

TELECOMMUNICATIONS NUMBERING ADVISORY COMMITTEE

**Review of Number Utilisation Rate
for Fixed Network Services (II)**

Purpose

This paper gives the Telecommunications Authority (TA)'s initial views on the Members' responses to the proposal of increasing the utilisation rate to 75% as the basic criterion for evaluating new applications for new number blocks for fixed network services.

Review of Number Utilisation Rate for Fixed Network Services

2. In NAC Paper No. 6/2000, the TA proposed to increase the number utilisation rates of the existing basic telephone service, personal numbering service, infoline service, public non-exclusive telecommunications services (PNETS) and freephone services from the existing percentage to 75%, which are the criteria for the evaluation of new number applications. The paper was also circulated to the local wireless fixed telecommunications network services (FTNS) operators for comments. Four submissions from the wire-line FTNS operators were received. A summary of their views and comments is attached in the Annex.

3. The four existing wire-line FTNS operators (Cable & Wireless HKT Telephone Co. Ltd. (CWHKTC), Hutchison Global Crossing Limited (HGC), New T&T Hong Kong Ltd (New T & T) and New World Telephone Limited (NWT)) have concerns and difficulties to meet the utilisation rate of 75% for fixed network services. They have made counter-proposals to the TA for consideration. The following table summarises the minimum utilisation rate criteria as stipulated in the Code of Practice and the counter-proposals given by operators:

Type of Fixed Network Services	Existing/ proposed criteria by OFTA	Criteria counter-proposed by the FTNS operators			
		CWHKTC	HGC	New T&T	NWT
Basic telephone service	50%/75%	60%	50%	50%	50%
Personal numbering service	50%/75%	60%	60%	60%	60%
Infoline service	50%/75%	60%	60%	50%	50%
PNETS	50%/75%	60%	60%	60%	60%
Freephone services	70%/75%	70%	70%	70%	70%

Progressive Utilisation Mechanism

4. NWT proposes to adopt a progressive utilisation mechanism such that the utilisation rate would be correlated with the number of number blocks allocated to individual FTNS operators. In other words, the utilisation rate of numbers would be proportional to the number of number blocks allocated to operators. NWT considers that this mechanism can serve a balance of the scarce resources of numbers and suitable flexibility in the use of numbers. HGC and New T&T agreed to the proposal.

5. CWHKTC expressed that the wastage of numbers depends on the scale and complexity of the network and the amount of DDI numbers assigned. In addition, the employment of network overlay and Advance Fibre Telecommunications technologies require dedicated number blocks assignment and reservation thus restricting higher utilisation rate of numbers. The numbers and buffer pool in handling the move and change of subscriber data are in fact proportional to the scale of network. Hence, CWHKTC would not support the TA to adopt the progressive utilisation mechanism as suggested by NWT.

TA's Views

6. Having studied the comments of the FTNS operators, the TA is of the view that progressive utilisation mechanism is not an appropriate approach in dealing with utilisation of numbers in fixed networks. The fixed network is composed of a number of interconnecting switches. Each of the switches is configured to serve specific geographic areas. Dedicated number blocks would be required for allocation to these switches for the provision of services and to cater for future requirements. There appears to be no logical link between the utilisation rate of numbers in a fixed network and the number of number blocks already allocated.

7. The TA noted that the FTNS operators have no objection to raise the utilisation rate to 60% for personal number service and PNETS. In this connection, the TA proposes to increase the utilisation rates for these two categories to 60%.

8. Regarding the number utilisation rate for basic telephone services and Infoline services, there are divergent views from the operators. The TA notes that the dominant operator agrees to raise the utilisation rate to 60% while the other three FTNS operators would like to maintain the existing 50% utilisation rate. The new FTNS operators claim that they require sufficient numbers as buffer to meet their operational need and hence objecting to the proposed increase in utilisation rate.

9. However, the TA has studied the statistics of number wastage provided by operators and considers that it is feasible for all FTNS operators to implement 60% utilisation rate in their networks. The TA therefore proposes that the number utilisation rate for basic telephone services and Infoline services should be increased to 60% first subject to a review to be conducted at the end of this year to see whether the utilisation rate could be further increased to 75%. In the mean time, operators having difficulties to meet the 60% utilisation rate criteria in their applications could provide the required justifications to OFTA for consideration. OFTA would evaluate these special applications and grant exemption on a case by case basis.

