National Numbering Plan

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FOREWORD

The advancement in both the fixed and wireless communication technology have brought about an entire suite of new services and applications that enable end users to be contactable via various means in almost anywhere and at anytime. To achieve the above, an often-overlooked resource, the number resource, is used to uniquely identify and differentiate the end users.

In view of the increasing demand and sophistication of such services and applications, IMDA recognizes the need to inform and update the industry of existing number resource assignment policies and procedures. Through this manual, IMDA aims to facilitate the application process and helps to foster the understanding of applicants on the approach and policy adopted by IMDA.

This manual, consisting of twelve chapters, describes the national numbering scheme and provides information on the number management activities including allocation policies and application procedures.

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EXECUTIVE SUMMARY

The National Numbering Plan provides a set of rules and guidelines for the use and assignment of numbers to telecommunication services delivered over the Public Switched Telephone Network (PSTN), the Radio Network and the Internet or other Internet Protocol (IP) based networks. The Plan also describes the assignment of numbers to international services, trunk service, emergency services, and special services such as voice mail and Intelligent Network (IN) services. Under the plan, numbers are categorised in various services according to the first digit. The structure of the national number generally complies with the relevant International Telecommunication Union Standard Sector (ITU-T) Recommendations.

IMDA, as the regulator for telecommunications, controls and manages the National Numbering Plan to ensure that the number allocation process is fair and transparent so as to provide a level playing field for competition. In regulating the use of the number resource, IMDA has to strike a balance in ensuring that the limited number resources are used efficiently and optimally and yet do not impose undue operational constraints on the telecommunication service providers. The National Numbering Plan will be reviewed from time to time to ensure its continued relevance in light of technological advances and emergence of new services.

This manual describes how numbers are administered and managed. It also sets out the usage, eligibility & assignment criteria and application & assignment procedures for the various number resources.

1) Numbers with Leading Digit 0

Numbers beginning with the digit ‘0’ are reserved for international services such as prefixes for International Direct Dial (IDD) service, Subscriber Trunk Dial (STD) service to Malaysia and Border Town Call service to Indonesia. The length of these prefixes is standardised at three digits. They are referred to as Level ‘0’ short codes.

FBO licensees are eligible for 3-digit access codes provided that they commit an overall investment in infrastructure of an amount not less than S$150 millions over the first 3 years from date of licensing. In addition, FBO licensees must use the access codes to provide service for the mass consumer market, an example of which is the offering of international public switched services to the general public.

2) Numbers with Leading Digit 1

Numbers beginning with the digit ‘1’ are reserved for special services which includes calls for operator assistance, service enquiry, machine-to-machine (“M2M”), Internet dial-up, voice information, IN services and access code IDD type of services. Their

length generally ranges from four to five digits. They are referred to as Level ‘1’ short codes.

Generally, only FBO licensees are eligible for Level ‘1’ short codes. However, Service-Based Operator (SBO) (Individual) licensees who propose to deliver M2M services and International Simple Resale (ISR) service (excluding solely wholesale service) are eligible for ‘144XX’and ‘15XX’ access codes respectively.

3) Numbers with Leading Digit 3

Numbers beginning with the digit ‘3’ are reserved for use for IP Telephony (IPT) service and User-Centric Data-Only (UCDO) service. The length of these numbers is standardised at eight digits.

FBO licensees and SBO (Individual) licensees licensed to offer IPT service and UCDO service are eligible for level ‘3’ numbers.

4) Numbers with Leading Digit 6

Numbers beginning with the digit ‘6’ are reserved for use for PSTN service and IP Telephony (IPT) service. The length of these numbers is standardised at eight digits.

FBO licensees offering domestic telephony services (including Public Switched Telephone Services, PSTN and Integrated Services Digital Network Services) and IPT service meeting the licensing obligations imposed by IMDA are eligible for level ‘6’ numbers.

5) Numbers with Leading Digit 8 and 9

Numbers beginning with the digit ‘8’ and ‘9’ are reserved for eight digit Radio Network numbers.

In addition, numbers beginning with the digit ‘99’ are reserved for three digit emergency services.

FBO licensees offering Radio Network services including Public Cellular Mobile Telephone Services, Public Radio Paging Services and Public Trunk Radio Services are eligible for Radio Network numbers.

CONTENT

INFORMATION

For more information on the National Numbering Plan, please email to nnp_admin@imda.gov.sg or write in to:

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REVISIONS

To reflect the prevailing planning or usage of the numbering resource, the information contained in the document herein is subject to periodic revisions without prior notification

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INTRODUCTION

1.1 General

The National Numbering Plan (referred hereafter as 'Plan') provides a set of rules and guidelines for the use and assignment of numbers to telephone services delivered over the Public Switched Telephone Network (PSTN), Radio Network [1] and the Internet or other Internet Protocol (IP) based network. The Plan also describes the assignment of numbers to international services, trunk service, emergency services and special services such as voice mail and, Intelligent Network (IN) services.

1.2 Overview of the Numbering Scheme

1.2.1 There is only one numbering area in Singapore and the area or trunk codes are not used. The PSTN, Radio Network, IP Telephony (IPT) and User-Centric Data-Only (UCDO) services share the same numbering plan, which is a uniform 8-digit numbering plan.

1.2.2 Numbers are categorised in various services under the National Numbering Plan according to the first digit. The structure of the national number [2] generally complies with the relevant International Telecommunication Union Standard Sector (ITU-T) Recommendations.

1.3 Role of IMDA

As the regulator of telecommunication industry, IMDA controls and manages the National Numbering Plan. IMDA also ensures that the number allocation process is fair and transparent so as to provide a level playing field for competition. The National Numbering Plan will be reviewed from time to time to ensure its continued relevance.

1.4 General Terms and Conditions

1.4.1 Any number(s) assigned is the property of IMDA and IMDA has the proprietary right to the number(s) assigned.

1.4.2 IMDA reserves the right to alter and/or reallocate any number(s) assigned, at any time, upon written notice, without being liable for any loss or

[1] Radio Network is used to collectively represent the paging network, cellular mobile network and trunked radio network

[2] National number is a subscriber number, which is 8 digits for PSTN and Radio Network. The number structure does not contain any trunk code or network code.

inconvenience directly or indirectly attributable to the alteration or reallocation of such number(s).

1.4.3 Operators are required to return the associated numbering resource, to IMDA, upon the termination of service or licences.

1.4.4 Licensees shall not use any number or code that is assigned, allocated or reserved under this Plan for any service other than the type of service to which the number has been assigned, allocated or reserved.

1.4.5 Licensees who provide telecommunication services over the Internet or other IP-based networks shall not, in relation to any service that they provide, use or assign any numbers or codes:

a) which are identical to the numbers or codes that are assigned, allocated or reserved in this Plan for any particular service or use; or

b) which may, in IMDA's opinion, give rise to any risk of confusion between the Licensee's service and any other service to which a number or code is assigned, allocated or reserved under this Plan.

1.4.6 A Licensee shall only assign any number or code to any person if the aforementioned number or code has not already been assigned, by the aforementioned Licensee or otherwise, to another person.

1.5 Terms and Conditions Relating to Ported Numbers

1.5.1 A licensee ("Transferor Licensee") shall only transfer a number, that is already assigned to a subscriber to another licensee ("Transferee Licensee") if the subscriber requests for or authorises such transfer of the number.

1.5.2 The Transferor Licensee (as defined in Section 1.5.1 above) shall not, with immediate effect upon such transfer of the number to the Transferee Licensee, assign such number to any of its subscribers.

1.5.3 Pursuant to the transfer of the number to the Transferee Licensee (as defined in Section 1.5.1 above) and in the event the number is returned to the Transferor Licensee, the Transferor Licensee (as defined in Section 1.5.X above) may assign such number to its subscriber.

2. THE NATIONAL NUMBERING SCHEME

2.1 Structure of a Singapore Telephone Number

2.1.1 The National Numbering Plan is purely numeric. The national numbers for the PSTN, Radio Network, IP Telephony (IPT) and User-Centric Data-Only (UCDO) services have a total length of 8 digits.

2.1.2 The structure of Singapore's Telephone number follows the ITU-T Recommendation E.164 with the exception of Trunk Code since there is only one numbering area in Singapore. Therefore, in the context of Singapore's networks, a subscriber number is also known as the national number.

2.1.3 In Singapore, as Integrated Services Digital Network (ISDN) is built on the existing PSTN, all ISDN subscriber numbers are assigned from the National Numbering Plan as 8-digit PSTN numbers. The destination network code (DN) captured in ITU-T Recommendation E.164 is therefore not used.

2.2 Categorisation of Numbers by the First Digit

2.2.1 The present numbering scheme provides a theoretical capacity of 100 million numbers. Numbers are however categorised into various services according to the first digit. The designation of numbers is such that the first digit of the number indicates the type of services offered by that number. A summary of the National Numbering Plan is shown is Table 2.1

2.2.2 Leading Digit 0

Numbers beginning with the digit '0' are reserved for international services such as prefixes for International Direct Dial[3] (IDD) service, Subscriber Trunk Dial[4] (STD) service to Malaysia and Border Town Call[5] service to Indonesia. The length of these prefixes is standardised at three digits. They are referred to as Level '0' short codes.

[3] International Direct Dial (IDD) service enables caller in Singapore to call an overseas telephone subscriber by dialling a 3-digit international prefix starting with '0' followed by the overseas country code and the foreign subscriber number

[4] Subscriber Trunk Dial (STD) service enables caller in Singapore to call a Malaysian telephone subscriber directly by dialling a 3-digit trunk prefix starting with '0' followed by Malaysia's area code and the Malaysia's subscriber number

[5] Border Town Call service enables caller in Singapore to call telephone subscribers in certain Indonesia border towns directly by dialling a 3-digit border town call prefix starting with '0' followed by the Indonesia's area code and the subscriber Number.

2.2.3 Leading Digit 1

Numbers beginning with the digit '1' are reserved for special services which includes calls for operator assistance, service enquiry, machine-to-machine ("M2M"), Internet dial-up, voice information, IN services and IDD services. Their length ranges from four to five digits. They are referred to as Level '1' short codes.

2.2.4 Leading Digit 3

Numbers beginning with the digit '3' are reserved for use for IPT service and UCDO service. The length of these numbers is standardised at eight digits.

2.2.5 Leading Digit 6

Numbers beginning with the digit '6' are reserved for use for PSTN service and IPT service. The length of these numbers is standardised at eight digits.

2.2.6 Leading Digit 8 and 9

2.2.6.1 Numbers beginning with digit '8' and '9' are reserved for eight digit Radio Network numbers.

2.2.6.2 In addition, numbers beginning with the digits '99' are reserved for three digit emergency services.

Table 2.1: Summary of the National Numbering Plan

Leading Digit	Description
0	3-digit International, Trunk and Border Town Call Service Prefixes
1	4/5-digit Special Service Access Codes and International Prefixes
2	To be planned
3	8-digit IPT and UCDO numbers
4	To be planned
5	To be planned

Leading Digit	Description
6	8-digit PSTN and IPT numbers
7	To be planned
8	8-digit Radio Network numbers
9	3-digit Emergency Codes and 8-digit Radio Network numbers

3 LEVEL '0' AND '1' SHORT CODES

3.1 General

Short codes are 3, 4/5-digit numbers that allow callers (end-users) to gain access to services provided by telecommunication licensee.

3.2 Level '0' Short Codes

The use of the level '0' short codes is restricted to prefixes for regional trunk and international calls. These prefixes consist of 3-digit numbers. A summary of Level '0' Short Codes is shown in Table 3.1.

Table 3.1: Summary of Level '0' Short Codes

Prefix	Description
00X[6]-03X	International Direct Dial(IDD) service / International telecommunication services / Subscriber Trunk Dial (STD) service & Border Town Call service
04X-09X	Reserved for future use

3.3 Level '0' Short Codes Eligibility Criteria

Due to the scarcity of the 3-digit access codes relative to the 4-digit access codes, only Facilities-Based Operator (FBO) licensees[7] that have committed an overall investment of no less than S$150 million in infrastructure, over the first 3 years from the date of licensing, are eligible for the allocation of 3-digit access codes. The investment shall include international connectivity and capacity that will expand the overall global international reach from Singapore.

3.4 Restriction on Level '0' Short Codes

3.4.1 In order to conserve the 3-digit access codes to meet all justifiable demand for as long a period as possible, each eligible FBO licensee is restricted to one

[6] 'X' is used to denote digit '0' to '9'

[7] Facilities-Based Operator licensees refer to licensees who deploy any form of telecommunication networks, systems and facilities, outside of their own property boundaries, to offer telecommunication services to third parties, which may include other licensed telecommunication operators, business customers or the general public.

'00X' code (subject to availability) and six '0XX' codes[8]. Subject to IMDA's approval, additional Level '0' short code requirements beyond assigned limit, especially for differentiated schemes under the same service which has already been assigned a 3-digit access code, is to be met by 4-digit access codes.

3.4.2 Notwithstanding the above, IMDA reserves the right to review the restriction of 3-digit access code allocation from time to time. IMDA also reserves the right to review the service providers' usage of 3-digit access codes from time to time to determine if they are being used efficiently. IMDA will recover those access codes that are not used efficiently by giving the service providers at least 6 months' advance notice.

3.5 Level '1' Short Codes

3.5.1 Level '1' short codes are allocated for providing special services and IDD type services to customers. The special services include calls for operator assistance, service enquiry, M2M services, Internet dial-up, voice information and IN services.

3.5.2 Number assignments in the level '1' range are categorised such that similar ranges of numbers are used for similar services. A summary of the Level '1' Short Codes in shown in Table 3.2.

Table 3.2: Summary of Level '1' Short Codes

Level '1'	Description
10XX	Operator assisted telephone services/ bookings
11XX	Operator to operator call
12XX	Reserved for future use
13XX	Service Indicator/ Service access code (e.g. voice mail)
14XX	Routing Number (Except for "144XX")
144XX	M2M access code
15XX/15XXX	International telecommunication services
16XX	Service Enquiry and Assistance
17XX	Internet dial-up, Voice Service/ Other services

[8] Restriction applies for all applications following the full liberalisation of telecommunications market on 1 April 2000.

