



# Broadband

## Pricing and Connectivity in Africa



Andy Brauer  
Chief Technology Officer  
Business Connexion

**Business  
Connexion**  
*Connective Intelligence™*

# Agenda

**Hyper Connectivity creating a situation of Hyper-Competition**

**which will result in a market characterized by Hyper-choice for the consumer.**

Andy Brauer  
2009

# Hyper Connected World



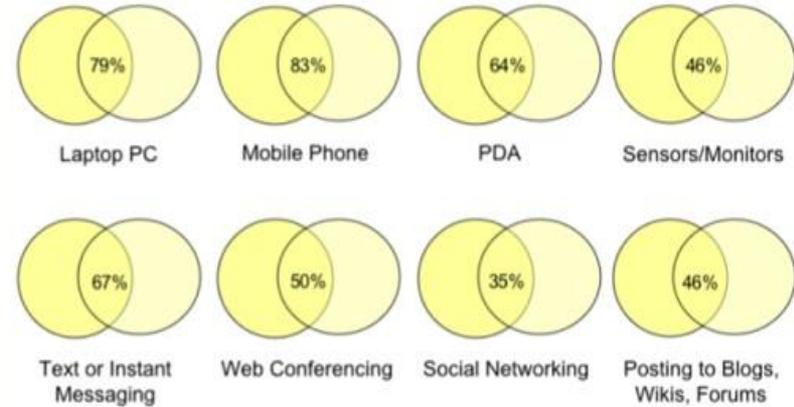
# Hyper Connectivity

## Hyper Connectivity: 50 Billion Connected Devices in 2020



FROST & SULLIVAN

## The Blurring Personal and Business Boundary Percent Hyperconnected Both For Business and Personal Use





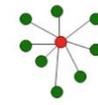
# Hyper Competition

## Work

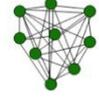
Artisans - Hierarchies - Networks



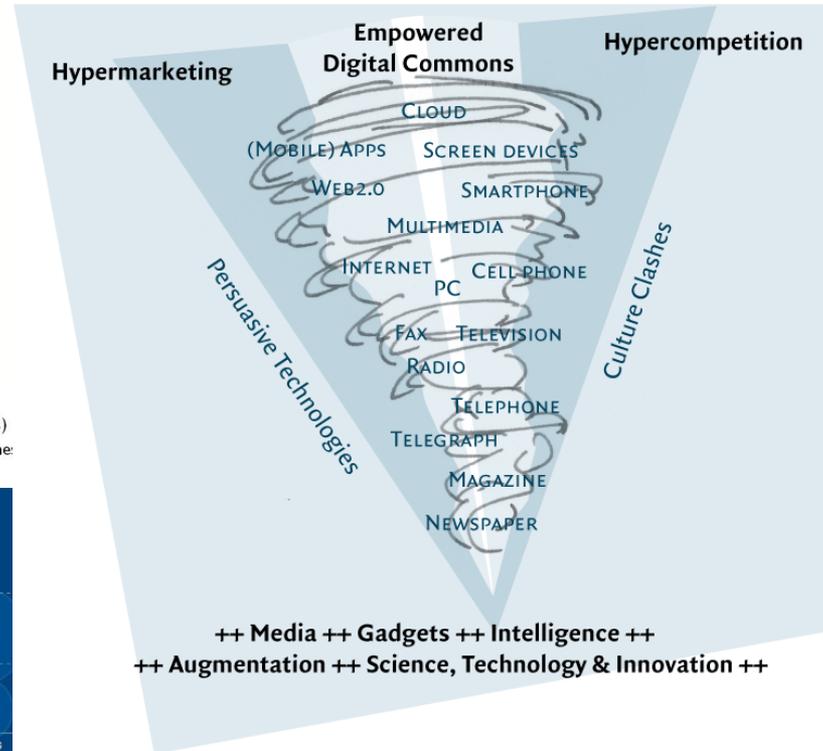
~19th C



+/- 20th C



21st C



## Why hyper competition?

- Globalisation – less trade barriers and efficient transport (e.g. containers)
- Speed of hyper connected communication and the pace of modern business
- Disruptive Technologies

