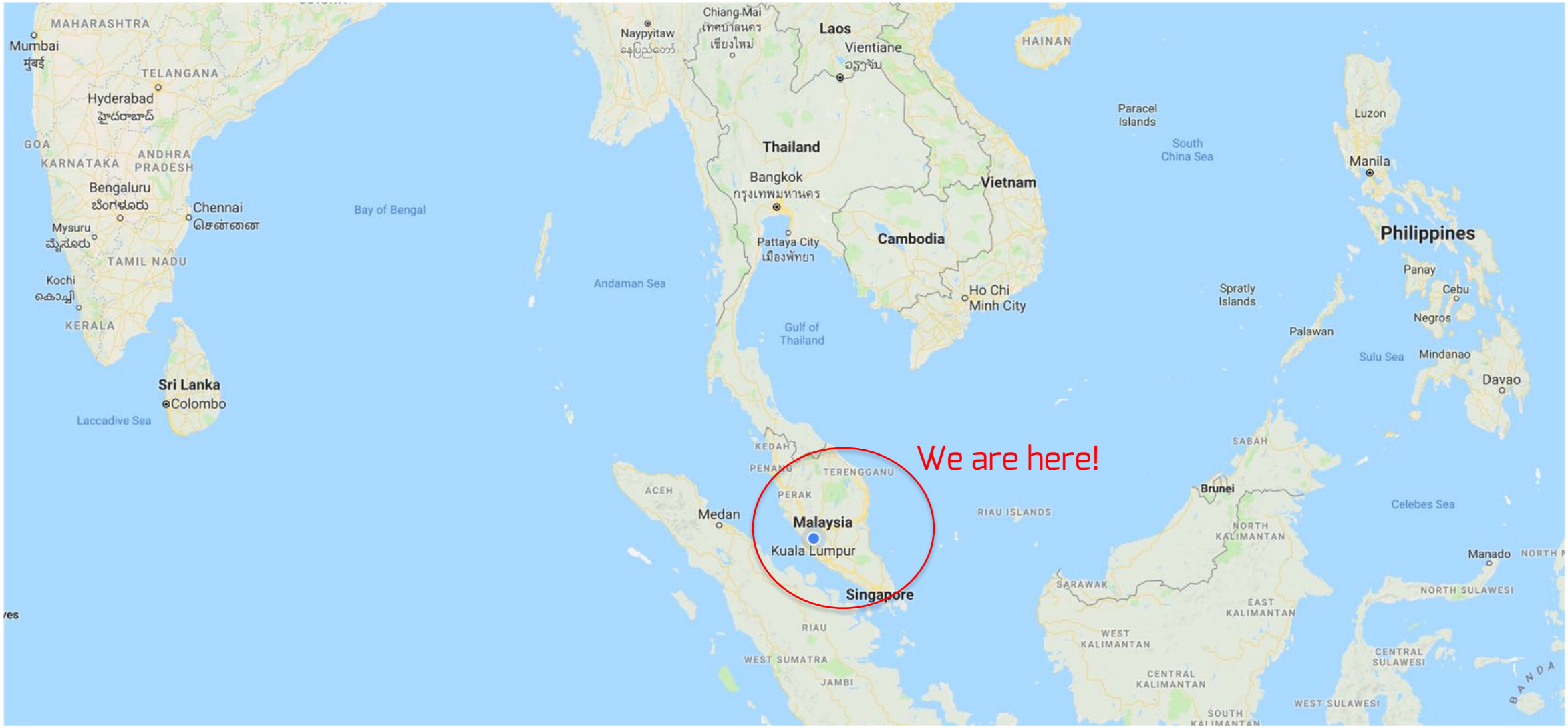
A Bird's Eye View On Malaysia's Internet

