

NAPAfrica Update: SAFNOG 2019 AS37195

PeeringDB Records:

<https://www.peeringdb.com/ix/592>

<https://www.peeringdb.com/ix/597>

<https://www.peeringdb.com/ix/969>



NAPAFRICA

NAPAfrica Update

- 3 Regions: Johannesburg (750Gbps peak), Cape Town (120Gbps peak), Durban (10Gbps peak)
- Members: 420 Unique ASNs, including AS numbers from 26 African countries
- Port sizes: 10G/n*10G/100G/n*100G
- 1062 active ports, 10.2Tbps connected capacity
- RPKI ROV on route servers, MANRS Certified



NAPAFRICA

NAPAfrica Transparency

- We want our members to know everything about the exchange, to see what we see.
- Our looking glass is live for route servers across all regions. Integration to the route collectors (Arista vEOS) is in progress.
- We have a live weather map for IX Johannesburg. Cape Town will follow shortly.
- We will update the weather map to include additional stats, including CPU/memory, health sensors, and packet breakdown.
- We are working on making certain syslog data publicly available.

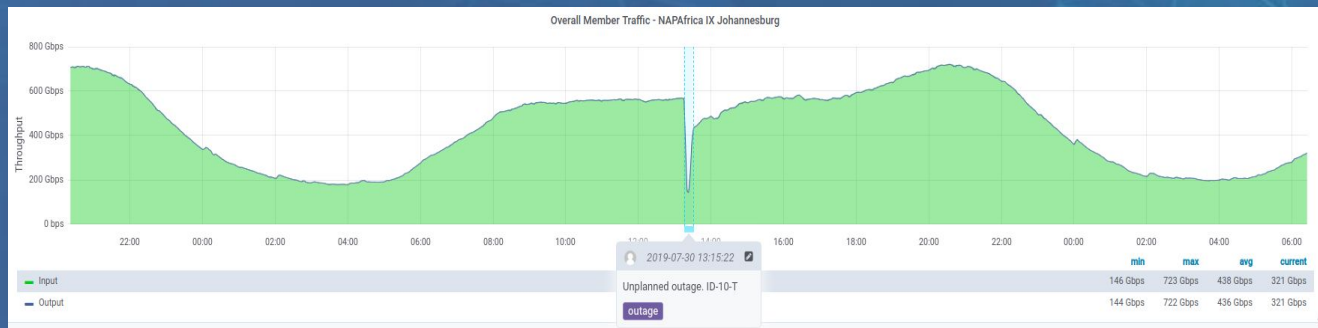


NAPAFRICA

NAPAfrica 2018 Incident

We experienced a brief outage at IX Johannesburg on 30 July at 13:13, which lasted approximately 9 minutes.

- This was due to human error.
- To prevent this in future, we are investing in an automated provisioning system, which we expect to be live before 2020.



NAPAFRICA

NAPAfrica Community is Key: 2018 Roundtable Ideas

Training Ideas:

NAPAfrica to kick off training opportunities focused on BGP basics, MNRS, filtering and security;

Website:

NAPAfrica to build wiki pages for most commonly required information;

NAPAfrica to include links to large content providers peering policies and peering request forms;

Development & Infrastructure:

NAPAfrica to review building a route map;

NAPAfrica to review the use of RPKI servers;

NAPAfrica to develop a welcome pack to all new members including step by step guide on how to peer;

Peering contacts & general admin:

All welcome notifications to include PeeringDB records and accurate contact information;

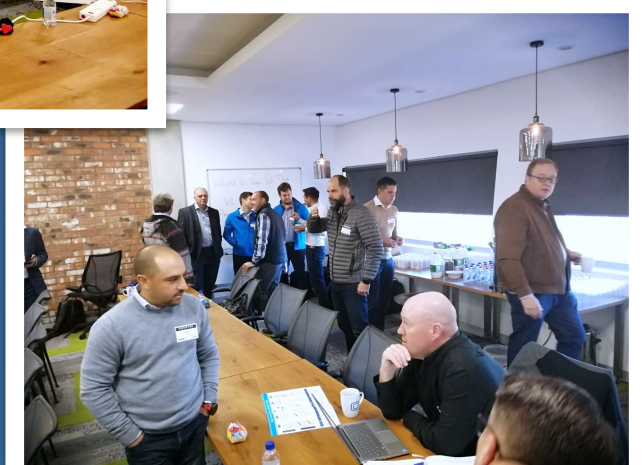
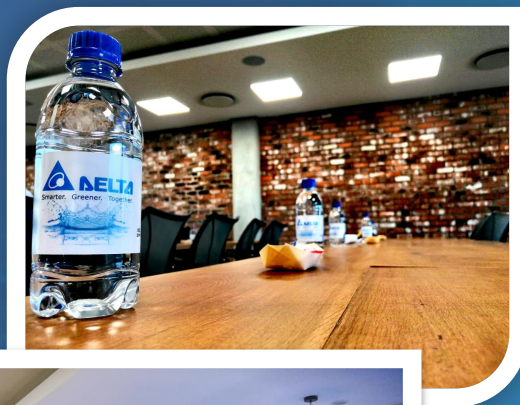
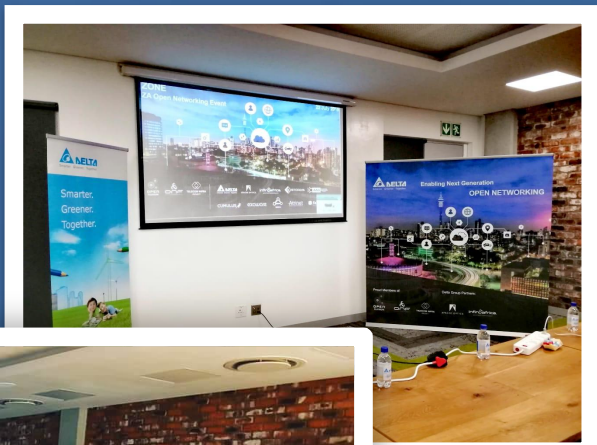
NAPAfrica utilises IXP Manager for detailed member contact information;

