UbiRoam

Yachts and Cruise Ships

Highlights

- The solution allows mobile communications on board of yachts and cruise ships when travelling over the sea far away from national mobile coverage.
- No special devices are required, just standard GSM handsets.
- GSM communications can be used both for local phone calls (between handsets on board of the ship) or for roaming to the mainland.
- The solution is engineered as an appliance connected to the BTSs (nano-cells) and to the satellite gateway through a standard LAN.
- Administration is done via a simple and intuitive web based interface.
- International roaming with a mobile operator is available.

Scenario

On board of ships, sailing out of the mainland GSM coverage, people would like to communicate as usual, possibly using their own mobile handsets.

People come and go and when on board they would like to communicate internally with each other like in every enterprise or hotel site. They would also like to be reachable from the rest of the world and to be able to access mainland networks, as well.

Providing legacy handsets to people that come and go is cumbersome and costly.

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 ship could use its own standard GSM handset as 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)?

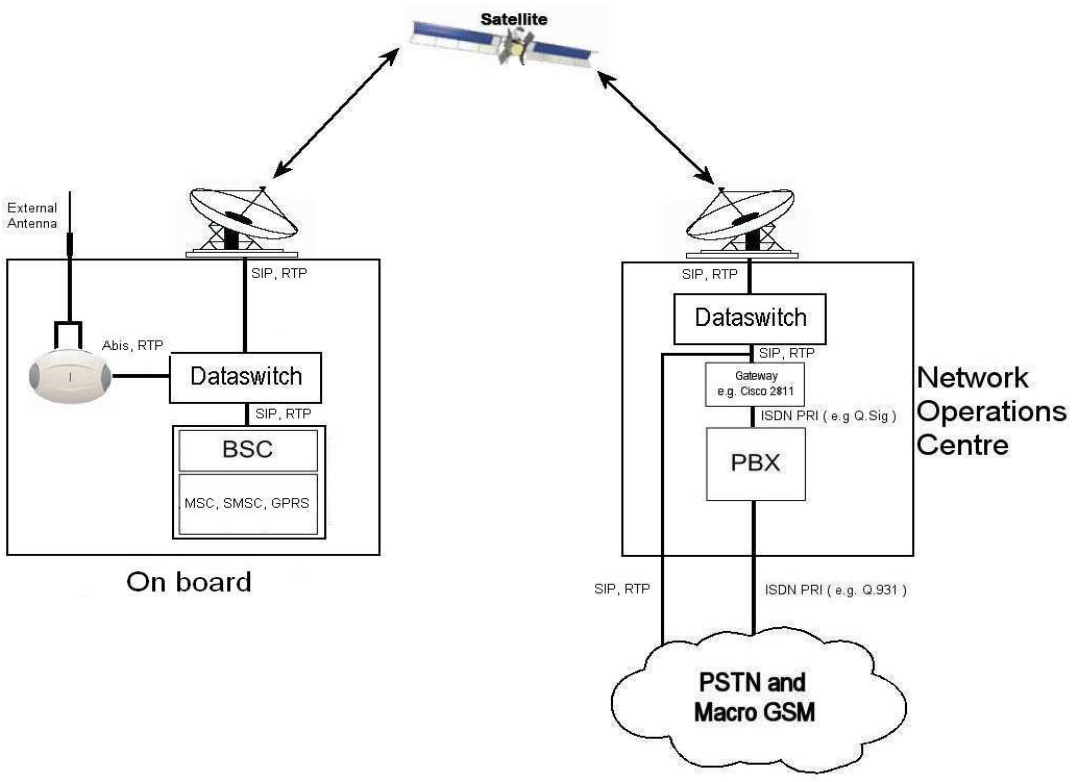
Nano-Cell based network

Nano-Cells technology enables the solution, allowing the use of a generic GSM handset as wished above. It allows the implementation of a small GSM bubble covering just the ship.

Small BTSs, with a size comparable with a standard *WiFi Access Point,* are used to cover an area not larger then the size of the ship.

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 and RTP protocols.

An appliance hosting the software acting as *BSC*, *MSC*, *HLR* and message center allows using the infrastructure as a mobile extension of the ship PBX and as a roaming gateway to the mainland through a satellite link.



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

User perspective

Guests on board of the ship can use standard GSM handsets, no matter of the mobile operator they subscribed to. Internal communications on board of the platform may be free of charge.

Handset registration do not require special actions on the handset itself; just answering to an inviting SMS giving personal GSM number and eventually the internal PBX branch of guest's room.

SMS service can be used to communicate both on board and with the rest of the world.

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.

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