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# ROOTS Messaging Platform

*Software Proposal to Provide a Complete Premium SMS Messaging Solution adding mobile and interactive Elements to broadcast programs and integrated marketing campaigns*

# Technical Study and Business Proposal

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# 1 Executive Summary

**ROOTS Solutions** is a key player in the Information Technology Solutions business, Telecommunication Industry, and TV Broadcasting Consultancy.

**ROOTS Messaging Platform®** includes a scalable platform plus a comprehensive set of services for mobile interactive campaign management, providing VAS companies with interactive games, Premium SMS Numbers hosting, Bulk SMS campaign and reselling, and many other applications.

At ROOTS we have established a long list of successful business stories in Greece, Saudi Arabia, Lebanon, Qatar and Syria. This extensive and varied experience allows us to offer our clients a wide range of messaging systems and services with maximized efficiency, increased productivity, while being cost-effective and adding real business value.

All projects are accompanied by security to configured networks, maintenance plans and accurate support. This support shall include over the phone consultancy, remote Troubleshooting and on-site intervention.

We like our customer to think of ROOTS as their Technical Department.

## 2 ROOTS Messaging Platform

**ROOTS Messaging Platform® (RMP)** is a high availability, carrier grade Short Messaging Service (SMS) gateway designed to deliver value-added SMS services to GSM users. The **RMP** allows interconnection with GSM operators as well as other Content providers by using the latest standard protocols (SMPP v.3.4, CIMD) which is adopted by the majority of GSM operators.

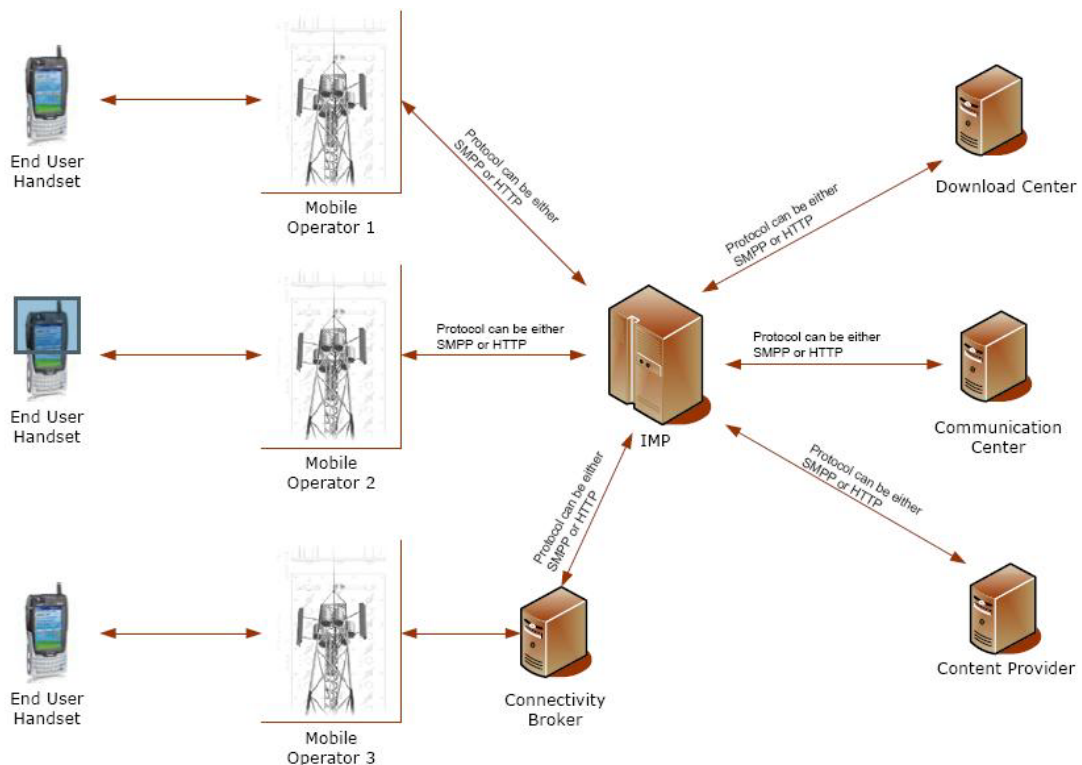
**RMP** acts as a layer where all technical details of the SMS interface are handled. Its purpose is to ease application development to adapt to the business model by hiding the complexities of the underlying protocols and facilitating easy application integration to different operating environments with little or no changes to the core gateway.

