

# Better Utilisation of the 8-digit Numbering Plan

Telecommunications Regulatory Affairs Advisory Committee  
20 November 2014

# Introduction

- In the light of the persistent demand of 8-digit mobile numbers, the existing vacant mobile numbers will be able to support the demand until September 2017
- To relieve the 8-digit mobile number shortage problem, the Telecommunications Numbering Working Group (“TNWG”) studied and discussed various options to lengthen the lifespan of the 8-digit numbering plan
- Two options are recommended to TRAAC for consideration:
  - New Number Range for Mobile Services
  - Review of the Criterion for Application for Additional Number Block

# New Number Range for Mobile Services

# Background

- Two proposals were discussed in TNWG but no consensus was reached
- Proposal 1: Re-allocation of “7X” Paging Numbers
  - To re-allocate “7X” number levels for mobile services
  - Need to relocate active paging numbers into a specific block of “7X” number level
  - Majority of number blocks in “7X” number level will then be released for mobile services.
- Proposal 2: Re-allocation of “4X” Network Numbers
  - To re-allocate some vacant “4X” numbers for mobile services

# General Views of TNWG Members

- Some operators preferred Proposal 1 because they considered that prefix “4” numbers might not be welcome by the general public
- Paging operators preferred Proposal 2 because migration of their paging subscribers to a new number range would occur later, thus reducing inconvenience caused to the general public
- TNWG members recommended that the pros and cons of these proposals should be presented to the TRAAC for consideration

# Lifespan of 8-digit Mobile Numbers



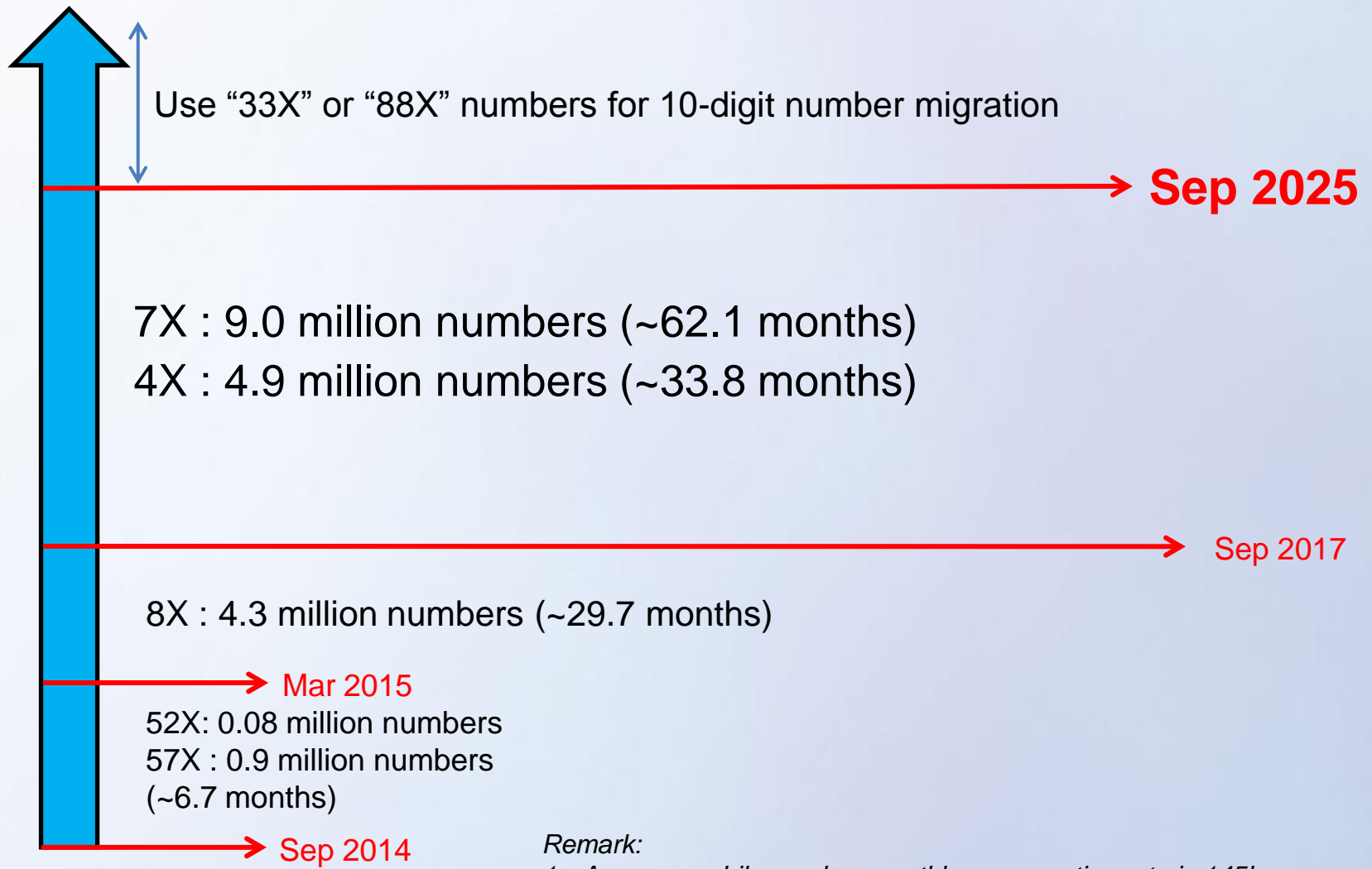
*Remark:*

1. Assume mobile number monthly consumption rate is 145k.
2. Assume 0.1 million 7X numbers will be reserved for paging services.
3. Assume 33X and 88X will be reserved for 10 digit number migration.

