



Unified Service Development and Usability of Infrastructure

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From Hardware to Open Services

- **Service logic** originally “hard-wired into the switching machinery”
- **digital switching,**
 - service introduction has to phase the problem of geographical dispersion of exchanges
 - the diversity of vendor technologies
- **IN Model:** separation between the basic call switching functionality, located at local exchanges, and the centrally based service logic combined with the relevant data bases, used for value added service provision. **the service logic was decoupled from the switching fabric itself**

BUT IN has not yielded the expected flourishing of new services,





Internet and Mobile paradigms

innovative applications
 easy creation
 rapid deployment

openness – main strength and weakness

- open interfaces
- accessibility

harmonized and strong set of specifications

intrinsically incorporated features that are considered as intelligent or advanced in the fixed network

The need for **Intelligence** in network service was genuine



The OSA Vision



stick to the
**monolithic
approach**

Legacy
companies:

to join the
revolution by
opening the network
functionality

**as an aggressive way
forward**



OSA's Great Expectations

- **Openness:** Services developed by all
- **Interoperability:** Write once Run Everywhere
- **Vendor Independence:** Programming Interfaces via Standard API's
- **Network Independence:** Same Service over PSTN, GPRS, UTP

from thousands ->
millions of developers

Parlay Over Everything™
Everything Over Parlay



- Developers should Know
- The specific SCE
 - Basic telecommunications structure and terminology
 - Specific Network Implementation Options
 - Business Implications

Who (cares) ?
Why ?
How ?

• **Openness: Services**

• **Interoperability: Write**

• **Vendor Independence**
Interfaces via
Network In

the telecommunication community put **unnecessarily** details ???

80%-20% notion

80%-of the services use
the 20% of the functionality

real services need real switches
mass market services needs
interafing with existing switches

**RE-UASABILITY OF
INFRASTRUCTUER**

Reusability: different levels

- Abstract service Logic reusability
- Automatic code import and export
- Object modules sharing

A "perfect" SCE or
no SCE at all ??



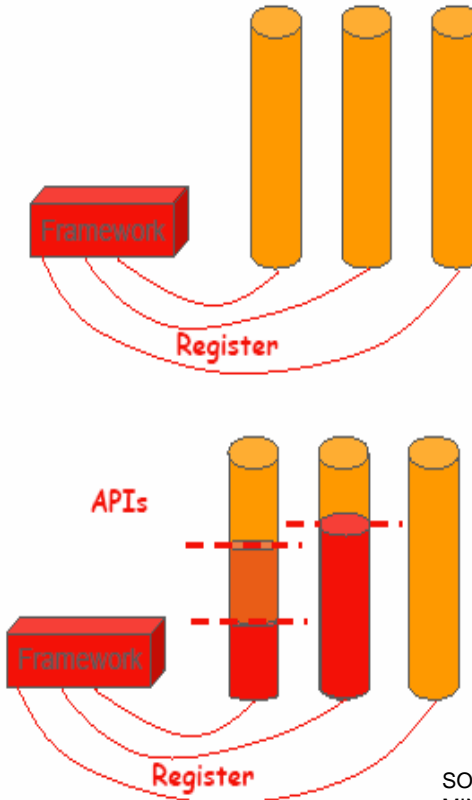
Horizontal or Vertical ??

•Steps for the integration of Vertical Solutions

- Force the Vertical Solution to register on the framework
- Ask for the exposure of One or More internal APIs (usually the Vertical Solutions do have some)
- Expose the APIs for reuse of other applications

•Pay attention that the SCS is a server, a Vertical Solution is not

- Requirements on Parlay:
 - Define a skeleton of SCS that can be used
 - Comprise in the definition all the management aspects
 - Try to encompass new technologies (e.g., those for autonomic servers)

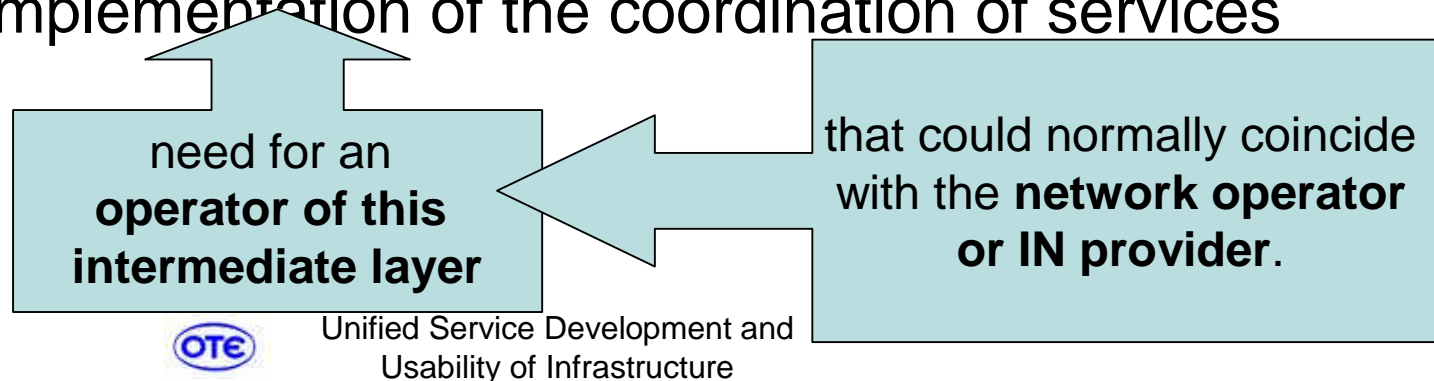


SOURCE: Presentation by R. MINERVA, Telecom Italia



Service Registration and Conflicts

- IN services are outside the network
- OSA enforces this overlay approach
- more than one service based and registered for the same triggering criteria ??
 - merging of the triggering criteria for “friendly” providers
 - manual process of harmonization
 - use of an intermediate layer, as the mechanism for the implementation of the coordination of services