Level '1'	Description
18XX	IN services
19XX	IN services/ network test codes

3.6 Level '1' Short Codes Eligibility Criteria

Generally, only FBO licensees are eligible for level '1' short codes. Exceptions are:

a) Service-Based Operator (SBO) (Individual) licensees[9] providing M2M services are eligible for '144XX' access code.

b) SBO (Individual) licensees providing International Simple Resale (ISR) service (excluding solely wholesale service) where customers can have one stage IDD dialling through PSTN and where access is not via card mode nor Personal Computer-based. These operators are eligible for '15XX' access code.

c) SBO (Individual) licensees providing Public Internet Access service. These operators are eligible for '17XX' access codes.

3.7 Restriction on Level '1' Short Codes

3.7.1 M2M services (i.e. '144XX')

M2M communication refers to the automated communication between machines and devices. In cases where M2M communication includes voice communication, these shall mean voice services within a pre-defined service feature and/or within an intended or a closed user group.

The M2M access code allocated may be used with international connectivity and international roaming services[10].

[9] Service-Based Operator licensees refer to licensees who lease telecommunication network elements (such as transmission capacity, switching services, ducts, fibre) from FBO licensees to provide telecommunication services to third parties; or resell the telecommunication services. Licensees who have deployed telecommunication network, systems and facilities within their own property boundaries, but wish to offer telecommunication services to third parties resident within their property boundaries are also classified as SBO licensees.

[10] M2M international interconnectivity refers to a M2M device in Singapore using a Singapore M2M number to communicate with a device or service outside Singapore, while international roaming refers to an M2M device with a Singapore M2M number that can continue to be used overseas outside of the Singapore networks.

3.7.2 International Telecommunication services (i.e. '15XX')

Eligible SBO licensees providing ISR service are restricted to the use of one 4-digit short code.

SBO licensees are permitted to extend their '15XX' code to five digits for the provision of telecommunication services (e.g. local call-back service, differentiated ISR service etc) other than the international telecommunication service, subject to the following conditions:

a. At least one of the extended 5-digit codes, '15XXY', must be used to provide an international telecommunication service (e.g. International Simple Resale). If the international telecommunication service is terminated, the '15XX' code will be unconditionally withdrawn.

b. The dialling format for services using the short code must be such that the short code is immediately appended with a number that complies with International Telecommunication Union's (ITU's) E.164 recommendations.

c. IMDA's approval must be sought for the use of each of the 4 or 5-digit code (e.g. 15XX, 15XX1, 15XX2, 15XX3 etc.)

3.7.3 Enquiry Service (i.e. '16XX')

In order to conserve the short codes for enquiry service, the use of such codes will be restricted to four 4-digit codes per FBO licensee. FBO licensees are to consider using the 8-digit PSTN numbers or '1800' numbers for their enquiry services if they have expended their allocation of four 4-digit codes[11].

3.7.4 Internet dial-up, Voice Service / Other services (i.e. '17XX')

SBO licensees providing Public Internet Access service are restricted to the use of one 4-digit short code. With IMDA's approval, licensees may extend the 4-digit code to 5 digits to provide additional access codes for their differentiated service.

[11] Restriction applies for all applications following 06 July 2010.

3.8 Level '0' and '1' Short Codes Allocation Criteria

3.8.1 Generally, level '0' and '1' short codes are allocated for use by a public telecommunication service provided by licensed public telecommunication service operator. Usage should meet the following conditions:

a) The service nature is such that using short code is a necessity, an example being a restriction on the total number of digits that the service can accommodate for effective call routing; or

b) The service reaches a significantly large user base and there are possibilities of high service usage, such that it would really benefit the users if a short code is used;

3.8.2 In addition, eligible FBO licensees requesting for 3-digit access codes must use the codes to provide service for the mass consumer market, an example of which is the offering of international public switched services to the general public. Eligible FBO licensees offering international communication services to corporate users alone will not be qualified for 3-digit access codes.

3.8.3 Licensees providing M2M services using the M2M access codes, i.e. '144XX' are encouraged to maximise the allowable numbering capacity with a 13-digit numbering format (excluding country code) for each M2M access code.

Application charge

FBO licensees may apply for up to three M2M access codes without charge. For each subsequent M2M access code allocated after the third access code, a fee of $10,000 per M2M access code will be levied.

SBO (Individual) licensees may apply for up to two M2M access codes without charge. For each subsequent M2M access code allocated after the second access code, a fee of $10,000 per M2M access code will be levied.

Implementation timeline

Licensees allocated with M2M access codes are required to put the codes into service within 12 months from the date of assignment by IMDA. If the licensee fails to comply with this requirement, IMDA shall be entitled to recover the allocated M2M access code. A licensee who fails to comply with this requirement shall be required to pay a "Recovery Fee" of $20,000 before the licensee can apply for further M2M access codes.

IMDA may, if justified, grant a one-time extension to the implementation date for a period of up to 6 months.

3.8.4 SBO licensees providing Public Internet Access service requesting for a '17XX' code must use the code for a service that can attract mass dialling[12] from a huge number of users (e.g. free surf or free Internet access service open to all PSTN subscribers). In addition, licensees must demonstrate to IMDA that there is no other effective ways of having faster dial-up access.

3.8.5 In considering the application for using level '0' and '1' short codes, IMDA will ensure that there are sufficient short codes available for allocation for similar services provided by different licensees in the foreseeable future and that the allocation will not unintentionally create a situation whereby a licensees be given an unfair advantage over others offering similar services.

3.9 Level '0' and '1' Short Codes Allocation Procedure

3.9.1 Generally, the process of allocating level '0' and level '1' short codes is by bidding and/or balloting (except for '14XX' and '144XX'). Please refer to Annex 1 for the Procedure for Assigning 3-digit Access Codes and Annex 2 for the Procedure for Assigning 4-digit Access Codes for level '0' and level '1' short codes respectively.

3.9.2 IMDA reserves the right to allocate the '14XX' and '144XX' access codes in a sequential or non-sequential basis.

3.9.3 Existing assignments of Level '0' and Level '1' Short Codes are shown in Annex 3.

3.10 Application for Level '0' and '1' Short Codes

To apply for the required resource, please write to IMDA providing the following:

a) Number resource requirement;
b) Technical and operation details relating to the requirement of the number resource;
c) Target service date; and
d) Contact person for clarification.

[12] Mass dialling refers to a huge influx of calls within a short period of time

3.11 Other Information on Level '0' and Level '1' Short Codes

3.11.1 Short codes can be categorised into 2 groups:

a) Category I - codes which are universally accessible[13] and allocated to a single licensee; and

b) Category II - codes which are universally accessible and universally allocated[14] to all licensees.

3.11.2 All licensees must share the following Category II access codes:

a) '000' international dial direct (IDD) access code

b) '1800' toll-free services access code

c) '1900' premium rate services access code

d) '100' directory enquiry services access code

e) '19XX' internal network test / routing access code

f) '1711' time announcement service

3.11.3 IMDA reserves the right to review the current categorisation of short codes and classify more numbers under Categories I and II where necessary.

3.11.4 Unless otherwise stated, all assigned access codes fall in the Category I.

3.11.5 In certain situation, IMDA will require service provider to extend the digit length of the access code by one to expand the codes available.

3.11.6 Generally, 4-digit codes in the '19XX' are used for network testing. In certain services where access code is confined within a particular network, IMDA may allow service provider to reuse the '19XX' code for service provision. Allocation of codes in the '19XX' series is on a sequential basis.

[13] "universally accessible" refers to the ability of any end-use to gain access to the respective services regardless of which licensee's network the end-user is using. The service may or may not be provided by this licensee by default. This will however be transparent to the end-user.

[14] "universally allocated" means that all licensees will use the same code for provision of certain specific services

4. LEVEL '3' NUMBERS

4.1 General

'3'-series number levels are allocated to IP Telephony (IPT) service and User-Centric Data-Only (UCDO) service as 8-digit numbers.

The first four digits of the 8-digit numbers (i.e. ABCD XXXX) which uniquely define a set of numbers are referred to as a number level. One number level thus consists of 10,000 numbers.

4.2 IPT Service

IPT service refers to a form of VoIP[15] that requires telephone or E.164 numbers. This service allows a user to make and receive voice, data and video calls with the same telephone number in any domestic or overseas location where Internet access is available.

4.3 UCDO Service

UCDO service refers to data exchange that requires interaction with users. This service generally relies on an all-IP network and does not use the traditional voice circuits of the telecoms networks.

4.4 Level '3' Numbers Eligibility Criteria

FBO licensees and SBO (Individual) licensees licensed to offer IPT service and UCDO service are eligible for level '3' numbers.

4.5 Level '3' Numbers Allocation Criteria

4.5.1 To facilitate IMDA's assessment of level '3' numbers application, operators are required to submit to IMDA the status of their numbering resource on a quarterly basis. Information submitted should include number level assignment, level of utilisation and projected number usage within their networks.

4.5.2 Operators may be allocated level '3' numbers through either administrative allocation or an auction process.

[15] VoIP (Voice over Internet Protocol) is a generic name for the transport of voice traffic using IP technology. VoIP traffic can be carried on a private managed network or the public Internet or a combination of both.

Administrative Allocation

Operators may request for level '3' numbers through administrative allocation when their number utilisation[16] of their existing allocated numbers is more than or equals to 80%. For these requests, number levels (i.e. in blocks of 10,000) will generally be allocated in a sequential manner.

Illustration:

Assuming an operator has been allocated 100,000 numbers, the operator may apply for additional numbers when the sum of numbers assigned to subscribers and numbers quarantined for 3 months or less reaches 80,000 numbers.

Auction

The following are two procedures whereby operators may acquire level '3' numbers through a bidding process:

Bidding of Number Levels Initiated by IMDA

In this procedure (see Annex 7 for details), IMDA will progressively make available level '3' 8-digit number levels in a sequential order for bidding by operators. For each bidding session, IMDA will make available about 100 levels for bidding. Operators are eligible to bid for an unrestricted number of number levels if their number pool has achieved 50% utilisation. For number pool which has a utilisation percentage of less than 50%, operators are however eligible to bid only for one number level in a bidding session.

All remaining number levels that are not allocated during the bidding session will be placed in a common pool for subsequent sequential allocation by IMDA via Administrative Allocation.

Bidding of Choice Number Level(s) Requested by An Operator

In this procedure (see Annex 8 for details), an operator eligible for allocation of numbers may request for out-of-sequence level '3' numbers not covered by Administrative Allocation or the sequential number level bidding scheme initiated by IMDA. Such number level desired by the operator is referred to as a choice number level. Operators do not need to meet any number utilisation criteria before they can request to bid for a choice number level.

[16] Number Utilisation = Numbers assigned to subscribers + Numbers quarantine for 3 months or less

4.5.3 Operators shall quarantine recovered level '3' numbers for at least 3[17] months before making them available to the next user.

4.6 Level '3' Numbers Allocation Procedure

4.6.1 Generally, level '3' numbers are sequentially allocated in levels (i.e. in blocks of 10,000) to operators. This is considered as the primary allocation. Allocation of numbers to individual subscribers, considered as secondary allocation, is made through the operators.

4.6.2 Existing assignments of Level '3' Numbers are shown in Annex 3.

4.7 Application for Level '3' Numbers

4.7.1 For the first application of level '3' numbers for each of the allocated services, the following are to be submitted to IMDA for consideration:

a) Number resource requirement;
b) Technical and operation details relating to the requirement of the number resource;
c) Target service date; and
d) Contact person for clarification.

4.7.2 For the application of additional level '3' numbers for an existing allocated service, the following are to be submitted to IMDA for consideration:

a) Numbers assigned to subscribers;
b) Numbers quarantined for up to 3 months or less;
c) Number of new subscribers for each month for the past 6 months (i.e. monthly numbers used); and
d) Number of terminations for each month for the past 6 months.

An operator must meet the required minimum utilisation with the numbers already allocated. Otherwise, the operator must provide justifications to substantiate the application.

[17] The minimum 3 month quarantine period can be waived if a user requesting for a quarantined number is made aware of the status of the number and accepts the possibility of receiving wrong calls.

5. LEVEL '6' NUMBERS

5.1 General

Level '6' numbers are allocated to PSTN services (including Public Switched Telephone Services (PSTS) and Public Switched Integrated Services Digital Network Services), and IP Telephony (IPT) service as 8-digit numbers.

The first four digits of the 8-digit numbers (i.e. ABCD XXXX) which uniquely define a set of numbers are referred to as a number level. One number level thus consists of 10 000 numbers.

5.2 PSTN and IPT Services

5.2.1 PSTN services include Direct Exchange Line (DEL), Direct Inward Dialling (DID), Direct Dialling Inwards (DDI) for ISDN and Internet access dial-up up.

5.2.2 IPT service refers to a form of VoIP[18] that requires telephone or E.164 numbers. This service allows a user to make and receive voice, data and video calls with the same telephone number in any domestic or overseas location where Internet access is available.

5.3 Level '6' Numbers Eligibility Criteria

FBO licensees offering domestic telephony services including PSTS, Public Switched Integrated Services Digital Network Services, are eligible for level '6' numbers. FBO licensees offering IPT service are also eligible for level '6' numbers provided that they are able to meet the licensing obligations imposed by IMDA.

5.4 Level '6' Numbers Allocation Criteria

5.4.1 To facilitate IMDA's assessment of numbers application, operators are required to submit to IMDA the status of their numbering resource on a quarterly basis. Information submitted should include number level assignment, level of utilisation and projected number usage within their networks.

5.4.2 Operators may be allocated numbers through either administrative allocation or an auction process.

[18] VoIP (Voice over Internet Protocol) is a generic name for the transport of voice traffic using IP technology. VoIP traffic can be carried on a private managed network or the public Internet or a combination of both.

Administrative Allocation

5.4.3 Operators may approach IMDA for assignment of DEL numbers to their exchanges under the following circumstances:

a) An exchange has used up 80% of the existing allocated DEL numbers. In the event that excess numbering capacity is required for turnaround purpose, it should not exceed 20% of the equipped capacity of the total exchange capacity.

