



TIPS & TRICKS FOR AFRICA



Introduction



Jaguar Network is a French & Swiss network operator founded in 2001 in Marseille (France) focusing on small and medium business for xDSL, IP transit, L2 Transport, VPN MPLS, Collocation & Housing in over twenty "Collocation" centers across Europe.

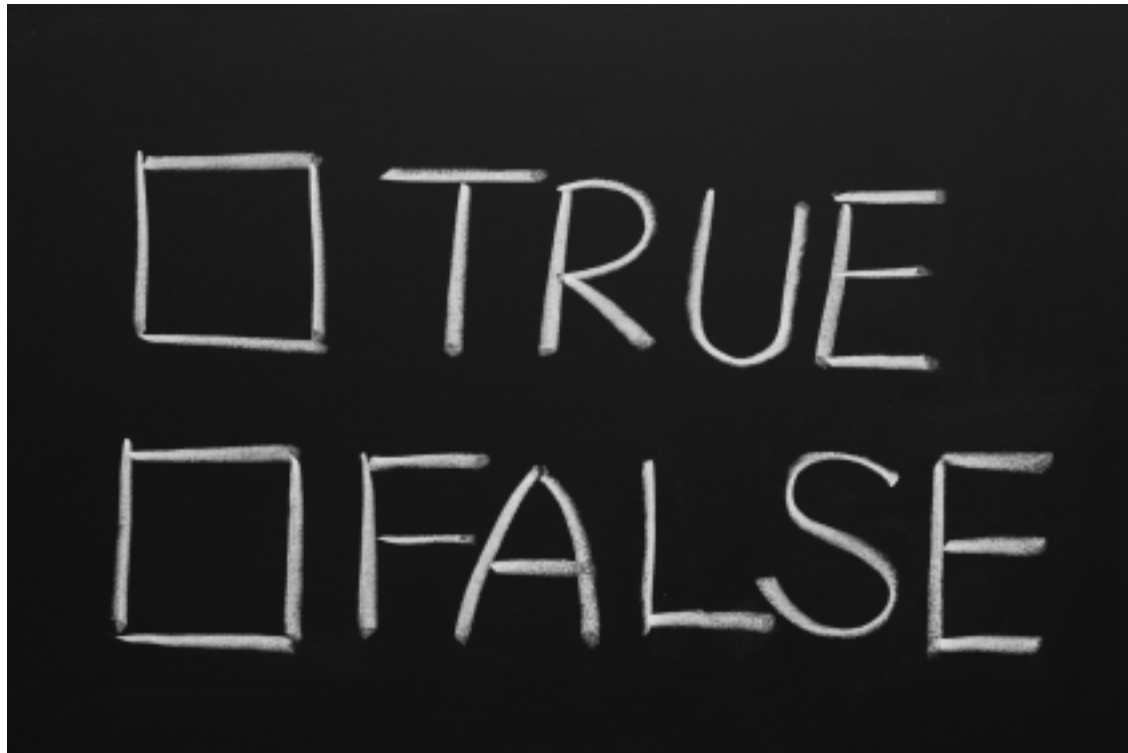
Jaguar Network is building a powerful and resilient optical fiber network in Europe to provide high speed and redundant access for all the services provided.

Developing it's own label known as "THD" (Très Haute Disponibilité), Jaguar Network focus on quality and proximity with it's customers in order to bring valued services on the french market.

Experience in Africa

- Provide IP Transit to ISPs across the continent (Algeria, Cameroun, Madagascar...).
- Offers bandwidth saving solutions.
- Assist in IPv6 deployment (remember last year's presentation?)
- Helps ISOC with the AXIS program on french speaking countries.
- Works on colocation/datacenter projects.
- Regular presenter at AfriNIC meetings.

True or False?



True or False?

Using old refurbished hardware sent from western countries is cheaper to operate than buying new hardware?

