

Experiences in Satellite Rural Telecommunications : Closing the Technology Gap !

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Who is STM Wireless, Inc.?

Manufacturer of **Satellite Network Systems for Voice, Data, Video and Internet/IP Applications.**

STM has deployed networks at over 60 countries. Based in Irvine, California

STM Wireless, Inc.

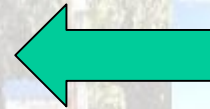
SKYONLINE

BROAEDGE

Service Provider
Satellite Rural Telephony &
Wireless Data

Service Provider
BroadBand Internet
and VPN Services

Service Providers
started by STM
Currently STM is a minor
shareholder
at both companies





**RURAL TELECOMMUNICATIONS
EXPERIENCES**



FROM PATAGONIA



TO THE AMAZONIC RAIN FOREST



OUR RURAL PROJECT PORTFOLIO

- **Brazil** (Telebahia – 1994) – 40 sites with Payphones & Small Exchanges
- **Argentina** (Telefonica -1995) –100 sites in Southern Argentina with Payphones & Small Rural Exchanges (up to 64 lines)
- **Thailand** (TOT - 1997) – 1500 villages with 3 or 4 phone lines each (total over 4000 lines)
- **Mexico** (MIDITEL – 1997) – 1200 rural lines with payphones & rural exchanges
- **Venezuela** (CANTV/SkyOnline- 1998) – 1400 lines with payphones & public calling offices
- **Peru** (Telefonica – 1998) – 80 sites with payphones
- **Brazil** (Telemar – 1998) – 70 sites with payphones
- **Guatemala** (Newsat – 1998) – 350 sites with wireless last mile
- **Brazil** (Embratel – 1999) – 100 sites with payphones
- **Bolivia** (ENTEL – 1999) - 750 sites with payphones
- **Bolivia** (ENTEL – 2000) – 300 Internet Sites (in deployment)
- **Peru** (OSIPTEL – 2001) – 2300 Rural Telephony & Internet Sites with 3700 lines



Models Used for Rural Telephony

- Rural Telephony Project Models in Latin America

Government Subsidy - Government Provides Subsidies per Phone Line Installed to Operating Companies (or Wanna-be Operating Companies) - examples : Peru, Chile, Colombia, Guatemala, Paraguay

Regulatory Obligation Attached to Telco License - Companies that win or have the licenses for regular phone services (local or LD) also get obligations to provide rural services - examples : Brazil, Bolivia, Argentina, Venezuela, Mexico



Rural Telephony : Is it a Business?

Sharing some Experience in Venezuela :

