



Office of the Director of
**Telecommunications
Regulation**

A Proposed Framework for Value-added Text Messaging (SMS) Services

Document No: ODTR ODTR 01/91
 : NAP NAP29
Date: 28 November 2001

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1 INTRODUCTION

1.1 Summary

In the period around August 2001, the ODTR was approached by Irish mobile network operators and various service providers concerning the provision of Value Added SMS Services. Existing approaches to handling these new services were causing certain difficulties and they proposed the development of a new range of short codes to allow both network operators and third party service providers equal access to the mobile market for the delivery of value added SMS services.

On Wednesday 10th October the ODTR hosted a meeting to address this issue of special short codes for SMS content services. The attendees included mobile operators, SMS Service Providers (SPs), RegTel¹ and the ODTR. The three mobile operators Eircell, Digifone and Meteor and the service providers i-touch, púca and m-isphere each presented their companies' views of the market for Premium SMS services and of their related numbering needs. There was a general consensus on the need for introduction of a short-code access system and that this – for practical reasons – should be a 5-digit system.

This paper proposes a framework for a short-code numbering system for text messaging, including "Premium" SMS Services, within the Irish Market, whether offered by mobile network operators or independent service providers. It also poses a series of questions, the answers to which will guide the Director in making her decisions. The outcome will be the publication of a Report or a Decision Notice by the Director on text messaging services, and specifically Premium Rate SMS Services, as well as update of the Numbering Conventions in due course.

1.2 What is Value Added Text Messaging?

Value added text messaging constitutes the use of SMS to provide a content service or product to the consumer, often incurring a premium charge related to the content. The value added to the text message, by the application or content contained within, is assumed to be above and beyond that of a standard text message and the consumer knowingly consents to be billed for that added value. At the most basic level the mobile operators provide the transmission network, the billing mechanism and the established billing relationship with the customer. The value chain can be expanded further to include content and value added service providers, who may be independent third parties or the mobile operators themselves. The ODTR is aware of at least 10 third party service providers interested in providing services using Premium Rate SMS codes, but there may be many others.

Premium Text Messaging provides an opportunity for companies to generate new forms of mobile content or application provision in Ireland, offering a rich content and application environment for customers, while improving customer choice. This, coupled with the high demand that is evident for these services and their often interactive 'instant response' nature makes them good candidates for allocation of short codes. Some of the types of services that

¹ The Regulator of Premium Rate Services.

could be available from network operators and service providers through value-added SMS, including Premium-rated content, are: -

- Event-driven content - e.g. goal-by-goal football alert for a favourite team, personalised stock information, industry sector news alerts;
- Travel Information – e.g. localised real time traffic news, flight/ferry information;
- Business and commerce applications;
- Ringtone Downloads;
- Gaming;
- Competitions;
- Location Information.

1.3 The wider perspective

Both mobile operators and service providers view the launch of value-added SMS services as only a first step in establishing a culture of mobile information services, prior to the introduction of GPRS and 3G. Premium Rate SMS can pave the way for those more sophisticated mobile payment systems and also assist in the process of consumer education on the use of mobile data services. Support for the rapid growth of such services in Ireland is therefore important.

Premium Rate SMS services have been on offer from several European network operators for a number of years now. Norway and Finland have been in the forefront of this development and important factors for growth in those countries have been inter-operability and/or co-ordination of approach between operators, coupled with support from the regulatory system. However, rapid growth has also taken place in other countries, including Ireland, during the last 12 months. This Irish growth has taken place using a mix of ordinary mobile numbers, Number Translation Codes and Network Unique Short Codes for access – despite the restrictions that spring from these. For continued progress, it is important for a dedicated numbering system to now be put in place.

1.4 Submitting comments

The ODTR requests comments from interested parties on the proposals in this document. All comments are welcome, but it would make the task of analysing responses easier if comments were referenced to the relevant question numbers from this document.

All comments should be submitted by 5:00 p.m. on 7 December 2001 as described below. Having analysed and considered the comments received, the ODTR will review the proposals and publish a report in December.

“All responses to this consultation should be sent by post, facsimile or e-mail to:

Ms. Karen Kavanagh at the ODTR (Email: kavanaghk@odtr.ie).

