



TAF GROUP REGIONAL SEMINAR ON COSTS AND TARIFFS

Impact of traffic re-file and alternative calling procedures on rates, settlements, collection charges and quality of services

Document 4

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TAF GROUP REGIONAL SEMINAR ON COSTS AND TARIFFS

Agenda

I – Traffic re-file and alternative calling procedures

**II – Impact of traffic re-file and alternative calling
procedures**

III – ITU Works on the subject

**IV - APPENDIX: How VoIP affect incumbent telco
cash flows**

TAF GROUP REGIONAL SEMINAR ON COSTS AND TARIFFS

I – Traffic re-file and alternative calling procedures

I-1 – Introduction to Accounting rate system

I-2- Re-file: Conceptual Approach

I-3- Other alternative calling procedures

TAF GROUP REGIONAL SEMINAR ON COSTS AND TARIFFS

I – Traffic re-file and alternative calling procedures

I-1 – Introduction to Accounting rate system

Accounting rate – Direct route

- Traditional revenue sharing system based on the ITU model
- ITU Recommendation D.140
- Bilateral negotiations between operators, in which operator A accepts to pay operator B an amount to terminate operator A's traffic and vice-versa
- Division
 - Until recently, accounting rates were divided 50/50 (in most cases)

Accounting rate – Direct route

- Currency
 - SDR (Special Drawing rights)
 - Gold Francs
 - US\$
- Payment method: “NET SETTLEMENT”
- Accounting Method: Direct/Cascade (if transit)

Accounting rate – Direct route

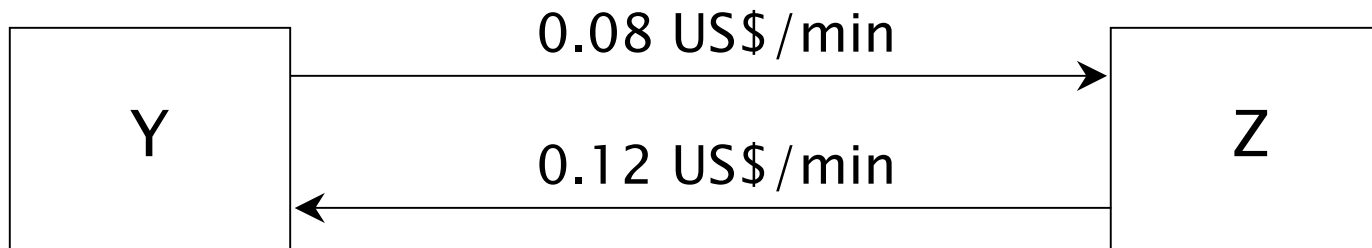
Trends

- Accounting rates must reflect the cost of terminating the calls
- Traditionally, accounting rates have been much higher than cost
- Accounting rates are gradually aligned with costs:
 - Termination rates
 - Unequal divisions
 - Volume discounts, various levels

Accounting rate – Direct route

Unequal divisions – Example

		Division
Y settlement:	0.08 US\$/minute	40%
Z settlement:	0.12 US\$/minute	60%
TAR:	0.20 US\$/minute	



Accounting rate – Direct route

Volume discounts – Example

	<u>Settlements</u>	<u>Traffic Levels</u>	
		<u>A</u>	<u>B</u>
1 st level of traffic:	0.36 US\$/minute		
Above 1 st level	0.24 US\$/minute	5,000,000	5,000,000
Above 2 nd level::	0.15 US\$/minute	15,000,000	15,000,000

Accounting rate – Direct route

Why reduce accounting rates ?

- To reduce cost of terminating outbound traffic
- To allow development of more competitive tariffs and become more competitive
- To stimulate incoming and outgoing traffic
- To reduce bypass via other lower revenue generating direct route

Accounting rate – Strategies

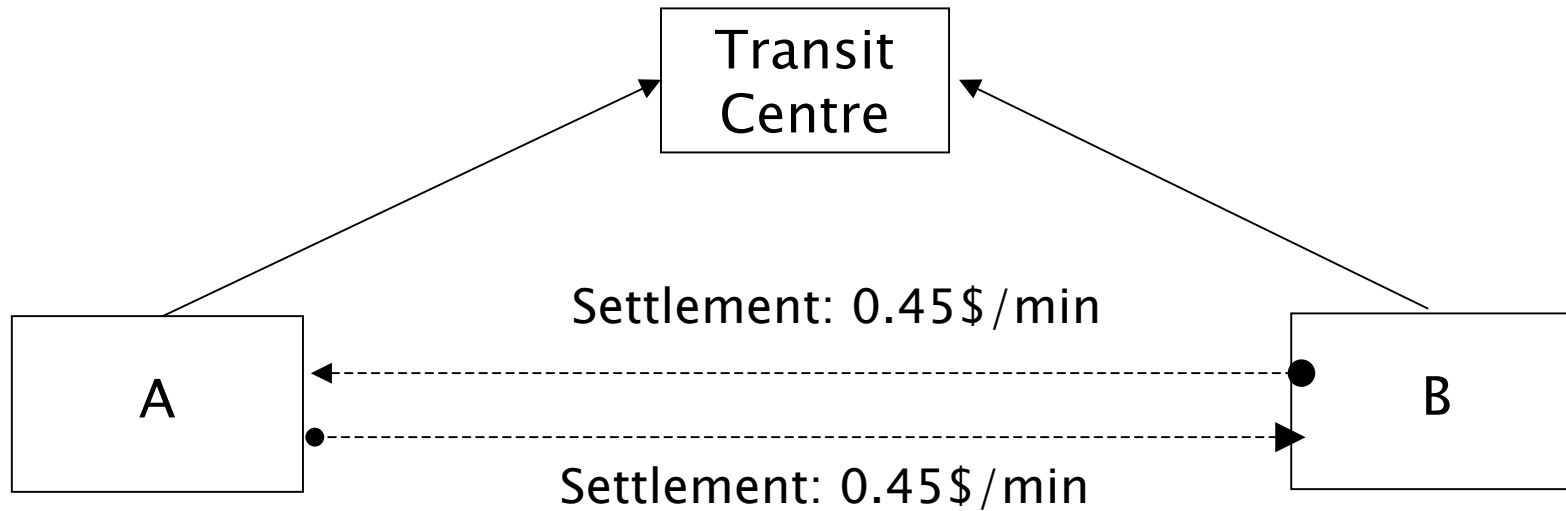
FCC Benchmarking

Catégories of countries	Target settlements	Target year
High revenues	0.15 US\$/minute	1999
Medium revenues	0.19 US\$/minute	2000
Low and medium revenues	0.19 US\$/minute	2001
Low revenues	0.23 US\$/minute	2002
Very low revenues	0.23 US\$/minute	2003