Server power consumption

- Let's take the example of an old (5 years+):
 - Dual Xeon CPU: ~100W each
 - Ultra SCSI HDD x4: ~10W each
 - DDR RAM (2G module x 8): ~5W each
 - Misc: ~100W
 - **Total power consumption: ~380W**

- And a new low power server:
 - Low power Intel i7: 17W
 - SSD HDD x 4: ~2W each
 - DDR3 (16G module x 2) ~3W each
 - Misc: ~20W
 - **Total power consumption: ~50W**

Power price

- Average cost of Energy in Kenya: 4.69Ksh / kWh -> 0.055US\$ / kWh

NEW TARIFFS - COMMERCIAL/INDUSTRIAL CUSTOMERS					
Tariff/ Charges	CI	CI2	CI3	CI4	CI5
Fixed Charge	800.00	2,500.00	2,900.00	4,200.00	11,000.00
Voltage	415 V	11 kV	33/40 kV	66 kV	132 kV
Charge Per unit (kWh)	5.75	4.73	4.49	4.25	4.10

- Yearly cost of 1kW: $0,055 \times 24 \times 365 = 481,80\text{US\$}$
- Power cost of our « old server »: $481,80\text{US\$} \times 0.38\text{kW} = 183\text{US\$}$
- Power cost of our « new server »: $481,80\text{US\$} \times 0,05\text{kW} = 24\text{US\$}$

183\$ VS 24\$, only?

- What about the environment cost? If you have a PUE of 2 in your datacenter, you'll pay the same amount of money for your datacenter environment power consumption.
- Yealy power cost (server + environment):
 - Old server: $183\text{US\$} * 2 = 366\text{US\$}$
 - New server: $24\text{US\$} * 2 = 48\text{US\$}$
- Saving of **318US\$ / year**

If you plan on keeping this new server 3 years+, it's worth the investment!

True or False?

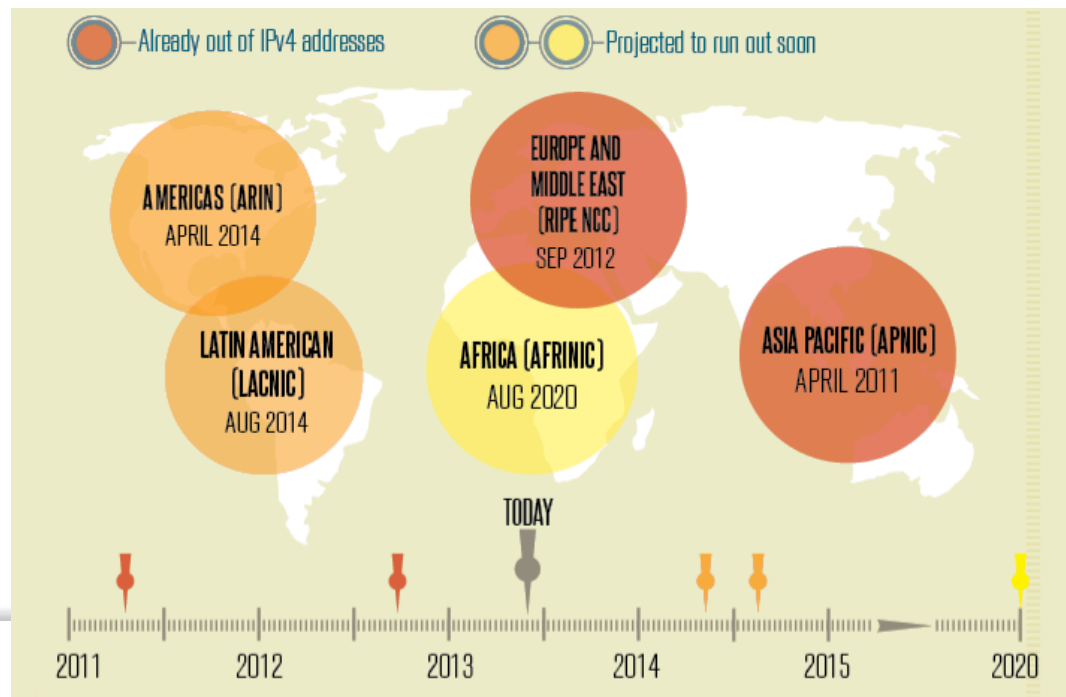
In the Telco world, I will never do business with a competitor.

True or False?

I am an ISP / Telco and I have a business model for IPv6 and I will quickly make more money with it.

True or False?

I don't need IPv6 right now. I still have a lot of time because AfriNIC still has IPv4 for quite some time.



True or False?

If I connect to an Internet Exchange Point, someone will steal my bandwidth.

