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WTL Rural Telecentre Solution

Project Overview

- Serving remote locations with Voice & Data
- IP-based (VSAT or terrestrial)
- Real-time billing required (for Voice & Data)
- PSTN breakout required in centre

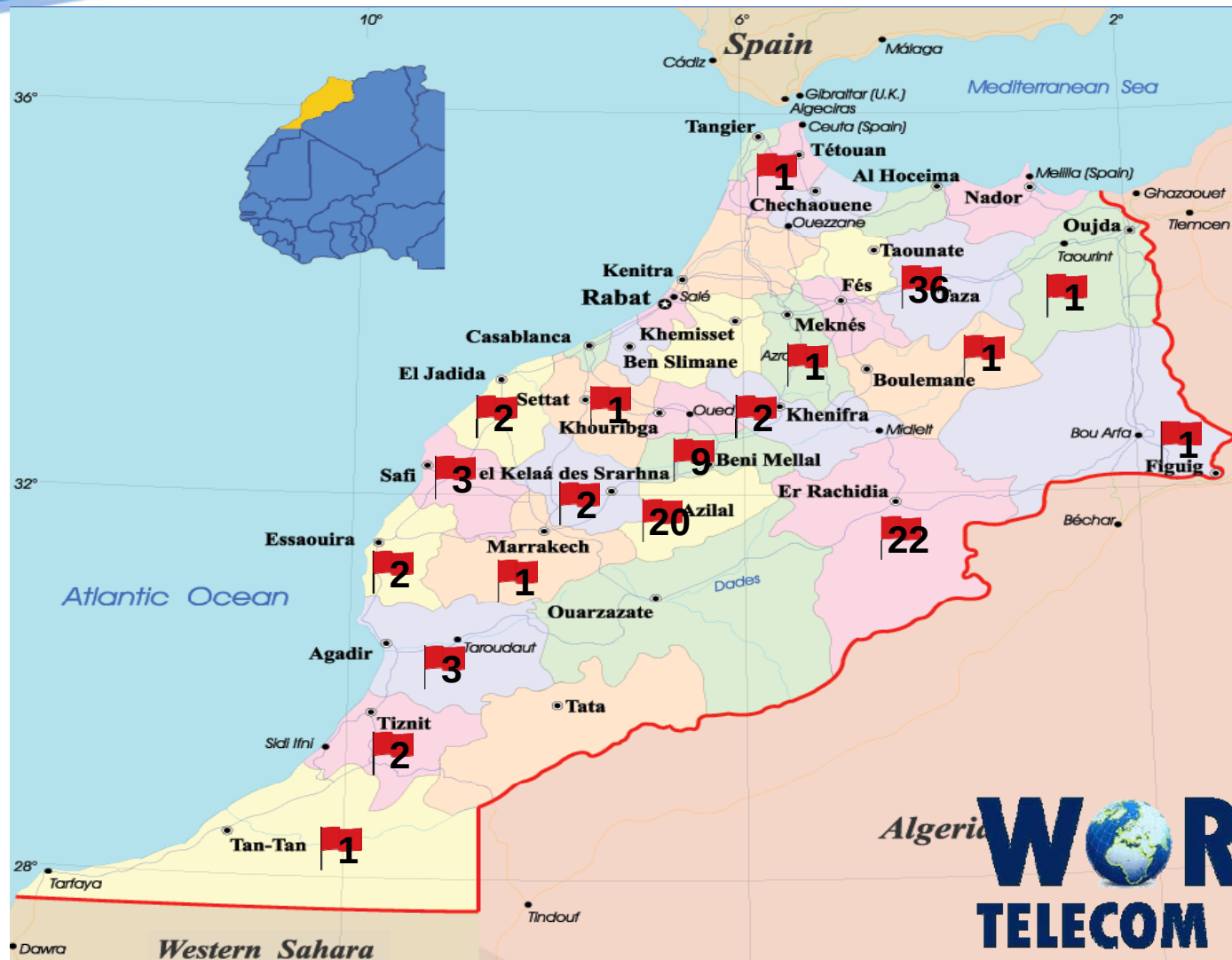
Business Model

- Multi-tier model supported:
 - ‘Owner’ of network
 - Local Reseller
 - Shop Manager
- Allows company to own the whole food chain, employ resellers or appoint franchisees
- If Reseller balance = 0, all his shops are blocked