Transit

Example

Confidential transit fee : 0.15 \$/min



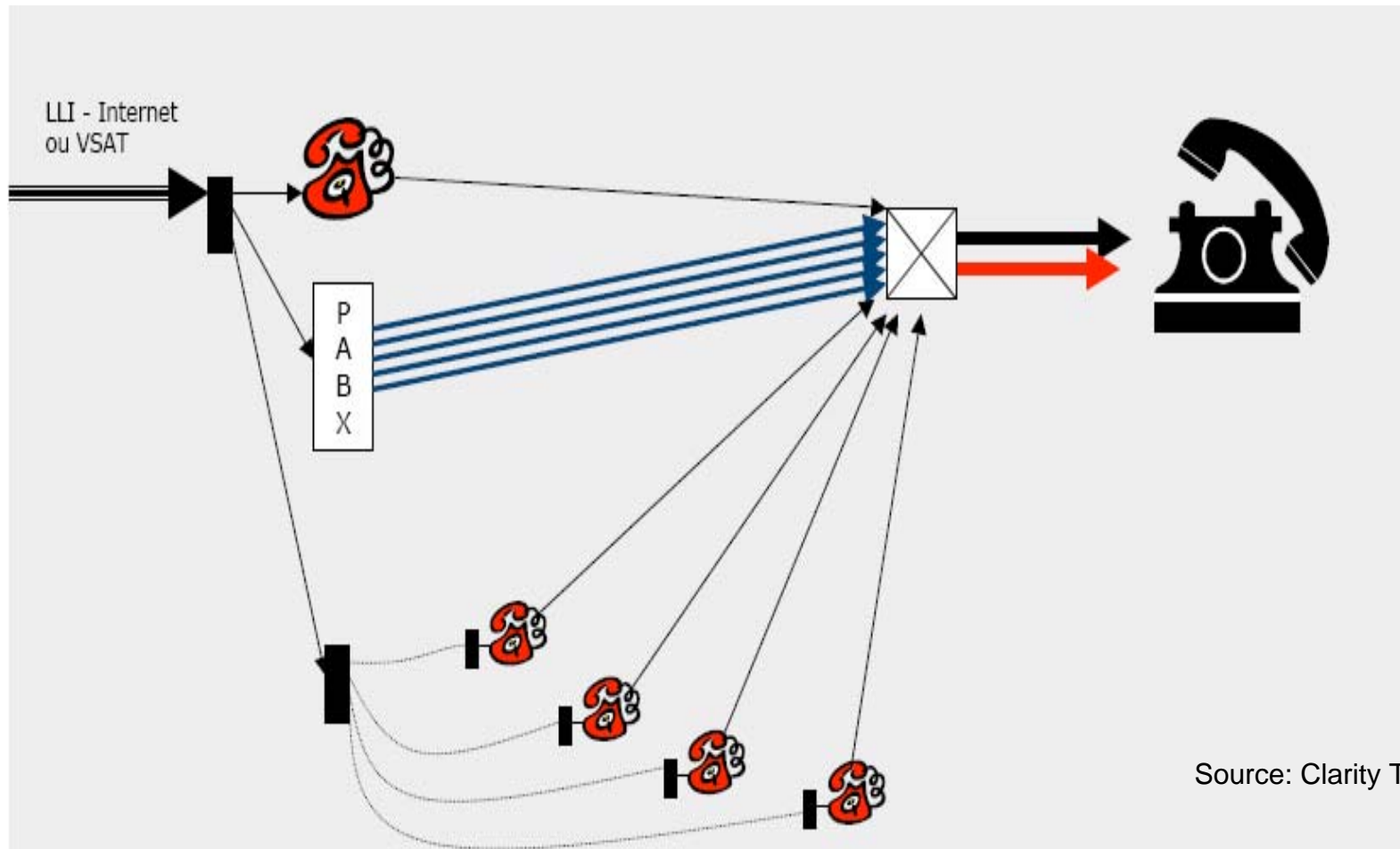
Payment to B:	0.45\$/min
Transit fee:	0.15\$/min
Outpayment total to B:	0.60\$/min
Inpayment to A:	0.45\$/min

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I – Traffic re-file and alternative calling procedures

I-2- Refile: Conceptual Approach

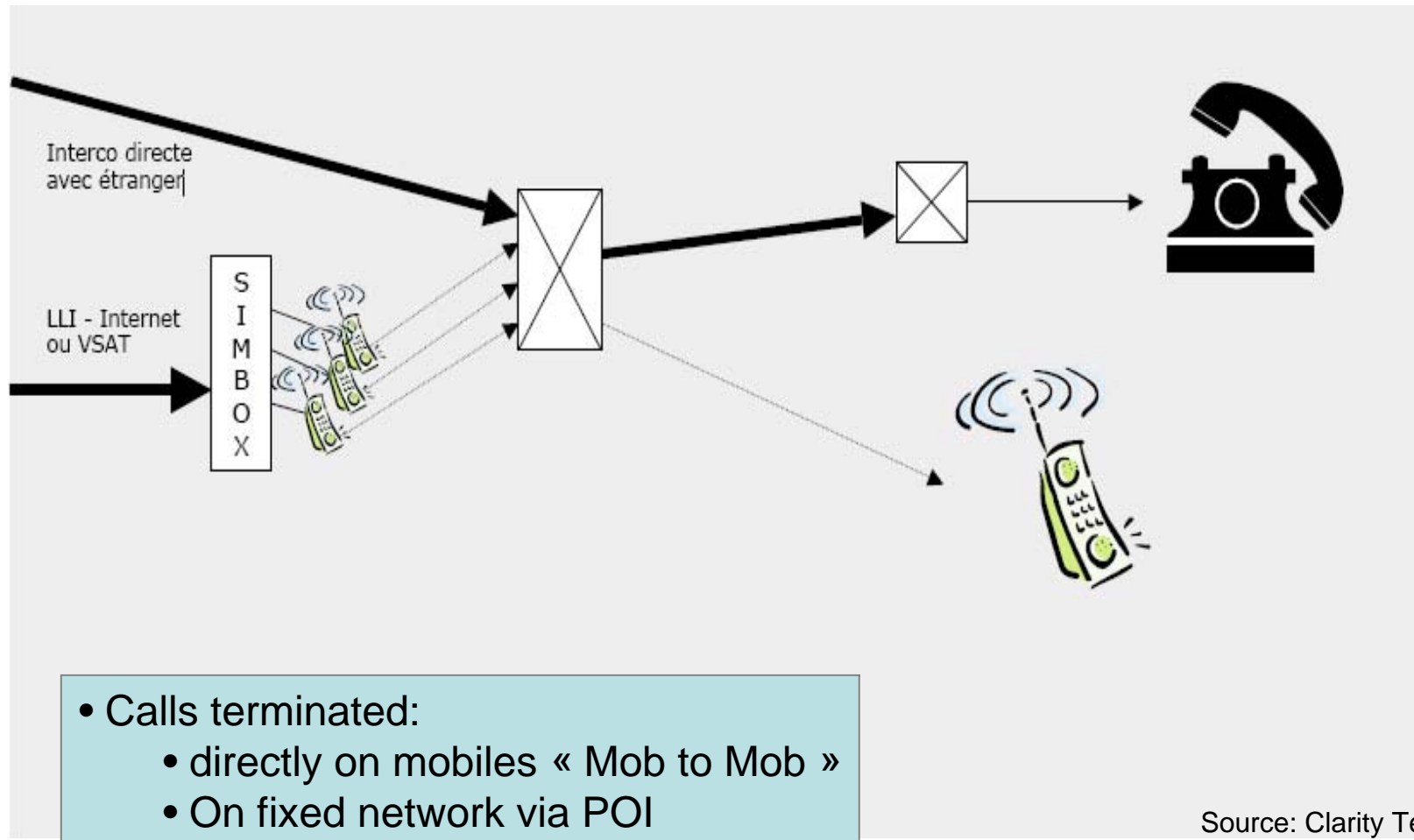
Fixed lines Termination



Source: Clarity Telecom

- ▶ Calls terminated at a local call price
 - Via PSDN, ISDN, IN platform
 - Wired or wireless distribution

Mobiles Termination



Refile:

Terminologies:

- Bypass
- Hubbing
- ...