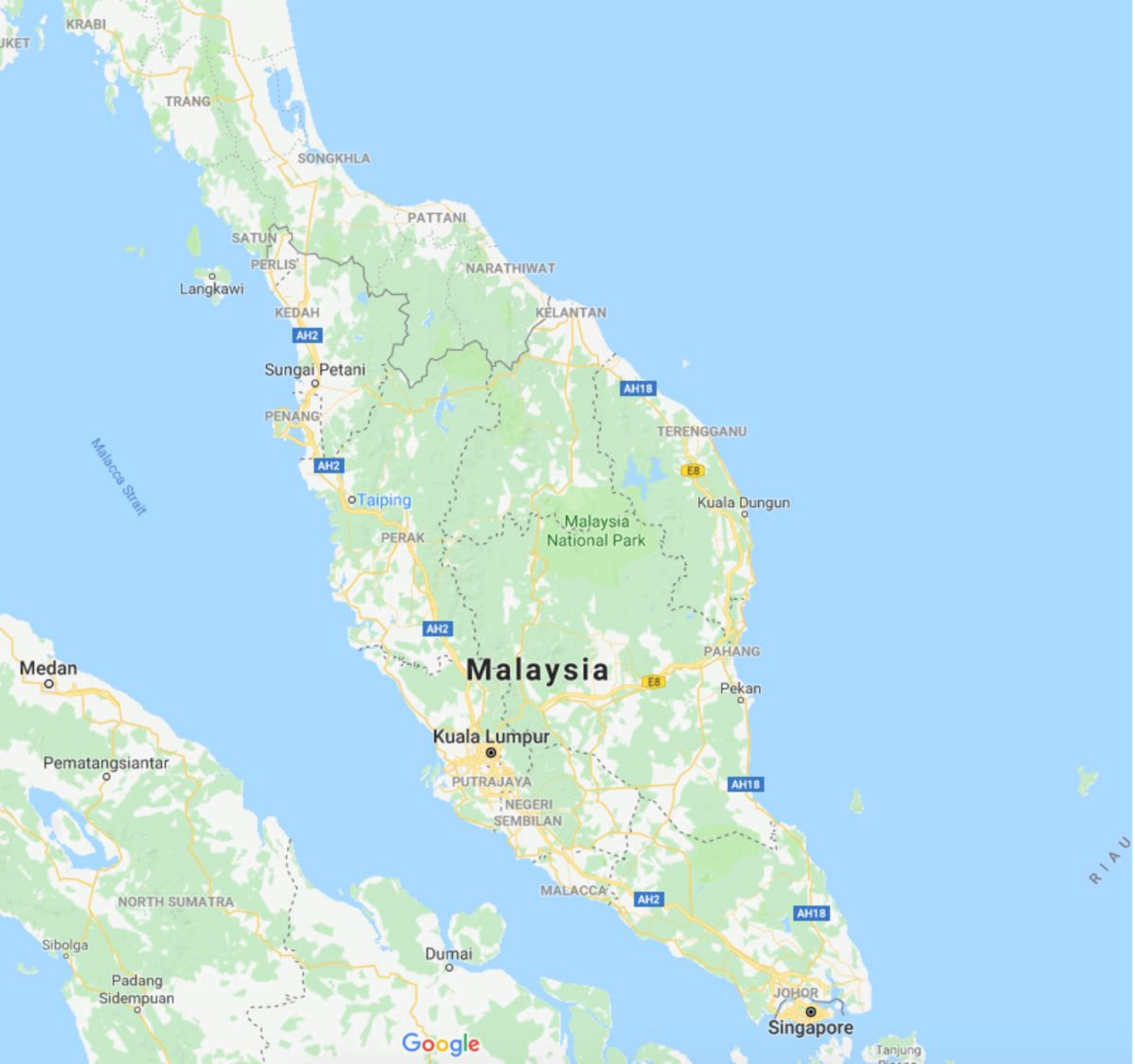
Paul Ooi

Peering Asia 2.0
Hong Kong

MyNOG
Malaysia Network Operators Group

MALAYSIA


MAHARASHTRA
Mumbai
मुंबई
TELANGANA
Hyderabad
హైదరాబాద్
GOA
KARNATAKA
ANDHRA PRADESH
Bengaluru
ಬೆಂಗಳೂರು
Chennai
சென்னை
Mysuru
ಮೈಸೂರು
TAMIL NADU
Kochi
കൊച്ചി
KERALA
Sri Lanka
Colombo
Laccadive Sea
Bay of Bengal
Andaman Sea
Naypyitaw
နေပြည်တော်
Chiang Mai
เทศบาลนคร เชียงใหม่
Laos
Vientiane
ວຽງຈັນ
Thailand
Bangkok
กรุงเทพมหานคร
Pattaya City
เมืองพัทยา
Cambodia
Vietnam
Ho Chi Minh City
Gulf of Thailand
HAINAN
Paracel Islands
South China Sea
Spratly Islands
Palawan
Luzon
Manila
Philippines
Panay
Cebu
Negros
Sulu Sea
Mindanao
Davao
Celebes Sea
Manado
NORTH SULAWESI
CENTRAL SULAWESI
WEST SULAWESI
BANDA
SABAH
Brunei
NORTH KALIMANTAN
EAST KALIMANTAN
SARAWAK
WEST KALIMANTAN
CENTRAL KALIMANTAN
SOUTH KALIMANTAN
RIAU ISLANDS
KEDAH
PENANG
TERENGGANU
PERAK
ACEH
Medan
Malaysia
Kuala Lumpur
Singapore
RIAU
WEST SUMATRA
JAMBI
We are here!



Malaysia 😉

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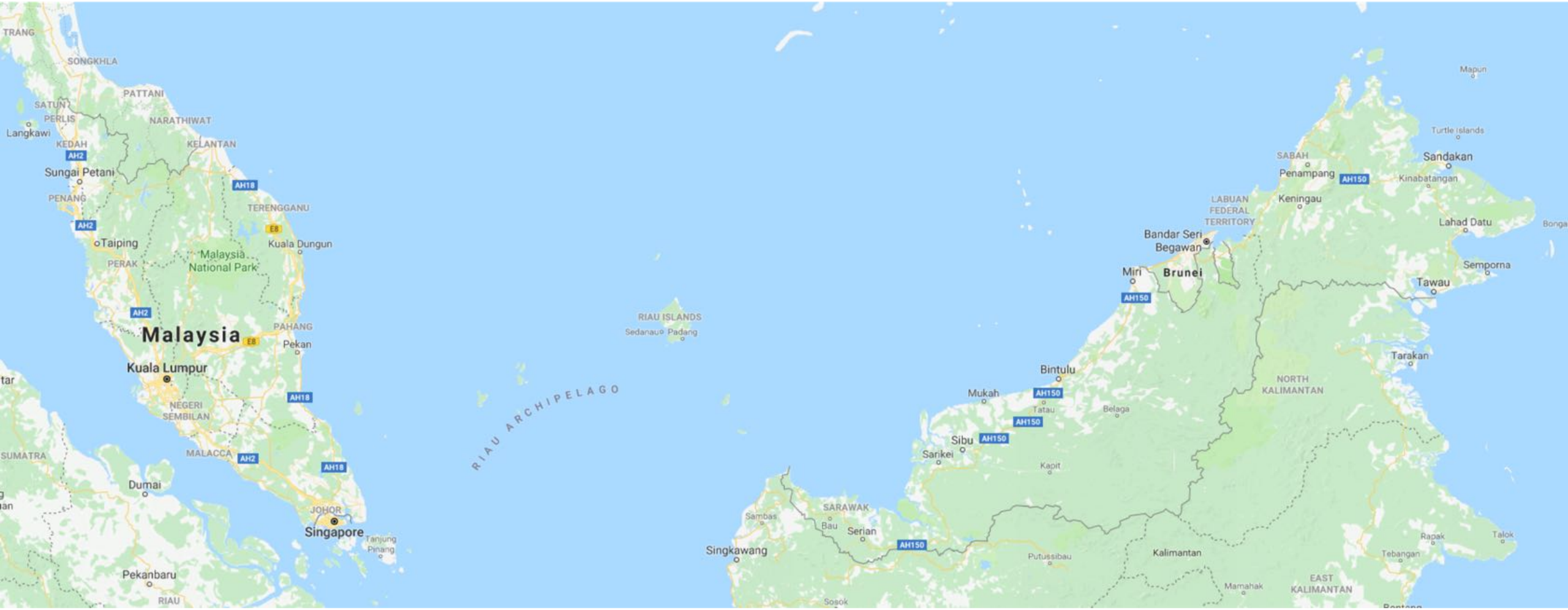
MALAYSIA



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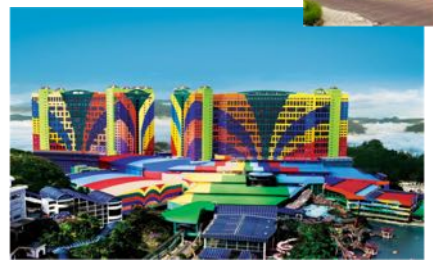
ABOUT MALAYSIA

Iconic Building

Foods



Holidays

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OVERVIEW

Internet

OTT

IX

Submarine Cable

Data Center

Governance & Policies

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INTERNET

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ABOUT MALAYSIA

31.19 million people
Malaysian - 92.1%
Non Malaysian – 7.9%

Internet Subs (Fixed)
2016 - 24.5 million
2015 - 24.1 million
2014 - 20.1 million

IUS2017
2,402 Internet Users (Survey)
89.4% access via Mobile

eCommerce Users
48.8%

Source: World Bank / IUS2017 via MCMC

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ABOUT MALAYSIA

Individual Using Internet (% population)
2016 - 45%
2015 - 43%
2014 - 39%

Fixed Broadband Subs
2017 – 2.6m
2016 – 2.7m
2015 – 3.063m
2014 – 3.061m

Mobile Subs
2016 – 42M
2015 – 43M
2014 – 44m

Source: World Bank, Companies

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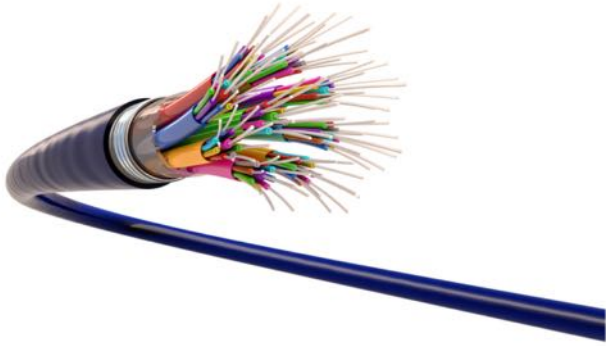
Mobile vs Fixed



High Speed Fiber Broadband

RM125+ 100Mbps (USD31+)
RM90+ 50Mbps (USD22+)

Mobile Data (4G / 4G+)

RM32+ 5GB (USD8+)
RM83+ 10GB (USD20+)

** Mandatory Standard on Access Pricing*

Source: Telco and Celco Providers

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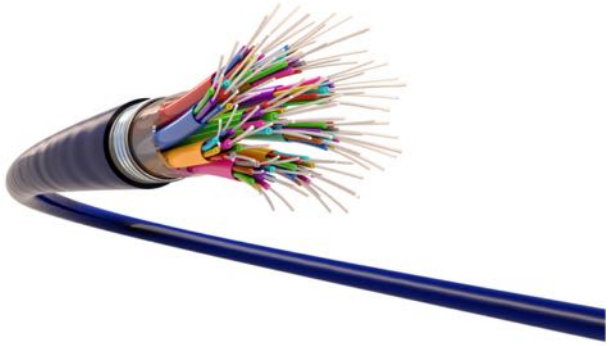
Coverage



City Center
Fiber
(xSDL/VDSL)