Illustration:

Assuming that an operator's exchange has been allocated 100 000 numbers, the operator may apply for additional numbers for that exchange when 80 000 numbers out of the 100 000 numbers are in use.

b) A switch residing within an exchange experiences numbers recycling problem. In such cases, additional PSTN numbers may be allocated in groups of **thousands** to switches facing recycling problem under the following conditions:

i) Numbers recycling period of the switch residing in that exchange is less than 6 months; and

ii) The additional assignment of numbers does not exceed the 20% of the total exchange capacity

5.4.4 For DID and Direct Dialling Inward (DDI) numbers, the minimum utilisation threshold is set at 80% per exchange.

Auction

The following are two procedures whereby operators may acquire level "6" numbers through a bidding process:

Bidding of Number Levels Initiated by IMDA

In this procedure (see Annex 7 for details), IMDA will progressively make available level "6" 8-digit number levels in a sequential order for bidding by operators. For each bidding session, IMDA will make available about 100 levels for bidding. Operators are eligible to bid for an unrestricted number of number levels for each number pool (e.g. DEL, DID number pool) which has achieved 50% utilisation. For number pool which has an utilisation percentage

of less than 50%, operators are however eligible to bid only for one number level in a bidding session.

All remaining number levels that are not allocated during the bidding session will be placed in a common pool for subsequent sequential allocation by IMDA via Administrative Allocation.

Bidding of Choice Number Level(s) Requested by An Operator

In this procedure (see Annex 8 for details), an operator eligible for allocation of numbers may request for out-of-sequence level "6" numbers not covered by Administrative Allocation or the sequential number level bidding scheme initiated by IMDA. Such number level desired by the operator is referred to as a choice number level. Operators do not need to meet any number utilisation criteria before they can request to bid for a choice number level.

5.5 Level '6' Numbers Allocation Procedure

5.5.1 Generally, numbers are sequentially allocated to operators in levels (i.e. in blocks of 10,000). This is considered as the primary allocation. Allocation of numbers to individual subscribers, considered as secondary allocation, is made through the operators.

5.5.2 Existing assignments of Level '6' Numbers are shown in Annex 3.

5.6 Application for Level '6' Numbers

5.6.1 To request numbers for new services, the following are to be submitted to IMDA for consideration:

a) Number resource requirement;
b) Technical and operation details relating to the requirement of the number resource;
c) Target service date; and
d) Contact person for clarification.

5.6.2 For additional numbers for an existing service, an operator must meet the required minimum utilisation with the numbers already allocated. Otherwise, the operator must provide justifications to substantiate the application.

6. LEVEL ‘8’ AND ‘9’ NUMBERS

6.1 General

Level ‘8’ and ‘9’ numbers are set aside for Radio Network services. 3-digit numbers beginning with the digit ‘99’ are set aside for emergency services for easy dialling, while 8-digit numbers are allocated for Radio Network services.

6.2 Emergency Services

‘99X’ numbers are allocated for emergency services such as the Police, fire brigade and ambulance. For example, ‘999’ is assigned to the Police while ‘995’ is assigned for fire/ambulance services.

6.3 Radio Network Services

Radio Network services include Public Cellular Mobile Telephone Services (PCMTS), Public Radio Paging Services (PRPS) and Public Trunked Radio Services (PTRS) with PSTN interconnect services. The first four digits of the 8-digit Radio Network numbers uniquely define a set of numbers referred to as a number level. One number level thus consists of 10 000 numbers.

6.4 Level ‘8’ and ‘9’ Numbers Eligibility Criteria

FBO licensees and SBO (Individual) licensees licensed as Mobile Virtual Network Operators (MVNO) offering Radio Network services including PCMTS, PRPS and PTRS are eligible for Radio Network numbers.

6.5 Level ‘8’ and ‘9’ Numbers Allocation Criteria

6.5.1 To facilitate IMDA’s assessment of Radio Network numbers application, operators are required to submit to IMDA the status of their numbering resource on a quarterly basis. Information submitted should include number level assignment, level of utilisation and projected number usage within their networks.

6.5.2 Operators may be allocated Radio Network numbers (post-paid, pre-paid, data and fax numbers) through either administrative allocation or an auction process.

Administrative Allocation

Operators may request for Radio Network numbers through administrative

allocation when the number utilisation[19] of their existing allocated numbers is more than or equals to 80%. For these requests, number levels (i.e. in blocks of 10,000) will generally be allocated in a sequential manner. In the event that excess numbering capacity is required for turnaround purpose, it should not exceed 20% of the equipped capacity of the total switching capacity of a Mobile Switching Centre.

Illustration:

Assuming an operator has been allocated 100 000 numbers, the operator may apply for additional numbers when the sum of numbers assigned to subscribers and numbers quarantine for 3 months or less reaches 80 000 numbers.

Auction

The following are two procedures whereby operators may acquire Radio Network numbers through a bidding process:

Bidding of Number Levels Initiated by IMDA

In this procedure (see Annex 7 for details), IMDA will progressively make available level "8" and "9" 8-digit number levels in a sequential order for bidding by operators. For each bidding session, IMDA will make available about 100 levels for bidding. Operators are eligible to bid for an unrestricted number of number levels for each number pool (e.g. pre-paid, post-paid or fax & data number pool) which has achieved 50% utilisation. For number pool which has an utilisation percentage of less than 50%, operators are however eligible to bid only for one number level in a bidding session.

All remaining number levels that are not allocated during the bidding session will be placed in a common pool for subsequent sequential allocation by IMDA via Administrative Allocation.

Bidding of Choice Number Level(s) Requested by An Operator

In this procedure (see Annex 8 for details), an operator eligible for allocation of numbers may request for out-of-sequence Radio Network numbers not covered by Administrative Allocation or the sequential number level bidding scheme initiated by IMDA. Such number level desired by the operator is referred to as a choice number level. Operators do not need to meet any number utilisation criteria before they can request to bid for a choice number level.

[19] Number Utilisation = Numbers assigned to subscribers + Numbers quarantine for 3 months or less

6.5.3 Operators shall quarantine recovered mobile numbers for at least 3[20] months before making them available to the next user.

6.5.4 For prepaid service, operators are required to implement a fixed term expiry period not exceeding 6 months from the **last top-up or last extension** (e.g., deduction from existing credits) of the prepaid cards to maximise the re-use of the prepaid numbers. Operators are also encouraged to implement a fixed-term expiry period not exceeding 6 months based on the last use of the prepaid card.

6.6 Level '8' and '9' Numbers Allocation Procedure

6.6.1 Generally, numbers for Radio Network are sequentially allocated in levels (i.e. in blocks of 10,000) to operators. This is considered as the primary allocation. Allocation of numbers to individual subscribers, considered as secondary allocation, is made through the operators.

6.6.2 Existing assignments of Level '8' and '9' Numbers are shown in Annex 3.

6.7 Application for Level '8' and '9'Numbers via Administrative Allocation

6.7.1 To request for numbers for new Radio Network services, the following are to be submitted to IMDA for consideration:

e) Number resource requirement;
f) Technical and operation details relating to the requirement of the number resource;
g) Target service date; and
h) Contact person for clarification.

6.7.2 For additional numbers for an existing Radio Network service, the following are to be submitted to IMDA for consideration:

a) Numbers assigned to subscribers; and
b) Numbers quarantined for up to 3 months or less
c) Number of new subscribers for each month for the past 6 months (i.e. monthly numbers used)
d) Number of terminations for each month for the past 6 months.

An operator must meet the required minimum utilisation with the numbers already allocated. Otherwise, the operator must provide justifications to substantiate the application.

[20] The minimum 3 month quarantine period can be waived if a user requesting for a quarantined number is made aware of the status of the number and accepts the possibility of receiving wrong calls.

7. ‘1800’ LOCAL TOLL FREE SERVICE NUMBERS

7.1 General

7.1.1 ‘1800’ is the prefix for the local toll free service[21]. In total, the dialling number of the service comprises of 11 digits.

7.1.2 The numbers take the form of ‘1800’ access code + 7-digit virtual number. The full number string (e.g. 1800 7654321) is not a physical number used to identify a particular subscriber line. Rather, the number is mapped to a real PSTN number at the IN so that calls may be routed to the subscriber using a PSTN number.

7.1.3 The ‘1800’ numbers can be categorised either as numeric or alphanumeric type. An alphanumeric ‘1800’ number (e.g. 1800 CALL LTA) is a normal toll free number (e.g. 1800 2255 582) with its 7-digit virtual numbers translated to some meaningful wording. The number to alpha translation follows the ITU-T Recommendation E.161. (See Chapter 12.)

7.1.4 The ‘1800’ numbers are independent from PSTN numbers. That is, ‘1800’ numbers (e.g. 1800 2345678) and the PSTN numbers (e.g. 62345678) with similar last 7-digits can be assigned to different FBO licensees and may be used by different entities.

7.2 ‘1800’ Numbers Eligibility Criteria

FBO licensees providing facilities for local toll free services are eligible to apply ‘1800’ numbers on behalf of their customers.

7.3 ‘1800’ Numbers Allocation Criteria and Procedure

7.3.1 IMDA manages the ‘1800’ numbers on a per number basis. A licensee may, on behalf of their customers, apply for individual ‘1800’ numbers through an online number registration system.

7.3.2 With the exception of numbers starting with ‘1800 0’, ‘1800 1’, ‘1800 995’, ‘1800 999’, numbers ending with ‘0000’ and ‘9999’, and numbers of the form ‘1800 AAA AAAA’ where A = 0-8, ‘1800’ numbers are assigned through the online registration system.

7.3.3 The online system allows the registration, extension, activation and termination of ‘1800’ numbers. FBO licensees are free to register any available ‘1800’ numbers on a first-come-first-served basis.

[21] Airtime charges apply for mobile calls to 1800 local toll free service numbers

7.3.4 Special ‘1800’ numbers of the form ‘1800 AAA AAAA’ where A = 0-8 are allocated via bidding. Annex 4 details the Procedure for Bidding Special 1800/1900 numbers.

7.3.5 To effect the transfer of a registered ‘1800’ number from one customer to another or for change of customer name, licensees are to complete the form in Annex 5 and submit it together with copies of customer letters.

8. ‘1900’ PREMIUM BASED SERVICE NUMBERS

8.1 General

8.1.1 ‘1900’ is the prefix for premium-based service (e.g. Audioline) and televoting service. In total, the dialling number for each of the services comprises of 11 digits.

8.1.2 The numbers take the form of ‘1900’ access code + 7-digit virtual number. Like the ‘1800’ toll free number prefix, the full number string for ‘1900’ numbers (e.g. 1900 7654321) is not a physical number that identifies a particular subscriber line. Rather, the number is mapped to a real PSTN number at the IN so that calls may be routed to the subscriber using a PSTN number.

8.1.3 The ‘1900’ numbers are independent from the PSTN numbers. That is, ‘1900’ numbers (e.g. 1900 2345678) and the PSTN numbers (e.g. 6 2345678) with similar last 7-digits can be assigned to different FBO licensees and may be used by different entities.

8.2 ‘1900’ Premium-based Service Numbers Eligibility

FBO licensees providing facilities for premium-based services are eligible for ‘1900’ numbers.

8.3 ‘1900’ Premium-based Service Numbers Allocation Criteria and Procedure

8.3.1 Currently, IMDA allocates ‘1900’ numbers in blocks of 10 000 numbers to licensees for the provision of premium-based services. The first seven digits of the 11-digit ‘1900’ numbers (i.e. 1900 ABC) uniquely define a set of numbers referred to as a block. Generally, one block of numbers is given for a particular type of Audioline services such as Entertainment (e.g. chat line) Service.

8.3.2 FBO licensees may apply to IMDA for a block of ‘1900’ numbers for a new category of Audioline service.

8.3.3 IMDA reserves the right to determine if a new category of Audioline service is entitled a new block of ‘1900’ numbers or should be subsumed under an existing category.

8.3.4 A maximum of 10 blocks per licensee from 1900 N1X XXXX (where N is the FBO licensee identifier digit that ranges from 2 to 9) have been reserved for such service. Currently, N = 8 and 9 have been assigned.

8.3.5 With the exception of numbers starting with '1900 0', '1900 1', '1900 995', '1900 999', numbers ending with '0000' and '9999', and numbers regarded as special, FBO licensees may, on behalf of their customers, make applications to IMDA for specific '1900' numbers not within their reserved block.

8.3.6 Special '1900' numbers of the form '1900 AAA AAAA', where A = 0-8, are allocated via bidding. Annex 4 details the Procedure for Bidding Special 1800/1900 numbers.

8.3.7 Transfer of registered '1900' is permitted. To effect a transfer from one customer to another or for change of customer name, licensees are to complete the form in Annex 5 and submit it together with copies of customer letters.

8.4 '1900' Televoting Numbers Eligibility

FBO licensees offering televoting services are eligible for '1900' numbers.

8.5 '1900' Televoting Numbers Allocation Procedure

8.5.1 A FBO licensee will be given one block of '1900' numbers for the purpose of Televoting services.

8.5.2 Eight blocks of numbers from 1900 11N XXXX have been reserved for televoting services, where N is the FBO licensee identifier digit that ranges from 2 to 9. Currently N = 2 and 3 have been assigned.

9 ‘800’ NUMBERS

9.1 General

9.1.1 ‘800’ is the prefix for International Toll Free Services (ITFS) and Home Country Direct Service (HCDS). The dialling number of the service consists of 10 digits - the ‘800’ access code followed by a 7-digit number.

9.1.2 ITFS numbers are subscribed by overseas-based companies in order to offer toll-free services for calls made from Singapore to the companies’ home country.

9.1.3 HCDS numbers are subscribed by foreign public telecoms operators in order to offer toll-free services between visitors in Singapore and the overseas home operator. The numbers are used to allow visitors in Singapore to self-dial and charge the call to their called party or their International Calling Card (ICC).

9.2 ‘800’ Numbers Eligibility

FBO licensees offering ITFS and HCDS are eligible for ‘800’ numbers.

9.3 ‘800’ Numbers Allocation Criteria and Procedure

9.3.1 For the provision of ITFS to overseas subscribers, FBO licensees are allocated 1000 numbers for each foreign network they collaborate with.

9.3.2 To allocate 1000 numbers, IMDA manages the first 7 digit of the ITFS numbers. The format adopted by IMDA for ITFS is as follows:

800 + 1/2/3 digit CC + 3/2/1 digit N + 3 digits subscriber numbers

where CC = country code
N = Foreign network identifier digit (s)

For example, ITFS to Hong Kong and the US would be in the following respective forms:

800 852 1 XXX (Hong Kong)
800 100 1 XXX (US)

9.3.3 For the provision of HCDS, FBO licensees are allocated 100 numbers for sub-allocation to each overseas foreign network operator.

