



# The Internet in Cambodia

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# Agenda

1. Internet Users in the Kingdom
2. ISPs in Cambodia
3. Fibre connectivity
4. Internet access types
5. Internet Price
6. Data Centres
7. Internet eXchange (IX)
8. Social Network
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# Internet Users in the Kingdom

Disputed figures –

- Local ISPs suggest 500,000 users in recent articles
- Government says that in 2011, we had 1,689,389 users and it will increase to 1,739,618 in 2012
- In 2004, there were only 7,671 users
- Users are mostly students, businesses, government officials
- Facebook has Cambodia at 630,920 users  
(increase of 159k in last 6M which is 34% with a penetration of only 4.28%) 94<sup>th</sup> position out of 210  
<http://www.socialbakers.com/facebook-statistics/>
- 80%+ of users under 35yo
- Facebook + 10-15% would be about accurate

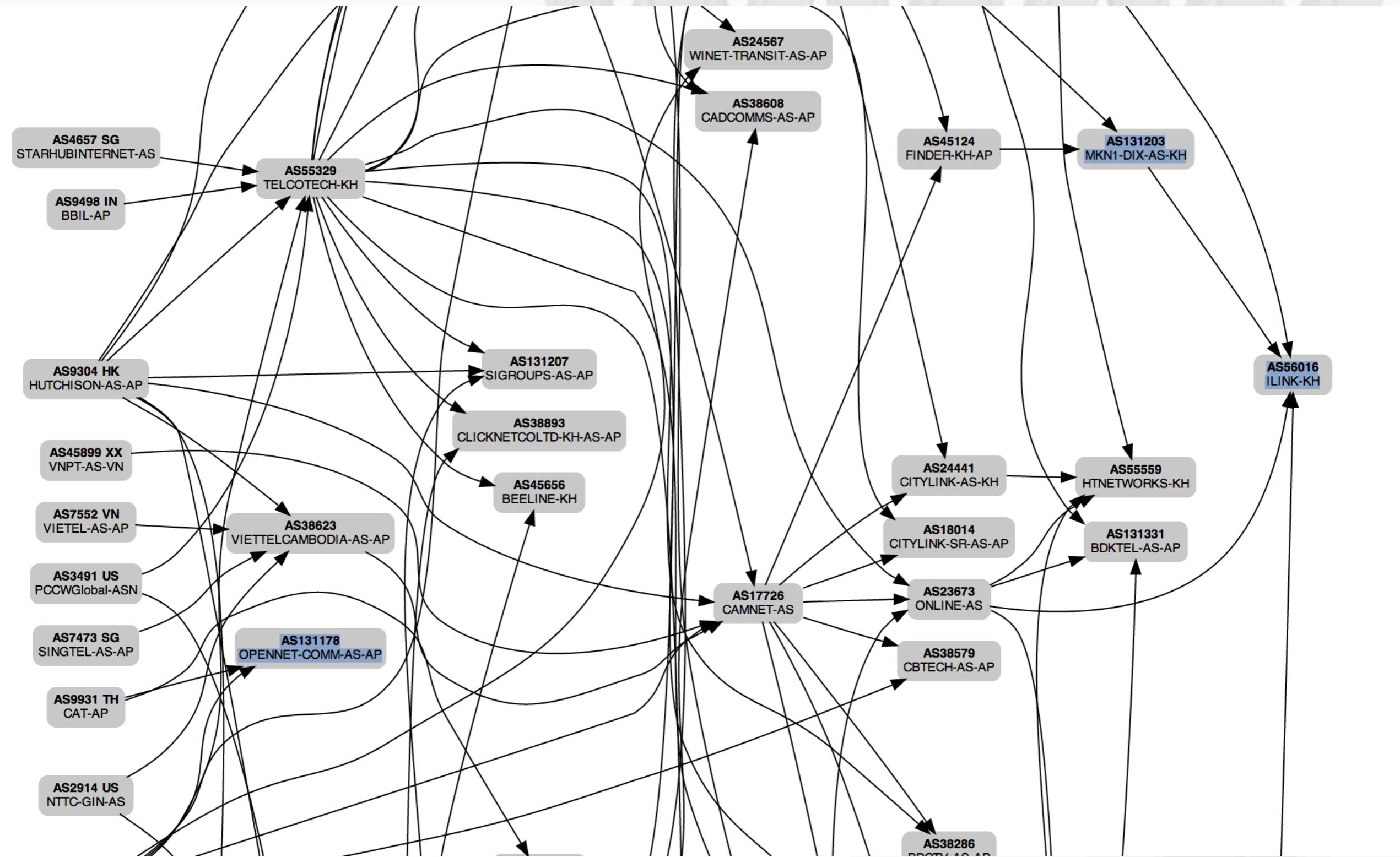
# ISPs in Cambodia

27 companies registered for Internet operations trade in 'I I

- Ezecom ([www.ezecom.com.kh](http://www.ezecom.com.kh))
- AngkorNet ([www.angkornet.com.kh](http://www.angkornet.com.kh)) aka MekongNet
- Digi ([www.digi.com.kh](http://www.digi.com.kh))
- Chaunwei ([www.chuanwei.com.kh](http://www.chuanwei.com.kh))
- City Link ([www.citylink.com.kh](http://www.citylink.com.kh))
- Online ([www.online.com.kh](http://www.online.com.kh))
- WiCam ([www.wicam.com.kh](http://www.wicam.com.kh))
- Emaxx ([www.emaxxtelecom.com](http://www.emaxxtelecom.com))
- CamWorth ([www.camworth-tech.com](http://www.camworth-tech.com))

