

# **Hypermedia Systems Ltd.**

## **SIM Server Management**

### **Solution Overview**

**[Compatible with Hypermedia Gateways:](#)**

**[HG-7000, HG-4000, HG-3000 and HG-2000 Series](#)**

### **Company**

Hypermedia Systems Ltd.  
<<http://www.hyperms.com>>

### **Technology Solution**

- 3G-324M Video Telephony
- GSM / CDMA / UMTS
- VoIP
- PRI / BRI

### **Industry**

- Small and Medium Businesses
- Enterprises
- Service Providers

### **Portfolio Offering**

- Voice Gateways
- Business Telephony Applications
- Messaging Solutions
- Mobile Video

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### **About Hypermedia**

**Hypermedia Systems Ltd.** is a leading developer and manufacturer of innovative, cost-saving Telephony products and Fixed Mobile Convergence (FMC) solutions for SMB and large corporate enterprises. It offers customized communications equipment that extends existing PBX & IP-PBX phone systems capabilities without changing the telephony infrastructure.

Hypermedia's line of products incorporate PSTN, VoIP and Cellular networks (GSM, 3G/UMTS, CDMA) and consist of scalable systems from 4- 72 channels that integrate with any PBX/PABX or IP-PBX through ISDN BRI, T0/S0, ISDN PRI (E1/T1), R2, T2/S2 ISDN, RDSI and VoIP (SIP,H323) interfaces for routing calls between GSM, fixed line ISDN and IP networks in a single centralized telephone system, as well as video content with real-time voice in the new Video Gateway product range.

### **The Management Team**

Hypermedia's management team has proven experience establishing and leading telecom companies. Hypermedia managers have accumulated extensive experience at leading telecom companies including Quasar Communication Systems, Cellebrite Mobile Synchronization, and Proxell Systems. The development team has specialized expertise in software and hardware development as well as system design for wireline, cellular and VoIP systems.

### **Executive Summary**

Mobile GSM/UMTS communication has been established as a key element of today's telecommunication arena. Hypermedia's GSM/UMTS media gateways provide a cost effective solution for reducing mobile calling expenses by eliminating the costly interconnection fees that are instituted in many markets. Lately many corporate/business entities are deploying geographically distributed GSM gateway networks and are taking advantage of the benefits they offer. In order to provide easier control, management and security – it is possible to introduce Hypermedia's SIM server into the network architecture. Hypermedia's SIM Server solution boasts an intuitive User Interface that turns the art of remote hosted management into a simple and easy task.

Hypermedia's unique 3G/UMTS and GSM Gateways harness today's cutting-edge technology in order to provide a variety of instant communication product solutions. We enable corporate business and service providers to leverage the use of our GSM Gateways technology via an advanced SIM Server management solution for various maintenance purposes. The Hypermedia Best of Breed SIM Server solution enables customers to utilize a wide range of Hypermedia's GSM gateways (i.e., GSM/VoIP, GSM/PRI, GSM/BRI, etc.) and enjoy a Geographically Distributed Architecture at its best.

### **SIM Server - NEW**

As an integral part of the Hypermedia GSM Gateway family of products, the Hypermedia SIM Server brings together the best management functionalities, including; remote hosting, advanced maintenance, security and more. By hosting the SIM cards in one single location – SIM Array, the SIM Server solution enables to perform the SIM maintenance and management without the need for local, onsite intervention. The SIM Server solution allows the management of various SIM types, ensuring calls are routed to the defined SIM card.

The SIM Array topology minimizes the need for sending technical people on site every couple of days to change SIM cards. Furthermore, the solution's topology allows the entire management operations to be carried out from a central location even if the GSM gateways are deployed in various locations (i.e., inland and worldwide). The solution's intuitive User Interface allows managing the SIM cards allocation and maintenance. It has been designed for easy maintenance of large numbers of SIMs.

## Solution Overview

The Hypermedia SIM Server solution is comprised of three main entities:

- **SIM Array (SIM card bank)**

The SIM Array stores the various SIM cards. It can include up to 416 SIM cards per chassis; distributed in up to 13 hot swappable SIM card boards. Several SIM arrays can be controlled by the same SIM Server Management Application.

In the SIM Array, the SIM cards are plugged on to a SIM card board. A single board can store up to 32 SIMs. The boards automatically detect SIM cards and perform hot swapping.

A centralized SIM card bank, in a single location, provides enormous benefits when managing and operating a large number of deployed GSM gateways, all this with large scale support.

- **SIM Server Management Application**

The SIM Server Management Application provides an advanced and intuitive user interface to manage the allocation of SIM cards in the various GSM/UMTS Gateways. The administrator receives a real-time view of SIM card availability and in turn can allocate and exchange SIM cards via the admin privileges. The SIM Server Management Application provides an integrated interface, which manages the arrays and their SIM cards in correlation with the remote gateways and their ports.

