



# REPORT

## GSM-VAS WORKING GROUP

## **BACKGROUND**

Pakistan has seen a dynamic rise in the cellular subscriber since half a decade. But as the Teledensity index reached new heights, saturation has crept into the market. Together with stiff market competition, result was lowering of ARPU of service providers. Deeper analysis of the decline revealed that this was due to lack of innovation in the service offering by CMTOs. It was further noted that when successful telcos worldwide faced such situation they started to explore new avenues in the field of telecom service provisioning in order to remain competitive. However one common thing in all these decisions was a shift of focus from basic telephony to data oriented services.

Since in Pakistan all the CMTOs are now facing the effects of saturation, therefore it was decided during a meeting of CEOs of all CMTOs with Chairman PTA, that areas of future growth should be highlighted and a common strategy be adopted to solve the issue.

## **TARGETS & METHODOLOGY**

With the Aim to help CMTOs increase their revenue, PTA formulated a Working Group (WG) to look into the earmarked future area of Value Added Services. For proper definition of goals and future course of actions, it was decided to formulate Terms of References (ToR) for the group. Moreover PTA ensured the presence of all other relevant stakeholders in order to have diversified views. The group has voices from:

- ✓ Telecom Service Providers
- ✓ Content providers
- ✓ Academia/Consumers

## **PTA'S EFFORTS**

Since its inception in the March, a total of **7** meetings have been organized by S&D Division at PTA's vicinity. The serious handling of the issue at PTA is evident by the fact that all the meeting were chaired by the M (T) of the Authority. Besides coordination of activities of the WG, following efforts were made by S&D Division on behalf of PTA:

1. Preparation of ToR for the WG which was later adopted by the WG with slight modifications to the nominee for person in chair. (*see ToR at Annex-A*)
2. A study on the promising future VAS was prepared by S&D and circulated amongst the participants for debate amongst the participants. PTA has reiterated many times in the group that location based services are key area to focus by CMTOs. (*see VAS options at Annex-B*)
3. In addition to above referred document following two issues were deeply studied and later discussed within the group:

a. *UAN dialling access through mobile network*

Presentation on methods of provision of UAN dialling facility through mobile network was given. 3 technical possibilities were put before the CMTOs and all the queries were satisfactorily answered by representatives from PTA.

b. *Usage of Short Codes*

After analysis of the data provided by the CMTOs and the PTA's Service Division, serious irregularities in use of short codes by CMTOs were observed. The issue was explained to the participants from the CMTOs in detail and on the other hand the analysis was forwarded to Services Division for further enquiries in accordance with numbering regulations.

### **CMTOs EFFORTS FOR THE GROUP:**

Every meeting of the WG had notable numbers from CMTOs. Each company's CEO fulfilled its commitment by passing on instructions to attend the meetings regularly.

Provision of updated data on issued short codes for the analysis was a sign of healthy presence of CMTOs in the group. Keeness of some CMTOs to arrive to a solution was evident by the fact that their participants requested the regulator for one to one meetings to discuss specific matters in detail.

In terms of futuristic vision, by and large the CMTOs had a passive presence in the WG as NO new ideas on VAS came through the participants from CMTOs. This may be attributed to two reasons:

1. Nomination of ill conversant regulatory officers by some mobile companies for the WG
2. Shyness to share the ideas due to the fear of theft of idea amongst the participants.

Furthermore the response to the ideas presented by PTA has also been rather discouraging.

### **VENDORS' PARTICIPATION IN THE GROUP:**

Although *Earthfactor*, *AKNMTech* and *Vectracom* have recently joined the group but they have put forward some valid observations hampering the proliferation of content based VAS services. The highlighted problem areas include:

1. Problem of technology shyness is predominant in Pakistani society. Regulator may help remove this hurdle by:
  - a. Arranging seminars on benefits of a specific technology
  - b. Marketing campaigns in collaboration with telcos
  - c. Address copyright issues of the VAS content

2. Limitation of charging mechanism on CMTOs' IN platforms. Investment on charging mechanism is required to eradicate this hindrance
3. QoS guarantee on DL/UL of content using wireless interfaces is needed to for VAS subscription to flourish.
4. Poor data services from CMTOs. Provision of segment oriented services can increase subscriptions of GPRS/EDGE. Moreover regulator should monitor and advertise the KPIs of the data networks in order to improve the network
5. It is next to impossible to develop VAS content for substandard devices. In Pakistan the problem should be addressed by controlling proliferation of Chinese handsets as has been done by India already.
6. Commercial arrangements between CMTOs and VAS providers should be standardised by regulator. This is the sole reason of the absence of any successful white label content provider brand in Pakistani market.
7. Location Based Services (LBS) have not been ventured by any company due to absence of reliable information feeding systems.
8. Due to predominant low income and relatively uneducated subscribers, only VAS with most basic of interfaces can be successful.

