



# Understanding Peering

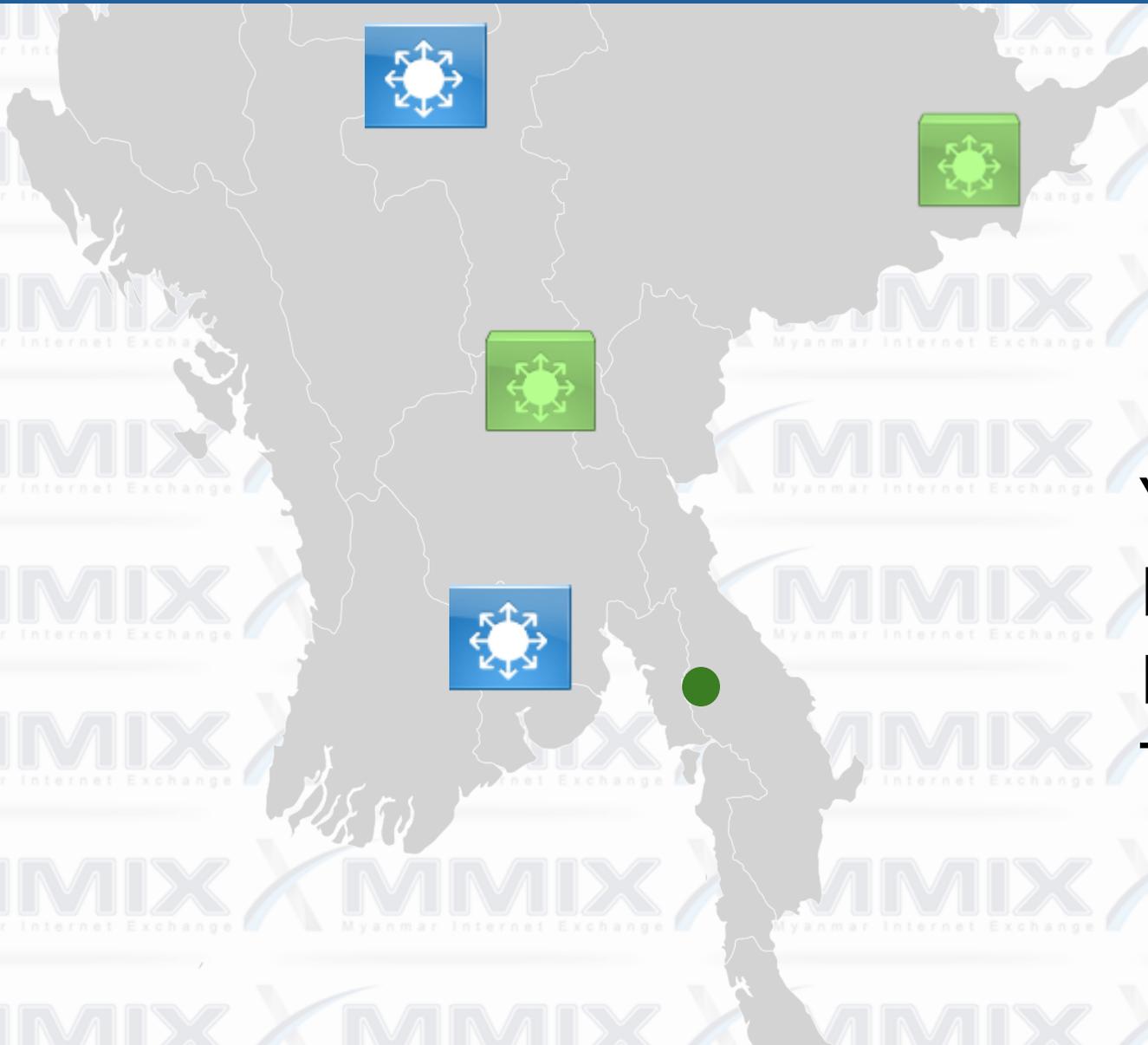
@ MMIX

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# MMIX POPs



Yangon – IXP

Mandalay – IXP

Naypyitaw – POP

Tachileik - POP

# Basic Data for Peering at MMIX

## Yangon IXP

ISPs Region - Yangon, Naypyitaw &  
AS - 9654

Peering LAN – 103.116.194.0/24

Route-Servers – 103.116.194.1, 103.116.194.2

## Mandalay IXP

ISPs Region - Mandalay

AS - 9333

Peering LAN – 103.116.193.0/24

Route-Servers – 103.116.193.1, 103.116.193.2

# Preparation

- peeringDB account create/join exchange – <https://www.peeringdb.com>
- Get peering info for bgp setup – peering IP + route server IPs
- Get BGP Communities list for CDN subscription
- Get necessary procedures to subscribe CDNs
- Activate RTBH feature

