

TELECOMMUNICATIONS NUMBERING ADVISORY COMMITTEE

Assignment of Access Codes for External Telecommunications Services

Introduction

In the 29th Telecommunications Numbering Advisory Committee (TNAC) meeting held on 12 November 1998, Members discussed NAC Paper No.13/1998 about the proposed assignment of a unique 4-digit access code under "15xx" and "16xx" ranges to each external telecommunications services (ETS) operator. The majority of Members agreed to designate "15" and "16" ranges in the Hong Kong Numbering Plan as access codes used for ETS.

2. However, some Members had reservation about the use of variable digit length of the access codes because they anticipated that if access codes of variable digit length were used, the fixed network operators might have problems at their switches and billing systems to route and record the calls. In order that the Office of the Telecommunications Authority (OFTA) could study the issue more thoroughly, Members were requested to make written submissions to OFTA on or before 19 November 1998.

3. The Telecommunications Authority (TA) would like to address the comments of Members and give his views and decisions on the issues in this paper.

Summary of Comments

4. By the deadline of 19 November 1998, OFTA received 5 submissions from Members. A summary of these submissions is given in the Annex. The major views and concerns expressed by Members together with the TA's considered views are given below-

- Members' view

Access codes of variable digits length would impose difficulties on FTNS networks in metering and recording the traffic for Category A and Category B routes.

TA's views -

The Fixed Telecommunication Network Services (FTNS) operators are generally concerned about the need to analyze the digits (i.e. the country

codes) after the access codes in order to facilitate the metering and recording of whether the traffic to ETS operators are over Cat. A or Cat. B routes and billing them for the required local access charges. According to the TA's Statement on the Local Access Charge and Modified Delivery Fee Arrangements dated 25 November 1998, ETS operators would have to pay the same local access charges for any outgoing traffic over Cat. A and Cat. B routes, with the exception of traffic sent through Hong Kong Telecom's external gateway. To implement the arrangement in the TA's Statement, it is not necessary for FTNS operators to analyze the country code digits after the access codes. In other words, FTNS operators could simply analyze the first four-digit access codes and then route the calls together with the customers dialled digits to the appropriate external telecommunications operators for further processing.

- Members' view

The TA should mandate unified 5-digit access code format. Variable digit length access codes should not be allowed.

TA's view -

As advised by the FTNS operators, there is a technical constraint that the local fixed networks would only be capable to handle up to 20 digits. In addition, the digit length of international dialling numbers including the country code could be up to 15 digits according to ITU-T recommendations. Thus the maximum digit length of access codes used by ETS operators should not be more than 5 digits. In view of these facts, the TA considers it feasible to assign to each ETS operator a unique 4-digit access code. The TA will allow individual ETS operators, at their discretion, to extend the digit length of the assigned access code from 4 digits to the maximum of 5 digits.

- Members' view

The access codes should only be used for direct dialling services such as international direct dialling (IDD). These codes should not be used for the interactive voice response systems (IVRS) and calling card platforms.

TA's views -

Since ETS operators would have to use the access code and its sub-levels for the external telecommunications services in accordance with the scope specified under their respective ETS licences, the TA considers that it would not be necessary to impose any other additional restriction to them.

TA's Decisions

5. Having considered the views and comments from Members, the TA decides to adopt the following criteria of assigning the access codes in the "15xx" and "16xx" ranges to ETS operators -

- Depending on their operational requirements, external telecommunications services operators may, at their discretion, extend the 4-digit access code to a maximum of 5 digits in length;
- The access code and its sub-levels shall not be assigned to any end customers; and
- The access code and its sub-levels shall only be used for the provision of external telecommunications services within the scope of the respective ETS licences.

6. The TA also classifies all "15xx" and "16xx" access codes to be Category 2 codes in the Hong Kong Numbering Plan i.e. they can be passed across networks and accessed by any customers of fixed or mobile networks. Therefore, all fixed and mobile networks operators are requested to programme these two ranges immediately into their networks such that any calls originated from their networks could be routed successfully to the required ETS operators.