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A Project's Experience: MobileIn

“implementing mechanisms for directly triggering service logic at (third-party) applications servers (instead of depending on the core network switching entities)”



MobileIn Scope and Approach

- *Relieve switching core from service execution responsibilities.*
- *Decouple IN applications from telecom services.*
- *Resolve inter-network IN service interaction outside the network.*
- *Flexibly integrate available intelligent network components*



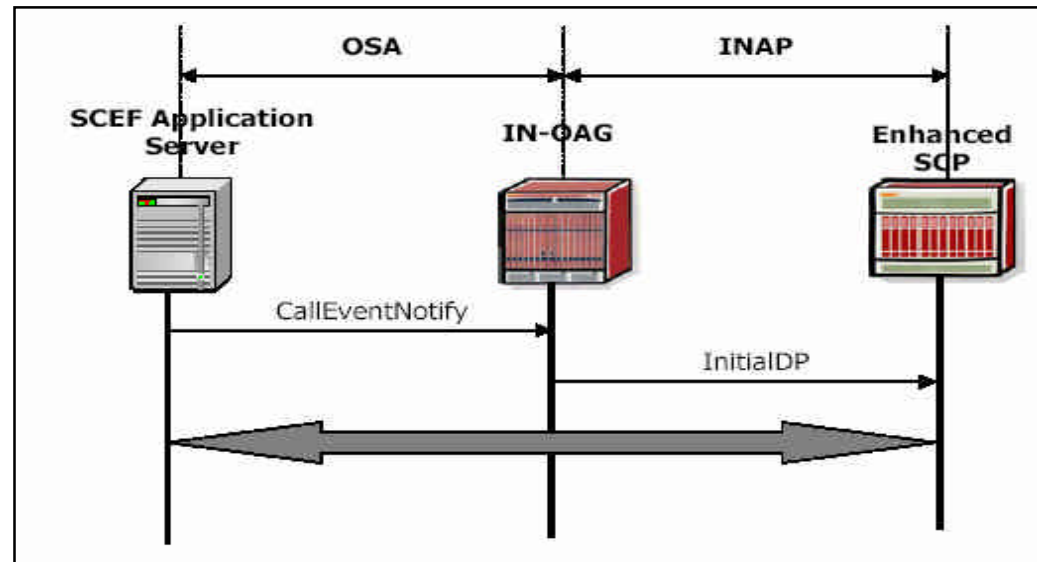
MOBILEIN Services

- Advanced Location-Based Address translation and Call rerouting/distribution Services
- Scenarios involving the use of extended service logic integrated within a "legacy" CAP-enabled gsmSCF platform
- Other scenarios involve the offering of prepaid services to SIP-based users.
- Virtual Calling: The UPT Service – VPN
- Verification of Internet Access
- Control Access: Incoming Call Screening
- Joint IN-SMS televoting



Reusability of IN Infrastructure

replacing, or seconding, the SCP with a Parlay enabled machine that outputs INAP operations





Extensions to the standard IN protocols

- Use of 'legacy' PSTN-domain SCPs for the implementation of location-based service features
- Provision of capabilities for advanced call/session handling through the use of inexpensive mobile-terminal applications
- Use of extended service logic integrated within 'legacy' SCP/gsmSCF platforms for the handling of SIP-initiated sessions



Example: INAP operations extensions

- **InitialDP:** User location information for location-based service triggering, and SIP header information for SIP-aware service triggering.
- **Connect:** a list of contact choices in the Extensions field (“SEQUENCE SIZE (1..numOfChoices) OF ContactAddress”)



Conclusions

- the great value of telephone **is a voice transmitted** via wire (or air).
 - a complicated set of capabilities has been “enabled” over the service, however, after the technicalities of the complicated set-up with translations, discovery etc resulting in a set-up, the voice connection
- Modern trends like OSA/Parlay or IMS are motivated by the vision of opening and unifying the service creation and provision architecture that will enable the proliferation of services, in a way similar to what happened in the Internet communicate
- Services, is not (and probably never be) the killing technology but the **cherry in the cake**.
- They cannot draw a major attention in the industry, so as to produce a massive movement towards the enforcement of the open environment.



Conclusions (what then?)

- OSA goods have not delivered yet
- efforts are continuing
(standardization & implementation) LIKE
- The MobileIN project specified and develop a state-of-the-art open framework (compatible with IMS architecture), that for service creation and execution in multi-domain environments that in conjunction with open, scalable service access points, will realize and demonstrate the developed sophisticated applications in a composite IP-PSTN-PLMN-WLAN environment
- The strength and market impact of the envisaged services emanates from exploiting the full potential of currently dispersed location information, subscriber data, and application logic, that to date, cannot be effectively combined by currently deployed schemes.



Thanks

and comments
questions pls.

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