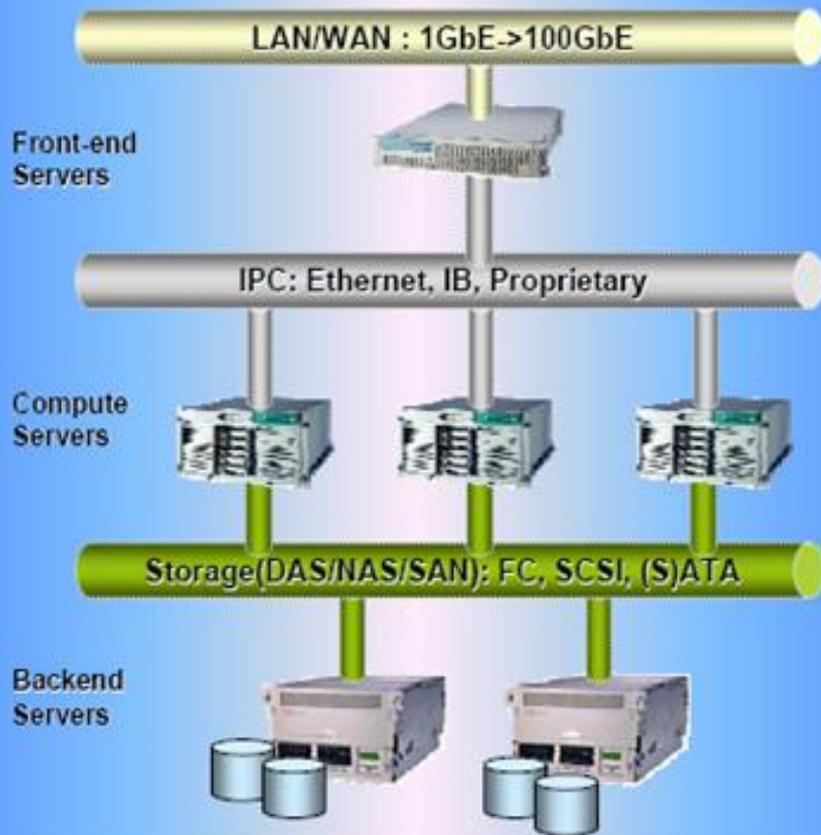


# Convergence in the data centre 40G is here

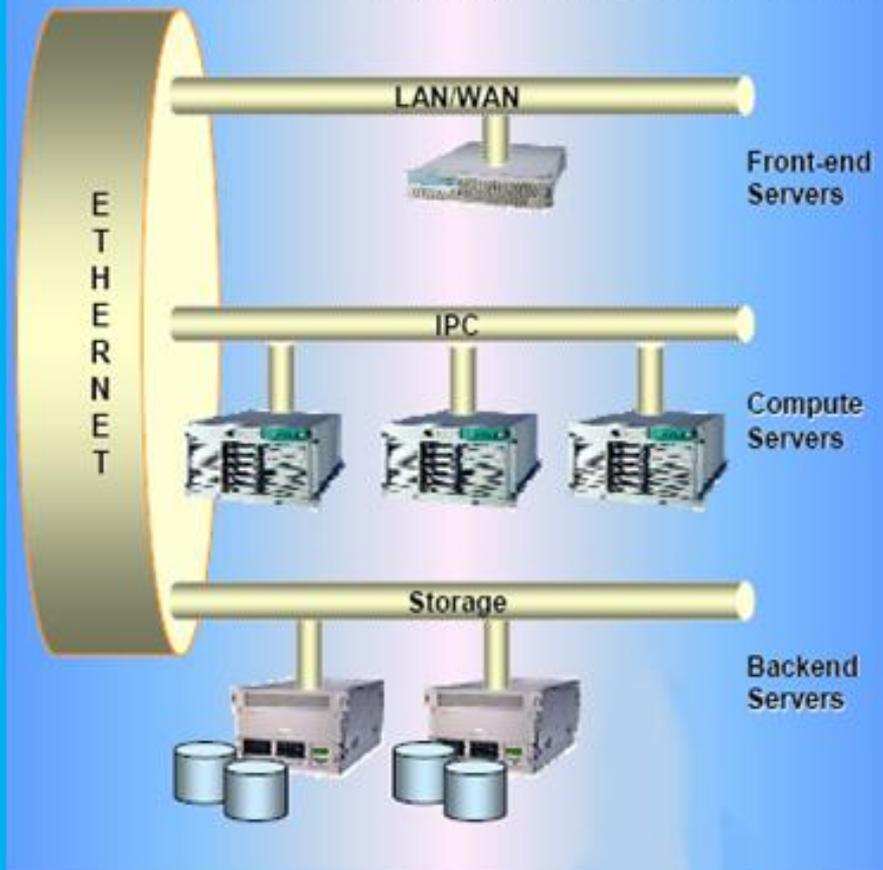
100G Announced 9<sup>th</sup> May 2012

Unified Infrastructure (Ethernet base)    1TbE 2015    100TbE 2020

## Today – 3 Networks

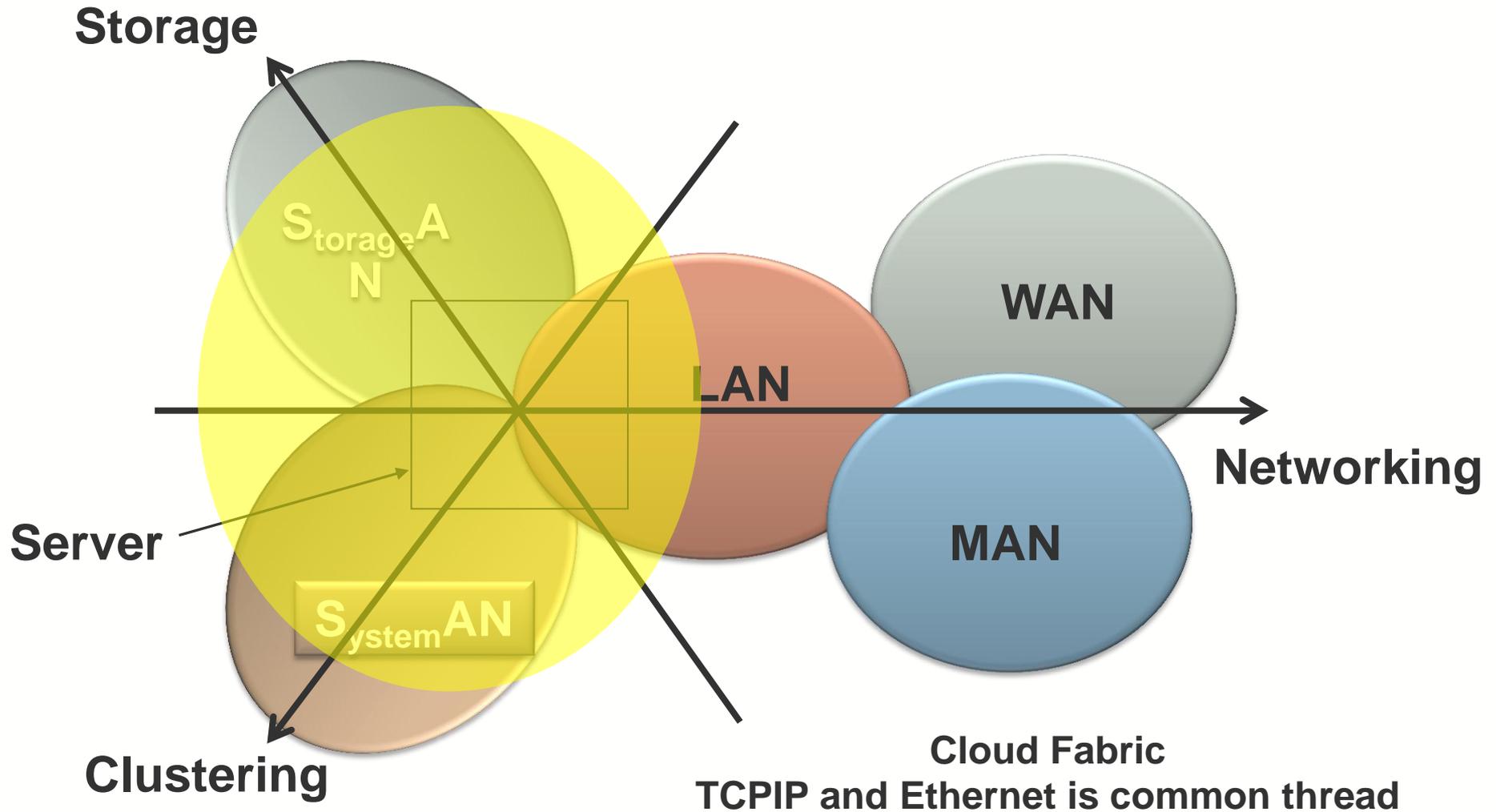


## Tomorrow – Convergence on TCP/IP

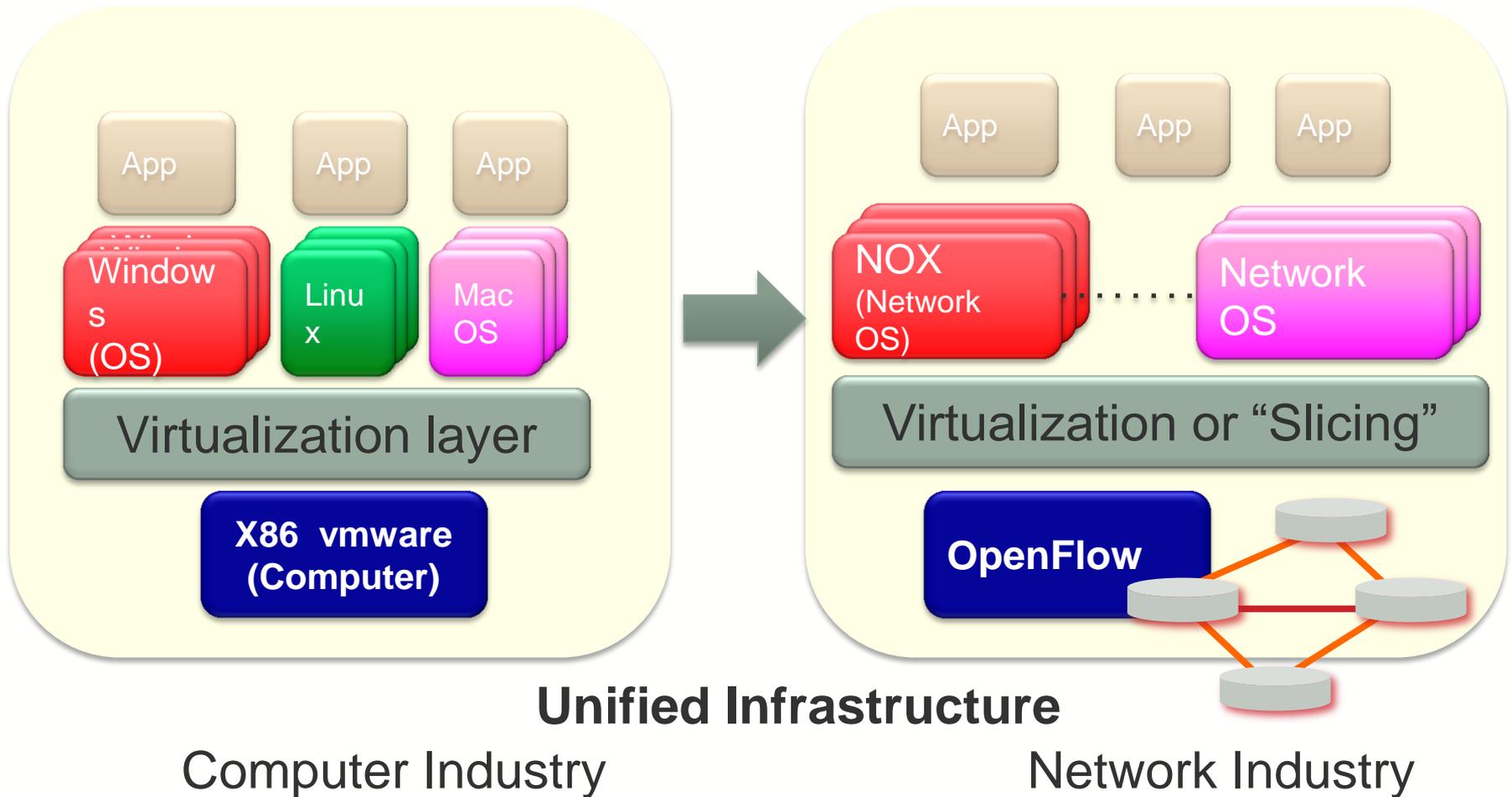


# Unified Infrastructure

# Unified Infrastructure



# OpenFlow Trend



Simple common stable hardware substrate below + programmability + strong isolation model + competition above = Result : faster innovation

# OpenFlow & SDN

## Software Defined Networks

TRILL or Transparent Interconnection of Lots of Links,  
SPBM or Shortest Path Bridging MAC mode,  
ECMP or Equal-Cost Multi-Path  
and MLAG or Multi-Chassis Link Aggregation Protocol

Spanning Tree's Problem is highlighted by Cloud

# What is Broadband ?



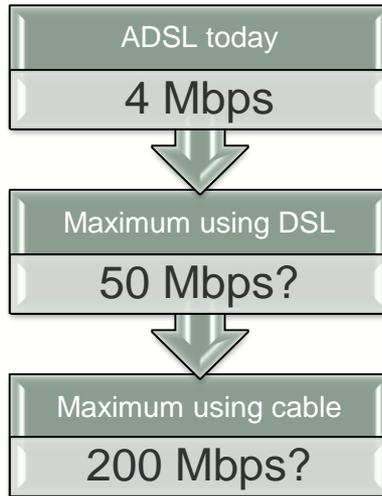
- It used to be the back haul network
- Now it is last mile Where ever you are

## But what is it really ?

- Its when you have enough or there is surplus to meet your current requirement.
- If you don't it is a narrow band.