# Peeringdb records

www.peeringdb.com/ix/2102

official docs - Drop... QR Code Generator Login to Cacti Grades Image result for Au... Zawgyi to Unicode

29 785G 56

Myanmar Internet Exchange Association Inc.

Myanmar Internet Exchange

Yangon

MM

Asia Pacific

Not Disclosed

Not Disclosed

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MMIX is the first IXP in Myanmar. MMIX is neutral and industrial owned exchange. It was founded on September, 2017. Our POP is at MICT Park, Hlaing township, Yangon, Myanmar.

Translate »

<https://mmix.net.mm>

## Peers at this Exchange Point

Filter

Peer Name A-Z IPv4	ASN IPv6	Speed Port Location	Policy ?
<a href="#">AGB Communication AS134739</a> 103.116.194.11	134739	20G	Open
<a href="#">Akamai Technologies</a> 103.116.194.25	20940 2001:df3:1300::940:25	200G	Open
<a href="#">Campana MYTHIC</a> 103.116.194.31	136168	1G	Open
<a href="#">Fortune International Ltd.</a> 103.116.194.16	135371 2001:df3:1300::5371:16	10G	Open
<a href="#">Golden Dragon 2000</a> 103.116.194.43	150692 2001:df3:1300::692:43	10G	Open
<a href="#">HANTHAR NET</a> 103.116.194.54	132060 2001:df3:1300::2060:54		Open
<a href="#">Hepta Alliance Technology Group</a> 103.116.194.49	151965 2001:df3:1300::4484:49	10G	Open
<a href="#">HORIZON</a>	132148	30G	Open

# Default content allowed by MMIX

- DNS root Server - K-root from MMIX; L-root from YTP
- PCH country level root DNS server
- Quad9 DNS, 9.9.9.9 DNS Resolver
- Mobile Legend
- Kaopu Cloud
- Other contents from our peering members

