



COMMERCIAL.TELEVISION AUSTRALIA

**AUSTRALIAN COMMUNICATIONS AUTHORITY
PREMIUM SERVICES DISCUSSION PAPER**

MAY 2003

**SUBMISSION BY
COMMERCIAL TELEVISION AUSTRALIA**

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EXECUTIVE SUMMARY

- Commercial television broadcasters use 190 voice call services and SMS as a means of interacting with their viewers.
- Applications include entering competitions, registering to participate in a program, requesting information such as fact sheets, and receiving additional services attached to programs such as breaking news services.
- The dominant differentiating feature of services offered by broadcasters is derived from the business model based on viewers making short, inexpensive and convenient calls rather than lengthy calls featured by the business model for voice call “chat lines”.
- CTVA submits that the nature of premium rate and SMS services provided by broadcasters is distinct to those providing voice call “chat” services. Given the lack of demonstrable concern surrounding unexpected high bills for types of services provided by broadcasters, additional regulatory measures surrounding these services, as discussed in the ACA Discussion Paper, are not warranted, the Draft Determination should carve out SMS and MMS from its proposed scope of regulation and a distinct 19... prefix number should be assigned for specific use by broadcasters.
- CTVA has an additional concern it would like to raise with the ACA. Given the recent ACA decision to introduce 19x short digit numbers for premium rate messaging services that will enable carriers to charge premium rates, the broadcasters are concerned to ensure that this does not become the only means of charging for SMS and MMS. This issue is dealt with in detail in Annexure A.

1. INTRODUCTION

In accordance with a direction from the Minister, the ACA is currently investigating whether there is a need for additional regulatory measures for premium services¹. The ACA has issued a Discussion Paper seeking comments.

CTVA welcomes the opportunity to provide a submission to the ACA. CTVA represents the metropolitan and regional commercial television licensees in Australia. We make this submission based on our reliance on and extensive use of premium services and SMS as an integral part of our broadcasting services. Accordingly, this submission is limited to the Discussion Paper as it relates to the premium services (including short messaging services) that are provided by broadcasters now and in the future. We do not seek to comment on other issues such as international premium services and “internet dialler services”.

Premium services have been defined in the Direction² as including a carriage service using a number with a 190 prefix. As used by broadcasters, traditionally these have been voice call services.

However, the Discussion Paper at item 3.6 also discusses the use of short messaging services (**SMS**) and multimedia messaging services (**MMS**) raising the question as to whether additional regulatory measures should be applied specifically in relation to these services. This is in light of the growing market for these services to be used as part of commercial enterprises.

Since the time of writing the Discussion Paper, the ACA has announced that it will introduce new 19x short digit numbers for premium rate messaging services³. This will give carriers the ability to charge broadcasters who use SMS in bulk at premium rates. Broadcasters are concerned that this option of charging premium rates should not become the only mechanism for charging for SMS and MMS.

This issue is dealt with in detail in Annexure A.

¹ Australian Communications Authority (Service Provider Determination) Direction 2003 (No.1) at items 5, 6 (hereafter referred to as “the Direction”).

² The Direction, item 3.

³ ACA announcement 20 May 2003, *New number range for premium rate messaging services*.

2. USE BY COMMERCIAL TELEVISION BROADCASTERS OF PREMIUM SERVICES AND SMS

As part of their everyday business, broadcasters use both 190 voice call services and SMS to provide services to their viewers. It is expected that MMS will increasingly be used in the future. Premium rate voice services and SMS are an integral part of the way that broadcasters interact with their viewers. Whereas once upon a time broadcasters asked viewers to contact them by mail, they now also offer them the choice of phoning the broadcaster. More recently, viewers are increasingly offering the viewer to contact them by SMS. In the future, it is expected these interactive services will be an integral part of attraction and hence take-up of digital television by viewers.

2.1 190 VOICE CALLS

190 voice calls are used for a wide range of services offered by broadcasters to their viewers. For example, viewers call to enter competitions, to register to receive a fact sheet about a program, to register for participation in a program (for example, *Who Wants To Be A Millionaire?*) to vote on the outcome of programs (for example, *Big Brother*), to participate in a program (for example, the *National IQ Test*) and to participate in services attached to programs (for example, voting on topical issues).

In short, 190 voice services provide a practical means for broadcasters to interact with their audience and has become the predominant form of interactive television in Australia.

SMS is used by broadcasters in a similar way, with the services provided on 190 voice services often also available via SMS. However, the different characteristics of SMS enable broadcasters to take interactivity with their viewer one step further.

2.2 SMS

SMS provides the ability to send a short (160 alphanumeric character) text-only message from one GSM mobile phone to another.

This service was originally intended to allow wireless service providers to send configuration update information to mobile handsets. However, SMS now has huge mass-market appeal that has resulted in SMS generating around 20% of the revenue of most GSM wireless service providers and 366 billion SMS being sent worldwide in 2002.

Annexure B contains a description of how SMS works.