Refile

Basic Principles

- In the case of Transit, the carriers of origin, destination and transit have a direct relation and negotiate agreements with all parties involved
- In the case of refile, the carrier in the country of destination is not involved and does not know the country of origin of the traffic
- Refiling carriers take advantage of significant differences in accounting rates between origin and destination carriers around the world

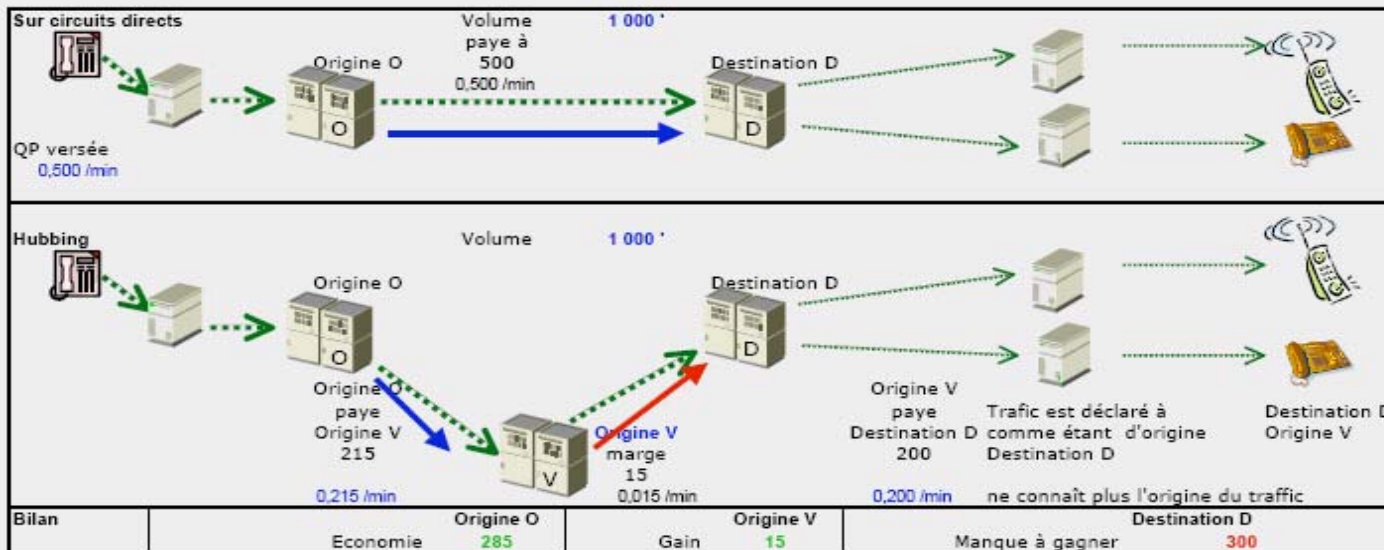
Refile

Technical

- Types of traffic:
 - Only IDD
 - Operator traffic could be detected as refile
- Normaly requires separate facilities between origin carrier and refilers in order to be billed separatly by the refiler for this traffic

Refile or hubbing

HUBBING ou REFILE

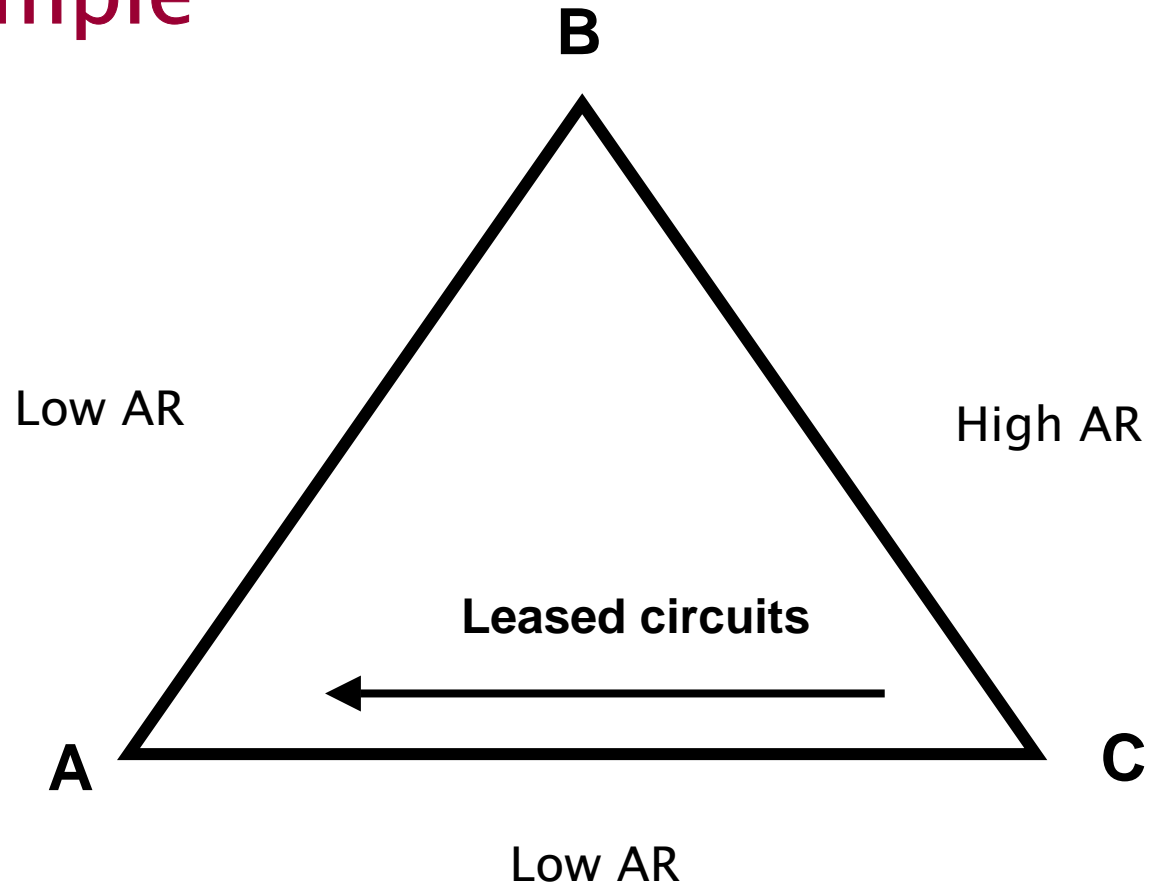


- The « Refiler » declares O's traffic to D carrier as if its own traffic
- Destination carrier has no way to know where the traffic origins

Source: Clarity Telecom

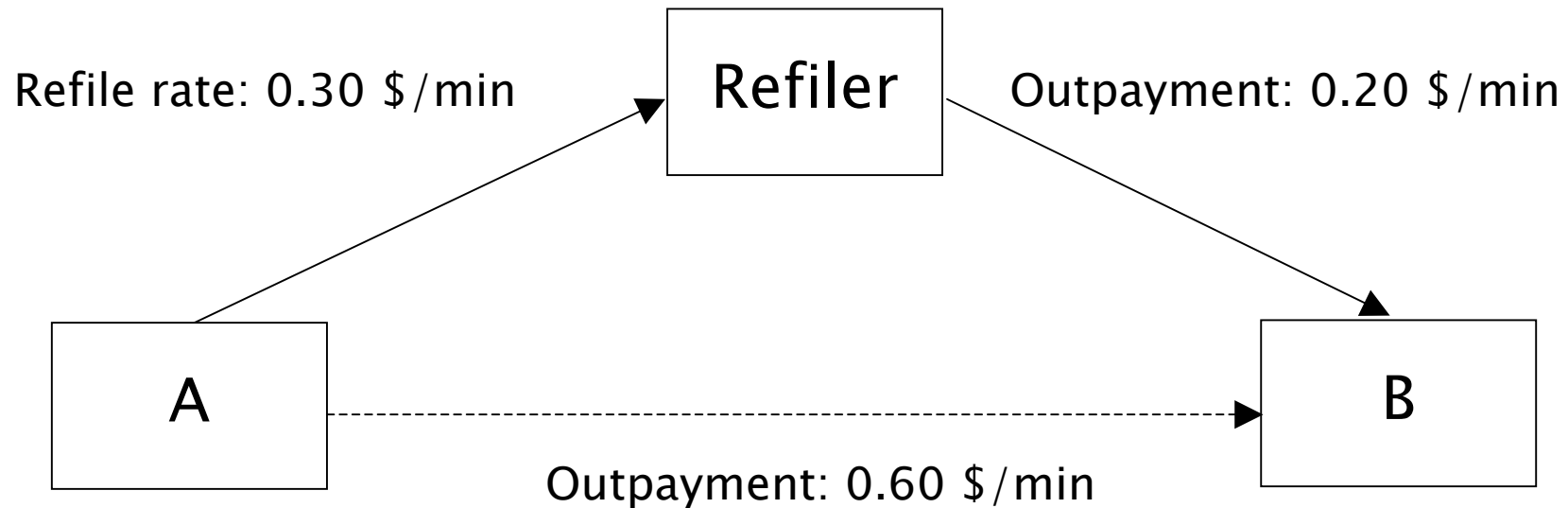
Refile

Example



Refile

Example (cont')