# The Internet in Cambodia

<http://ojamo.eu/>



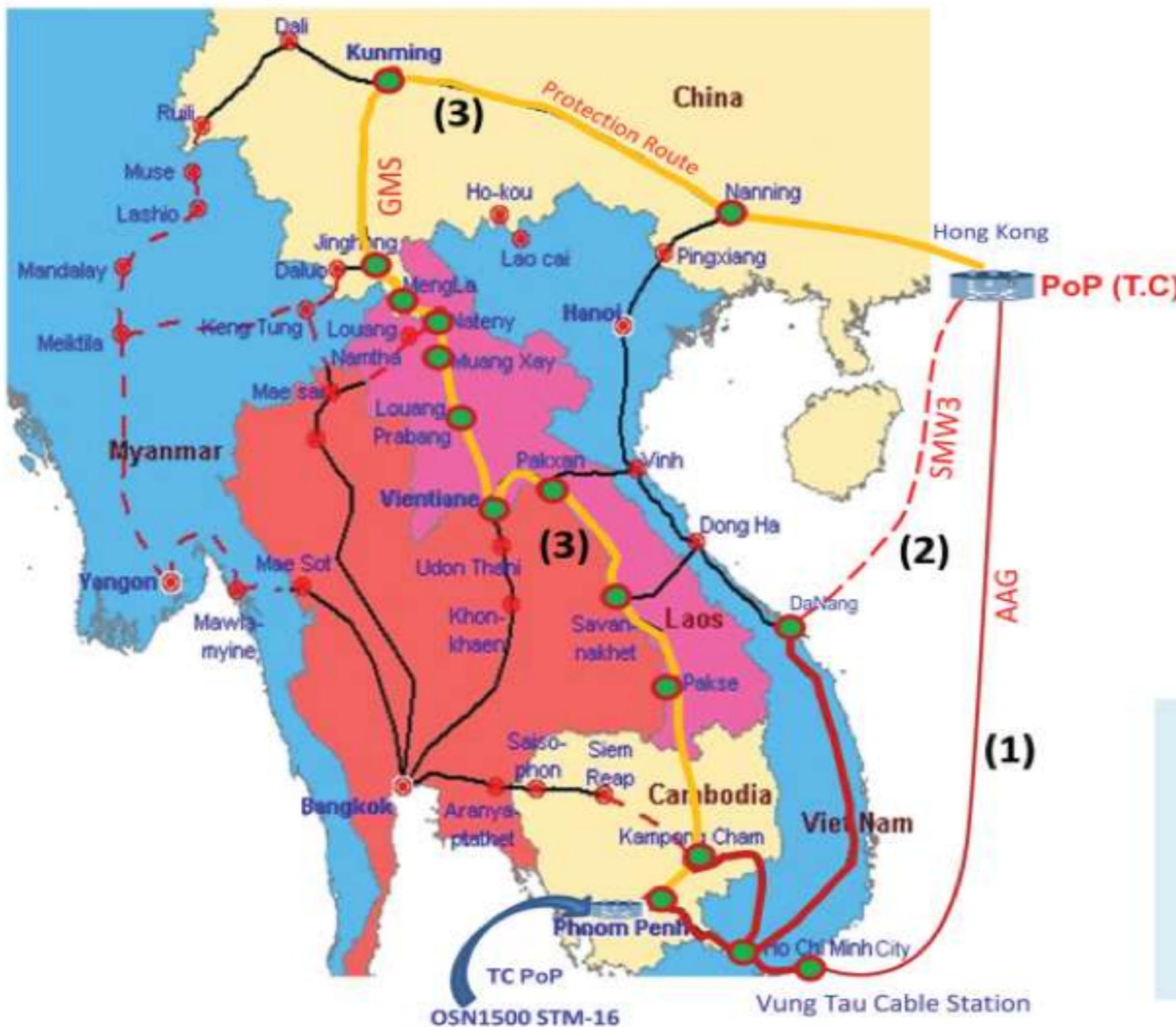
# Fiber Connectivity

- CFOCN (Cambodia Fiber Optic Cable Network) : 5,180km
- Telecom Cambodia (Government owned) : 1,200km
- Viettel Cambodia (Vietnam Government) : 16,000 km
- Some ISPs have their own fiber, often to neighbouring countries like Vietnam and Thailand.
- Over 25,000 km of optic fiber across the kingdom

# National Optical Fiber Backbone



# បន្ទាន់ការពិភ័យលេខរបស់កម្ពុជា



Legend :

- AAG
- GMS-IS
- - SMW3
- TC's PoP

# Internet Access Tail Types

- Fibre connection (FTTP)
- Cable (Coax)
- WiMax
- Mobile Broadband (Dongle) – GPRS, 3G, 4G coming

Far less due to copper quality

- Digital Subscriber Line (DSL)
- Dial-up access (very rare)
- ISDN access (very rare)

# Transit Pricing

- The Internet cost is still expensive for Cambodia
- All transit has to come from neighbouring countries – mostly Vietnam – which is most then sourced from Hong Kong
- High cost for telecommunication and Internet services in ASEAN
- Transit costs around \$100 per meg
- High contention rates due to pricing

# Residential Pricing

- A lot for very little. Pricing is way too high. Speed and quality is not good. Usage still controls pricing.

Digi Home Limited				
Start From	Speed	Data Usage	Monthly Fee	Run out of MB*
