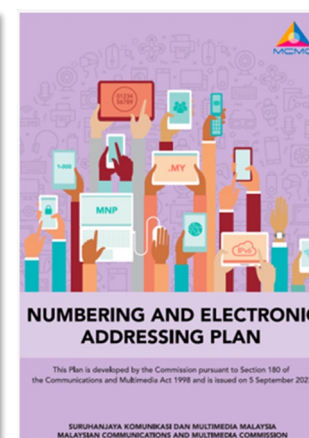
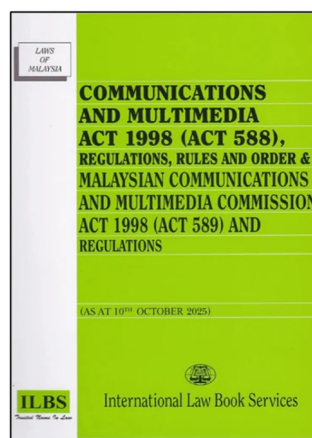
Effective and efficient management of Internet resources in Malaysia to support national digital development for the long-term benefit of end-users and affordable services

Section 179 – 181 Numbering and Electronic Addressing

- Vested MCMC with the control, planning, administration, management, and assignment of the numbering and electronic addressing, which includes numbering, IP addresses, AS Numbers and domain names
- Develop a numbering and electronic addressing plan
- Management and maintenance of an integrated public number or electronic address database

Malaysian Communications and Multimedia Commission Act 1998 (MCMCA 1998)

This Act establishes MCMC as the sole regulatory body responsible for overseeing Malaysia's communications and multimedia industry.



Section III Part B – Electronic Addressing of NEAP

- Subsection 11 IP Addressing
- Subsection 12 Autonomous System Numbers
- Subsection 13 Domain Names

WHY IPV6 MATTERS TO MALAYSIA

Malaysia Digital Economy 2025

Digital Economy Contribution

RM451.3b **>** **23.4%**
Contribution to GDP in 2024 National GDP 2024

1.25m **>** **7.6%**
Jobs 2024 Total Employment 2024

Digital Adoption & Revenue Generated

98% Internet Usage 2024 (Individual)
94% Internet Usage 2024 (Businesses)
> **RM1.23t** E-commerce Revenue 2024

Ref: Department of Statistics Malaysia, Malaysia Digital Economy 2025, dated 26 Nov 2025

Malaysia's Digital Infrastructure & Connectivity (2025)

Connectivity

45m Mobile Broadband
5m Fixed Broadband
> **~50m** Broadband Subscriptions
145 Subscriptions per 100 inhabitants

>82% 5G Coverage Populated Area
>99% 4G Coverage Nationwide

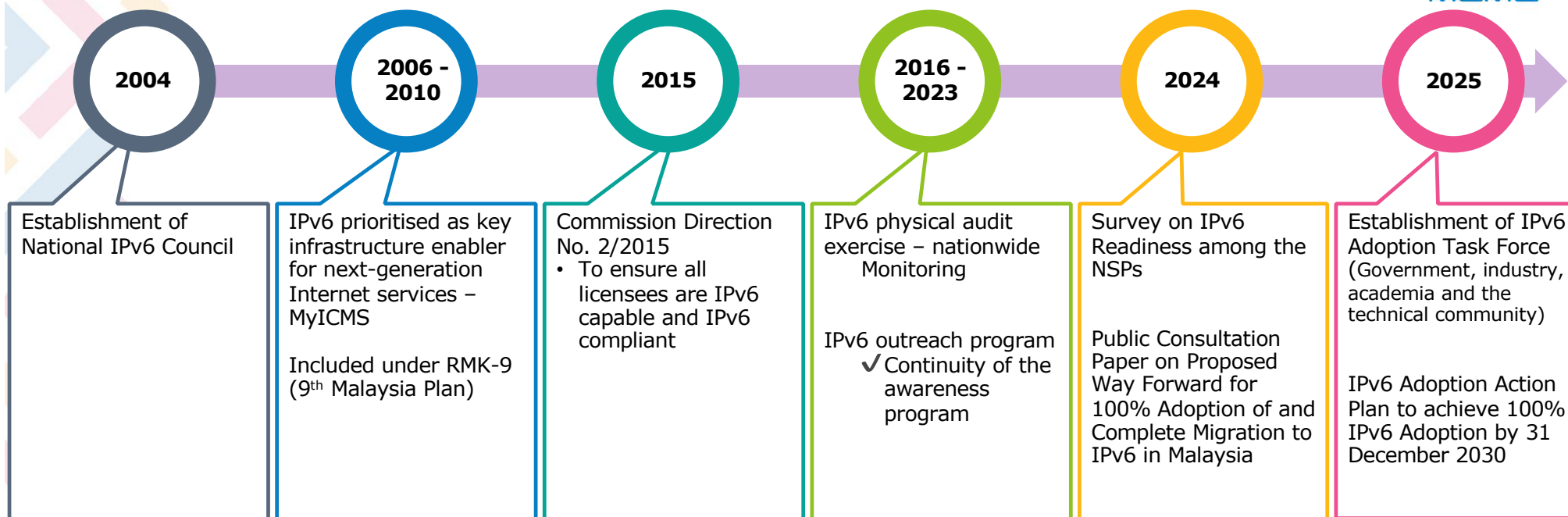
Network Usage

1.8E Monthly mobile broadband traffic
1.5E Monthly fixed broadband traffic

Ref: MCMC, Communications and Multimedia : Facts and Figures, 4Q 2025, Dated 13 Mar 2026

- Note:
1. GDP refers to Gross Domestic Product
 2. b refers to Billion
 3. T refers to Trillion
 4. m refers to Million
 5. EB refers to Exabyte