Reference Project

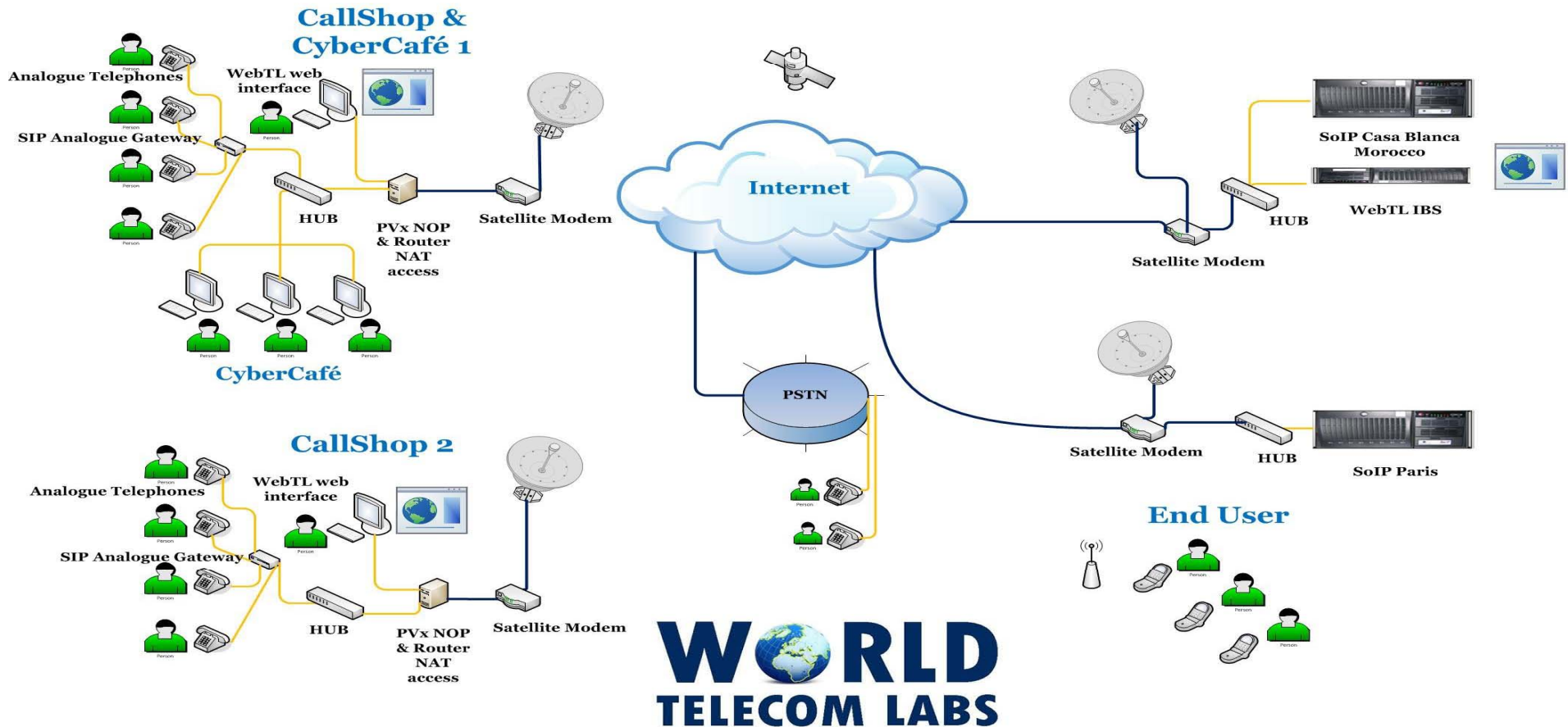
- “Universal Service” in Morocco: Serving remote, rural locations with Voice & Data
- Satellite VSAT-based, IP-based
- Real-time billing for Voice & Data
- 100+ sites deployed. 500+ more Q4 2013
- Must be simple to deploy & manage
- Price sensitive per site (capex & opex)
- Government-backed so high visibility