Office of the Telecommunications Authority
3 December 1998

**Summary of Comments on Digit Length of Access Codes
for External Service-based Operators**

<p>Hong Kong Telephone : Company Limited (HKTC)</p>	<ul style="list-style-type: none"> • HKTC does not object to open short codes to External Service-based (ES) Operators. Each ES operator should not be entitled for more than one 4-digit short code in the range of "15/16XX". • To facilitate metering by FTNS operators for different external traffic categories, the assigned short code should be restricted for ES operators' direct access type of international services and the traffic would not be routed through any IVRS or calling card platforms. • The assigned short code should be expandable, but to one next level only, i.e. 5-digit. For metering of traffic by FTNS operators and considering the provision of various types of international services by ES operators, HKTC would suggest OFTA to mandate ES operators to use 5-digit short codes for different services at the onset. • HKTC strongly objects that ES operators can flexibly expand the assigned short codes to any digit length. OFTA should consider not to allow ES operator to expand the assigned short codes to any digit length. Instead, OFTA should seriously consider to enforce use of the 5-digit short codes by ES operators from the beginning. • As there is no way to distinguish external traffic category (Cat A or B) when the 2-stage dialling access is employed, via IVRS or calling card platforms, it would therefore be better if dedicated access numbers, e.g. from dedicated "30X" ranges, could be assigned to ES operators for the provision of non-direct access type of international services.
<p>Hutchison : Telecommunications (Hong Kong) Ltd. (Hutchison)</p>	<ul style="list-style-type: none"> • Variable length short codes require an irregular decision process and require exponentially more CPU time and memory of the office data. Such capacity are not only expensive to increase but

	<p>sometimes impracticable.</p> <ul style="list-style-type: none"> • It anticipates that if variable digit length access codes are used, its existing switching network will encounter much problem.
<p>New T&T Hong Kong : Limited (NT&T)</p>	<ul style="list-style-type: none"> • Unified 5-digit short code format should be adopted, if short codes are assigned for access to the external services of PNETS licensees. It should only be used for direct dialling access of external services with the number format of : <p style="padding-left: 40px;">Service Access Code (SAC) + Country Code (CC) + National Subscriber Number (NSN)</p>
<p>New World Telephone : Limited (NWT)</p>	<ul style="list-style-type: none"> • To facilitate network operators to calculate the relevant local access charge or other international or other interconnect charges for each call, service access codes allocated to the external service providers should be used for IDD service, i.e., overseas destination number must follow after the service access code. • Service access codes must be fixed length codes because : <ul style="list-style-type: none"> a) NWT has limitation in the switch to support variable length access due to the significant increase in processing power and more memory requirement in the switch. Due to the large number of ISR access codes, it will create capacity problems to the network and will add more costs to the networks. b) Variable length access codes will add complexity to billing system which will need time and cost to develop the system to handle large amount of ISR access codes. c) Variable length access codes may allow ISR operators to change length of access after launch. This will create migration problems in NWT switches, billing systems and other network components.

	<p>d) Variable length is not good to the public too as it will cause confusion to the public and customers may make mistakes more easily. More mis-dialled calls will add burdens to the network of carriers which will cause inefficiency to the network and is unfair to the carriers.</p> <ul style="list-style-type: none"> • The minimum length of access code should be 5 (i.e. 15XXY and 16XXY). One ISR operator should at most be granted one access code. If any operator wants to have differential services using the assigned code, they should use code with 5-digit or more.
<p>Mandarin Communications Ltd. (SUNDAY) :</p>	<ul style="list-style-type: none"> • SUNDAY believes that the access operator does not need to analyse the dialled digits past the first 4 digits of the access code, which give it enough information to route the call to the external service platform. The digits following the first 4 are insignificant to the access operator as it has no need to know the country to which the call is made, or indeed, whether any additional digits are being used in the access code by the external service operator. • SUNDAY believes that the access operators will receive Local Access Charge (LAC) for all calls to external service operator irrespective of the country of destination. Therefore it will be sufficient for the access operator to retain records of calls sent to external operator, which can be identified by the first 4 digits of the call, and clearly therefore any digits in the access code are of no significance to the access operator and may be used or not at the external service operator's discretion.