### 2.1 Key Features

- + 24/7 uptime
- + Scalable messaging/response thresholds
- + Highly reliable platform and network architecture
- + Flexible and adaptable to customer requirements

### 2.2 Multi-Operator deployment model

The Multi-operator model is a single platform connected to other operators by means of dedicated network connection or via the public internet. This model has proved high functionality however its limitations lie in the fact that public internet is not reliable.



## 2.3 Connectivity

RMP is a robust standalone short messaging service gateway capable of delivering SMS value added services. The platform is modular and consists of 2 main layers:

- + **SMPP PROTOCOL Operator Connectivity layer:** allows the direct dedicated physical connection to GSM operators (STC Saudi Operator), VPN (Virtual Private Network) over the internet (Mobily GSM Operator in Saudi), or simple internet connectivity using Operators specified IP's and Ports (GSM Operators in Lebanon). This layer will allow a theoretical exchange of more than 1000 messages per second but true values may vary based on GSM Operator Bandwidth allocation, Internet and/or dedicated line speeds.
- + **HTTP PROTOCOL:** allows connectivity to both operators (option once given by GSM Operators in Syria) and third parties providers or customers. Performance of this layer relies on the speed of the internet and the bandwidth and performance of the other party.

## 2.4 Characteristics

The RMP core engine consists of several modules by itself where the client can choose his own mix of applications depending on his business necessity which further minimize the cost of ownership of the system. The RMP will manage three types of Messages:

Following are the basic services provided by RMP:

- + **Voting and Chatting** – Interact with the audience via the mobile channel. Voting allows viewers, readers, listeners, and retail shoppers to participate in programs by text message. Chatting includes mobile-to-mobile functionalities in addition to standard Mobile to TV and/or other display Medias (prints, electronic billboards, websites, etc...)
- + **Trivia** – Create and manage original trivia contests where users answer staggered questions from multiple categories or try to break a scrambled code. Easily select or change the questions, answers, and categories via a user-friendly web interface.
- + **Alerts/Subscriptions** – Set up, administer, and send either scheduled or event-based alerts, such as SMS broadcasts, newsletters or content subscriptions, to registered users.
- + **CRM Applications and Bulk SMS** – Increase consumer loyalty by sending targeted messages to customers using SMS push functionality. Predefined lists can either be uploaded from an existing list, database, or created dynamically based on an event/change of state, such as a price reduction or payment deadline.
- + **Content Delivery** – Provided with proper format content (images, music, Java games, or any other downloadable mobile content), you will be able to receive requests over Premium rate SMS and reply back with the way to download these content to a single mobile.
- + **Premium SMS Hosting Service** – Assign premium numbers to customers and deliver the SMS received on these shortcodes instantaneously with means to customize delivery based on customer requirements.