2.3 SMS APPLICATIONS

The vast majority of SMS usage is accounted for by consumer applications. These applications are becoming ever more abundant, including simple person-to-person messaging (currently the majority of traffic), voice mail, fax, unified messaging, games, ringtones, pictures, voting, information services, mobile banking etc. In the field of television, SMS applications include:

- voting to eliminate a contestant (for example, *Big Brother*), voting for play/player of the match (for example, *tennis grand slams*), voting to choose the next segment on a program (for example, interactive *Getaway*);
- games (for example, playing along with “*Who Wants To Be A Millionaire?*”);

- receiving breaking news headlines, weather reports, traffic reports;
- reminders that your favourite show is about to start (for example, ABC program reminders)

This ability to deliver “push” broadcast services to viewers takes interactivity one step beyond 190 voice services.

Commercial broadcasters are also exploring the use of MMS for delivery of content.

2.4 MMS

MMS is a service which sends text, audio, images, video and other types of data to and from a mobile phone. It is effectively next-generation SMS. MMS is the technology behind the latest generation of picture phones (mobile phones with built-in digital cameras).

Wireless service providers hope that MMS will build on the success of SMS and to boost data services revenues to offset the ongoing decline in revenue from voice services.

MMS has the capability to allow a user to construct a complete script that combines text, audio, image and video images and have this sequence play back on the receiver’s phone. For example, users could construct a multimedia message of text, sounds, images and video clips from a vacation trip and send a message to all their colleagues.

The MMS message would play back on the recipient’s phone, with the images, video clips and sound clips playing at the appropriate points in the script. Current MMS services do not include this scripting capability, but will allow users to send a variety of data formats between phones such as text, image and video.

Annexure B contains a description of how MMS works.

3. THE INAPPLICABILITY OF ADDITIONAL REGULATION FOR PREMIUM RATE SERVICES AND SMS

3.1 INTRODUCTION

The Discussion Paper raises a number of questions relating to additional regulatory measures that could be taken in relation to premium services. Of particular interest to broadcasters are specific questions relating to limiting 190 voice services to customers who request them, barring of calls and registration of premium services providers and the issue of whether SMS and MMS should be further regulated.

Given the lack of demonstrable concern surrounding unexpectedly high phone bills and the different nature of premium services and SMS provided by broadcasters in contrast to other premium rate voice services, we submit these additional regulatory measures are not warranted. In fact, we submit that such regulation would be detrimental to the business of providing these enhanced services to viewers. Additional regulation such as pre-registration for use of premium services will discourage participants, many of whom are one-off users, and discourage use of a service that relies on immediacy for its value. The services are in many cases dependent on the viewer watching and participating in a real time event.

Broadcasters operate under a well established co-regulatory code of practice. This system would be a suitable well tested mechanism to handle any regulation of broadcasters premium rate services if it is needed in the future.

It is therefore our submission that additional regulation as suggested in the Discussion Paper is not appropriate and not necessary given the nature of television premium services. The premium services and SMS offered by broadcasters to their viewers are very different from the types of premium rate services of concern to the Government which lead to some customers experiencing unexpectedly high phone bills.

3.2 THE LEGISLATIVE RATIONALE AND THE DIFFERENCES WITH PREMIUM RATE OFFERINGS BY BROADCASTERS

The principle driver for new rules to limit access to premium rate services is not a blanket issue of consumer protection: it concerns the vulnerability of consumers and the risk of incurring unexpectedly high phone bills that arise from:

- consumers being unaware of the full costs involved in using premium rate services;
- Internet “dumping” and the use of Internet diallers, in most cases (and by definition in the case of dumping) without any or sufficient warning about the implications of establishing a new connection to a premium rate number; and
- the accessibility of certain types of content itself, whereby the lessee of the telephone service is unaware of the nature of content which is often explicit. In many instances, the person responsible for the payment of service charges may only become aware that a premium rate service has been accessed once the bill for those charges is received.

CTVA submits that the case of broadcasters offering both premium rate telephone and SMS services to viewers is markedly different from the scenarios above. Furthermore, the application of service provider rules to SMS usage in the manner proposed in the draft Service Provider Determination will be directly contrary to the consumer interest. Premium rate services and SMS do not warrant additional regulation because of the following factors:

