



# Convergencia de servicios de Siguiete Generacion Torreon, Coah. Marzo 2007



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# Market Drivers in Mobile

## New Business Models Voice/Video/Data



## Demand For Mobility Service Convergence



## Mobile Operators in the Connected Home & Enterprise



**Access Anytime, Anywhere over Any Device**

## Changing Competition



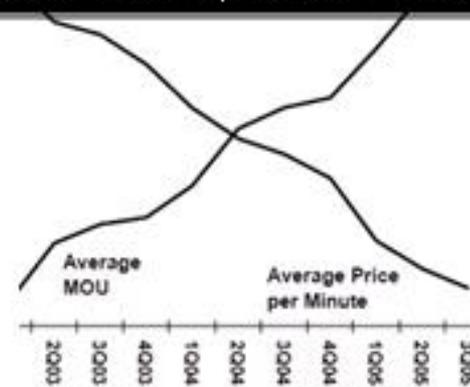
**Forbes**

**Sprint Nextel to Join Forces  
with Cable Giants**

## Growth of Data and 3G



## More Traffic, Lower Price



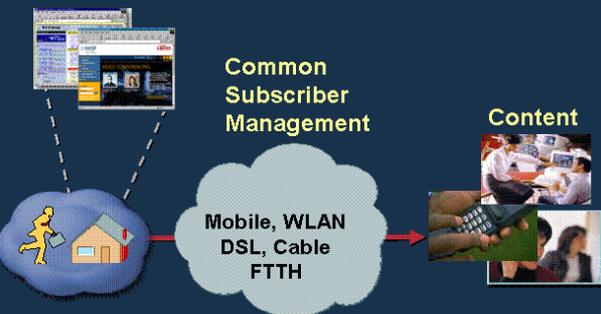
Morgan Stanley Research

# New Generation Network Layers



## APPLICATION CONVERGENCE

**Applications**  
**Increased Revenue**  
 Consumer VoIP  
 Enterprise Seamless Mobility  
 Mobile Data Access



## SERVICE CONVERGENCE

### Service Continuity Across Access

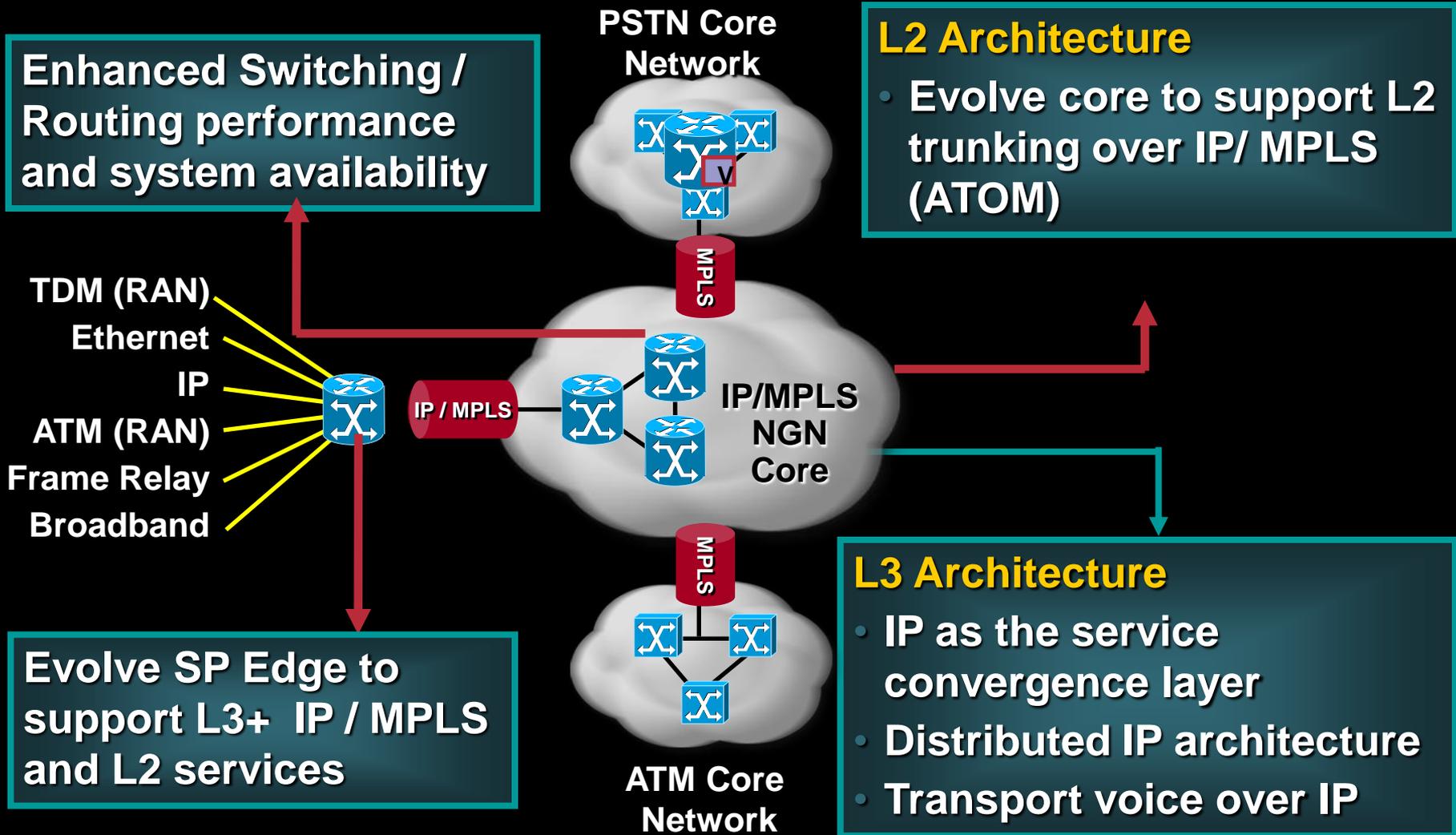
CMX Service Exchange  
 Mobile IP  
 ITP Dynamicsoft



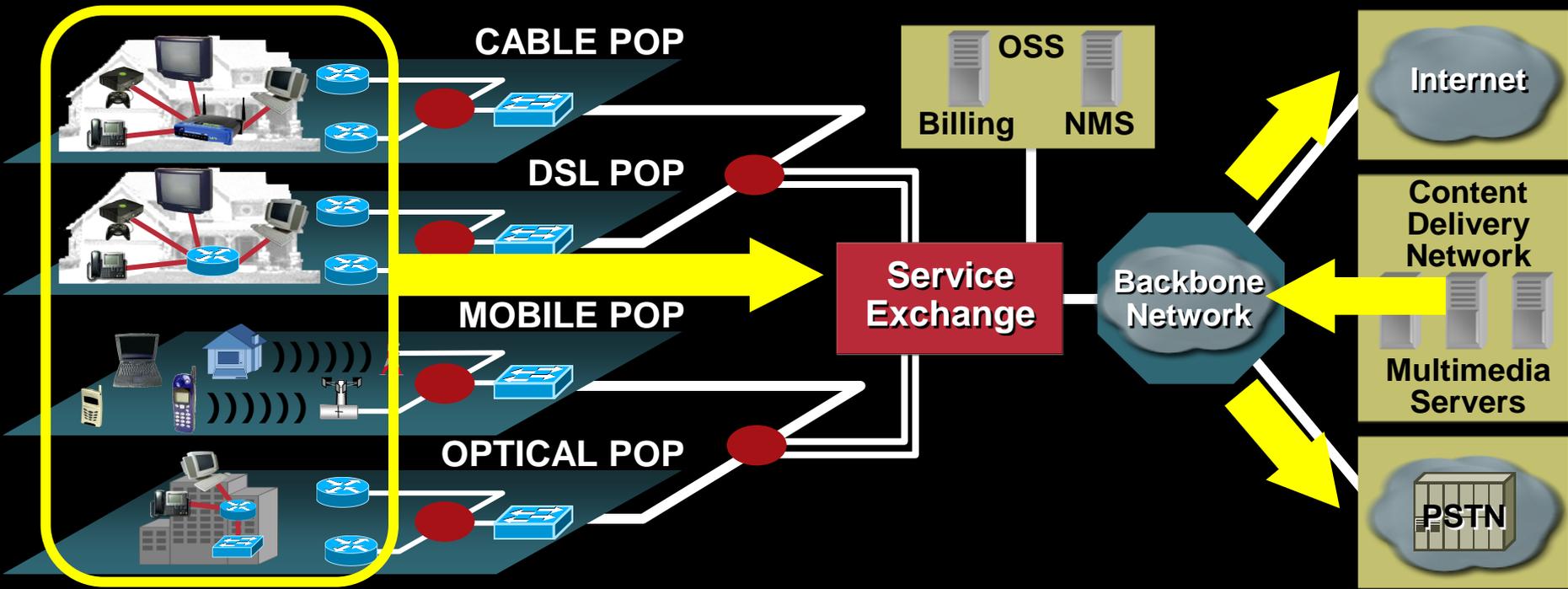
## NETWORK CONVERGENCE

**OPEX/CAPEX**  
**Efficiencies**  
 IP/MPLS Core RAN-O  
 Signalling & Media Gateways  
 AToM Pseudo Wires  
 WLAN AP

# Network Convergence



# Service Convergence



## BARRIERS TO HARNESSING MORE PROFIT:

- Insufficient information yields an uncertain revenue model
- Network congestion and contention for scarce bandwidth degrades subscriber experience, leading to increased churn

