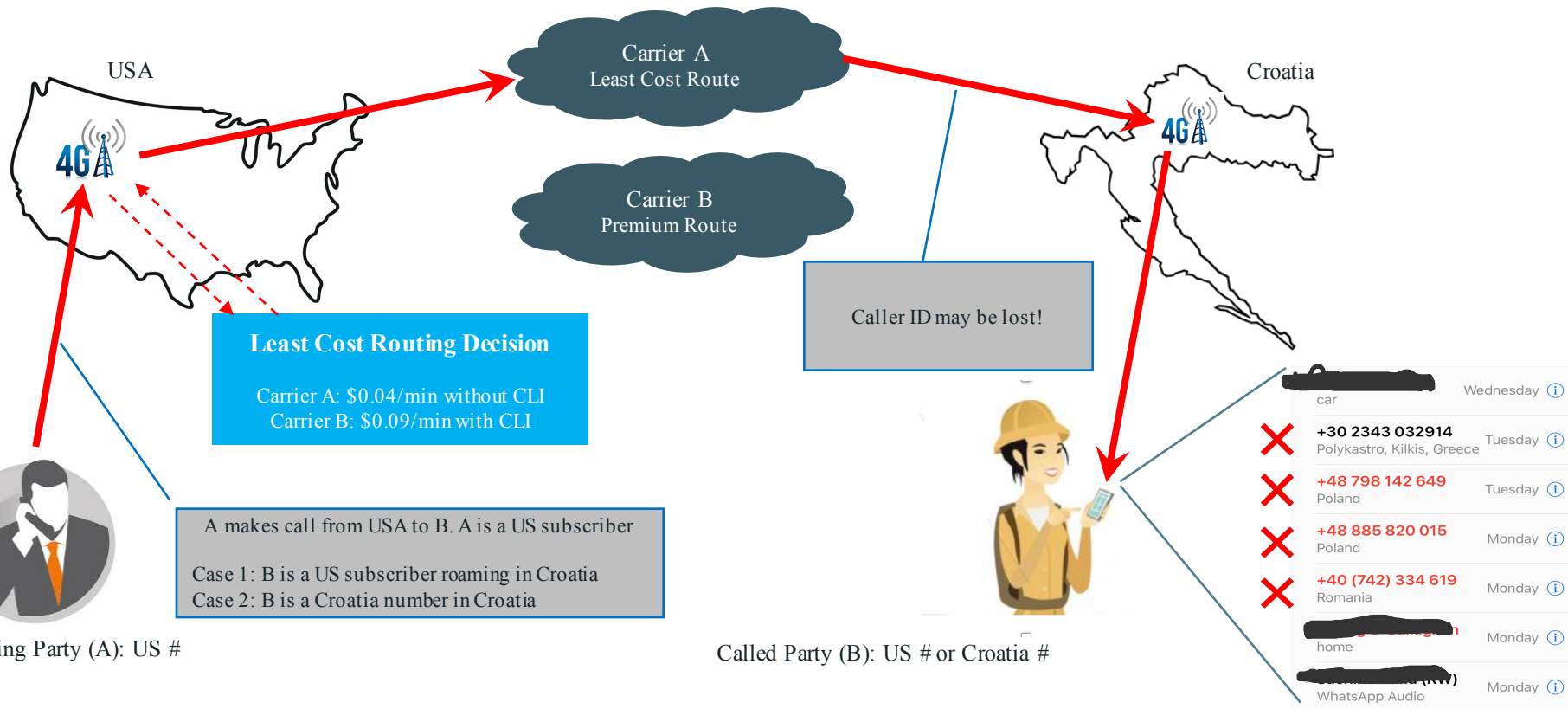# MOBILEUM

CLI Guarantee & Least Cost Routing

The International Caller ID Guarantee Problem

Caller ID is often not transmitted on international calls using least cost routing.

USA

Carrier A
Least Cost Route

Carrier B
Premium Route

Croatia

Caller ID may be lost!

Least Cost Routing Decision

Carrier A: $0.04/min without CLI
Carrier B: $0.09/min with CLI

A makes call from USA to B. A is a US subscriber

Case 1: B is a US subscriber roaming in Croatia
Case 2: B is a Croatia number in Croatia

Calling Party (A): US #

Called Party (B): US # or Croatia #

car — Wednesday
+30 2343 032914 — Tuesday
Polykastro, Kilkis, Greece
+48 798 142 649 — Tuesday
Poland
+48 885 820 015 — Monday
Poland
+40 (742) 334 619 — Monday
Romania
home — Monday
WhatsApp Audio — Monday

Guaranteeing CLI for Outbound Roamers

US roamer in Croatia

HPLMN

Linxa Connect

1

Premium Route With Caller ID

4a

5a

LINXA

VPLMN

GMSC

4b

Least Cost Route

A makes call from USA to B.
A is a US subscriber

Case 1: B is a US subscriber roaming in Croatia
Case 2: B is a Croatia number in Croatia