## **PARTICIPATION OF ACADEMIA/CONSUMER REPRESENTATIVES**

Dr. Owais Kamal from OWT technologies and Mr. Zaheer Ahmed along with Mr. Asrar Ashraf from CASE have recently joined the WG. They gave the following contributions:

1. Traffic updates service could be a useful VAS in current times
2. Time is ripe to move on to VAS based on graphical interfaces
3. Networks should be optimized for provisioning of IP streaming services
4. Apart form technical QoS issues; CMTOs' handling of customer care division is far below acceptable standard. This adds to subscribers' unwillingness to use innovative services
5. An educated subscriber should be able to contact technical staff of the company which is well versed with the technical terms and procedures.

## **RECOMMENDATIONS**

On the basis of the discussions so far following actions recommended:

1. The WG was constituted for 6 months as per the ToR. It is recommended that WG should continue till the end of the year.
2. PTA should encourage CMTOs for putting in-place common platforms (content concentrators) through which any Third Part Content Provider (TPCP) can do business with all the CMTOs simultaneously.
3. An arrangement is recommended to be devised at PTA for a fair commercial arrangement between the content providers and the CMTOs.
4. CMTOs should consider creating more proactive technical VAS groups within their respective managements.
5. Short codes must be issued / registered by PTA. For reducing associated unnecessary delays, a normal limit of 3 days may be fixed for application processing. Furthermore an automated web based system for registration of short code is recommended.
6. Short codes for any service should be unique. With the agreement of Services Division, it should be ensured that same short codes to content providers for IVR and SMS services are not allowed.
7. CMTOs may be asked to increase GPRS/EDGE
  - a. Coverage areas
  - b. Throughput
  - c. Number of simultaneous users
  - d. QoSof their networks in order to facilitate more innovative VAS.
8. Consumer awareness campaign may be started using help from all CMTOs, content providers by arranging public seminars. Presentations may also be arranged in universities in order to encourage academia to develop local content.
9. In coordination with all relevant stakeholders (including the GoP), a policy may be devised for overcoming the hurdles in provision of Location Based (LB) VAS services. (*E.g. reliable and accurate information feeding systems for traffic updates, GPS data, LB advertisements, local emergencies etc.*)
10. GoP (MoIT) may be approached for reviewing the policy of type approval of terminal mobile devices in order to resolve the issue of non complaint terminal mobile UEs.

## **Industry Working Group on Value Added Services (VAS) & Mobility**

### **Terms of Reference (ToR)**

#### **1. Purpose**

The purpose of this Terms of Reference document is to establish the mode of operation for an Industry Working Group that will help in countering the low ARPU (Average Revenue Per User) problem faced by the industry as a whole.

#### **2. Functions of Industry Working Group**

The industry WG on VAS & mobility has been convened by the Pakistan Telecom Authority in cooperation with the licensed TELCOs to:

- Highlight new opportunities that Pakistani TELCOs can explore in the domain of Value Added Services in accordance with the market demands and feasibility for the operator.
- Discuss and recommend workable solutions related to mobility in light of the relevant international experiences.

#### **3. Term**

The task of the WG will be limited to a term of approximately SIX (6) MONTHS during which members will assemble for MONTHLY face to- face meetings and arrange interim meetings by teleconference, as and when needed.

#### **4. Membership**

Member (Technical) - PTA will approve the membership of this regulator-led working group which will include:

- Two (2) representatives each from all stakeholders well versed with the technical and business related objectives of their respective company.
- Three (3) Representative(s) from PTA nominated by the Authority.
- Representation from Ministry of IT.
- Maximum 3 representations from all other relevant stakeholders after prior approval from the WG chair.
- Maximum 4 representatives from intellectuals, consumer groups, civil society etc.

Members of the Working Group will strive to attend meetings personally or by telephone if necessary to maintain continuity and consistency in discussion and group composition. The final list of the WG members will be communicated to all in due course of time.

## **5. Designating Alternates**

- Alternates will be considered at the discretion of the group Chair.
- If a substitute is absolutely required to attend on a group member's behalf, then it is that Working Group member's responsibility to contact the Chair and discuss the appropriateness of an alternate.
- Alternates must remain the same and be fully briefed by the group member in order to participate fully at Working Group meetings.

## **6. Roles and Responsibilities**

The Working Group will work collaboratively to develop provide its best advice to the stakeholders on issues pertaining to

- New VAS services that can be introduce using the current telecom infrastructure (e.g. IN platforms) of the TELCOs with no or little modification.
- Share experiences over the success or otherwise of any service that a representative has introduced.
- Study the advantages and disadvantages of the issue of fixed mobility and recommend practical steps while keeping in view the benefits of all the stakeholders.
- Recommend policy changes if required for benefit of telecom industry as a whole.
- Highlight the projects that can be taken up by the academia within Pakistan under supervision of supervisors.