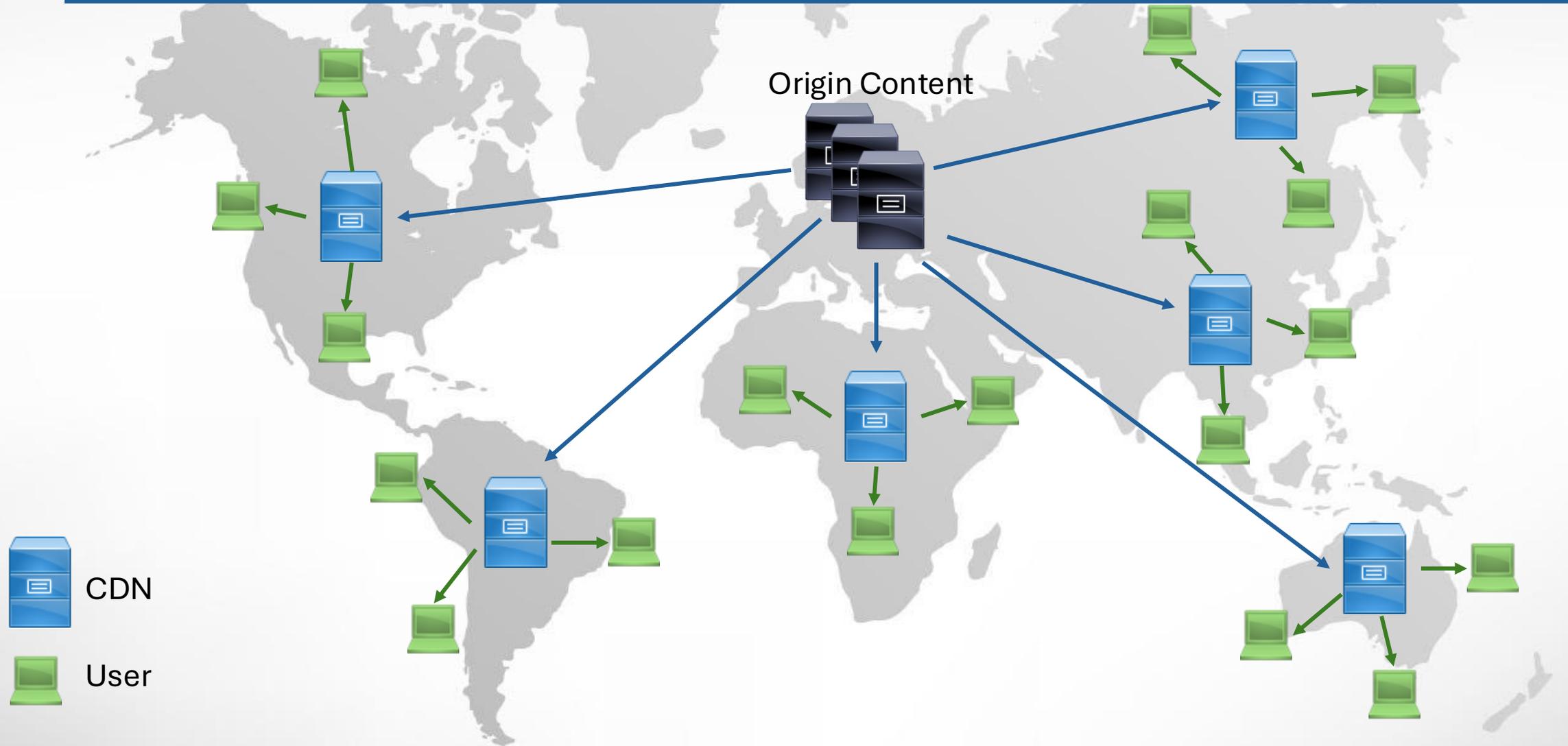
# Content to be subscribed

All CDNs such as

- Google GGC – Capacity limited, no more available.
- Netflix – activate with bgp community
- Wangsu – activate with bgp community and manual request
- Akamai – activate with bgp community and manual request

# Content Delivery Network CDN

# CDN Structure



# DNS Flow



# Route based CDNs

## GGC, Netflix, Wangsu

- Traffic feeding is based on advertised prefixes.
- Partial prefix announcement shall allow partial traffic.

## GGC & Netflix

- Traffic subscription effects within 24 hours ( mostly, traffic appear within a few minutes)

## Wangsu

- Need manual request for subscription. MMIX Operations team can subscribe on behalf of member.
- Need to wait maximum one month for activation.

# DNS Based CDN

## Akamai

- Traffic Request
- DNS Resolvers
- Partial CDN subscription

# Akamai – DNS Resolvers

## Recommendation

- Own DNS Resolver – able partial traffic subscription
- Public DNS Resolver - Full traffic subscription under same ASN
  - Google (8.8.8.8, 8.8.4.4)
  - Open DNS (208.67.222.222, 208.67.220.220)
  - Quad9 (9.9.9.9, 149.112.112.112)