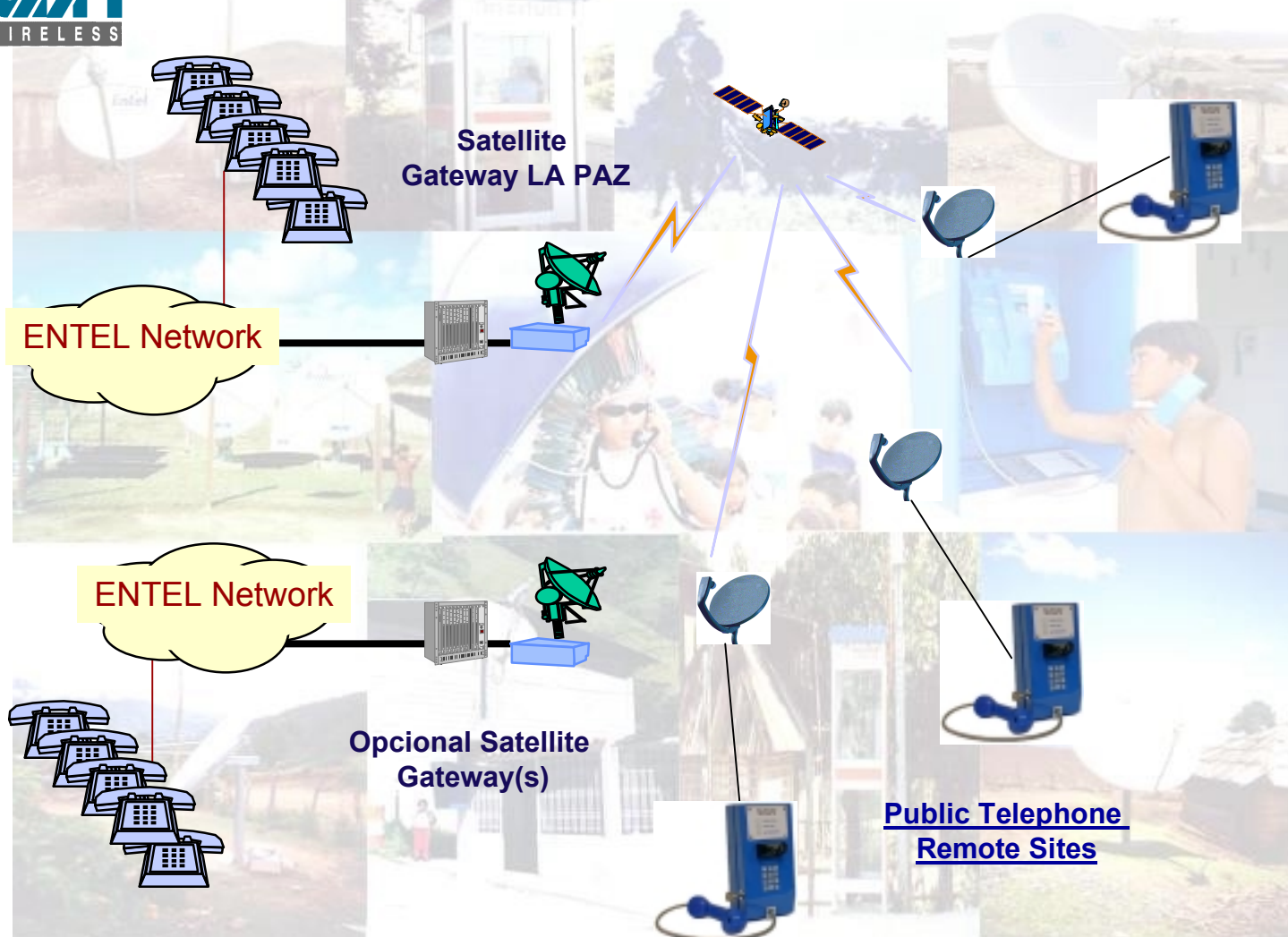
- Average Tariff - US\$ 0.10 per minute
- Traffic of 1600 minutes per line per month
- Average Monthly Revenue : US\$ 160 per line
- Average 3.5 lines per village
- Average 1700 people per village or 486 people per phone line
- Average Monthly Usage : 15 minutes or US\$ 1.5 per household
- Typical Cost per Line Installed – US\$ 7,000
- Payback with 50% margin in revenue – 7 years

● Revenue in Peru

- US\$ 400 per line per month
- Towns of 3000 people or over
- Gross estimate : US\$ 0. 60 per month
- Typical Cost per Line Installed – US\$ 10,000
- Payback with 50% margin in revenue – 5 years