NAPAfrica to do an audit of which members are not on PeeringDB and then ensure that they are strongly encouraged to register

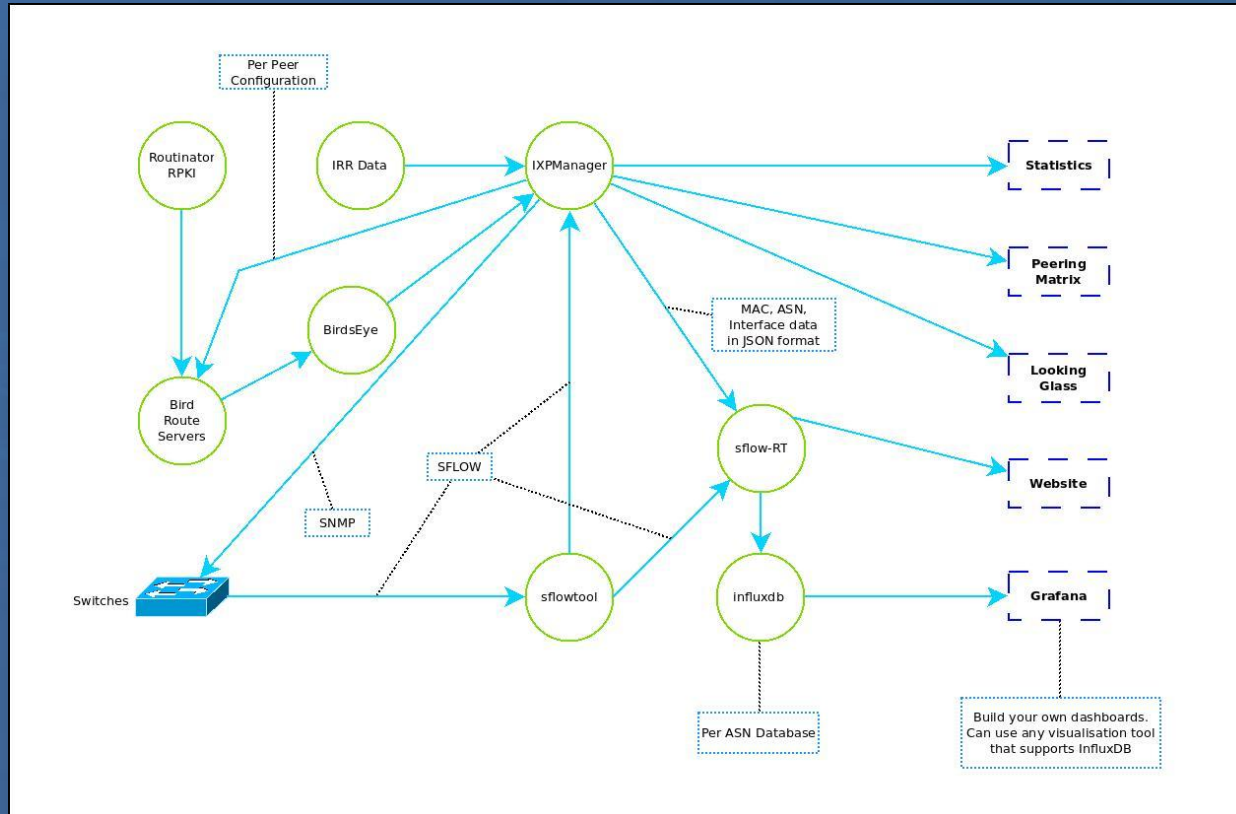


NAPAFRICA

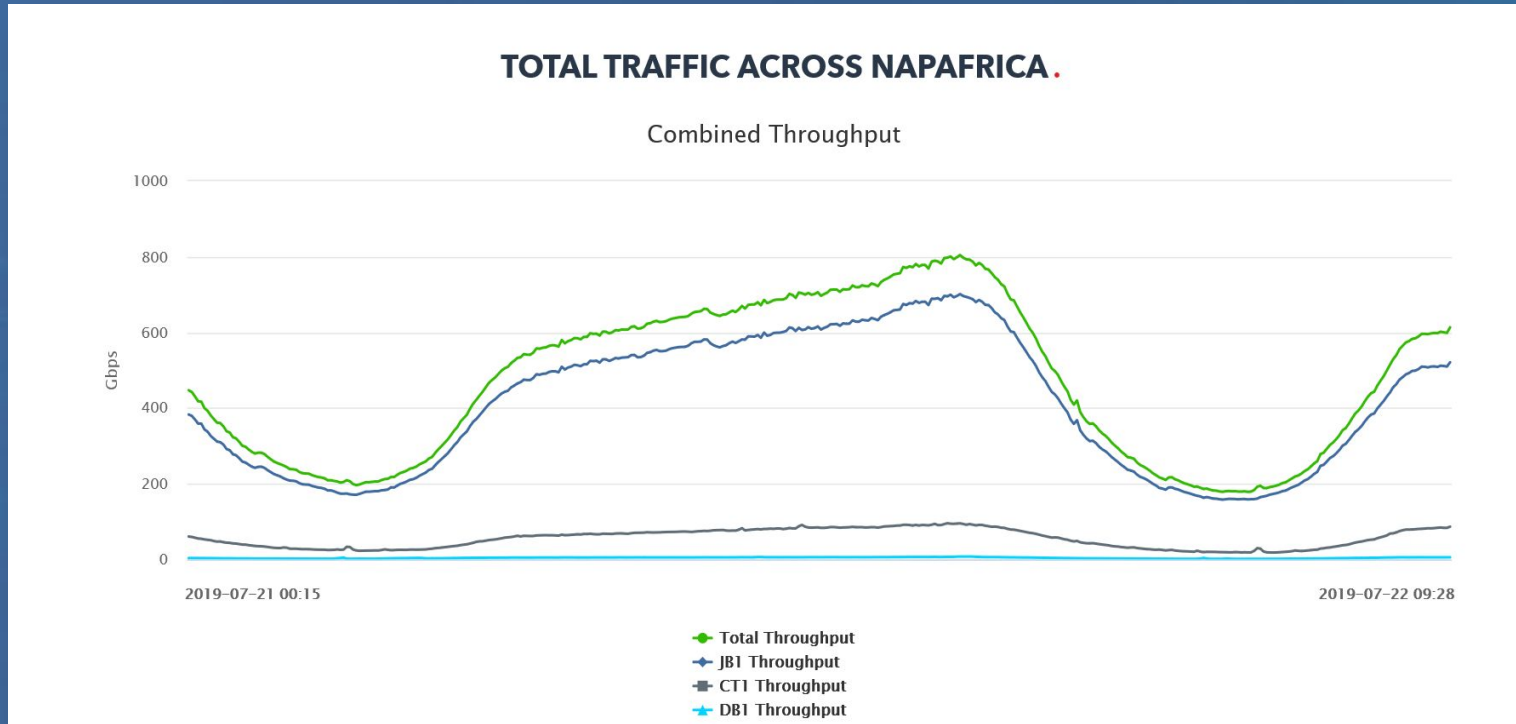
Teraco Tech Days – Closing the technical gap