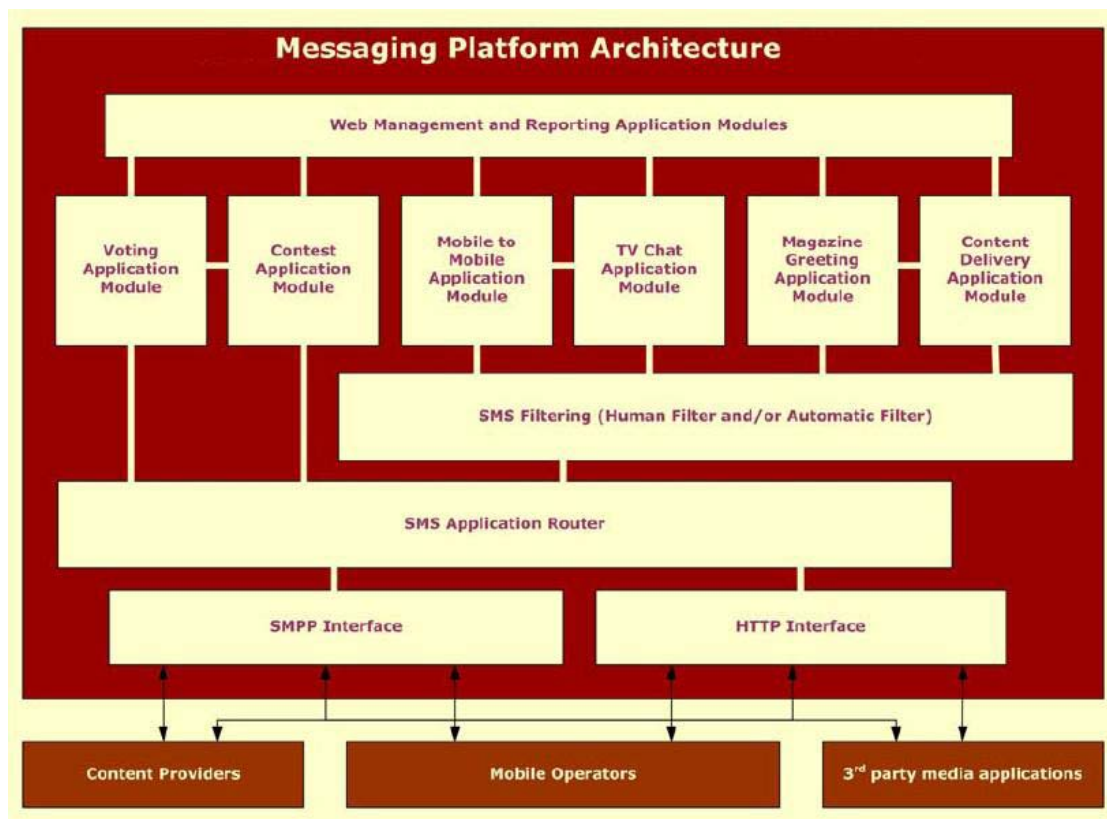
**Additional services** are also available to RMP:

- + **Filtration Solution** – Allows **VAS PROVIDER-TO-BE** to host Text Channels with Human Screening functionalities.
- + **Bulk SMS Resellers** – Create and sell pre or post-paid accounts for other parties to use your gateway to send bulk SMS and thus increase your income.

All other services can be easily and timely developed providing a feasible business model.

The platform has a web enabled management module enabling easy service loading and management as well as reports generation for the statistical figures and traffic analysis. The platform also is highly stable and is compatible with ASCII (Latin Based Languages ex: English), 7-bit alphabet (Cyrillic based languages ex: Greek) and UNICODE (ex: Arabic).

The platform was benchmarked at around 70 SMS per second with delivery report and billing. In cases of multisession short code activation, the throughput can be realized at more than 400 SMS/sec.:



## 3 Hardware Requirements

In addition to core system, RMP® requires Hardware equipments that shall be provided on site by your side, as ROOTS seeks no financial benefit from this aspect of the project. ROOTS will be responsible for installing software and configuring these equipments. We recommend that these equipments be independent of the rest of the office setup, but parts still can be shared if suitable.

### 3.1 Server configuration

Since the requirement from **VAS PROVIDER-TO-BE** side for the SMS Gateway to be scalable, following is the list of hardware that will meet the requirement of connecting to two operators and running the services:

- + Database SERVER  
Microsoft Windows Server Corporate 2003 SP2 – enterprise Edition  
SQL Server 2000-SP4  
Hardware Specification: HP DL380 Server G5, Dual Xeon processor, 3.6 GHz – 2GB Cache, equipped with 4GB RAM and 4 HP Hard Drives HP SCSI HDD 146 GB 15000 RPM
- + Application Server  
Microsoft Windows Server Corporate 2003 SP2 – enterprise Edition  
RMP® Core System  
SQL Server 2000-SP4 (Backup)  
IIS configured with Real IP  
Hardware Specification: HP DL380 Server G5, Dual Xeon processor, 3.6 GHz – 2GB Cache, equipped with 4GB RAM and 4 HP Hard Drives HP SCSI HDD 146 GB 15000 RPM
- + Operator Server (x2)  
Microsoft Windows Server Corporate 2003 SP2 – enterprise Edition  
SMPP Connectivity Software  
Hardware Specification: HP DL380 Server G5, 1 Xeon processor, 3.6 GHz – 2GB Cache, equipped with 2GB RAM and 3 HP Hard Drives HP SCSI HDD 72 GB 15000 RPM

NOTE: if feasible (depending on VPN configuration), and operator SERVER may be able to connect to more than one operator.

