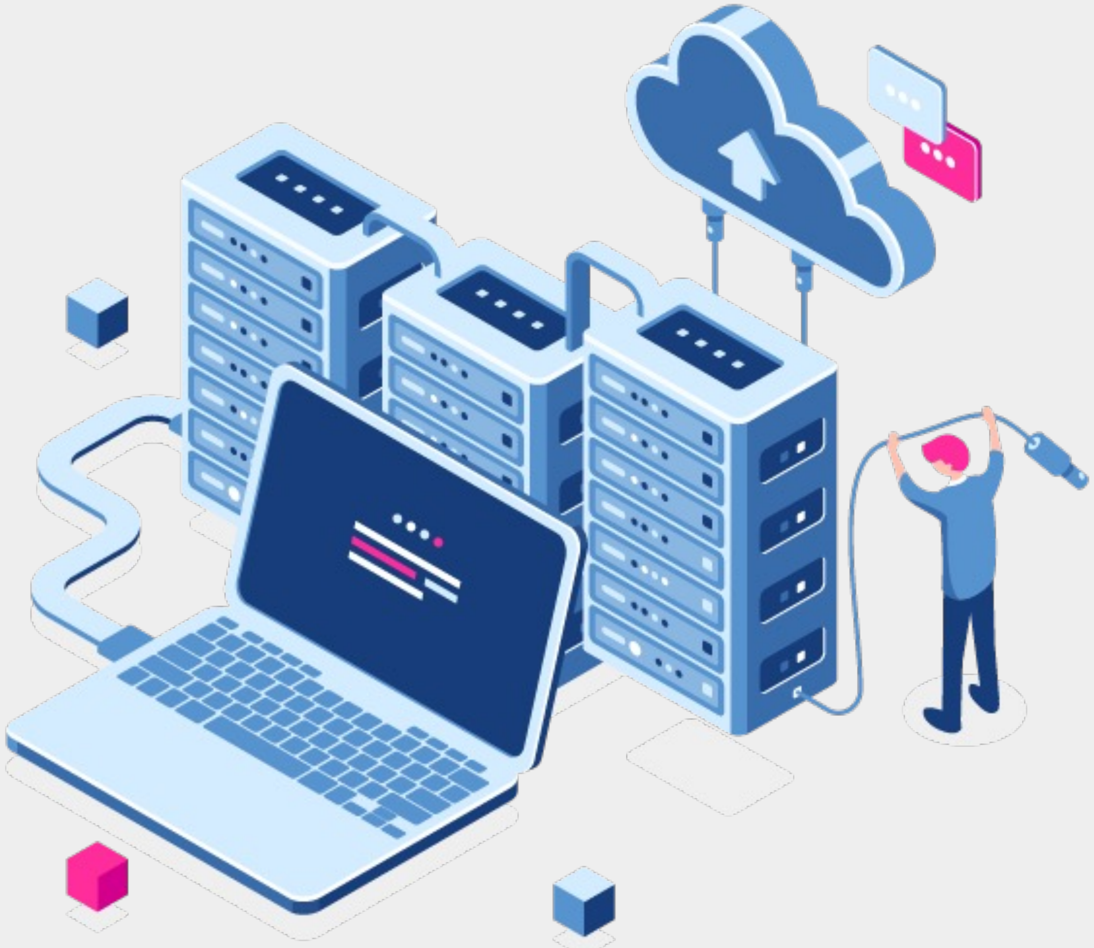
Venko Networks

Broadband Trends in Latin America



Big Numbers
Number of Subscribers per Technology

GPON – 58MM
DOCSIS – 30MM
Others – 10MM

Big Numbers - Mexico

GPON – 16MM
10MM Claro/America Movil
4.1MM ISP’s
DOCSIS – 9MM
Izzi Telecom & Megacable

Big Numbers - Brazil

GPON – 33MM subscribers

- 6.4MM Telefonica
- 5.1MM Oi
- 730K Claro
- 700K TIM
- 20MM ISP’s (<2% of individual Market Share)

DOCSIS – 8.9MM (Claro)

Brazil – Market Evolution

Brazil Fiber Accesses per Operator - Source: Anatel							
Operator	2019	2020	2021	2022	Fiber Market Share	Gateway	Wi-Fi Technology
Competitives	6.154.000	10.316.000	15.326.000	19.372.000	63,72%	GPON/XGS-PON	Wi-Fi 5
Vivo	2.477.000	3.376.000	4.608.000	5.421.000	17,83%	GPON	Wi-Fi 5/6
Oi	1.019.000	2.426.000	3.609.000	4.215.000	13,86%	GPON	Wi-Fi 5/6
Claro	268.000	459.000	623.000	849.000	2,79%	GPON	Wi-Fi 5/6
TIM	181.000	315.000	417.000	543.000	1,78%	GPON	Wi-Fi 5/6
Total (General)	10.099.000	16.892.000	24.583.000	30.400.000	-	-	-
% Brazil Total	30,7%	46,5%	59,0%	69,09%	-	-	-

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Brazil – Vendors

Huawei, ZTE and Nokia are dominant in the large Telcos

Business Model based on vendor lock-in

Reduced prices on the OLT ports blocking other vendors

“Competitives” formed from numerous M&A’s: heterogeneous infrastructure, interop issues

Except by Telefonica, extremely difficult scenario for open BB adoption… (next slide)

Brazil – Difficulties for new technologies

Large number of competitors in the BB space drives a predatory competition

very low ticket – reaching less than USD 15/month

growing costs, high taxes, limited investment capacity

Business model imposed by Huawei, Nokia, ZTE on the OLT prices blocks Broadcom-based OLT's to compete

Brazil – Wholesale operators – Opportunity?

All the large carriers separated their business in two operations: FTTH infrastructure & broadband business

Telefonica – Fibrasil
Oi – V.tal
TIM – I-Systems

New infrastructure from scratch may create an opportunity for experimentation.

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