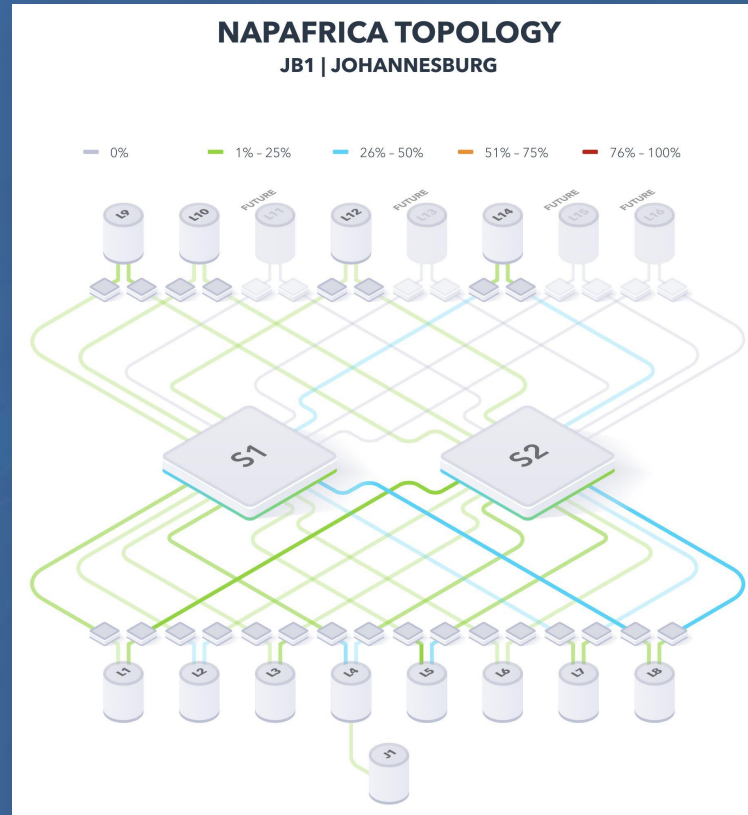
NAPAfrica Data Flow



What's New? Our Up and to the Right Graphs



What's New? The **Live** Weather Map



NAPAFRICA

Membership List: Live Member's List

NAPAfrica Member List

Filter by Location:

Filter by Location

Filter by Peering Policy:

Filter by Peering P...

Filter by MANRS
Participants:

Filter by MANRS P...

CLEAR FILTERS

Show 50 entries

Search:

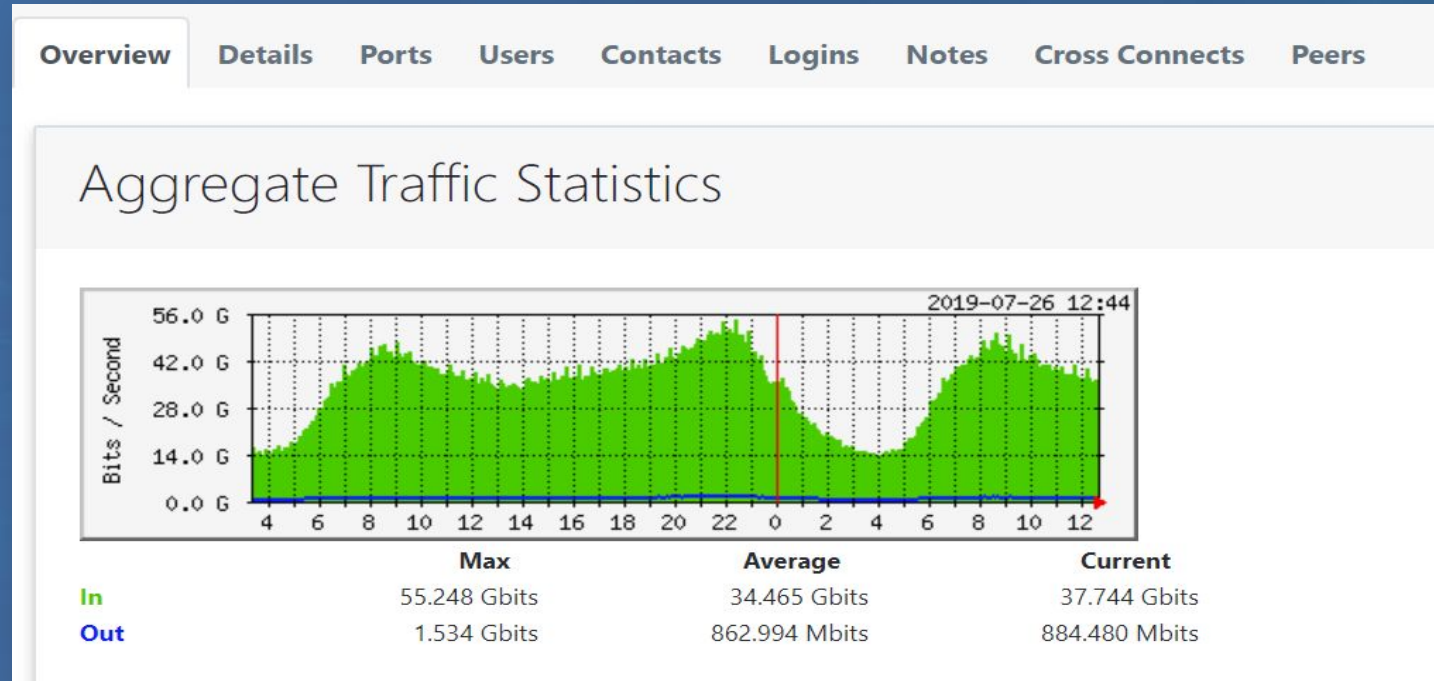
DC	Name	ASN	URL	Peering Policy	Route Server Peer	IPv6	MANRS
----	------	-----	-----	----------------	-------------------	------	-------

