

# Location Based Services

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# Vodacom Decision

- Early Adoption – based on Cell ID
- Relatively low cost services
- Three phase Privacy Approach
- Invisible Polling
- Ease of use
- Accuracy of information
- Relevance of information

# Implementation

Wasps / Service Providers/ Subscribers

Parlay X, Parlay, MM7, SMPP etc

## Service Access Layer

Telemetry

MMS

SMS

LCS

External I/f

Load Control

Single SignOn

Authorisation

Provision

Billing

Admin

Alarming

Wasp/Sub  
Profiling

Location Manager  
(GMLC)

SMSC

MMSC

Core Network

OSS

BSS

Radio Network

Wasps / Service Providers/ Subscribers

# Implementation

- Service Access Layer
  - Modular Design
  - Functional abstraction blocks
- Early Adoption – between LIFF and OMA
- Three Phase Privacy Approach
  - Wasp handles consent
  - Vodacom handles consent
  - *The bigger picture*

# Service Access Layer

- A standardised, product agnostic architecture which :
  - Provides a separation layer between network services and services provided to the WASP
  - Provides homogeneous environment for managed service access to network features/services
  - Provides consolidated interfaces to other systems and services throughout the Vodacom infrastructure (BSS, OSS, CN)
  - Ensures QoS for our subscribers and our WASPS via technical SLA's
  - Provides standardised interfaces to WASPs for all services
  - Is scalable and allows for future standards (including 3G) driven growth without unnecessarily impacting on Vodacom network infrastructure

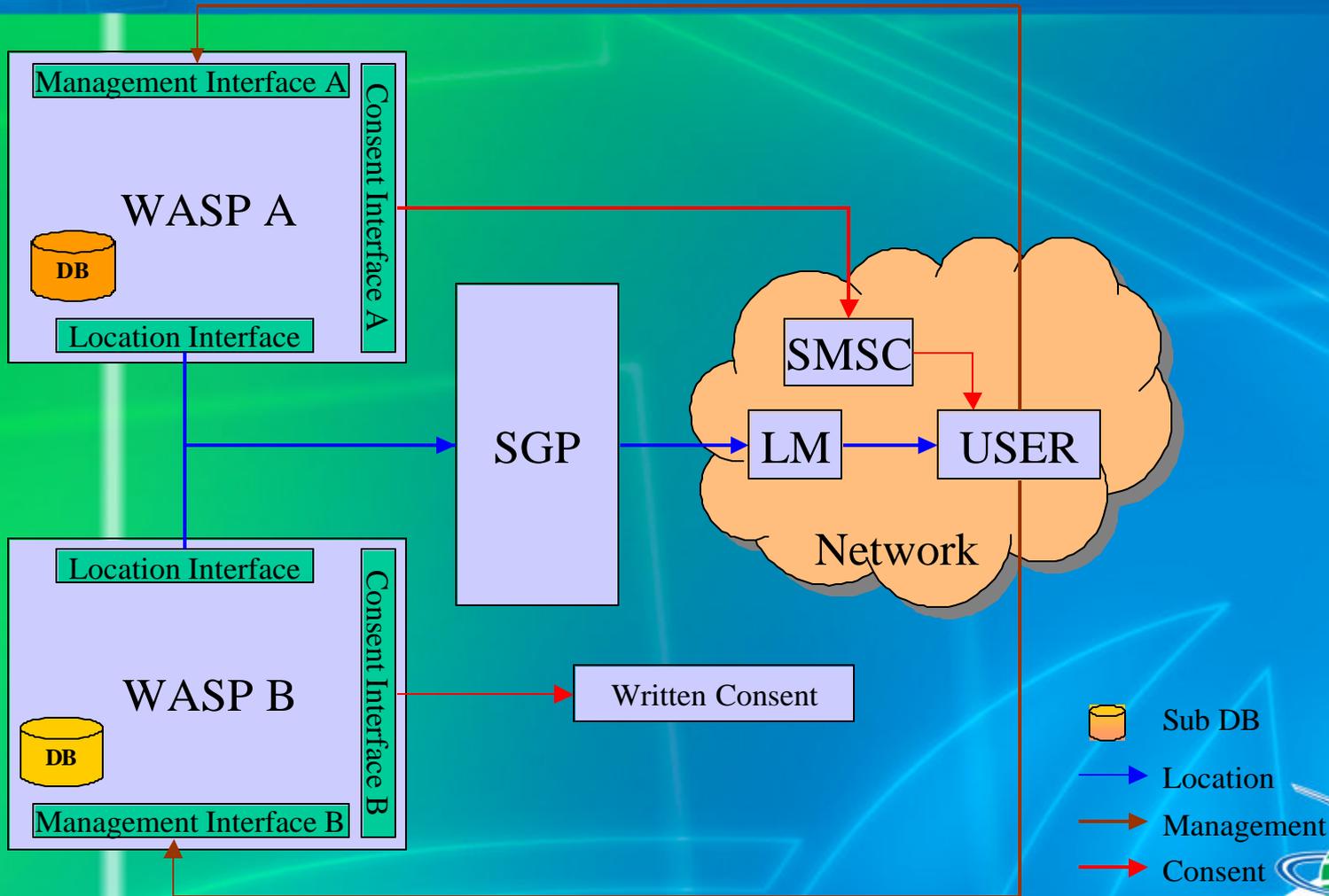
# *Between LIFF and OMA*

- Planning and Implementation between LIFF and OMA.
- Easy to implement interface needed.
- Interface had to be flexible/extensible but close to a possible standard
- Decision to use Parlay X taken.
- Supplementary information in headers
  - Cell Name
  - Radius of uncertainty
  - ...
- Emulators for WASPS.