- The leading cause of consumers incurring unexpectedly high charges from premium rate service usage is a function of duration, namely the length of time the caller is connected to a premium rate service, accessing premium rate content, or unknowingly connected to a 190 prefix through use of an Internet dialler or Internet dumping. Concern has centred around voice calls to “chat lines” such as dating contact services, astrology services and sex services because these types of services that lend themselves to be lengthy and appeal to some vulnerable sections of the community. However, this scenario does not exist in the case of the applications used by broadcasters. The 190 voice calls and SMS calls (that is, originating SMS and MMS messages sent by a viewer to a premium rate SMS number), are of short duration. The entire business model for broadcaster use of premium rate services and SMS is premised on viewer capacity to make a short call.
- Unlike voice call “chat line” services, broadcasters are appealing to a large volume of viewers seeking high volume traffic with each viewer spending relatively small amounts on each service. For example, although still in its infancy, the Nine Network received 300,000 SMS calls in response to a single *Getaway* program seeking viewers to vote for their choice of the next segment.
- Charge rates are clearly provided to viewers on screen (as required by the Commercial Television Industry Code of Practice).
- In respect of SMS, revenue derived from premium rate SMS originating messages is not time-contingent. The functionality of the billing scheme involving viewers as callers, the broadcaster as the content provider, and the carrier, carriage service provider or carriage service intermediary (whether or not these entities are one in the same or distinguished by the presence of, for example, a service provider bureau) is structured according to the number of messages sent. No entity in the chain has the capacity or incentive to extract additional revenues from the viewer beyond the fixed cost of the originating message. The viewer is informed of the fixed cost to send a single originating message.
- The nature of premium rate services and SMS in the broadcasting context is therefore volume-sensitive. The incentive on broadcasters is twofold:
 - to maximise the viewer’s propensity to respond to a promotion or otherwise interact with the programming; and
 - to achieve this by making access as convenient and viewer-friendly as possible.
- The corollary is that premium rate services used by broadcasters must be inexpensive and convenient. The success of premium rate services in each instance is the degree of interactivity that occurs. The relatively low cost, even fractional cost, of these premium rate services and SMS (compared to other types of premium rate services such as voice call “chat lines”) means that viewers would have to make an exceedingly high number of calls in the broadcasting context to be at risk of incurring unexpectedly high telephone charges.
- The use of premium rate services by broadcasters must also be viewed in the context of countervailing viewer power. The degree of take-up for specific programs and promotions is fast becoming a measure of audience ratings, in turn having a direct bearing on potential advertising value. It is incumbent on broadcasters to foster maximum participation in promotions or interactivity with programs in terms of actual viewer numbers. The long-term success of this business imperative is again contingent on participants having confidence in the integrity of the promotion. To do otherwise will inevitably reflect poorly on the sustained take-up of interactivity by means of premium rate services. In turn, more sophisticated models of interactivity such as requesting

replies or content will not be maximised unless broadcasters can engender confidence in participants as to the integrity of the service (such as full disclosure of associated SMS/MMS originating and terminating costs).

3.3 EXISTING REGULATION

Commercial television broadcasters are subject to a stringent regulatory regime, by virtue of licence requirements as well as the Commercial Television Industry Code of Practice (the Code). The Code is registered with the ABA and addresses many of the substantive concerns which have given rise to the current investigation into the need for further regulation of premium rate services. As the ACA will be aware, CTVA takes its monitoring and compliance role of the Code very seriously, including an educative function to inform the viewing public of its existence and the complaint handling process.

Relevantly:

- Section 1.16 of the Code specifically deals with premium rate services. Broadcasters must provide clearly readable information about the cost of a call made using a premium service to obtain information, register an opinion or participate in a competition.
- Under section 1.16.1, premium rate services offered to children must ensure that the information about call cost is presently orally and visually. It must also be in a form which is readily understood by children and children must be invited orally to seek parental permission before calling.

The scope of premium services in the Code includes premium rate SMS. The terminology used in this aspect of Code is a “premium charge telephone service”, which CTVA considers to encompass the use of all telephone services to premium rate numbers and will be enforced accordingly.

In addition, in relation to many of the services offered via premium service calls broadcasters are prevented from charging more than 55 cents as a result of State and Territory based legislation which relate to provision of trade promotions which include competitions.

3.4 SUBMISSIONS

In summary, broadcasters have neither the incentive nor the capacity in the SMS and premium rate environment to engage in the types of activity which have led to the policy concerns and regulatory responses surrounding the “chat” use of the 190 prefix. Rather, the objective of maximising consumer uptake demands that broadcasters appeal to a wide viewer audience.

Accordingly, CTVA submits that no further regulation should be implemented in relation to premium rate services. In addition, the Draft Determination should carve out premium rate SMS and MMS services from its scope of regulation.

In addition, given that the nature of premium rate services and SMS provided by broadcasters is different to other premium services, we submit that a distinct 19... prefix number should be assigned for specific use by broadcasters.

It is our view that increased regulation would lead to a considerable increase in the unit cost for each use of the service. This will be borne by the customer and discourage the large volume use of the service, which broadcasters rely upon to provide this enhanced service to their viewers (which viewers are now increasingly expecting from broadcasters). To do otherwise would only stifle innovation and choice, at the expense of the end-user.

We summarise our comments in response to the five specific inter-related items for consideration raised by the ACA at items (a) to (e) of that part of the Discussion Paper:

(a) Any relevant industry self regulation

Commercial broadcasters are subject to the requirements of the Commercial Television Industry Code of Practice. Compliance with the Code is monitored by CTVA and enforced by the Australian Broadcasting Authority. As discussed in Section 3.3 above, the Code requires clearly readable information about the cost of the call to be provided when advertising and promoting premium rate services, including SMS and MMS. Additional requirements apply to services promoted to children, including a requirement that children must be instructed to obtain parental consent before calling.

In addition, in relation to many of the services offered via premium service calls, broadcasters are prevented from charging more than 55 cents as a result of State and Territory based legislation which relate to provision of trade promotions which include competitions.

(b) The effect on competition

For broadcasters, the entire business model for premium rate services and SMS in particular is premised on facilitating and encouraging short usage. It is widely emerging as a competitive driver between commercial broadcasters in terms of customer uptake and interaction.

The greater concern in respect to competition is at the carrier/service provider charging level (dealt with in Annexure A), which, if left unchecked, is likely to perpetuate charges for SMS which are not cost-oriented. In turn, these disproportionate costs are likely to be ultimately borne by the consumer. CTVA submits that the risk to competition in the premium rate SMS sphere lies in the carrier's charging model, not those of broadcasters.

(c) Compliance costs

CTVA does not have any comment in relation to compliance costs as this issue relates predominantly to the carriers.

(d) Technical implications

CTVA does not have any comment in relation to technical implications as this issue relates predominantly to the carriers.

(e) Consumer benefits and costs

The suggestion that viewers will need to either register and/or be subject to other regulation undermines the principles of innovation, interactivity and accessibility upon which these services are based in the broadcasting context.

For broadcasters, the cost to consumers for participating in premium rate services and SMS and MMS is designed to attract usage. It is not contingent on call duration or broadcasters extracting revenue from increasing user cost. The real long-term value to broadcasters is participation by the viewers themselves – enabling them to derive more from their current viewing experience, translating to higher ratings and diversified programming. The real cost of regulation will be borne by consumers, for

it will be a loss of interactive opportunities for which there is no demonstrable need for additional regulation.

(f) The implications of the potential growth in premium services using short message services or multimedia message service technology

CTVA's view is that users will continue to enhance their viewing experience by using these forms of technology. This will lead to more innovative forms of interactivity and a corresponding incentive on broadcasters as content providers to be continually more creative in services offered to users. Additional regulation on these services would clearly impede growth.

ANNEXURE A

ECONOMICS OF MESSAGING – COST STRUCTURE FOR THE BROADCASTERS

Broadcasters have a number of business models associated with messaging. Some of these are based on payment for content, some require a break-even on messaging costs and others generate income from advertising. However, CTVA is concerned that the option of premium charging for SMS and MMS should not become the only mechanism for charging as set out in this submission. It is not desirable if alternatives which present lower costs to both consumers and the industry are eliminated.

The mobile carriers in Australia appear to be taking the view that the premium rate SMS and MMS services which have proved so successful in providing a revenue stream to the ailing mobile service providers of Western Europe should immediately be grafted on to the Australian environment.

CTVA takes the view that it should be able to interact with its viewers on a low cost basis in some situations and reserve premium rates for occasions where there is substantial value to the consumer.

For example, there may well be value to the consumer in receiving up-to-the-minute news bulletins at the viewer's discretion. That is, the broadcaster sends an SMS to notify the viewer that there is breaking video content available and the viewer can choose to acquire that content by sending an SMS message back. The content is then provided by MMS.

Clearly there is value in the content, which should be charged at a premium rate. However, there is little or no value associated with the two SMS messages that must be made in order for the viewer to have the choice of acquiring the content. Further, there is absolutely no value to the consumer in receiving a message announcing merely the content is available if the viewer chooses not to take advantage of that content.

The current approach to premium rate services being adopted by the mobile carriers in Australia seems to be that the viewer must pay a premium rate (that is, 55c) in order to interact in any way with the providers of content. The carriers' models are designed to prevent discretionary charging and to force premium rates, even if the broadcaster feels such a rate is inappropriate.

Short message service has become the most popular non-voice communication available on wireless networks on a global basis. The phenomenon of "texting" has been much more extensively adopted than was originally anticipated by most mobile operators. Indeed, the capacity to send short messages is part of the core network infrastructure required for any communication. That is, the incremental cost of sending an SMS to the carrier is approaching zero. The carrier costs associated with sending of an SMS are the billing costs and the associated administration and provision for bad and doubtful debt.

On a global basis, this has led to operators controlling their short message service centres very tightly. Particularly in Europe, a closed operator community has developed which is self-regulating. These two factors mean that there is a very large barrier to entry for non-telecommunications operators.

The weight of demand for SMS messaging from carriers has led to investment in infrastructure. In particular, some operators have extended the capacity of their SS7 networks to deal with short messaging service messages in a more appropriate way. Even so, the incremental cost of a short message approaches zero.

1 MO AND MT MONEY FLOWS

1.1 MO

A subscriber originated SMS has a cost associated with:

- billing;
- customer support; and
- provision for bad and doubtful debt.

There is a very small incremental cost for the provision of network services.

1.2 MT

In contrast with MO, a subscriber terminated SMS has no consumer costs but rather a customer cost which is shared among (in the case of broadcasters) many tens or hundreds of thousands of consumers. There is a very small incremental cost for the provision of network services.