2 Framework for SMS Short Codes

2.1 Demand for Short Codes

Mobile operators and service providers alike have all stressed the importance of short codes for the continued growth of value added SMS services. The key reason for this is the ease of use this provides to the SMS customer who is used to creating abbreviated messages. Furthermore, a short code is more convenient to use and more memorable to the user. Network Use Short Codes (NUSCs) are currently allocated to mobile operators for the provision of network related services but they are not sanctioned for the provision of revenue generating services in accordance with the National Numbering Conventions². Some operators are currently using NUSCs to provide basic SMS services (i.e. requesting and delivering information via SMS). Although the charge applied to these SMS messages is only the standard SMS rate (as such messages involve relatively little added value) this practice needs to be terminated, for competitive reasons. Apart from the use of NUSCs for revenue generation, another objection is that NUSCs are not available to independent SPs, who are thus placed at a competitive disadvantage. Therefore a new range of short codes is required to cater for such messages and also to allow both network operators and third party service providers to offer competing SMS services at premium rates on a level footing.

2.2 Number Utilisation, Tariff structure and Transparency

As indicated in section 2.1, the allocation of NUSCs was not intended for the purpose of providing competitive SMS services due to their limited number and the fact that they are restricted to network operators for on-network use. The ODTR proposes the use of a five-digit short code with the constant leading identifier digit '5', which would allow for up to 9,000 separate numbers³, and would provide ample capacity for the foreseeable future. There is scope for any number of services to be supported on each single short code through the use of keywords within the transmitted message, therefore only a single code is expected to be needed for each separate charging category by each SMS SP.

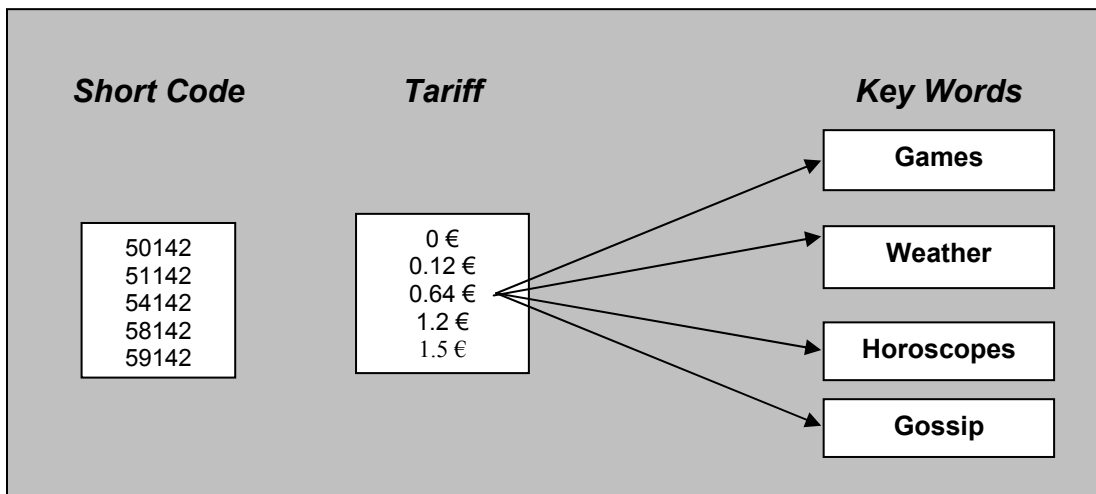


Figure 1 Keywords open up a range of services on one short code

² National Numbering Conventions, Document ODTR 00/10

³ Plus 1,000 reserved for expansion – if needed.

It is also necessary to define price points; as SMS is currently billed according to the dialled destination number, a single SMS code can only have one price on any given mobile network.

To cater for the full range of pricing structures that is currently envisaged, and to ensure reasonable transparency to the consumer, the ODTR proposes the use of a new range of 5-digit short codes that are clearly identifiable by the leading digit “5”. By limiting the number of categories into which these codes are subdivided, the transparency will be further enhanced and customer recognition will quickly grow – to the benefit of all concerned. To ensure competition will be fully open, the ODTR does not intend to set lower limits on charges and the numbering conventions governing usage of the new codes will only be concerned with charges faced by consumers (i.e. interconnection and/or transit charges will not be addressed in the numbering conventions).

Once consumers become familiar with the format of the SMS short codes, the leading digit “5” will automatically become identified with this type of service and consumers will only have to recall the remaining 4 digits. Specifically, from the ODTR perspective, the ‘recognition factor’ attached to recognisable leading digits for short codes that may incur premium charges is an important consumer protection measure.