\$12	3Mbps	12GB	USD 12	256kbps 
	3Mbps	20GB	USD 17	256kbps 
	3Mbps	30GB	USD 25	256kbps 
	3Mbps	40GB	USD 35	512kbps 
	3Mbps	55GB	USD 45	512kbps 

\* Unlimited use after running out of MB with 256kbps or 512kbps speed.

- Continue MB will be 7MB/cent.

Digi Home Unlimited			
Start From	Normal Speed	Super Speed	Monthly Fee
\$28	512kbps	12AM - 7AM	USD 28 
	1Mbps		USD 48 
	1.5Mbps		USD 58 
	2Mbps		USD 78 
	3Mbps		USD 98 

\* Super speed: The experience of high speed that you can download every huge size of document from 12am-7am.

# Business Pricing

- Business pricing is much higher, but quality doesn't seem to be very different. Static IP options.

**PACKAGE PRICES**



<b>Corporate 256 kbps</b>	<b>\$49</b>
Ideal for email with medium attachments, web-surfing, downloads, VoIP.	
<b>Corporate 512 kbps</b>	<b>\$79</b>
Ideal for downloads/attachments, multiple VoIP users and video conferencing. Fibre Optic ready.	
<b>Corporate 1 mbps</b>	<b>\$139</b>
Ideal for large downloads/attachments, multiple VoIP users and video conferencing. High bandwidth for demanding users. Fibre Optic ready.	
<b>Corporate 2 mbps</b>	<b>\$249</b>
Extra bandwidth for demanding users. Fibre Optic ready.	
<b>Corporate 3 mbps</b>	<b>\$389</b>
Extra bandwidth for demanding multi-user offices. Fibre Optic ready.	