Savings A:	$0.60 - 0.30 = 0.30$ \$/min
Margin of Refiler:	$0.30 - 0.20 = 0.10$ \$/min
Loss for B:	$0.60 - 0.20 = 0.40$ \$/min

Refile

Example (end)

- Routing of traffic:
 - The « Refiler » declares A's traffic to B carrier as if its own traffic
 - B carrier has no way to know where the traffic origins

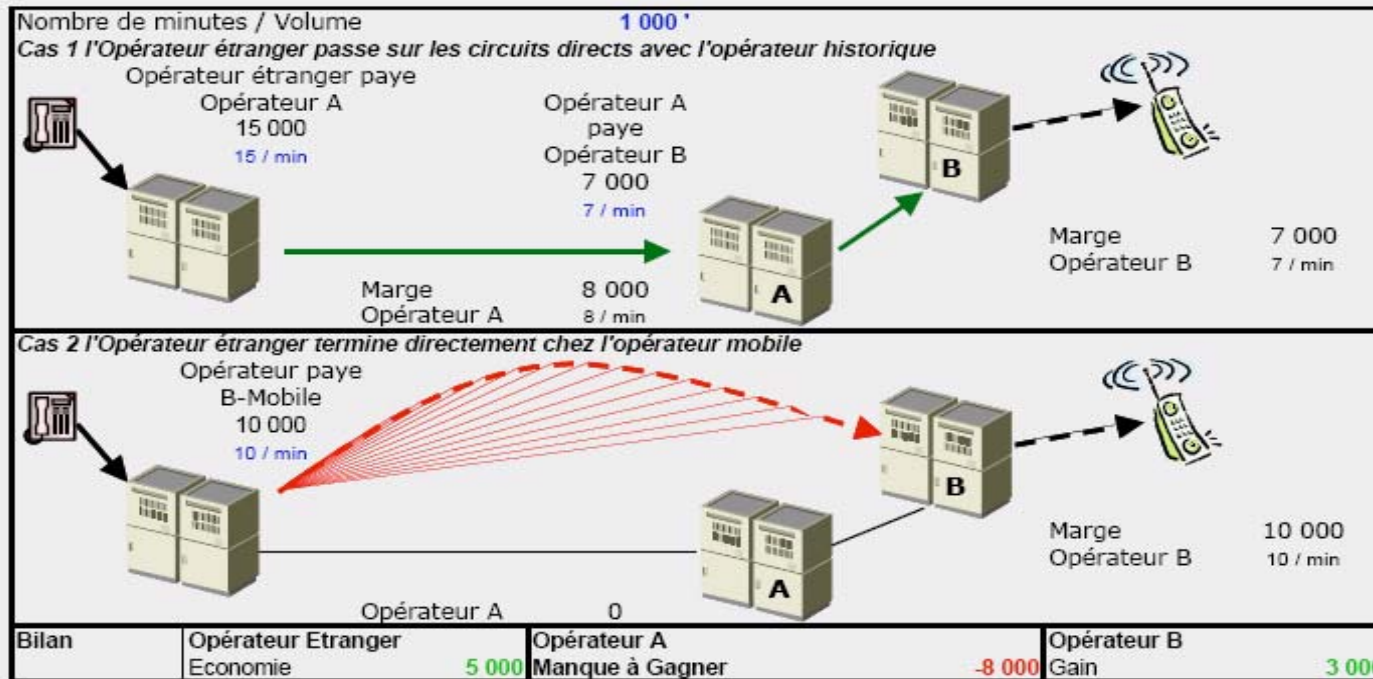
TAF GROUP REGIONAL SEMINAR ON COSTS AND TARIFFS

I – Traffic re-file and alternative calling procedures

I-2- Refile: Conceptual Approach

The transit operator is « By-passed »