9.3.4 To allocate 100 numbers, IMDA manages the first 8 digit of the HCDS 800 numbers. The format adopted by IMDA for HCDS is as follows:

800 + 0 + 1/2/3 digit CC + 3/2/1 digit N + 2 digits subscriber numbers

where CC = country code
N = Foreign network identifier digit (s)

For example, HCDS to Hong Kong and the US would be in the following respective forms:

800 0 852 1XX (Hong Kong)
800 0 100 1XX (US)

10 SIGNALLING POINT CODES

10.1 Introduction

Signalling Point Codes (SPCs) are signalling addresses used in a signalling network employing common channel Signalling System No.7 (SS7) for call set-up. SPC is needed for establishing interconnection between two SS7 switches.

10.2 International Signalling Point Code (ISPC)

10.2.1 International Signalling Point Codes (ISPCs) are 14-bit binary codes used to establish direct SS7 signalling links and interconnection with overseas networks. The 14 bits of the ISPC are commonly represented by three decimal numbers (e.g. 5-047-0): the first decimal, with the range of 0 to 7, represents the three (3) most significant bits; the second decimal string, with the range of 000 to 255 represents the following eight (8) bits; and the third decimal, with the range of 0 to 7, represents the three least significant bits.

10.2.2 FBO licensees and SBO licensees establishing direct SS7 signalling links and interconnection with overseas networks are eligible for ISPCs. The actual number of ISPCs assigned depends on the licensees' requirement.

10.2.3 Existing assignments of ISPC are shown in Annex 3.

10.2.4 Licensees are required to provide the information as detailed in Annex 6 in the application for ISPC.

10.3 National Signalling Point Code (NSPC)

10.3.1 National Signalling Point Codes (NSPCs) are 14-bits binary codes used to establish direct SS7 signalling links and interconnection with local networks. The 14 bits of the NSPC is commonly represented by three decimal numbers (e.g. 9-0-0): the first decimal string, with the range 0 to 63, represents the six most significant bit; the second decimal string, with the range 0 to 15, represents the following four bits; and the third decimal, with the range 0 to 15, represents the four least significant bits.

10.3.2 For FBO licensees, IMDA will assign a block of 8 NSPCs to each licensee. Additional blocks of 8 NSPCs are assigned from the next available block when the licensee has exhausted its existing assignment.

10.3.3 For SBO licensees, IMDA will assign a block of 4 NSPCs to each licensee. Additional blocks of 4 NSPCs are assigned from the next available block when the licensee has exhausted its existing assignment.

10.3.4 Existing assignments of NSPC are shown in Annex 3.

10.3.5 Licensees are required to provide the information as detailed in Annex 6 in the application for NSPC.

11 GLOBAL TITLE

11.1 Introduction

11.1.1 Global Title (GT) is an address used in signalling networks to route signalling messages in a telecommunication network. GT is a unique address, which serves as an alias for a destination address. It is usually translated into a signalling point code or network address within the Signalling System No.7 (SS7) network. The translation process is known as Global Title Translation.

11.1.2 Global Title Translation (GTT) is a process where the GT address is mapped to a signalling point code for routing purposes. GTT frees up the originating signalling points from the need to know every potential destination.

11.2 Application for Global Title

11.2.1 A FBO licensee or SBO licensee who is eligible for the 8 digit E.164 numbers, is required to use the allocated number levels for the GT. For FBO licensees and SBO licensees who are not eligible for the 8-digit E.164 numbers, IMDA will assign a six digit number e.g. 1934XX as GT to the requesting Licensees. Licensees may further extend the assigned six digit number to form any unique E.164 numbers to meet their business requirement for GT.

11.2.2 For application of GT for direct SS7 connection, the following information is required:

a) Name of Company:

b) Date of application:

c) Schematic of the SS7 switch/network set up showing the types and interconnection with local and overseas carriers:

d) Location of Global Title to be deployed:

e) Model and type of the SS7 signalling equipment:

11.2.3 Existing assignment of Global Title is shown in Annex 3J.

11.2.4 To facilitate the processing of the application, please also include details such as name and destination of contact person, company name and contact number, fax number and email address of the contact person. For further enquiries please write to:

Infocomm Resource & Technology
Info-communications Media Development Authority
10 Pasir Panjang Road
#10-01 Mapletree Business City
Singapore 117438
Fax: (65) 6659 2502
Email: nnp_admin@imda.gov.sg

12 USE OF THE '*' AND '#' KEYS

12.1 General

12.1.1 Apart from digits '0' to '9' on the keypads of the current tone dialling telephones, there are two remaining dial buttons '*' and '#'. These keys are presently widely used in paging services and for the activation and deactivation of various value-added services such as call transfer, call waiting etc.

12.1.2 The use of these codes for value added services should be switch-based. These codes should terminate at the local switches (or nearest switches in the case of Radio Network) connected to the subscriber unit and should not be passed from one switch to another. In other words, instructions initiated by these codes are to be executed at the local switch level (or nearest switch in the case of Radio Network).

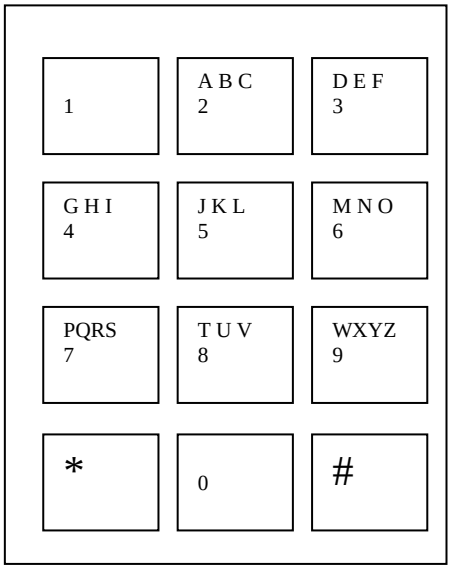
12.1.3 The use of such codes should not cause conflict to the National Numbering Plan including the PSTN/Mobile/Paging number ranges.

12.1.4 IMDA reserves the right to review the use of # and * keys as and when it deems appropriate.

13 ALPHANUMERIC TELEPHONE KEYPAD STANDARD

13.1 IMDA adopts the alphanumeric keypad standard recommended by the ITU for use in Singapore. Since 1 April 1996, only equipment with ITU-standard alphanumeric keypad is allowed for sale in Singapore for local use. IMDA does not type approve any equipment with non-standard keypads.

13.2 The new standard keypad layout (in accordance with ITU-T Recommendation E.161) is as follows:



13.3 The standardisation of the keypad layout will promote the use and facilitate the introduction of innovative services involving alphanumeric characters, including alphanumeric 1800 (toll-free) or 1900 (premium) services.

14 OTHER NUMBERING SCHEMES

14.1 Number Charges

14.1.1 Numbers with certain identifiable pattern in the last four digits are identified as "Golden Numbers" (Table 12.1). IMDA charges licensees a one-time sum of S$50 per Golden Number for PSTN, cellular, IPT and UCDO services, and S$30 per Golden Number for paging service. With 486 Golden Numbers in a number level (i.e. 10 000 numbers), each PSTN, cellular, IPT or UCDO number level is charged at $24,300. Correspondingly, each paging number level is $14,580.

Table 12.1: Golden Numbers

ABCD[22] XXXX[23] ABCD[24] XXYY ABCD XYXY ABCD XYYY ABCD XYYX ABCD XXXY	
ABCD 8808 ABCD 8818 ABCD 8828 ABCD 8838 ABCD 8848 ABCD 8868 ABCD 8878 ABCD 8898	ABCD 8088 ABCD 8188 ABCD 8288 ABCD 8388 ABCD 8488 ABCD 8688 ABCD 8788 ABCD 8988
ABCD 1288 ABCD 1388 ABCD 1688 ABCD 1788 ABCD 1988	ABCD 1234 ABCD 1168 ABCD 1628 ABCD 3288 ABCD 1668

Total Count: 486 Golden Numbers in a number level

[22] ABCD represent a typical PSTN and Radio Network number level (e.g. PSTN number level '6234' and Radio Network number level '9234')
[23] A typical 'XXXX' format is '1111'
[24] A typical 'XXYY' format is '1122'

14.1.2 Generally, fees paid for golden numbers will not be refunded even if the number level is subsequently returned to or recovered by IMDA.

14.2 Number-to-Line Ratio

IMDA has established 2 sets of number-to-line ratio which licensees are required to follow when assigning numbers to their subscribers:

a) For every 4 DID circuits subscribed, a subscriber can be assigned a maximum of 100 DID numbers.

b) For every 1 ISDN 30 circuit subscribed, a subscriber can be assigned a maximum of 1000 Direct Dialling Inwards (DDI) numbers.

14.3 Extraordinary DID Number Charging Scheme

DID number requirements beyond the maximum 100 DID numbers per 4 DID lines are considered as extraordinary requirement and are subject to IMDA's approval. Approved numbers are subject to a levy of $5 per extraordinary DID number per annum.

Illustration:

Company A requests for 200 numbers when subscribing to 4 DID lines. Based on IMDA's DID number-to-line ratio, 100 numbers will be considered as extraordinary requirement and hence subject to IMDA approval. Upon successful application, Company A will be subjected to a charge of $500 per annum for the additional 100 numbers required.

14.4 Numbers Ending with '0000' and '9999'

14.4.1 Licensees shall set aside a specific percentage of numbers (short codes not inclusive) ending with '0000' and '9999' for use in the nation's interest. The rest of the numbers ending with '0000' and '9999' can be assigned for public use without prior approval from IMDA. The percentages reserved for various services are prescribed as below:

a) Level '6' PSTN numbers and IPT numbers: 15% of the numbers ending with '0000' and 15% of the numbers ending with '9999'.

b) For mobile numbers: 50% of the numbers ending with '0000' and 50% of the numbers ending with '9999'.

c) For paging numbers: 30% of the numbers ending with ‘0000’ and 30% of the numbers ending with ‘9999’.

14.4.2 From the reserved pool of numbers ending with ‘0000’ and ‘9999’, licensees may proceed to assign those numbers ending with ‘9999’ to the Singapore Police Force for use in the Neighbourhood Police Posts without referring to IMDA. Approval from IMDA is required for the use of the rest of the numbers in the pool. Please refer to Annex 9 which provides further details for the Procedure for Allocation of Golden Numbers Ending with ‘0000’ and ‘9999’.

14.5 Number Portability

Number portability refers to the ability for subscribers to retain their current numbers (‘1800’ (toll-free) and ‘1900’ (premium) service numbers inclusive) when they change operators or the geographical location. Number portability is in place for PCMTS, PRPS and the PSTN fixed network, and all FBO licensee and SBO (Individual) licensees licensed as MVNO are required to implement and support number portability.

14.6 9-Digit Numbering Format

Prior to the exhaustion of the current 8-digit numbering format, IMDA will migrate to a 9-digit numbering format. As such, 9-digit numbers are reserved for future numbering needs.

ANNEX 1

PROCEDURES FOR ASSIGNING 3-DIGIT ACCESS CODES

1. Introduction

1.1 Access codes "00X" to "03X" are divided into two pools - Pool A and Pool B. Codes in Pool B have recognisable patterns and are considered more desirable than the codes in Pool A. These codes are shown and explained in Attachments B & C.

2. General Principles and Procedures

2.1 IMDA will determine an applicant's qualification for 3-digit codes upon justification. The criteria for the allocation of 3-digit access codes are set out in Attachment A. Applicants who do not qualify for 3-digit codes may be recommended to use 4-digit codes. The procedure for assigning 4-digit access codes is provided in Annex 2.

2.2 Qualified applicants may request for 3-digit access codes from either Pool A or Pool B. Access codes from Pool A which are allocated through balloting, are allocated without charge. Qualified applicants requesting for Pool A access codes are to follow the balloting procedures listed in Attachment B. Access codes from Pool B which are allocated through bidding, are allocated at the bid price. The minimum bid price for Pool B access codes is S$50,000 (excluding GST). Qualified applicants requesting for Pool B access codes are to follow the bidding procedures listed in Attachment C.

2.3 Applicants who have successfully balloted for Pool A access codes but do not wish to retain the balloted codes are eligible to bid for access codes in Pool B. These applicants may take part in the next available bidding session. Upon successfully bidding for a code from Pool B, the code initially balloted from Pool A will be recovered by IMDA.

2.4 Applicants who have successfully bid for codes from Pool B are required to pay the offered amount. These applicants will no longer be eligible for balloting or bidding of codes.

2.5 Except where approved, assigned access codes must be activated within 6 months from the date of assignment[25]. Codes not activated within the stipulated period will be recovered from licensees. Inefficiently used codes will also be recovered.

[25] Date of assignment for codes from Pool A is the date of successful ballot allocation or the date of licence approval, whichever later. Date of assignment for codes from Pool B is the date of receipt of payment for the bid.

2.6 Extension to activation date of access code may be granted to licensees upon justification. The period of extension granted will not exceed 6 months. Codes not put into use after the extension will be recovered without refund. Licensees who have their Pool A code recovered shall pay an Access Code Acquisition Fee of S$20,000 (exclude GST) before they can reapply to acquire access codes from either Pool A or Pool B. Licensees affected by the recovery of the Pool B code are exempted from the payment of the Access Code Acquisition Fee if they reapply to acquire access codes from either Pool A or Pool B.

2.7 Access codes assigned to licensees are not transferable and will be recovered by IMDA if the licensees fail to:

a. Hold a valid FBO licence; or
b. Commence or provide the service requiring the access code

2.8 Once code assignment and payment have been made, no refund will be made even if the access code is returned to IMDA

3. PAYMENT FOR POOL B ACCESS CODES

The amount payable for each access code from Pool B is based on the amount that the access code was bid for. All payment for access codes must be forwarded to IMDA within seven (7) working days from receiving the invoice for the access code.

Attachment A

CRITERIA FOR ALLOCATION OF 3-DIGIT ACCESS CODES

1 With the full liberalisation of the telecommunication market from 1 April 2000, and with no pre-set limit on the number of licences to be granted, 3-digit access codes has become a scarce number resource. As such, only Facilities-Based Operator (FBO) licensees [26] that have commit an overall investment in infrastructure of an amount not less than S$150 millions over the first 3 years from date of licensing are eligible for 3-digit access codes. The investment shall include international connectivity and capacity that will expand the overall global international reach from Singapore.

2 Eligible FBO licensees requesting for 3-digit access codes must use the codes to provide service for the mass consumer market, an example of which is the offering of international public switched services to the general public. Eligible FBO licensees offering international communication services to corporate users alone will not be qualified for 3-digit access codes.

