

## ***UbiRoam***

### ***Offshore Platforms***

#### ***Scenario***

From the communications point of view *Offshore Platforms* are isolated areas accessible via satellite connection only.

People come and go and when they are on board they need to communicate internally with each other like in every enterprise site. They must also be reachable from the rest of the world and be able to access mainland networks, as well. People mobility around the platform is also a need.

On the other hand, providing legacy handsets to people that come and go is a cumbersome and costly work. Furthermore, people leaving the platform may forget to give the handset back.

Routing calls coming from mainland requires a switchboard operator, while access to mainland networks requires the use of an internal network connected to satellite channels.

What if anybody getting on board of the platform could use its own standard GSM handset as a wireless terminal of local PBX with no change in configuration other than standard roaming connection? And what if no specific requirements should be set for the handset other than being a standard GSM device (no dual mode or other wireless functions)?

#### ***Nano-Cell based network***

*Nano-Cells technology* overcomes the issues described so far, allowing the use of a generic GSM handset as wished above.

It allows the implementation of a small GSM bubble covering just the offshore platform. This small GSM network can be completely managed by enterprise IT people.

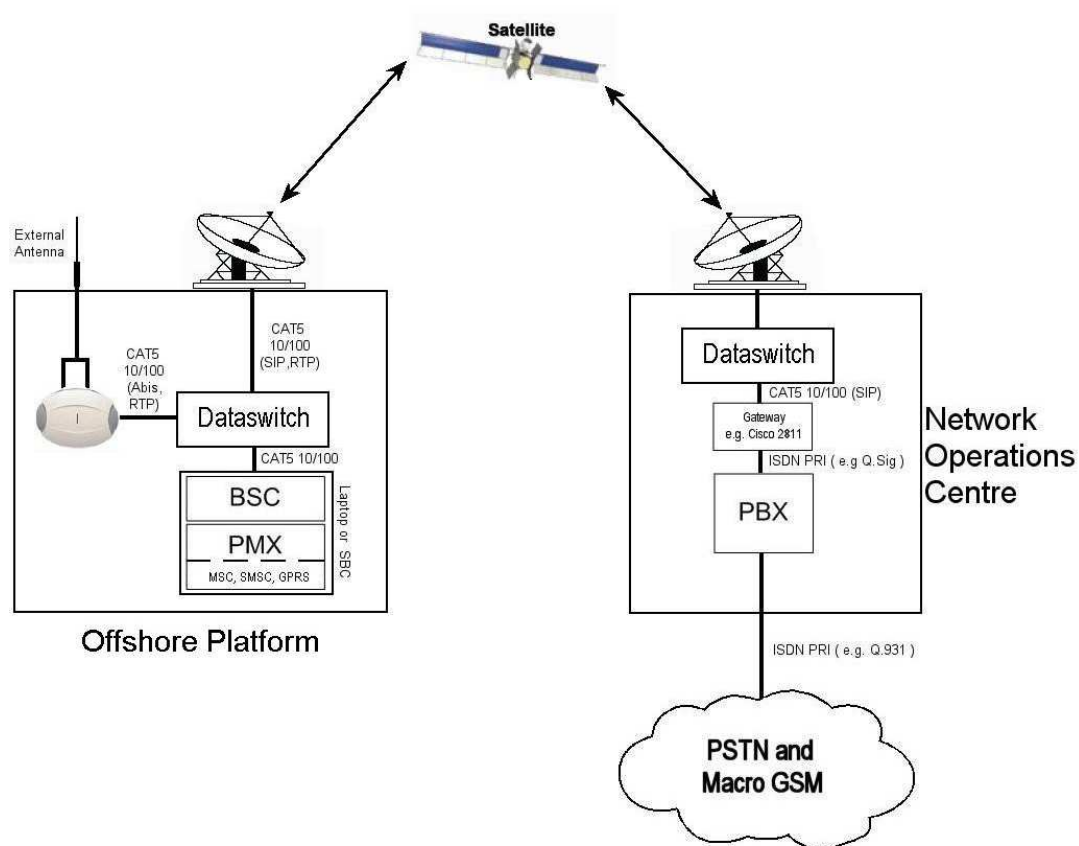
The idea is to use small BTS with a size comparable with a standard *WiFi Access Point* to cover an area of some 10-20 meters (30-75 ft) in size.

Infrastructure costs are limited to installing these small devices as if they were *WiFi Access Points*. Interconnection is done through a standard TCP/IP LAN and voice transport is of VoIP type using SIP protocol.

A server hosting the software acting as *BSC, MSC e IP-PBX* allows to use the infrastructure as an internal telephone network instead of using usual PBX with fixed or wireless legacy handsets.

The Network Operations Center (see figure below) is located on the mainland enterprise premises; its interconnection with Public Service Provider (whether it be fixed or mobile) allows the communication between the offshore platform and the rest of the world.

Users on board of the platform can use standard GSM handsets that almost everybody has in its pocket nowadays. No matter of the mobile operator they subscribed to or even if they have just a private subscription. Internal communications on board of the platform are free of charge.



Each user can be profiled to be allowed to do off-net call to the rest of the world or not. In the same way users can be allowed to be reached from mainland network or not; in this case they just need to divert their calls to an internal branch number through the IP-PBX placed in the NOC.

### ***Other considerations***

This scenario can be applied also to *Construction Sites* in the middle of deserts, jungles or whatsoever isolated areas.

Building roads, dams, railways in isolated areas require itinerant or temporary construction site, with communications facilities that should be rapidly and easily moved and set-up.

Some attention, in this case, must be put on regulations, as frequencies may not be available for use in the GSM spectrum.

In this case some sort of agreement with a local *Mobile Operator* may be required.