# Future Migration Options

- Migration to the 9-digit Numbering Plan
  - Proposal 1: “7X” will be re-allocated for mobile services, and “4” will ultimately become the leading prefix
  - Proposal 2: “4X” will be re-allocated for mobile services, and “7” will ultimately become the leading prefix
- Migration to the 10-digit Numbering Plan
  - “4X” and “7X” will be re-allocated for mobile services
  - Either “33” or “88” will be used for the leading prefix

# Migration to 10-digit Numbering Plan



*Remark:*

1. Assume mobile number monthly consumption rate is 145k.
2. Assume 0.1 million 7X numbers will be reserved for paging services.
3. Assume 33X and 88X will be reserved for 10 digit number migration.



# Implementation Lead Time

- In general, interoperability testing for 2 months is required before releasing any new number range.
- Proposal 1: Re-allocation of “7X” Paging Numbers
  - As it is required to relocate the existing paging subscribers, the “7X” re-allocation would create service interruption to the existing paging subscribers and some IT systems, e.g. hospital paging systems.
  - It is advisable to have a gradual migration of existing paging numbers in two to three years to minimise the customer impact.
- Proposal 2: Re-allocation of “4X” Network Numbers
  - Only vacant “4X” number will be re-allocated.
  - All FNOs and MNOs, except PCCW-HKT Telephone Limited and Hong Kong Telecommunications (HKT) Limited, confirmed that they were technically ready to implement “4X” numbers for mobile services

# OFCA's Views

- Need to prevent or minimise unnecessary service disruptions or impacts to the existing users
- Under Proposal 1, active paging subscribers will suffer from service disruptions and need to bear additional costs
- Some paging systems are used by mission critical systems such as hospital paging systems. Any service interruptions to these systems should be avoided if there is another option available.
- Unconvinced to avoid using “4X” numbers for the reason that such numbers may not be welcomed by the general public. Proposal 1 should be more undesirable under such reasoning because “4” will then become the leading prefix for migration to 9-digit numbering plan.

# OFCA's Recommendation

- In the light of the pros and cons of two proposals, OFCA is inclined to adopt Proposal 2.
- External consultancy study will be conducted at opportune time
  - To study the future development of the numbering plan.
  - To evaluate the need, options and relevant matters in relation to the longer digit migration.

# Review of the Criterion for Application for Additional Number Block

# Background

- Currently operators has to satisfy a minimum utilisation rate of 70% in order to apply for additional subscriber numbers.
- In view of the demand of 8-digit mobile numbers, it is desirable to tighten up the threshold requirement to prolong the lifespan of the 8-digit numbering plan.

# Lifespan of 8-digit Numbering Plan

- As of 31 July 2014
  - Mobile numbers allocated to operators = 23.2 mil
  - Mobile numbers being utilised = 16.0 mil (~69.0%)
- Period extended by adjusting the utilisation rate requirement:

Number Utilisation Threshold	Period Extended	Lifespan of existing 8-digit mobile numbers	Lifespan of 8-digit mobile numbers under Proposal 1	Lifespan of 8-digit mobile numbers under Proposal 2
70% (Current threshold)	N/A	Sep 2017	Nov 2022	Jul 2020
75%	8 months	May 2018	Jul 2023	Mar 2021
80%	16 months	Jan 2019	Mar 2024	Nov 2021
85%	24 months	Sep 2019	Nov 2024	Jul 2022

# Adjustment in Utilisation Rate Threshold

- Currently, about 70% of 23.4 million allocated mobile numbers have been utilised
- In other words, about 30% of the mobiles numbers, i.e. 7 million, is being held by operators as spare numbers
- By raising the utilisation rate threshold from 70% to 80%, the pool of spare mobile numbers will be reduced to 4.7 million, which is able to support the growth of mobile subscribers for 32 months
- Raising the threshold to 80% should not have adverse impact on normal business operation
- As reference, Singapore has pitched its threshold at 80% for years.

# Views of TNWG Members

- Mobile operators in general did not agree to raising the threshold of utilisation rate for allocating additional numbers
- Fixed operators did not express a strong objection to the proposal of raising the threshold but showed concern about the application of Direct-Dial-In (“DDI”) numbers that greater buffer would be required to meet the growth of business customers



# OFCA's Recommendation

- Genuine need to raise the threshold of utilisation rate
  - To achieve more efficient use of numbers
  - To extend the lifespan of 8-digit numbering plan
  - To postpone the migration to a longer digit numbering plan which will incur substantial cost to the network operators and the public
- Recommend to raise the threshold of utilisation rate from 70% to 80%, which is applicable to all types of services

# Summary of OFCA's Recommendation

- (a) Proposal 2 will be adopted for re-allocating the vacant “4X” numbers except “409(3-9)X”, “499(5-9)X” and “450X” from network numbers to mobile services;
- (b) the threshold of the utilisation rate for allocating additional numbers will be lifted from 70% to 80%;
- (c) the Hong Kong Numbering Plan and the “Code of Practice Relating to the Use of Numbers and Codes in the Hong Kong Numbering Plan” will be updated to reflect the adopted changes in (a) and (b); and
- (d) In the long term, an external consultancy study will be engaged to study the future development of the numbering plan, such as longer digit migration.

# Next Steps

- Subject to views of the Members, the Numbering Plan and the Code of Practice will be updated to reflect the new arrangements

# Thank You