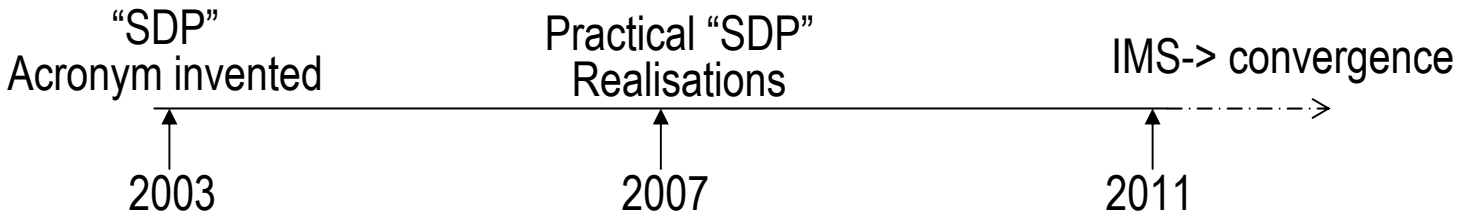

# Future of the SDP

**James Aitken**

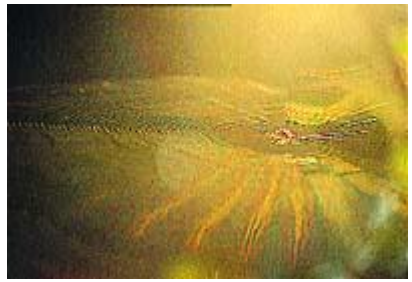
**Aepona**

# Agenda

## Future of the SDP




- **IMS**
  - Convergence implications
- **Telecom Web Services**
- **SOA approach**
  - Policy
  - e.g. Advertising



# A New Telco Business Model is Emerging


- **The "Long Tail" effect has been recognised in internet-based businesses for some time**
  - Accumulative sales value of niche/specialist products exceeds sales value of mainstream products
  - Customers willing to pay more for products that appeal to their specific interests – higher margins
- **Telcos now beginning to apply this concept to content and services**
  - Take advantage of IP-based storage, transport and delivery to achieve this cost-effectively

# Impact of IMS on SDP

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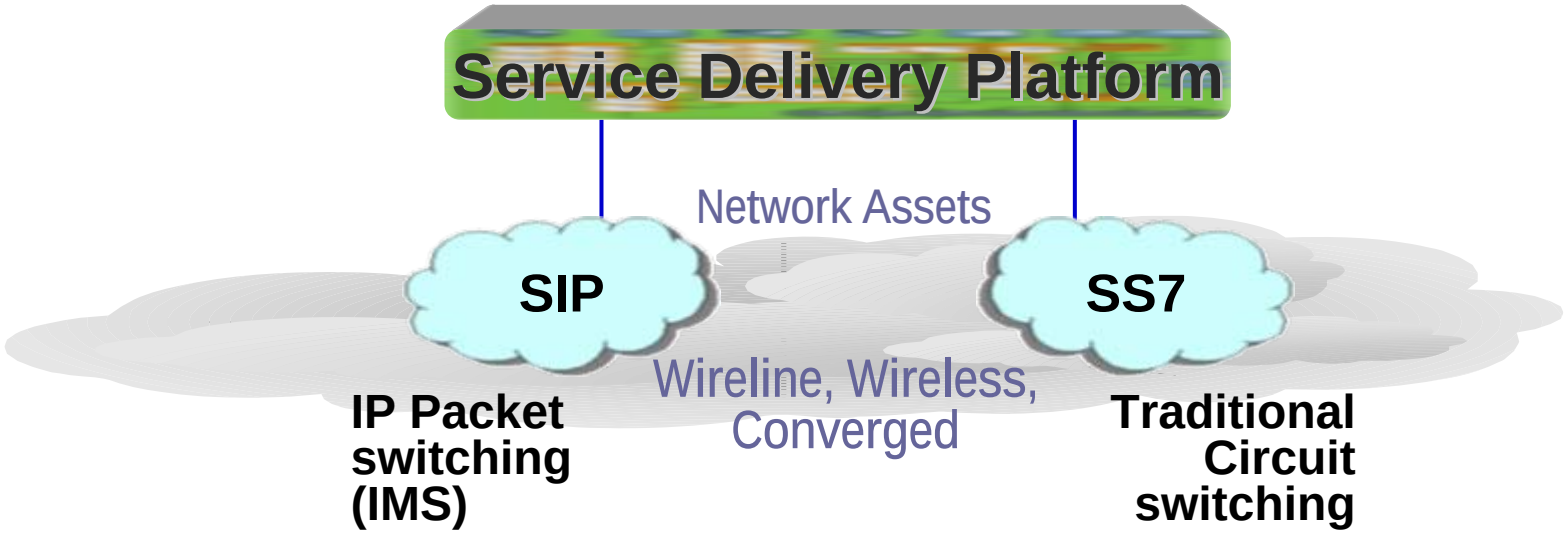
Service Delivery Platform

## IMS implies Migration to all IP Networks

- **Will increase range of capabilities available in networks**
  - And, therefore, the number of potential services
- **Will increase number of different techniques for achieving the same objective**
  - And, therefore, the number of southbound APIs



