

**METHOD AND APPARATUS FOR DEFINING,  
DISTRIBUTING, AND REDEEMING SMS  
AND MMS COUPONS**

CROSS REFERENCE TO RELATED  
APPLICATIONS

**[0001]** This application claims priority to U.S. Provisional Patent Applications, Ser. No. 60/772,490 filed 13 Feb. 2006, U.S. Provisional Patent Application Ser. No. 60/778,045 filed 2 Mar. 2006, and U.S. patent application Ser. No. 11/673,502, filed Feb. 09, 2007, all of which is incorporated herein in its entirety by this reference thereto.

BACKGROUND OF THE INVENTION

**[0002]** 1. Technical Field

**[0003]** The invention relates to advertising using electronic media. More particularly, the invention relates to a method and apparatus for defining, distributing, and redeeming SMS and MMS coupons.

**[0004]** 2. Description of the Prior Art

**[0005]** Short Message Service (SMS) is a service available on most digital mobile phones, other mobile devices, e.g. a Pocket PC, or occasionally even desktop computers, and some fixed phones, that permits the sending of short messages between mobile phones, other handheld devices, and even landline telephones. Text messages are also often used to interact with automated systems, such as ordering products and services for mobile phones, or participating in contests. The Short Message Service—Point to Point (SMS-PP) is defined in GSM recommendation 03.40. GSM 03.41 defines the Short Message Service—Cell Broadcast (SMS-CB) which allows messages, such as advertising, public information, etc., to be broadcast to all mobile users in a specified geographical area. Messages are sent to a Short Message Service Center (SMSC) which provides a store-and-forward mechanism. It attempts to send messages to their recipients. If a recipient is not reachable, the SMSC queues the message for later retry. Some SMSCs also provide a forward and forget option, where transmission is tried only once. Both Mobile Terminated (MT), for messages sent to a mobile handset, and Mobile Originating (MO), for those that are sent from the mobile handset, operations are supported. Message delivery is best effort, so there are no guarantees that a message is actually delivered to its recipient and delay or complete loss of a message is not uncommon, particularly when sending between networks. Users may choose to request delivery reports, which can provide positive confirmation that the message has reached the intended recipient, but notifications for failed deliveries are unreliable at best.

**[0006]** Transmission of the short messages between SMSC and phone can be done through different protocols, such as SS7 within the standard GSM MAP framework or TCP/IP within the same standard. Messages are sent with the additional MAP operation `forward_short_message`, whose payload length is limited by the constraints of the signaling protocol to precisely 140 bytes (140 bytes=140\*8 bits=1120 bits). In practice, this translates to either 160 7-bit characters, 140 8-bit characters, or 70 16-bit characters. Characters in languages such as Arabic, Chinese, Korean, Japanese or Slavic languages, e.g. Russian, must be encoded using the 16-bit UCS-2 character encoding (see Unicode). Routing data and other metadata is additional to the payload size.

**[0007]** Larger content, known as long SMS or concatenated SMS, can be sent segmented over multiple messages, in which case each message starts with a user data header (UDH) containing segmentation information. Because UDH is inside the payload, the number of characters per segment is lower: 153 for 7-bit encoding, 134 for 8-bit encoding and 67 for 16-bit encoding. The receiving phone is then responsible for reassembling the message and presenting it to the user as one long message. While the standard theoretically permits up to 255 segments, six to eight segment messages are the practical maximum, and long messages are billed as equivalent to multiple SMS messages.

**[0008]** Short messages can also be used to send binary content such as ring tones or logos, as well as OTA programming or configuration data. Such uses are a vendor-specific extension of the GSM specification and there are multiple competing standards.

**[0009]** The SMS specification has defined a way for an external Terminal Equipment, such as a PC or Pocket PC, to control the SMS functions of a mobile phone. The connection between the Terminal Equipment and the mobile phone can be realized with a serial cable, a Bluetooth link, an infrared link, etc. The interface protocol is based on AT commands. Common AT commands include AT+CMGS (send message), AT+CMSS (send message from storage), AT+CMGL (list messages) and AT+CMGR (read message).

**[0010]** Some service providers offer the ability to send messages to land line telephones regardless of their capability of receiving text messages by automatically phoning the recipient and reading the message aloud using a speech synthesizer along with the number of the sender.

**[0011]** Today, SMS is also used for machine to machine communication. For instance, there is an LED display machine controlled by SMS, and some vehicle tracking companies, such as ESITrack, use SMS for their data transport or telemetry needs. SMS usage for these purposes are slowly being superseded by GPRS services due to their lower overall costs

**[0012]** The Multimedia Messaging Service (MMS) is the evolution of Short Message Service (SMS). With MMS, a mobile device is no longer confined to text-only messages. It can send and receive multimedia messages such as graphics, video and audio clips, and so on.. It has been designed to work with mobile packet data services such as GPRS and 1×/EVDO.

**[0013]** There are two modes of delivery in MMS, i.e. immediate or deferred:

**[0014]** Immediate delivery: When the MMS client on the mobile phone receives the MMS notification, it then immediately, without user intervention or knowledge, retrieves the MMS message from the Multimedia Messaging Service Center (MMSC) that sent the notification. After retrieval, the subscriber is alerted to the presence of a newly arrived MMS message.

**[0015]** Deferred delivery: The MMS client alerts the subscriber that an MMS message is available, and allows the subscriber to choose if and when to retrieve the MMS message.

**[0016]** As with the MMS submission, the MMS retrieval request, whether immediate or deferred, occurs with an HTTP request. The MMSC responds by transmitting the MMS message in an HTTP response to the MMS client, after which the subscriber is finally alerted that the MMS message is available.