Definition of Fixed Mobile Convergence

Fixed Mobile Convergence:

In a given network configuration, the capabilities that provide services and applications to the end-user irrespective of the fixed or mobile access technologies used and independent of user’s location.

TISPAN ETSI TR 181 011
Market Dynamics for Voice Communications

Enterprise Spend on Wireline Voice is dropping rapidly...

…but over time, Wireless Voice will become two thirds of an Enterprise’s voice budget

Source: Compass Intelligence, 6/2006, Survey of Enterprises with greater than 1,000 employees
Mobility Trends in the Enterprise (large and small)

MoU by Location

- 40% of mobile calls are made from the office
- 40% of mobile users believe using the mobile provides them with greater privacy when in the office
- 50% of all employees are using their mobile phones at their desks
- 55% of users making mobile calls from their desks did so because their mobile contained all their contact numbers
- 30% of employees use their mobile as their primary communications device

Sources: Select call profile analysis, IDC 2006; Forrester 2006
So why don’t I give all my employees a mobile phone and be done with it?

- **Cost** - mobile minutes are more expensive than landline minutes

- **Stranded Assets** – I’ve invested in IP PBXs and IP desk phones and do not want those investments to go to waste

- **Lack of Integration** - My deskbound employees don’t need a mobile phone, but I don’t want two islands of users (desk and mobile)

Fixed Mobile Convergence addresses each of these concerns, but what’s the best way to solve the problem?
FMC addresses “going mobile”

- **Cost** - mobile minutes are more expensive than landline minutes

  A key component of FMC is cost efficiency – many implementations can keep calls “on-net”, saving mobile minutes

- **Stranded Assets** – I’ve invested in IP PBXs and IP desk phones and do not want those investments to go to waste

  FMC is designed to work in tandem with existing infrastructure, in many cases making it more useful

- **Lack of Integration** - My deskbound employees don’t need a mobile phone, but I don’t want two islands of users

  The beauty of FMC is that deskbound, semi-mobile, and mobile employees share the same feature capability and environment
Level Set on FMC for the Enterprise

• FMC ≠ Dual Mode ≠ Cost Savings
  – Several ways to achieve the benefits of FMC without voice over WiFi

• Enterprises Want…
  – Tools to make their employees more efficient, connected, and productive
  – Cost efficiency and predictability…FMC deployments requiring expensive infrastructure build-outs and handsets may not be worth it
  – A path to mobile voice and data integration
Cost Effective
Flexible, reusable
Maintainable, scaleable
Standards-based

Customer focused
Highly available
Reliable, secure
A Common Service Architecture – IMS

Seamless Mobility
Telephony Application
Non-Telephony Application Servers

Common User Profiles
Standard Application Interface
Common 3rd party APIs

OSSB
User Profile
Network Policy Rules

ENUM
CSCF
BGCF

PDF
MRFC
MGC

QoS Support
MRPP
MG

4G
EV-DO
CDMA
PSTN

Telephony Application Servers

Common Back-office Interface
Common Charging Function

OSA-GW

PARLAY
3RD PARTY SERVICES

APPLICATION LAYER
SESSION CONTROL LAYER
ENDPOINT AND MEDIA GATEWAY LAYER

The World of Convergence
October 10, 2007
Sprint ahead
The Sprint FMC Solution – Wireless Integration

Wireless Integration is a *network hosted* solution that enables a Sprint PCS handset to be *seamlessly* integrated into a wireline environment.

Wireless Integration provides:

- **Cost Efficiency** – “on-net” mobile calling for intra-company usage
- **Connectivity** - One phone number for mobile and desk phone
- **Employee Productivity**
  - Seamless, transparent transfer between desk and mobile phone during a call
  - One voicemail inbox using the enterprise platform
  - One feature set for voicemail, conferencing, forwarding, etc.
Equipment Overview – Sprint Wireless Integration

1. Premise PBX (IP or TDM)
2. Media Gateway
3. ISDN PRI
4. DIA or MPLS
5. Media Server
6. Media Gateway
7. Sprint PCS Wireless IP Packet Core

PSTN

Sprint Data Center & IMS Core

Enterprise

WAN Router

IP Phones

ISDN PRI

Voice Mail

Media Gateway

IP Phones

Premise PBX (IP or TDM)

Media Gateway

Media Server

Sprint Data Center & IMS Core

DIA or MPLS

Enterprise

WAN Router

IP Phones

PSTN

Sprint PCS Wireless IP Packet Core
**WI offers true seamless operation AND cost containment**

<table>
<thead>
<tr>
<th>Product Attribute</th>
<th>Sprint Wireless Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of Ports/Trunks on Premises-Based PBX</td>
<td>Efficient. Network-based, all IP service eliminates call &quot;hair-pinning&quot; and PBX port consumption</td>
</tr>
<tr>
<td>Single Voicemail Characteristics</td>
<td>Single VM enabled at all times and is independent of whether the mobile number or desk number is called</td>
</tr>
<tr>
<td>PBX Feature Extension</td>
<td>The &quot;always on&quot; nature of WI makes features available at all times</td>
</tr>
<tr>
<td>Hard-Dollar Cost Savings</td>
<td>In addition to productivity gains, WI offers on-net mobile calling. In other words, intra-enterprise mobile calls do not decrement wireless plan minutes</td>
</tr>
</tbody>
</table>
Conclusion

2007 – Is this the year of the FMC Early Adopter?

Enterprises know they can improve productivity and gain cost efficiencies by integrating mobility

- 30-50% of mobile calls are made within reach of a desk phone
- Individually liable/corporate reimbursed mobile usage is an inefficient way purchasing mobile services

They know they need to address the problem, but not sure how to attack

- VoWLAN gets a lot of the hype, but are the limitations worth the perceived cost savings?

Enterprises are determining the trade-offs and making business case decisions

- Single Mode vs. Dual Mode
- Battery Life/Security Issues
- New Technologies – WiMax, Femto-Cell