## **7. Duties and Obligations**

- PTA's staff will be responsible for :
  - Formal, written communication from and about the WG will come from the group Chair.
  - Chairing and facilitating the meetings;
  - Contributing comments and advice from a telecom market perspective; and
  - Providing administrative support to group members.
- The group as a whole will be responsible for respecting the confidentiality of all sensitive information, documents and discussions that are shared in meetings. Group will have a standing agenda item at the end of each meeting to discuss what information arising from their discussions is immediately shareable.

- Industry WG will strive for consensus around issues that require decision-making and, in the interest of time and remaining on task, may defer items that require further discussion to a later time.

## **8. External Experts**

- The WG may seek additional input and expertise from experts to answer specific questions or shed light on a particular issue.
- When external input is requested or required, the WG will agree upon :
  - who will be invited;
  - what questions will be asked of external invitees; and
  - The process (es) that will be followed.
  - Remuneration if required

## VAS Options

### Location Sensitive Billing

This is example of a service that can not stand-alone. Instead, location sensitive billing (LSB) adds value to the core service by location enabling the core service. Location sensitive billing can be used in conjunction with post-paid, prepaid, and/or VPN based mobile communications services to establish zones for which differentiated billing treatment may be applied. For example, a "home zone", "work zone", and "premium price zone" could be established to allow an operator to offer differentiated service to its customers.

This is viewed as a value-added service to both the customer and the mobile operator. The customer benefits from LSB through his ability to use the mobile phone at preferred rates based on location. The wireless carrier benefits from incremental revenues derived from additional usage and from premium charge zones where there is already high demand and perhaps overly taxed system capacity. While the issue of potential cannibalization of existing service arises, customer behavior and studies indicate a net benefit derived from overall increased usage and revenues.

Taken together, call management services and LSB also depict characteristic number six, operational synergy. Call management services add value in terms of providing the user options depending on location. For example, the user may want to receive certain calls at the home zone, but not at work, and perhaps receive only urgent calls when traveling or on vacation. LSB provides the additional synergistic benefit of location based billing when the user is in those various locations.

### Unified Messaging

Unified Messaging is an Advanced Messaging capability that enables the delivery of Value-added Services to end-users that make mobile communications simpler, easier to use, and more productive.

One of the most significant aspects of UM is the ability to integrate UM with other applications. For example, the UM system could detect a received email, determine that the customer is on his mobile phone, and send an email notification to a SMSC. The SMSC would send a SMS to the user. The user would have the ability to decide if the email is important enough to receive immediately to the phone via SMS, to read later, to call the person via voice call, or perhaps to listen to the email via text-to-speech conversion.

UM benefits from certain core technologies such as text-to-speech, speech-to-text, and voice recognition capabilities. However, UM will also benefit further from certain supplemental technologies such as presence and availability, location-based service, and mobile IP technologies, which may all be used to further personalize the user's messaging.

Presence and availability systems may be used to detect that the user is in a certain local, and based on personal profiles, determine if the user is willing/able to receive messages immediately (and in which message format) or whether to store the messages for future retrieval. Location determination technology further enhances the support for UM by providing more specific location information.

UM coupled with call management and location systems could allow some useful communications management capabilities. For instance, a caller could be prompted to speak his name to the UM system, and based on the location of the customer, the system could convert the spoken word to text and send to the customer via SMS while the caller is on hold. The customer could then decide to receive the voice call or allow the system to handle the messaging.

Mobile IP technologies are especially important for packet networks such as 2.5G, 3G (and beyond), wireless computing, and advanced messaging. UM will be an integral component to advanced messaging applications, as 3G systems allow for multi-media messaging services that will require management of the many message types that the customer will engage in

### **Tracking**

This is a rather large category that contains everything from the difficult fleet applications to enabling mobile commerce. Fleet applications typically entail tracking vehicles for purposes of the owning company knowing the whereabouts of the vehicle and/or operator. Tracking is also an enable of mobile commerce services. A mobile user could be tracking and provided information that he has predetermined he desires, such as notification of a sale on men's suits at a store close to the user's current proximity.

### **SMS games**

SMS games are similar to the early network games in Internet. The word MUD attracted many game players. With the development of networks, SMS guessing game, witty asking and answering game entered the SMS game market quickly. The advantage of SMS games is that almost all mobile phone support it. However, the time delay of this kind of game is too long and their recreation feature is not strong enough.

### **Emergency services**

Hopefully not many readers of this article will have to rely on dialing 9-1-1 from a mobile phone, but if you do, it is a location based emergency service application that pinpoints your location and relays it the appropriate authorities. The FCC has mandated that by October of 2001, all wireless carriers in the United States must provide a certain degree of accuracy in pinpointing the location of mobile users who dial 9-1-1.