3 In order to conserve the 3-digit access codes to meet all justifiable demand for as long a period as possible, each eligible FBO licensee is restricted to <u>one</u> '00X' code (subject to availability) and <u>six</u> '0XX' codes[27]. Subject to IMDA's approval, additional Level '0' short code requirements beyond assigned limit, especially for differentiated schemes under the same service which has already been assigned a 3-digit access code, is to be met by 4-digit access codes.

4 Notwithstanding the above, IMDA reserves the right to review the restriction of 3-digit access code allocation from time to time. IMDA also reserves the right to review the service providers' usage of 3-digit access codes to determine if they are used efficiently. IMDA will recover those access codes that are not used efficiently by giving the service providers at least 6 months' advance notice.

[26] Facilities-based Operator licensees refer to licensees who deploy any form of telecommunication networks, systems and facilities, outside of their own property boundaries, to offer telecommunication services to third parties, which may include other licensed telecommunication operators, business customers or the general public.

[27] Restriction applies for all applications following the full liberalisation of telecommunications market on 1 April 2000.

Attachment B

PROCEDURES FOR BALLOTING 3-DIGIT ACCESS CODES IN POOL A

1. Introduction

1.1 A first-come-first-served principle is adopted in the assignment of Pool A access codes through balloting.

1.2 The sequence in which applicants ballot for the access code in a balloting session is determined by the order in which IMDA approves the licence or short code application (whichever later).

2. Ordinary Access Codes for Balloting

2.1 Pool A access codes are numbers from 010 to 039 less the numbers in Pool B that are in that range.

2.2 IMDA will inform approved applicants of the Pool A codes that are available for balloting.

3. Balloting Arrangements

3.1 Applicants whose licence and access code applications have been approved by IMDA will be invited to attend a balloting session held in IMDA's premises. The date and time of the balloting session will be arranged between IMDA and the applicants.

3.2 The arrangement for the balloting process will be explained to applicants prior the actual balloting session.

3.3 Each applicant will randomly draw an access code from the access codes available in Pool A.

3.4 The access code drawn in the ballot will be assigned to the applicant upon the successful acquisition of the required licence by the applicant.

Attachment C

PROCEDURES FOR BIDDING 3-DIGIT ACCESS CODES FROM POOL B

1. INTRODUCTION

1.1 Upon receipt of a qualifying applicant's request to bid for a Pool B access codes, IMDA will wait for a period of 1 month to collate similar requests from other FBO licensees.

1.2 If there are more than one request to bid at the expiry of the 1 month waiting period, IMDA will conduct a bidding session. If only one request is received, the applicant may pay the minimum bid amount of S$50,000 and select an available Pool B access code.

1.3 An applicant who fails to attend the bidding session despite indicating the intention to do so shall be handled as per Para. 3.5 or 3.6, whichever applicable.

2. Special Access Codes for Bidding

2.1 Pool B access codes are:

00X

0YY

0YZ (where X = 1 to 9
Y = 1 to 3
Z = 0 and 8)

2.2 For each bidding session, the lowest available 00X access code will be selected for bidding.

2.3 In addition, for the 0YY and 0YZ access codes, the number of access codes equal to the number of bidders less one will be randomly selected for bidding (see Para. 2.2). Bidders will be invited to witness the random selection of the required number of access codes prior to the actual bidding session.

2.4 IMDA will inform the approved applicants of all the Pool B access codes that are available for bidding.

3. Bidding Arrangements

3.1 Applicants whose licence and access code applications have been approved by IMDA, and have indicated their intention to bid for a Pool B code will be invited to attend a bidding session held in IMDA's premises. Applicants will be informed of the date and time of the bidding session.

3.2 The arrangement for the bidding process will be explained to applicants prior the actual bidding session.

3.3 The Pool B access codes selected in Para. 2.2 and 2.3 will be sequentially put up for bidding. Bidders interested to bid for an access code at a particular price shall submit a bid by raising the bidding card provided. The bid price for each access code will be systematically increased by a fixed amount from the floor price of S$50,000 until only one interested bidder (the highest bidder) is left.

3.4 An access code successfully bid for by the highest bidder will be assigned to the applicant upon the successful acquisition of the required licence.

3.5 Bidders who had earlier balloted for access codes but was either unsuccessful in the bidding or did not take part in the bidding session, can choose to keep the ordinary access code that was earlier balloted or take part in the next bidding session.

3.6 Bidders who had requested to take part in the bidding without first going through the balloting can choose to ballot for ordinary access codes if they did not succeed or participate in the bidding. In such cases, bidders can choose to accept the access code that is balloted or take part in the next bidding session.

ANNEX 2

PROCEDURES FOR ASSIGNING 4-DIGIT ACCESS CODES

1. Introduction

1.1 Access codes of the form "1XXX"level are divided into two pools - Pool A and Pool B. Codes in Pool B have recognisable patterns and are considered more desirable than the codes in Pool A. These codes are shown and explained in Attachments A & B.

2. General Principles and Procedures

2.1 IMDA will determine an applicant's qualification for 4-digit codes upon justification. Upon confirmation of eligibility, applicants will be notified of the access code level that is open for balloting or bidding. Access code levels available for applicants' use are based on the services in which the applicants intend to offer. (E.g. enquiry services in the "16XX" and prepaid/postpaid cards in the "18XX").

2.2 Service-Based Operator (SBO) (Individual) licensees providing International Simple Resale (ISR) service (excluding solely wholesale service) where customers can have one stage IDD dialling through PSTN and where access is not via card mode nor Personal Computer-based, are eligible for short codes from the '15XX' level.

2.3 Access codes used for network routing and testing (i.e. '19XX') are assigned sequentially

2.4 Qualified applicants may request for 4-digit access codes from either Pool A or Pool B. Access codes from Pool A which are allocated through balloting, are allocated without charge. Qualified applicants requesting for Pool A access codes are to follow the balloting procedures listed in Attachment A. Access codes from Pool B which are allocated through bidding, are allocated at the bid price. The minimum bid price for Pool B access codes is S$50,000 (excluding GST). Qualified applicants requesting for Pool B access codes are to follow the bidding procedures listed in Attachment B.

2.5 Applicants who have successfully balloted for access codes from Pool A but do not wish to retain the balloted codes, are eligible to bid for access codes in Pool B. These applicants may take part in the next available bidding session. Upon successfully bidding for a code from Pool B, the code initially balloted from Pool A will be recovered by IMDA.

2.6 Applicants who have successfully bid for codes from Pool B are required to pay the offered amount. These applicants will no longer be eligible for balloting or bidding of codes.

2.7 Except where approved, assigned access codes must be activated within 6 months from the date of assignment[28]. Codes not activated within the stipulated period will be recovered from licensees. Inefficiently used codes will also be recovered.

2.8 Extension to activation date of access code may be granted to licensees upon justification. The period of extension granted will not exceed 6 months. Codes not put into use after the extension will be recovered without refund.
Licensees who have their Pool A code recovered shall pay an Access Code Acquisition Fee of S$20,000 (exclude GST) before they can reapply to acquire access codes from either Pool A or Pool B. Licensees affected by the recovery of Pool B code are exempted from the payment of the Access Code Acquisition Fee if they reapply to acquire access codes from either Pool A or Pool B.

2.9 Access codes assigned to licensees are not transferable and will be recovered by IMDA if the licensees fail to:

a. Hold a valid FBO/SBO (Individual) licence; or
b. Commence or provide the service requiring the access code

2.10 Once code assignment and payment have been made, no refund will be made even if the access code is returned to IMDA.

3. PAYMENT FOR POOL B ACCESS CODES

The amount payable for each access code from Pool B is based on the amount that the access code was bid for. All payment for access codes must be forwarded to IMDA within seven (7) working days from receiving the invoice for the access code.

[28] Date of assignment for codes from Pool A (i.e. codes allocated through balloting), is the date of successful ballot allocation or the date of license approval, whichever later. Date of assignment for codes from Pool B (i.e. codes allocated through bidding), is the date of receipt of payment for the bid.

Attachment A

PROCEDURES FOR BALLOTING 4-DIGIT ACCESS CODES IN POOL A

1. Introduction

1.1 A first-come-first-served principle is adopted in the assignment of Pool A access codes through balloting.

1.2 The sequence in which applicants ballot for the access code in a balloting session is determined by the corresponding order (date and time) in which the licence or short code application, whichever later, are approved by IMDA.

2. Ordinary Access Codes for Balloting

2.1 Pool A access codes are:

1300 to 1399
1500 to 1599
1600 to 1699
1800 to 1899, less the numbers in Pool B.

2.2 IMDA will inform approved applicants of the Pool A codes that are available for balloting.

3. Balloting Arrangements

3.1 Applicants whose licence and access code applications have been approved by IMDA will be invited to attend a balloting session held in IMDA's premises. The date and time of the balloting session will be arranged between IMDA and the applicants.

3.2 The arrangement for the balloting process will be explained to applicants prior the actual balloting session.

3.3 Each applicant will randomly draw an access code from the access codes available in Pool A.

3.4 The access code drawn in the ballot will be assigned to the applicant upon the successful acquisition of the required licence by the applicant.

Attachment B

PROCEDURES FOR BIDDING 4-DIGIT ACCESS CODES FROM POOL B

1. INTRODUCTION

1.1 Upon receipt of a qualifying applicant's request to bid for a Pool B access codes, IMDA will wait for a period of 1 month to collate similar requests from other applicants.

1.2 If there is more than one request to bid at the expiry of the 1 month waiting period, IMDA will conduct a bidding session. If only one request is received, the applicant may pay the minimum bid amount of S$50,000 and select an available Pool B access code.

1.3 An applicant who fails to attend the bidding session despite indicating the intention to do so shall be handled as per Para. 3.5 or 3.6, whichever applicable.

2. Special Access Codes for Bidding

2.1 The Pool B access codes are:

1YXX
1Y1Y
1YY1 (where Y = 3, 5 - 8
X = 0 to 9)

2.2 IMDA will inform the approved applicants of all the Pool B access codes that are available for bidding.

3. Bidding Arrangements

3.1 Applicants whose licence and access code applications have been approved by IMDA, and have indicated their intention to bid for a Pool B code will be invited to attend a bidding session held in IMDA's premises. Applicants will be informed of the date and time of the bidding session.

3.2 The arrangement for the bidding process will be explained to applicants prior the actual bidding session.

3.3 The available Pool B access codes will be sequentially put up for bidding. Bidders interested to bid for an access code at a particular price shall submit a bid by raising the bidding card provided. The bid price for each access code

will be systematically increased by a fixed amount from the floor price of S$50,000 until only one interested bidder (the highest bidder) is left.

3.4 An access code successfully bid for by the highest bidder will be assigned to the applicant upon the successful acquisition of the required licence.

3.5 Bidders who were either unsuccessful in the bidding or did not take part in the bidding session, but have earlier balloted for access codes, will retain the access code that was earlier balloted.

3.6 Bidders who were either unsuccessful in the bidding or did not take part in the bidding session, but *have not* earlier balloted for access codes, will have to ballot for an ordinary access code. Bidders will subsequently have to accept the access code is balloted and will not be allowed to take part in the bidding again.

ANNEX 3

ANNEX 3

Annex 3A Number Assignment for leading digit 0 to 1

Annex 3B Number Assignment for leading digit 2, 4 and 5

Annex 3C Number Assignment for leading digit 3

Annex 3D Number Assignment for leading digit 6

Annex 3E Number Assignment for leading digit 7

Annex 3F Number Assignment for leading digit 8 & 9

Annex 3G Data Network Identification code (DNIC)

Annex 3H International Signalling Point Code (ISPC)

Annex 3I National Signalling Point Code (NSPC)

Annex 3J Global Title (GT)

Annex 3K Issuer Identification Number (IIN)

Annex 3L Mobile Country Code (MCC) and Mobile network Code (MNC)

ANNEX 3A

NUMBER ASSIGNMENT FOR LEADING DIGIT 0

CODE	OPERATOR
Level '00X' – '03X'	
000*	Generic IDD access code
001	Singtel
002	M1
003	
004	
005	Verizon Communications Singapore Pte Ltd
006	
007	
008	StarHub
009	StarHub
010	
011	Singtel
012	Singtel
013	Singtel
014	
015	StarHub
016	StarHub
017	TPG Telecom Pte Ltd
018	StarHub
019	Singtel
020	Singtel
021	M1
022	StarHub
023	
024	
025	
026	
027	
028	
029	Singtel
030	StarHub
031	
032	
033	M1
034	
035	
036	

037	
038	
039	
Level 04X – 09X – To Be Planned	

***** The code ‘000’ can be implemented by telecom network providers as a default IDD code for routing of IDD calls.

NUMBER ASSIGNMENT FOR LEADING DIGIT 1

CODE	Operator
Level '10XX'	
100	All
101 - 103	
104	Singtel
105 - 109	
Level '11XX'	
110	Singtel
111	Singtel
112	Reserved
113	StarHub
114	
115	
116	
117	
118	
119	
Level '12XX' - To Be Planned	
Level '13XX'	
1301	Singtel
1302	StarHub
1303	StarHub
1304	Singtel
1305	Singtel
1306 - 1307	
1308	Singtel
1309	Singtel
1310	Singtel
1311 - 1313	
1314	Singtel
1315 - 1323	
1324	Singtel
1325	StarHub
1326 - 1333	
1334	MyRepublic Limited
1335 - 1337	

CODE	Operator
1338	TPG Telecom Pte Ltd
1339	
1340	Singtel
1341	Singtel
1342	Singtel
1343	Singtel
1344	Singtel
1345	StarHub
1346	StarHub
1347	StarHub
1348	StarHub
1349	StarHub
1350 - 1378	
1379	Grid Communications
1380	
1381	M1
1382	M1
1383	Singtel
1384	Singtel
1385 - 1385	
1386	TPG Telecom Pte Ltd
1387-1388	
1389	Singtel
1390	Singtel
1391 - 1399	
Level '14XX'	
1410	M1
1411	Singtel Mobile
1412	StarHub Mobile
1413	StarHub Mobile
1414	TPG Telecom Pte Ltd
Level '144XX'	
14400	Singtel Mobile
14401 - 14408	
14409	Singtel Mobile
14410	StarHub Mobile
14411-14419	

CODE	Operator
14420	M1
14421-14499	
Level '15XX'	
1500	
1501	Globalcom Info Svcs
1502	
1503	
1504	Absolute Telecom Pte Ltd
1505	Connecting Communication & Solutions Pte Ltd
1506	
1507	Global Voice Pte Ltd
1508	
1509	
1510	
1511	Zone Telecom Pte Ltd
1512	
1513	Asia Access Telecom Pte Ltd
1514	
1515	
1516	Whiz Communications Pte Ltd
1517	NTT Singapore Pte Ltd
1518	
1519	
1520	
1521	Nexwave Telecoms Pte Ltd
1522	
1523	
1524	
1525	
1526	Shinetown Telecom
1527	
1528	
1529	
1530	
1531	
1532	
1533	
1534	BT Singapore Pte Ltd

CODE	Operator
1535	
1536	
1537	
1538	1WorldTelecommunications Pte Ltd
1539	Vivohub Mobile Pte Ltd
1540	Orange Carriers Singapore Pte Ltd
1541	
1542	Singapore Smart Telecommunications Pte Ltd
1543	
1544	
1545	
1546	
1547	
1548	
1549	
1550	MyRepublic Limited
1551	MediaRing Communications Pte Ltd
1552	
1553	
1554	Maxxtelcomm Pte Ltd
1555	Verizon Communications Singapore Pte Ltd
1556	
1557	
1558	
1559	
1560	
1561	PLDT (SG) Pte Ltd
1562	
1563	
1564	Chesterfield Communications Pte Ltd
1565	
1566	
1567	
1568	
1569	
1570	
1571	
1572	
1573	

CODE	Operator
1574	
1575	Singtel
1576	BluDot Communications Pte Ltd
1577	
1578	
1579	
1580	
1581	
1582	
1583	
1584	
1585	
1586	
1587	
1588	
1589	
1590	
1591	CITIC Telecom International (SEA) Pte Ltd
1592	
1593	
1594	
1595	IDT Telecom Asia Pacific Ltd (Singapore Branch)
1596	
1597	
1598	
1599	Geenet Pte Ltd
Level '16XX'	
1600	Singapore Police
1601	
1602	
1603	
1604	
1605	Singtel
1606	Singtel
1607	
1608	Singtel
1609	Singtel
1610	SingNet

CODE	Operator
1611	
1612	
1613	
1614	
1615	
1616	
1617	
1618	
1619	
1620	
1621	
1622	M1
1623	M1
1624	
1625	TPG Telecom Pte Ltd
1626	Singtel
1627	M1
1628	
1629	
1630	StarHub
1631	StarHub
1632	StarHub
1633	StarHub
1634	StarHub
1635	StarHub
1636	
1637	StarHub
1638 - 1679	
1680	MyRepublic Limited
1681 - 1687	
1688	Singtel
1689 - 1689	
1690	TPG Telecom Pte Ltd
1691-1692	
1693	M1
1694 - 1695	
1696	MyRepublic Limited
1697 - 1699	

CODE	Operator
Level '17XX'	
1700 – 1710	
1711	Time Announcement
1712	
1713	SingNet
1714 - 1776	
1777	SCDF
1778 - 1799	
Level '18XX'	
1800	Local Toll Free Service
1801 - 1817	
1818	M1
1819 - 1821	
1822	Singtel
1823	Singtel
1824 - 1827	
1828	
1829	
1830	
1831 - 1834	
1835	Singtel
1836 - 1879	
1880	TPG Telecom Pte Ltd
1881-1882	
1883	StarHub
1884	StarHub
1885	Singtel
1886 - 1889	
1890	Singtel
1891	Singtel
1892	Singtel
1893	Singtel
1894 - 1895	
1896	Singtel
1897	Singtel
1898	Singtel
1899	Singtel

CODE	Operator
Level '19XX'	
1900	Voice Information Service (Premium)
19XX	Network Test Codes

29 March 2018

ANNEX 3B

NUMBER ASSIGNMENT FOR LEADING DIGIT 2, 4 AND 5

NUMBER RANGE	OPERATOR
2XXXXXXX	To Be Planned
4XXXXXXX	To Be Planned
5XXXXXXX	To Be Planned

Annex 3C

NUMBER ASSIGNMENT FOR LEADING DIGIT 3

IPT AND UCDO SERVICES	
Service Provider	**Number Level**
MediaRing Communications Pte Ltd	3100
Viewqwest Pte Ltd	3102
Singapore Smart Telecommunications Pte Ltd	3103
SingNet Pte Ltd	3104
Hybrid Networks Pte Ltd	3105 3110 3112 – 3113 3115 – 3124 3126 – 3152
Comnet Telecom (Singapore) Pte Ltd	3111
SuperInternet Access Pte Ltd	3106 - 3107 3125
Sky Voice Pte Ltd	3108
Whiz Communications Pte Ltd	3109
Pennytel Pte. Ltd.	3114
M1 Limited	3153 3155
Singtel Mobile	3154
iTalkBB Singapore Pte. Ltd.	3156
Nexwave Telecoms Pte Ltd	3157
Voxbone Singapore	3158 3163 3165
Telcoson PL	3159
Hoiio PL	3160
MyRepublic Limited	3161
Connecting Communication & Solutions Pte Ltd	3164
Singapore Telecommunications Ltd	3222

4 June 2018

ANNEX 3D

NUMBER ASSIGNMENT FOR LEADING DIGIT 6

Singtel	StarHub	M1	Verizon	MyRepublic	Orange Carriers Singapore
6100	6206	6204	6675	6717	6907
6200	6300	6207	6201	6814 - 6817	
6202-6203	6400 - 6409	6208	6923	6910	
6205	6491 - 6493	6610	6953	6920	
6209	6519 - 6528	6612		6931	
6210 - 6299	6618	6642		6950	
6301 - 6399	6622	6655		6957	
6410 - 6490	6630	6677			
6494 - 6518	6633	6695			
6530 - 6604	6635	6706			
6611	6638 - 6641	6802 - 6803			
6631 - 6632	6644	6806			
6634	6646 - 6653	6900			
6636 - 6637	6656	6902			
6643	6667	6905			
6645	6670	6906			
6654	6673 - 6674	6915			
6657 - 6665	6678 - 6680	6917			
6668 - 6669	6685	6924			
6671 - 6672	6687	6926-6927			
6676	6689	6929			
6681 - 6684	6693	6934			
6686	6696	6951			
6688	6698 - 6701	6966			
6690 - 6692	6712	6969			
6694	6720 – 6729	6988			
6697	6808 - 6809	6996			
6702 - 6705	6818				
6707 - 6711	6820 – 6829				
6713 - 6716	6909				
6718 - 6719	6914				
6730 - 6801	6921				
6804 - 6805	6930				
6807	6939				
6810 - 6813	6955				
6819	6956				
6830 - 6846					
6848 - 6899					
6901					
6903 - 6904					
6908					
6911 - 6913					
6916					

Singtel	StarHub	M1	Verizon	MyRepublic	Orange Carriers Singapore
6918 - 6919					
6922					
6925					
6928					
6932-6933					
6935-6938					
6952					
6954					

30 July 2018

ANNEX 3E

NUMBER ASSIGNMENT FOR LEADING DIGIT 7

NUMBER LEVEL	OPERATOR
7000	Singtel
7001-7999	To Be Planned

1 April 2004

ANNEX 3F

NUMBER ASSIGNMENT FOR LEADING DIGIT 8 & 9

M1		Singtel Mobile		StarHub Mobile	
Level '8'	**Level '9'**	**Level '8'**	**Level '9'**	**Level '8'**	**Level '9'**
8100 - 8109	9040 - 9049	8120 - 8129	9010 – 9019	8110 - 8119	9001 – 9009
8170 - 8179	9070 - 9079	8181 - 8182	9030 - 9039	8130 - 8139	9020 – 9029
8188	9090 - 9099	8218	9050 - 9059	8141 - 8169	9060 – 9069
8190 - 8197	9190 - 9198	8223	9081 - 9089	8180	9100 – 9109
8199	9220 - 9229	8228	9110 - 9119	8183 - 8187	9140 – 9149
8210 - 8212	9273 - 9279	8260 - 8267	9120 – 9129	8189	9160 – 9169
8222	9320 - 9329	8269	9130 – 9139	8198	9180 – 9189
8272 - 8273	9340 – 9349	8280 - 8281	9150 - 9159	8200 - 8209	9199
8276 - 8279	9360 – 9369	8283 - 8287	9170 - 9179	8220 - 8221	9237 – 9249
8282	9430 – 9439	8289	9230 - 9236	8224 - 8227	9270 – 9272
8288	9470 – 9479	8299	9295 - 9299	8229 - 8259	9335 - 9339
8320	9680 – 9699	8300 - 8319	9334	8268	9380 – 9389
8323 - 8324	9740 – 9749	8338 - 8351	9350 – 9359	8290 - 8298	9420 - 9429
8333	9760 – 9769	8353 - 8360	9370 – 9379	8321 - 8322	9450 – 9459
8366	9790 – 9799	8371 - 8372	9390 – 9399	8328	9480 – 9489
8368	9840 – 9849	8374 - 8376	9440 – 9449	8330 - 8332	9499
8382 - 8383	9870 – 9879	8379	9460 - 9469	8334 - 8337	9800
8388	9889	8381	9610 – 9679	8352	9813 - 9814
8410		8385 - 8387	9710 – 9716	8361 - 8365	9850 – 9859
8412 - 8419		8393	9720 – 9739	8367	9880 - 9887
8440 - 8449		8398 - 8399	9750 – 9759	8369 - 8370	
8456		8401 - 8409	9770 – 9789	8373	
8460 - 8467		8411	9806 – 9807	8377 - 8378	
8469		8420 - 8439	9810 – 9812	8380	
8480 - 8489		8450 - 8455	9815 – 9839	8384	
8496		8457 - 8459	9860 – 9869	8389 - 8392	
8500		8497	9888	8394 - 8397	
8539 - 8556		8499	9890 – 9899	8400	
8558		8502		8468	
8573 - 8574		8504		8470 - 8479	
8576 - 8581		8506 - 8507		8490 - 8495	
8585		8510-8511		8498	
8588		8515		8501	
8600		8518		8503	
8611 - 8614		8522 - 8525		8505	
8623 - 8630		8532 - 8537		8508 - 8509	
8641 - 8645		8575		8512 – 8514	
8666		8582 - 8584		8516 - 8517	
8668		8586 - 8587		8519 - 8521	
8683 - 8688		8589 - 8591		8526 - 8531	
8691 - 8693		8595		8538	
8699		8610		8557	
8711		8615 - 8622		8559 - 8572	
8714 - 8721		8631 - 8640		8592 - 8594	

M1		Singtel Mobile		StarHub Mobile	
Level '8'	**Level '9'**	**Level '8'**	**Level '9'**	**Level '8'**	**Level '9'**
8723		8646 - 8657		8596 - 8599	
8733		8662 - 8665		8601 - 8608	
8738		8667		8609	
8766		8669 - 8679		8658 - 8661	
8777 - 8778		8694 - 8698		8680 - 8682	
8781 - 8783		8701 - 8710		8689 - 8690	
8786 - 8788		8712 - 8713		8700	
8797		8730 - 8732		8722	
8800		8734 - 8737		8724 - 8729	
8811 – 8813		8739 - 8741		8765	
8816		8743-8747		8789 - 8790	
8818		8762-8764		8829 - 8831	
8820 -8823		8798 - 8799			
8826		8809			
8828		8869			
8833		8876			
8838					
8844					
8848					
8855					
8858					
8862					
8866					
8868					
8877					

GRID Comms*		PLDT (SG)	Liberty Wireless	MyRepublic Limited	Red One
Level '8'	**Level '9'**	8213 - 8217	8808	8754-8755	8756-8760
8140	9080	8219	8742	8769	
8773	9717 - 9719	8270 - 8271	8748 - 8753		
		8325 - 8326	8767-8768		
		8329	8776		
			8779-8780		
			8784		

* Public Trunked Radio Service

TPG Telecom	Vivohub Mobile	Zero1
8761	8770 - 8772	8774-8775

Emergency & Others	
800	Prefix for ITFS/HCDS
993	MOH
995	SCDF
999	SPF

30 July 2018

ANNEX 3G

DATA NETWORK IDENTIFICATION CODE (DNIC)

DNIC	Operator
525-0	Singtel
525-1	Singtel
525-2	Singtel
525-3	Singtel
525-4	Vodafone Enterprise Singapore Pte Ltd
525-5	StarHub
525-6	
525-7	Singtel
525-8	Singtel
525-9	Singtel

April 2017

ANNEX 3H

INTERNATIONAL SIGNALLING POINT CODE (ISPC)

ISPC	Operator
5-045-0	Singtel
5-045-1	Singtel
5-045-2	Singtel
5-045-3	Singtel
5-045-4	Telekom Malaysia (S) Pte Ltd
5-045-5	Telekom Malaysia (S) Pte Ltd
5-045-6	ComNet Telecom (S) Pte Ltd
5-045-7	
5-046-0	StarHub Ltd
5-046-1	Singtel
5-046-2	Singtel
5-046-3	Singtel
5-046-4	Singtel
5-046-5	Singtel
5-046-6	Singtel
5-046-7	Singtel
5-047-0	Fixed & Mobile Pte Ltd
5-047-1	Fixed & Mobile Pte Ltd
5-047-2	
5-047-3	Level 3 Communications Singapore Pte Ltd
5-047-4	StarHub Ltd
5-047-5	StarHub Ltd
5-047-6	
5-047-7	StarHub Ltd
5-048-0	CITIC Telecom International (SEA) Pte Ltd
5-048-1	Nexwave Telecoms Pte Ltd
5-048-2	BluDot Communications Pte Ltd
5-048-3	Tata Communications International Pte Ltd
5-048-4	M1
5-048-5	M1
5-048-6	Telstra Global (Singapore) Pte Ltd
5-048-7	Comnet Telecom (Singapore) Pte Ltd
5-049-0	StarHub – KBS-STP
5-049-1	StarHub – TSS-STP
5-049-2	Tata Communications International Pte Ltd
5-049-3	Blueberry Telecom Global Pte Ltd
5-049-4	Vodafone Enterprise Singapore Pte Ltd
5-049-5	Singapore Smart Telecommunications Pte Ltd
5-049-6	BT Singapore Pte Ltd
5-049-7	Singtel
5-050-0	Singtel
5-050-1	Singtel
5-050-2	Singtel
5-050-3	Singtel
5-050-4	Singtel
5-050-5	Singtel