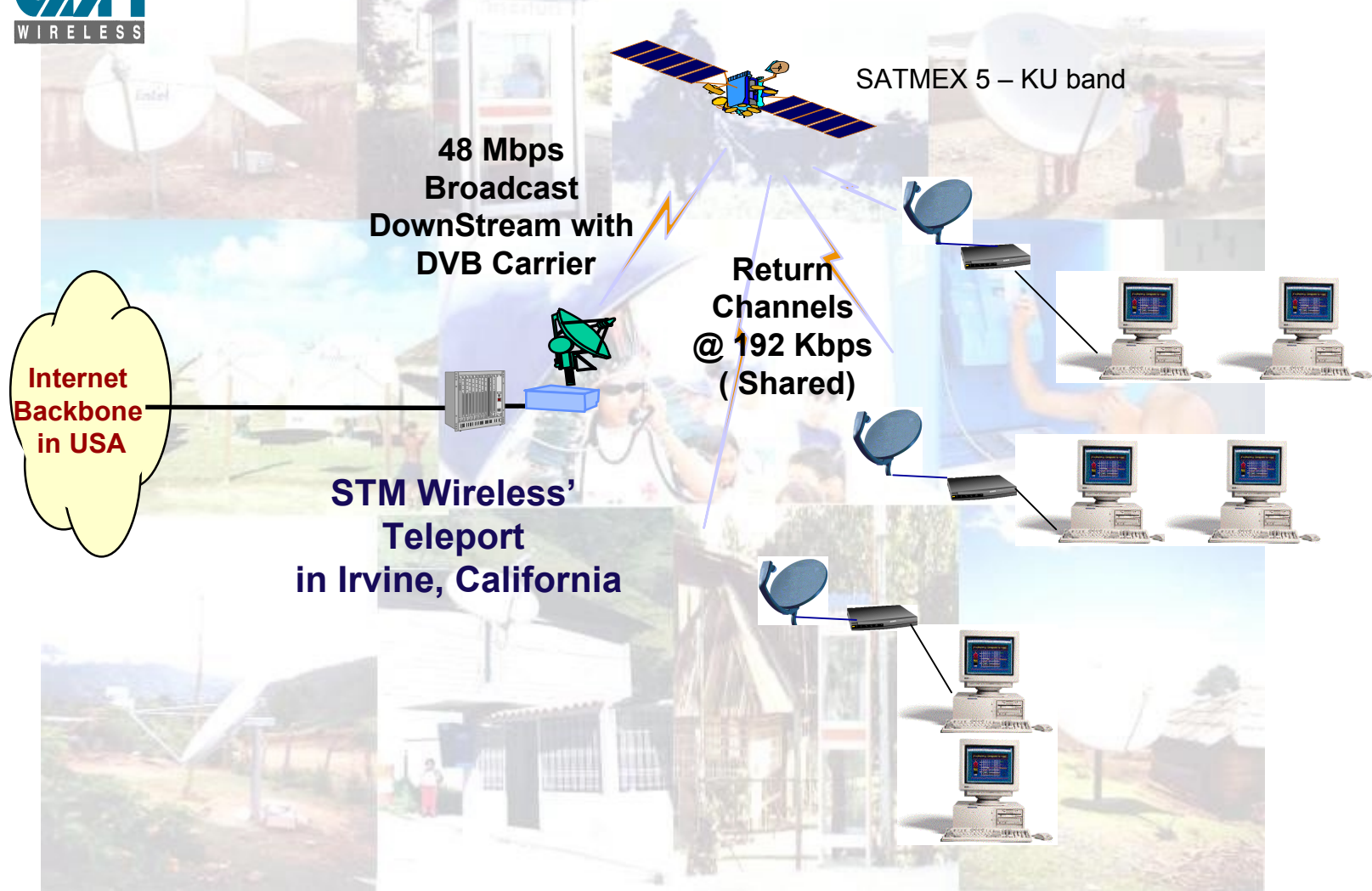


Rural Telephony Network in Bolivia





Broadband Internet Access for Bolivia

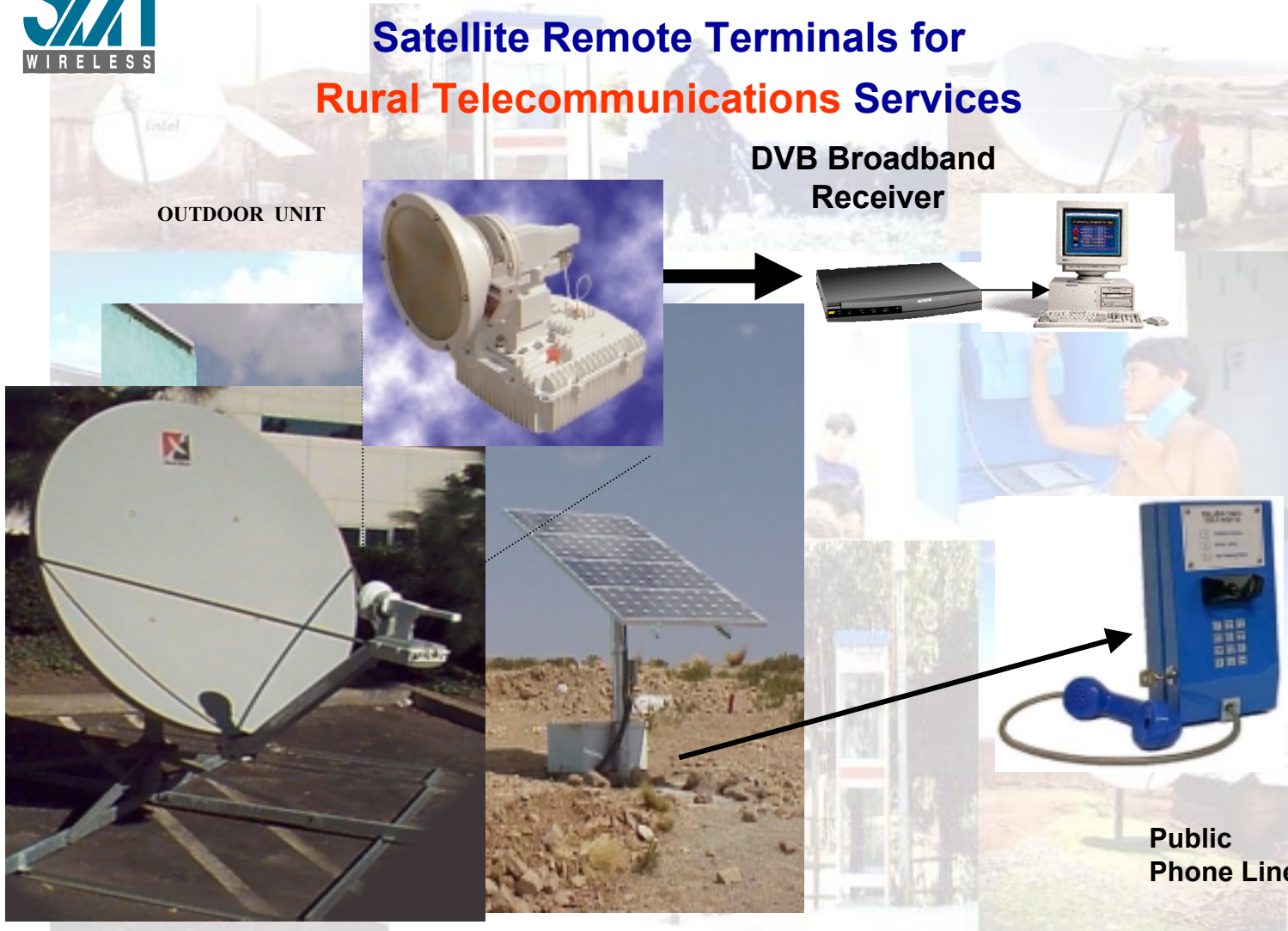




- **What to Expect from a Satellite Terminal for Rural Telecommunications :**
 - **Superior Voice Quality by the use of :**
 - Satellite Access Technique with Minimized Delay
 - ITU Standard Algorithms G729 and G728
 - **High Data Rate Downlink > BROADBAND**
 - **Low Data Rate Return Link**
 - **Low Power Consumption > Lower Costs for Solar Panels**
 - **Compact Unit > Easy Transportation and Installation**
 - **Only Outdoor Unit > Operation in High Humidity and Unclean Environments**
 - **Fewer Parts > High Reliability**
- **Attention :” Rural” should not mean Low or BAD Quality !**
 - **The rural user wants good voice quality & fax today and in very short time they always ask for Internet !**

