



Peering Negotiations at AfPIF

Thomas Volmer



disclaimer: all opinions are all mine

Peering Principles

- 99.5% of all Internet peering is done by "handshake"
- Peering is unregulated (almost) worldwide
- Peering arrangements are made voluntarily based on mutual benefit
- If there is no peering in place, all of the Internet is reachable via transit

The Internet has successfully scaled for >20 years without regulation:

- 8 orders of magnitude increase in traffic
- 5 orders of magnitude decrease in unit price

**"That will be \$0.0000008 for IP transit, or
100,000x more for voice please"**

Source: [OECD](#)



Benefits of Peering

- For users:
 - Lower latency
 - Higher reliability
 - Better performance
- For network operators:
 - Lower costs
 - Higher reliability
 - More predictable routing
 - Better performance for customers
 - No third parties involved
 - Mutually beneficial relationship with partner



Who are peering managers?

- IP engineers
- Network planners
- CTOs
- Sales people
- Marketing
- ...

Prerequisites for Peering

Technical requirements for Peering:

- Public AS in use
- Public IP address block in use
- Register your AS on www.peeringdb.com
- Presence at a mutual location
 - IX or private peering location



How to Peer (using AfPIF Meeting Maker!)

1. Define your objectives
2. Register for the Meeting Maker site
3. Book a meeting
4. Have a meeting at AfPIF, discuss peering
5. Set up the peering
6. Profit!

1. Decide on your objectives

Who should I meet and why?

AfPIF attendees include:

- Network Operators
 - your competitors
 - similar operators in other countries
- Internet Exchanges, both local and global
- Content Providers and CDNs
- Hosting Providers and datacentres
- Educational institutions
- Regulators and government officials

Who should I peer with?

- Check your traffic volumes
 - Netflow/Sflow analysis
 - Proxy and cache logs
 - Ask the other network...
- Look for key local content and access providers
- Review
 - lists of members at Internet Exchanges
 - lists of operators in facilities
- Check the other party's peering policy

Where to peer?

- PeeringDB.com has
 - List of all networks and where they peer
 - List of all facilities and who is there
 - List of all IXPs, where they are and who peers there

Public Exchange Point Detailed View

Common Name	MOZIX
Long Name	Mozambique Internet Exchange
City	Maputo
Country	MZ
Continental Region	Africa
Media Type	Ethernet
Protocols Supported	Unicast IPv4 <input checked="" type="checkbox"/> Multicast <input type="checkbox"/> IPv6 <input type="checkbox"/>

Contact Information

Website	http://www.mozix.org.mz
Traffic Statistics Website	http://www.mozix.org.mz/mrtg
Technical E-Mail	antonio@uem.mz
Technical Phone	+258823003920
Policy E-Mail	antonio@uem.mz

List of Peers at this Exchange Point (Total: 2)

Peer Name	Local ASN	IP Address	IPs	Policy
Vodacom Mozambique	37223	192.168.18.10	1	Selective
Webmasters Lda	37697	192.168.10.24	1	Open

List of Interconnection Facilities

Common Name	Management	CLLI	NPA-NXX	City	State/Prov	Postal Code	Country	Participants
SEACOM Maputo CLS	SEACOM Maputo Cable Landing Station			Maputo			MZ	2



2. Register for Meeting Maker site

[AfPIF 2015 MeetingTool] Signup notification



MeetingTool.net <no-reply@meetingtool.net>
to me

Aug 7



Hello Thomas Volmer,

You are receiving this message because you have been signed up with the MeetingTool for the event African Peering and Interconnection Forum 2015!

<http://afpif2015.meetingtool.net/>

LOGIN

Username

Password

Forgot your password?

Login

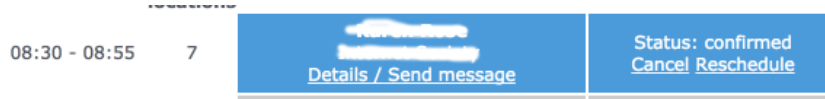


3. Find a delegate to meet with

	Mohamed Tangasawi Director Carrier Relations and Regulatory	Zain Sudan		Actions ▾	<input type="checkbox"/>
	Bakarr Tarawally Director of Communications	Ministry of Information and Communications		Actions ▾	<input type="checkbox"/>
	Andre Tenreiro Head of IT & Core Data Network	Vodacom Mozambique	ASN: 37223	Actions ▾ Visit Profile Invite View Schedule Write Message	<input type="checkbox"/>
	Vymala Thuron Communications PR and Marketing Manager	African Network Information Center (AFRINIC)			<input type="checkbox"/>

4. Have a meeting!

- Your meeting location is in your schedule



08:30 - 08:55	7	Table 2	Status: confirmed Cancel Reschedule
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Table 2

- Peering is built on ***relationships***
- Make sure you understand each other's objectives, costs, and benefits
- Find a mutually agreed place to peer
- Agree action items and next steps



Negotiating Peering

How to encourage someone who doesn't want to peer with you, to peer with you?

- Exchange lots of traffic (e.g. host content on your network if they are an eyeball network)
- Find another location to peer in, that works for both sides
- Buy another operator who already has peering
- Leverage a broader business arrangement
- Make friends
 - Buy them beer/juice/dinner... :-)



for more negotiating approaches, see the
“Peering Playbook”

5. Set up the peering (the easy part)

```
router bgp 12345
```

```
neighbor 2001:1:2:3:4:1:5169:1 remote-as 15169
```

```
address-family ipv6 unicast
```

```
neighbor 2001:1:2:3:4:1:15169:1 prefix-list announce-my-ipv6 out
```

Conclusions

Do your research, then...

1. Define your objectives
2. Sign up for the Meeting Maker tool
3. Meet some potential peers
4. Exchange ideas, details, agree to set up peering
5. Set up peering
6. Enjoy better performance, and lower costs!