1.3 Cost based charging

Until the introduction of premium rate SMS services in Australia, each of MO and MT could be purchased from separate service providers. The meant that deals could be struck which resulted in separate supply of MT and MO services. As a practical matter, MT were priced at a fraction of the price of an MO.

1.4 Charging for interactivity

For non-premium rate services, a viewer can only be charged the maximum price for an SMS provided in a carrier's Standard Form of Agreement. Telstra has a maximum price of \$0.30 per SMS. A broadcaster could enter into agreements where:

- Telstra charged the 30 cents to the viewer;
- the broadcaster (through a service provider) negotiated separate supply of MO and MT; and
- provided that the sum of the costs of the MO and MT were less than 30 cents, the difference could be distributed between the service provider and the broadcaster.

That is, the consumer interacts with television services at a price comparable to the retail price of an MO but benefits from an MO/MT pair.

Unfortunately, the introduction of premium rate services for SMS is likely to adversely affect consumers in that the retail price for interactivity will become the lowest premium rate. The mobile carriers have changed their tariffs to charge the same amount for an MT as an MO (regardless of the cost base). Given that the sum of the costs of an MO and an MT is generally in excess of 30 cents, CTVA members can only provide SMS based interactivity at either a loss or on a premium rate.

In practice, the Telstra premium rate SMS tariff provides an illustration of the problem:

- Telstra provides two premium SMS service options: Mobile Originated (**MO**), and MO with Mobile Terminated (**MT**) reply.
- The pricing arrangement for payments to Telstra is as follows (all prices include GST):

Connection Fee (once off): \$20,000

Carriage charge per SMS:

Monthly Volume Rate Bands	Price per SMS
1-10,000	\$0.22
10,000-50,000	\$0.16
50,001-100,000	\$0.15
100,001-250,000	\$0.14
250,001-500,000	\$0.13
500,001+	\$0.12

Administration Fee: 20% of full retail price charged to Telstra mobile customers, (including 3% bad debt allowance and adjustment allowance of 2%).

That is, even if Telstra were to offer a 30 cent premium rate (and our understanding is that \$0.55 will be the lowest rate), then at the maximum volume discount band the costs to the broadcaster would be:

MO	12 cent
MT	12 cent
Administration	20% of \$0.30 = 6 cent
TOTAL	30 cent

That is, there would be a loss for the broadcaster of at least the carrying cost of \$20,000 (as well as the cost of any service provider).

The issue is further compounded by the decision by carriers to sell MT with MO. Consider the *Who Wants To Be A Millionaire?* game described earlier, where the viewer has an hour to complete fifteen questions (2 x MO and 15 x MT). The recent ACA decision to introduce 19x short digit numbers for premium rate SMS means that carriers will have the ability to charge a premium for those services. In turn, broadcasters will have the ability to offer such premium services, although the incentive on broadcasters is different to that of the mobile carriers (ie broadcasters want to encourage frequent use by viewers, not to solely derive revenue based on a premium rate model). The broadcasters' break-even selling price for such a game priced at a premium rate (at maximum volume discount band) would be 17 x \$0.12 + 20% of retail price which is \$2.55. If MT and MO were available separately, then the cost to the consumer would be either \$1.10 or, conceivably, \$0.55.

CTVA is concerned that price setting of premium rate messaging services without reference to cost will adversely affect consumer outcomes, as well as deter

broadcasters from engaging in this novel form of interactivity. Innovation will effectively be stifled to the detriment of consumers, in spite of SMS now becoming the only demonstrable form of interactive television in Australia.

ANNEXURE B

HOW DOES SMS AND MMS WORK?

1. SMS

SMS is an example of a store and forward service. Instead of sending the message directly from one phone to another, the message is sent to a central SMS server known as a short message service centre (**SMSC**). The SMSC reports that it has accepted the message (sender's phone shows "message sent"). This server detects when the recipient's phone is connected to the network, and then forwards the stored message. As all SMS phones can handle SMS messages, the SMSC only has to detect that the recipient's phone is switched-on and in-coverage to forward the SMS.

Sending an SMS message does not involve making a call between two phones. The SMS text string is carried over the signalling network that is used to manage call set up and mobility. It was originally only destined to allow wireless service providers to send configuration update messages to a phone.

Because it uses the signalling network, SMS messages are delivered almost instantly if the recipient's phone is switched on and in coverage.

The basic mobile network infrastructure for point to point SMS is illustrated in Figure 1 - Mobile to mobile SMS.