# Turning Concepts into Cash…Telco 2.0

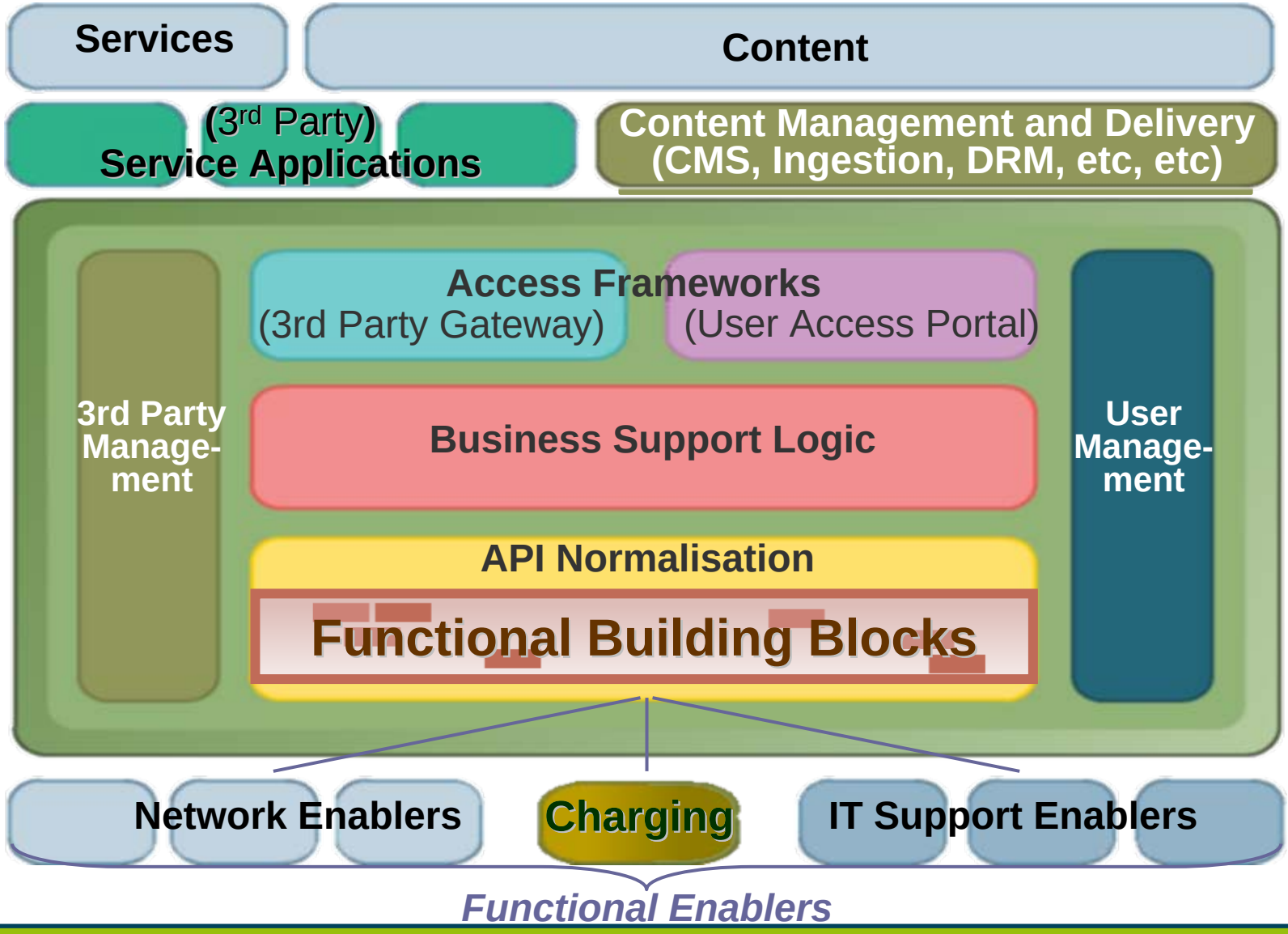
- **Leveraging the Long Tail effect will require Telcos to evolve their business model**

| | |
|---|---|
| **Owned / Ingested content & services** | ➢ **Third-party content & services** (whilst retaining owned services) |
| **Selling Services** | ➢ **Selling Service Enablers** |
| **Walled Garden** | ➢ **Open Garden** |

- **Let the market innovate**
  - Embrace the Internet service innovation model
- **Allow services to become viral**
  - like SMS, Google or YouTube

**How does this impact SDP Architectures?**

# SDP – Typical Simplified High Level Framework



# Web Services..

- **The modern standard for development of distributed user applications**
  - Use of web services consistent with IT world
  - Underpins a service oriented architecture
  - Basis for web 2.0
- **Web Service benefits**
  - Flexibility
  - Simplicity
  - Industry Support

**The future of service creation**

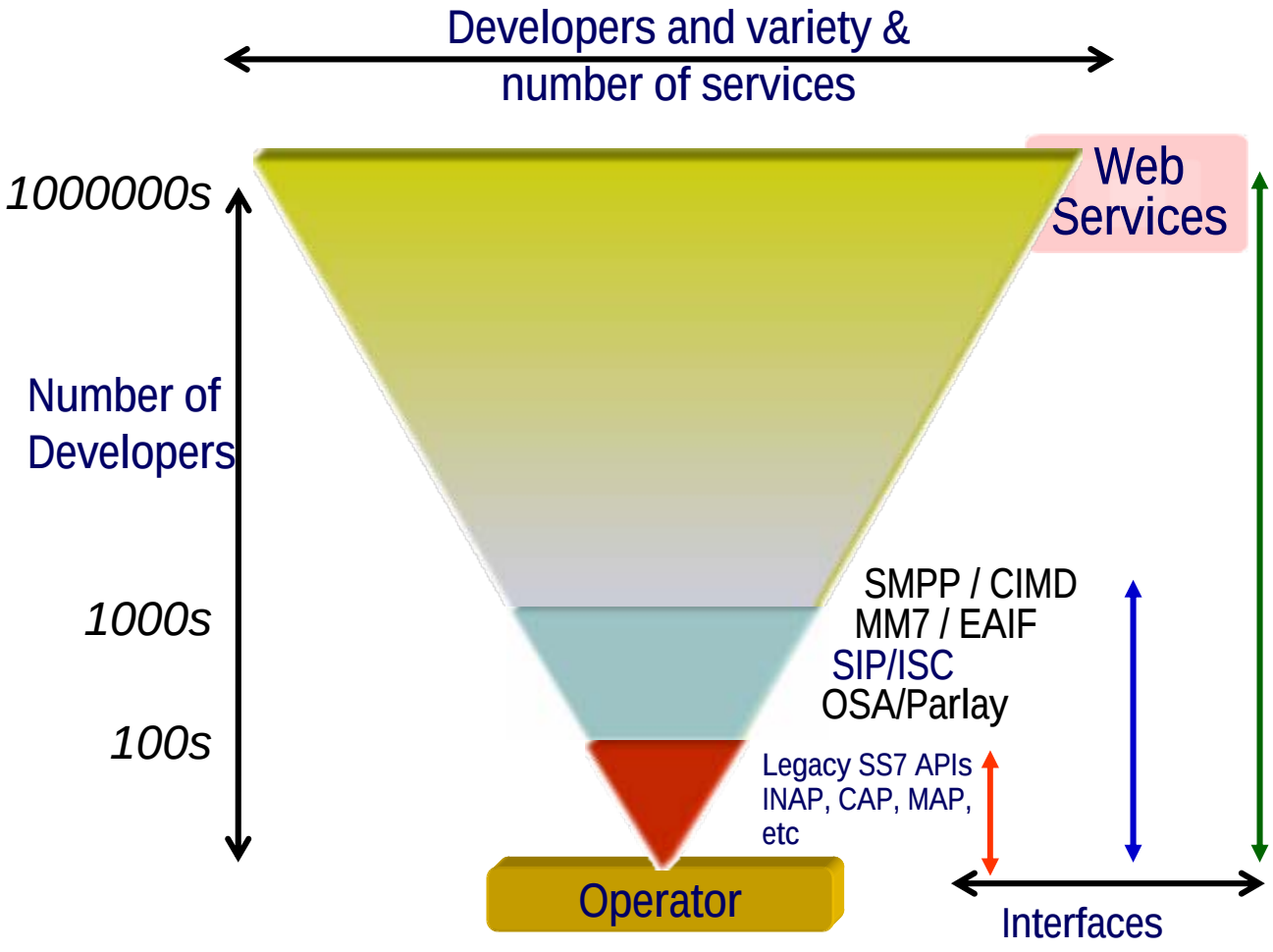
**Much lower development and customisation costs**