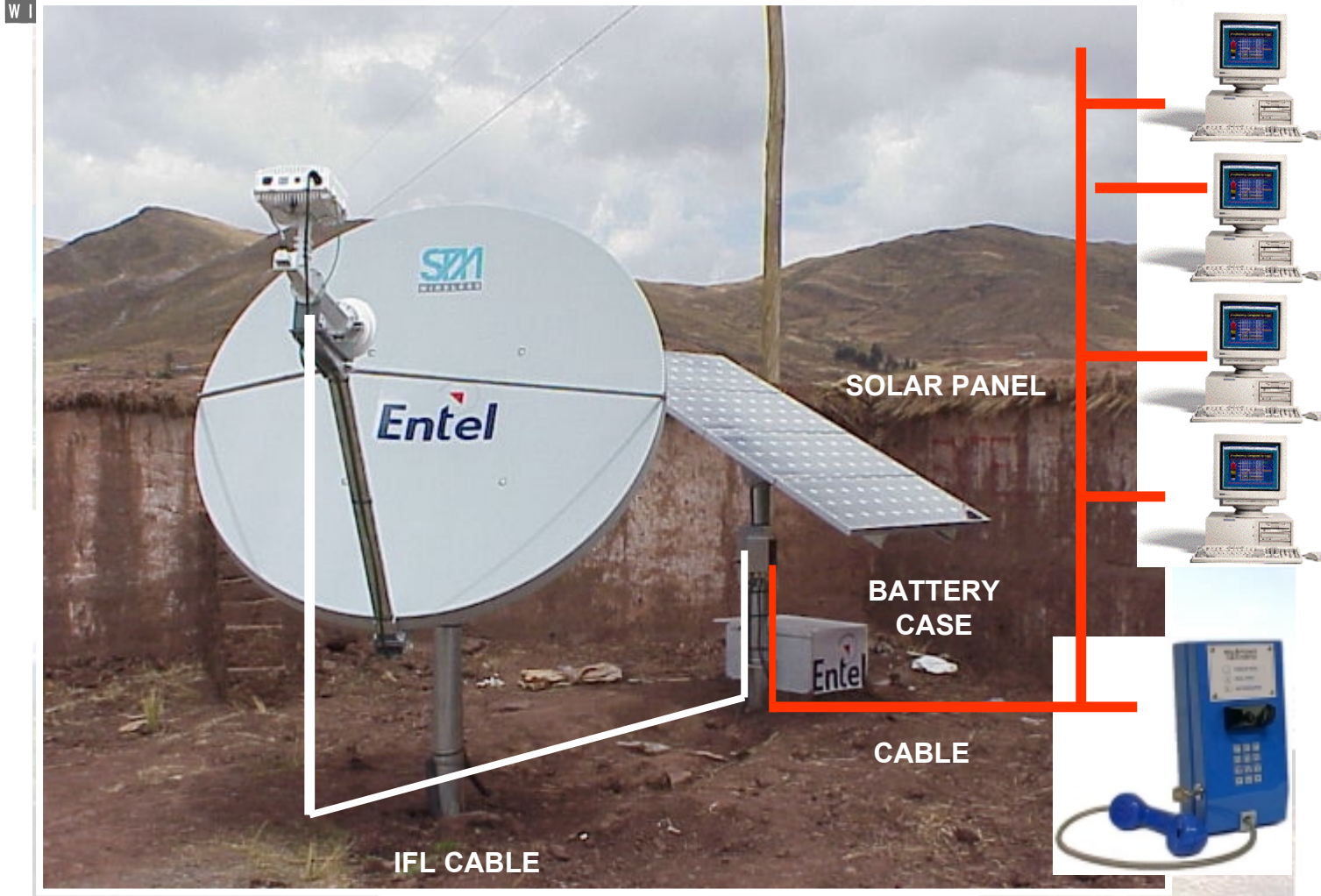


Satellite Remote Terminals for Rural Telecommunications Services





Simple Remote Terminal Deployment





THANK YOU!

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