True or False?

It is not a wise decision to peer with my competitor at an IXP because they will save money.

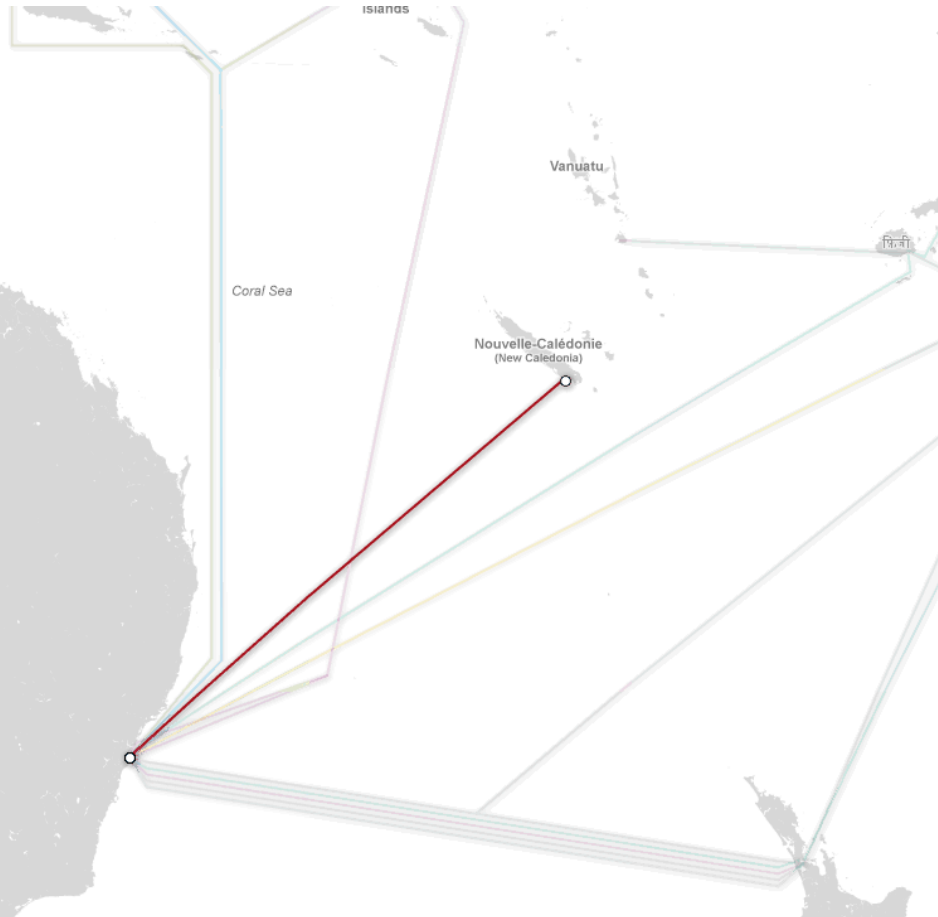
True or False?

The ISPs in my country have built an IXP but we should not allow the mobile telco operator to join that IXP because they are not allowing us to exchange voice traffic with them.

I have invested in a brand new VSAT station not so long ago, investing in submarine capacity is useless for me.

There's this new submarine cable connected to my country, I'll cut all my VSAT links and buy all my IP transit on it.

Nouvelle Calédonie



- Submarine cable in place since 2008. Never been cut (so far..).
- Currently using ~40G of capacity on the submarine cable for voice + internet services.
- The OPT (local incumbent) is the only one still having some VSAT capacity.
- What will happen when the cable gets cut?

True or False?

There is no real datacenter in my city. I operate a small room and I have no way to save power without making huge investments.

Datacenter tricks



Use cold corridors (or home made cold corridor) to improve cooling efficiency by separating hot air and cold air.

Datacenter tricks

A change of 1°C in datacenter temperature can represent as much as 4% of the total energy.

Humidity	Fahrenheit	Celsius
High limit	80.6°F	27°C
Low limit	64.4°F	18°C
Maximum relative humidity	60 percent	
Maximum dew point	59°F	15°C
Minimum dew point	41.9°F	5.5°C
Dew point depression at 60 percent R.H., 20°	8.5°C	14.3°F

Datacenter environment recommendations by the ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers)