

## **TELECOMMUNICATIONS NUMBERING ADVISORY COMMITTEE**

### **Allocation of Numbers and Codes to Mobile Virtual Network Operators (MVNO) (III)**

#### **Introduction**

At the 42nd NAC Meeting held on 23 September 2001, members discussed NAC Paper No. 9/2001 on the proposed criteria for the allocation of numbers and codes to 2G and 3G MVNO. After the meeting, four submissions from the NAC member and mobile operators were received about their comments on the NAC Paper. These comments, together with OFTA's responses, are attached as Annex 1 to this paper. From the comments received, it is noted that members are supportive to the proposed criteria in allocating subscriber number blocks and mobile network code (MNC) to MVNOs. These criteria are repeated below:

- (a) Provide, or intend to provide, mobile services to a customer base, including the general public;
- (b) Provide its own mobile switching and gateway infrastructure, for circuit and/or packet switched traffic;
- (c) Enter into its own interconnection and roaming agreements;
- (d) Provide its own business support systems, such as billing and customer care;
- (e) Maintain its own Home Location Register of subscribers (or equivalent functionality);
- (f) Satisfy requirements for call control, as required by the TA and normally associated with an operator (such as emergency calls, number portability etc.); and
- (g) Issue its own SIM cards.

2. As MNC and subscriber numbers are scarce number resources, a number of control measures relating to the allocation of MNC and subscriber numbers were proposed in NAC Paper No. 9/2001. Having considered that

some of these measures, such as the provision of interconnection agreement, might impact on efficient service rollout by the operators concerned, the Telecommunications Authority (TA) has reviewed and streamlined these control measures as given below. The MNC and subscriber numbers would only be allocated to an MVNO upon providing the following evidence to the satisfaction of the TA:

- (a) A detailed description on how the MVNO would implement the requirements outlined in item (a) to (g) of paragraph 1.
- (b) Documentary evidence showing how the MVNO has secured the procurement of its network infrastructure, e.g., copy of the purchasing orders placed to equipment manufacturer/vendor, showing details of the network elements under purchase, the equipment delivery and commissioning schedule.

3. In line with the general principle laid down in the “Code of Practice relating to the use of Numbers and Codes in the Hong Kong Numbering Plan” (the COP), the MNC and subscriber number block should be implemented within 12 months from the date of approval. Otherwise, it would be automatically withdrawn by the TA. Upon the completion of the equipment installation or service launch of the MVNO concerned, the TA may, if necessary, conduct a physical audit of the MVNO’s installed equipment or ask the MVNO to supply additional information in order to verify whether the MVNO has fulfilled the criteria given in para. 1 above.

### **Other Number Resource for Mobile Services**

4. In order to facilitate the provision of mobile services, other necessary numbers and codes would also be made available to MVNO allocated with MNC and subscriber numbers. These include network number (NN) for mobile number portability, signalling point code (SPC) for C7 network interconnection, short codes for enquiry services. The MVNO could apply to the TA directly for these numbers and codes. The TA would consider the applications and allocate/assign the required numbers and codes in accordance with the principles and criteria given in “the Code of Practice relating to the use of numbers and codes in the Hong Kong Numbering Plan”.

5. For any other types of numbers and codes not mentioned above which are necessary to meet their operational needs, the MVNO may submit an application to the TA explaining the reasons and justifications why they need the required numbers/codes. On the other hand, for those MVNO which do not satisfy the criteria given in para. 1(a) to (g) above and therefore are not qualified for the allocation of MNC and subscriber numbers, they may also apply for any other necessary numbers or codes such as the Signalling Point Codes (SPC) if they have a genuine need for them. They would need to submit an application to the TA and are required to give the required justifications to the TA for consideration.

### **Amendment of the COP**

6. In order to cater with the allocation of numbers and codes to the MNVO, the following amendments to the COP would be needed:

- (a) the criteria on the allocation of subscriber numbers and MNC to MVNO would be incorporated as an appendix to the COP. The draft appendix is attached as Annex 2 to this paper.
- (b) To include in the COP suitable provisions enabling the assignment of SPC to MVNO. The draft amendment is attached as Annex 3.

### **Advice Sought**

7. Members are requested to comment on the proposed criteria of allocation of numbers and codes to MVNO and the proposed amendment of the COP given in this Paper.