Installations per Region



Architecture Overview

WTL WebTL Intelligent Billing System - Nortis Project Diagram



WTL Components Used

- 1 x 2, 4 or 8 Port VoIP analog gateway per site
- 1 x Mini-PVx satellite VoIP & data optimiser per site
- WebTL web-based billing application
- Central SoIP Gateway for PSTN breakout [SS7 & SIP fixed & mobile carriers]

Non-WTL Components Required

- IP Router & Connection to Central Hub
- Analog phones
- PCs for browsing in cybercafe (“locked down” to avoid hacking/fraud)
- Monitor, Keyboard & Printer for CallShop manager

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Remote Site Equipment

- For users: Internet PCs, Standard analogue phones
- For shop manager: Billing PC, WebTL access, printer (invoices)
- VoIP gateway (4 or 8 ports)
- Mini-PVX: satellite optimisation + baby softswitch

Solution Description: Voice

- Users call via IP link
- VoIP call authenticated & real-time rated by central VoIP switch & WebTL
- At session end WebTL shows total payable
- VoIP and IP data share same link (NOP used to minimise VoIP utilisation)
- Central SoIP routes VoIP call to Least Cost onward carrier (fix/mob, national/international)

Solution Description: Data

- Users browses via IP link
- Mini-PVx is NAT & router with firewall
- Mini-PVx is smart web proxy
 - Regulates bandwidth used by data v. VoIP
 - Accelerates data by caching
- Mini-PVx is also billing PC (runs browser)
- Data call charged by duration by WebTL
- At session end WebTL shows total payable

Other Features

- Inbound calls supported to the shop
- Calls within remote site do not use link to centre (could be offered as low cost or free)
- Software update server for all remote PVxs
- Status reports available on link usage:
 - Packet loss & jitter

WebTL Billing

WTL Call shop

← → ↻ 🏠 <https://WebTL-WTL/Callshop>

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Menu

- Call shop
- Block all
- Unblock all
- Display
- Administration

Call shop

Booth 1	Booth 2
 11:37 AM 12127773456 USA - New York 00:10 0,60 € 0,60 €	 00:00 0,00 € 0,00 €
Booth 3	Booth 4
 11:38 AM 41419260000 Switzerland 00:06 0,60 € 0,60 €	 11:37 AM 027227240 Belgium - Brussels 00:03 0,60 € 1,20 €
PC Internet 1 Interrupt	PC Internet 2 Start
 11:09 AM internet internet 35:13 4,32 € 0,00 €	 11:11 AM internet internet 00:02 0,12 € 0,12 €
PC Internet 3 Start	PC Internet 4 Interrupt
 00:00 0,00 € 0,00 €	 11:43 AM internet internet 00:49 0,12 € 0,00 €

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WebTL Benefits 1

- Clear graphical display of all current calls
- Real time cost shown as call hangs up
- Full set of statistics and reports available
 - most popular destination, busiest customer etc
- Operator/Agent/Reseller layers can be managed (different price lists, balances, user rights etc.)
- Traffic & margin reports per shop