<https://www.napafrika.net/who-is-peering/>



NAPAFRICA

Membership Graphs



Please email nap@teraco.co.za to obtain your user login

Looking Glass

NAPAFRICA IXP Manager Member Information Peering Documentation Statistics Support Staff Link Jump to customer... My Account

Looking Glass IPv4 Route Server 0 - IX Johannesburg

Bird v2.2.0.4 | API: 1.2.1 | Router ID: 196.60.9.2 | Uptime: 14 days. | Last Reconfigure: 2019-08-26 13:51:27 | JSON: [status] [hgp]

Search:

Neighbor	Description	ASN	Table	PfxLimit	State/PfxRcd	PfxExp	Actions
196.60.8.123	Desktop	327894	T327894x122	2/200	2	82866	Details
196.60.9.93	Tysflo	328267	T328267x356	1/200	1	82296	Details
196.60.8.24	RoutedHosting	328032	T328032x216	5/200	5	82010	Details
196.60.9.79	NET15	328179	T328179x292	1/200	1	81704	Details
196.60.9.151	NCC	328350	T328350x394	15/200	15	81635	Details
196.60.9.100	SmartIntegrated	328336	T328336x362	4/200	4	81549	Details
196.60.8.23	Bosveld	327966	T327966x211	2/200	2	81520	Details
196.60.9.165	Misaka	57695	T57695x400	10/300	10	81481	Details
196.60.9.178	Capricorn	328341	T328341x402	1/200	1	81446	Details
196.60.9.150	VaalNetwork	328399	T328399x393	1/200	1	81397	Details
196.60.9.43	LinuxBaseSystems	328112	T328112x264	14/200	14	81394	Details
196.60.8.221	Trusc	327804	T327804x67	8/200	8	81378	Details
196.60.8.67	SkyFi	327984	T327984x175	2/200	2	81359	Details
196.60.9.186	InternetUncapped	328262	T328262x405	1/200	1	81339	Details
196.60.9.215	Suretel	328467	T328467x428	3/200	3	81334	Details
196.60.8.28	Sithabile	327982	T327982x206	2/200	2	81321	Details
196.60.8.15	Beginning2End	328068	T328068x223	14/200	14	81316	Details
196.60.8.193	MetroFibre	327782	T327782x112	189/500	189	81314	Details
196.60.8.40	Nepic	327099	T327099x194	6/200	6	81312	Details

**NAPAFRICA**

MANRS: We are members – join the movement

What is MANRS?

The Internet Society's Mutually Agreed Norms for Routing Security (MANRS) initiative is designed to provide measures to improve the resilience and security of the internet's routing infrastructure to keep it safe for businesses and consumers.

Why join MANRS?

- Improve your security posture and reduce the number and impact of routing incidents
- Join a community of security-minded operators working together to make the Internet better
- Use MANRS as a competitive differentiator
- Visit <https://www.manrs.org>



MANRS

RPKI: We are Validating

RPKI AT NAPAFRICA

Currently, NAPAfrica operates 3 pairs of validators, available to peering members in each region.

```
rpkil.jbl.nap.africa  
rpkil.jbl.nap.africa  
rpkil.ctl.nap.africa  
rpkil.ctl.nap.africa  
rpkil.dbl.nap.africa  
rpkil.dbl.nap.africa
```

<https://www.napafrika.net/technical/rpki-handy-hints/>

NAPAfrica route servers perform filtering and validation in the following sequence:

- Drop prefixes that are too long (/25-/32 for v4 and /49-/128 for v6)
- Drop prefixes considered as martians/bogons
- Drop prefixes where the AS path length is too short
- Drop prefixes where the first AS in the path is not the peer AS
- Drop prefixes with well known transit AS numbers in the path
- Drop prefixes where the AS path is too long
- RPKI Route Origin Validation – Drop invalid prefixes, Accept valid prefixes. RPKI unknowns will be subject to IRR filtering