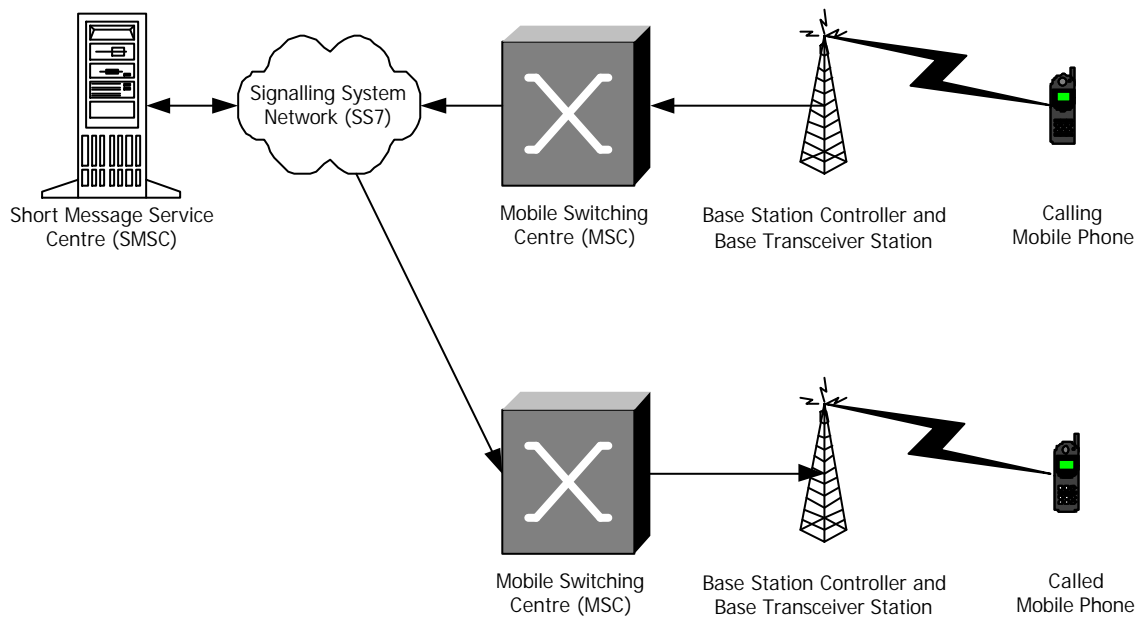


Figure 1 – Mobile to mobile SMS

1.1 Billing

Billing is generated using the transfer log recorded by SMSC. Each message has a billing reference associated with it, which tells the billing system the rate that particular message should be charged for.

2. MMS

Like SMS, MMS is a store and forward service, but the complexity of the MMS message format and the variety of user terminals, makes the MMS service more complex than SMS.

The sender composes a message and sends it to a Multimedia Messaging Service Centre (**MMSC**) using a wireless applications protocol (WAP) connection (typically over the general packet radio system). The MMSC notifies the sender over the same WAP connection, that it has accepted the message (sender's phone shows "message sent").

The MMSC interrogates a local subscriber-profile-database to determine if the intended recipient has an MMS-compatible phone. If the destination phone is MMS-compatible, the MMSC then uses WAP to send an SMS to the destination phone, informing it that an MMS message is available. The destination phone then initiates a WAP connection with the MMSC, and uses WAP to retrieve the message from the MMSC.

Depending in the exact capabilities of the destination phone, the MMSC may need to use a content-converter to change messages or part of message to a compatible data format.

If the subscriber-profile-database indicates that the destination phone is not MMS-compatible the MMSC uses a legacy support gateway to post the MMS to a web address on the Internet, and sends an SMS to the destination phone with instructions on how to retrieve the message.

Many other variations are also possible. For example the MMSC can be linked to a voicemail system. Instead of sending an SMS to the recipient of a voicemail message, saying it can be retrieved; the voice message can be encapsulated in an MMS and sent directly to the recipient's phone.

3. "PUSH" AND "PULL" SYSTEMS

Wireless delivery technologies deliver information to end users on the basis of either "push" or "pull". The majority of services are delivered on a pull basis by client demand. These include mobile services such as web browsing and client programs on handheld devices (for example) interactive games). Pull technology is a generally synchronous in nature. That is, the mobile device instigates a server response which is time related to when the request was made.

On the other hand, push technologies allow servers to deliver information to end-users. Such information includes messaging, instant messaging and other forms of alert. These services are asynchronous in nature. That is, the timing of the delivery of information bears no relationship on a time basis to activity by the end user.

4. MO AND MT

From the perspective of a supplier of services using SMS, there are two types of service:

4.1 *Mobile-Originated (MO)*

- Messages are transported from the handset to the short message service centre (SMSC).
- Report is always returned to handset, confirming the short message delivery to the SMSC or informing the handset of encountered failure and identifying the reason.

4.2 Mobile-Terminated (MT)

- Messages are transported from the SMSC to the handset.
- Report is always returned to the SMSC either confirming the short-message delivery to the handset or informing the SMSC of the short message delivery failure.