Nationwide (3G, 4G, 4G+)
Avg 6-7Mbps

Source: Opensignal - Mobile Data Speed

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ISPs/ASPs In Malaysia

Country Info

Networks: Malaysia

ASN	Name	Adjacencies v4 ↓	Routes v4	Adjacencies v6	Routes v6
AS45352	IP ServerOne Solutions Sdn Bhd,	1,476	175	80	19
AS4788	TM Net, Internet Service Provider	212	2,197	128	120
AS24218	Global Transit Communications - Malaysia	130	725	104	62
AS38182	Extreme Broadband - Total Broadband Experience	101	160	11	11
AS9930	TIME dotCom Berhad	90	262	29	26
AS55799	IPTELECOM ASIA	78	1	57	1
AS132435	No.31-A, Jalan Tiara, Tiara Square,	72	9	0	0
AS56109	Everworks IDC Sdn Bhd,	69	5	0	0
AS9534	Binariang Berhad	41	145	24	9
AS10030	Celcom Internet Service Provider	35	138	21	5
AS55720	Gigabit Hosting Sdn Bhd	34	224	8	12
AS24514	Malaysian Research & Education Network	30	173	4	13
AS17666	Unit 13-4, Block F1,	29	65	1	2
AS23678	MyKRIS Asia Sdn Bhd	14	90	7	5
AS38466	U Mobile Sdn Bhd	14	20	14	1
AS10204	Arcnet NTT MSC ISP	14	31	3	2

Incumbents

Source: HE.net

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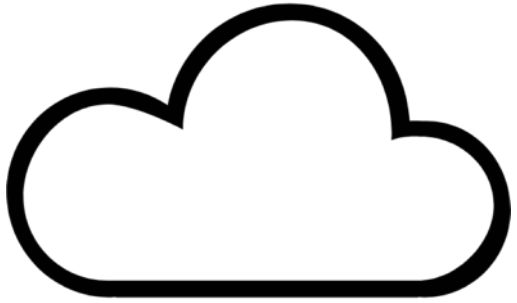
Malaysia Internet



300 AS Numbers

142 2 bytes

158 4 bytes

IPv4

6.4m addresses

24k /24

634 delegation

IPv6

9.3m /48

218 delegation

Source: APNIC

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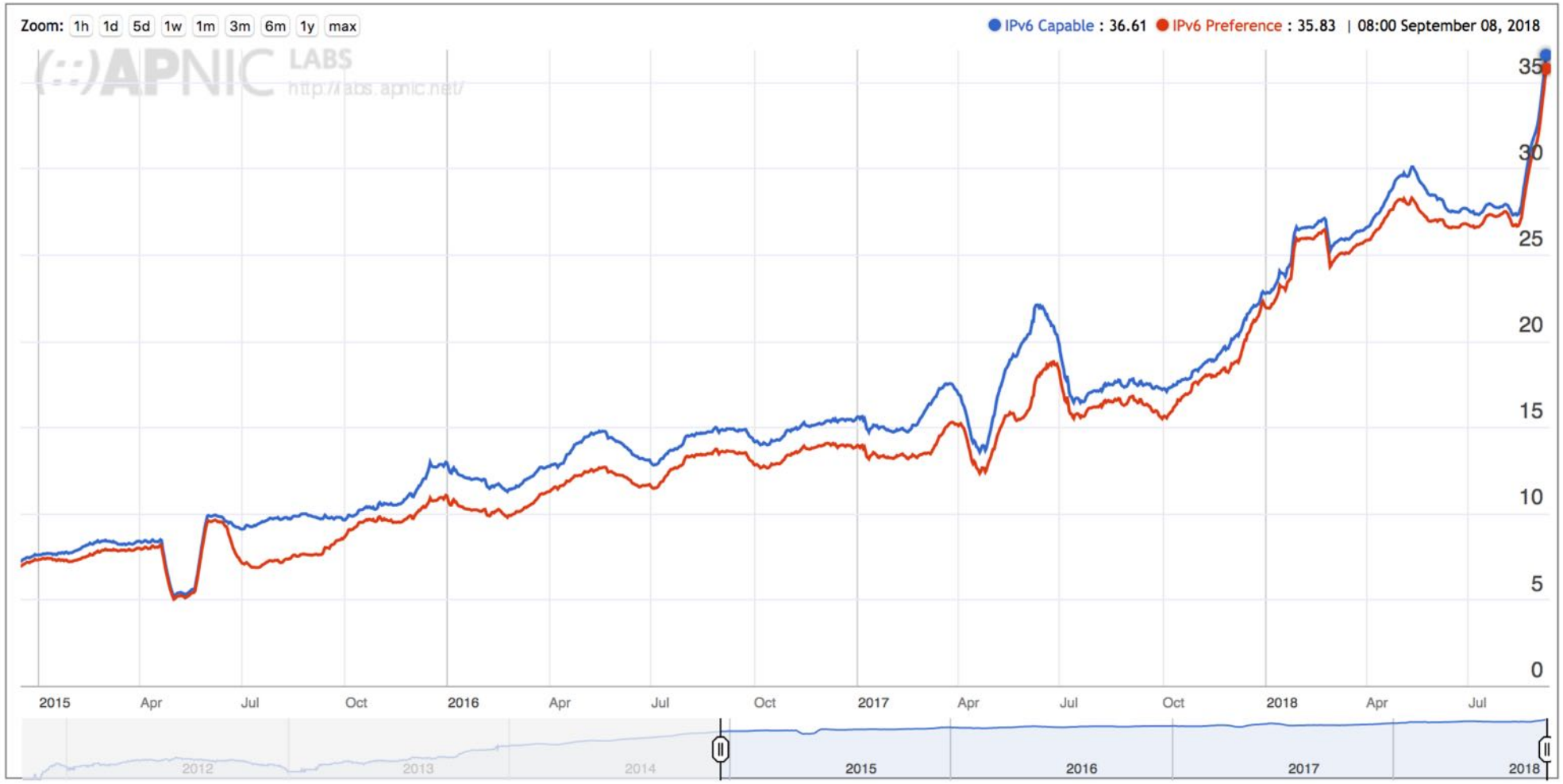
IPv6 Usage



Source: APNIC

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Top 10 IPv6 Capable

Country	IPv6 Capable	IPv6 Preferred	Samples
Belgium, Western Europe, Europe	58.01%	56.79%	278,687
United States of America, Northern America, Americas	45.62%	44.30%	20,093,171
India, Southern Asia, Asia	44.67%	43.60%	5,293,082
Ireland, Northern Europe, Europe	41.66%	41.28%	173,902
Germany, Western Europe, Europe	37.83%	36.30%	1,022,865
Greece, Southern Europe, Europe	37.25%	36.71%	2,741,306
Malaysia, South-Eastern Asia, Asia	36.93%	36.16%	1,272,182
Uruguay, South America, Americas	31.91%	31.48%	79,369
Switzerland, Western Europe, Europe	30.02%	28.74%	107,572
Luxembourg, Western Europe, Europe	30.02%	29.10%	26,587
Japan, Eastern Asia, Asia	28.12%	26.74%	655,128
Brazil, South America, Americas	27.74%	27.29%	2,200,849
United Kingdom of Great Britain and Northern Ireland, Northern Europe, Europe	25.62%	25.00%	1,768,279
Finland, Northern Europe, Europe	24.87%	23.70%	140,026
Estonia, Northern Europe, Europe	24.21%	23.80%	57,016
Aland Islands, Northern Europe, Europe	22.82%	22.70%	815
Canada, Northern America, Americas	22.10%	21.40%	1,254,032
Trinidad and Tobago, Caribbean, Americas	21.87%	21.59%	108,066
France, Western Europe, Europe	21.81%	21.40%	2,941,747
New Zealand, Australia and New Zealand, Oceania	20.25%	19.22%	86,566