WebTL Benefits 2

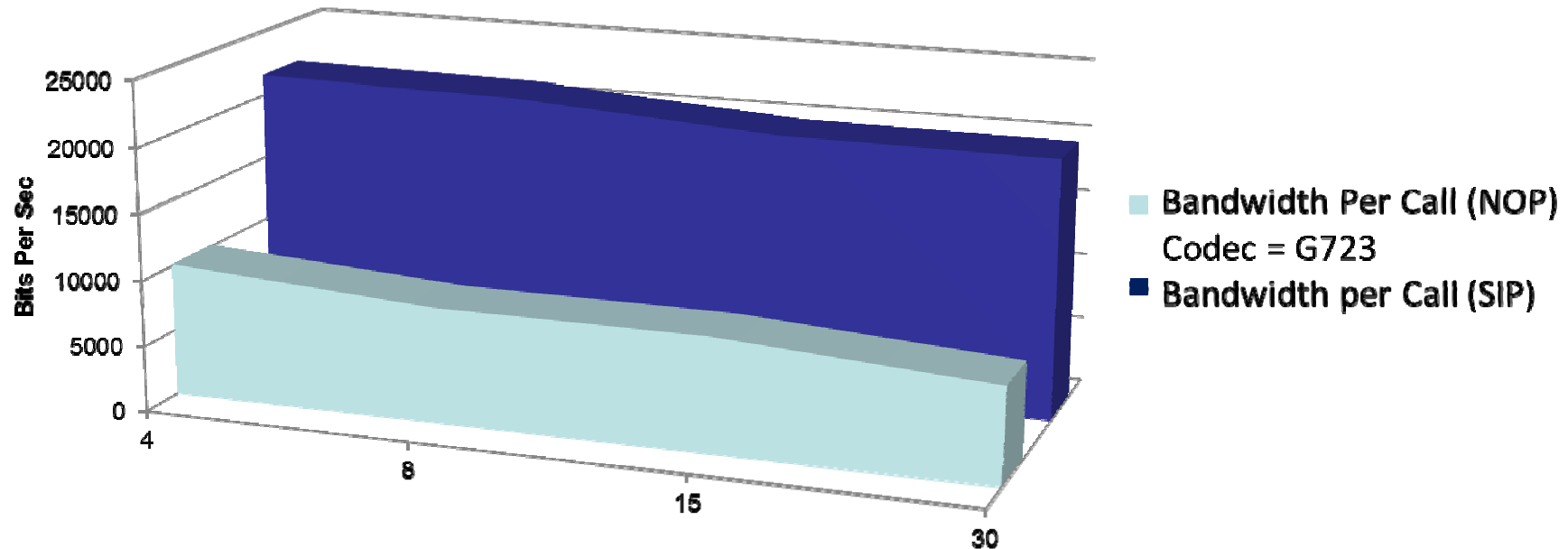
- Easy to load carrier price list (text/CSV files)
- Language configurable per client
- Web Interface can be customised to match Operator/ Agent/ Reseller branding
- iFrame advertisement can also be customised

WTL Solution Benefits

- Reduced VoIP bandwidth per site (6 ~ 7K per call including all overhead)
- Simple, combined billing for voice & data
- No software to maintain at remote site
- Local switching – calls need not route via central site
- Central control of all price lists
- Single end-to-end VoIP supplier
- Built-in NAT to save excessive IP addresses

Bandwidth Per Call NOP v. SIP

Bandwidth Per Call (incl. Overhead)



	4 Calls	8 Calls	30 Calls	60 Calls
NOP (Kbps)	10.1	8.8	7.3	6.0
SIP	21.4	21.2	19.7	18.2

Typical Bandwidth Budget

- WTL solution allows ~ 7.5Kbps per phone & ~ 50Kbps per PC
- Capacity options:

Phones	PCs	Link Capacity
6	4	256 Kbps
8	9	512 Kbps
30	16	1024 Kbps

Future ...

- Expansion over 3 years to 3000+ locations
- Discussions to add other services (calling card, Wi-Fi micro cells)
- Wi-Fi will extend coverage to 2KM diameter in the villages
- Pre-fabricated internet cabins are planned
- Money Transfer function being added to the telephony and internet access.

Outline Pricing

	Unit Price (€)
WTL Elements	2,000
PCs (Solaris) & Phones (4 X)	1,650
PC Screen & Keyboard	100
Wi-Fi router & 2 antennas (1-3 kms)	350
Wi-Fi booster – 1 extra km	350
Satellite dish 1.20 m & modem	1,500
Solar Panel (500W)	1,695
Solar Panel (1000W)	3,300

Pricing – WTL Elements

- Remote Site:

Phone Ports	Unit Price (€)	100 + Price (€)
4	2,000	1,850
8	2,500	2,300

- Central Site:

	Unit Price (€)
4 E1 120 Channel SoIP (incl 1 x SS7 signaling link) with SoftIVR & NOP	34,500
WebTL Billing & Server (up to 1000 Rural licenses)	9,700
Annual Support Contract 12.5% of total equipment	12.5%

Thank You
www.wtl.dk

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