# Partial traffic subscription

Prefix - A

Prefix - B

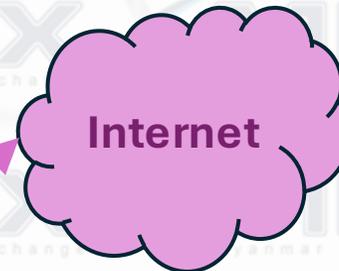
Prefix - C

Prefix - D

DNS Resolvers  
@Prefix - A or B

DNS Resolvers  
@Prefix - C or D

Advertise  
All Prefixes



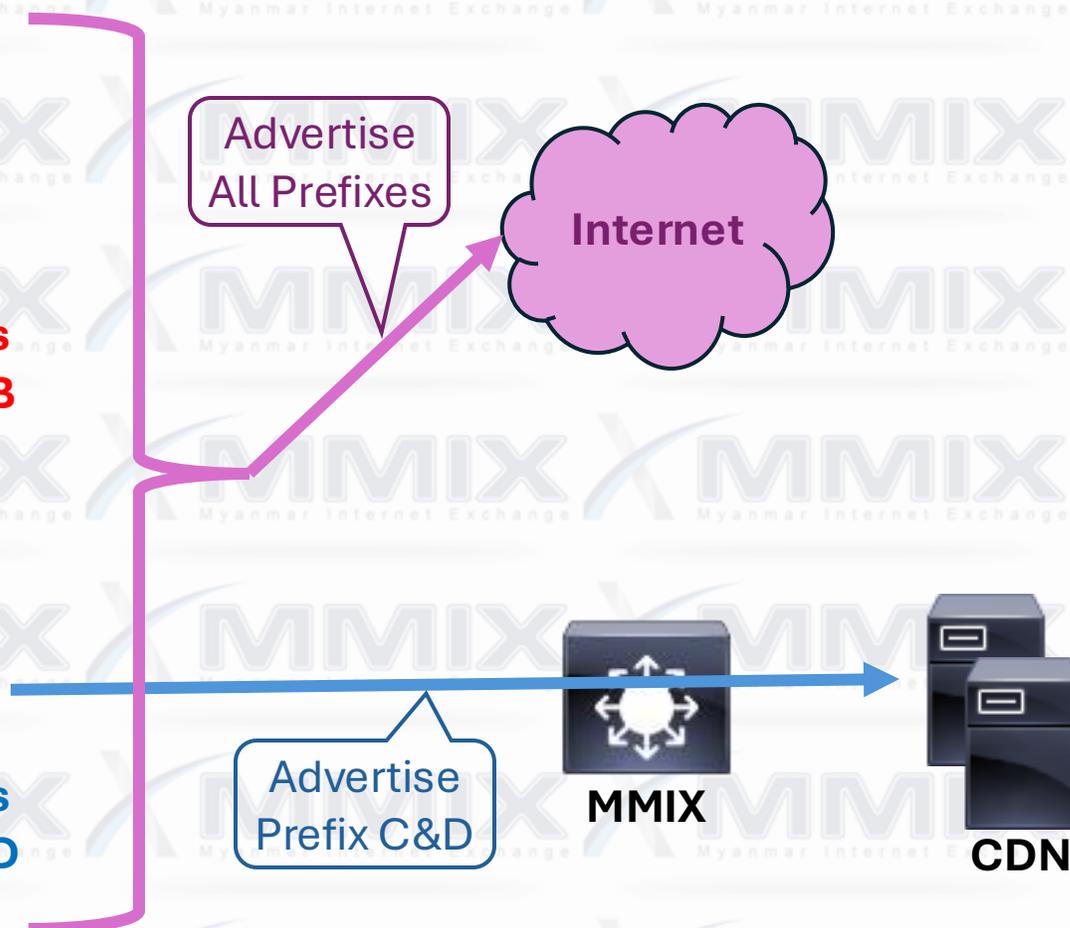
Advertise  
Prefix C&D



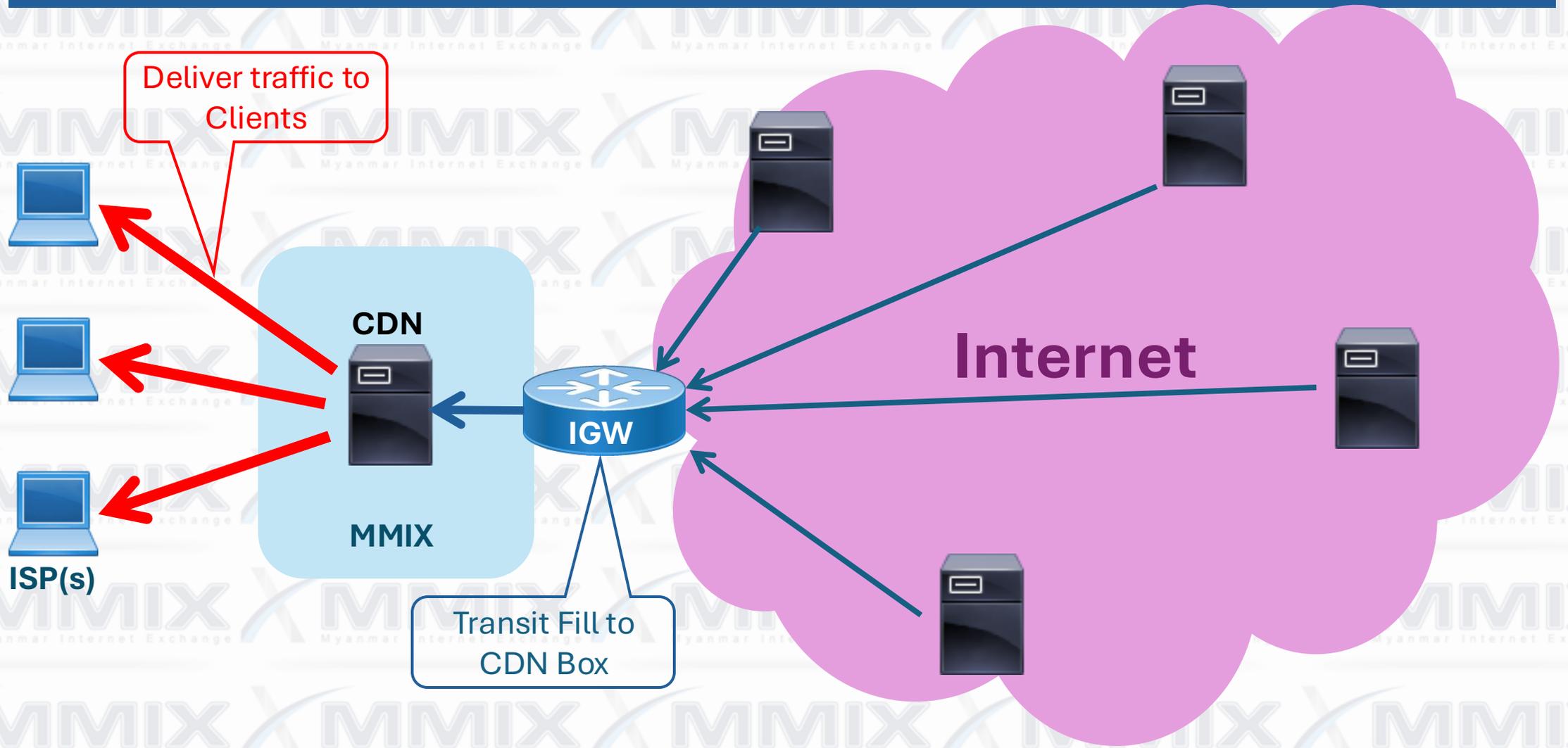
MMIX



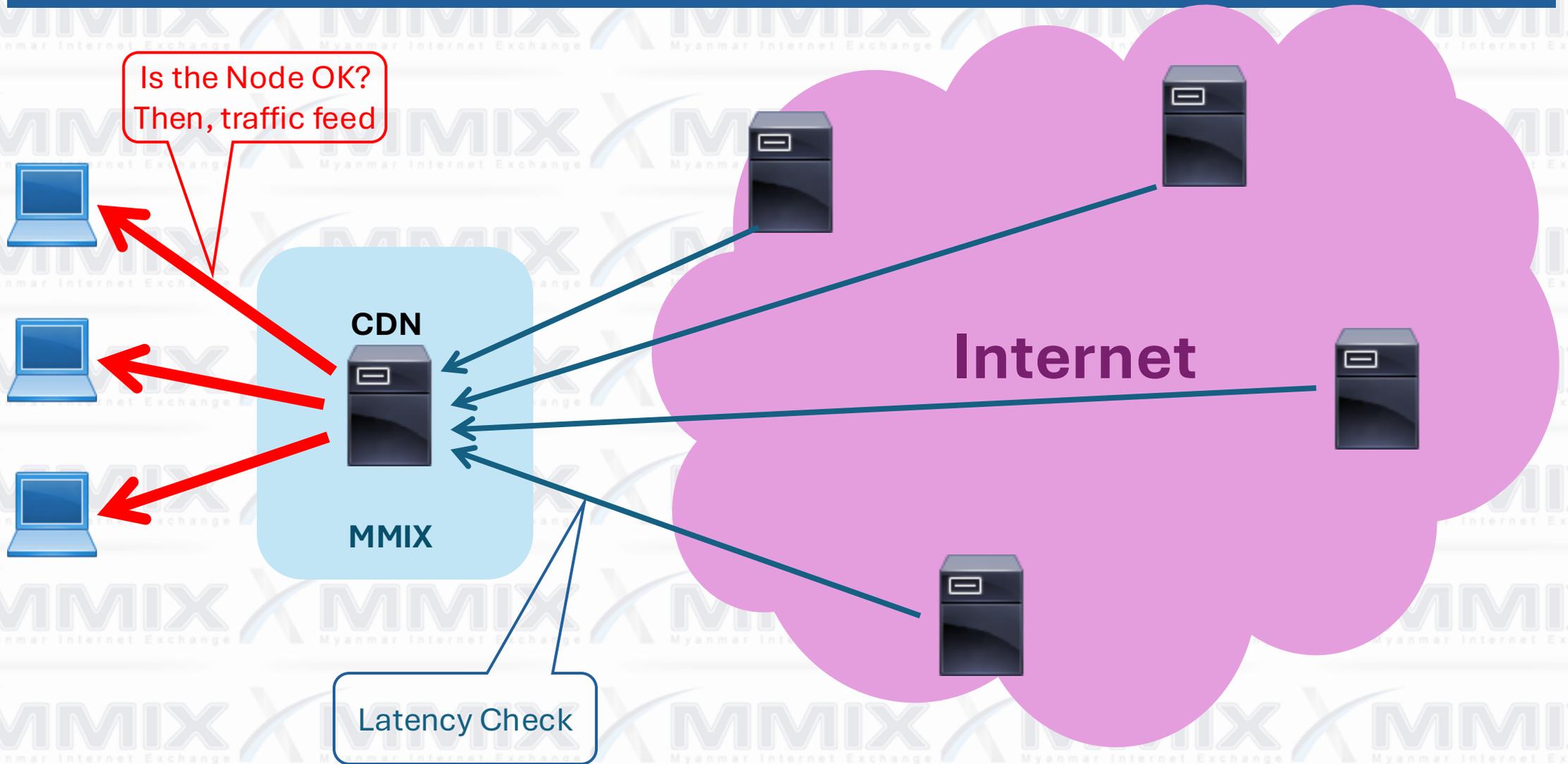
CDN



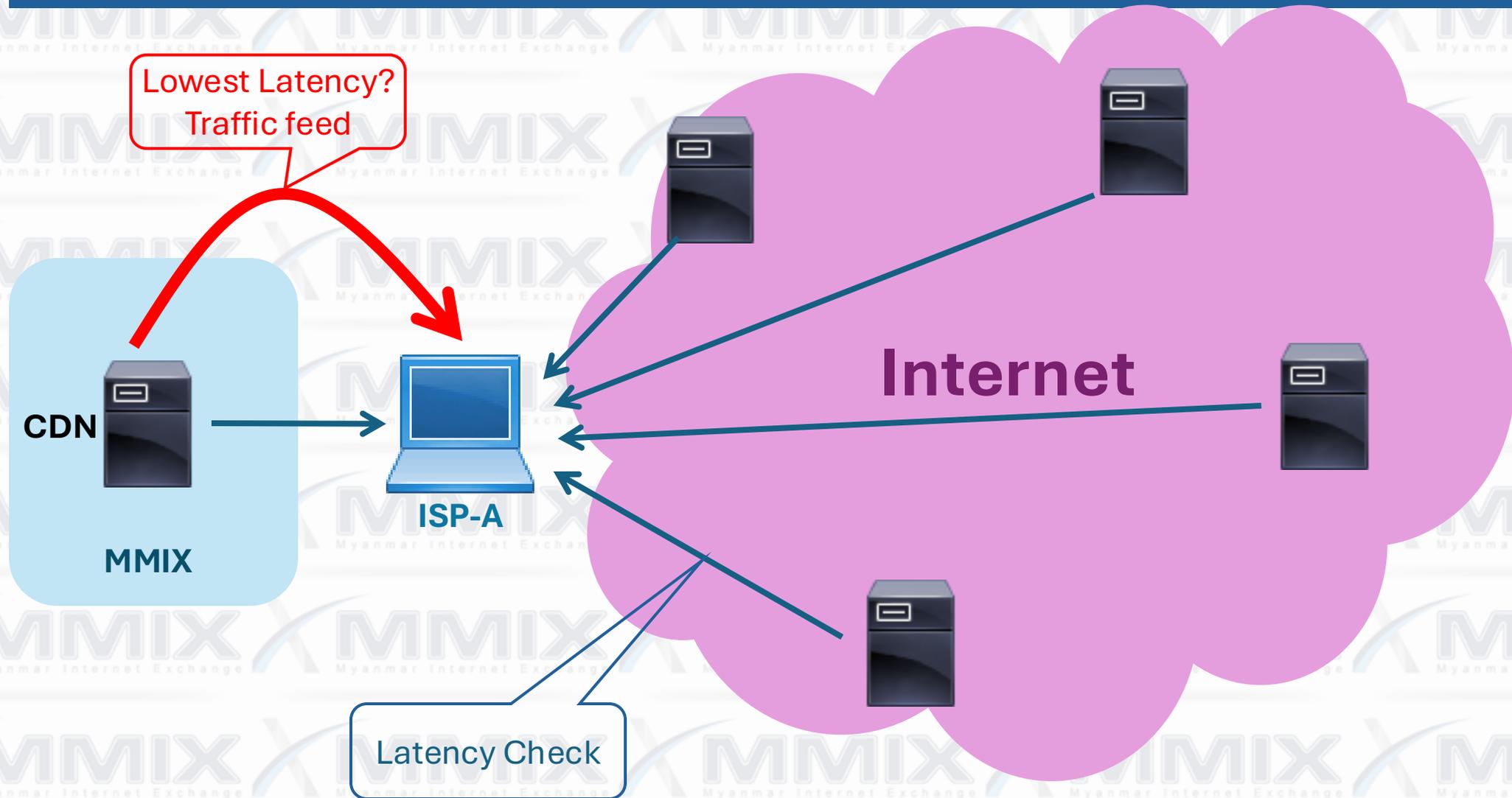