The table below, which is the proposed structure for the new Text Messaging Short Codes is designed to achieve this transparency for the customer. It separates out and provides for free and standard cost services, it caters for premium services and it contains a specific category for adult SMS messages. Apart from the implicit information about charging and/or adult content, the specific rates being charged by service providers should be clearly stated in all of their promotional material.

Range	Category	Price Range €	Codes Available
50 000 to 50 899	Freephone rate	Free of charge	900
51 000 to 53 899	Standard rate	Up to 0.16€, vat inc	2700
54 000 to 57 899	Basic premium	Up to 0.77€, vat inc	3600
58 000 to 58 899	High premium	0.77€ or above, vat inc	900
59 000 to 59 899	Adult	Variable price	900
5X 9XXX....	All ranges	Reserved for expansion	As required

Figure 2: Proposed number ranges and tariff bands

Notes to Figure 1:

1. “Standard” rate means the published standard charge made to consumers for ordinary SMS messages.
2. While there is potential for pricing overlap between certain categories above, the ODTR expects that competitive pressures will in most cases drive operators and SPs to offer their services in the overlapped category that is recognised as having the lowest ‘ceiling’.
3. Although the “High Premium” rate codes must be used for services where customer charges are 0.77€ or above, there is conversely no bar on applying lower charges than this for services using the range.
4. For both High premium and Adult rates, the ODTR recommends the industry to agree on reasonable maximum charges, in order to avert unscrupulous charging.

While there is an obvious parallel between the proposed tariff structure for Premium Rate SMS services and the existing differentiated tariff bands used for Premium Rate voice services there is no attempt to mirror that pricing structure. In Premium Rate voice services, the customer is billed for the duration of the call at a fixed per-minute charge, with the rate depending on the nature of the service. Retail tariffs for premium SMS services will be based on a once off charge to the subscriber per call, again based on the nature of the service. The operator's systems should ensure that pre-paid customers do not suffer in respect of premium charges for failure to complete delivery of messages due to expired credit.

Service providers will be free to negotiate up to four retail rates with each Network operator, while maintaining retail price flexibility within the range. The use of separate ranges should also facilitate the management of inter operator payments. It is anticipated that a single service provider should require no more than one code within each category, as key words allow a myriad of distinct services to reside on each code.

Although 'Freephone' SMS codes are being allocated along with the other codes, the ODTR understands that impediments currently exist to offering such services. Various system modifications (including billing) need to take place and the mobile operators feel they need to further study the commercial drivers for making the necessary investments.

2.3 Interoperability

The ODTR advocates a co-ordinated approach to the use of short codes by operators and service providers. This is essential to avoid a situation where a service provider would have to apply separately for short codes on each network and would be allocated three different access codes for a single service offered on the Eircell, Digifone and Meteor networks.

There are two alternative code implementation scenarios proposed (as shown in Annex 2 and described below) though it should be noted that there are no differences between these in respect of codes used or numbering conventions that are applicable: -

2.3.1 Codes reserved across networks (Annex 2, Scenario 1)

When a service provider enters into an agreement with a network operator, a short code is allocated to that service provider (including operators) and the same code is reserved on all other mobile networks. A service provider will have to form commercial agreements with and connect to all networks on which any of its individual services are to be carried in order to ensure the same code is opened on each of those networks for that particular service. If the service provider doesn't require its services to be carried on one or more of the networks it will still be expected to notify that/those networks (in writing) that it has the relevant code, to avoid the risk of that code being put to an alternative use.

2.3.2 Inter-operability across networks (Annex 2, Scenario 2)

Service providers select a single host operator who can provide access to short codes from all networks through inter-operator agreements. Therefore a service provider is only required to connect to and contract/settle with one host operator; that host operator then settles with other operators.

There are distinct technical differences in operational management using short codes that are only accessible and presented independently on each network compared with using them in a way that allows them to be hosted on just one network but reachable by inter-operation from all networks. The second approach is likely to require the following additional features: -

- Foreign Subscriber Gateway (FSG) on each network;
- Commercial agreements between operators;
- Routing solutions;
- Consistent translation between MSIN and short code, across networks.

The advantages to scenario 2 are that interconnected networks can allow service providers to host on just one network, reducing costs to industry, which is reflected in lower prices to the subscriber and/or higher profits. Also, innovative content that was previously offered on only one or two networks can now be accessed from all three, increasing message traffic between the operator with no hosting and the hosting network, thus promoting a win-win situation for operators.