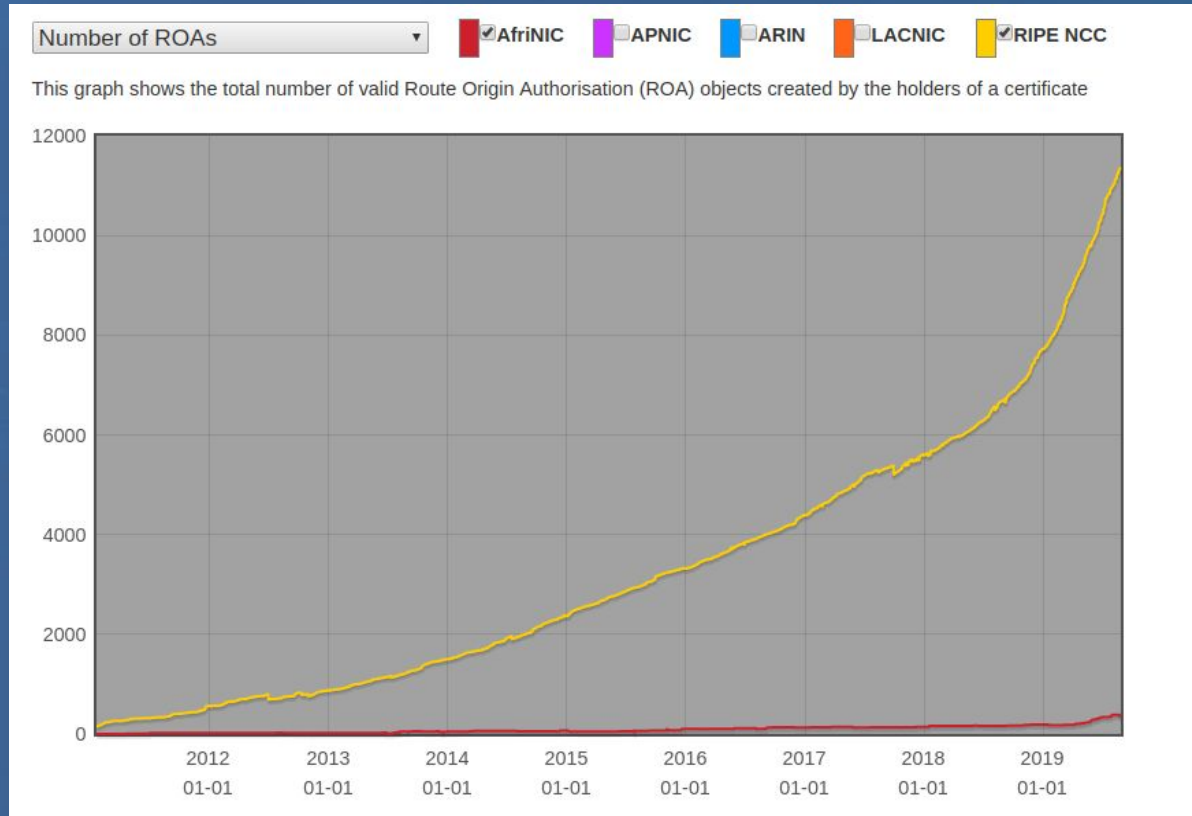
Route Details - 154.118.244.0/22 in table master4

Network	154.118.244.0/22
Gateway	196.60.8.250 PRIMARY
From Protocol	R328366x93
Age	2019-08-12 13:24:58
Metric	100
Type	BGP univ
BGP :: AS Path	328366
BGP :: MED	300
BGP :: Local Pref	100
BGP :: Large Communities	37195:1000:1 RPKI VALID