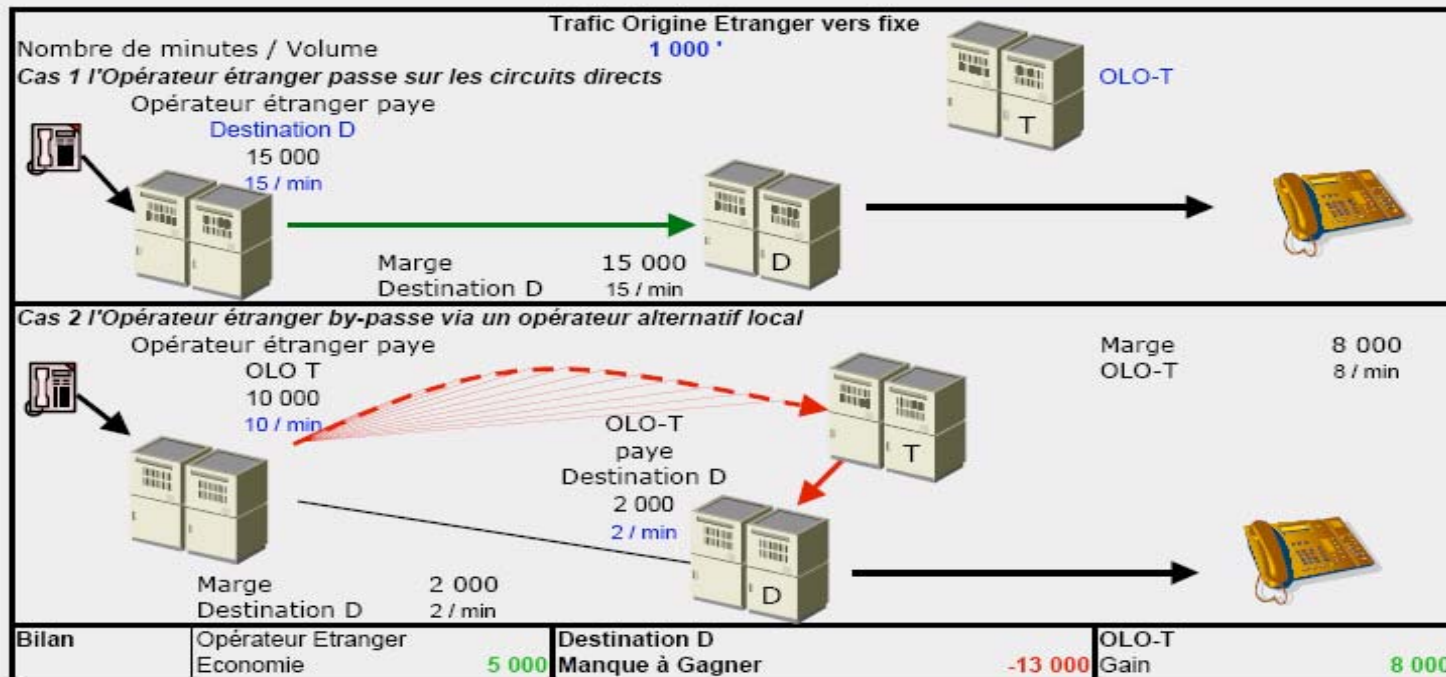
BY-PASS DE L'OPERATEUR DE TRANSIT



- Foreign operators terminate directly on new entrant's network

Termination via national interconnection

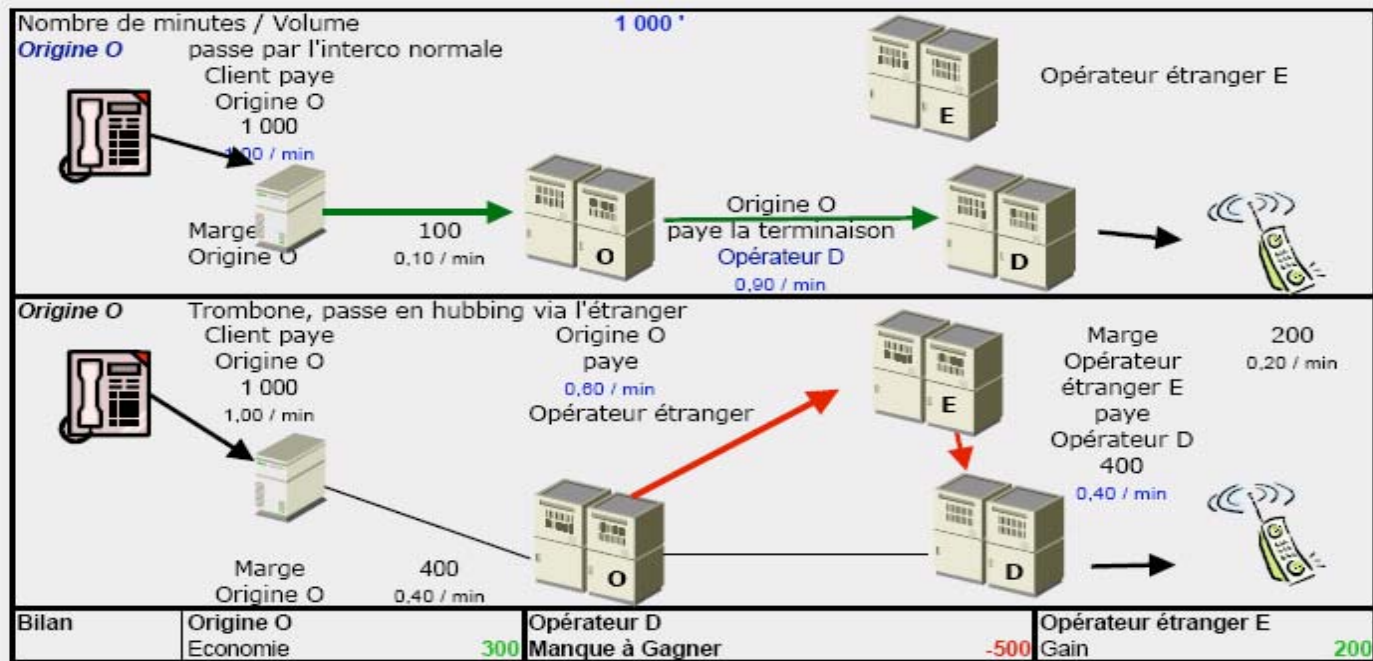
TERMINAISON VIA L'INTERCO NATIONALE



- International calls terminated via national interconnection

Tromboning

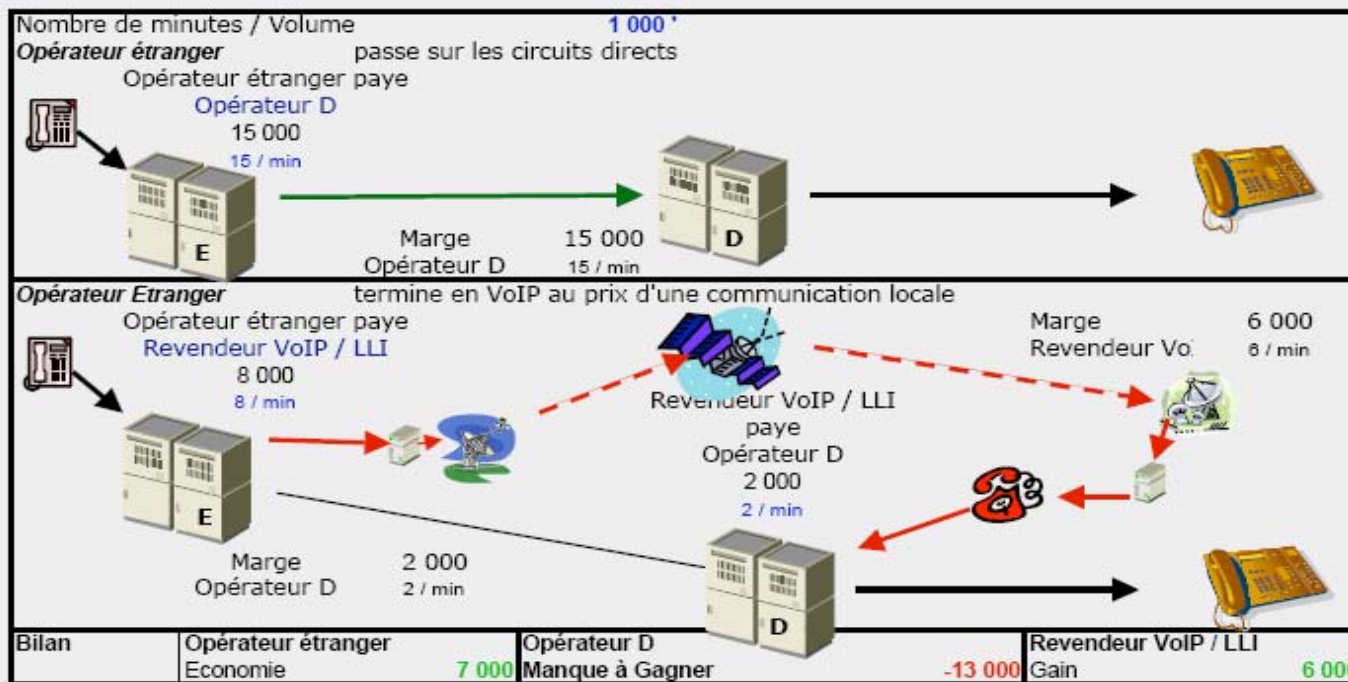
TROMBONING



- Traffic between 2 national operators transit in hubbing via abroad

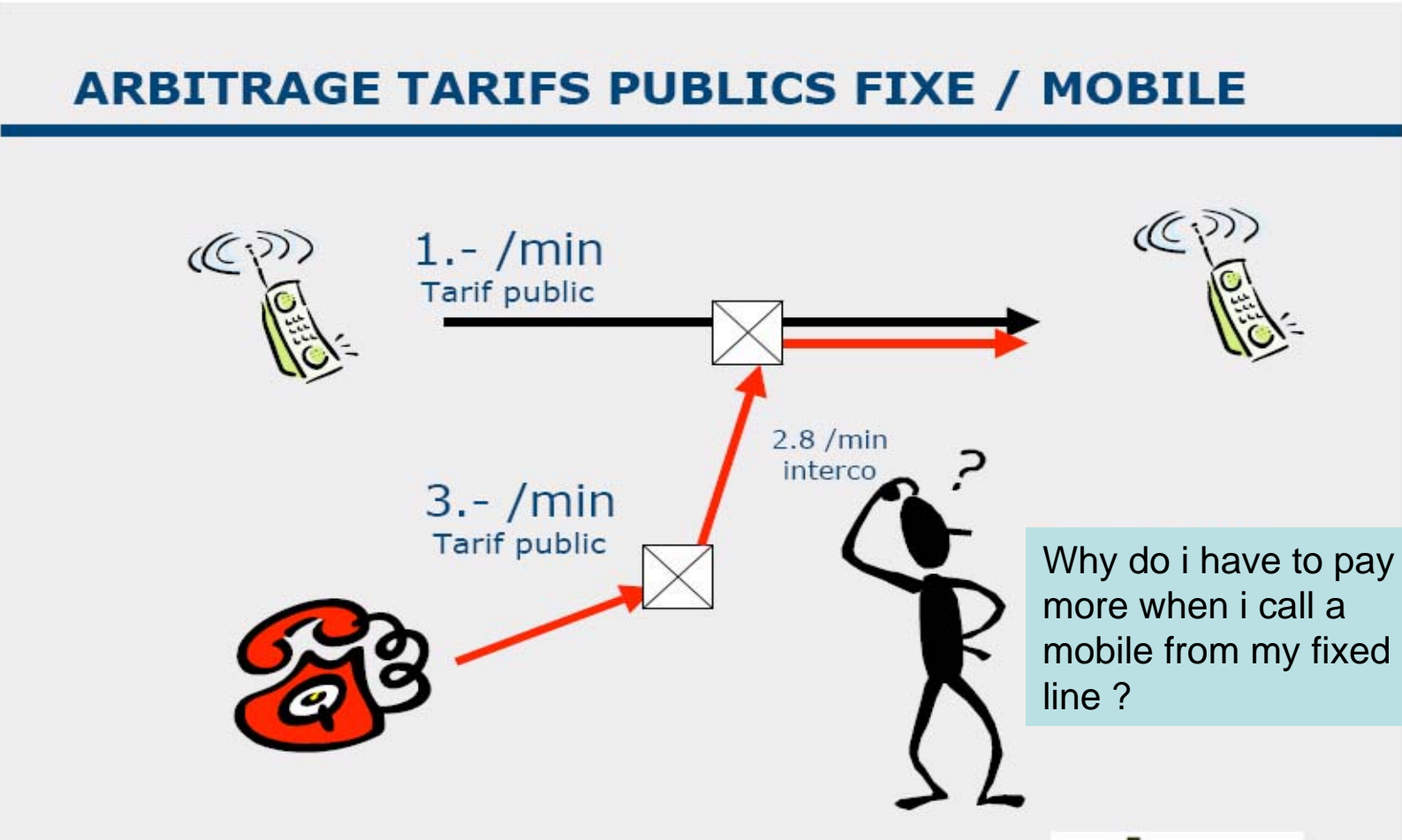
International leased lines or VoIP

LLI ou VoIP



- Foreign operator terminates its traffic at a local call price

Fixed/Mobile details Tariffs Arbitration



Fixed/Mobile details Tariffs Arbitration

ARBITRAGE TARIFS PUBLICS FIXE / MOBILE



~~3.- /min
Tarif public~~



1.- /min
Tarif public

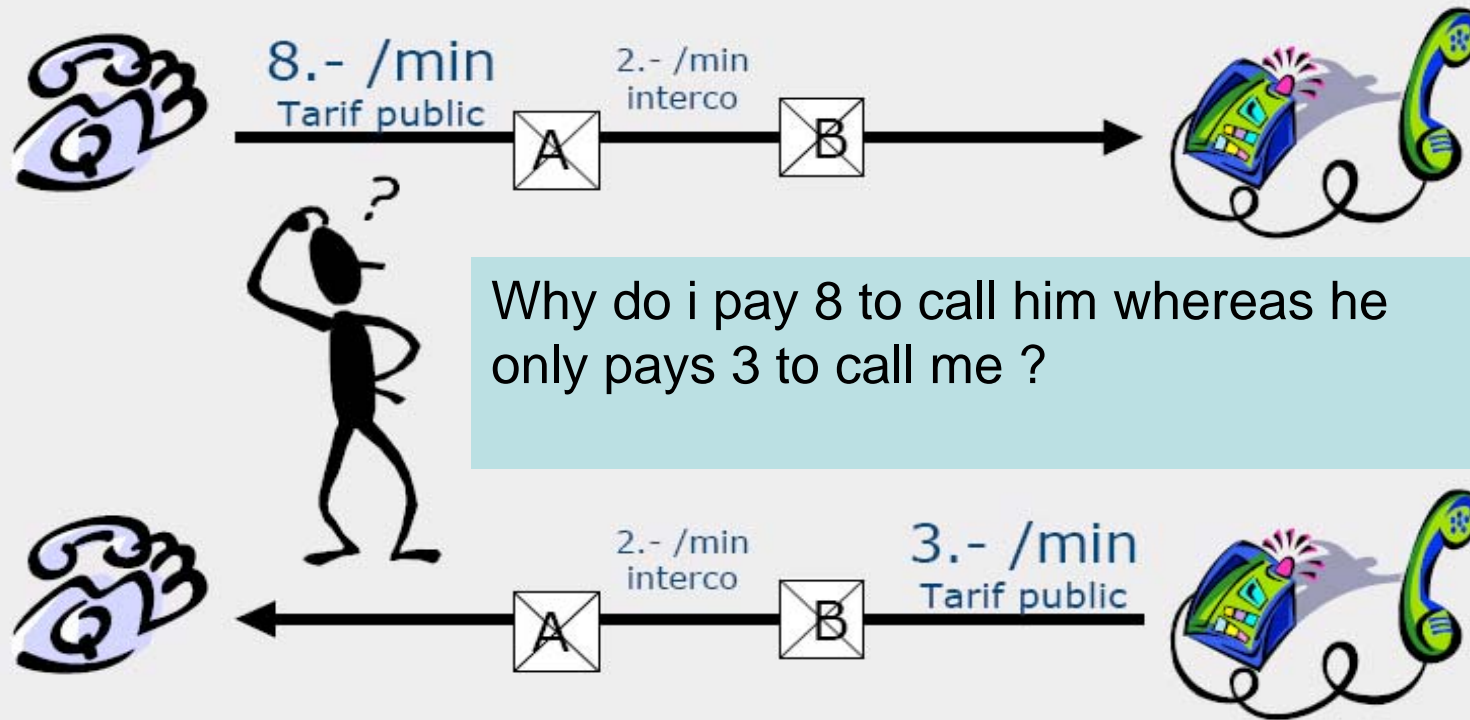


I stop calling passing through the fixed operator. I call from mobile to mobile or i put a SIMbox at the back of my fixed line.

Substitution

Fixed/Mobile details Tariffs Arbitration

ARBITRAGE TARIFS PUBLICS INTER RESEAUX



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II – Impact of traffic re-file and alternative calling procedures

- II – 1: Economic Macro level**
- II – 2: Economic Micro level**

TAF GROUP REGIONAL SEMINAR ON COSTS AND TARIFFS

II – Impact of traffic re-file and alternative calling procedures

II – 1: Economic Macro level

Impacts:

Economic Macro Level

- International rate decrease
- International currencies decrease
- State income tax decrease
- Foreign debt decrease
- Ajustement of regulatory framework