Source: APNIC

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BAHASA
ENGLISH
廣東话
தமிழ்
中文
福建话

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Top Contents Access in Malaysia

Source: ALEXA

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Hey! Where are the traffics go

Traffics Go to Cloud

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Traffics Go to CDN

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IX

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Internet Exchange in Malaysia

Malaysia Internet Exchange

Established in 15 Dec 2006

First Malaysia Internet Exchange (That connected all local providers)

300Gbps Peak Traffic

96 ASN

Kuala Lumpur
Cyberjaya
Penang
Johor Bharu
Kuching
Kota Kinabalu

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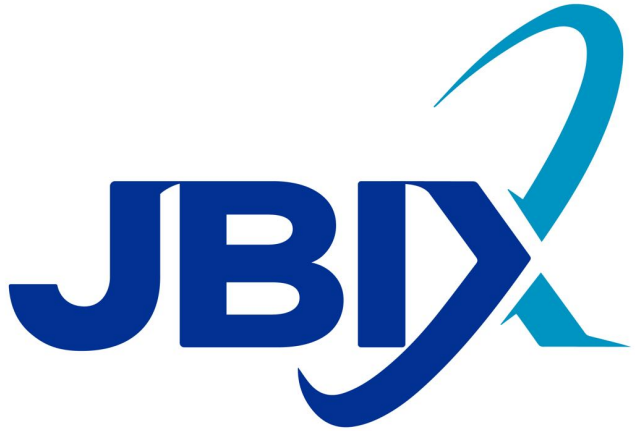
Internet Exchange in Malaysia

Johor Bahru Internet Exchange
Established Sept 2018
Johor Bahru



BRIDGING NETWORKS, CONNECTING OPPORTUNITIES.

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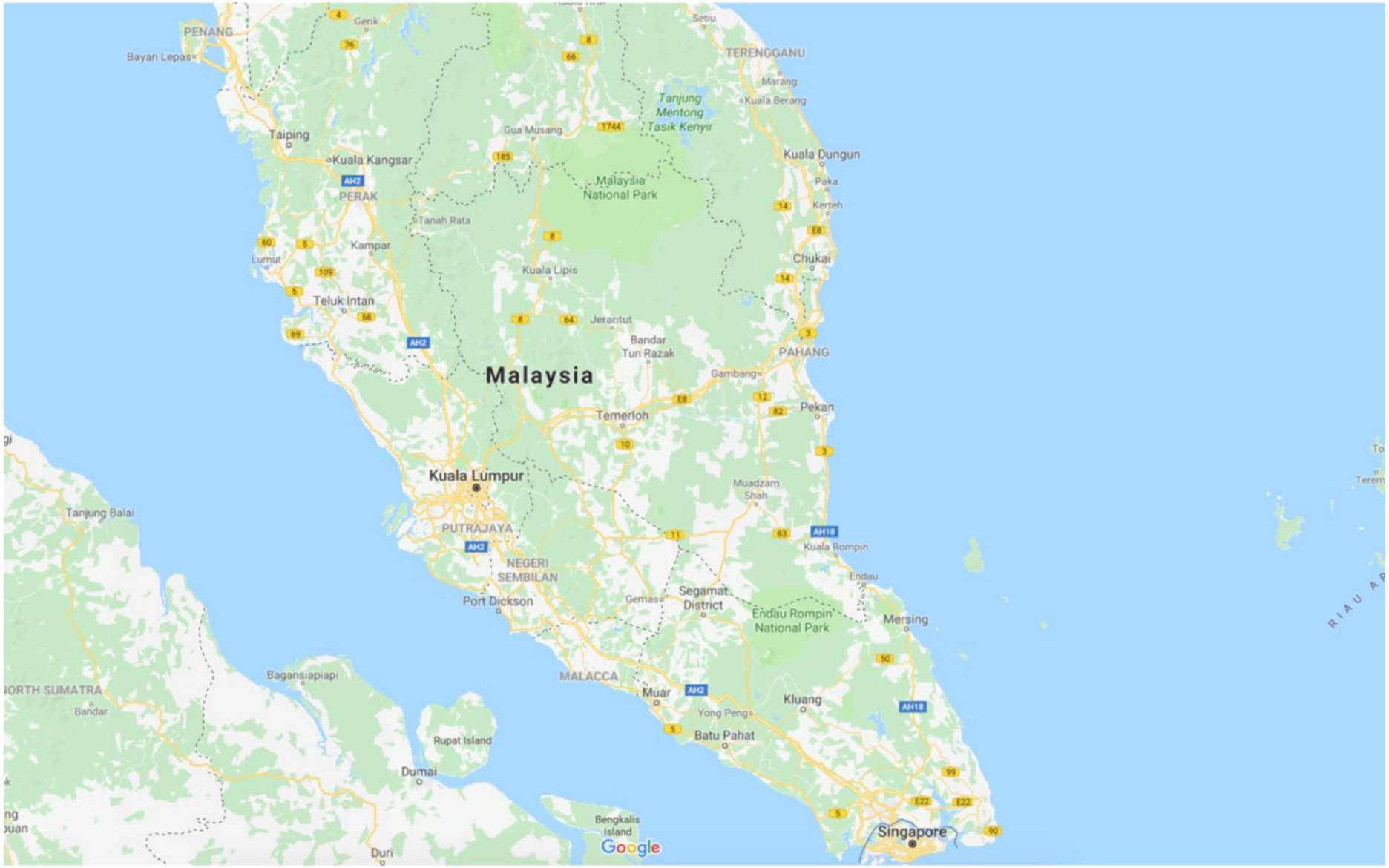
Internet Exchange in Malaysia



Submarine Cable

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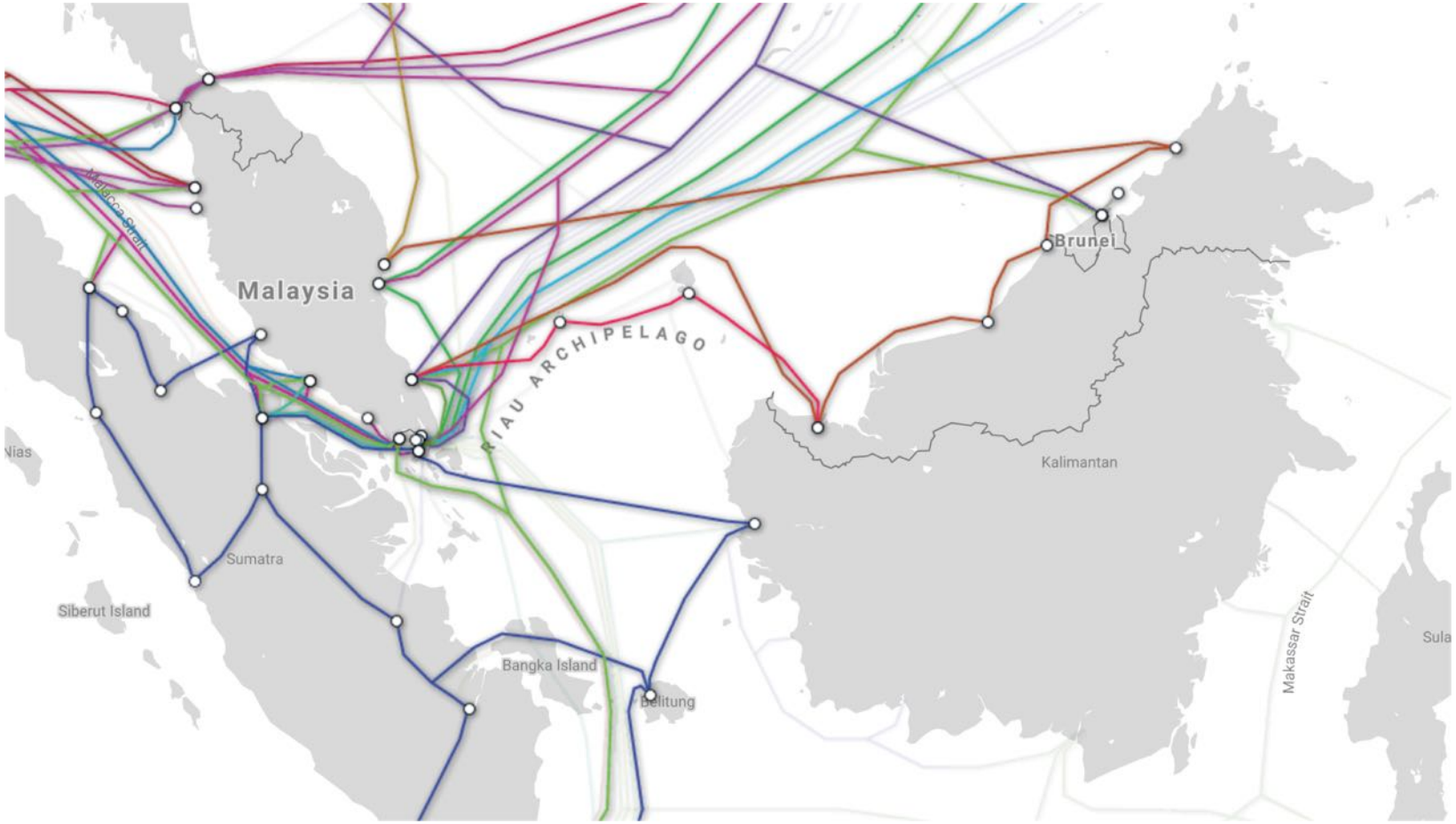
Submarine Cables