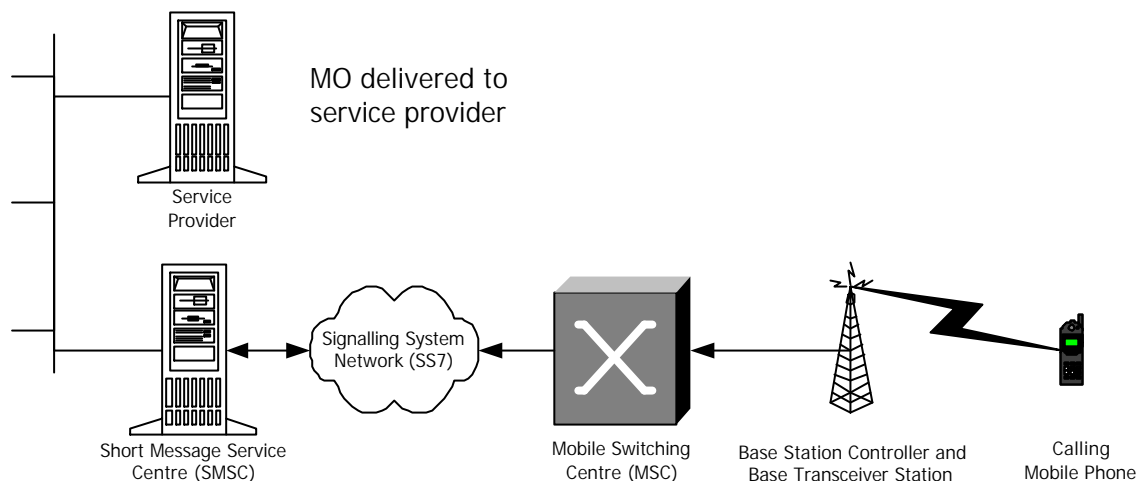


Figure 2 – The MO portion of an SMS service

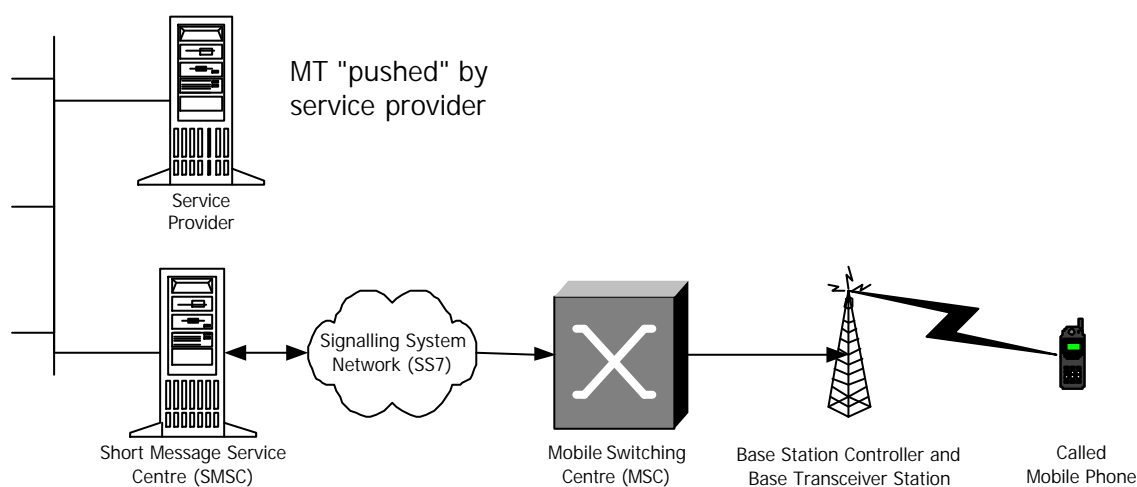


Figure 3 – The MT portion of an SMS service

Using these two services to describe the elements of SMS messaging, it becomes clear that access to the SMSC is an essential part of the delivery of SMS services. Similarly, access to the MMSC is an essential part of the delivery of MMS services.

4.3 Voting Application

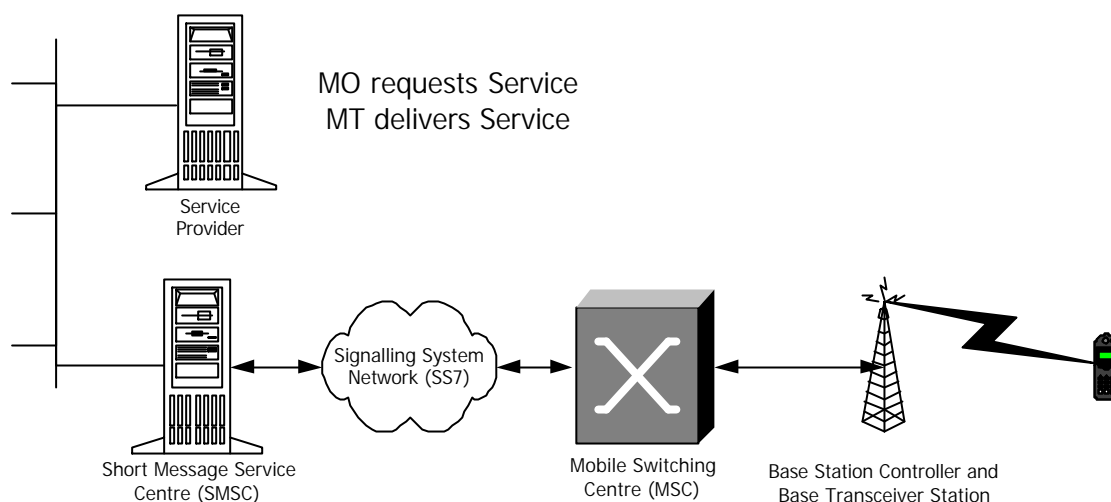


Figure 4 – Voting Application

In a simple voting application, the viewer initiates an MO to vote. As a practical matter, the response of “message sent” by the SMSC is not sufficient for the viewer to be certain that the vote has been counted. In addition, an MT must be delivered by the service provider.