The ODTR recommends scenario 1 initially, with migration to scenario 2 as soon as two or more networks are ready. Service providers need only be hosted on one of the scenario 2 inter-working networks, as well as on any non-inter-working networks (if these exist, and if wished). The question of whether to migrate is one for the operators to decide, though the ODTR understands that this is likely to occur during Summer 2002. The ODTR encourages the operators to set up working groups to explore and resolve any detailed technical issues involved in scenario 2, before migration occurs.

2.4 Content Regulation

Regulation of the message content of premium rate SMS services raises the same issues as regulation of voice-based Premium Rate Services. It is therefore proposed that RegTel should extend its existing role in the voice-based Premium Rate Services into regulation of premium rated text messaging services. The next section of this document addresses this matter under the Numbering Conventions heading. It should be noted that keywords are carried in the transmitted message and therefore should be considered as content for the purposes of content regulation.

The ODTR understands that the Wireless Marketing Association⁴ is developing a voluntary Code of Practice. This CoP may be in a good position to avert undesirable practices or content in areas that are outside the remit of RegTel (e.g. personal messaging content, 'spamming' etc). The ODTR encourages initiatives of this type and hopes that the mobile operators and at least the majority of independent service providers will participate, to make it an effective instrument that benefits the industry and the consumer.

The ODTR expects that network operators will be able to offer barring of access to premium rated text messaging services if this is requested by their customers.

⁴ The WMA is an industry association composed of mobile operators and service providers.

2.5 Awareness

The ODTR expects that operators will list relevant pricing information for these new services in accordance with their usual practice. They are encouraged to make special awareness efforts in the early stage of opening the 5XXXX codes for use so that customer recognition and understanding of the scheme quickly grows. Information on tariffs is especially important for customers in this context.

2.6 Allocation of Short Codes for Text Messaging

The ODTR considers the existing model for number allocation to be suitable also for these new services; the ODTR normally allocates numbers and codes only to operators. The current practice is for operators to then make secondary number allocations to service providers as required⁵. However in the interests of fairness, especially to independent actors, the ODTR proposes an initial start-up lottery during which network operators and qualified service providers can apply for up to 4 5XXXX short codes of their choice (i.e. one for each tariff category). These will be allocated as requested and if contested will be decided via a lottery. Thereafter all text messaging short code allocations will be made on an individual basis via the network operators, in line with the documented application process as outlined in Annex 1. Independent service providers will be able to ask any of the mobile network operators to request specific codes for them and these will be allocated or reserved, if free. Once allocated for use on a single mobile network a 5XXXX code is automatically reserved in respect of the other mobile networks and may only be used by the same service provider. In view of the limited availability of short codes, repeated renewals of reservations will not be made.

It is proposed that mobile network operators should each hold a maximum ‘stock’ of five non-allocated, non-reserved text messaging short codes in each category, ready for allocation to new customers. They will also be permitted to request specified individual new codes if customers identify preferred codes and do not want to avail of the codes already held by the operators in this stock.

2.7 Requests for Comments

Q 2.1 Do you agree that the allocation of a 5-digit short code will provide adequate numbering resources for the provision of Premium Rate SMS services. If not, please explain why and provide an alternative proposal.

Q 2.2 Do you agree with the tariff structure for text messaging services as set out in figure 2? If not, please explain why and provide an alternative proposal.

Q 2.3 Do you agree that one code per tariffing category is adequate for each service provider? If not, please explain why, stating how many you feel are needed.

Q 2.4 Do you agree short codes should be introduced in two phases, initially by reserving the same codes on all networks and then, if operators introduce the capability, by introducing codes that inter-operate across all networks? If not please explain why.

⁵ The operators are expected to ensure that service providers applying to them for the codes fulfil all relevant eligibility criteria.

- Q2.5** Do you foresee any technical or commercial difficulties and/or disadvantages in moving from Scenario 1 to Scenario 2? If so, please describe them.
- Q2.6** Do you agree that SMS short codes should be primarily allocated to operators on an individual code basis, after an initial start up lottery for both operators and service providers as described in section 2.6? If not please explain why.
- Q2.7** Do you agree that a 'stock' of 5 SMS short codes is adequate for each network operator, going forward? If not, please explain why.
- Q2.8** Do you consider that the use of Pin codes should be mandatory in conjunction with the adult codes (e.g. as part of the keywords)?

