ITU Workshop on
"Origin Identification and Alternative Calling Procedures"

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Call-Back, VoIP and WiFi:
The Story of Alternative Calling Procedures

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Overview

- Review of International Settlements
- 1990s: PTTs Face Competition
  - Arbitrage and Call-Back
- The Internet and VoIP
  - Rise of data traffic flows
- Market and Consumer Effects
- Impact on Governments
  - Developing countries
- Efforts to Address Alternative Calling

Alternative to What?

- **International Settlements**
  - PTTs, "flag" carriers and Special Drawing Rights
- **The Era of circuit-switching**
  - International Direct Dialing
  - An "elite" service for business callers?
- **The heir: mobile roaming**
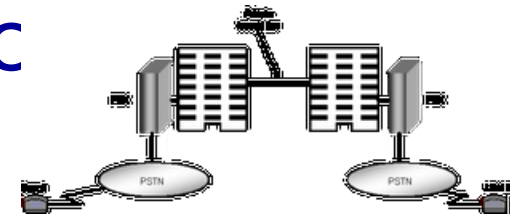 - The issue: affordability

Rise of Competition

- Liberalization: Non-state operators
- 1980s: US -- international "long distance" market is opened
  - 1988 ITRs facilitate liberalization
- 1990s: Rise of global "alliances"
- Result: Dominance of national PTTs begins to erode
  - PTTs assert control of landing rights, access to home markets

The 1990s: Age of Arbitrage

- Arbitrage = cost/profit advantages
- Causes:
  - Inflexibility in settlement rates
  - Use of high IDD rates for cross-subsidization of domestic rates
  - Pent-Up demand for services
- Effects:
  - Multiple techniques for routing traffic
  - New consumer services
  - Traffic imbalances

The Games Begin:
Alternative Calling in the 1990s

- International call-back services
- Calling cards and reverse billing
- "Leaky PBX" & by-pass calling
- International re-file of traffic

International Traffic Re-file Example

Country U

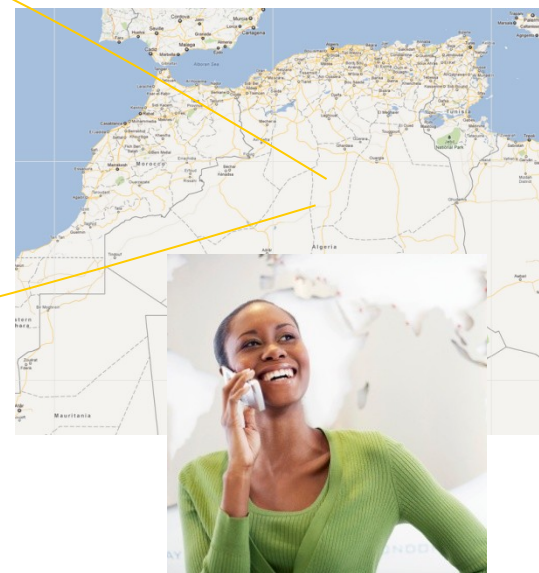International Gateway in Country U Terminates and Re-originates call (Seamless to Caller)

- $0.07/minute from Country A to Country Z through Country U Gateway.
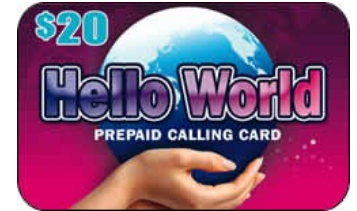- A-to-U segment ($.03/min)
- U-to-Z segment ($.04/min)