4.4 Television content may create multiple MT for each MO

Who Wants To Be A Millionaire? is produced by Celador International Limited. Celador has produced an SMS version of the gameshow designed to be run separately from the screening of the program. It is likely that there will also be “play along” SMS versions of the game.

In either case, the viewer signifies his or her willingness to take part in the game by sending an MO message. Subsequently, the user is delivered questions by MT. In the original version of the SMS game, the user sends an MO to reply to each question and the acknowledgment of receipt is the delivery of the next question.

Such a game is offered in Singapore with a per question (one MT and one MO) cost of S\$0.416. It would be possible to conceive of a variant of this game. In the variant, the viewer uses one MO to request all fifteen questions at the start of *Who Wants To Be A Millionaire?* on television. The viewer then has until the end of the show to send another MO with the answers in the correct order for the opportunity to enter into a prize draw. This variant would result in a transaction of two MO and fifteen MT. The implication of this is set out in the review of the money flows associated with messaging.

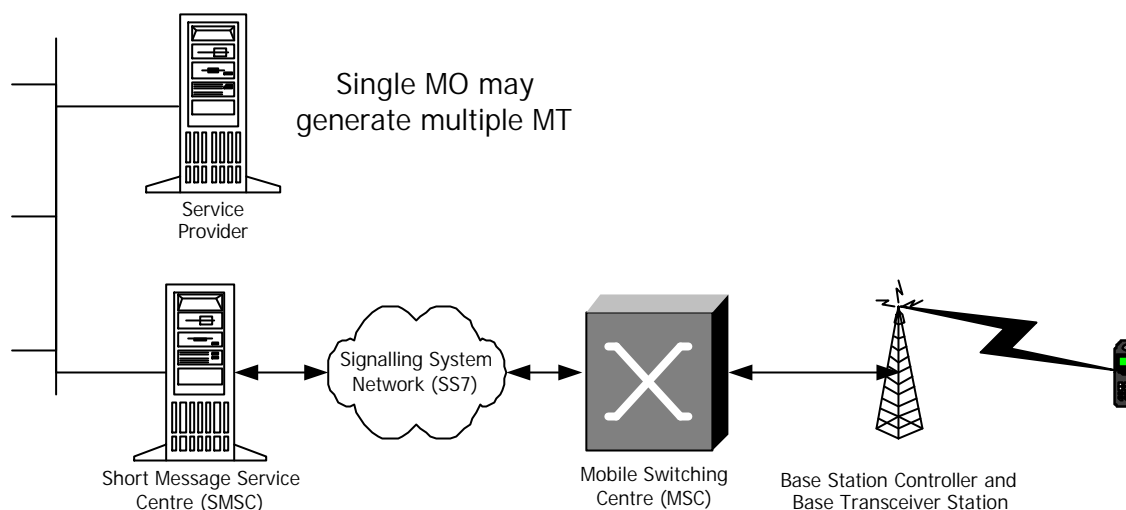


Figure 5 – Television content may create multiple MT for each MO

4.5 Application of messaging services – MO and MT

There are a number of call types with associated numbers of MO and MT and these are set out in the following section.

4.5.1 Call types

Simple phone to phone text:

- MO from sender to receiver
- MT by receiver
- sender is billed is billed for MO

4.5.2 Simple vote

- MO from sender to service provider
- service provider originates a message which results in MT by sender
- sender is billed for MO
- service provider is billed for MT

4.5.3 Premium SMS

- MO from sender to service provider
- service provider originates a message which results in MT by sender
- sender is billed at premium SMS rate
- service provider is billed for MT and MO and a percentage of the call cost levied on the sender

4.5.4 Premium MMS

- MO from sender to service provider (probably SMS)
- service provider delivers rich content which results in MT by sender
- sender is billed at premium MMS rate
- service provider is billed for MT and MO and a percentage of the call cost levied on the consumer

4.5.5 SMS “push” (may be premium or standard)

- Customer requests repeating content from service provider (phone, web or MO)
- service provider originates a message which results in MT by sender
- sender is (reverse) billed for each MT
- service provider is billed for MT and revenue shares discount

4.5.6 MMS “push” (may be premium or standard)

- Customer requests repeating content from service provider (phone, web or MO)
- service provider originates a message which results in SMS MT by customer
- if content is required, customer initiates by MO
- each content required leads to an MT
- sender is (reverse) billed for each MT and billed for each MO
- service provider is billed for MT and revenue shares discount