

TELECOMMUNICATIONS NUMBERING ADVISORY COMMITTEE

Proposed Deployment of Paging Numbers to Mobile Services

Purpose

In order to identify additional number resources for the mobile services, a proposal regarding deployment of the paging numbers with prefix "7" to mobile services was raised. Several working group meetings were therefore convened last year to discuss the proposal. NAC representative of the Public Radiocommunication Service Licensee as a Group requested at the 47th NAC Meeting that, prior to going into the implementation details, OFTA should provide some high level views on the long-term deployment of the paging numbers to mobile services. This paper aims to address these issues.

Background

2. Currently, there are about 3.5 million unallocated paging numbers. Given the constant decline in market demand for paging services in recent years, it is unlikely that these unallocated numbers would be deployed to the paging services in the future. It is therefore advisable for the TA to consider the possibility of deploying these numbers to the other telecommunications services in order to promote the efficient use of numbers.

3. The working group under the NAC therefore considered the following 2 proposals.

Deployment of Unallocated Paging Number Blocks to Mobile Services

4. The first proposal is to deploy those unallocated paging number blocks to mobile services. These number blocks are immediately available and will not affect the numbers already allocated to the paging operators. During the working group meeting, representative of the paging operators indicated no objection in principle to this proposal as the operation of the paging services and their subscribers would not be adversely affected.

5. Nevertheless, the mobile operators noted that the unallocated paging number blocks (mainly 10K and 100K blocks) were not continuous. They considered that the use of these fragmented number blocks would have adverse impact on their network configuration and operation. The arrangement would consume additional network resource as deeper digit analysis was required. Meanwhile, the deployment of these non-continuous number blocks would further complicate the routing and billing of calls. Hence, the operation support systems of the mobile operators would need to be modified. They also pointed out that the Administration Database for Mobile Number Portability (MNP) could only handle number levels "6" and "9" only.

6. Furthermore, members of the public could not easily differentiate between a mobile phone number and a paging number if numbers of prefix "7" are deployed for both services. The public would still have the impression that the prefix "7" was only assigned for paging services, thus causing confusions to the consumers. The apparently random mix of paging and mobile numbers would also carry the wrong perception that the numbering plan was not properly planned. In addition, the number level "67" would need to be reserved in order to cope with the current arrangement of reserving "66" and "69" levels for the potential migration to 9-digit mobile numbers before the implementation of 9-digit integrated numbering plan.

Deployment of Paging Number Blocks with Active Paging Customers to Mobile Services

7. The second proposal is to deploy both the allocated number blocks and those number blocks with active paging customers to mobile services. From technical point of view, this approach is considered to be conceptually feasible as the paging customers within the re-deployed number block can be treated as ported calls. The mobile operator allocated with the number block with active paging customers would be responsible for routing the incoming calls for the paging customers to the paging operators, either by call forwarding or by database lookup.

8. However, the paging operators considered that this proposal would have a negative effect to them as well as their customers and such arrangement would unnecessarily restrict the deployment of numbers to paging services. The paging operators therefore did not support the proposal.

9. The mobile operators pointed out that complicated technical and operational issues would be involved, including modification to the routing database of both fixed and mobile network, modification to the MNP platform, etc. Loading of the MNP database would therefore increase. Another complication was that PNET charges were only applicable to mobile calls but not to the paging calls and therefore additional effort should be required to rectify the charging arrangement. Similar problem would also arise for the porting charge and database dipping charge.

10. Similar to the first proposal, the mobile operators opined that the allocation of non-continuous 100k and 10k blocks would complicate the network configuration and operation. The proposal would also cause confusion in the public with respect to the mixed use of numbers with prefix “7” for both mobile and paging services and would have problems in the future migration to longer-digit numbering plan.

Preliminary Consideration

11. As any changes made to the allocation in the numbering plan will likely have a profound effect on the telecommunications market, the proposals to increase the supply of number resources for the mobile services should be assessed in accordance with the following principles:

- i) Changes to the existing numbering plan should be kept to a minimum. The existing allocation prescribed in the current numbering plan should be followed as far as possible before all other alternatives are fully explored.
- ii) Number resources should be utilized in an efficient manner; and
- iii) Consumer interests should be properly taken care of.

12. Under the second proposal, the existing customers of the paging services will inevitably be affected. The proposed technical arrangement for the call forwarding/porting for paging calls is also new and not commonly in use in practice. Call tests under live traffic conditions may be required to prove its feasibility. In view of the fact that both the mobile and paging operators do not support this proposal, the TA considered that such proposal should not be pursued

any further.

13. For the first proposal, OFTA recognizes the efforts to be paid by the operators in re-configuring their networks in order to deploy the paging numbers to the mobile services. However, it is preliminarily considered that these technical problems could be overcome and the potential benefits stemming from the proposals will outweigh the efforts required. As with other new number allocation in the numbering plan, re-configuration of network resource, such as the updating of the call routing table, billing processing systems, network configuration, etc. will still be required in any case.

14. Concerning the potential confusion to the consumers, there were previously other views from the Members that numbers for telecommunications service were reusable resources and hence the numbering plan could be adjusted appropriately from time to time to cope with market development.

15. As both the paging and mobile services can be broadly viewed as mobile communications in general, it is logical to have paging and mobile services sharing a number level. Moreover, it is common for the public to conceive the paging and mobile services as tightly integrated. The use of the same prefix for these services may even help the two sectors to enable the introduction of certain new cross-sector service offerings and therefore attain the effect of synergy in their business development activities.

16. The mobile operators previously suggested the deployment of number levels "84" to "89" to mobile services. They considered that the continuous number blocks would facilitate the network operation. There would be relatively less confusions to the customers, and the number blocks to be reserved for future migration would be fewer. Nevertheless, there are reservations on this proposal and further deliberation on the following aspects are required. Firstly, the required network re-configuration and the anticipated confusion to the customers are in fact similar to the case of using the unallocated paging numbers are deployed to mobile services. Secondly, the demand for paging numbers is presently on the low side while the demand for personal numbers may increase owing to the full liberalization of the FTNS market. It is therefore advisable to afford more time to gauge the demand for personal numbers before considering the allocation of "84 - 89". Thirdly, from the point of view of effective management of number resources, the availability of 5 million continuous numbers should be preserved as far as practicable and use of such resources

should be considered for all competing services.

Advice Sought

17. It is preliminarily considered that the proposal to deploy the unallocated paging number blocks to mobile services represents one viable means for making available more number resources for mobile services in the short-term. Members are invited to give comments on the matter.

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