



# NATIONAL COST OF VoIP BYPASS

Presented by Graham Butler

President & C.E.O

Bitek International Inc

**Caribbean Seminar:  
Issues in Telecommunication economics and financing  
10 - 13 September 2007, Antigua and Barbuda**





## Introducing Bitek



### Introducing Bitek International

- US based company established in 1974 (33 Years)
- Offices in Los Angeles, Washington DC, and London
- Specialises in Call Management Software Solutions
- History in Traditional Call Accounting and Billing
- Specialists in IP Billing, Fraud & Packet Management
- Bitek has over 50 clients on 3 continents

### Intelligent Network Solutions

**Bitek intelligently controls and filters all VoIP communications**

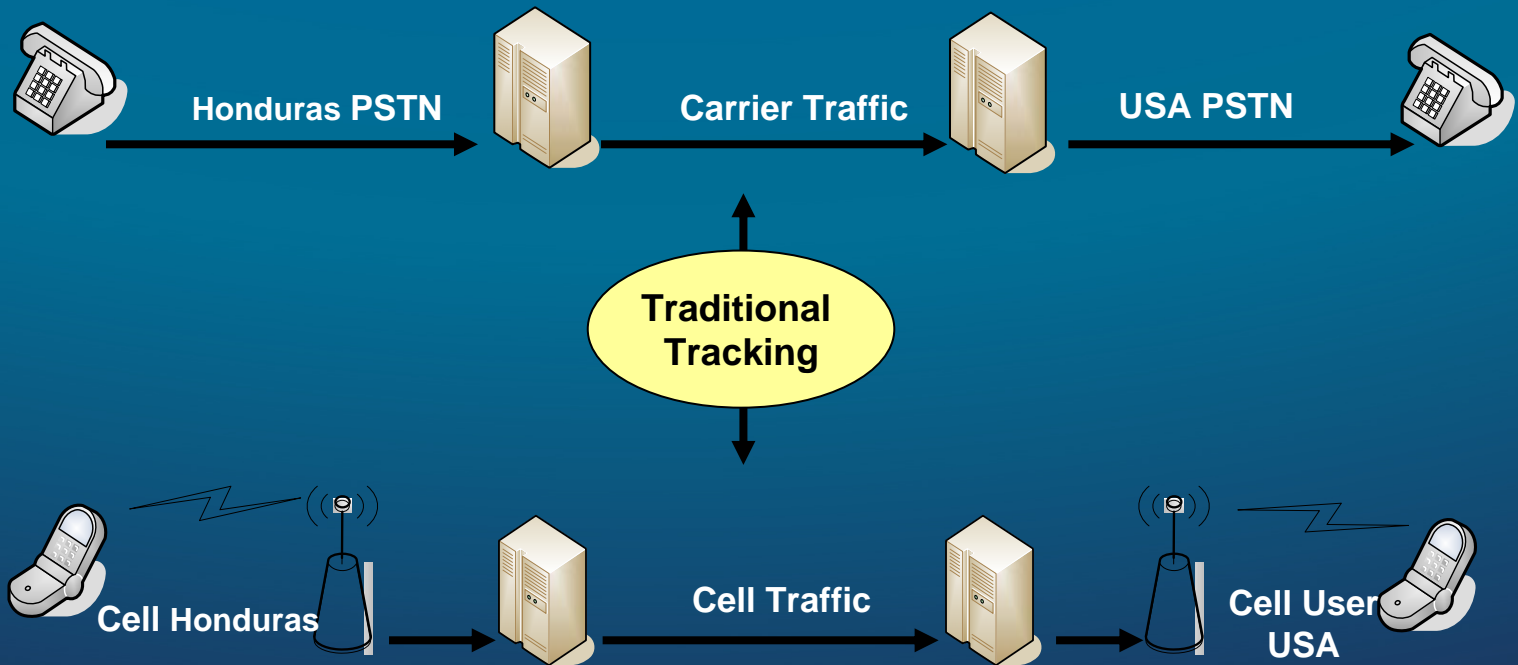




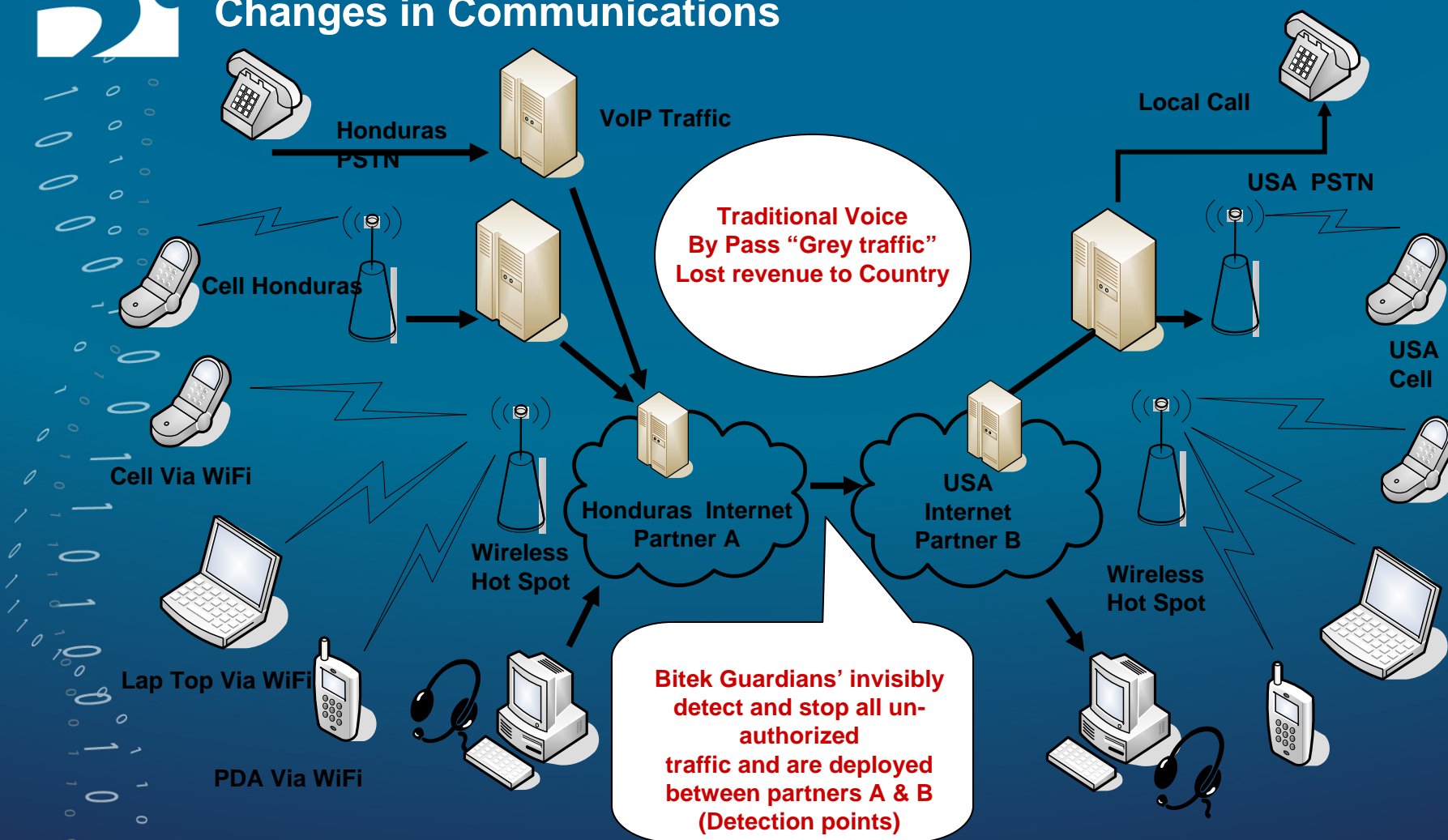
# Changes in Communications



## Traditional Telephony Example Honduras - USA



# Changes in Communications





## Records and Reports

- **Detailed records are even individually searchable**
- Actual IP address initiating the call/event
- Actual IP address receiving the call/event
- Actual Mac address initiating the call/event
- Actual Mac address receiving the call/event
- Actual telephone number initiating the call/event
- Actual telephone number receiving the call/event
- Actual email address initiating the call/event
- Actual email address receiving the call/event
- Time the call/event was initiated
- Time the call/event was disconnected
- Geographic location of IP addresses/suspect can be produced in some cases through registries
- Selectively filtering to allow “identified as authorized” and “disconnect identified as un-authorized” VOIP traffic on a call-by-call basis