**Open Service Environment**

# Web Services.

- **Web services provide a standard, flexible means of inter-operating between different distributed software applications, running on a variety of platforms.**
  - SOAP/XML based realisation of a Service Oriented Architecture (SOA).
- **Widely adopted in all industries following development of a global standard for web services protocols & APIs**
  - OASIS (Organization for the Advancement of Structured Information Standards - www.oasis-open.org)
  - WS-I (Web Services Interoperability - www.ws-i.org).
- Basis for a Service Oriented Architecture (SOA).
  - Can be combined in a loosely coupled way in order to achieve complex operations.

# Web Services and Third Parties




Increase in number of 3rd party providers increases requirement for:

- Easy APIs- web oriented
  - i.e. Telecom Web Services
- Policy enforcement
- 3rd party management

# What are Telecom Web Services

TheSDPAlliance
Service Delivery Platform

**A set of *Web Services*, which provide simple and high level access to widely used telecommunications functions**

- **Expose network capabilities to 3rd parties**
  - Enterprises
  - 3rd party application service providers

Call control
Messaging
Location
Presence
.
.
.
Charging

- **Building blocks for the service delivery framework (SDP)**
  - Network capabilities
  - Charging

**Technology Agnostic**

- ☑ **Service Oriented Architecture**
- ☑ **Business processes**
- ☑ **Composite services**
- ☑ **Charging & account management**

# 3GPP Telecom Web Service Standards (2006)

- SMS
- MMS
- Payment - charging
  - Rate, reserve, commit, rescind charges, etc;
  - n.b. charging indicators are embedded in all services
- Account management
  - (including recharge)
- Terminal status
- Terminal location
- User presence
- Address list management
- Call Control
- etc

Main focus of 'SDPs' today

**ETSI ES 202 391-n**
**(3GPP TS 29.199-05 V6.0.0)**

**Known as Parlay-X**

**More being defined**

*Continually enhanced by 3GPP as requirements for standard web services are identified.*

# Telecom Web Services Service Exposure Drivers

- *"Vodafone believes the investment in IMS will be justified in some extent, if the interfaces to IMS Capabilities and Service Enablers are opened to third parties"*

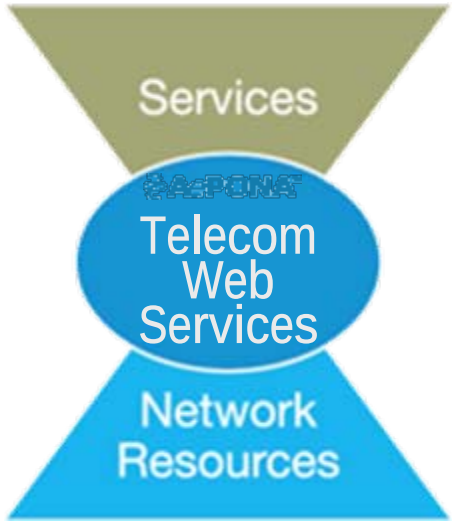
  Vodafone IMS Vendor Selection Document

- Which source of applications will be most important to carriers?
  16% - In house applications
  72% - Certified 3rd Party Applications
  12% - Uncertified 3rd Party Applications

  Light Reading

- **Sprint Business Mobility Platform**
  - 10x growth in 05/06
  - 5x growth in 06/07

- **Google APIs**
  - 14+ APIs offered to developers
  - Search, Adwords …….. Presence, Talk, Maps, Payment

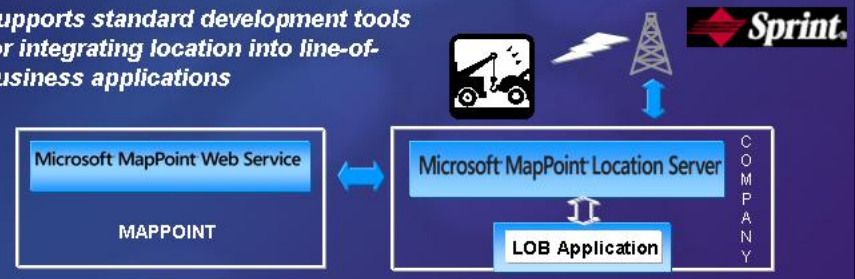


# Example of Parlay Value Chain in Sprint

## What is MapPoint Location Server?

- Provides access to real-time location of mobile devices via a Sprint Provider connected to the Sprint BMF
- Acts as a proxy between applications and MapPoint Web Service for the integration of Maps and Driving Directions
- Enforces user privacy preferences within the enterprise's network allowing the enterprise control of default privacy settings

✓ ***Supports standard development tools for integrating location into line-of-business applications***




**MLS Location Enables Enterprises**

## Scenario – Field Force Management

### Local Delivery

**Setup:** A regional bakery with 75 trucks that roll 24 hours a day, 7 days a week, customer service is their differentiator

**Current Solution:** Daily routes planned in advance

**Pains:** Increase in special orders - high costs for special deliveries

**MLS and Sprint solution and ROI:** Special delivery costs dropped by 50% which translates to a savings of $250k/year, customer order fulfillment less than 1 hour, inefficient routing of $100k ($25/truck/week)

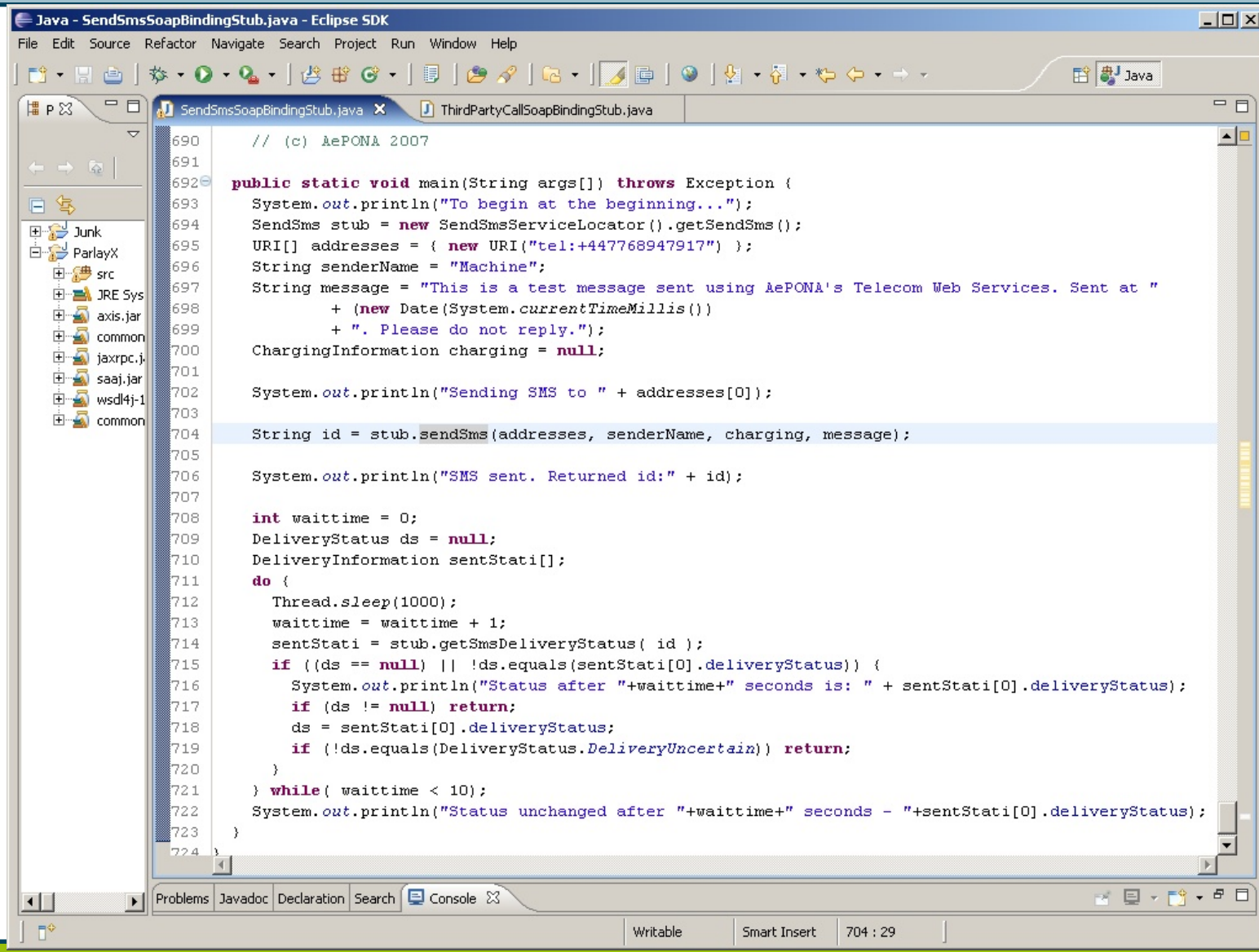

Source: http://www.microsoft.com/Resources/Government/EventPresosArchive.aspx

See http://www.sprint.com/business/products/products/bmf.html

# Telecom Web Service Coding - Simple

Web Services now supported by all the main IT platform middleware vendors, such as **HP**, BEA, IBM, Oracle, & Microsoft, as well as open source software development tool-kits, such as Eclipse