Country Z

Country A

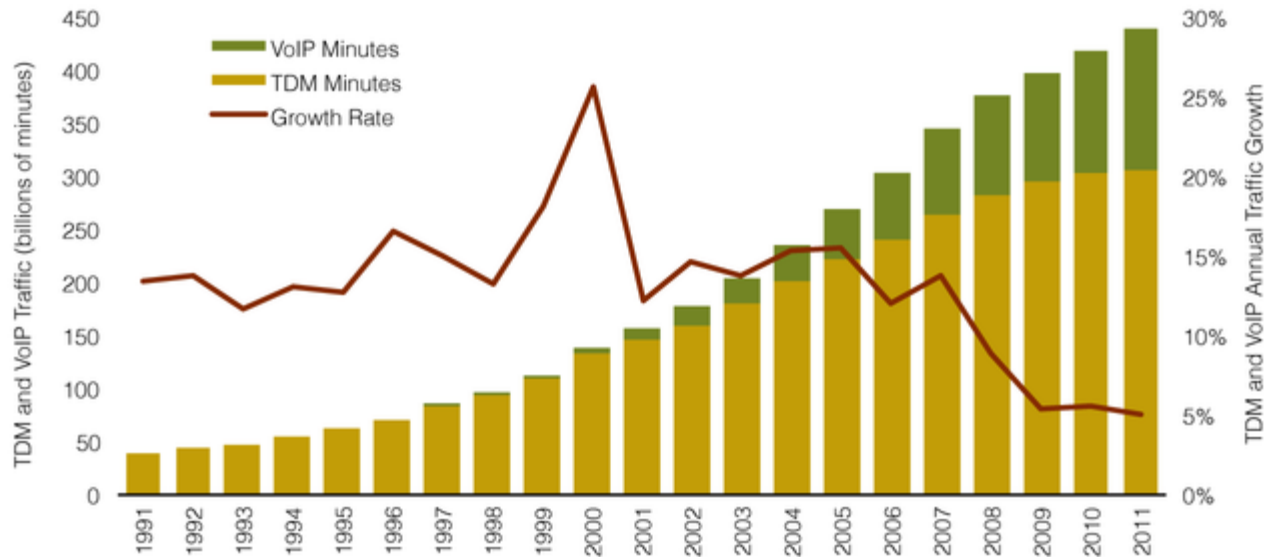$0.10/minute from Country A to Country Z

The Arrival of IP: Alternative Calling in the 2000s

- Data traffic takes off
- VoIP allows for cost savings in transmission
- Bit by bit – IP Telephony becomes a market
  - WiFi/Skype
  - Initial QoS deficits
  - Advantages: cost & mobility

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Voice Market Effects

- TDM (circuit switched) traffic joined by growing VoIP share
  - Growth rates slow in late 2000s
  - Overall MOUs continue to grow

Source: TeleGeography

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Consumer Effects

- ## Consumer effects
  - → Lower prices for consumers able to access alternative calling
  - → Mixed effects on consumers relying on operator-provided IDD – roaming factor

Source:
TeleGeography

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Effect on Governments

- Erosion of revenues
  - State-owned carriers
  - Revenues from IDD taxes & fees
- Need to review regulations
  - Should governments legalize alt calling?
  - Possible need to rebalance rates
  - Need to find ways to counteract revenue shortfalls for infrastructure costs
  - Universal access/universal service
  - Consideration of gateway liberalization

Effects on Developing Countries

- Positives:
  - Lower calling costs for businesses
  - Lower calling costs for consumers
  - Boost to demand for Internet capacity
  - More international service competition
- Negatives:
  - May undercut Universal Access/Service revenue streams
  - May need to find new revenue sources for infrastructure development

Responses

- Developed countries
  - Often encourage alt calling to lower consumer costs
- Developing countries resist "by-pass"
  - By 2005, 114 countries prohibited call-back
- VoIP = a different story
  - ITU reported in 2009 that 92 countries allowed it, 49 banned it, 39 had no regulatory framework for it.

International Response

- ITU-T Recommendation D.201 (2002) set general principles
- Res. 29 (Florianopolis, 2004) urged countries to
  - respect sovereignty of others,
  - Work against practices that harm PSTN
- WCIT will look at ITRs
  - Issues related to revenue flows are likely to be discussed

Conclusions and Recommendations

Conclusions:

- Alt calling has developed over previous 3 decades
- There is no int'l consensus on legitimacy of many alt calling procedures
- Alt calling may have both positive and negative effects

Recommendations:

- International studies and dialogue needed
- Provide guidance to developing countries