# CDN Data Flow



# Monitoring CDN node



# Monitoring to ISP Network



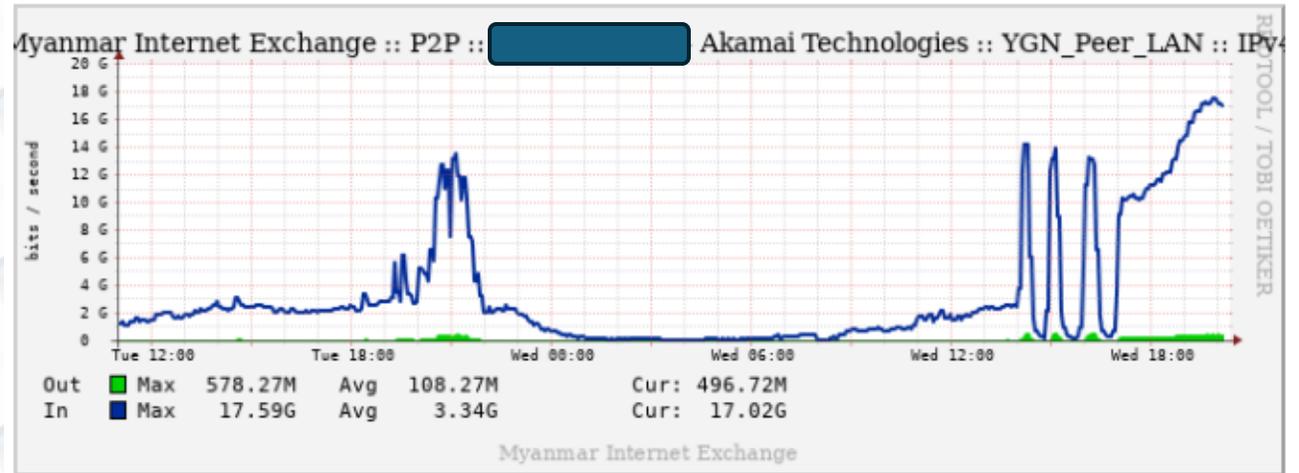
# Common Problems

## The whole CDN Node down.

- IP Transit, upstream network down.
- High latency to Monitoring nodes.

## Specific Client Node traffic degrade

- Lost or high latency to Monitoring IP(s) of client.





Thank you!

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