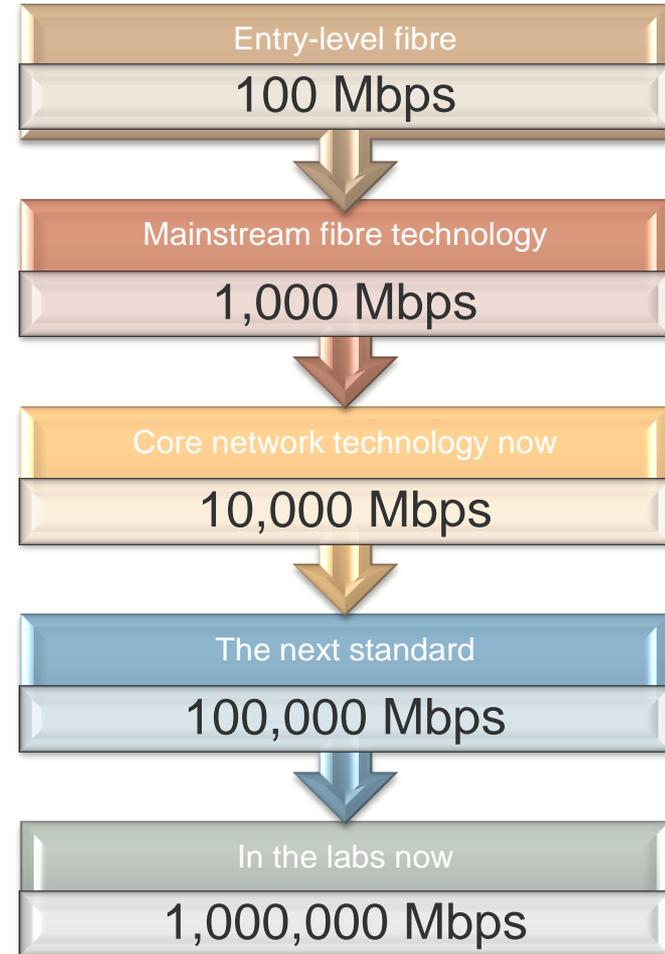
# How fast can we go

## Copper

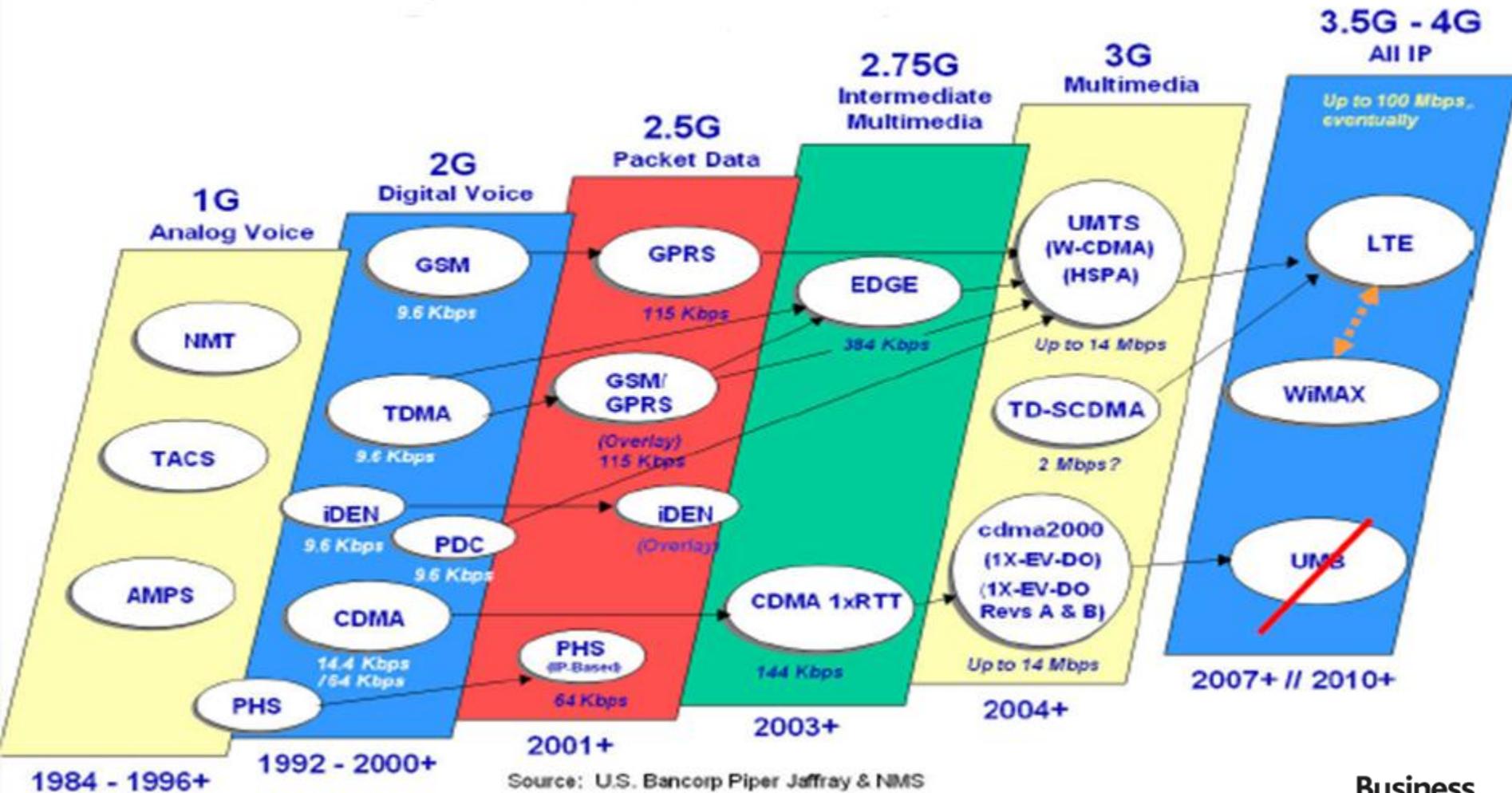


vs

## Fibre

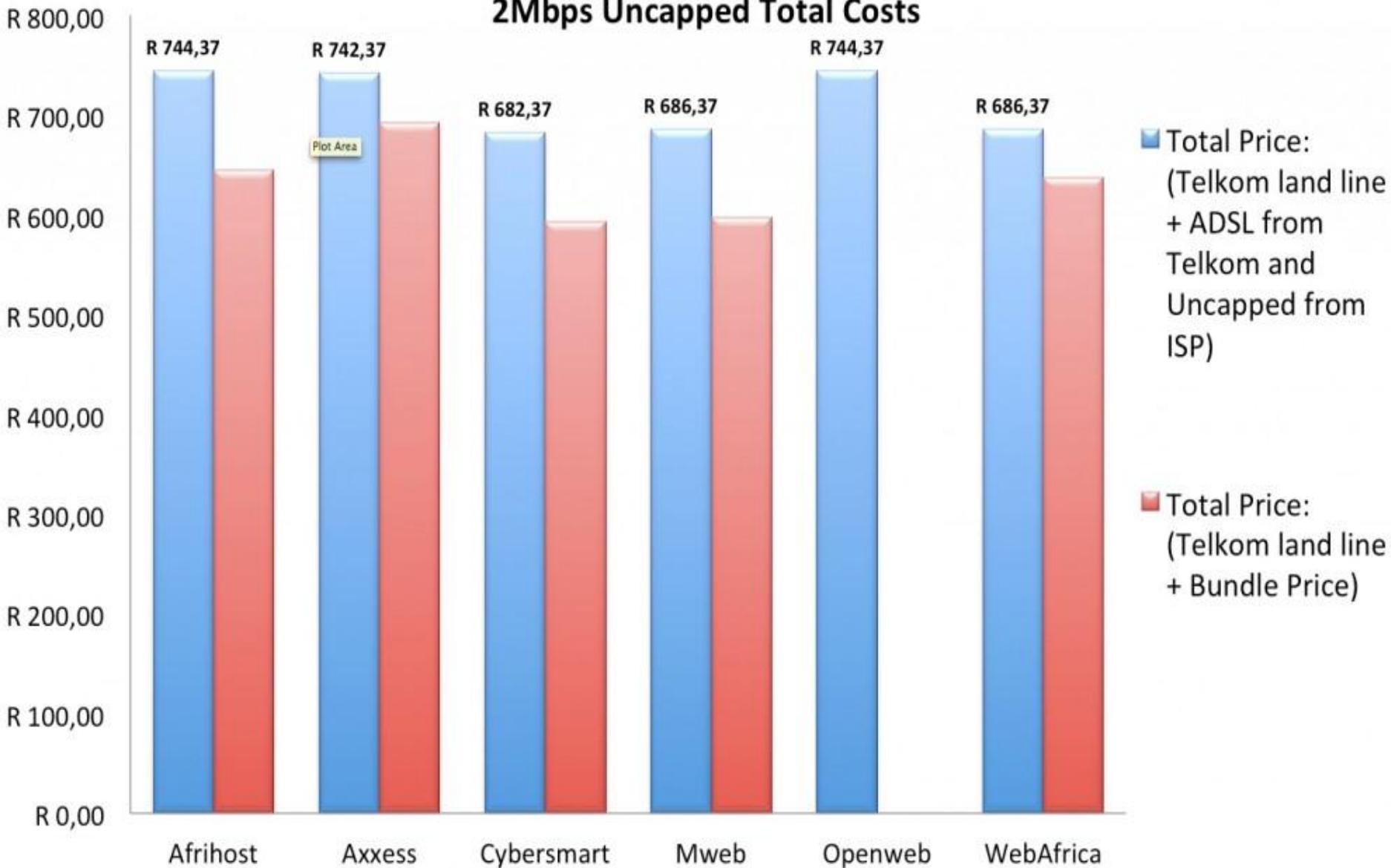


# Wireless Migration



Source: U.S. Bancorp Piper Jaffray & NMS

## 2Mbps Uncapped Total Costs

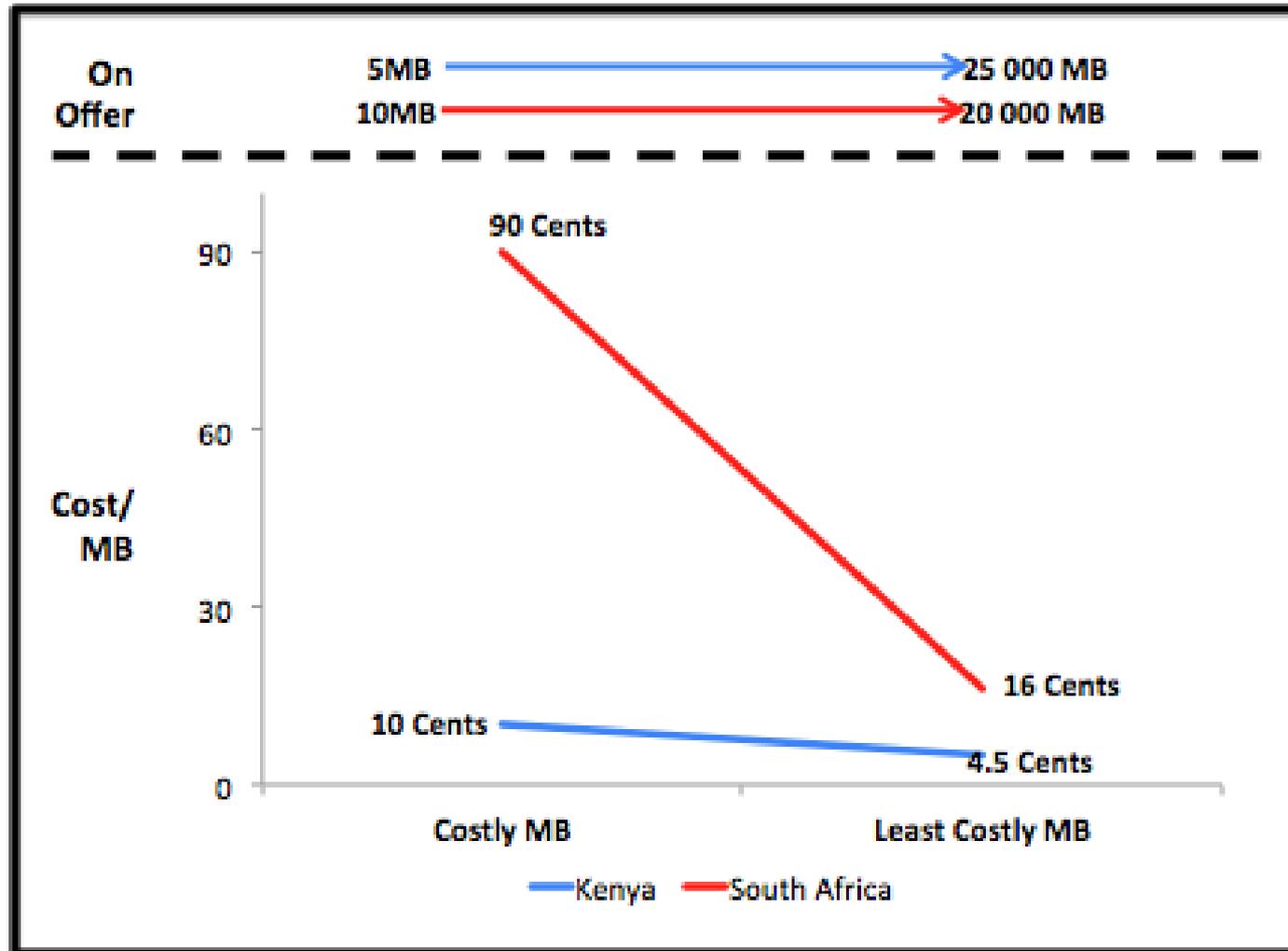


**Mobile broadband data pricing**

<b>Operator</b>	<b>Country</b>	<b>Bundle Size (MB)</b>	<b>OOB Rate (Rands)</b>	<b>Price (Rands)</b>	<b>Price (Rands)/MB</b>
Airtel	Kenya	2048	NA	79	0.04
MTN	Nigeria	5120	0.002	353	0.07
Vodafone	Australia	1536	0.15	110	0.07
Vodacom Promotion	South Africa	2048	1.2	149	0.07
MTN Promotion	South Africa	2048	0.19	149	0.07
Cell C Promotion	South Africa	2048	0.39	149	0.07
Vodafone	Egypt	1536	NA	116	0.08
Zain	Bahrain	1536	NA	147	0.10
Cell C	South Africa	3072	0.13	400	0.13
Vodafone	New Zealand	2048	5.47	279	0.14
Orange	UK	1024	0.57	167	0.16
8ta	South Africa	1536	0.3	280	0.18
Vodacom	South Africa	2048	0.19	385	0.19
MTN	South Africa	2048	0.19	389	0.19
Orange	Botswana	1024	1.03	208	0.20