## SERVICE EXCHANGE ENABLES:

- Application and subscriber-level control
- Usage reporting and billing
- Programmability for any current/future customer need
- Mobility management

# Application Convergence



**AT WORK, AT HOME, ON THE ROAD**

# Seamless Mobility

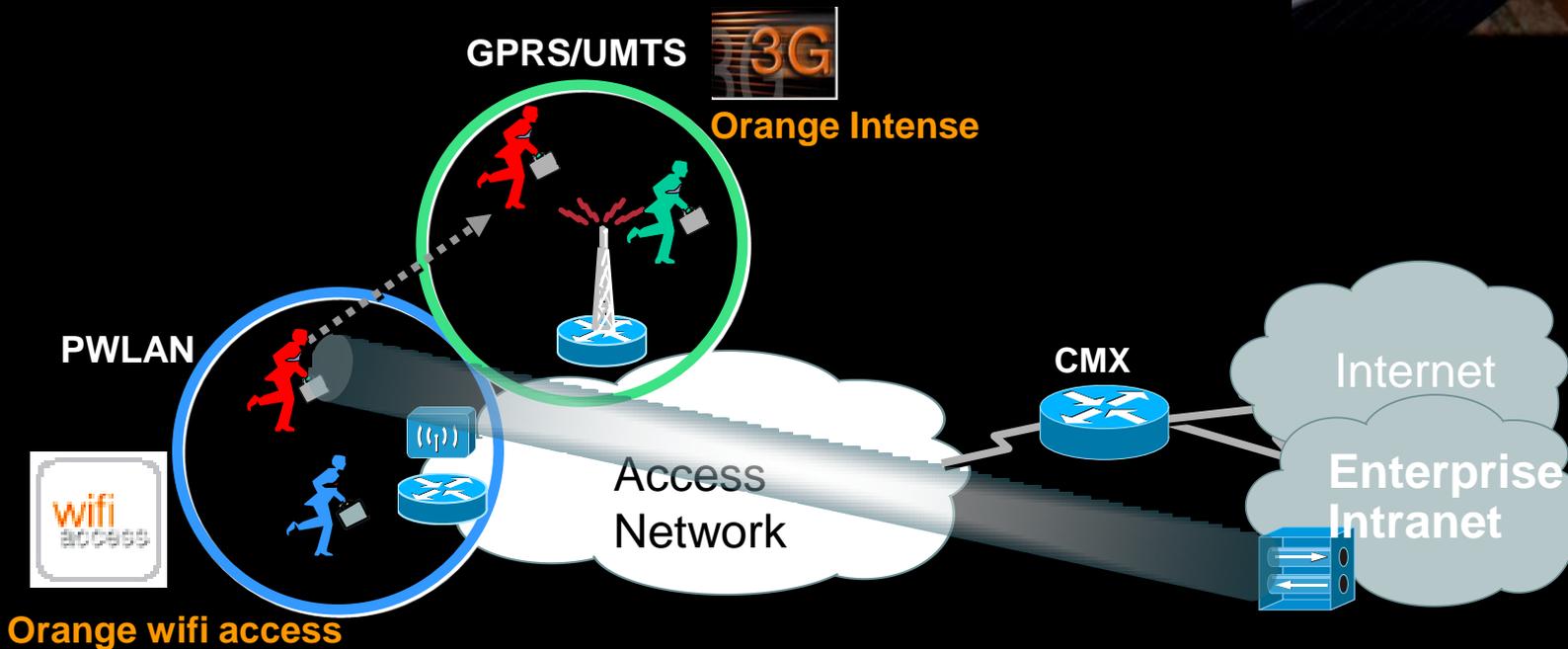


# Service convergence Mobile IP

- Any network access
- VPN Access to all corporate applications

Regardless of the bearer (GPRS, UMTS,  
Wifi...)

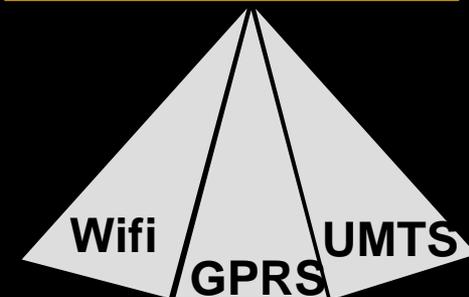
With Seamless Mobility



# Service convergence

## Mobile IP

- Links with Business Everywhere offering
- User has triple access PC Card that allows GPRS, EVDO, UMTS and WLAN access
- Mobile IP client stack and dashboard handle seamless mobility on the client side
- Demoed at the 3GSM WC with Orange



# Service convergence

## *Business Everywhere*

- GPRS / UMTS card (Wifi with Option)
- No SIM authentication with Wifi
- No seamless handover between bearers
- Iusacell CDMA2K EVDO (BAM)