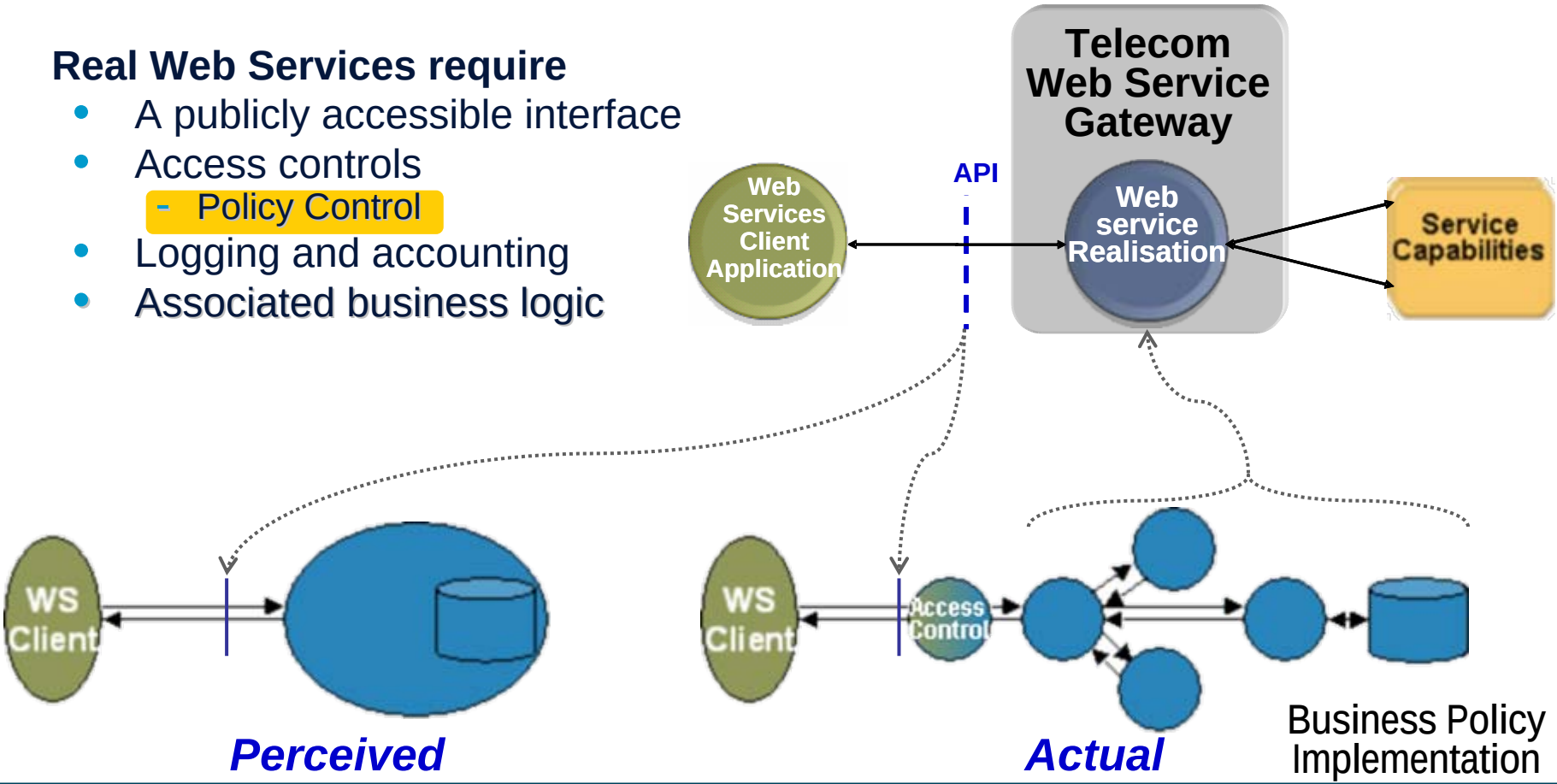
Example shows sending an SMS and checking it's status, using standard 3GPP (Parlay X) telecom web services



# Web Service Realisation

- **Web service definitions defines the external view (interface) of the web services**
  - **The definition does not define a web service implementation**

- **Real Web Services require**
  - A publicly accessible interface
  - Access controls
    - Policy Control
  - Logging and accounting
  - Associated business logic



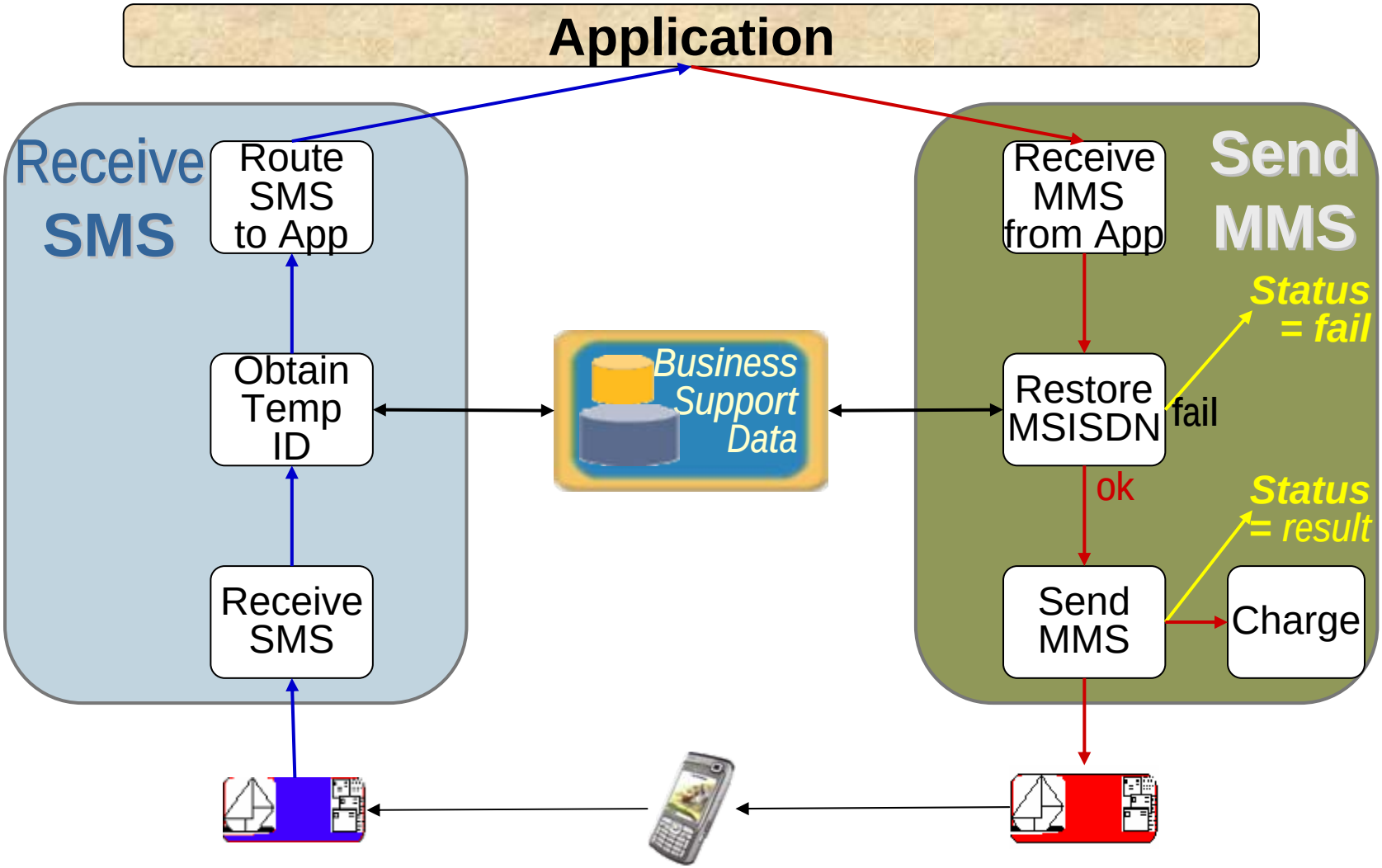
# Policy Enforcement Example - Simplified