Peninsular Malaysia

Malaysia-Cambodia-Thailand (MCT) Cable
Asia Africa Europe-1 (AAE-1)
Bay of Bengal Gateway (BBG)
FLAG Europe-Asia (FEA)
SEA Cable Exchange-1 (SEAX-1)
Asia Submarine-cable Express (ASE
SeaMeWe-3
Asia Pacific Gateway (APG)
APCN-2
SAFE
SeaMeWe-5
SeaMeWe-4
Dumai-Melaka Cable System
Asia-America Gateway (AAG) Cable System
Batam-Rengit Cable System (BRCS)
Batam Dumai Melaka (BDM) Cable System

East Malaysia

Labuan-Brunei Submarine Cable
Sistem Kabel Rakyat 1Malaysia (SKR1M)
East-West Submarine Cable System

Reference: Submarine Cable Map (TeleGeography)

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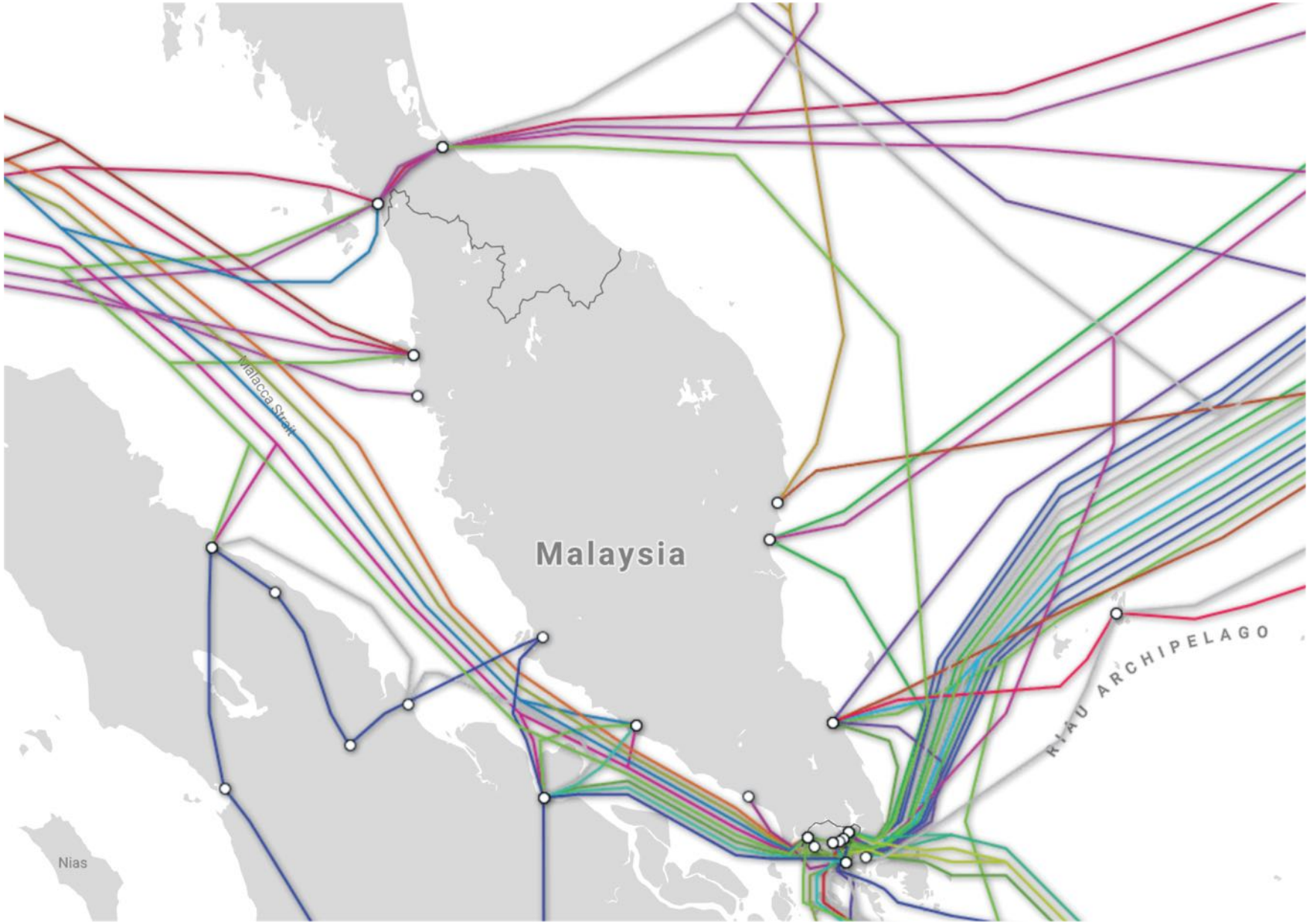

Landing Stations

Main Subsea Landing Points in Peninsular

- Penang
- Kuala Kurau, Penang
- Melaka
- Mersing, Johor
- Kuantan, Pahang
- Cherating, Pahang

Other Landing Points In Peninsular

- Rengit, Johor

Reference: Submarine Cable Map (TeleGeography)