3 Numbering Conventions

3.1 Purpose of the Conventions

The National Numbering Conventions document⁶ is intended to provide a long-term framework within which the Irish telephone numbering scheme, including short codes, may continue to be developed, for the benefit of all Irish public telecommunications users. The document is currently being revised to include *inter alia* the following **service description** that will initially cover text messaging short codes (presently composed only of SMS codes):

A7.5.3 Text Messaging Short Codes

These are 5-digit short codes in the range 5BCDE⁷, being typically used for advanced SMS messaging purposes. Services provided on one network using any of these codes are not currently accessible using that code from other networks, although parallel equivalent services may be provided on other networks. The codes should be made available to third party service providers wishing to provide services on the operator's network, without discrimination between providers or compared to the operator's own services.

The codes are intended for use only with innovative text-based services, which generate sufficiently high demand to justify a short code, and where the service need not be one that supports or enhances network operation or network performance.

Operators and Service Providers may only use these codes for justifiable services, in accordance with specific allocation conditions that ensure individual codes cannot be used for different purposes or by different number holders on different networks. Such harmonisation is customer-friendly and is more beneficial to all operators than introducing different codes.

The ODTR proposes that the following **new conventions** should be included in the National Numbering Conventions in due course:

11.3.8 Text Messaging Short Codes

- 1 Network operators shall not charge originating callers for sending text messages to mobile 50XXX numbers, regardless of which network operators or service providers are involved in the calls.
- 2 The charge to customers for text messages sent to mobile 51XXX numbers shall in no case exceed the published retail cost of a standard SMS text message of the network from which the message is originated.
- 3 Premium Rate Text Messaging Short Codes are those in the ranges 54XXX to 59XXX;

⁶ Currently document ODTR 00/10.

⁷ Codes using Digit C=9 will be reserved for possible expansion purposes.

- | | |
|---|---|
| 4 | <p>Premium Rate Text Messaging Short Codes shall be allocated only to applicants which are licensed Network Operators or independent Service Providers for the provision of Premium Rate Text Messaging Services;</p> <p><i>Note: Premium Rate Text Messaging Services, are services where part of the overall charge paid by the consumer to the originating network operator is passed on by a network operator, directly or indirectly, to a service provider or individual, organisation or company that participates in the service.</i></p> |
| 5 | <p>Such applicants shall be current holders of an agreement with the Regulator of Premium Rate Services, Regtel, or have signed a corresponding agreement providing for such regulation with a body that holds such an agreement with Regtel.</p> <p><i>Note: For the purposes of this section only, the terms “Network Operator” and “Service Provider” shall have the meanings defined for them in the current version of any Code of Practice issued from time to time by Regtel;</i></p> |
| 6 | <p>The charge to customers sending text messages to mobile numbers in the range 54000-57899 (Basic Premium Rated services) shall in no case exceed 0.77€.</p> |
| 7 | <p>Licensed network operators shall ensure that any unlicensed entities to which they allocate text messaging short codes are obliged to meet all relevant conditions of these National Numbering Conventions;</p> |
| 8 | <p>adult type text messages (e.g. those associated with violence or gambling or those of a sexually suggestive or titillating nature) shall be provided only using 59XXX numbers or 1559 Premium Rate Numbers;</p> |
| 9 | <p>the charge for customers sending messages to all Premium Rate text messaging services shall be clearly stated by Premium Rate Service Providers in all promotions.</p> |

Note: The scope of the numbering conventions in this area is deliberately not restricted to just SMS messaging, in case extension of coverage is needed into related areas (e.g. new types of fixed network messaging; 2.5G/3G messaging etc.). However, no such needs are currently envisaged.

3.2 Request for Comments on Proposals

- Q3.1** Do you agree with the above draft service description for text messaging short codes? If not please suggest your alternative wording.
- Q3..2** Do you agree with the above draft numbering conventions, covering text messaging short codes for freephone and standard rates? If not please explain why, and – if relevant – describe your own proposals.
- Q3.3** Do you agree with the above draft numbering conventions, covering adult text messaging short codes? If not please explain why, and – if relevant – describe your own proposal.
- Q3.4** Do you agree with the above draft numbering conventions, covering premium rate text messaging short codes? If not please explain why, and – if relevant – describe your own proposals.