*Pensamos en ti*

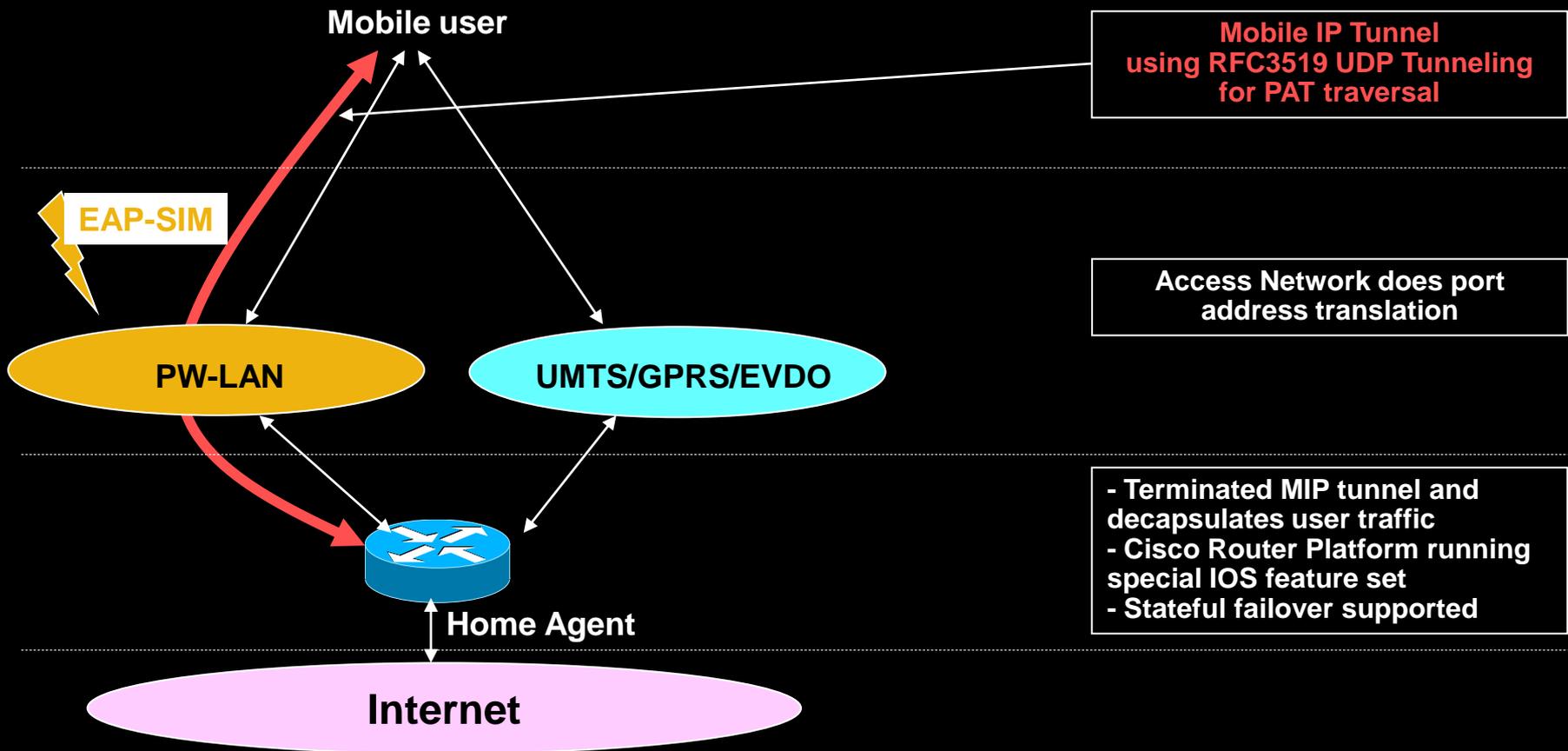
# Mobile Unlimited – a high level view



**Co-located Care of Address is either:**

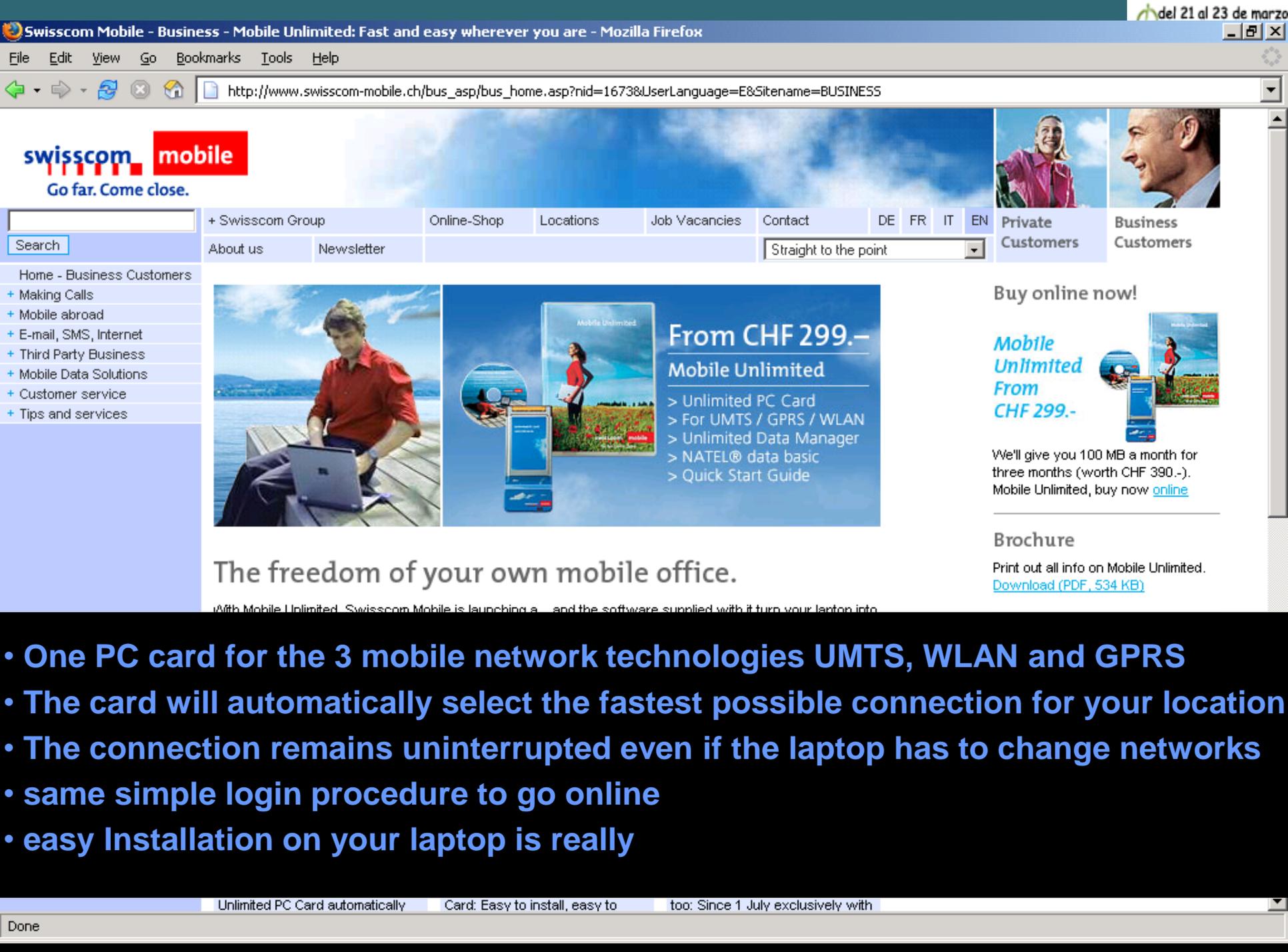
Dynamic IP address received in PWLAN hotspot or

Dynamic IP address received when registered in GPRS/UMTS network



# Swisscom example

- Clients must manually connect to different access networks which is **not easy**. The service should make the connection a default behaviour, **users should always be connected**.
- Users should always be **connected to the best available network** for applications performance reasons.
- **Users should not worry every minute on the cost of using the service**
- Increase **data traffic** (revenues) by improving end user experience
- Increase **postpaid** users vs prepaid users ratio

- Home - Business Customers
- + Making Calls
- + Mobile abroad
- + E-mail, SMS, Internet
- + Third Party Business
- + Mobile Data Solutions
- + Customer service
- + Tips and services



**From CHF 299.-**  
**Mobile Unlimited**

- > Unlimited PC Card
- > For UMTS / GPRS / WLAN
- > Unlimited Data Manager
- > NATEL® data basic
- > Quick Start Guide

**Buy online now!**

*Mobile Unlimited*  
**From CHF 299.-**

We'll give you 100 MB a month for three months (worth CHF 390.-). Mobile Unlimited, buy now [online](#)

The freedom of your own mobile office.

With Mobile Unlimited, Swisscom Mobile is launching a... and the software supplied with it turn your laptop into

- One PC card for the 3 mobile network technologies UMTS, WLAN and GPRS
- The card will automatically select the fastest possible connection for your location
- The connection remains uninterrupted even if the laptop has to change networks
- same simple login procedure to go online
- easy Installation on your laptop is really

# Unlimited Data Manager



swisscom mobile

**Unlimited Data Manager** Statut général

**i?** Info

**@** E-mail

**WWW** WWW

**VPN** VPN

**Configuration**

Statut

Utilisation

Mises à jour

Hotspots

Aide

**Déconnecter**

UMTS

WLAN

**Général** Liasons

Opérateur réseau: SWISS GSM

Liason active: UMTS

Seamless Handover: Activé

Durée de connexion: 20 sec.

Volume de données: down 0 B, up 0 B

Unlimited Pack: 40 MB

0 8 16 24 32 40 MB

swisscom mobile

**Unlimited Data Manager**

**i?** Info

**@** E-mail

**WWW** WWW

**VPN** VPN

**Configuration**

**Initialise**

UMTS

WLAN

VPN

**Configuration**

**Déconnecter**

UMTS

WLAN

Mises à jour

Hotspots

Aide

0.6  
0.4  
0.2  
A B O N D J F M A M J J

Mois

Valleur indicative. Les chiffres de tarification de Swisscom Mobile ne sont applicables que pour la tarification des mois.