MALAYSIA'S IPV6 JOURNEY



Malaysian Technical Standards Forum Bhd. (MTSFB)

1. 2025: IPv6 – Deployment Specifications for Segment Routing Over IPv6
2. 2024: IPv6 – Security Requirements
3. 2022: IPv6 – Deployment Requirements to Complete Transition to IPv6
4. 2019: IPv6 – Equipment Compliance (First Revision)
5. 2016: Code of Practice for the Deployment of IPv6

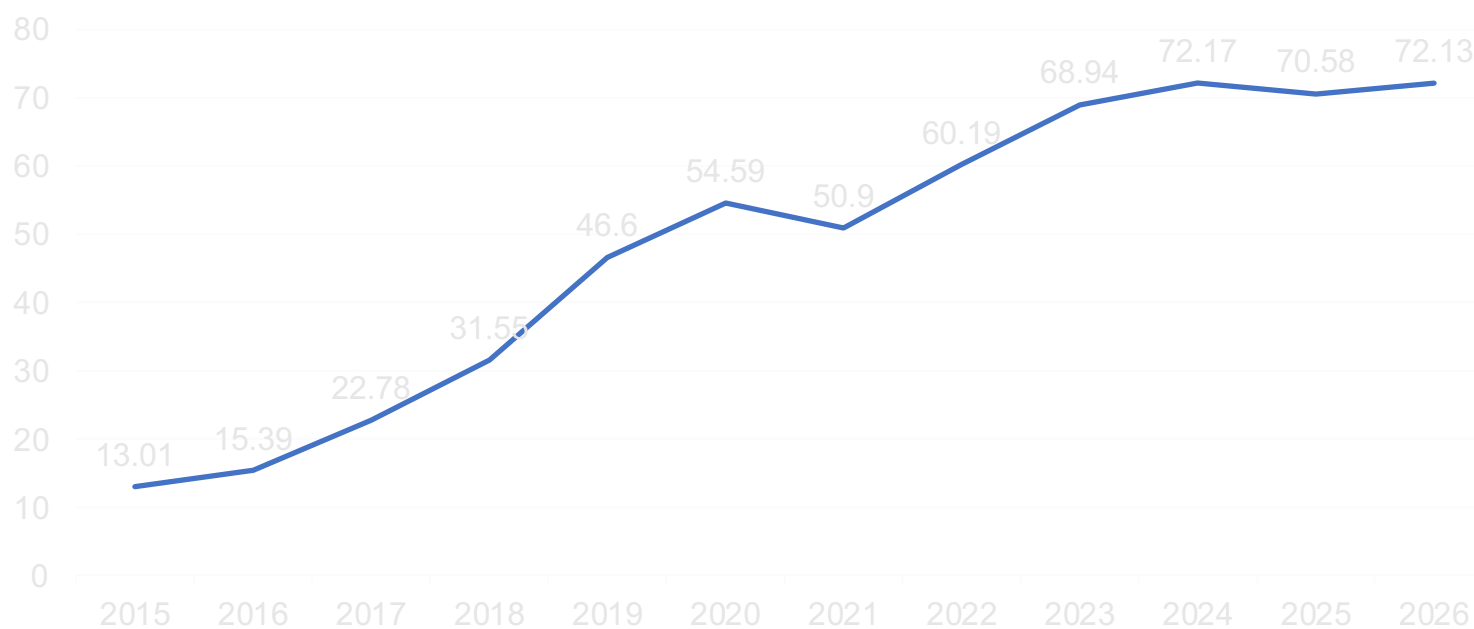
Sirim QAS International Sdn. Bhd.

Certification of IPv6-compliant equipment under the MCMC MTSFB Technical Code on IPv6 Equipment Compliance:

- a. Terminals/hosts (e.g., mobile phones);
- b. Network elements (e.g., gateways, switches); and
- c. Network security devices (e.g., firewalls).

MALAYSIA'S IPV6 PROGRESS

IPv6 Capability Rate in Malaysia
Source: APNIC



OVERVIEW OF MALAYSIA'S IPV6 ACTION PLAN (2026-2030)

MAIN GOAL: Develop an IPv6-only environment for public-facing services in Malaysia by 31 December 2030

1. Policy and Regulatory

- 1) Identify regulatory gaps and revise policies relating to IP addressing and management.
- 2) Revise procurement and legal frameworks.
- 3) Explore penalties/non-monetary compliance measures.
- 4) Compliance monitoring dashboard, reporting, and audit mechanism/approach.

2. Technical and Infrastructure Readiness

- 1) Pilot test
- 2) Technical gap analysis.
- 3) Pilot testing for the NCII sector.
- 4) Decommission of CGNAT.

3. Financial Sustainability

- 1) Financial estimation models.

4. Engagement and Capacity Building

- 1) Survey on sectoral readiness and skills gap assessment.
- 2) Introduce IPv6 skills certification.
- 3) Awareness and campaigns.
- 4) National adoption dashboard.
- 5) Strengthen certification on compliance equipment.
- 6) Award and recognise early adopters.

CHALLENGES AND LESSON LEARNED



CHALLENGES



Legacy Infrastructure

Compatibility issues with existing hardware and software.



Financial & Resource Constraints

Network upgrades and workforce upskilling require significant investment.



Skills & Awareness Gaps

Need for greater technical expertise and organisational awareness.



LESSON LEARNED



Readiness Varies Across Industry

Major NSPs are largely IPv6-ready, while smaller providers require additional support.



Guidance Accelerates Adoption

Clear standards, guidelines, best practices, and knowledge-sharing are essential.



Clear Direction Drives Progress

National targets, governance mechanisms, and implementation guidelines help accelerate adoption and maintain momentum.



THANK YOU