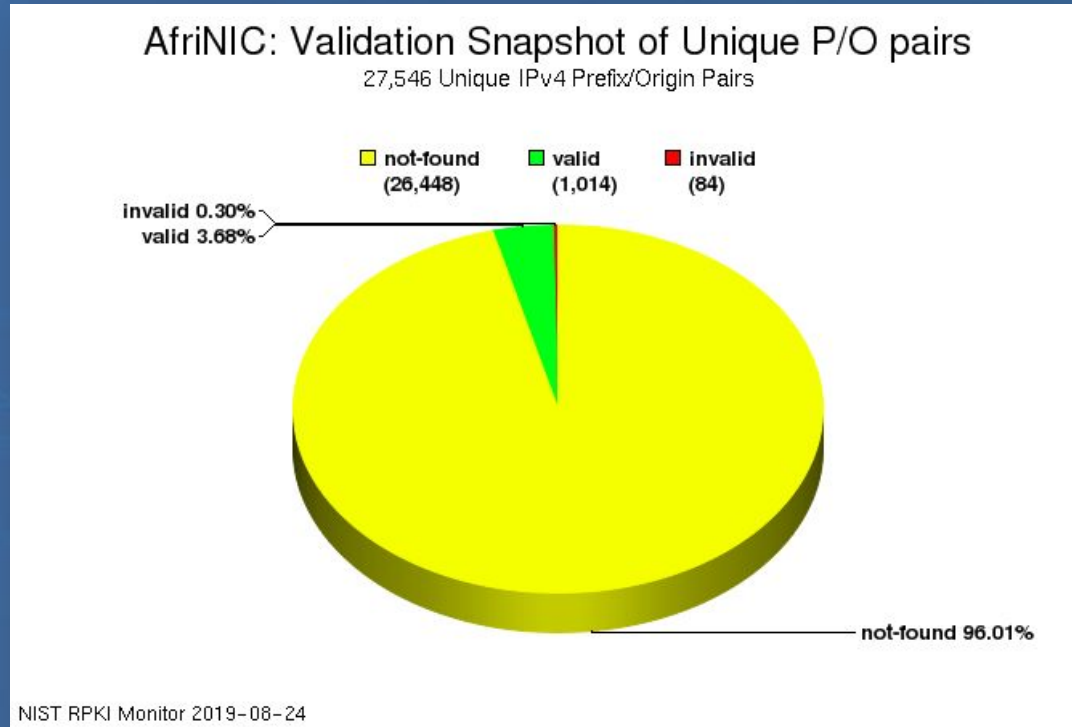


NAPAFRICA

RPKI Uptake: Africa vs World



RPKI: the Numbers



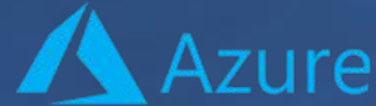
And of course... THE CLOUD



TERACO IS AN AMAZON CLOUD ON-RAMP FOR SUB-SAHARAN AFRICA

11 July 2018

Amazon Web Services (AWS) Direct Connect is now live in South Africa and located at Africa's only vendor neutral data centre, Teraco. AWS Direct Connect enables clients to directly connect to their AWS resources in an AWS region. The service is accessible via a direct cross-connect within Teraco or from the Teraco Cloud Exchange platform in Johannesburg and Cape Town.