# VoWLAN Architecture



# Cisco SP Business Voice Solution

## Enabling a Portfolio of Business Voice Services



Service  
Provider  
Services

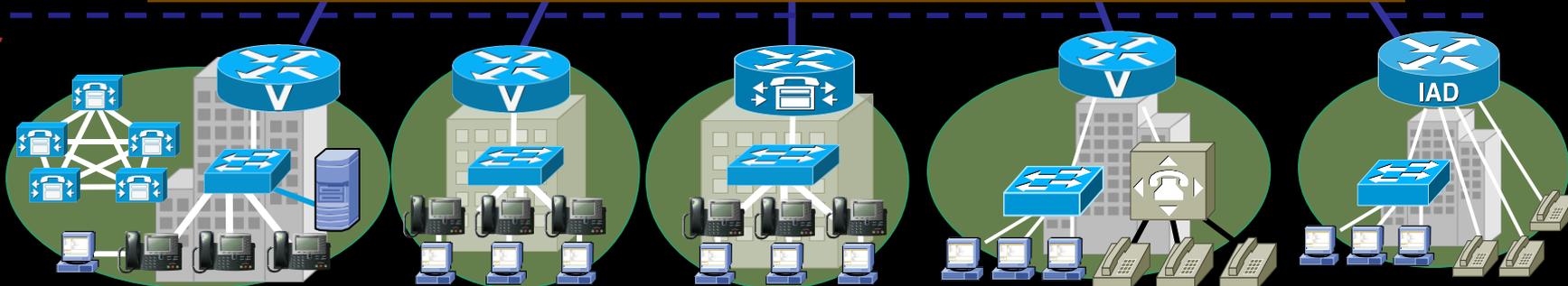


Remote Network Management and Operations



**SP Business Voice Infrastructure**

Customer  
Options



Managed Cisco  
CallManager  
(CCM)

Hosted Cisco  
CallManager  
(w/SRST failover)

Managed Cisco  
CallManager  
Express (CCME)  
<120 seats

Managed VoIP GW  
with  
TDM PBX/KTS

Managed IAD w/  
Analog Phones

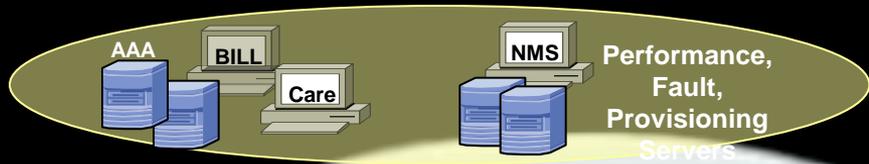
# Cisco SP Business Voice Solution

## A Distributed Architecture for Managed/Hosted I



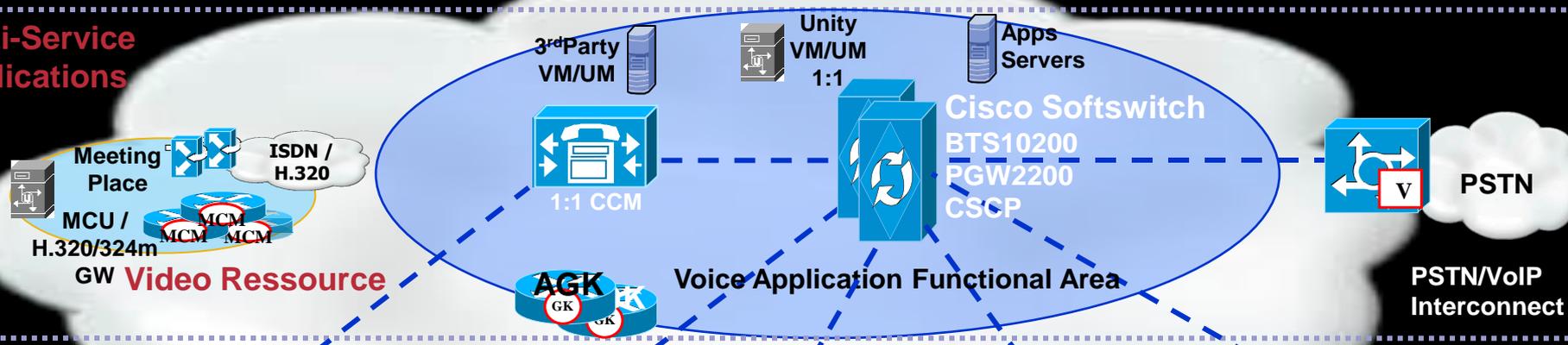
del 21 al 23 de marzo

Operations and Management

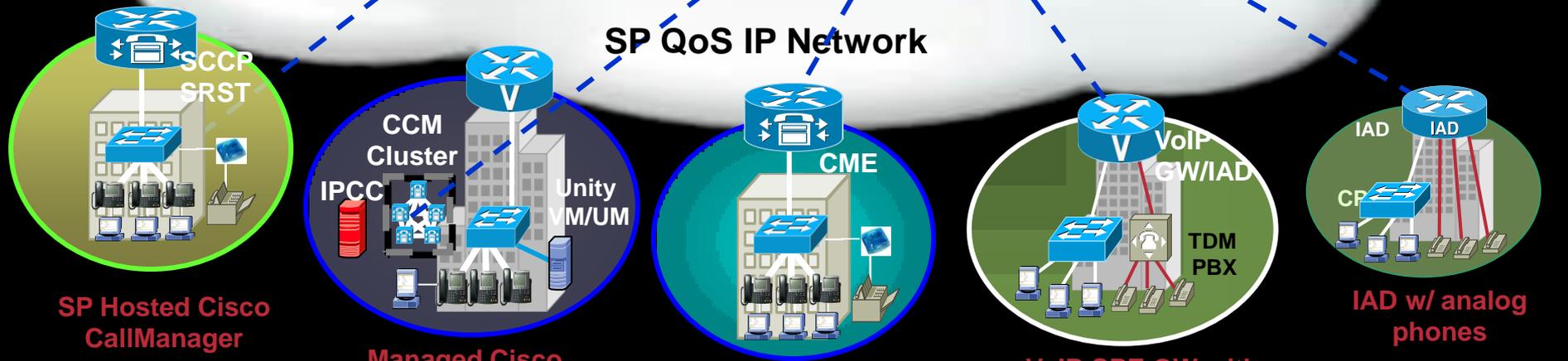


Cisco SP Business Voice Solution Reference Architecture

Multi-Service Applications



SP QoS IP Network



End Customer Deployment Options

SP Hosted Cisco CallManager

Managed Cisco CallManager

Managed CallManager Express

VoIP CPE GW with TDM PBX

IAD w/ analog phones

# Instant Wireless Office Premises Solutions



Printing



SIP Phone



Switching



DSL/SIP Voice/Wifi Gateway



SIP Wifi Phone



Storage



SIP ATA

# SIP Voice Example (Vonage)

Home | Products & Services | Availability | Features | International Rates | Sign Up | Help      Search:

**\$ 24<sup>99</sup>** **Premium Unlimited**  
Calls to anywhere in the US & Canada

**\$ 14<sup>99</sup>** **Basic 500**  
500 minutes anywhere in the US & Canada

**\$ 49<sup>99</sup>** **Small Business Unlimited**  
Calls to anywhere in the US & Canada

**\$ 39<sup>99</sup>** **Small Business Basic**  
1500 local & long distance minutes anywhere in the US & Canada

 **Sign Up**

## Save Lots of Money on your phone service.

Use our #1 Voice over IP network and get the most out of your phone and broadband Internet service.

[What's Voice over IP? ▶](#)

[What's broadband? ▶](#)



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**Great International Rates ▶**

Hong Kong	3¢ /min	
London	3¢ /min	
Canada	Waived	
Spain	4¢ /min	

[See Country Codes and More Great Rates!](#)

**Check Out These Great Features!**

**Vonage Voicemail**  
Now voicemail goes beyond your phone.

Check your voicemail in 3 ways:

- **Phone**
- **Online**
- **Email**



**To Place an Order Call**  
[1-VONAGE-HELP](#)  
 or [Click Here to Sign Up Online](#)

**Already Bought Your Box?**  
[RETAIL ACTIVATION](#)  
 Click Here to Activate

**Vonage in the News**

 **8.16.2004:** Startup is biggest in this business. It even beat the landline: "Clearer, louder, no static."

 **What's Hot? ▶**  
**Woo Hoo!**  
 Check out the latest Vonage



# Dual Mode Handsets and Service Convergence



# Abstract Components of Service Convergence



- **Service “Roaming”**

New multimedia services shared across multiple devices, fixed and mobile

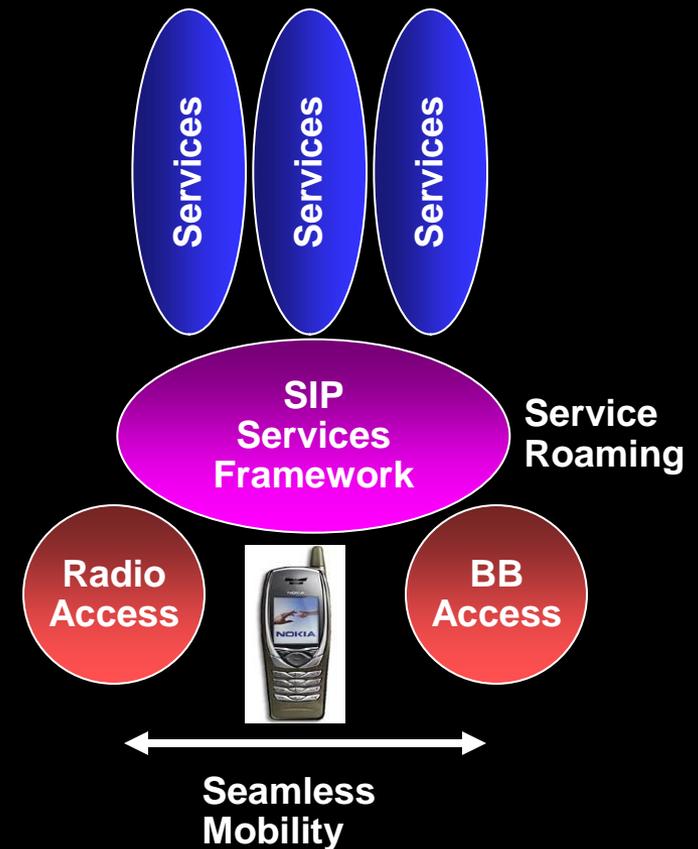
Single Device Roaming between access technologies. Not seamless