2

3

5b

Croatia Subscriber

Mobileum Active Intelligence
1. Roaming call to MSRN?
   - Select Premium Route over Least Cost Route
2. Blockchain CLI Guarantee using Least Cost Route

- Treat roaming calls(to MSRN) differently than international dialed calls
- Guarantee Caller ID for out roamers
- Increase day pass activations on first use. Increase revenue
- Ensure better experience
- Improve call completion rates

CLI Delivery Using Permission Blockchain

HPLMN

VPLMN

Linxa Connect

Linxa Connect

3

4

International Voice Carrier Network

1

2

6

A#: 12345678
B#: 98765432*

Mobileum International Caller ID Delivery System on Blockchain

5

A#: 12345678
B#: 98765432

A#: 12345678
B#: 98765432

A#: 12345678
B#: 98765432

** B# can be MSRN **or** Subscriber number in destination network*
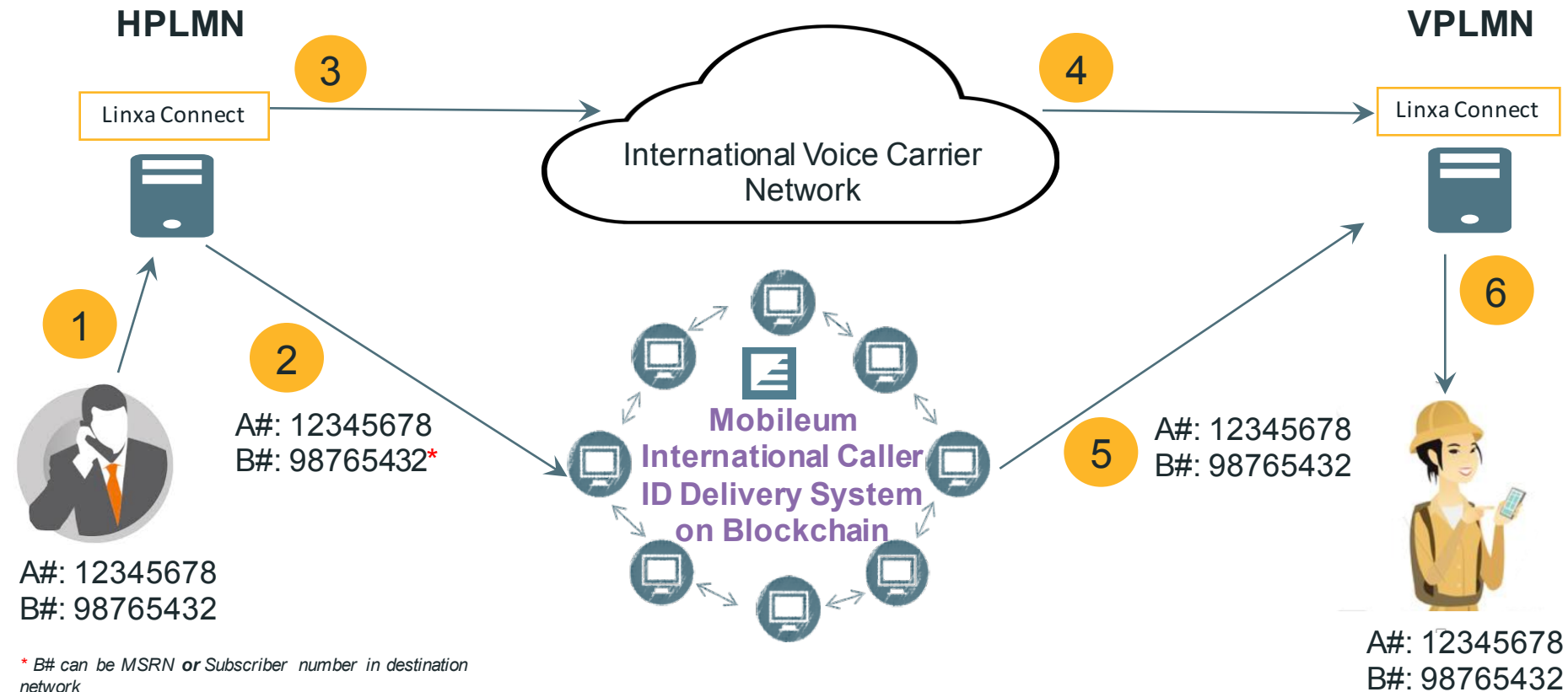
Wholesale Deal Types between Mobile Operators

Mobileum's Smart Home Routing (SHR) enables cost optimization of out-roamer calls to third country

	Various Types of Wholesale IOT Deals					Sample Rate
	Deal 1	Deal 2	Deal 3	Deal 4	Deal 5	
MOC Local	0.15			0.15		0.15/min
MOC Home	0.20					0.20/min
MOC Third Country	0.45	0.45				0.45/min
MOC Zone 1			0.35			
MOC Zone 2			0.52			
MOC Zone 3			0.75			
MOC Local + Home		0.18	0.18			
MOC Home + Third Country				0.40		
MOC All					0.35	