### 3.2 Configuring VPN

Depending on the type of the VPN (software or Hardware VPN), we may require a CISCO PIX module or Juniper Firewall, that will be connected to the internet one side and to the Operator Server on the other side. Once this point is clear with the operators, vendors usually is the party responsible for configuration to insure proper operation.

For software VPN or the case of vendor inability, ROOTS will insure proper configuration.



### 3.3 Additional components

- + Server Cabinet
- + KVM Switch
- + Keyboard
- + Mouse
- + Ethernet Switch (Gigabit 24-port Cisco Catalyst switch)
- + Ethernet cables
- + 15" LCD monitor
- + UPS
- + External Hard Disks for backup

NOTE: All software or operating system Licenses if needed shall be provided by **VAS PROVIDER-TO-BE**

## 4 Security

Internet security for corporate networks is divided into threats coming from external attacks and virus infected files brought into the network by emails, websites downloads, or external medias such as USB flash memories, CD's & DVD's, external hard disks, etc...

Our Recommendation is Symantec Endpoint protection v11 Business Pack.

## 5 Backup

Nowadays all backup solutions rely on having a redundant array of hard disks configured in RAID topology, which are fault tolerant and dynamically repairable without interruption of system functioning.

In addition, all available data shall be synchronized with an external media (external Hard Disks) on daily basis using the features present in Microsoft Windows 2003 Server. This will allow a daily backup of all databases and all important work related files shared on the network and properly saved on the server.

## 6 Maintenance and Support

Managing complexity, mitigating risks, and controlling costs of today's solutions has become increasingly important when considering your IT strategy. The optimization of your operations and solution landscape is a key to becoming a best-run business. ROOTS Solutions support delivers the skills and resources you need to optimize the performance of your solution and manage your business processes more effectively.

ROOTS Solutions support can assist you in deploying a full, end-to-end solution operations strategy that allows you to adapt existing solutions to changing market and business requirements – and take advantage of the new innovations that will make your business more successful. We can help you reduce the total cost of operations of your IT infrastructure and enable you to accelerate and maximize your efficiency on investment in ROOTS solutions services.

ROOTS Solutions support provide a complete portfolio of maintenance offerings a comprehensive range of services that enable you to continually improve core business processes while leveraging your existing solutions.

ROOTS guarantees a 24/7/365 maintenance services to optimize the way you operate and support your ROOTS software solutions. Including continuous quality checks, support advisory, and advanced support for implementing enhancement packages and update packages.

## 7 Quotations

### 7.1 RMP® Basic

Item	Description	Quantity	Unit Price (USD)	Price (USD)
(1)	RMP Software Solution	1	-	-
(2)	Multi Operator SMPP Connectivity + HTTP Providers	1	-	-
(3)	Sample Applications	1	-	-
(4)	RMP® installation, customization and 2 months support (including new Services Development)	1	-	-
	<b>TOTAL</b>			-

### 7.2 RMP® Advanced (optional)

Here is a list of available services that are not dependent on the platform itself. These services have to be ordered separately.

Item	Description	Quantity	Unit Price (USD)	Price (USD)
(1)	Bulk SMS Engine for Customers	-	-	-
(2)	TV Chat SMS + Filtration Solution	-	-	-
(3)	TV Chat CG Solution	-	-	-
(4)	Advanced Statistics Web Interface	-	-	

### 7.3 Maintenance and Support

Item	Description	Quantity	Unit Price (USD)	Price (USD)
(1)	Monthly support service fee 24/7, excluding module expansion, travel and other expenses	-	-	-

### 7.4 Payment and Delivery Terms

Payment:

Delivery: