

## **TELECOMMUNICATIONS NUMBERING ADVISORY COMMITTEE**

### **Calculation Method of Utilisation Rate of Mobile Numbers after the Launch of Mobile Number Portability (II)**

#### **Introduction**

At the 31st Telecommunications Numbering Advisory Committee (NAC) meeting held on 15 April 1999, NAC members discussed and were requested to consider the following calculation method of mobile number utilisation after the launch of mobile number portability (MNP):

$$\text{Utilisation Rate} = [(A + B + (C - D)) / (T + (C - D))] \times 100\%$$

Where A = Total number of originally allocated mobile numbers assigned to active customers at the time of application

B = Total number of originally allocated mobile numbers reserved for inactive customers for the last 6 months calculated from the date of application

C = Total number of ported-in mobile numbers at the time of application

D = Total number of ported-out mobile numbers at the time of application

T = Total number of originally allocated mobile numbers

#### **Summary of Comments and Views**

2. Subsequently, OFTA received the following counter-proposals of calculation methods from NAC members and mobile network operators:

	Calculation Method	Proposed by	Supported by
(a)	Utilisation Rate = [(A+B+D)/T] x 100%	NAC members	Mandarin Communications Ltd., Peoples Telephone Co. Ltd., Hong Kong Telecom CSL Ltd., Hong Kong Telephone Co. Ltd., New T&T Hong Kong Ltd.
(b)	Utilisation Rate = [(A+B+C+D)/(T+C)] x 100%	SmarTone Mobile Communications Ltd.	SmarTone Mobile Communications Ltd., Hutchison Telephone Co. Ltd.
(c)	Utilisation Rate = [(A+B+C)/(T+(C-D))] x 100%	New World PCS Ltd.	New World PCS Ltd.

Numerical examples illustrating the difference between the practical effect of the four different methods of calculation are attached as Annex.

### **TA's Considerations**

3. The purpose of setting the factor (C-D) in the proposed calculation method in NAC Paper No. 3/1999, i.e.  $[(A + B + (C - D)) / (T + (C - D))] \times 100\%$ , is to take the net effect of ported-in and ported-out numbers of mobile network operators into account such that there would be fair allocation and effective and efficient use of numbering resources. Having studied and compared the above 3 proposals given by the mobile network operators and the TA's original proposal, it seems that the proposal (a) above, i.e.

$$\text{Utilisation Rate} = [(A + B + D) / T] \times 100\%$$

would be a straightforward and comparatively best calculation method to suit the need of the mobile network operators for using the numbering resources.

4. However, it should be noted that since only ported-out numbers would be included in the calculation of the utilisation rate of mobile network operators' numbering capacity, there may be a concern on whether there would be faster consumption of the numbering resources as a result of the increased number of ported-

out numbers of each mobile network operator over time. As such, the TA may have to monitor the effect of MNP on the utilisation rate of mobile numbers and review the calculation method if necessary in future.

**Advice Sought**

5. Members are invited to give their comments and views on which proposed calculation method given in para. 3 above should be adopted for the calculation of mobile numbers utilisation rate.

Office of the Telecommunications Authority  
24 June 1999

**Comparison of Various Proposals for Calculation of Mobile Number Utilisation after the Launch of MNP**

- A = Total number of originally allocated mobile numbers assigned to active customers at the time of application
- B = Total number of originally allocated mobile numbers reserved for inactive customers for the last 6 months calculated from the date of application
- C = Total number of ported-in mobile numbers at the time of application
- D = Total number of ported-out mobile numbers at the time of application
- T = Total number of originally allocated mobile numbers

	NAC Paper No.3/1999 $[(A+B+(C-D))/(T+(C-D))] \times 100 \%$	NAC Paper No.7/1999 $[(A+B+D)/T] \times 100 \%$	SmarTone's Proposal $[(A+B+C+D)/(T+C)] \times 100\%$	NWPCS's Proposal $[(A+B+C)/(T+(C-D))] \times 100\%$
Case 1 : Before MNP A=200K, B=0 T=400K	50 %	50 %	50 %	50%
Case 2 : After MNP Port in > Port out by 50 % C=30K, D=20K A=200K-20K=180K C-D=10K	$(180K+10K)/(400K+10K) \times 100 \%$ = 46.3 %	$(180K+20K)/400K \times 100\%$ = 50 %	$(180K+30K+20K)/(400K+30K) \times 100 \%$ = 53.4 %	$(180K+30K)/(400K+10K) \times 100\%$ = 51.2 %
Case 3 : After MNP Port out > port in by 50 % C= 20K, D=30K A=200K-30K=170K C-D= -10K	$(170K-10K)/(400K-10K) \times 100 \%$ = 41.0 %	$(170K+30K)/400K \times 100 \%$ = 50 %	$(170K+20K+30K)/(400K+20K) \times 100 \%$ = 52.4 %	$(170K+20K)/(400K-10K) \times 100\%$ = 48.7 %