Single Identity and/or Multiple shared Identities

- **Seamless Mobility : “Handoff”**

Single Device Handover between access technologies

- **Voice only / Data Only / Voice and Data**



# Options for Service Roaming & Seamless Mobility



Layer 7  
IPT/SIP/IMS

Common Applications that run over any IP access network and peering to TDM access networks

Layer 3  
Mobile IP

Maintains IP connectivity seamlessly between multiple IP access networks

Layer 2  
UMA

Bridges GSM TDM voice, SMS & GPRS IP Data with unlicensed IP access networks

## •Service Roaming

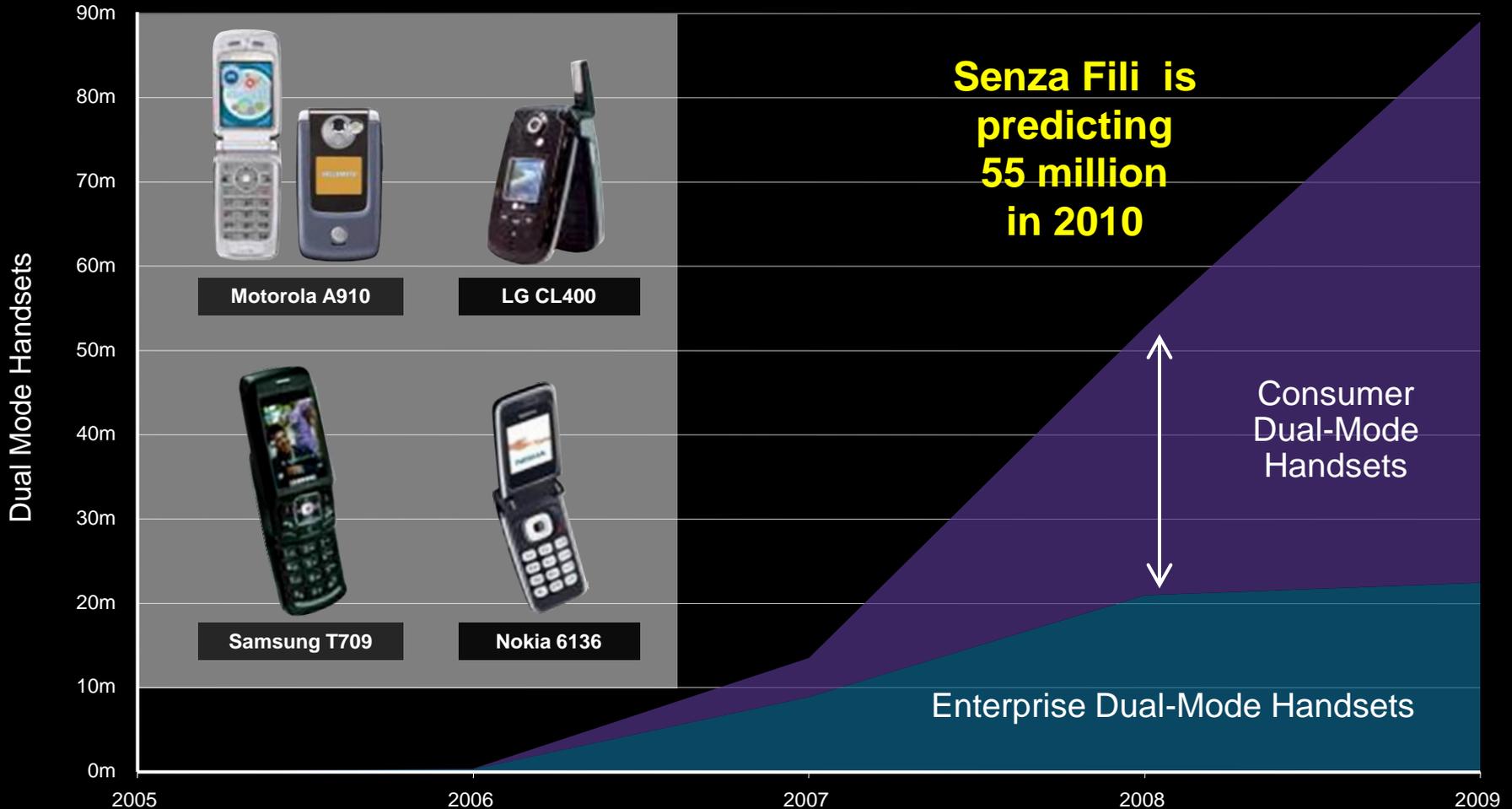
- IPT/SIP/IMS

## •Seamless Mobility : Fixed<>Mobile

- UMA : Voice and Data now
- Mobile IP : Data now, Voice future
- IPT SIP/IMS : Data future, Voice future

# If You Build It.... They Will Come Dual-Mode Phones Already Under \$200 USD

< \$200 Handsets launching for CY06 summer trials:



# EVDO Offering in Mexico



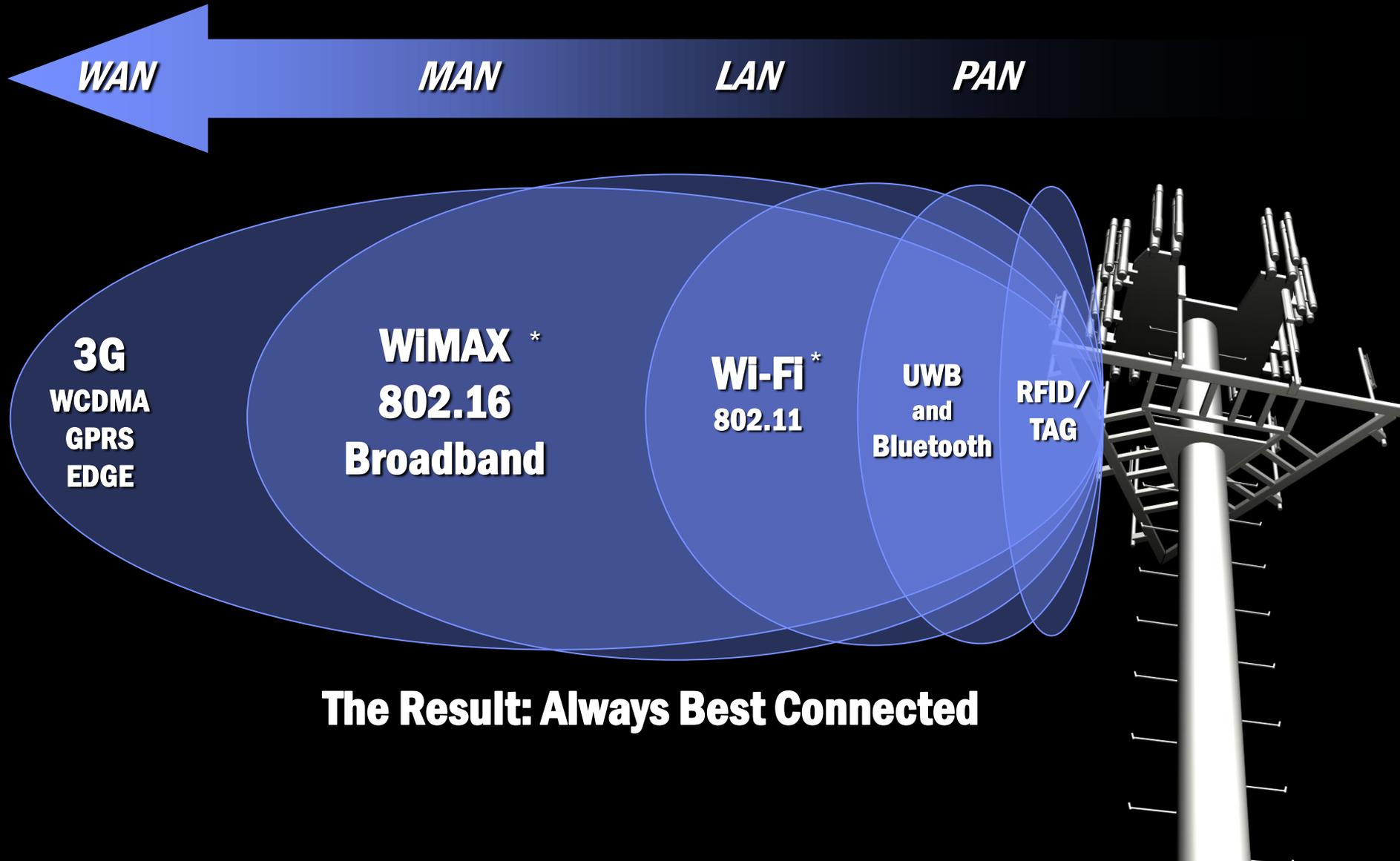
Tarjeta **BAM**  
con **1 mes**  
de servicio incluido

Conoce la promoción...