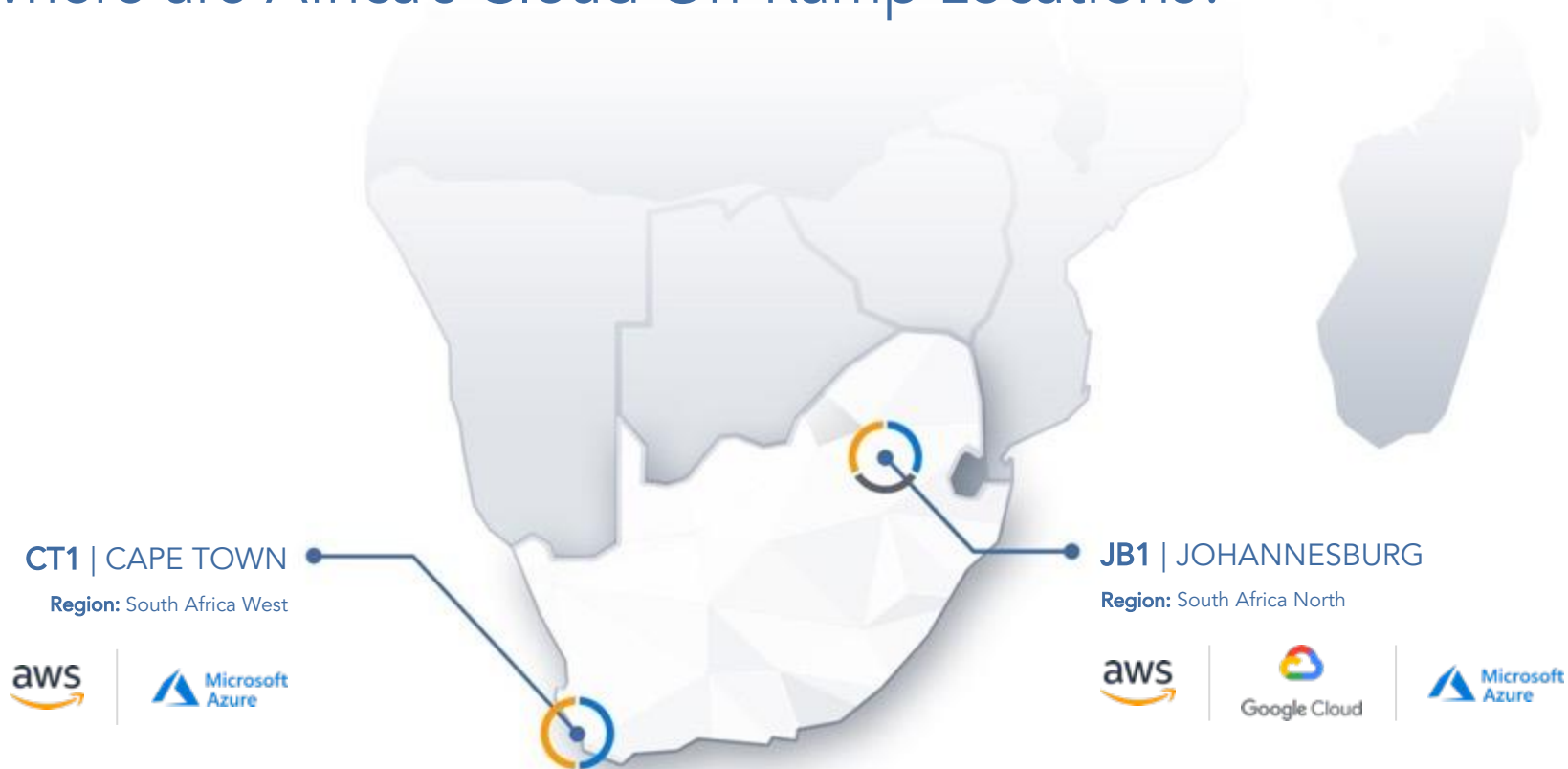


TERACO SELECTED AS MICROSOFT AZURE EXPRESSROUTE CONNECTIVITY PARTNER

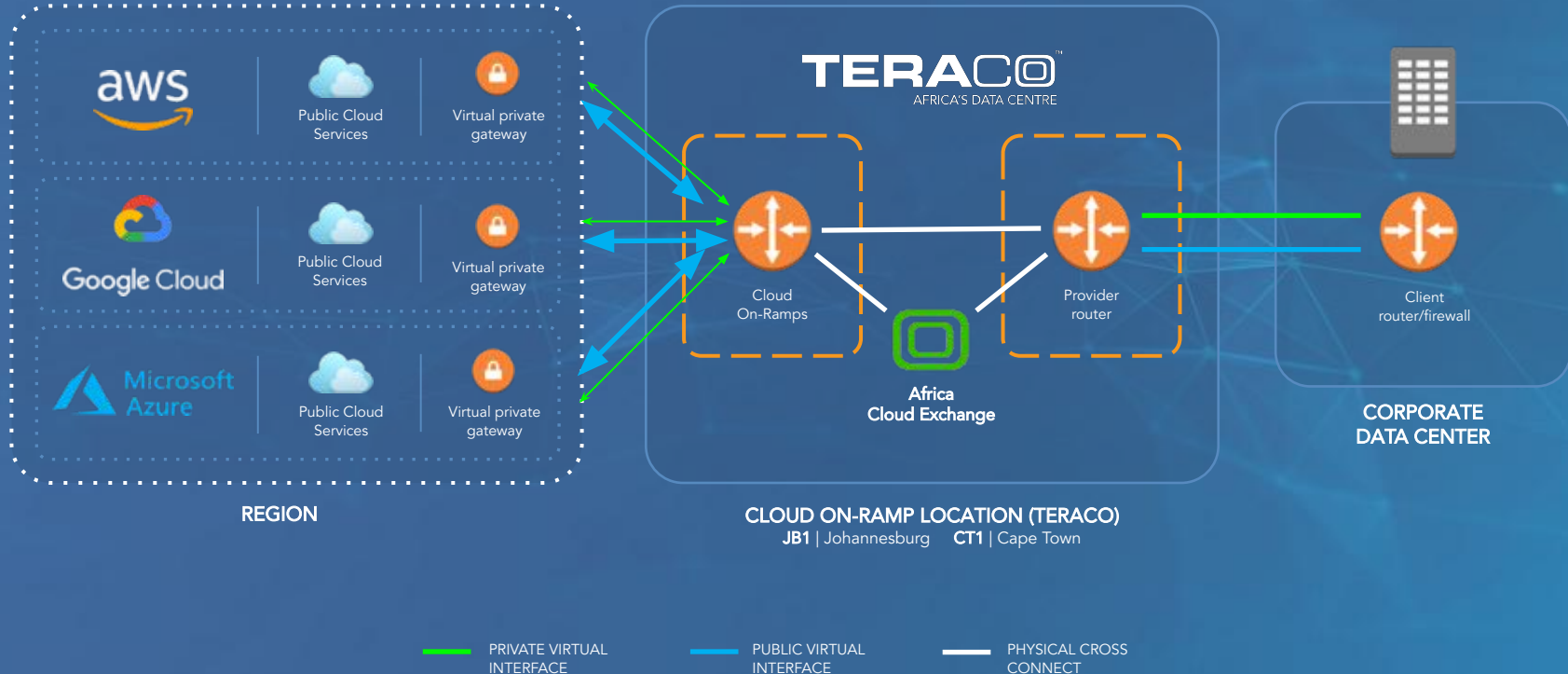
2 November 2017

Teraco Data Environments, Africa's largest neutral data centre, today announced it will be a Microsoft Azure ExpressRoute Connectivity partner, providing clients high performance private network connections to Microsoft Azure and other Microsoft Cloud Services. Teraco will be one of the first companies to offer access to the Microsoft Azure ExpressRoute sites in Africa, when Azure becomes generally available in 2018.

Where are Africa's Cloud On-Ramp Locations?



How to Connect to Africa Cloud Exchange



Thank you... any questions?

Email: nap@teraco.co.za or cloud@teraco.co.za



The world **connects** here.

Teraco Data Environments (Pty) Ltd
5 Brewery Street, Isando, 1600
Phone +27 11 573 2800 / +27 (0) 86 083 7226

www.teraco.co.za

TERACO™
AFRICA'S DATA CENTRE