# Services

- IPv6 not available publically for any ISP users
  - IPv6 transit is available to some ISPs though
  - Static IP to business users – not available to home users
  - Some ISPs offer local content – gaming, TV, movies, shopping, VoIP, even peer-to-peer etc.

# Data Centers

There is no carrier-neutral Data Centers in Cambodia.  
ISP's with Data Centers are:

- Chuanwei
  - Ezecom
  - MekongNet
  - Online
  - WiCam
- 
- Services such as co-location and hosting

# Internet Exchanges

Official IX(Licensed by MPTC)

- HT Networks (HTN-CIX)
- Finder (Finder-IX)

Un-Official IX (Unlicensed)

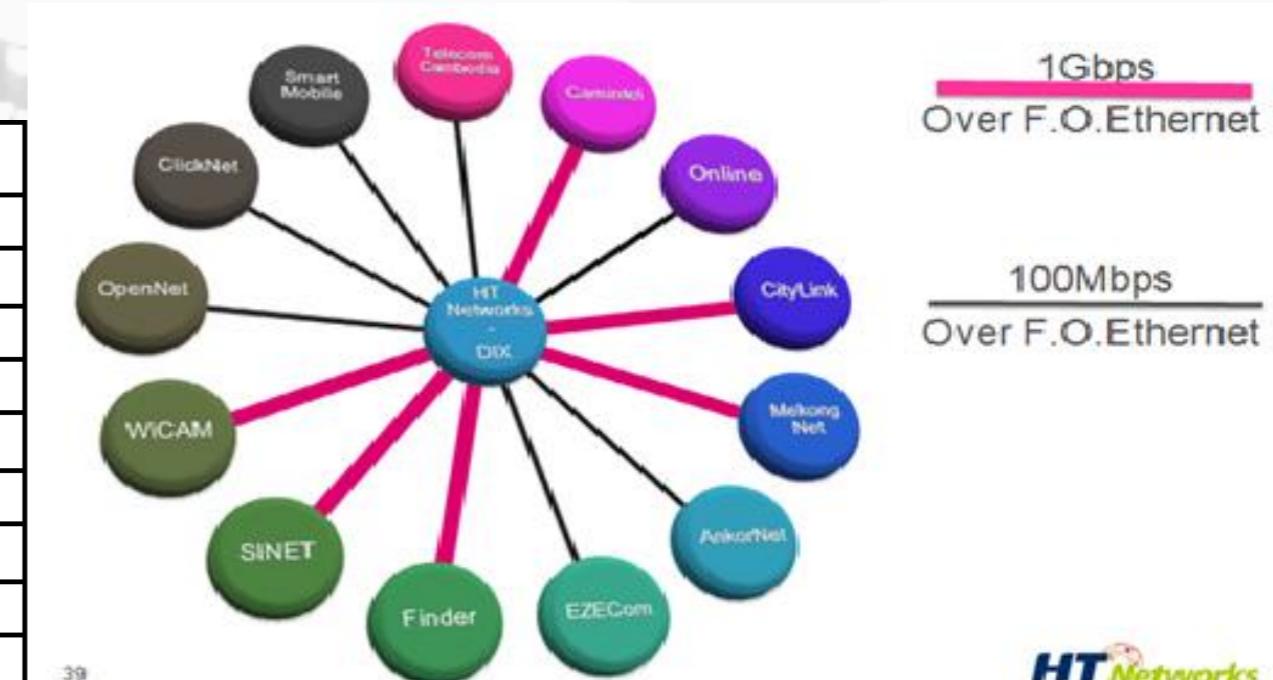
- Telecom Cambodia (Government?!)
- MekongNet
- CIDC
- Some disputes about who is and isn't official

Source: [http://htnetworks.com.kh/What\\_is\\_IX-English.htm](http://htnetworks.com.kh/What_is_IX-English.htm)

# HTN-CIX

- Layer 2 Switching – Cisco 3560
- Layer 3 Routing – Cisco 7200
- IPv4 and IPv6 peering