- New business opportunities for some local operators
- Universal access and rural connectivity issues
- Achievement of the Information Society goals

- Etc..

TAF GROUP REGIONAL SEMINAR ON COSTS AND TARIFFS

II – Impact of traffic re-file and alternative calling procedures

II – 2: Economic Micro level

Impacts:

Sur les taxes de Répartition

- Accounting rates are gradually aligned with costs:
 - Termination rates
 - Unequal divisions
 - Volume discounts, various levels
- **Accounting rates reduction**
 - Guarantees of competitiveness
 - Increases of revenues via traffic commitments
 - Increases potential refile agreement
 - Protection against refile
 - Incentives for new entrant interconnection
 - Etc.
- **New business opportunities for some operators**

Impacts:

On collection taxes

- Operators tariffs rebalancing
- Decrease of international tariffs
- Increase of outgoing calls
- Increase of users
- Etc...

Impacts:

On settlements

- Settlements reduction
- Cost based settlements
- Asymmetric settlements
- Discount volumes/various levels and agreements
- Etc...

Impacts:

On Quality of Service: VOIP Example

- The lack of QoS guarantee is often quoted as the major technical weakness of VoIP.
- This results from the difficulty to combine the quality level with the quantity and the performance of IP network resources to make the call
- Meanwhile, works in IP infrastructure are in progress, , and a number of simulation and verification methods exist, like at the ETSI and ITU – T.
- Other models give opportunities to analyse more specifically simultaneous voice and data traffics.