# Industry Radio Options

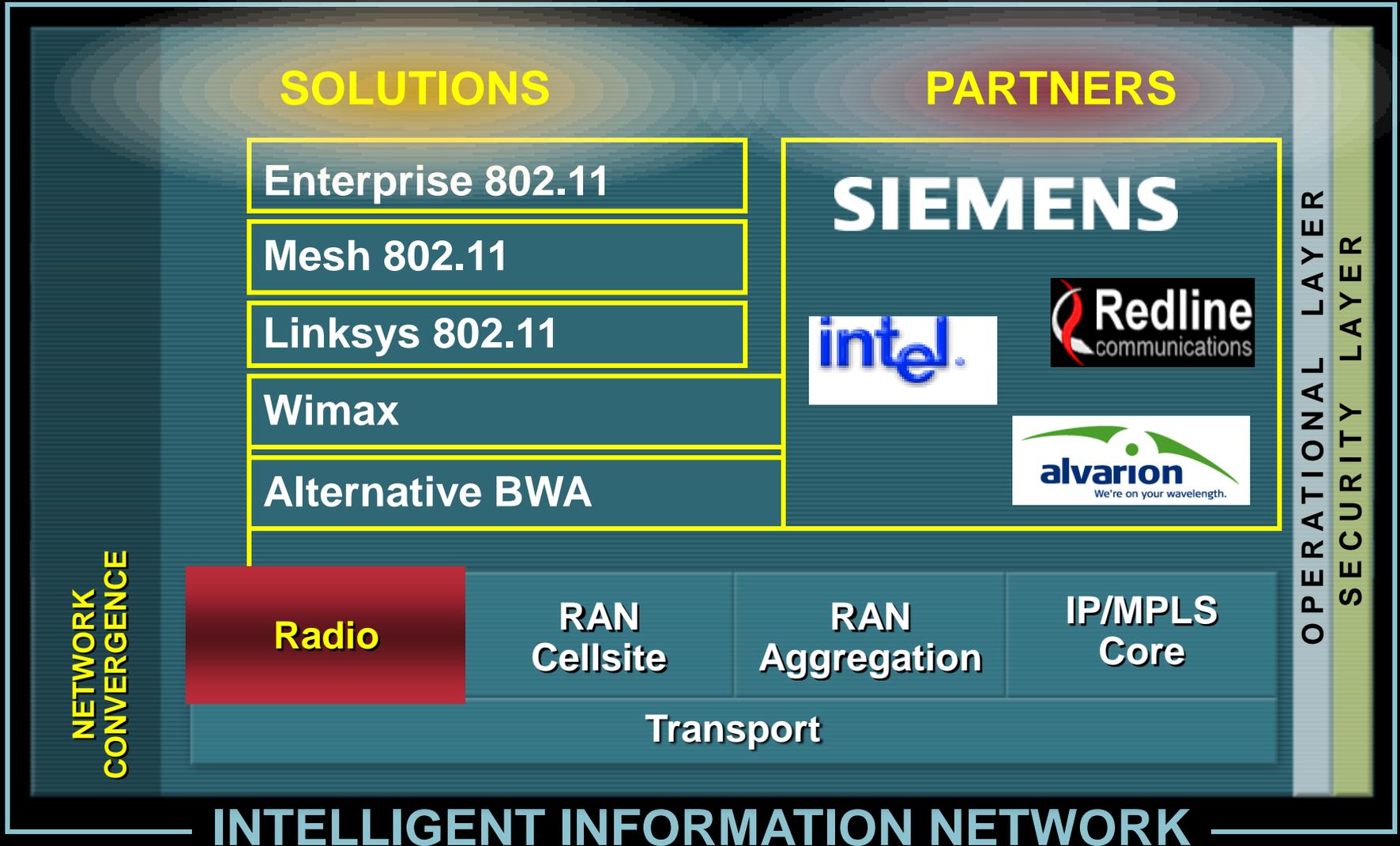


# WIRELESS NETWORKS WILL CO-EXIST



# Mobility IP NGN Architecture

## Radio Solutions



# Why SPs Want Converged Commercial Data Entry into New Markets w/New Revenue Stream



## Work Locations

Customer Site



Exhibition



Emergency



Construction Site



Office

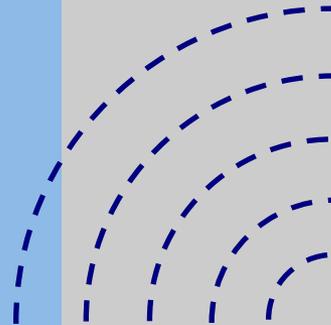


Home



## Connectivity

WLAN  
Fronthaul



3G/GPRS  
Backhaul



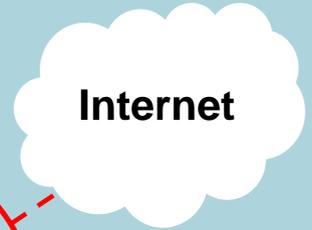
Littlebox

3G/GPRS  
Network



## Information

Internet



Corporate  
Network



# What about IMS?



# What Is IMS?

The **IP Multimedia Subsystem**  
as defined by 3GPP release 5  
for wireless networks