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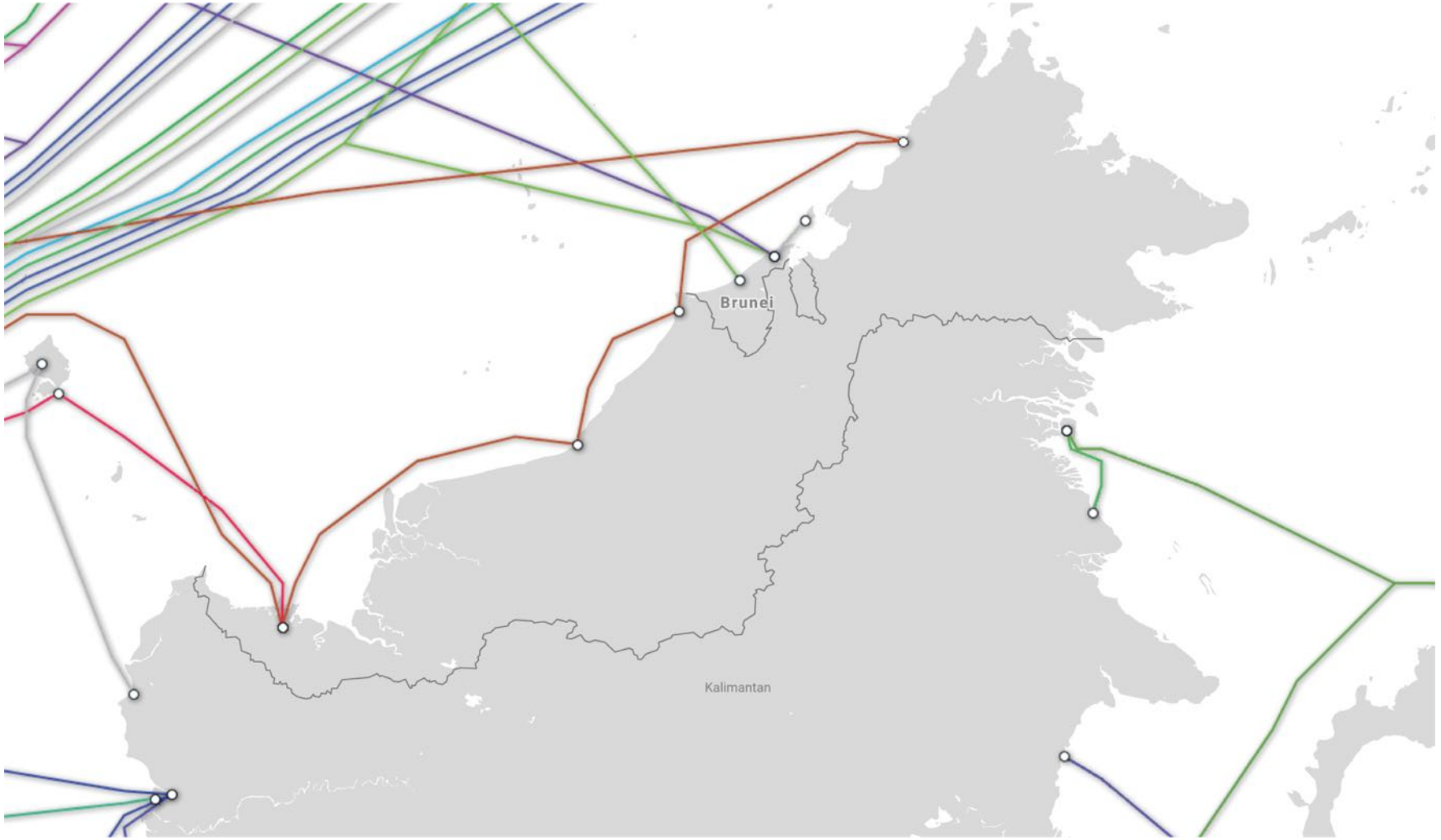

Landing Stations

Main Subsea Landing Points in East Malaysia

- Kuching, Sarawak
- Bintulu, Sarawak
- Miri, Sarawak
- Kiamsam, Labuan
- Kota Kinabalu, Sabah

Reference: Submarine Cable Map (TeleGeography)

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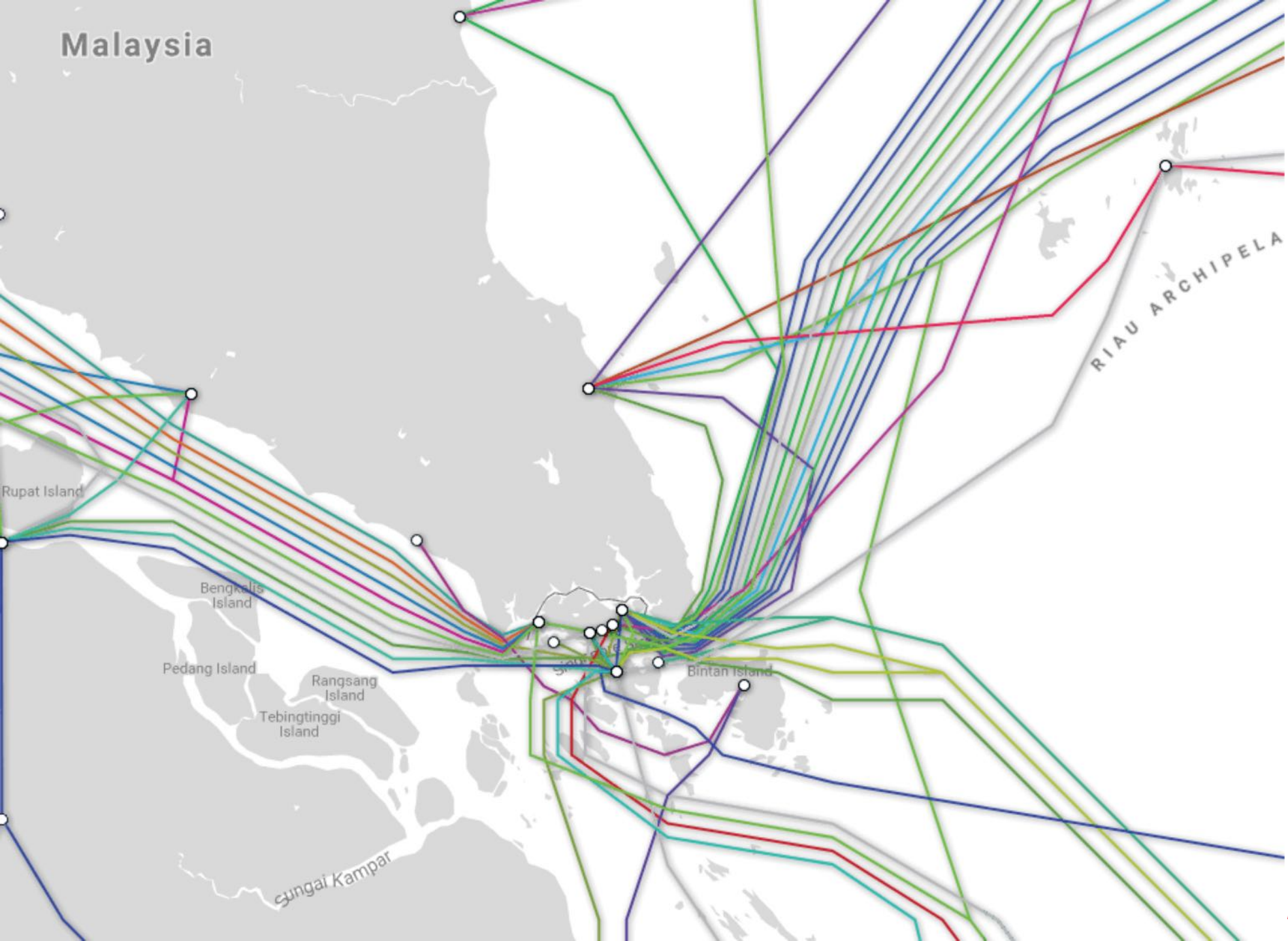
Malaysia
RIAU ARCHIPELA
Rupat Island
Bengkalis Island
Pedang Island
Rangsang Island
Tebingtinggi Island
Bintan Island
Sungai Kampar