## Protocols and Services Controlled



### Main protocols:

*SIP, H323, Megaco, MGCP, Skinny, SCCP, IAX, XMPP*

### Soft Phones and VoIP:

*MSN, Vonage, NetMeeting, SKYPE, XLite, Glophone, GoogleTalk, Yahoo, Net2phone, Dialpad, Paket8, Gismo Project, TomatoVine, SpeakEasy, Mediaring, SJPhone,*

### Notes:

- Continued development of new signatures as they are released
- Any protocol or process can be detected if specifically required







## What is Lawful VoIP?

**Lets assume that VoIP is broken down into various Subsets**

### Lawful VoIP

1. Lawful intercept
2. E911 Emergency services
3. Location finding as per 2 above
4. Visually and hearing impaired services (subject to Local Licences)
5. Taxes on Voice calls where applicable
6. Ex-directory numbers, track & trace (privacy issues)

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**Can we agree, these are minimum critical telecom requirements?**





## What is Unlawful VoIP?

**Illegal traffic is local, national or international telecommunication traffic that bypasses or defrauds the domestic telecoms Regulator**

### Illegal Grey traffic

Has reduced your long distance revenue.

- At least 60% of your bandwidth is being used by competitors
- This can account for millions of lost dollars

### P2P traffic

- Use “names” to avoid being described as a telephone service
- Offering free calls; Stealing current & future revenues
- Potential damage to Corporate networks & Infrastructure

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- **These services are costing you millions of dollars**
  - **These services must be regulated properly?**







## Today's Market

### P2P VoIP Growth is Exploding

- Skype subscriptions anticipated to grow at a CAGR of 25%  
*(over the next 5 years)*
- Yahoo, MSN, and AOL: VoIP services anticipated to grow to 19% of IM users *(by 2011)*
- Google: Expected growth by a CAGR of 38%  
*(over the next 5 years)*
- Skype projects 7.4% of its users will call landline and cell phones via VoIP *(by 2011)*
- Skype has been downloaded more than 250 million times





## Evidence of the Crisis



### Around the World

- **Middle East**  
President of Telco confirmed over US \$400million loss
- **Mid Asia**  
Regulator and PTT publish losses over US \$500million
- **North Africa**  
PT&T measured loss at US \$400million in 2006
- **Sub-Saharan Africa**  
Measured at over US \$60million losses in 2005
- **Central America**  
Government officially recognizes loss over US \$100million
- **Europe**  
VoIP bypass calls exceeded \$30bn in 2005 to Africa





## Issues and Expectations

### Governments Demand

- Compliance
- Reliability of Supply
- Value for Money
- Variety / Choice
- Technology Renewal
- Taxes and Levy's
- Security and Lawful Intercept
- Political Capital (easy life)





## Managing VoIP



### Why Protect VoIP from Bypass?

- Governments already demand VOICE Licenses are Bought and Complied with
- Operators have paid for licenses, staff, infrastructure, taxes and bandwidth
- Regulators are normally funded on a percentage
- Taxes are supposed to be collected for value received
- Economy only benefits by keeping money in country





## Managing VoIP



### Why is it important to Keep Revenues in Country?

Reinvestment within country means

- More service
- More choice
- More availability and accessibility
- More economic stability
- More data and physical security
- More liberalization
- More people ultimately pay less – better pricing

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*The customer gets a better deal!*





## National Choices



### Do You as a Country, do Nothing?

- Let the ISP and Operator fight it out with Bypass?
- Allow US \$millions to leave the country?
- Fail to bring US \$millions into the country?
- Risk underinvestment in infrastructure?
- Risk the economy on under funded communication infrastructure?
- Fail to build a protected free market?
- Fail to invest in your own nation?







## National Choices



### Do You Protect the National Market?

#### Unite Operators, Regulators and Governments

- Combat fraud, stop bypass and uphold regulations
- Police the 'bad guys' instead of tying up the operators
- Create new revenue streams like affordable VoIP, P2P and other services when viable
- Recover Revenue, Reinvest Money and build Market Prosperity