No	Company's Name	AS#	Status
1	Telecom Cambodia	17726	Ok
2	Camintel SA	38209	Ok
3	Online	23673	Ok
4	Citylink	24441	Ok
5	MekongNet	28235	Ok
6	AngkorNet	24478	Ok
7	EZECOM	38901	Ok
8	Finder	45124	Ok
9	SINET	131207	Ok
10	Wicam	24492	Ok
11	Opennet	131178	Ok
12	Smart Mobile	45498	Ok
13	EMAXX Telecom		Ok
14	Camworth Tech		Not Ok
15	Excell		Not Ok



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# HTN-CIX Peering Summary

## IPv4

Neighbor	V	AS	MsgRcvd	MsgSent	TblVer	InQ	OutQ	Up/Down	State/PfxRcd
103.7.144.1	4	132213	81332	79062	140051260	0	0	6w6d	495
103.7.144.2	4	132213	81098	79078	140051260	0	0	6w6d	495
218.100.51.1	4	45124	38838	37058	140051260	0	0	3w2d	577
218.100.71.3	4	55559	617871	35620754	140051260	0	0	1y3w	4
218.100.71.4	4	24441	21491	23973	140051260	0	0	2w0d	14
218.100.71.5	4	131203	29976	29940	140051260	0	0	2w4d	551
218.100.71.7	4	23673	8510	1536	140051260	0	0	22:05:22	23831
218.100.71.9	4	38209	18288	20422	140051260	0	0	1w5d	18
218.100.71.10	4	24492	229396	253463	140051260	0	0	22w2d	67
218.100.71.11	4	131207	9947	11240	140051260	0	0	6d22h	8
218.100.71.12	4	131178	721	758	140051260	0	0	10:30:26	3
218.100.71.13	4	45498	243370	248275	140051260	0	0	21w6d	9
218.100.71.14	4	58447	42809	48200	140051260	0	0	4w1d	1
218.100.71.15	4	56016	6296	7109	140051260	0	0	4d09h	4
218.100.71.16	4	38286	254647	259917	140051260	0	0	22w6d	11
218.100.71.17	4	132088	284200	153803	140051260	0	0	13w4d	5
218.100.71.19	4	131331	1599	1616	140051260	0	0	23:12:34	5
218.100.71.20	4	131273	4125	4700	140051260	0	0	2d21h	1
218.100.71.21	4	55329	1580293	67548	140051260	0	0	5w6d	1
218.100.71.22	4	38901	42596	43991	140051260	0	0	3w5d	27
218.100.71.23	4	23673	0	0	1	0	0	4d16h	Idle (Admin)
218.100.71.50	4	17726	3114	3160	140051260	0	0	1d22h	327

## IPv6

Neighbor	V	AS	MsgRcvd	MsgSent	TblVer	InQ	OutQ	Up/Down	State/PfxRcd
2001:DE8:1D::1	4	132213	79705	77311	488	0	0	6w6d	12
2001:DE8:1D::2	4	132213	79803	77315	488	0	0	6w6d	12
2403:1600::3	4	55559	335785	335989	488	0	0	30w1d	0
2403:1600::5	4	131203	95056	95059	488	0	0	8w3d	15
2403:1600::10	4	24492	276805	306881	488	0	0	27w4d	1

# Social Networking in Cambodia

- Facebook
- Linkedin
- Twitter
- Angkorone
- Google+

# Organisations in the Kingdom

- BarCamp ([http://2012.barcamp phnompenh.org](http://2012.barcampphnompenh.org))
- ISOC-KH ([www.isoc-kh.org](http://www.isoc-kh.org))
- NIDA (<http://nida.gov.kh>)
- KNIC (<http://www.knic.net.kh>)
- CamCERT(<http://www.camcert.gov.kh>)

# Future Internet of Cambodia

- New operator EMAXX 4G technology
- Growth of mobile and home Internet users
- Internet price dropping very slowly
- e-Commerce is coming – but cash still king – electronic banking system still very immature. Credit cards are VERY rare in Cambodia. No PayPal.

# THANKYOU

Any questions?

# CONNECT WITH ME

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