ISP	Speed	Uncapped Account	Bundle Price (ADSL + uncapped account)	Total Price (Telkom landline + ADSL from Telkom + uncapped from ISP)	Total Price (Telkom landline + bundle price)
Afrihost	1Mbps*	R197.00	R297.00	R510.37	R445.37
	2Mbps*	R297.00	R497.00	R744.37	R645.37
Cybersmart	1Mbps*	R175.00	R295.00	R488.37	R443.37
	2Mbps*	R235.00	R445.00	R682.37	R593.37
Mweb	1Mbps*	R199.00	R339.00	R512.37	R487.37
	2Mbps*	R239.00	R449.00	R686.37	R597.37
OpenWeb	1Mbps*	R197.00	N/A**	R510.37	N/A**
	2Mbps*	R297.00	N/A**	R744.37	N/A**
WebAfrica	1Mbps*	R179.00	R329.00	R492.37	R477.37
	2Mbps*	R239.00	R489.00	R686.37	R637.37

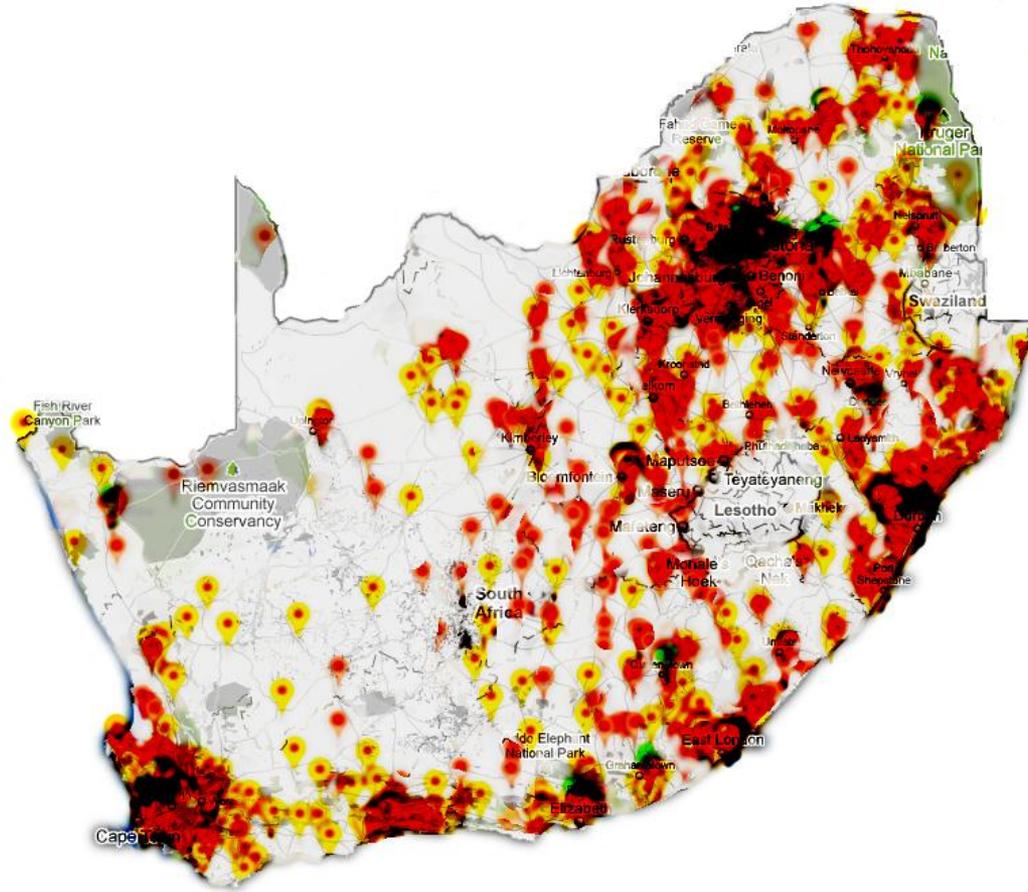
# Kenya vs South Africa



# Telkom Fibre



# South Africa ADSL

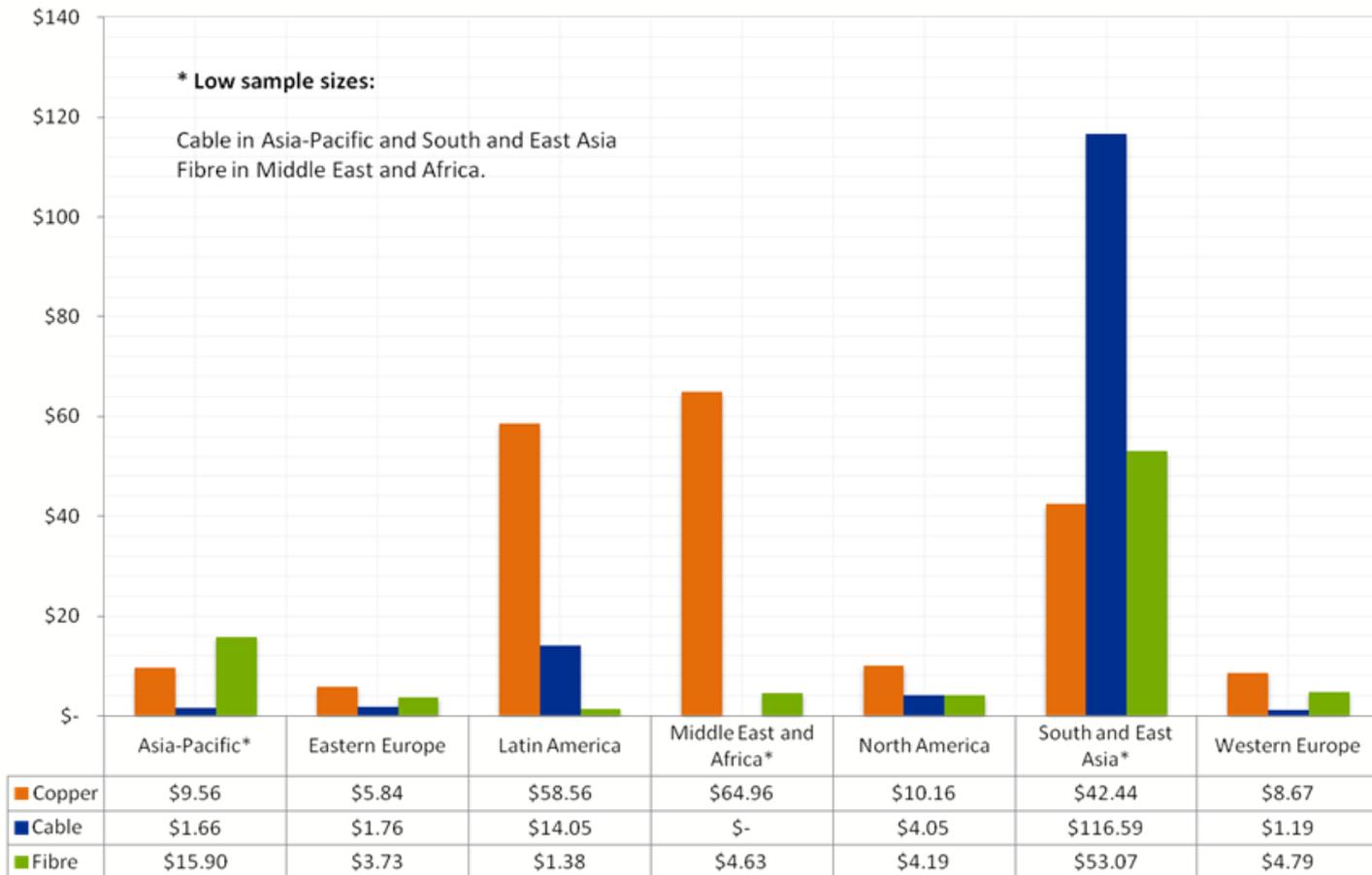


# Average cost per MB

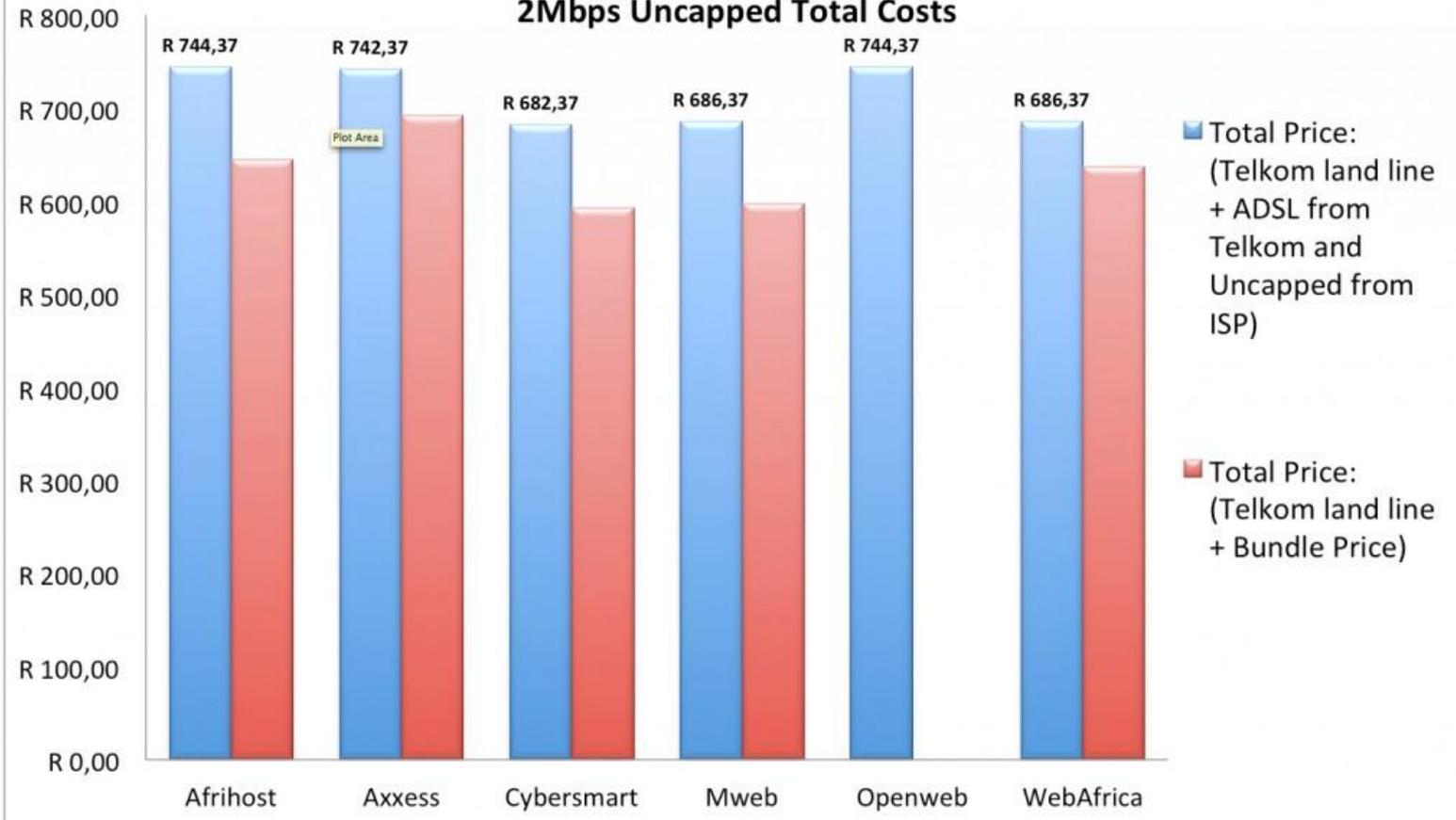
**POINT**  **topic**

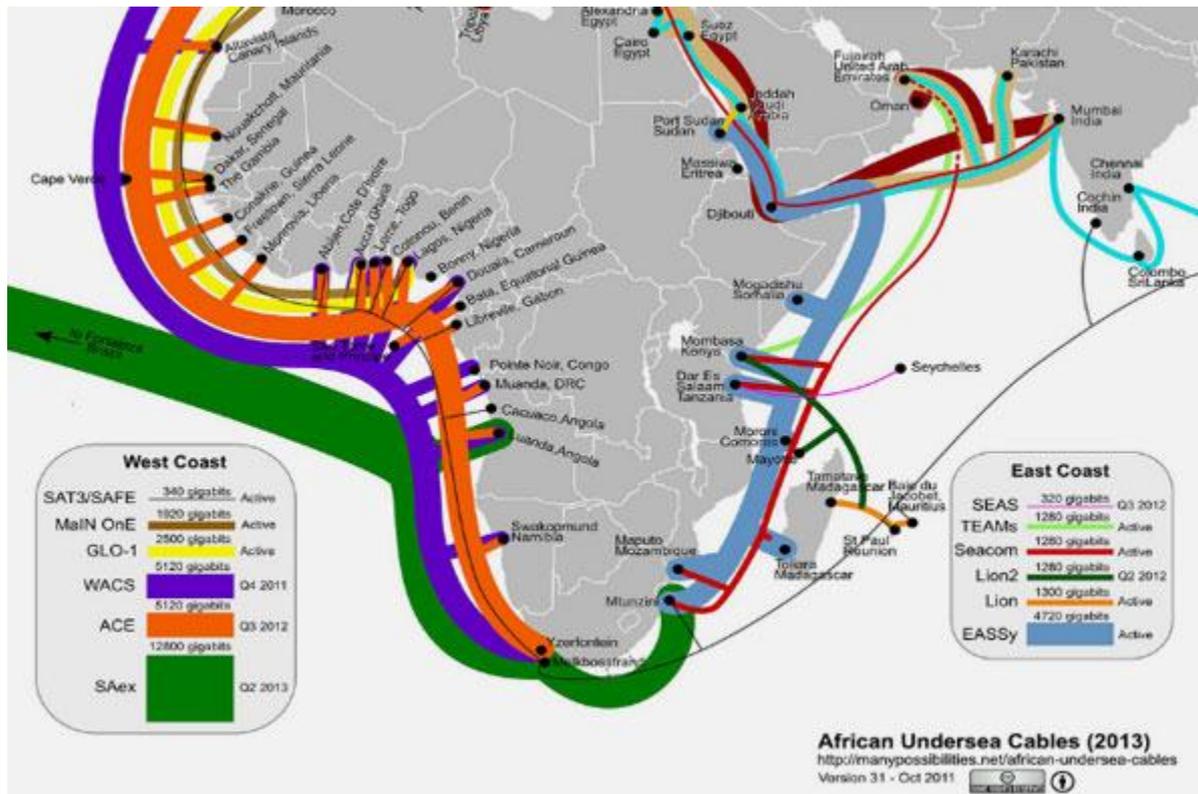
Average cost per megabit by technology Q1 2013  
(business, standalone and bundled services)

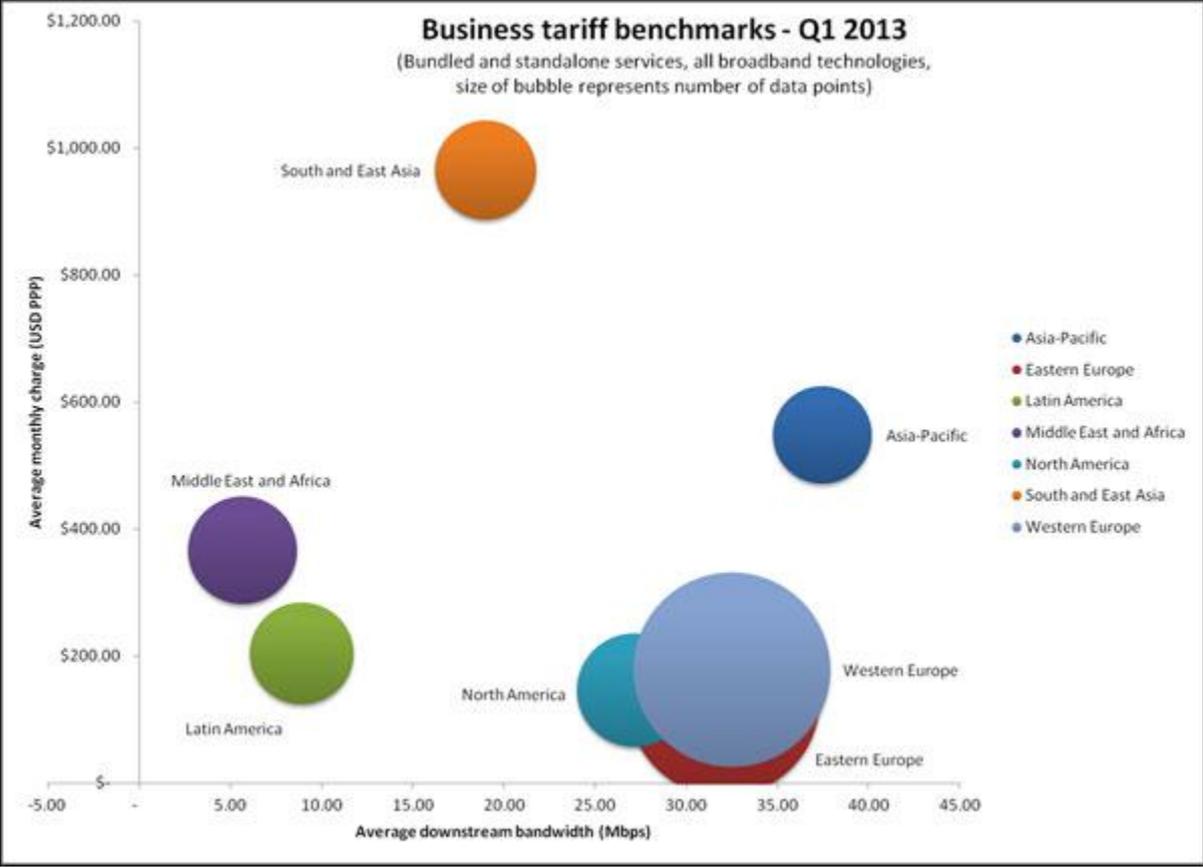
■ Copper
 ■ Cable
 ■ Fibre



### 2Mbps Uncapped Total Costs







# Broadband prices worldwide



World average: \$57  
World median: \$26

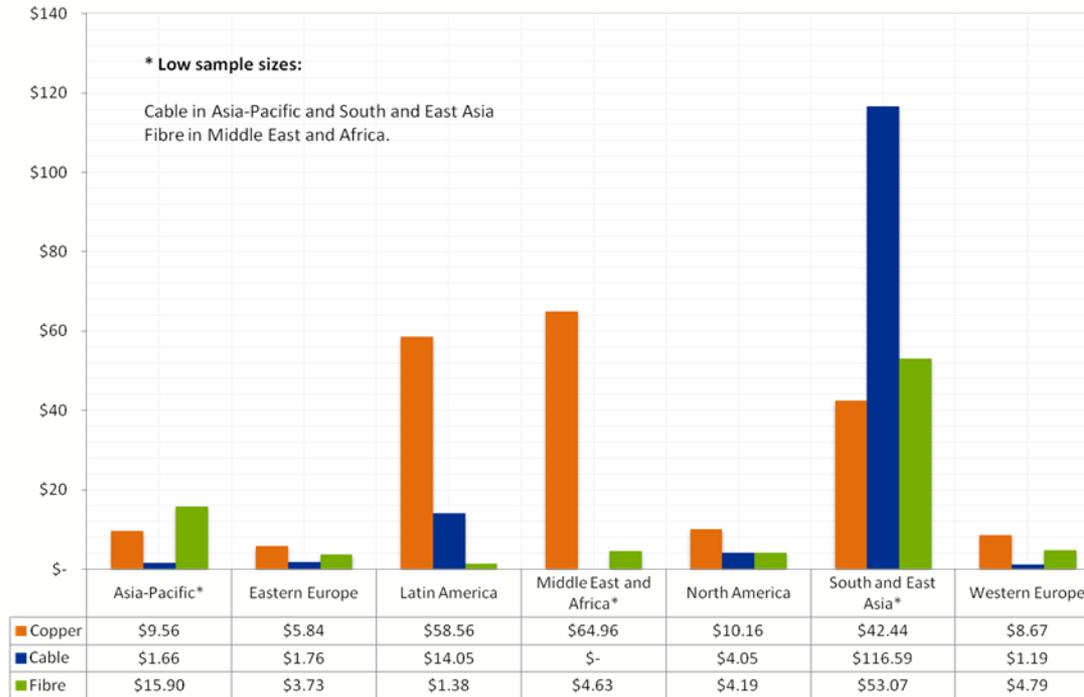
(All prices in USD/month)