Office of the Telecommunications Authority  
November 2001

## Comments received on NAC Paper No. 9/2001

Item	Submitted by	Comments	OFTA's responses
1	SmarTone Mobile Communications	Agrees to the proposed control mechanism that the assigned numbers and codes should be implemented within 12 months to ensure efficient use of numbers and codes.	Noted. It is a general principle, as stipulated in paragraph 2.4 of the "COP relating to the use of numbers and codes in the Hong Kong Numbering Plan" that allocated numbers and codes should be implemented within 12 months from the date of approval.
2		2G MVNO is a new arrangement which has not been included in the current regulatory regime. Having 3G MVNO does not necessarily imply any MVNO for 2G. Suggest to delete paragraph 10 and 11 from the NAC paper.	On 22 October 2001, OFTA has issued the Guidelines on the application for PNETS-MVNO licence. Section 5 of the Guidelines specifically describes the regulation of 2G and 3G MVNO under PNETS licences.
3	New World PCS	Supports that all MVNO must fulfill a set of criteria as stated in paragraph 4 of the NAC paper for the assignment of numbers and codes.	Noted. Having considered the views of the NAC, OFTA would issue the guidelines on the allocation of number and codes to the MVNO.
4		Would like OFTA to clarify the regulatory issue on the network openness of 2G network and the licensing of 2G MVNO. Considers that the open network policy in 3G are not applicable to 2G networks. Industry consultations on the above issues are required.	See TA's response at item 2. The 2G mobile networks are not subject to the requirement on Open Network Access under the terms and conditions of their licences.

5	Peoples Telephone	It is inappropriate to discuss the criteria on numbers and codes assignment for 2G MVNO before the confirmation of the licensing of 2G MVNO and requested paragraph 11 of the NAC paper should be removed.	See TA's response at item 2.
6	Mr. Ronald Chiu (ad personam member of the NAC)	Supports that MVNO with and without ONA regulatory support should meet the same set of criteria for the assignment of numbers and codes.	Noted. Having considered the views of the NAC, OFTA would issue the guidelines on the allocation of number and codes to the MVNO.
7		For those MVNO not meeting the criteria specified by OFTA, the subscriber numbers and IMSI would be allocated by the MNO. It is therefore important to ensure efficient use of numbers by the MVNO. Since the numbers are shared by the MNO and their connected MVNOs, regulating the number allocation and their usage by the MNO is considered effective.	
8		Supports that 2G MVNO should be subject to the same set of criteria (for allocation of numbers and codes) of 3G MVNO, except that 2G MVNO could not request for regulatory intervention on ONA matters.	Noted.

9		<p>It is expected that new demand for basic mobile telephone service should not be too high due to the presence of MNP. However, the presence of new MVNOs might consume additional numbers as their operational overhead and the emergence of new services might also require additional numbers. Advise OFTA to keep in view the trend in mobile number consumption and review the relevant number capacity and allocation rules as necessary.</p>	<p>Noted. OFTA is constantly reviewing the efficient utilization of numbers by network operators. The NAC is currently reviewing the utilization of mobile numbers with a view of improving the utilization rate of numbers by mobile operators.</p>
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**Allocation of subscriber numbers and mobile network code (MNC) to  
Mobile Virtual Network Operator (MVNO)**

In accordance with the provision in the Information Memorandum on the Hong Kong Third Generation Mobile Services Licensing issued by OFTA on July 2001, a MVNO will be allocated with their own number sets and a MNC if it meets certain criteria which will be developed in consultation with the Telecommunications Numbering Advisory Committee (NAC). Having consulted the NAC, the Telecommunications Authority decides to allocate a licensed MVNO with the subscriber numbers and Mobile Network Code (MNC) on the condition that that the MVNO shall meet the following requirements:

- (a) Provide, or intend to provide, mobile services to a customer base, including the general public;
- (b) Provide its own mobile switching and gateway infrastructure, for circuit and/or packet switched traffic;
- (c) Enter into its own interconnection and roaming agreements;
- (d) Provide its own business support systems, such as billing and customer care;
- (e) Maintain its own Home Location Register of subscribers (or equivalent functionality);
- (f) Satisfy requirements for call control, as required by the TA and normally associated with an operator (such as emergency calls, number portability etc.); and
- (g) Issue its own SIM cards.

2. A MVNO should submit sufficient justifications and information, to the TA in supporting its application of MNC and subscriber numbers. Upon the completion of the equipment installation or service launch of the MVNO concerned, the TA may, if necessary, conduct a physical audit of the MVNO's installed equipment or ask the MVNO to supply additional information in order to verify whether the MVNO has already fulfilled the criteria given in para. 1 above.

**Signalling Point Codes (SPC) (para. 2.17-2.20)**

- 2.17 Network operators (mobile network operators and fixed network operators which include external facilities-based operators) and external service-based operators operating a C7 signalling network or switch are entitled to apply for and use SPCs. Unless prior approval from the TA is obtained, the SPCs should be solely used by the operator to whom the SPCs have been assigned.
- 2.18 The TA will assign initially 64 SPCs to a newly licensed network operator (either a mobile network operator or fixed network operator which may be an external facilities-based operator) who has a need to operate a C7 signalling switch/network with local carriers.
- 2.19 The TA will assign initially 8 SPCs to a newly licensed external service-based operator **or mobile virtual network operator** who has a need to operate a C7 signalling switch/network with local carriers.
- 2.20 For any additional requirements of SPCs, the applicant should have achieved a minimum utilisation rate of 90% with the SPCs already assigned to it before application for the additional SPCs may be considered. For each successful application, the TA will assign 64 additional SPCs to a network operator and 8 SPCs to an external service-based operator respectively.