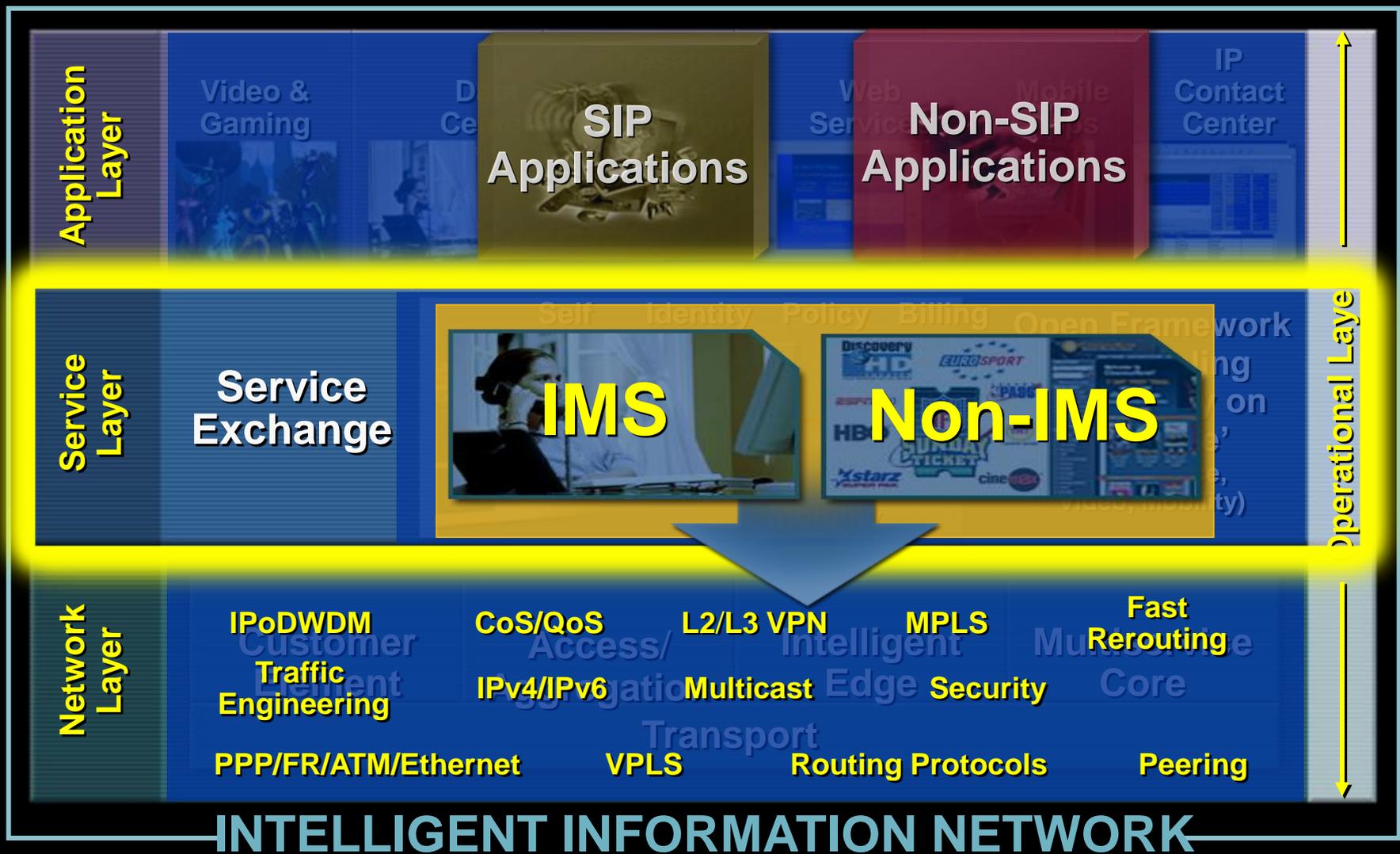
3GPP2  
MMD

ETSI  
TISPAN

Packet  
Cable 2.0

**IMS is a SIP Service  
Framework**

# Service Control Convergence



# Service Exchange For Both Businesses and Consumers



## IMS Applications

Push to Talk

Buddy List

Click to Dial

Location based Info services

Presence-Based Video  
Conferencing

Streaming Audio/Video

Dual Mode Telephony

## Non-IMS Applications

IPTV

P2P Services

Video on Demand

Gaming

Email

VoIP

Internet

Managed Security

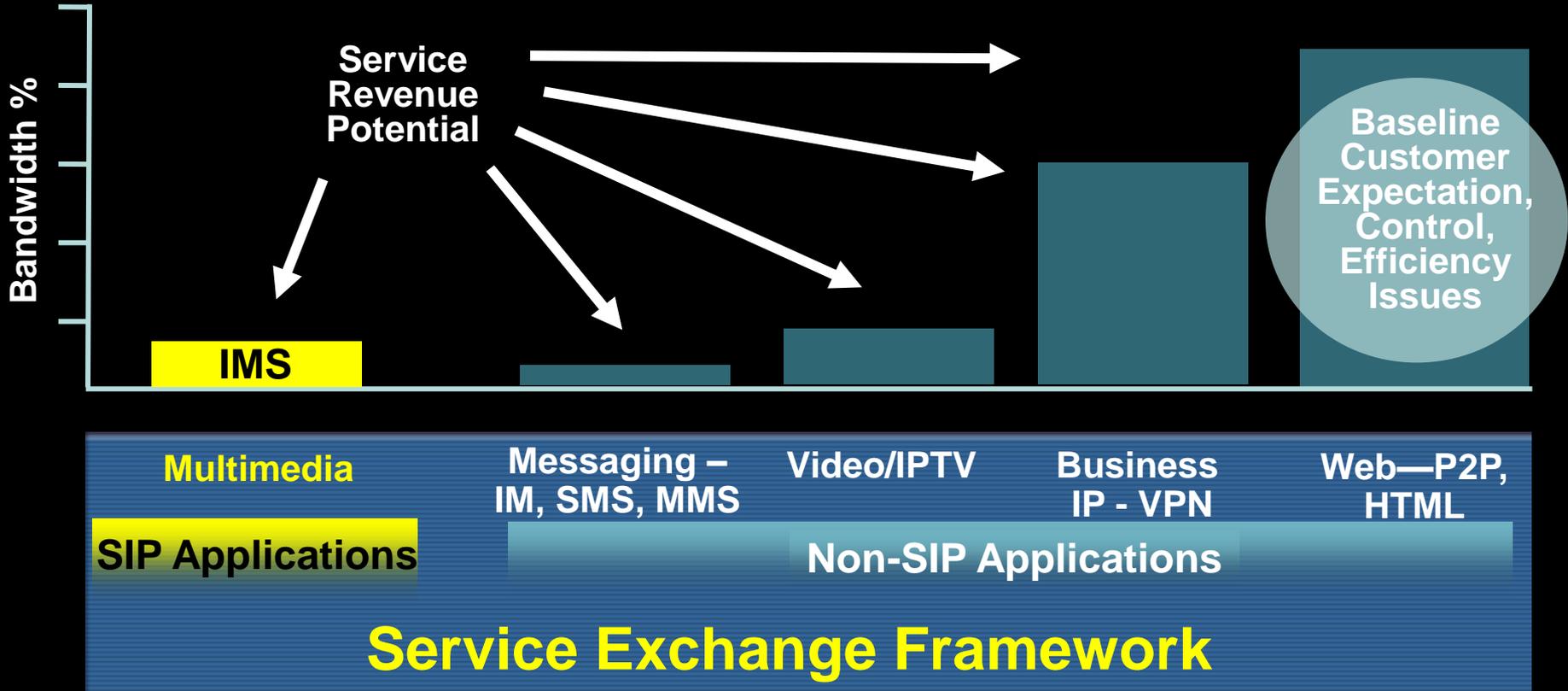
SMS/MMS

Skype

Videoconferencing

# Realistic Traffic Mix

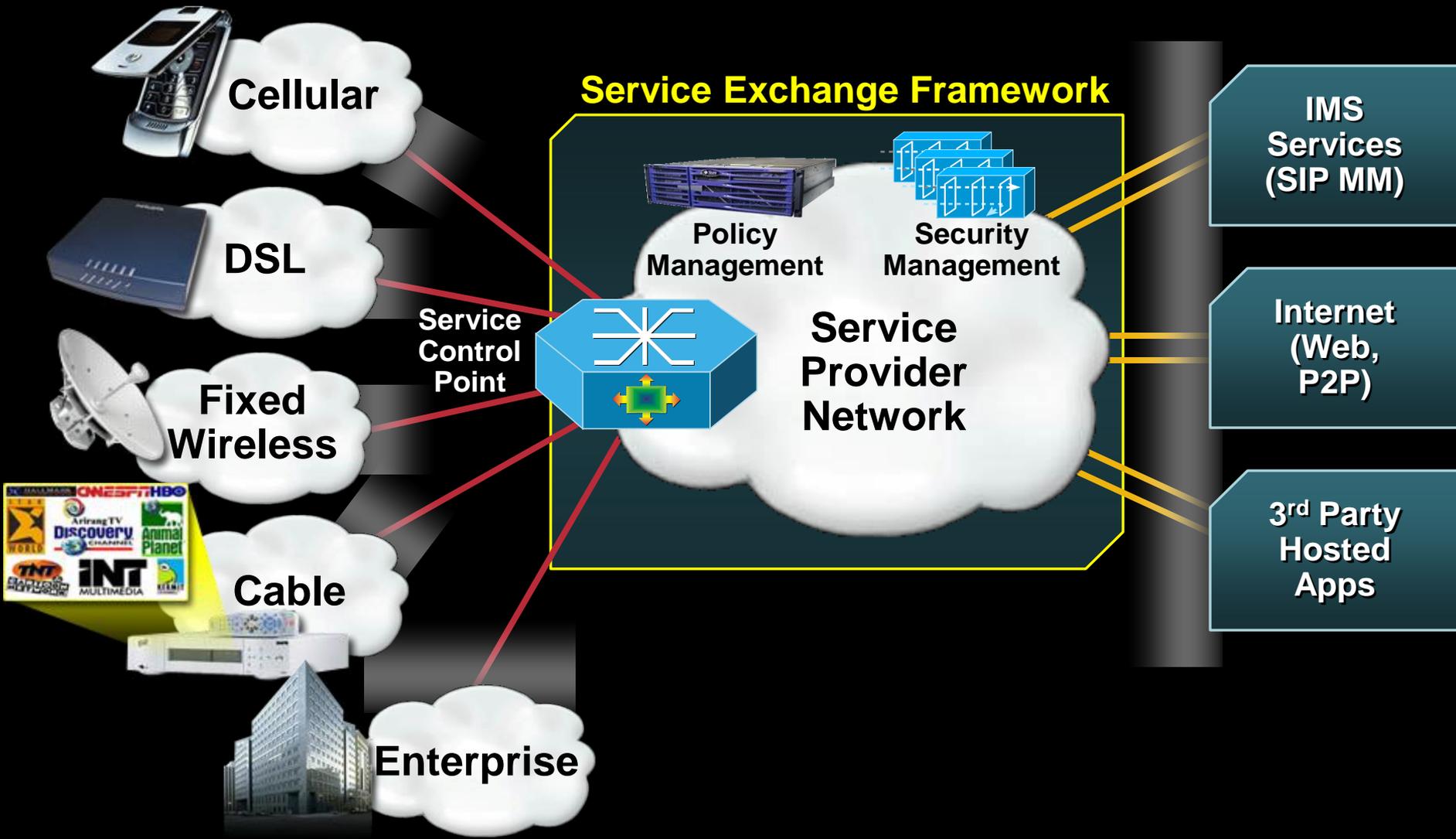
## Extending Control Beyond SIP Applications