Data source: ITU

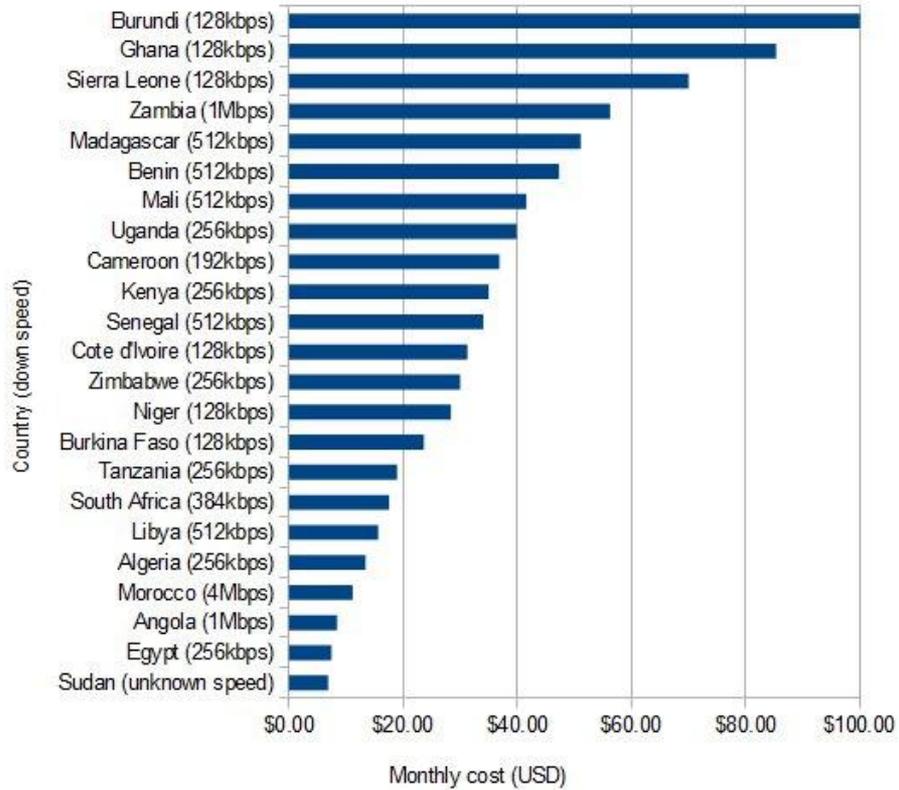
[www.pingdom.com](http://www.pingdom.com)

**Average cost per megabit by technology Q1 2013**  
(business, standalone and bundled services)

■ Copper ■ Cable ■ Fibre



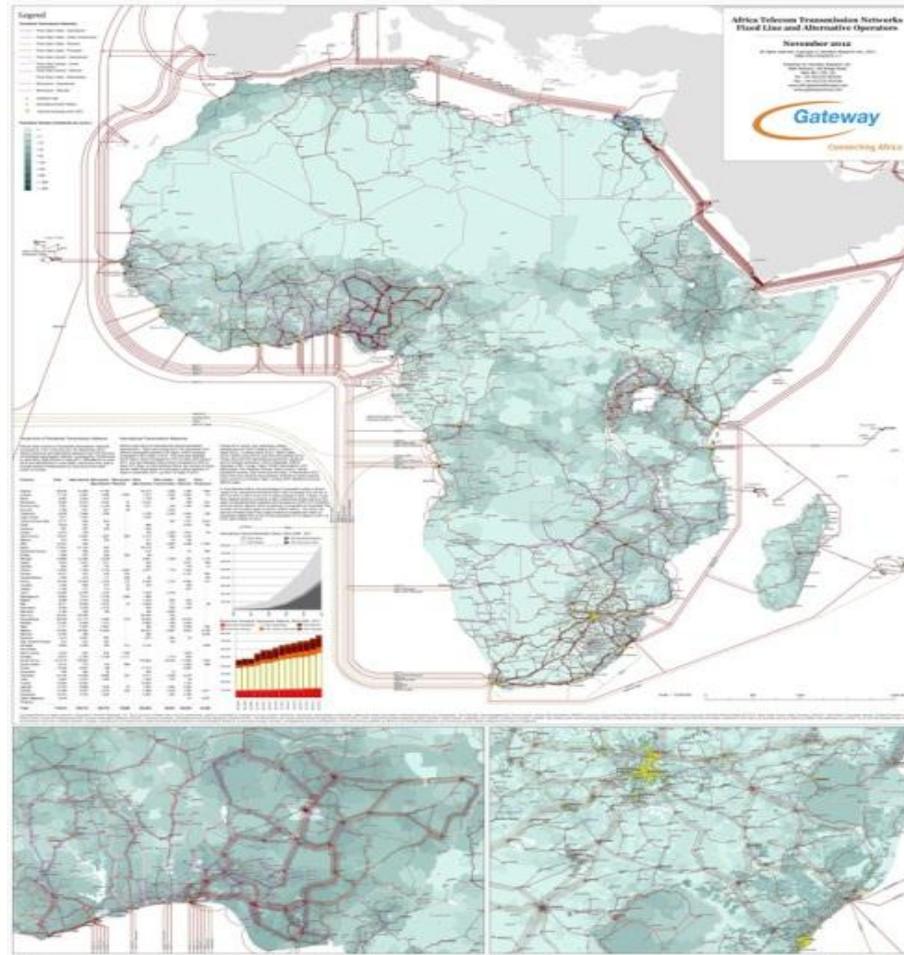
### Monthly fixed broadband cost, cheapest listed plan per country