ISPC	Operator
5-050-6	Singtel
5-050-7	Singtel
5-051-0	Singtel
5-051-1	Singtel
5-051-2	Singtel
5-051-3	Singtel
5-051-4	Singtel
5-051-5	Singtel
5-051-6	PLDT (SG) Pte Ltd
5-051-7	Singtel
5-052-0	Singtel
5-052-1	Singtel
5-052-2	Singtel
5-052-3	Singtel
5-052-4	Verizon Communications Singapore Pte Ltd
5-052-5	M1
5-052-6	M1
5-052-7	Blueberry Telecom Global Pte Ltd
5-053-0	StarHub
5-053-1	StarHub
5-053-2	MediaRing Communications Pte Ltd
5-053-3	REDtone Technology Pte Ltd
5-053-4	ETN Singapore Pte Ltd
5-053-5	Verizon Communications Singapore Pte Ltd
5-053-6	Orange Carriers Singapore Pte Ltd
5-053-7	
5-054-0	
5-054-1	Telekom Malaysia (S) Pte Ltd
5-054-2	Telekom Malaysia (S) Pte Ltd
5-054-3	iTopia.Com Pte Ltd
5-054-4	Singtel
5-054-5	
5-054-6	
5-054-7	Nexwave Telecoms Pte Ltd
5-055-0	ETN Singapore Pte Ltd
5-055-1	Interconnect Technology Pte Ltd
5-055-2	PLDT (SG) Pte Ltd
5-055-3	CTM (Singapore) Pte Ltd
5-055-4	M1
5-055-5	M1
5-055-6	Singtel
5-055-7	CITIC Telecom International (SEA) Pte Ltd
5-140-0	M1
5-140-1	M1
5-140-2	Blueberry Telecom Global Pte Ltd
5-140-3	Blueberry Telecom Global Pte Ltd
5-140-4	Telewest Ventures Communication Pte Ltd
5-140-5	Absolute Telecom Pte Ltd
5-140-6	
5-140-7	Hoiio Pte Ltd
5-141-0	

ISPC	Operator
5-141-1	Telekomunikasi Indonesia International Pte Ltd
5-141-2	Epilon Telecommunications Pte Ltd
5-141-3	
5-141-4	Syniverse Technologies Network Solutions
5-141-5	M1
5-141-6	M1
5-141-7	M1
5-142-0	M1
5-142-1	First Technology Development Pte Ltd
5-142-2	Syniverse Technologies Network Solutions
5-142-3	B-Trac International Pte Ltd
5-142-4	B-Trac International Pte Ltd
5-142-5	Bharti International (Singapore) Pte Ltd
5-142-6	Hello Technology Pte Ltd
5-142-7	Hello Technology Pte Ltd
5-143-0	Mobifone Global Singapore Pte Ltd
5-143-1	Mobifone Global Singapore Pte Ltd
5-143-2	Reliance Jio Infocomm Pte Ltd
5-143-3	Hello Technology Pte Ltd
5-143-4	World Hub C-Cloud Pte Ltd
5-143-5	World Hub C-Cloud Pte Ltd
5-143-6	South China Telecom (S) Pte Ltd
5-143-7	Telenor Global Services Singapore Pte Limited
5-144-0	Hello Technology Pte Ltd
5-144-1	NGT Networks Pte Ltd
5-144-2	NGT Networks Pte Ltd
5-144-3	NGT Networks Pte Ltd
5-144-4	TPG Telecom Pte Ltd
5-144-5	TPG Telecom Pte Ltd
5-144-6	TPG Telecom Pte Ltd
5-144-7	TPG Telecom Pte Ltd
5-145-0	Belgacom International Carrier Services Asia Pte Ltd
5-145-1	Belgacom International Carrier Services Asia Pte Ltd
5-145-2	
5-145-3	
5-145-4	
5-145-5	
5-145-6	
5-145-7	

19 February 2018

ANNEX 3I

NATIONAL SIGNALLING POINT CODE (NSPC)

NSPC (6 bit)	NSPC (4 bit)	NSPC (4 bit)	Operator
0	0-15	0-15	
1	0-3	0-15	Singtel
1	4-9	0-15	
1	10	0-15	Singtel
1	11 -15	0-15	
2	0-3	0-15	Singtel
2	4-15	0-15	
3	0-3	0-15	Singtel
3	4-15	0-15	
4	0	0-15	Singtel
4	1	0-15	
4	2	0-15	Singtel
4	3	0-15	
4	4 - 7	0-15	Singtel
4	8 - 15	0-15	
5	0 - 1	0-15	Singtel
5	2	0-15	
5	3	0-15	Singtel
5	4-15	0-15	
6	0-4	0-15	Singtel
6	5-15	0-15	
7	0-15	0-15	StarHub
8	0-15	0-15	StarHub
9	0	0-3	Whiz Communications Pte Ltd
9	0	4-7	
9	0	8-11	Zone Telecom Pte Ltd
9	0	12-15	
9	1	0-3	T-Systems ITC Singapore Pte Ltd
9	1	4-7	
9	1	8-11	MediaRing Communications Pte Ltd
9	1	12-15	
9	2	0-3	
9	2	4-7	
9	2	8-11	Bludot Communications Pte Ltd
9	2	12-15	
9	3	0-3	Comnet Telecom (Singapore) Pte Ltd
9	3	4-7	
9	3	8-11	GlobalCom Information Services Pte Ltd
9	3	12-15	
9	4	0-3	Telekom Malaysia (S) Pte Ltd
9	4	4-7	
9	4	8-11	Absolute Telecom Pte Ltd
9	4	12-15	
9	5	0-3	
9	5	4-7	
9	5	8-11	Shinetown Telecom (S) Pte Ltd

NSPC (6 bit)	NSPC (4 bit)	NSPC (4 bit)	Operator
9	5	12-15	
9	6	0-3	1World Telecommunications Pte Ltd
9	6	4-7	
9	6	8-11	Asia Access Telecom Pte Ltd
9	6	12-15	
9	7	0-3	CITIC Telecom International (SEA) Pte Ltd
9	7	4-7	
9	7	8-11	iBasis Singapore Pte Ltd
9	7	12-15	
9	8	0-3	PLDT (SG) Pte Ltd
9	8	4-7	
9	8	8-11	ComNet Telecom (Singapore) Pte Ltd
9	8	12-15	
9	9	0-3	
9	9	4-7	
9	9	8-11	Chesterfield Communications Pte Ltd
9	9	12-15	
9	10	0-3	ETNS Singapore Pte Ltd
9	10	4-7	
9	10	8-11	Level 3 Communications Singapore Pte Ltd
9	10	12-15	
9	11	0-3	IDT Telecom Asia Pacific Ltd (Singapore Branch)
9	11	4-7	
9	11	8-11	
9	11	12-15	
9	12	0-3	NTT Singapore Pte Ltd
9	12	4-7	
9	12	8-11	
9	12	12-15	
9	13	0-3	Hybrid Networks Pte Ltd
9	13	4-7	
9	13	8-11	Connecting Communication & Solutions Pte Ltd
9	13	12-15	Connecting Communication & Solutions Pte Ltd
9	14	0-3	RedTone Technology Pte Ltd
9	14	4-7	
9	14	8-11	SuperInternet Access Pte Ltd
9	14	12-15	
9	15	0-3	Singapore Smart Telecommunications Pte Ltd
9	15	4-7	
9	15	8-11	
9	15	12-15	
10	0	0-3	
10	0	4-7	
10	0	8-11	
10	0	12-15	
10	1	0-3	
10	1	4-7	
10	1	8-11	
10	1	12-15	

NSPC (6 bit)	NSPC (4 bit)	NSPC (4 bit)	Operator
10	2	0-3	International Access Pte Ltd
10	2	4-7	
10	2	8-11	
10	2	12-15	
11	0-15	0-15	
12	0	0-7	TPG Telecom Pte Ltd
12	0	8-15	
12	1-15	0-15	
13	0-15	0-15	
14	0-15	0-15	
15	0-15	0-15	
16	0-15	0-15	
17	0-15	0-15	
18	0-15	0-15	
19	0-15	0-15	
20	0-1	0-15	Singtel
20	2-9	0-15	
20	10-11	0-15	Singtel
20	12-15	0-15	
21	0	0-15	Singtel
21	1-15	0-15	
22	0	0-15	Singtel
22	1-15	0-15	
23	0-1	0-15	Singtel
23	2	0-15	
23	3	0-15	Singtel
23	4-15	0-15	
24	0-4	0-15	Singtel
24	5-15	0-15	
25	0-4	0-15	Singtel
25	5-15	0-15	
26	0-1	0-15	Singtel
26	2-15	0-15	
27	0-15	0-15	
28	0-15	0-15	
29	0-15	0-15	
30	0-15	0-15	
31	0-3	0-15	Singtel
31	4-14	0-15	
31	15	0-15	Singtel
32	0-15	0-15	
33	0-15	0-15	
34	0-15	0-15	
35	0-2	0-15	Singtel
35	3-15	0-15	
36	0-15	0-15	
37	0	0-15	Singtel Mobile
37	1	0-15	Singtel Mobile
37	2	0-15	Singtel Mobile
37	3	0-15	Singtel Mobile

NSPC			Operator
(6 bit)	(4 bit)	(4 bit)	
37	4	0-15	Singtel Mobile
37	5	0-15	Singtel Mobile
37	6	0-15	
37	7	0-15	Singtel Paging
37	8	0-15	
37	9	0-15	
37	10	0-15	
37	11	0-15	M1
37	12	0-15	
37	13	0-15	
37	14	0-15	
37	15	0-2	Grid Communications
38	0	0-15	Verizon Communications Singapore Pte Ltd
38	1	0-15	
38	2	0-15	
38	3	0-15	
38	4	0-15	M1
38	5	0-15	
38	6	0-15	
38	7	0-15	
38	8	0-15	Telstra Global (Singapore) Pte Ltd
38	9	0-15	
38	10	0-15	
38	11	0-15	
38	12	0-15	
38	13	0-15	
38	14	0-15	
38	15	0-15	
39	0	0-15	Orange Carriers Singapore Pte Ltd
39	1	0-15	
39	2	0-15	
39	3	0-15	
39	4	0-15	
39	5	0-15	
39	6	0-15	
39	7	0-15	
39	8	0-15	Tata Communications International Pte Ltd
39	9	0-15	
39	10	0-15	
39	11	0-15	
39	12	0-15	Vodafone Enterprise Singapore Pte Ltd
39	13	0-15	
39	14	0-15	
39	15	0-15	
40	0	0-15	BT Singapore Pte Ltd
40	1	0-15	
40	2	0-15	
40	3	0-15	
40	4	0-15	
40	5	0-7	Telekomunikasi Indonesia International Pte Ltd

NSPC			Operator
(6 bit)	(4 bit)	(4 bit)	
40	6	0-15	
40	7	0-15	
40	8	0-15	
40	9	0-15	
40	10	0-15	
40	11	0-15	
40	12	0-15	
40	13	0-15	
40	14	0-15	
40	15	0-15	
41	0	0-3	First Technology Development Pte Ltd
41	1	0-3	
41	2	0-3	
41	3	0-3	Arcadia Communication Pte Ltd
41	4	0-3	Hoiio Pte Ltd
41	5	0-7	MyRepublic Limited
41	6	0-3	Epsilon Telecommunications Pte Ltd
41	7	0-15	
41	8	0-3	Absolute Telecom Pte Ltd
41	9	0-3	South China Telecom (S) Pte Ltd
41	10	0-15	
41	11	0-15	
41	12	0-15	
41	13	0-15	
41	14	0-15	
41	15	0-15	
42	0-15	0-15	
43	0-15	0-15	
44	0-15	0-15	
45	0-15	0-15	
46	0-15	0-15	
47	0-15	0-15	
48	0-15	0-15	
49	0-15	0-15	
50	0-15	0-15	
51	0-15	0-15	
52	0-15	0-15	
53	0-15	0-15	
54	0-15	0-15	
55	0-15	0-15	
56	0-15	0-15	
57	0-15	0-15	
58	0-15	0-15	
59	0-15	0-15	
60	0-15	0-15	
61	0-15	0-15	
62	0-15	0-15	
63	0-15	0-15	

4 June 2018

ANNEX 3J

GLOBAL TITLE (GT)

Code	Operator
193400	Fixed & Mobile Pte Ltd
193401	B-Trac Pte Ltd
193402	Hello Technology Pte Ltd
193403	CLX Networks Singapore Pte Ltd
193404	Hello Technology Pte Ltd
193405-193408	World Hub C-Cloud Pte Ltd
193409-193410	NGT Networks Pte Ltd

ANNEX 3K

ISSUER IDENTIFICATION NUMBER (IIN) ASSIGNMENT

IIN	Operator
89 65 01	Singtel Mobile
89 65 02	Singtel Mobile
89 65 03	M1
89 65 04	
89 65 05	StarHub
89 65 10	TPG Telecom Pte Ltd

5 January 2018

ANNEX 3L

MOBILE COUNTRY CODE (MCC) AND MOBILE NETWORK CODE (MNC)

MCC	MNC	Operator
525	01	Singtel Mobile
525	02	Singtel Mobile
525	03	M1
525	04	
525	05	StarHub
525	06	StarHub
525	07	Singtel Mobile
525	08	StarHub
525	09	Liberty Wireless Pte Ltd
525	10	TPG Telecom Pte Ltd
525	11	
525	12	Grid Communications

May 2017

ANNEX 4

Procedures for Bidding Special 1800/1900 Numbers

1. INTRODUCTION

1.1 The special 1800/1900 numbers will be offered to FBO licensees, who are providing Intelligent Network (IN) services[29], for their reassignment to their customers.

1.2 IMDA will invite FBO licensees, who have indicated to IMDA their intent to bid for special 1800/1900 numbers, to attend the bidding session.

1.3 Upon receiving indication from an applicant to bid, IMDA will wait for a period of 1 month to collate response from potential bidders.

1.4 At the expiry of the 1 month waiting period, if there

(i) are more than one bidder, IMDA will hold the bidding session.

(ii) is only one bidder, he may select his preferred special 1800/1900 number(s) by paying the minimum amount of $20,000 (excluding GST) for each number.