# Three Phase Privacy Approach

1. Manual control mechanisms - *Consent responsibility lies with the WASP*
2. Automatic control mechanisms - *Consent responsibility lies with the Operator*
3. Consent settings part of larger subscriber profile.
  - Single Sign on
  - Multi service profiling

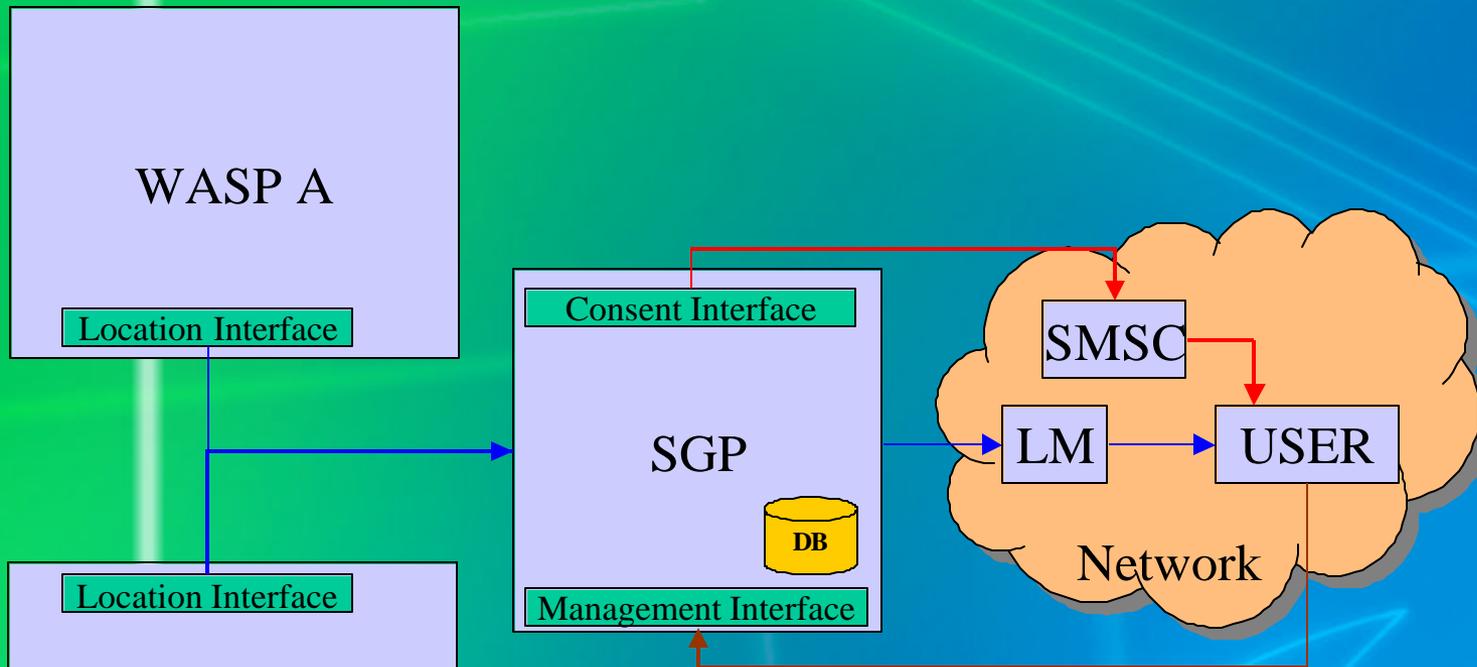
# Phase 1



# Phase 1

- Advantages
  - Minimal development effort
  - No migration needed for existing services
- Disadvantages
  - Vodacom has manual, auditable control over WASP consent certificates
  - Medium protection for Vodacom customers from unethical WASP's
  - Vodacom brand may be damaged by bad publicity if location information is supplied without consent of subscriber
  - No single interface for subscriber management

# Phase 2



-  Master DB
-  Location
-  Management
-  Consent

# Phase 2

- Advantages
  - Vodacom controls the subscriber consent certificates
  - WASP's cannot obtain location information without a subscriber consent certificate in the S.A.L
  - Best model in terms of Vodacom's liability
  - Single interface for subscriber profiles
- Disadvantages
  - Medium to large development effort
  - Migration of existing services required
  - Different WASP specific requirements have to be met