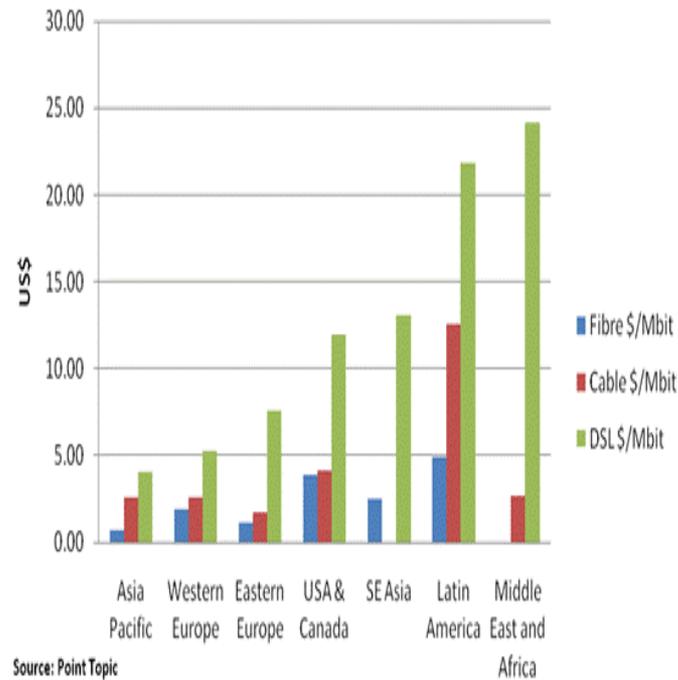
# Liquid Fibre



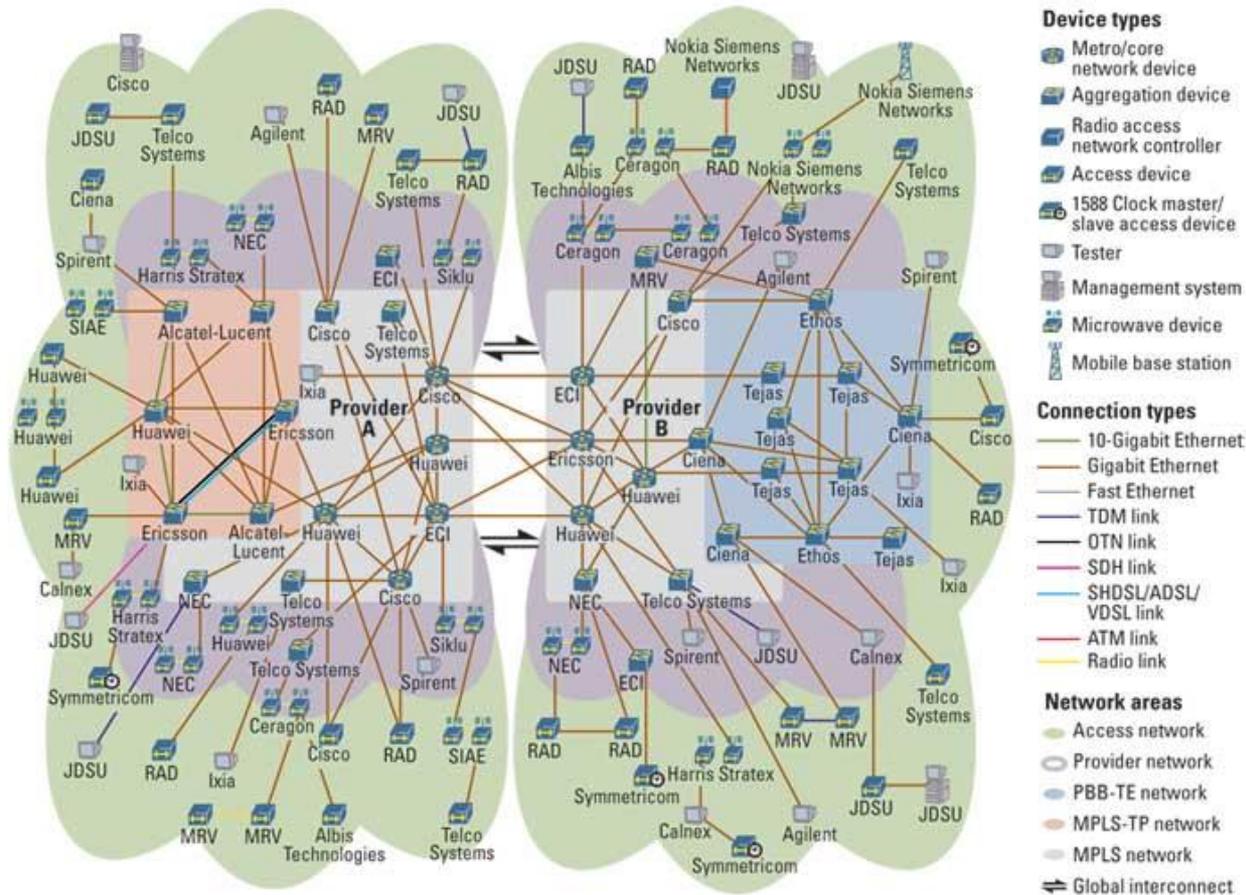
# Gateway



# Continent pricing



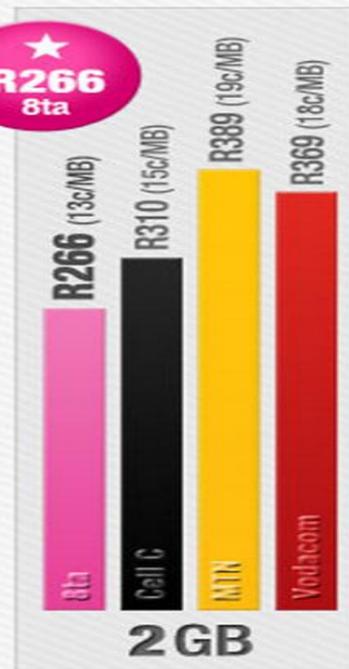
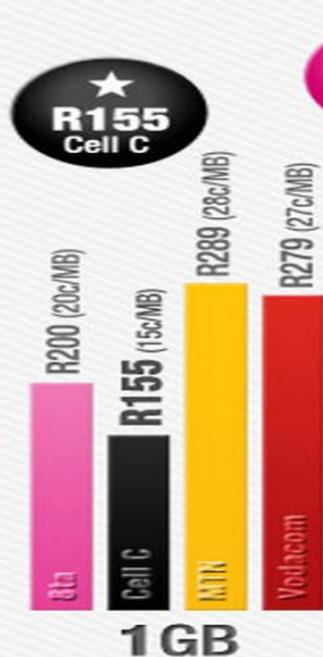
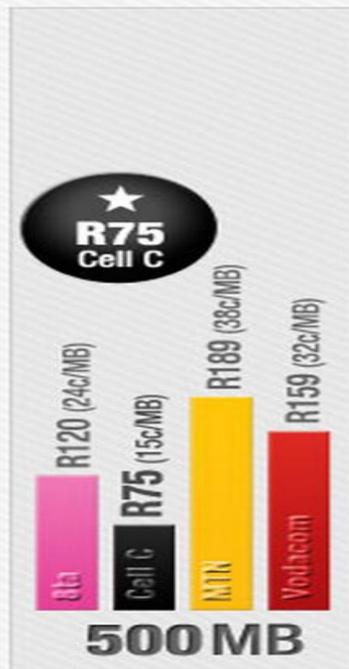
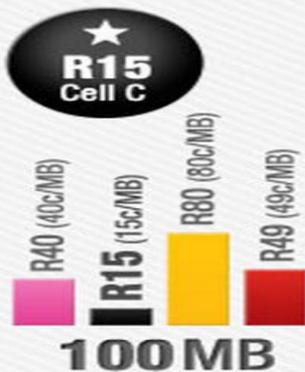
# Inter connect





# The Value of Mobile Data

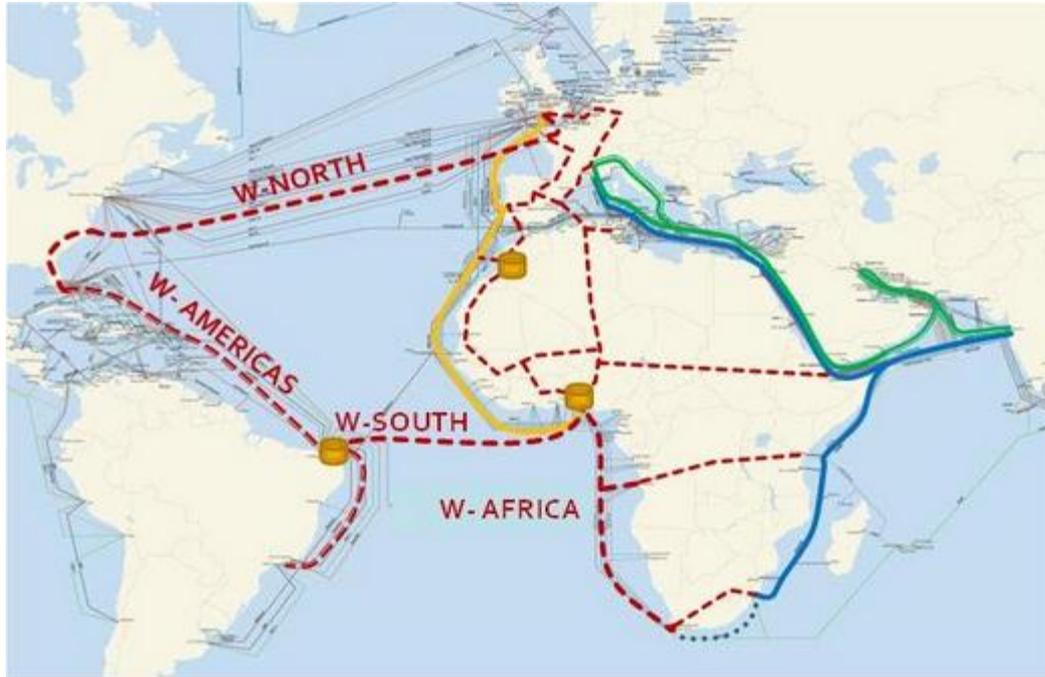
## How does your prepaid data compare?