- **Premium content requested by SMS delivered by MMS**
  - Requesting SMS considered auditable request for service
- **Subscribers' identity hidden from service provider**

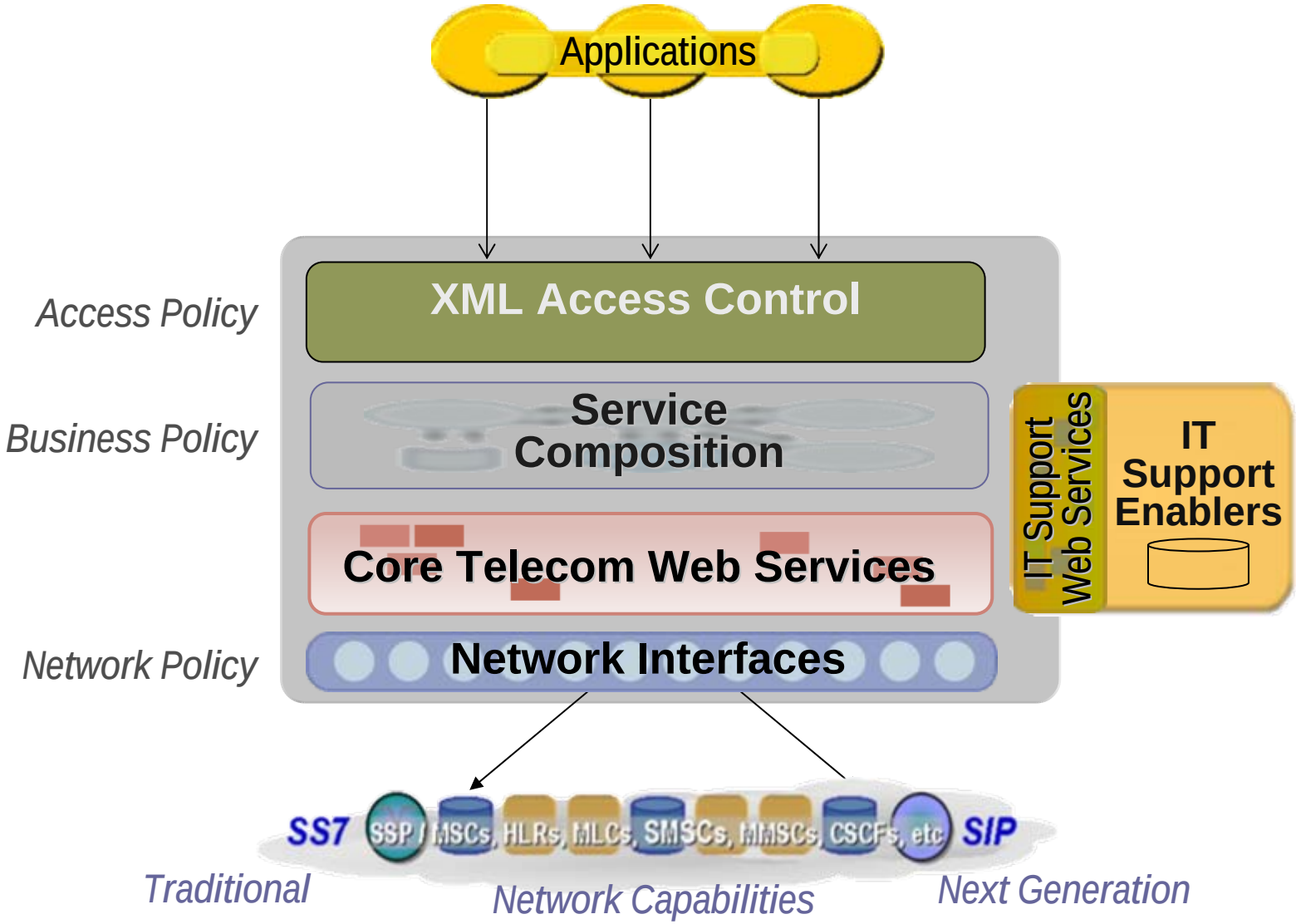
| | | |
|---|---|---|
| Mobile Originated SMS | a) | Hide identity of user (and record request) – a special web service; |
| | b) | Send modified message to the ASP (standard SMS-X web service). |
| Mobile Terminated MMS | a) | Restore user identity. If this is not possible then reject the request; |
| | b) | Send the actual message (standard MMS-X web service); |
| | c) | If successful, invoke the charging service (standard Payment-X web service). |

**Simple web service 'orchestration'**

# Composite Web Services - Simplified



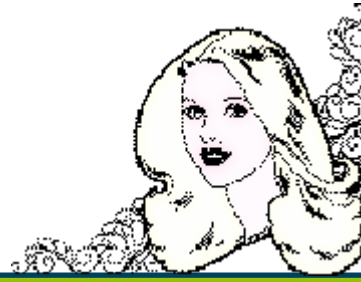
# SDP Service Delivery Layering



# SDP and Mobile Advertising

**Mobile advertising does not work unless accurately targeted**

- **Track interests via access portals**
  - Focussed version of internet advertising
- **Quality of delivery**
  - Free and unobtrusive
- **Solicit assent**
  - In exchange for cheaper service
  - In response to stimulus



# Email Marketing Example

TheSDPAlliance
Service Delivery Platform

**From:** HastingsHotels.co.uk
**To:** James.Aitken@aepona.com
**Subject:** Offer

ON TECHNOLOGIES
THE CREATIVE SOFTWARE COMPANY


## ALL YOU NEED TO DO IS RELAX

Overlooking a windswept Irish beach the new Spa at the magnificent Slieve Donard Resort beautifully combines ancient therapies with modern treatment techniques. The Spa boasts spectacular panoramic views of the Mountains of Mourne and County Down coastline and provides a perfect oasis of tranquility.