# Conclusions

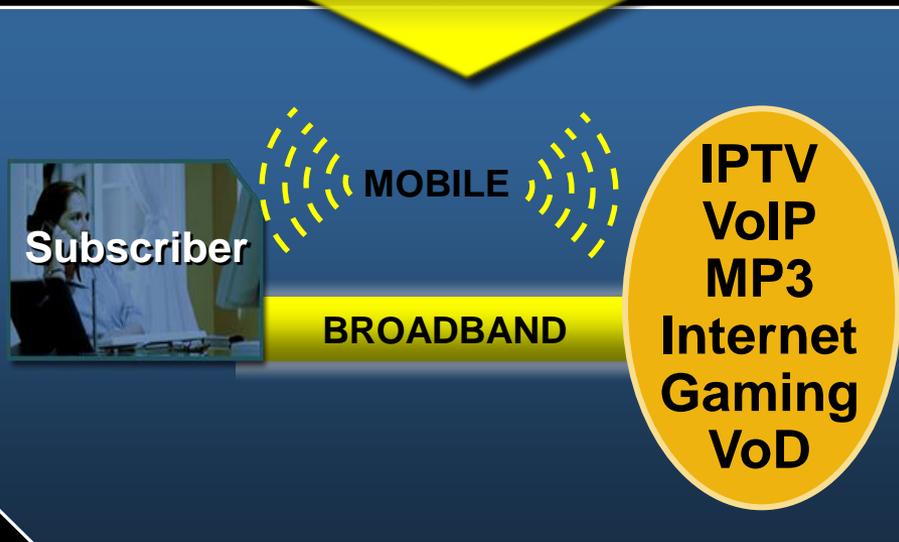
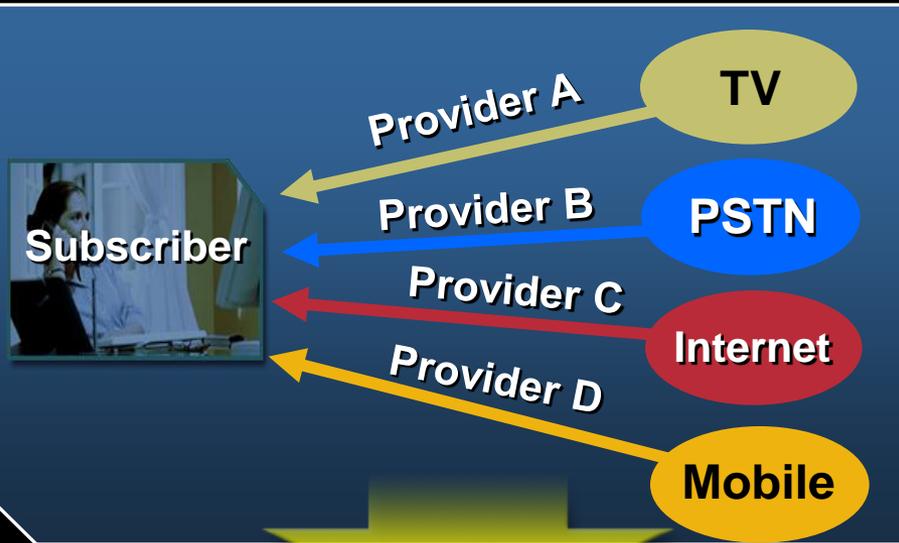


# Service Exchange Framework Bringing Together Applications & Accesses



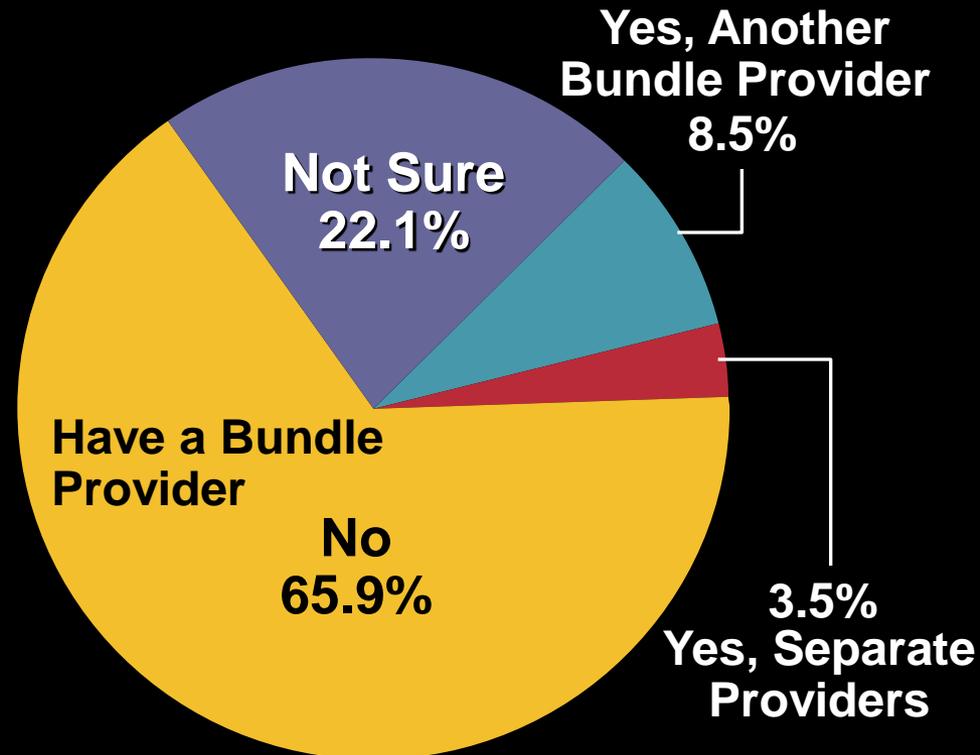
# Why SPs Want Converged Services

## Bundling Brings Stickiness for Consumer



### US Bundled Churn Rates

% Planning to Switch Bundle Providers in the Next 12 Months



Source: IDC Consumer Survey, 2005

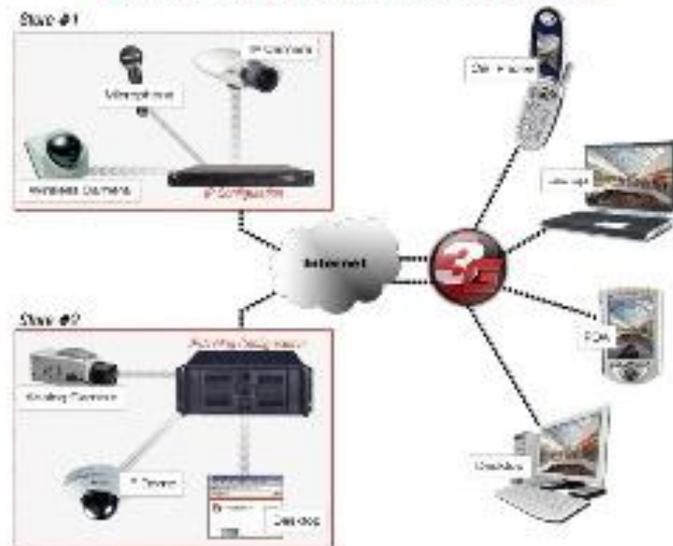
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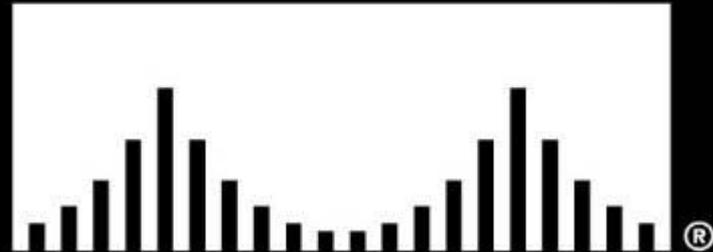


# lusaCam

Diagrama General del Funcionamiento y Conexión



# CISCO SYSTEMS



**Mobility.**

**Innovation powered by Cisco**