2. Special 1800/1900 Numbers for Bidding

2.1 The special 1800/1900 numbers available for bidding will be in the following formations:

1800 – XXX XXXX (where X=0 to 8)
1900 – XXX XXXX (where X=0 to 8)

2.2 For each bidding session, IMDA will put up all the available special 1800/1900 numbers for bidding.

3. Bidding Arrangements

3.1 IMDA will first explain the logistics and arrangement of the bidding process to all bidders.

3.2 If bidders are interested to bid for a particular number, they shall raise their bidding card above their head.

[29] Toll free (1800) and premium rates (1900) service

3.3 The bidding process goes on until the highest bid for each special number has been reached and recorded by IMDA.

3.4 IMDA will allocate the special number to the bidder with the highest bid.

4. Conditions

4.1 FBO licensees can acquire as many special 1800/1900 numbers as they desire. However, the special 1800/1900 number(s) acquired should be put into use as soon as possible. IMDA reserves the right to recover the special number(s) if IMDA is satisfies that a FBO licensee does not have any intention or any firm plan to use the acquired special number(s).

4.2 Once number allocation and payment have been made, there will be no refund even if the number is returned to IMDA.

4.3 Except with the approval of IMDA, the special 1800/1900 number(s) acquired is (are) not transferable among the customers of the FBO licensee concerned.

5. PAYMENT

The amount for each special number will depend on the amount offered by the successful bidder in the bidding session. However, the basic value of each special number should not be less than S$20,000 (excluding GST). All payment must be forwarded to IMDA within seven (7) working days.

ANNEX 5

Date :

To : IMDA (Spectrum and Numbering Management) From :

Fax: (65) 6659 2502 Tel No :

TRANSFER OF 1800 NUMBERS (S)

We received an application from an existing '1800' customer to transfer their service(s) to another customer as follows :-

Existing 1800 number(s)	
Existing Customer Name	
New Customer Name	
Business Registration No	
Proposed Date of Take-over	
Contact Person's Name	
Contact Person's Tel No	

This application is submitted for your consideration and approval **(copy of relevant documentation is attached).**

Thank you.

Addressee
Service Provider
Fax :

We have considered your request and the application is Approved/Not Approved*

_____ _____

(Signature and Name of IMDA Officer) Date

*Delete as appropriate

ANNEX 6

APPLICATION FOR ISPC/NSPC

1. For application of International Signalling Point Codes (ISPCs)/National Signalling Point Codes (NSPCs) for direct SS7 connection to overseas/local carriers, the following information is required:

   a) Name of Company;

   b) Date of application;

   c) Number of SPCs (ISPC and/or NSPC) required;

   d) Schematic of the SS7 switch/network set up showing the types and interconnection with local and overseas carriers;

   e) Type of application/service that SPCs will be assigned for. Please provide a brief description on the application. e.g. STP, MSC or AIS or the name of the system;

   f) Location of signalling point;

   g) Model and type of the SS7 signalling equipment;

   h) Planned SS7 interconnection with local/overseas carriers, with name and location of distant signalling point, and NSPC/ISPC of distant signalling point;

   i) Date by which ISPCs and/or NSPCs are required;

2. For IMDA to seek clarification on the above, please include details (name, company name, designation, telephone number or handphone number and fax number) of a contact person.

3. Please send the application via 'Numbers Online Registration System' at https://eservice.imda.gov.sg/nors. For further enquiry please write to:

   Infocomm Resource & Technology
   Info-communications Media Development Authority
   10 Pasir Panjang Road
   #10-01 Mapletree Business City
   Singapore 117438
   Fax: (65) 6659 2502
   Email: nnp_admin@imda.gov.sg

ANNEX 7

Procedure for Bidding of Numbers Levels Initiated by IMDA

Introduction

1. To meet the requirements of operators for numbers, IMDA will progressively make available 8-digit number levels in a sequential order for bidding by operators. For each bidding session, IMDA will make available about 100 levels for bidding.

General Principles and Procedures

2. An eligible FBO / SBO licensee(e.g. cellular mobile, paging, public trunk radio and IP telephony operators) is eligible to bid for an unrestricted number of number levels for each number pool (e.g. pre-paid, post-paid or fax & data number pool) which has achieved 50% utilisation. For number pool which has an utilisation percentage of less than 50% operators are however eligible to bid only for one number level in a bidding session.

3. The minimum bid price will be set at the current price of a normal number level i.e. $24,300. For ease of administering the bidding, this price will be rounded up to $25,000 (excluding GST).

4. Any number level successfully bid will only be considered officially allocated upon payment of the bid price. All payment must be forwarded to IMDA within seven (7) working days. The allocation of such number level is not transferable.

5. All remaining number levels that are not allocated during the bidding session will be placed in a common pool[30] for subsequent sequential allocation by IMDA.

6. Except where approved by IMDA, the number level acquired at the bidding session should be used[31] within 6 months from the date of allocation. IMDA will recover the number level without refund if it is not used within the period.

7. Where IMDA grants approval under Para. 6 upon the submission of justification by operator, the period of extension shall not exceed 6 months. If the number level is still not put into use after the extension, IMDA will recover the number level without any refund, and place it in the common pool for sequential allocation.

[30] "Common pool" refers to the pool of numbers that are not bid for and are subsequently set aside for sequential allocation

[31] Number levels are considered used once they are connected in different operators' networks, or when they are made available to the public

8. A number level acquired under this procedure will be taken into account in the computation of the utilisation criteria.

Request for Numbers by Sequential Allocation

9. An operator who is unsuccessful in its bid for number levels may still request for number levels via administrative allocation. For such requests, IMDA will sequentially allocate number levels from the common pool of numbers.

Frequency of Bidding Session

10. IMDA may make available a new pool of numbers for bidding by operators when any one of the following events first occurs:

    (i) When 20 or less number levels are left in the common pool; or
    (ii) After a period of 36 months has elapsed since the completion of the previous bidding session.

ANNEX 8

Procedure for Bidding of Choice Number Level(s) Requested by an Operator

Introduction

1. An operator eligible for allocation of numbers may request for out-of-sequence 8-digit number levels[32] not covered by the administrative allocation or sequential number level bidding scheme initiated by IMDA. Such number level desired by the operator is referred to as a choice number level. IMDA will consider such request and conduct bidding as described in the following paragraphs.

General Principles and Procedures

2. An eligible FBO / SBO licensee(e.g. cellular mobile, paging, public trunk radio and IP telephony operators) is eligible to initiate bid for any available 8-digit choice number levels (except those listed in Attachment A) including those that have been placed in the common pool.

3. Operators do not need to meet any utilisation criteria before they can request to bid for a choice number level under this procedure.

4. The minimum bid price will be set at $500,000 for a choice number level of the format ‘AAAA XXXX’ (e.g. ‘6666 XXXX’) and $150,000 for all other choice number levels.

5. Any choice number level successfully bid will only be considered officially allocated upon payment of the bid price. All payment must be forwarded to IMDA within seven (7) working days. The allocation of such number level is not transferable.

6. Once a choice number level allocation and payment have been made, there will be no refund even if the choice number level is returned to IMDA.

7. Except where approved by IMDA, a choice number level acquired at the bidding session should be used[33] within 6 months from the date of allocation. IMDA will recover the number level without refund if it is not used within the period.

8. Where IMDA grants approval under Para. 7 upon the submission of justification by operator, the period of extension shall not exceed 6 months. If the choice number is still not put into use after the extension, IMDA will recover the choice number level without any refund.

[32] Only 8-digit numbers from open levels (e.g. Level ‘3’, ‘6’, ‘8’, ‘9’) are available for bidding.
[33] Number levels are considered used once they are connected in different operators’ networks or when they are made available to the public

9. A choice number level acquired under this procedure will be taken into account in the computation of the utilisation criteria.

Bidding Arrangements

10. Upon receipt of an operator's request to bid for a choice number level, IMDA will notify other eligible operators and request them to indicate within 30 days their interest to also acquire the same number level.

11. If there is no interest from other operators, the choice number level will be allocated to the requesting operator upon payment of the minimum bid amount plus GST.

12. If one or more other operators are interested to acquire the same number level, IMDA will conduct a bidding session. The operator(s) concerned will be informed of the date and time of the bidding session.

13. The arrangement for the bidding process will be explained to interested operators prior to the actual bidding session.

14. A choice number level successfully bid for by the highest bidder will be allocated to the operator upon payment of the bid amount plus GST.

ATTACHMENT A

Number Levels Not Opened for Bidding of Choice Number Level(s)

The following are 8-digit number levels not opened for bidding. IMDA reserves these levels for various purposes: provision of future services by operators or minimising wrong calls to an emergency or a global service. IMDA may review the reservation and make changes from time to time.

Number Level Reserved	Remarks
3000 - 3009	Future new services
6000 – 6009	Future new services
8000 - 8009	Used by ITFS / HCDS[34]
8010 - 8099	For expansion of ITFS / HCDS
9000	Future new services
9900 - 9999	Prevention of wrong calls to '999'

[34] ITFS – International Toll-Free Service
HCDS – Home Country Direct Service

ANNEX 9

Procedure for Allocation of Golden Numbers Ending with '0000' And '9999' for National Interest purposes

1. Application for numbers ending with '0000' and '9999' to be used for national interest purposes is to be made to IMDA. If applications are received by the FBO licensee, the FBO licensee will forward the application to IMDA for approval.

2. Such applications to IMDA will have to include the following information:

   a) Name of organisation
   b) Requested number(s)
   c) Justification (including description of usage)
   d) Period of use (short term for special event or for long term use)
   e) Effective date of number(s) usage

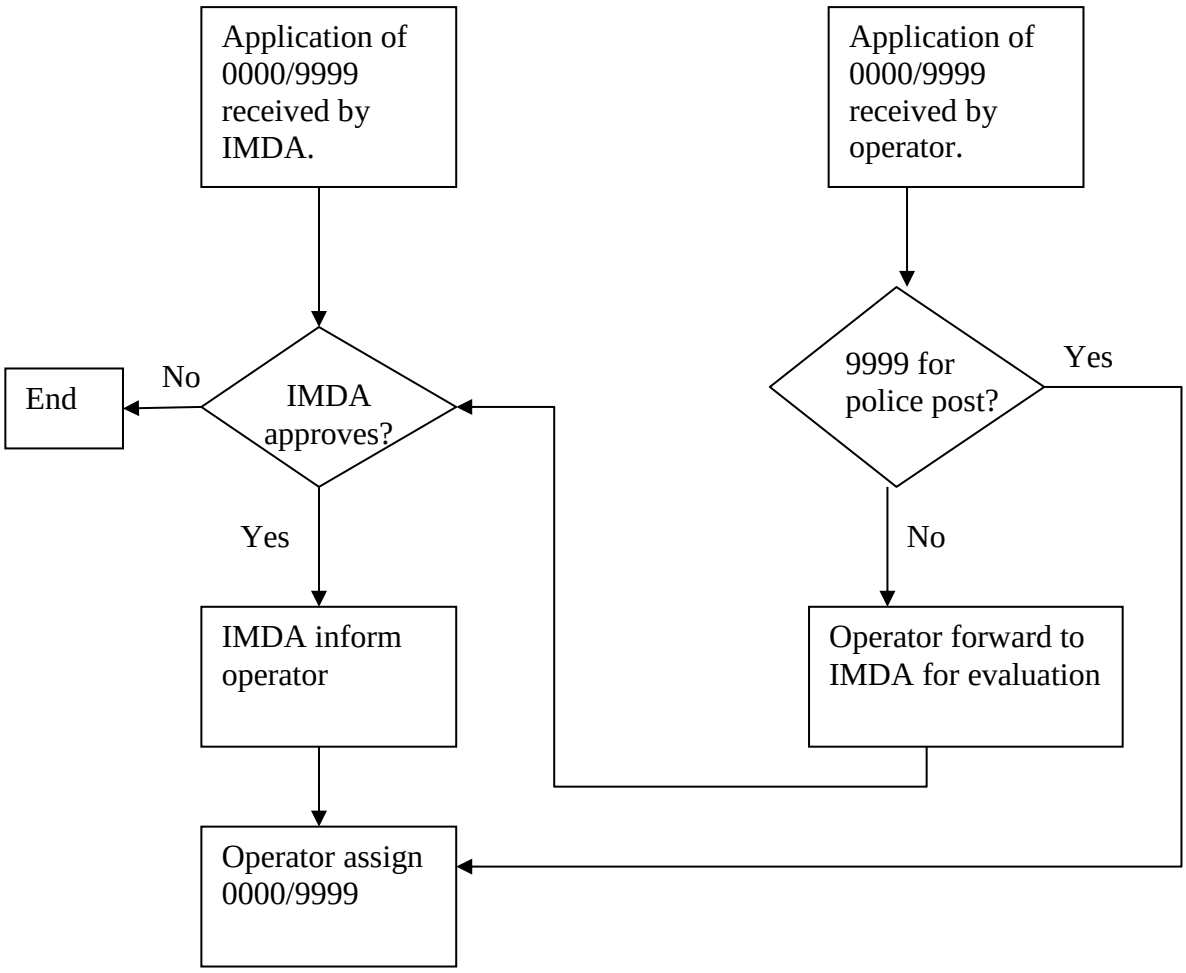
3. Upon approval from IMDA, the FBO licensee will allocate the required number to the organisation and charge the corresponding golden number fee of $50 (exclude GST) for PSTN and mobile numbers and $30 (exclude GST) for paging numbers.

4. Numbers ending with '9999' for use by the Police at its police posts are pre-approved by IMDA. When such requests are made, FBO licensees will proceed to allocate the numbers to the police without referring to IMDA.

5. A flow chart summarising the above can be found in the Attachment.

ATTACHMENT

Procedure for Allocation of Golden Numbers Ending with '0000' and '9999' for National Interest purposes



ANNEX 10

List of Abbreviation Used in the National Numbering Plan

DDI	Direct Dialling Inward
DEL	Direct Exchange Line
DID	Direct Inward Dialling
FBO	Facilities-Based Operator
HCDS	Home Country Direct Service
IDD	International Direct Dialling
IN	Intelligent Network
IPT	IP Telephony
ISDN	Integrated Service Digital Network
ISPC	International Signalling Point Code
ITFS	International Toll Free Service
M2M	Machine-to-Machine
NSPC	National Signalling Point Code
PCMTS	Public Cellular Mobile Telephone Services
PRPS	Public Radio Paging Services
PSTN	Public Switched Telephone Network
PSTS	Public Switched Telephone Services
PTRS	Public Trunked Radio Services
SBO	Service-Based Operator
SS7	Signalling System No. 7
SPC	Signalling Point Code
STD	Subscriber Trunk Dialling
UCDO	User-Centric Data-Only