Discover the Spa at the Slieve Donard Resort.

**Similar capabilities on web or WAP pages**

**Click to be dialled**

Day Spa packages include a combination of therapies in addition to full access to the pool and Spa facilities plus a light lunch.

Spa Breaks include an overnight stay in one of our luxurious bedrooms, including full Irish Breakfast and your choice of a 55 minute Spa treatment from only £120pps - what better way to relax in style!

To download a full treatment portfolio click here,
or to request a copy to be posted please click here.

For Spa Treatments reservations please contact 028 4372 6166.
For Hotel reservations please contact 028 4372 1066.

I am interested in this offer

Please call me

£ OTHER OFFERS | CONTACT US | GIFT VOUCHERS | REFER A FRIEND

HASTINGS HOTELS

If you would no longer like to recieve emails from Hastings please __UNSUB__.

# Email Marketing Demonstration – Exploiting Telecom Web Services

Similar capabilities on web or WAP pages

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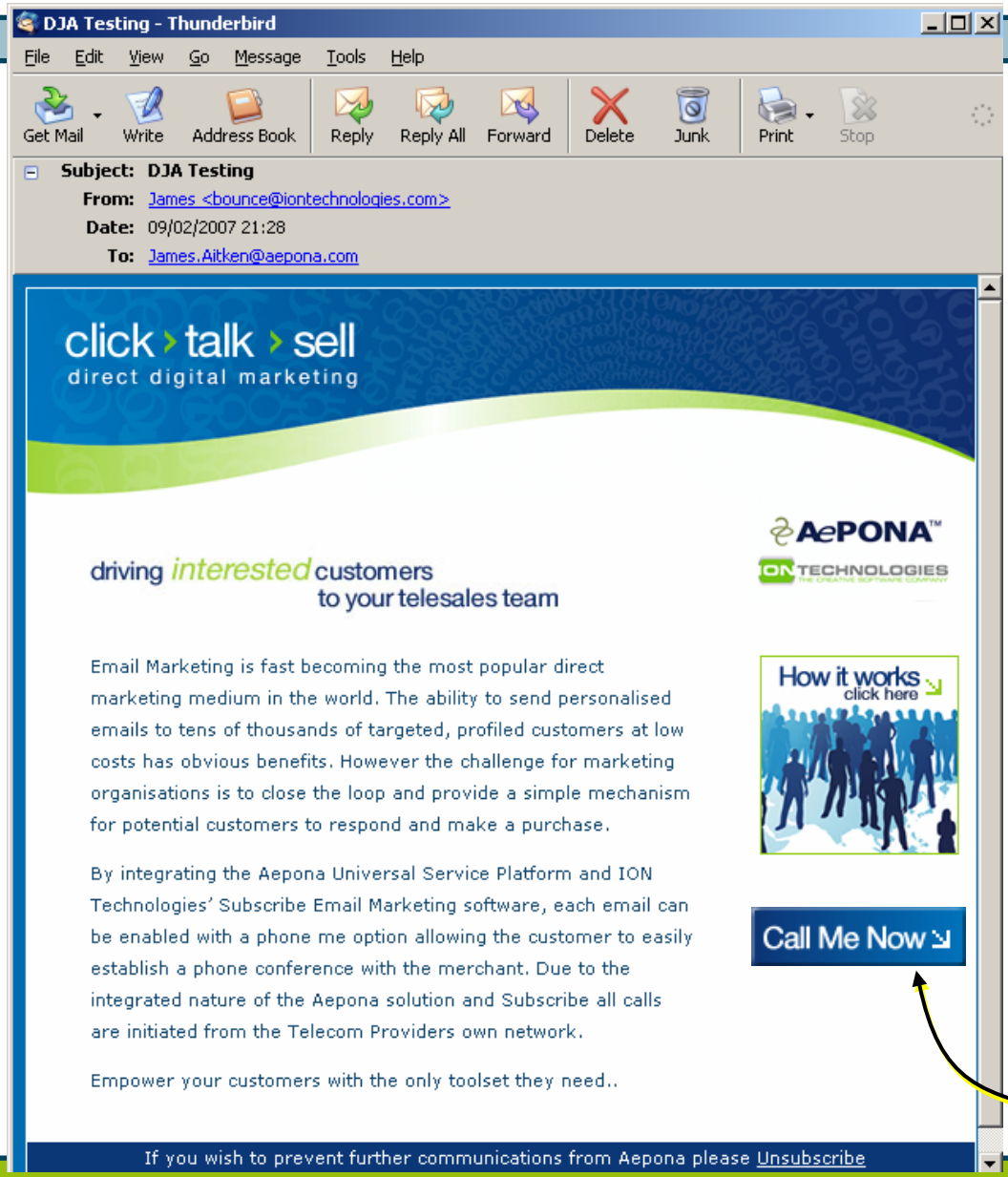
Service Delivery Platform