Annex I – Start-up Procedure and Draft Application Form

A1.1 Eligibility

Each applicant shall provide adequate information in its application to satisfy the ODTR that the allocation sought is justified and that it will be used for the purposes specified in this document. Supporting information should (briefly) include/demonstrate the following:

- a description of the planned services, including expected growth patterns;
- evidence of technical capabilities for implementation of the services;
- a summary of the applicant’s marketing plan for the intended services, including launch dates. This should include a description of any arrangements already made, by which telecommunications network operators will support the applicant’s services;
- any other information deemed by the applicant to be relevant to it’s application.

The ODTR reserves the right to request additional information at any time. Failure to provide sufficient information to process any application may delay the allocation, or cause the application to be excluded from the start-up allocation procedure.

A1.2 Selection of Code

During the start-up period, qualifying applicants may indicate their preferred choice from all available access codes, using the form attached at annex 1. Subsequent applications may only be made by Licensees for primary allocation; non-licensed SPs may apply to the licensed network operators for secondary allocation of codes, indicating their preferred numbers.

All applicants shall provide the above-mentioned information to justify their requests for these short codes (SPs initially to ODTR during the start-up phase, and subsequently to network operators who will carry their services). Failure to provide adequate information may result in processing of the application being delayed.

A1.3 Start-up Allocation Procedure

At the start-up of allocation of Text Messaging Short Codes, there will be a short period during which all applications received from eligible applicants will be deemed to have been received at the same time. This “open” period will end one week following publication of the final ODTR Report or Decision Notice..

In the first instance, all applications will be assessed for eligibility, and all eligible applications will progress to selection of the code. No further distinction will be made between eligible applicants; they will be regarded as equal.

Up to 5 codes will be allocated to each applicant, one for each category of code described in this document. Applications received during the “open” period should indicate up to five preferred codes for each category, clearly showing the order of preference, as shown below. Applications may be made for all categories of code or for just one or more. It is recommended that similar ‘CDE’ digits are selected for each category of code (i.e. from the code ‘5BCDE’) by each applicant, and in the case of conflicting choices, preference will be given to such selections. However, such linkages between categories are not mandatory.

Allocation of the 5 codes (1 in each category) will be carried out in increasing numerical sequence. Conflicts between choices will be decided by lottery.

A1.4 Application Form for Start-up phase

Preferred Text Messaging Short Codes	
Name of Applicant:	<hr/>
Address of Applicant:	<hr/> <hr/> <hr/>
Contact telephone:	<hr/>
1. Preferred Freephone Code in the range 50000 to 50899: 1. 50 ____ 2. 50 ____ 3. 50 ____ 4. 50 ____	2. Preferred Standard rate Code in the range 51000 to 53899: 1. 5 ____ 2. 5 ____ 3. 5 ____ 4. 5 ____
3. Preferred Premium rate Code in the range 54000 to 57899: 1. 5 ____ 2. 5 ____ 3. 5 ____ 4. 5 ____	4. Preferred High Premium rate Code in the range 58000 to 58899: 1. 58 ____ 2. 58 ____ 3. 58 ____ 4. 58 ____
5. Preferred Adult Code in the range 59000 to 59899: 1. 59 ____ 2. 59 ____ 3. 59 ____ 4. 59 ____	

Annex 2: Technical Descriptions

The following texts describe the main points of how operations are performed in the scenario 1 and scenario 2 situations, described in this document.

A2.1 Scenario 1

The following figure demonstrates the situation where an independent service provider interconnects separately with the SMSC of each mobile network operator and a customer of that network operator accesses the service directly on the network.