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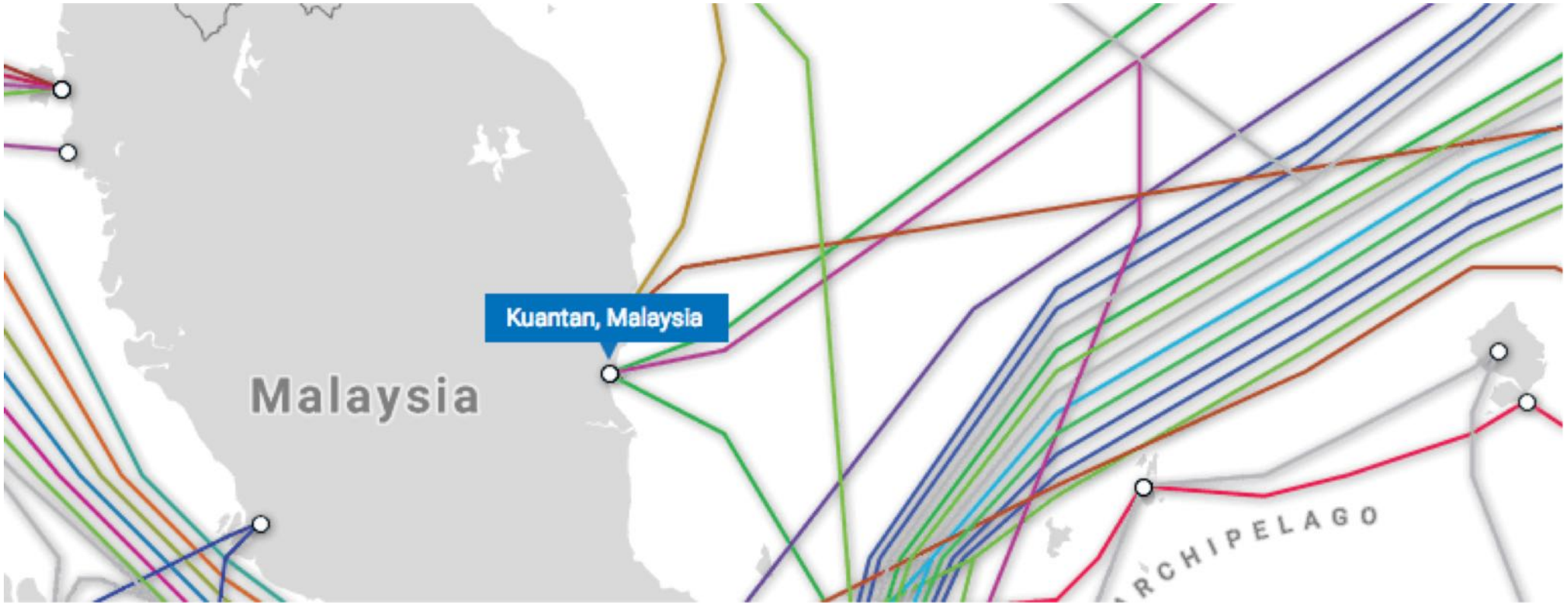
Kuantan, Malaysia



APCN-2
Asia Pacific Gateway

Reference: Submarine Cable Map (TeleGeography)

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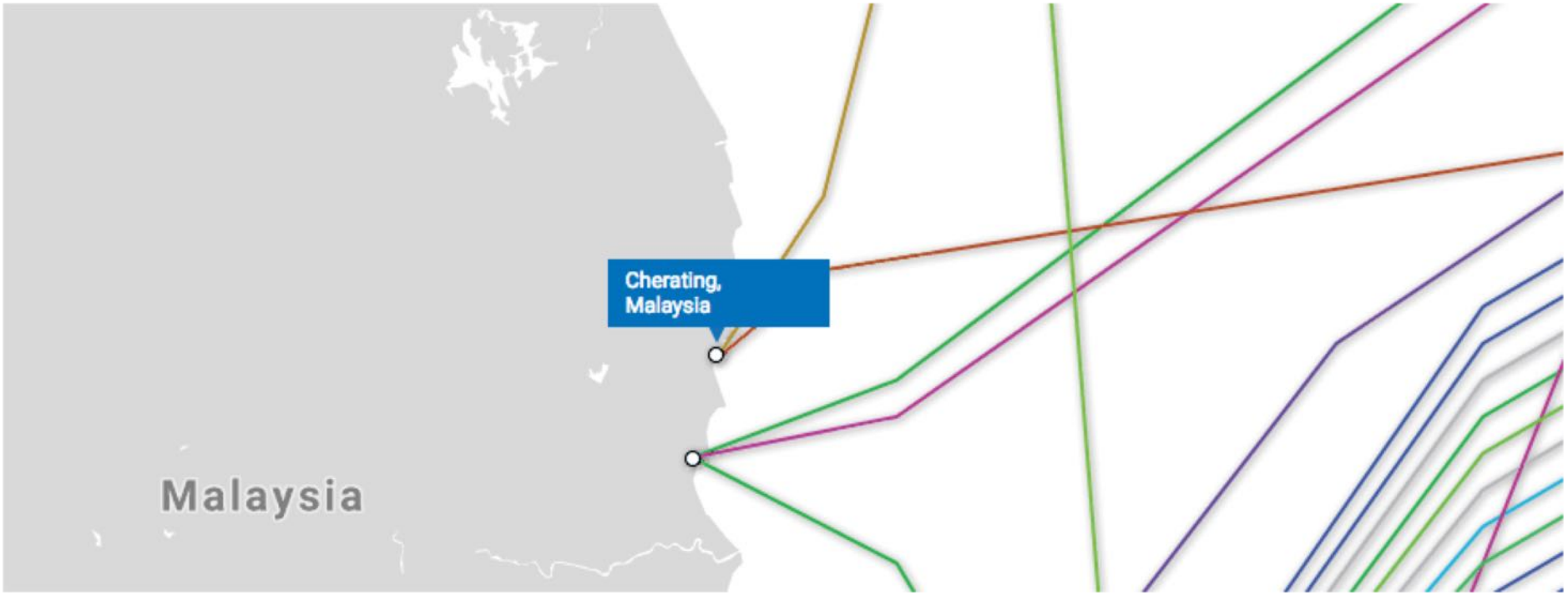
Cherating, Malaysia



Malaysia-Cambodia-Thailand MCT
SKR1M (Malaysia)

Reference: Submarine Cable Map (TeleGeography)

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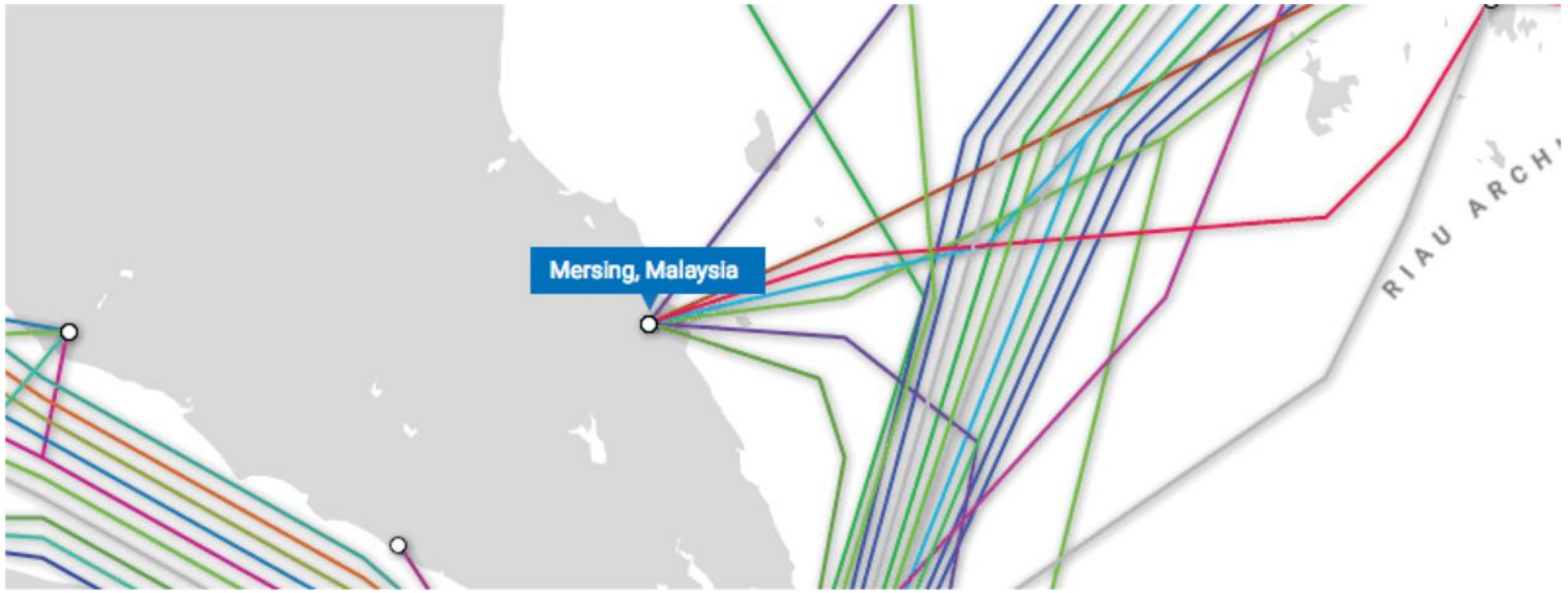
Mersing, Malaysia