- **GSM Gateways**

The Hypermedia HG-4000, HG-3000 and HG-2000 GSM Gateway Series are unique, modular GSM gateways, scalable from 4 up to 72 GSM channels. The gateways are available in a 3U or 6U 19" rack-mountable chassis, and support E1/T1 PRI and VoIP (H.323/SIP) interfaces. A network design may contain one or more devices. The Hypermedia GSM Gateways may be configured as standalone (4 up-to 72 ports) devices or as part of the SIM Server topology, which brings additional GSM Capacity to an existing Gateway.

When implementing the SIM Server solution, despite the fact that the GSM Gateway(s) are not physically hosting any SIM cards, the gateways remain as the "air" interface to the GSM network. The Gateways route calls received via PRI/BRI interfaces and/or VoIP interfaces (SIP / H.323 protocols) directly to the GSM network, using SIMs allocated by the SIM Server.

Given the GSM Gateways' flexibility, modularity and scalability, these smart product solutions can be pre-configured to meet precise customer requirements so corporate enterprise and service providers can easily expand the cost-effective systems to meet their evolving telephony needs over time.

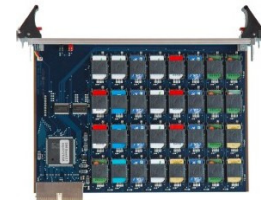
The Hypermedia SIM Server components (i.e., SIM Array, SIM Server Management Application), and GSM Gateways communicate with each other through TCP/IP. As a result, the connectivity between the GSM Gateways and the SIM Arrays requires a reliable quality connection, yet a low bandwidth is sufficient. Each component can be installed in a different location and scaled independently according to the specific needs and business requirements. The Hypermedia SIM Server is fully compatible with Hypermedia HG-4000 Series VoIP/GSM Gateways, Hypermedia HG-3000 Series PRI/GSM Gateways and the Hypermedia HG-2000 Series BRI/GSM Gateways. Furthermore, the Hypermedia gateways (HG-4000, HG-3000 & HG-2000 Series), which run in a standalone mode, can be easily adjusted to operate under the SIM Server architecture.

*\* Note: the SIM Server topology also supports Hypermedia's range of SMS Pro Gateway HG-7000 Series*

*Hypermedia Systems Ltd. reserves the right to modify or stop the product and/or service (or any part thereof), either temporarily or permanently, at any time or from time to time. Without limiting the foregoing, Hypermedia may post on its website and/or send you an email notice of such changes to the product and/or service.*



Hypermedia SIM Array



Hypermedia SIM Board



Hypermedia Gateways

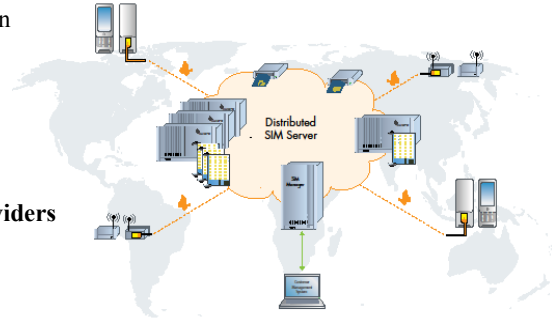
## Solution Description

### ■ Major Advantages

- Intuitive and powerful centralized management solution
- Multi-criteria allocation rules by SIM card group
- Dynamic SIM swap
- Quick SIM card management

### ■ Key Benefits for Corporate Businesses and Service Providers

- Create SIM allocation to the relevant Gateway
- Up to 416 SIM cards per single SIM Array
- Highly scalable architecture and topology
- Specifically designed for multi-operator and cross country deployment
- Maximize SIM price plan usage and special dynamic tariffs



### ■ Main Product Functionalities

#### ■ Management and Administration

The SIM Server deployment is managed by an enhanced user interface. This interface enables the administration of the SIM cards, including several advanced features, such as the SIM allocation and maintenance within the SIM Array. The user interface has been designed to easily manage large numbers of SIMs by using its enhanced maintenance capabilities.

#### ■ Prepaid Management

The solution enables to run prepaid SIM cards. When SIM credit becomes low, the SIM cards get stamped "to be recharged" and parked ready for further use.

#### ■ SIM Centralization

With the Hypermedia SIM management solution, SIM cards are not located in GSM gateways but rather hosted and centralized in one place. SIM management becomes quick and easy, and SIM cards can be stored in a secure place.

#### ■ Remote Maintenance

Use as many SIM cards as you want without a local / physical constraint - SIM cards are no longer physically connected to a given GSM channel. The Hypermedia SIM Server can allocate remote SIMs to a GSM Gateway according to admin decisions or pre defined business rules. It then enables smooth use of multiple SIM cards over days and months, and enables the use of different SIM card profiles during on-peak/off-peak hours.

#### ■ SIM Allocation

The SIM server topology supports available SIMs in various SIM arrays. The SIM card selection is based on the maintenance rules; once selected, it provides the Gateway with the SIM card access information. The gateway directly contacts the SIM array via TCP/IP in order to read the SIM information and register it on the GSM network. A new SIM card is then immediately allocated, taking full advantage of your GSM gateways.