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III – ITU Works on the subject

III – ITU Works on the subject

- **WTSA- 2004 - Résolution 29: Alternative calling procedures on international telecommunication networks**

- **Main discussions of the Jan. '05 Meeting of SG3:**
 - **Formation of a rapporteur Group with terms of refernce as follows:**
 - 1. Elaborate /define the concept of Aternative calling procedures and identify its various forms**
 - 2. Stydny both the positive and negative economic effets of ACPs with special attention being given to the impact on developing countries, particularly Least Devoped Countries (LDC)**
 - 3. Collect relevant information (eg. Studies, reports, etc.) from outside sources to help with the determination in 2) above**
 - 4. Review the results of the work and prepare as appropriate a further work plan for next SG3 meeting**

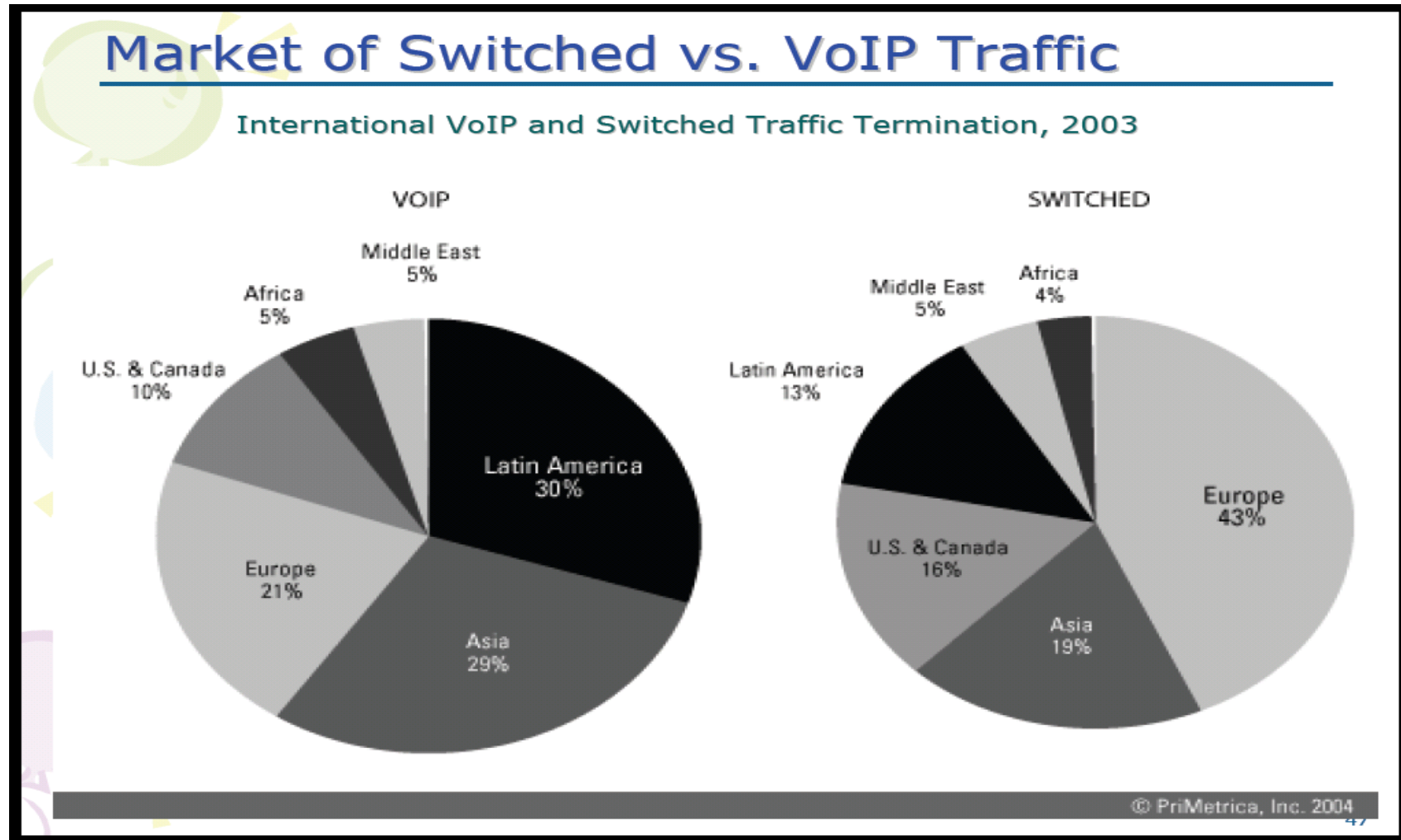
TAF GROUP REGIONAL SEMINAR ON COSTS AND TARIFFS

IV - APPENDIX: How VoIP affect incumbent telco cash flows

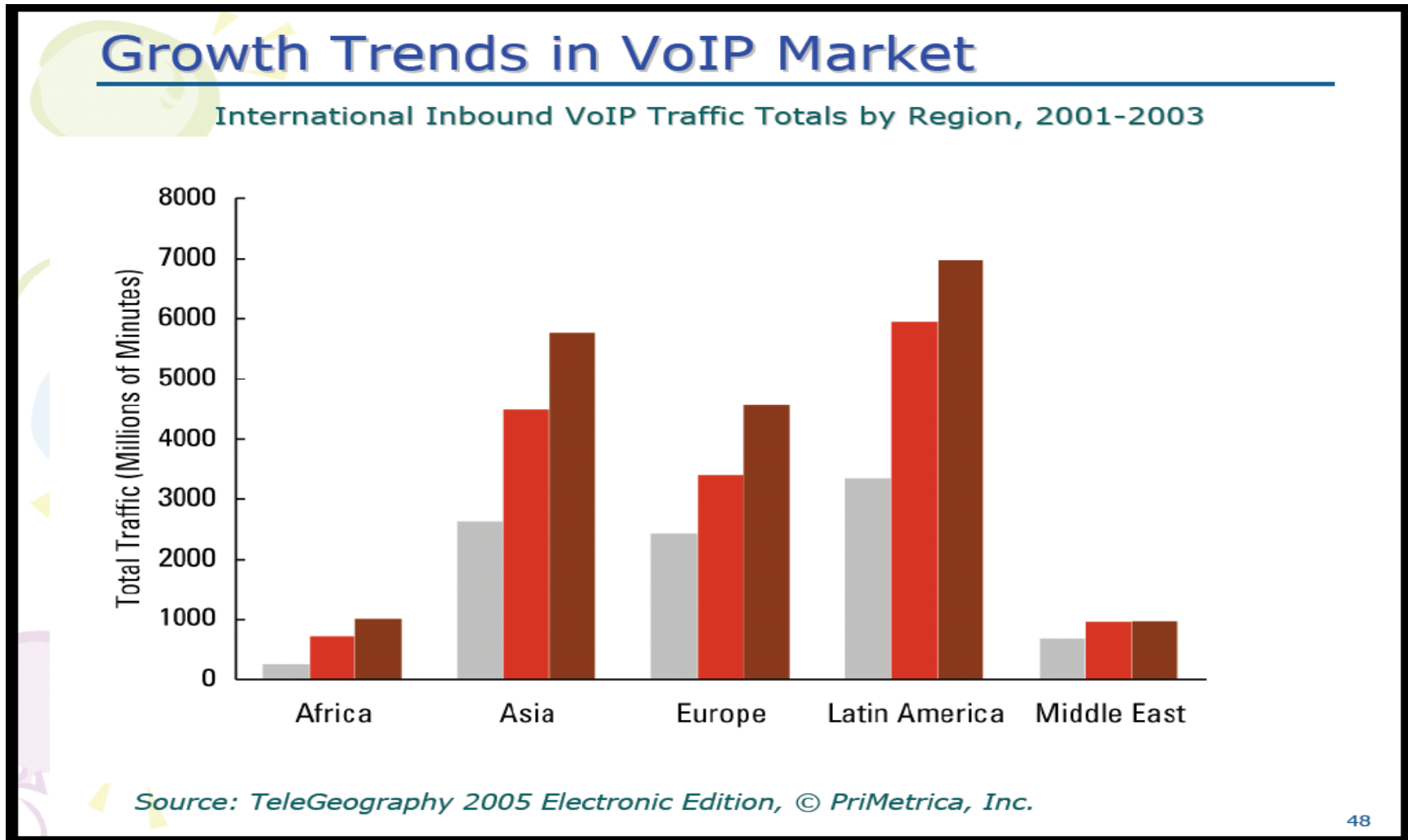
- **APPENDIX: Impact of VoIP on incumbent telco cash flows**