10. Given the relative small amount of numbers allocated to freephone services and the low demand for the services, the TA agrees that the existing 70% number utilisation rate as the minimum criterion for the freephone services should be maintained until further review.

11. In studying the information about the utilisation of numbers for fixed network services, the TA has noticed that there is a high percentage of numbers that could not be used by operators due to various reasons: DDI numbers partitioning, contiguous number blocks assignment to exchanges in different districts, reservation of number blocks for expansion of corporate customers, etc. In particular, the TA is concerned about the wastage of numbers deployed to the Direct-Dialling-In (DDI) services. To this end, the TA intends to issue guidelines in the Code of Practice to ensure that number deployed to the DDI services should be used in an efficient manner. The TA has given a proposal on this subject matter in NAC Paper No. 9/00 to solicit the Members' views.

12. In the Code of Practice, the general number allocation principle indicated that the current numbering plan should be able to meet the future growth and requirements in telecommunications up to end of year 2009. Currently, there are sixty 100K spare number blocks at level "3" available for allocation to the basic telephone services. (i.e. 6 million numbers) Taking into account the current utilization rate of 50%, there remains 3 million numbers equivalent to 500K numbers which could be allocated to individual new FTNS operators. If the current numbering resources for fixed network services exhaust, it would then be necessary to expand the numbering resources by changing the current 8-digit numbering plan to 9 or 10-digit one. Before the implementation of any new numbering plan is to be considered, the TA considers that it would be sensible for the industry to achieve higher utilisation rate and make full use of the existing allocated numbers first.

13. In this connection, the TA would also like to solicit views from the Members on whether some number blocks in level "3" should be reserved to the new FTNS operators and under what circumstances operators are required to increase to even higher utilisation rate and when we have to plan for the implementation of a new numbering plan.

Advice Sought

14. Members are invited to give their views and comments on this paper.

Office of the Telecommunications Authority
24 June 2000

**Summary of Comments on NAC Paper No.6/2000 –
Review of Number Utilisation Rate for Fixed Network Services**

1. General

Cable & Wireless HKT Telephone Limited (CWHKTC)	CWHKTC has objected to increase the criteria for applying additional number allocation to 75%. But in view of scarce numbering resources, CWHKTC supports to raise the criteria to 60% for all numbers of basic telephone service, personal numbering service, Infoline service and PNET Services.
New T&T Hong Kong Limited (New T&T)	New T&T supports in principle that numbering is a scarce public resource and should be utilised efficiently and effectively.
New World Telephone Limited (NWT)	NWT comments that in reviewing the efficient use of the numbers, some practical concerns need to be considered for striking a balance.

2. Basic Telephone Service

CWHKTC	<p>As each switching unit should be assigned with sufficient numbers for the provision of DDI or DEL services and the numbers assigned to one switch unit cannot be used or shared by another unit, it inevitably results in unassigned numbers lowering the utilisation rate in some switch units.</p> <p>CWHKTC has to reserve some numbering ranges for large corporations for their future use, but such numbers have not been reflected in the utilisation reporting.</p> <p>As CWHKTC has to earmark or reserve some remaining numbers in a number range for the future demand of a customer subscribing an IDA-P, such reserved numbers are not included in the utilisation reporting.</p> <p>Although deeper digit analysis in the switch unit can slightly boost up the number utilisation, it will create vast number of routes in the network and hence affect the call processing as well as cause degradation in network performance.</p> <p>CWHKTC does not consider the progressive utilisation mechanism linked with the size of the operator network is an appropriate and effective solution to preserve numbering resources in Hong Kong because the larger the network, the higher amount of numbers the numbering pool and buffer would require to hold.</p>
Hutchison Global Crossing Limited	HGC faces the DDI block resources problem like other FTNS operators. HGC has much less coverage and customer bases so it is not