Rate Type — Sample rates to reflect what a potential deal may look like in terms of wholesale cost
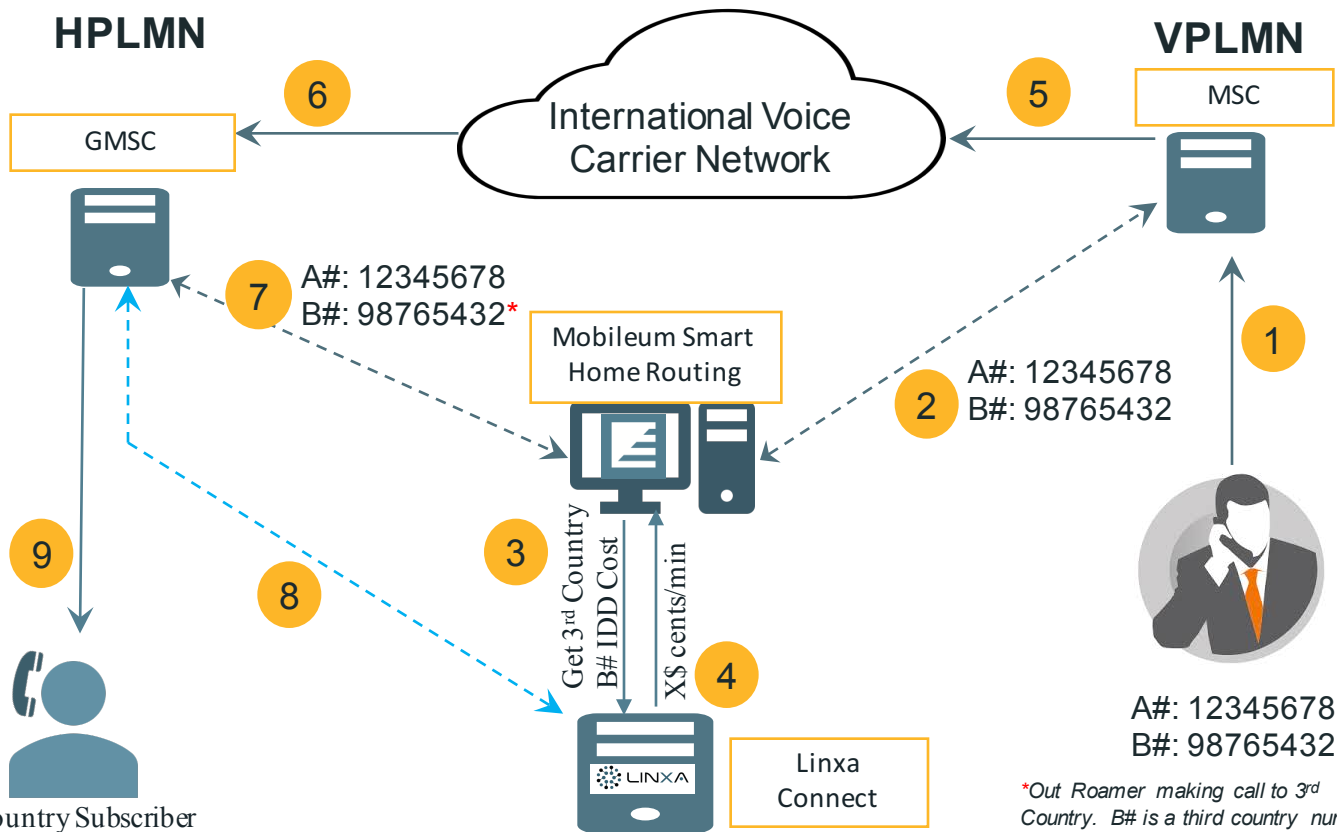
Deal Type — Deal types will benefit from SHR as there is difference in price of call to home country and calls to a third country

Deal Type — Deal types will not benefit from SHR as the price of a call to home or third country is the same (blended rate)

Least Cost Routing for calls made by Out Roamers

HPLMN

VPLMN

International Voice Carrier Network

MSC

GMSC

6

5

Mobileum Smart Home Routing

7 A#: 12345678
B#: 98765432*

2 A#: 12345678
B#: 98765432

1

3

Get 3rd Country B# IDD Cost

X$ cents/min

9

8

4

Linxa Connect

LINXA

3rd Country Subscriber

A#: 12345678
B#: 98765432*

*Out Roamer making call to 3rd Country. B# is a third country number

Optimal routing decision based on IOT cost and IDD Voice cost to 3rd country

Real time changes based on rate update

Possible to implement on Cloud

Profitability analysis for before & after scenario

Dynamic selection

MOBILEUM

Thank You