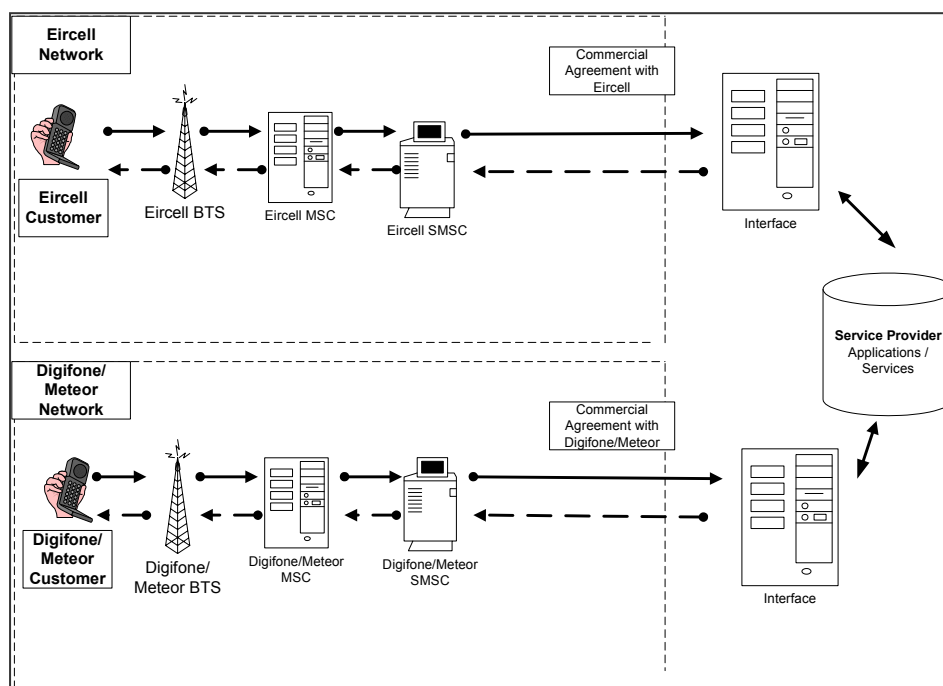


Figure 3: Schematic of Scenario 1

A2.2 Steps needed for Scenario 1

- 5XXXX-series text messaging short codes are opened on all networks;
- The codes are allocated to service providers (including operators) and the same codes (whether used or not) are reserved on all networks for that service provider;
- The Service providers enter into separate agreements with each network operator.

A2.3 Scenario 2

The following figure demonstrates the situation where an independent service provider interconnects only to the SMSC of a single preferred mobile network operator and a customer of any interconnected network operator accesses the service either a) directly on the network., if it is a customer of the network hosting the service; or b) via network interconnects if it is a customer of another network which has interconnection agreements with the hosting network..

Note: It is possible for scenario 2 to coexist with scenario 1, where not all network operators have suitable interconnection arrangements.

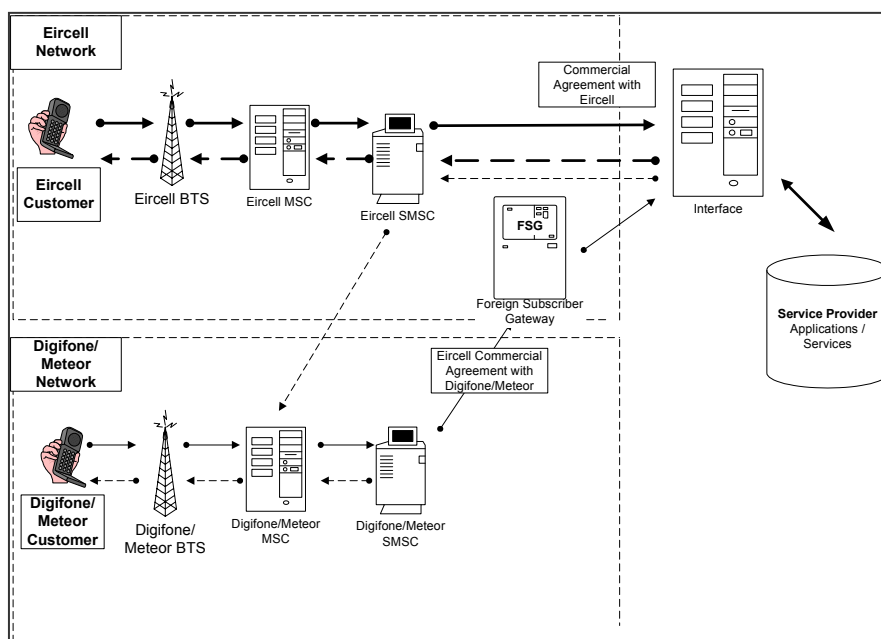


Figure 4: Schematic of Scenario 2

A2.4 Steps needed for Scenario 2

- Potential host operators set up inter-operator agreements allowing access to 5XXXX-series short codes from all co-operating networks;
- An Independent service provider selects its preferred single host operator;
- The 5XXXX-series short codes are allocated to the service provider (including operators);
- The 5XXXX-series short code are only activated on the hosting network and on any network not co-operating with scenario 2 (i.e. still operating as scenario 1). Other scenario 2 networks access the codes across their interconnects with the host operator;
- The Service provider contracts and settles with the preferred scenario 2 host operator only;
- The preferred host operator settles with other scenario 2 mobile operators for messages related to the Service provider.