<p>(HGC)</p>	<p>reasonable to have the same utilisation efficiency as CWHKTC. HGC considers that the utilisation rate for basic telephone services for the new FTNS operators should be retained as existing of 50%, taking into consideration of their relatively small size of numbers allocated by OFTA.</p> <p>Utilisation rate for basic telephone services could not be increased for the following reasons:</p> <ul style="list-style-type: none"> • In view of different numbering requirements from customers of different fixed line services, the efficiency of the number utilisation could not be considered as the same as mobile numbers. • Deeper digit translation over the Point of Interconnect trunks might be rejected by other FTNS operator. • Obviously, CWHKT have more spare margin to meeting new local wireline demand growth compared with other three new FTNS operators. It as a result provides greater barrier for the three new FTNS operators to compete with CWHKT in the local market. <p>HGC in principle agree the concept that the utilisation rate would be linked to the total amount of numbers allocated. This arrangement provides a fair ground for four FTNS operators to share the number resources allocated by OFTA.</p>
<p>New T&T</p>	<p>New T&T considers that the 50% threshold for additional FTNS number application should be maintained for new FTNS operators in consideration of the need to maintain a sufficient spare number pool for supporting network and customer growth, the importance of supporting customers' choice of numbers for competing in the market.</p> <p>To cater for both customer's requirement on the size of number range and his preference of number ranges, sufficient spare number blocks is necessary. Since the amount of spare number blocks held by new operators are small (compared to CWHKT), increasing utilisation rate to 75% will weaken the competitiveness of these operators.</p> <p>It is preferable to have contiguous number blocks allocated to each local exchange for better network efficiency.</p>
<p>NWT</p>	<p>NWT comments that the existing numbers utilisation rate (i.e. 50%) should be maintained for the new FTNS operators because the amount of numbers allocated the new FTNS operators are comparatively small with the incumbent FTNS operator.</p> <p>Obviously the new FTNS operators are using much less numbers than the incumbent FTNS operator and therefore the utilisation rate for the new FTNS operators should not be subject to review.</p> <p>NWT considers that increasing use of DDI services contributes further justification for maintaining the existing 50% utilisation rate.</p>

	NWT would propose that a progressive utilisation mechanism to be adopted and the utilisation rate should be co-related to the amount of numbers allocated to individual FTNS operators. This can serve a balance of the scarce resource of numbers and suitable flexibility in the use of numbers.
--	--

3. Personal Numbering Service

CWHKTC	CWHKTC supports to raise the criteria to 60%.
HGC	In order to prevent unforeseen problems, HGC suggests to increase the utilisation rate by 10% (i.e. to 60%) on a trial basis.
New T&T	To ensure smooth operation of the personal numbering services, and avoid abrupt changes to the existing planning and provisioning process, New T&T proposes to raise the threshold level gradually to 60% in order to strike an appropriate balance between efficient resource usage and operation effectiveness.
NWT	NWT objects the proposal of increasing the numbers utilisation rate to 75%. NWT submits that for personal numbering service the numbers utilisation rate should be maintained at existing level or benchmark with the practice for the mobile numbering service.

4. Infoline Service

CWHKTC	CWHKTC supports to raise the criteria to 60%.
HGC	In order to prevent unforeseen problems, HGC suggests to increase the utilisation rate by 10% (i.e. to 60%) on a trial basis.
New T&T	Currently, it is unlikely for operators to have urgent need of additional number blocks. New T&T proposes to maintain the current threshold level until there is the demand and experience is gained from the change of threshold levels for other numbers.
NWT	NWT proposes to exclude the discussion of the number utilisation rate for infoline service in this exercise because NWT considers that the numbers utilisation of the infoline service is at a low level and it is premature to review the utilisation rate at this stage.

5. Public Non-exclusive Telecommunications Services (PNETS)

CWHKTC	CWHKTC supports to raise the criteria to 60%.
HGC	In order to prevent unforeseen problems, HGC suggests to increase the utilisation rate by 10% (i.e. to 60%) on a trial basis.
New T&T	To strike a balance for efficient use of public numbering resources, New T&T proposes to raise the additional PNETS number application threshold level gradually to 60%.
NWT	In order to avoid too drastic change which may create negative impact

	on implementation, NWT proposes a moderate increase of the numbers utilisation rate from 50% to 60%.
--	--

6. Freephone Services

CWHKTC	No specific views.
HGC	HGC comments that as the absolute amount of numbers assigned to freephone service is small, there seems no need to revise the existing 70% criterion.
New T&T	The new FTNS operators have each retained only 2K numbers as buffer. To ensure a level ground for competition and consider the actual operational need, New T&T believes that the additional number application threshold for freephone services should be maintained at 70% for the new FTNS operators.
NWT	As the current amount of numbers allocated to freephone service is small, NWT prefers to maintain the existing minimum utilisation rate of 70%. NWT does not support the proposal of increasing the utilisation rate from 70% to 75% because further increase of the utilisation rate to 75% will inevitably affect the business operation of the freephone services.