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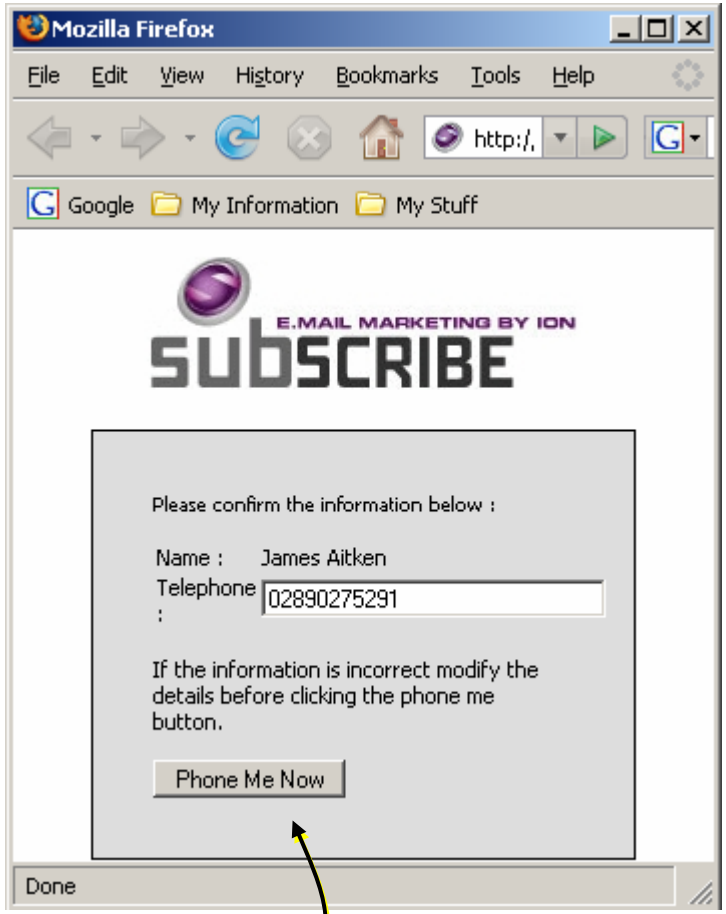



**Click to be dialled**

# Portal Marketing Demonstration – Exploiting Telecom Web Services

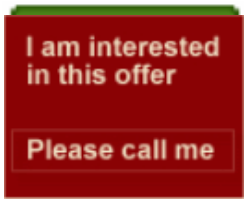
Similar capabilities on web pages

- **Marketing engine pushes target advertisment on subscriber's portal**
  - E.g. Guinness function room advert.
- **Handled by intelligent portal in the SDP**
- **Advertisment features a "click-to-be dialled" button**
  - Subscriber clicks if she is interested
    - Further targetting advert
- **Two-way call then set up from advertiser to subscriber**
  - Using telecom web service
    - 3rd party call

# Web Service Power Behind the Button

**Example of a click-to-dial service**

**Using standard Java** (& 3PC-X telecoms web services)




Oracle JDeveloper 10g - ThirdPartyCall.jws : ThirdPartyCallClient.jpr : C:\jdevj2ee1013\jdev\mywork\ThirdPartyCall\ThirdPartyCallClient\src\thirdpartycallclient\Thir...

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ThirdPartyCallClient.java

```
java.net.URI callingParty    = new java.net.URI("sip:02890275282@194.46.25.12");
java.net.URI calledParty     = new java.net.URI("sip:02890275283@194.46.25.12");
ChargingInformation charging = new ChargingInformation(); // = null  not allowed on latest JDeve
  charging.setCurrency(""); charging.setDescription(""); charging.setAmount(new BigDecimal(0));
System.out.println("Calling "+calledParty+" from "+callingParty);
String callIdentifier = myPort.makeCall(callingParty, calledParty, charging);
// print the identifier for the call
System.out.println("The Call Identifier is: " + callIdentifier);
System.out.println("First calling party's phone should ring - " + callingParty);
System.out.println("Then, when answered, the called party will be rung - "+ calledParty);
System.out.println("Allow time for roaming mobile phone calls!");
long    retryPeriod   = 10000;            // 1/2 Starting retry period (20 secs)
while( true ) {
  CallInformation      callInformation;   // Holder for call information
  CallStatus           callState;         // Holder for Call status
  CallTerminationCause termCause;         // Holder for termination cause
  boolean callConnected = false;          // true when/if call connected successfully
  long    pollPeriod    = 0;              // poll period time
  long    milliSecs     = 0;              // Extra time in millisecs
  int     totalPollTime = 0;              // Total time spent polling in secs
  do{
    // Poll for call status every so often
    totalPollTime += pollPeriod/1000;
    Thread.sleep(pollPeriod-milliSecs);
    milliSecs = System.currentTimeMillis();
    // get the call information
    callInformation = myPort.getCallInformation(callIdentifier);
    callState       = callInformation.getCallStatus();
    if(!callConnected) {
      System.out.println( totalPollTime+". Call status is: " + callState );
      callConnected   = callState.equals(CallStatus.CallConnected);
    }
    if( totalPollTime>=220 ) myPort.endCall(callIdentifier); // kill long call
    pollPeriod = 0; milliSecs = System.currentTimeMillis() - milliSecs;
    while( pollPeriod < milliSecs ) pollPeriod += 5000;
  }while(!callState.equals(CallStatus.CallTerminated));
```

Source Design History | Log

Application Sources | Line 66 Column 1 | Insert | Modified | Windows: CR/LF | Editing

# Telecom Web Services for the Future

- **Web Services technology is the de facto standard for value added services**
  - Endorsed by all major industries
  - All major vendors producing sophisticated *Java* service creation productivity tools
    - Which are effective!
- **Telecom web services (standardised by 3GPP) bring network capabilities into this IT world**
  - Telecom enabling IT
  - Making next generation telecom service creation easy
  - Enable 3rd party ASPs
    - And new service business models
- **Sound basis for the service network**
  - Service oriented architecture (SOA)
  - Easy to create new capabilities
  - Easy to apply business policies

**Technology Agnostic**

- **Traditional**
  - **SS7, etc**
- **Next Generation**
  - **IMS, SIP, etc**

**The building blocks underpinning the 21st century SDP**

# Questions


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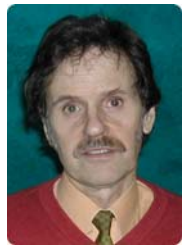
**James Aitken**

Principal Solutions Evangelist



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"Tús maith, leath na hoibre."