- Source: Source : Economic and Commercial Impact of VoIP and Broadband in Europe
John Moroney
Third ITU European Regional Meeting –Istanbul , 29-30 Novembre 2005

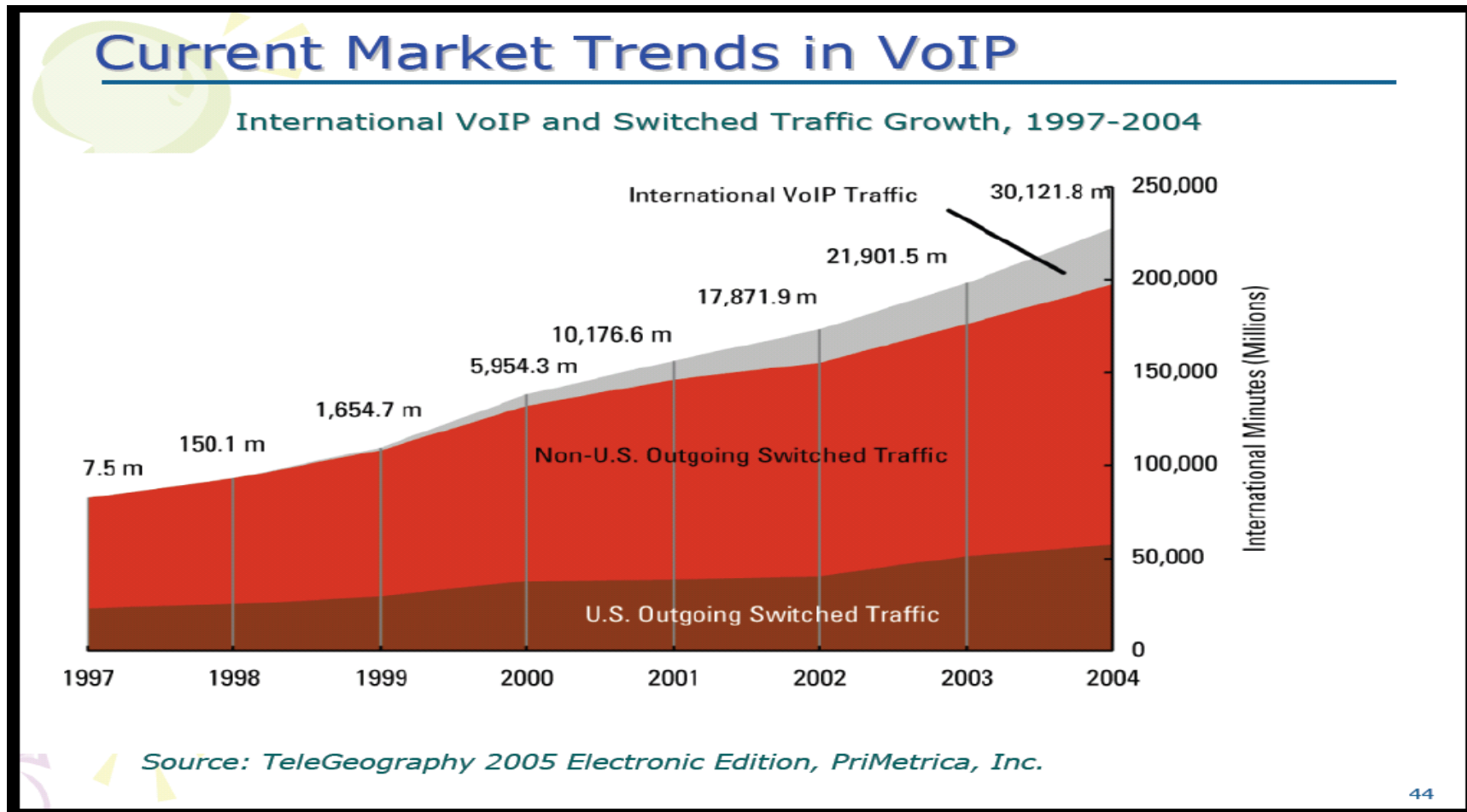
Market of switched vs. VoIP traffic



Growth Trends in VoIP Market



Current Market Trends in VoIP



Incumbent Operator's typical income

Calls to:	Proportion of income
National and Local	15%
International	4%
Mobile	11%
Other calls	14%
Total Voice Metered Calls	44%
Other revenues	
Access charges	21%
Interconnect	21%
Non regulated	14%

Future scenarios

- **Scenario A.** The incumbent telco aggressively reduces its international prices, thereby making the new entrant VoIP services less attractive to its consumers. Fewer customers move to the alternative VoIP services and the incumbent operator is able to retain more of its income from national and local calls.
- **Scenario B.** The incumbent telco reduces its international prices less aggressively; more customers change to new entrant VoIP carriers, with the result that more national and local call traffic is lost.
- **Scenario C.** In this scenario the incumbent operator attempts to keep its international prices high, with the result that large numbers of customers start to use the alternative VoIP services. Customers become acquainted with these services and use them for a wider range of calls. Consequently the incumbent telco loses large amounts of national, local and other call revenue.

Incumbent Operator Revenue Losses

	Percentage Loss by Call Type			Net Effect on Operator Revenue		
	Scenario A	Scenario B	Scenario C	Scenario A	Scenario B	Scenario C
National and local	10%	25%	50%	2%	4%	8%
International	75%	50%	25%	3%	2%	1%
Mobile	20%	25%	50%	2%	3%	6%
Other calls	20%	25%	50%	3%	4%	7%
Total voice metered calls				10%	12%	21%

↓	↓	↓
\$36 Billion	\$43 Billion	\$76 Billion

Source: Commercial Implications of VoIP in Europe. Published by: Market Cohesion

Incumbent Operator's typical costs

Access	7%
Switch	1%
Transmission	1%
Systems support	4%
Other Non Core	6%
Total Capital Expenditure	19%
Staff	23%
Depreciation	18%
Payments to Other Operators	24%
Other Costs	16%

Source: Commercial Implications of VoIP in Europe. Published by: Market Cohesion

Net Effect of VoIP on Incumbent Telco Cash flows

Income	Current Value	% Change	Net Effect	Expenditure	Current Value	% Change	Net Effect
National and local calls	15%	(50%)	(7.7%)	Access	7%		
International calls	4%	(50%)	(2.1%)	Switch	1%	(90%)	(0.7%)
Calls to mobiles	11%	(25%)	(2.6%)	Transmission	1%	(50%)	(0.7%)
Other calls	14%	(25%)	(3.5%)	Systems support	4%	(30%)	(1.2%)
Total voice metered calls	44%		(15.9%)	Other Non-core	6%		
				Total capital expenditure	19%		(2.6%)
Access charges	21%	10%	2.1%	Staff	23%	(30%)	(7.0%)
Interconnect	21%	10%	2.1%	Depreciation	18%		
Non-regulated	14%			Payments to other operators	24%	(10%)	(2.4%)
Total non-voice			4.2%	Other costs	16%		
Net gain (loss)			(11.7%)	Total non-capital expenditure			(9.4%)
				Net gain (loss)			(11.9%)

Net effect +0.2%

- References:
 - ESMT/Clarity Telecom workshop
 - ESMT/Goulet telecom workshop
 - ITU seminars and ITU-T resources
 - OCDE studies

Thank you for your Attention

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