Asia Submarine-cable Express (ASE)/Cahaya Malaysia
Asia-America Gateway (AAG) Cable System
East-West Submarine Cable System
SEA Cable Exchange-1 (SEAX-1)
SeaMeWe-3
Sistem Kabel Rakyat 1Malaysia (SKR1M)

Reference: Submarine Cable Map (TeleGeography)

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Asean Countries: Thailand, Cambodia, Laos, Myanmar and Vietnam

Meet in Kuala Lumpur with content players Edge / Pop

Population of 233m (2016 World Bank)

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Data Center

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Data Centre in Malaysia

AIMS
A TIME company

VADS
A TM Company

NTT Communications
Transform. Transcend.

bridge
data centres

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Data Centre

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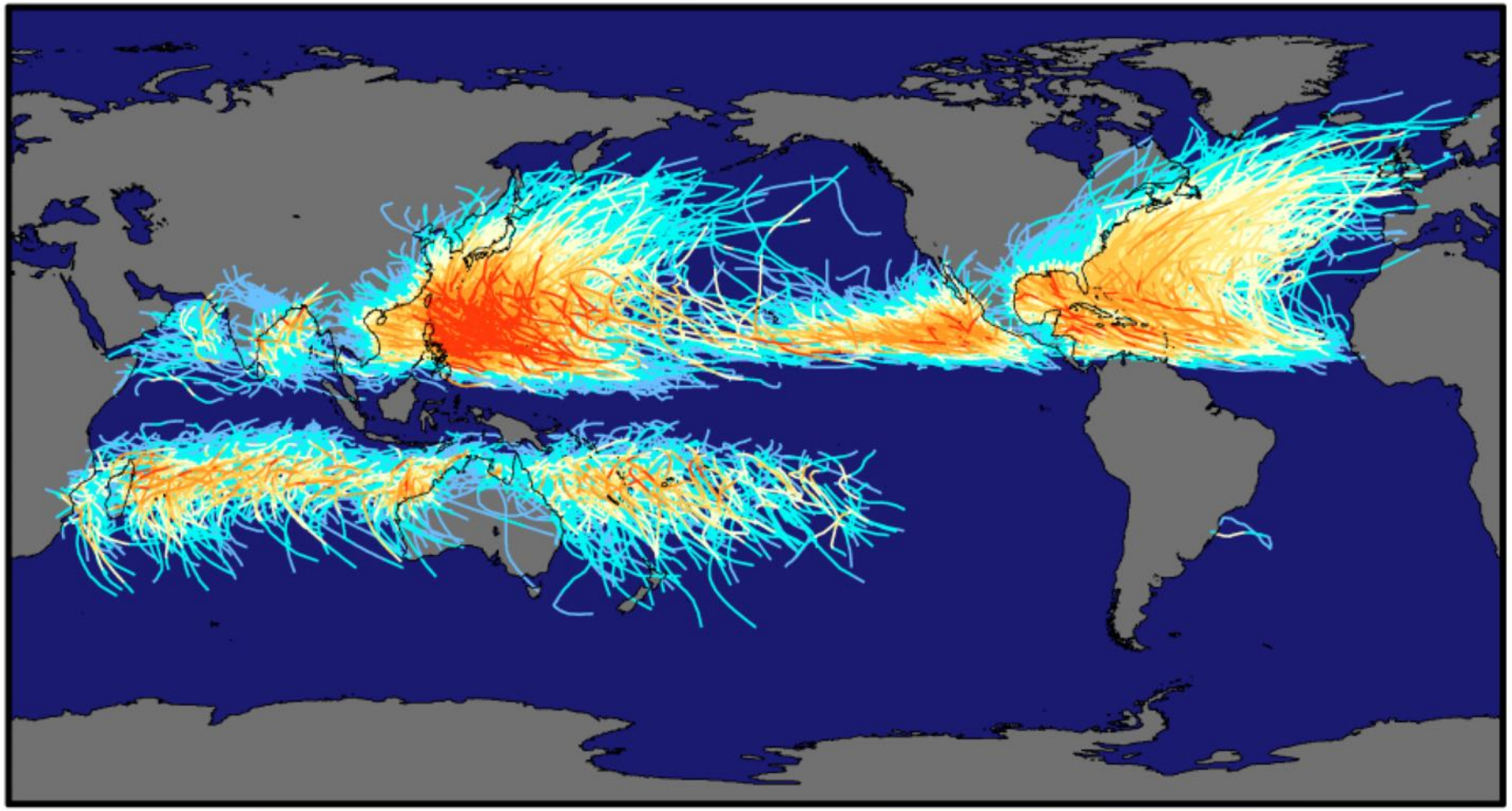
Tracks and Intensity of All Tropical Storms



TD | TS | 1 | 2 | 3 | 4 | 5

Saffir-Simpson Hurricane Intensity Scale

Source: NASA Earth Obvervatory

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Governance & Policies

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Malaysia Network Operators Group

Governance and Policies

Gobind: Telcos have until Sept 30 to submit new broadband package proposal to MCMC

NATION

Sunday, 16 Sep 2018

7:45 PM MYT

KUALA LUMPUR (Bernama): Telecommunications companies have until Sept 30 to submit the proposals for the new broadband packages to the Malaysian Communications and Multimedia Commission (MCMC), said Communications and Multimedia Minister Gobind Singh Deo.

Source: The Star & MCMC

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Governance & Policies

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Governance & Policies

Opening up fibre market; fixed-line broadband for all telcos

TELCOS

Friday, 3 Aug 2018

By **B.K. Sidhu**

Communications and Multimedia Minister Gobind Singh Deo(pic) has even asked Tenaga Nasional Bhd (TNB) to open its fibre optic network, and potentially ducts and poles to telecoms players. If the latter agrees, then it could signal the end of TM's monopoly in the fibre space.

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Governance & Policies

5G trials to start next month, says Gobind

Asila Jalil Updated 3 days ago · Published on 9 Oct 2018 3:32PM · 1 Comments

Communications and Multimedia Minister Gobind Singh Deo says the year-long trials will allow the government and involved parties to streamline policies and the modes of implementation to best serve the customers. – The Malaysian Insight pic by Kamal Ariffin, October 9, 2018.

NEWS

Gobind aspires to implement digital government, like Estonia's

Bernama | Published: 9 Oct 2018, 4:55 pm | Modified: 9 Oct 2018, 6:07 pm

Gobind planning aggressive connectivity push to make Malaysia hub for tech giants

Jerry Choong
Malay Mail 9 October 2018

Gobind said Malaysia was looking to attract major data centres here. — Picture by Ahmad Zamzahuri

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QUESTION?

Special thanks to

@thepaulooi

linkedin.com/in/cjooi

Paul Ooi
cj@mynog.org

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