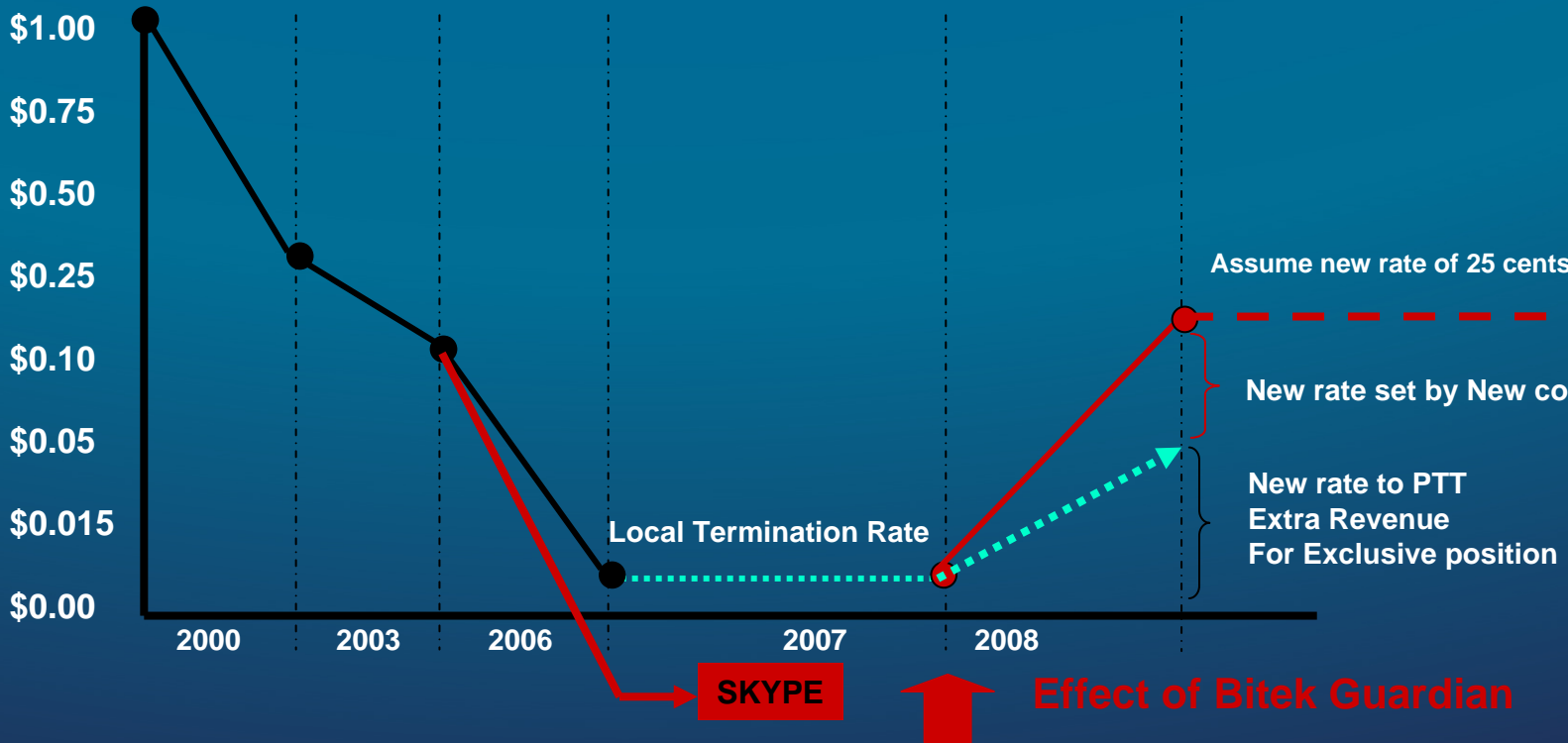




# Reverse Declining Call Rates



Wholesale rate decline in VoIP traffic each Country



THE NATIONAL COST OF VoIP BYPASS





## WIN WIN STRATEGY

### Deploy BITEK Equipment immediately

- STOP. Immediate Fraud & illegal operations
- START. New Revenue today
- START. Protecting your country by increased Security
- RECOVER. Immediate lost Revenue loses and protect new.
- PROTECT. Jobs, and make new ones
- DELIVER. New telecom services in a protected environment
- PROVIDE. Increased revenue for all
- **WIN / WIN Lets arrange when we can deploy a solution today.**





## National Choices



### The Proof is in your Network

- Many Countries have asked Bitek to Measure its real VoIP problem
- All Operators need to be shown the evidence
- Regional operators will benefit from Bitek case studies
- Facts may be accepted, but only the evidence is compelling!
- **Book a trial on [www.bitek.com/gse/](http://www.bitek.com/gse/)**





# Questions and Answers

Thank you

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**Bitek**guardian.

**Bitek**  
INTERNATIONAL Inc