# Phase 3

- Multi service profiling
  - Homogeneous profile of subscriber, whatever the service
  - Consistent subscriber settings, whatever the service
  - Easy service creation
  - Quick service interaction
- Single Sign-on
- Industry regulations
  - Subscriber registration
    - Adult Content supervision

# Types of Services

- Vehicle / Asset tracking
- Panic Buttons
- Network Quality
- Area Marketing
- Work Zone tariffing
- Taxis
- Location Gaming
- Emergency Roadside assistance

# Look4me

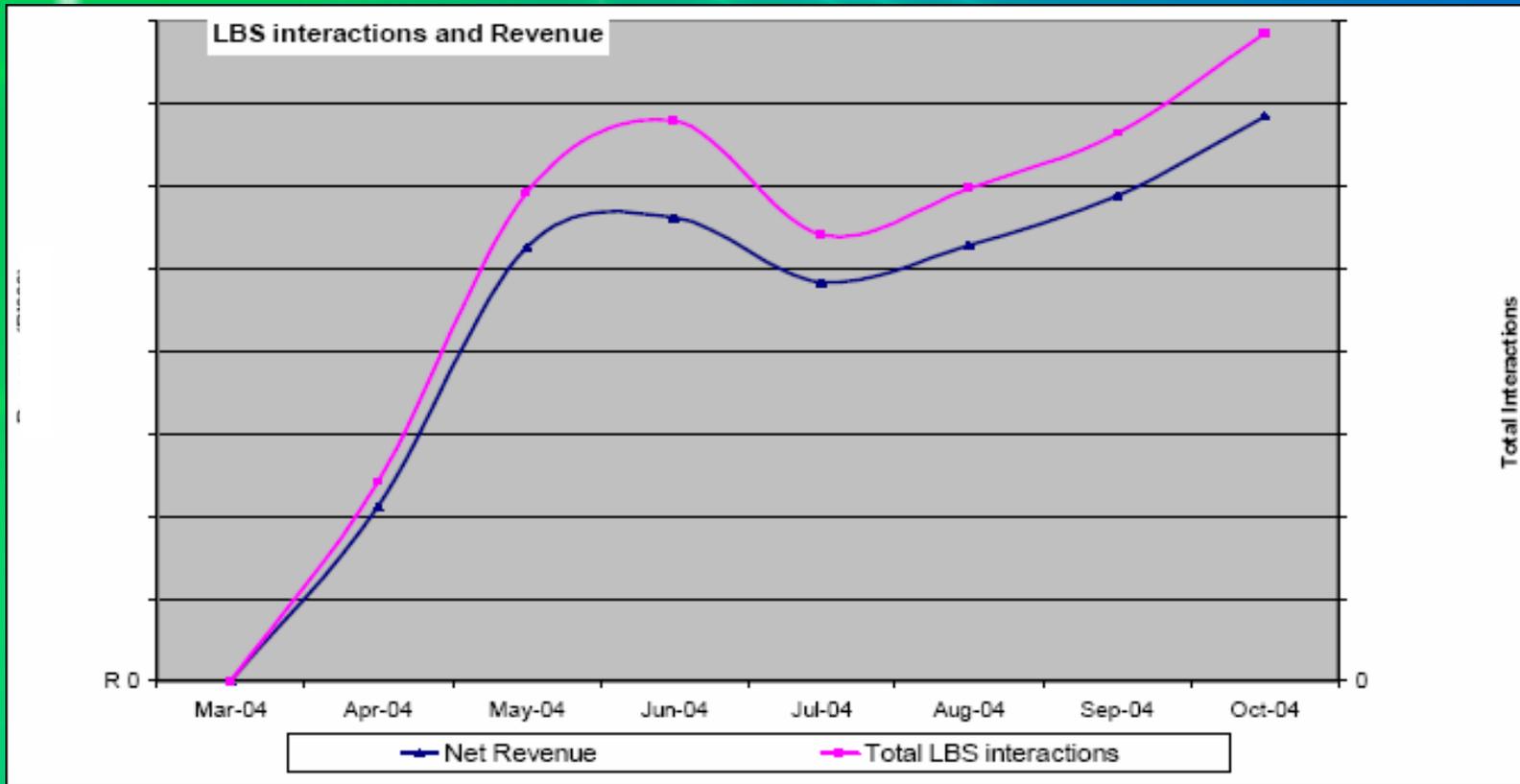
- Tracking service that allows Vodacom cellphone users to track other Vodacom subscribers.
- No hardware or software upgrades required.
- Handset independent
- User interfaces:
  - USSD
  - SMS
  - WAP
  - MMS
  - Internet
- 42,000 subscribers after 9 months.
- 135,000 locatable cellphones users.



# Vodacom's Benefit Aim

- Increased data usage and awareness
- Increased revenues from data bearer usage (SMS, USSD, GPRS)
- Increased revenues from location requests (ROI)
- Reduced churn
- Sweat the Assets

# Current Revenue Snapshot



# What does your Operator Want from YOU?!?

- J.I.T standards
- Remember the PAST!
- Flexibility
  - Privacy
  - Roaming
- GIS
- Show us the Future