# AfterFibre



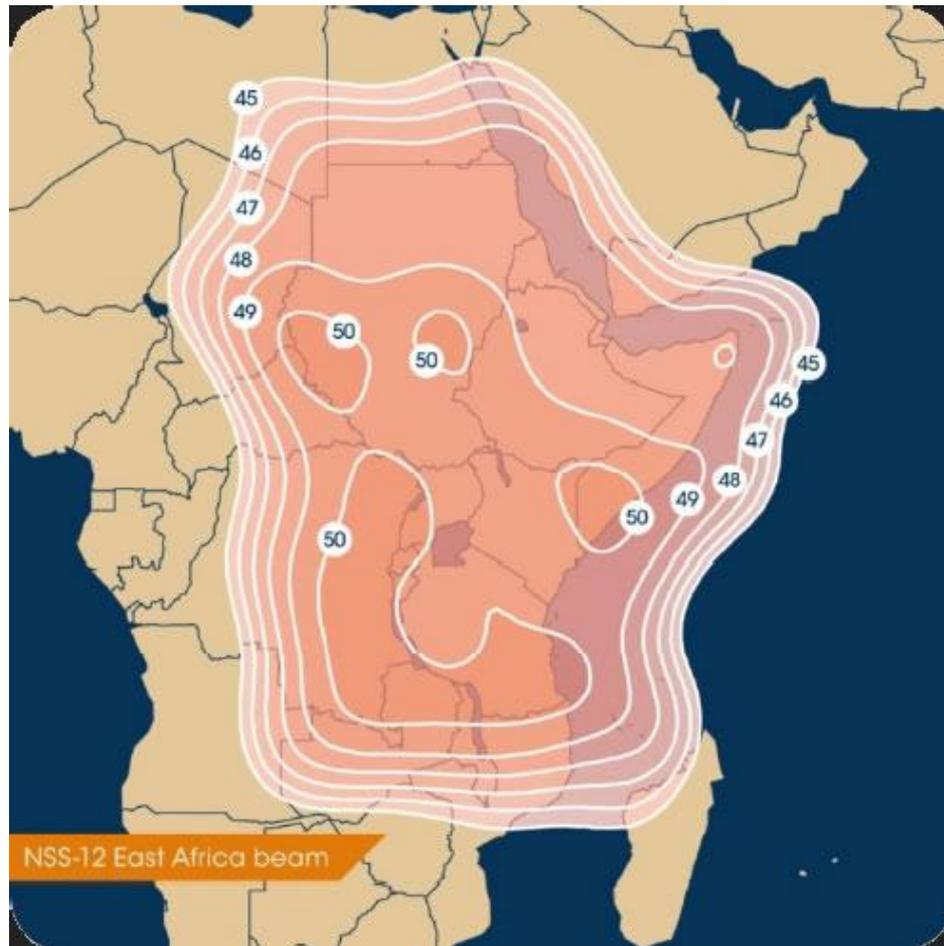
# WASACE 100G Fibre



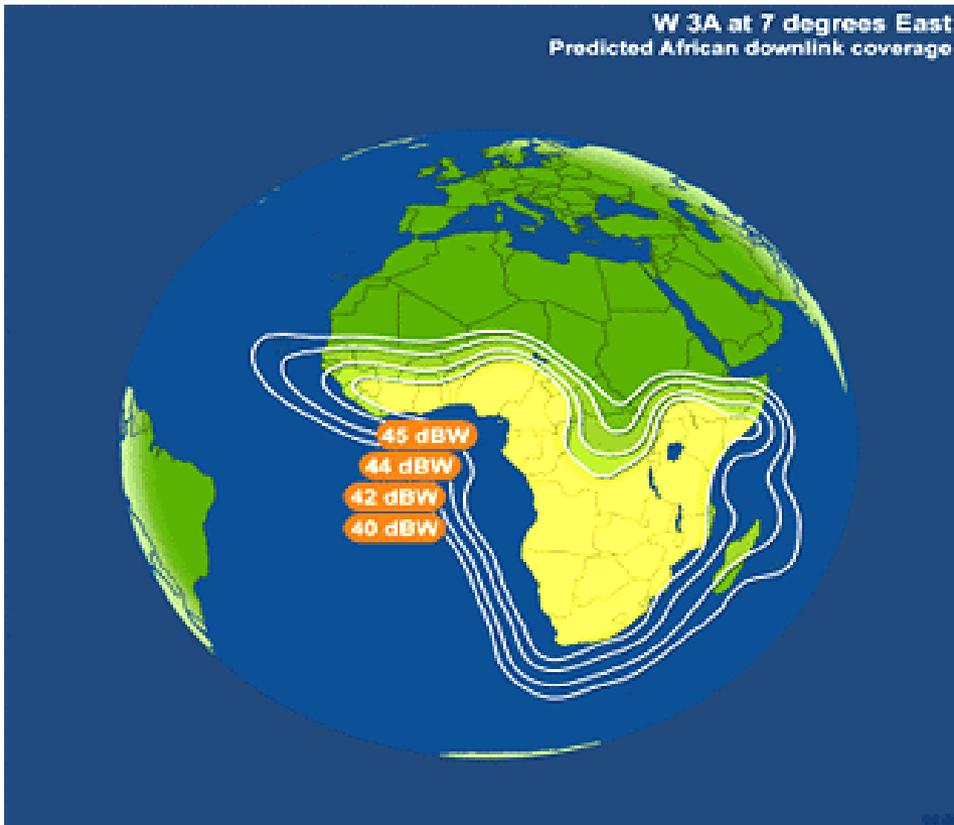




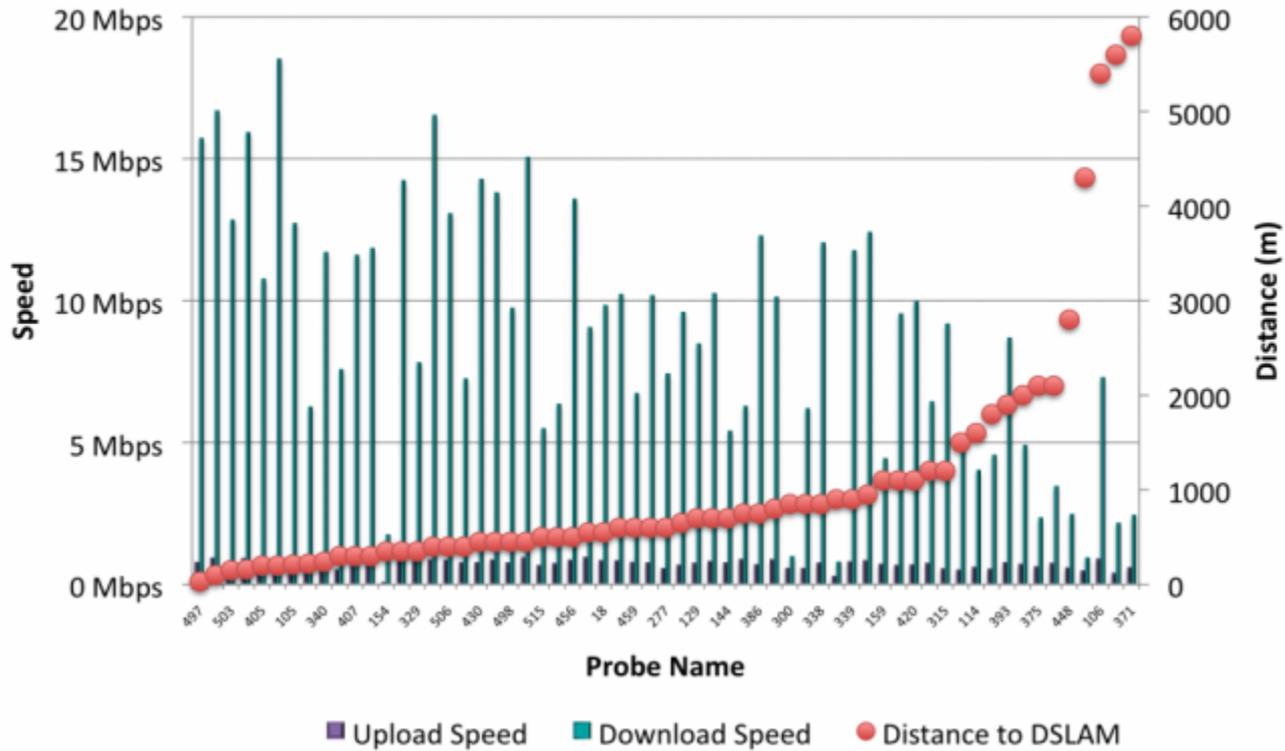
# VSAT KASNET



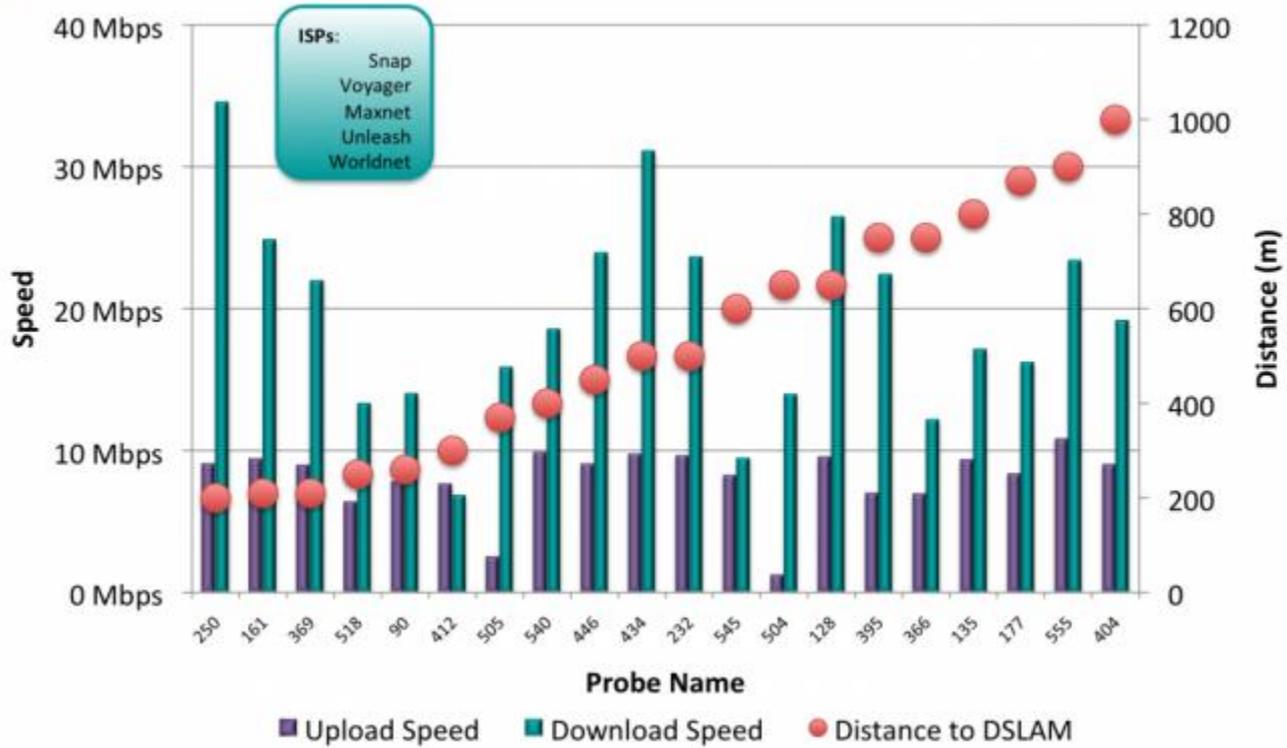
# VSAT Africa



### ADSL Speed & Distance



### VDSL Speed & Distance





**Business  
Connexion**

*Connective Intelligence*

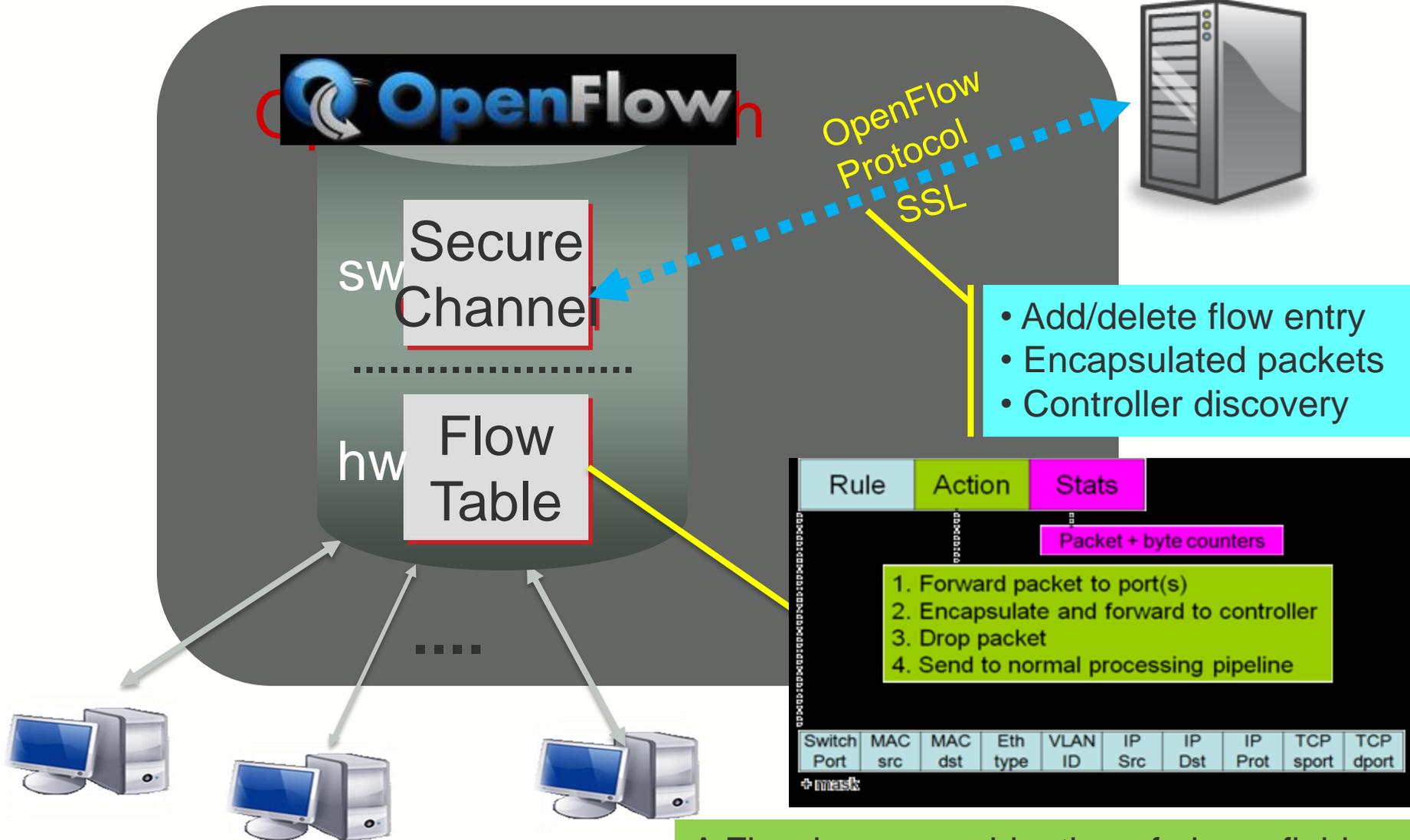
**Thank you**



Andy Brauer  
CTO  
Business Connexion

# OpenFlow Switching

Controller



A Flow is any combination of above fields described in the Rule



Thank you