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TELECOMMUNICATIONS NUMBERING ADVISORY COMMITTEE

Routing and Digit Analysis Arrangements for Paging Numbers

Purpose

This paper seeks members' views on the operational requirements of paging network operators and the considerations of the Telecommunications Authority (TA) on the routing and digit analysis arrangements of paging number calls by Fixed Telecommunications Network Services (FTNS) operators .

Background

2. Recently, a paging network operator which has been assigned with "7XY0" number block wanted to migrate its paging numbers to another FTNS operator. However, it faced with some difficulties as the original serving FTNS operator had implemented routing to analyze up to the third leading digit i.e.7XY only. The original serving FTNS operator considered that the level "0" after the digit "7XY" was a sub-level of the paging number block of the paging network operator and FTNS operators had no obligation to implement the sub-level routing. Though the issue was finally resolved by mutual agreement between the two FTNS operators, there is a doubt on whether FTNS operators should be required to analyse the paging number blocks up to the fourth leading digit for routing the paging calls to the paging network operators.

Number Allocation in the Code of Practice

3. In Section 2.13 of Appendix 1 of the Code of Practice Relating to the Use of Codes ad Numbers in the Hong Kong Numbering Plan, it is stated that for paging number services, the TA will allocate 20K numbers from a 100K number block to a paging network operator. This implies that a paging network operator is in possession of just 20K numbers instead of the whole 100K numbers in the range. As paging numbers in Hong Kong are 8 digit in length, this implies that FTNS operators have to analyze paging numbers up to the fourth leading digits in order to identify the 20K numbers assigned to a paging network operator. In order to be in line with the TA's number allocation, it appears that FTNS operators need to handle the routing of paging numbers up to the fourth leading digits.

Operational Requirements of Paging Network Operators

4. The routing of paging numbers up to the fourth leading digits would provide flexibility to paging network operators in selecting their serving FTNS operators and would foster competition in the market. A paging network operator assigned with say "7810-7811" blocks for secretarial paging services and "7812-7813" for automatic paging services could select different FTNS operators to provide

trunk lines for the secretarial paging services and automatic paging services if the two FTNS operators perform routing by analyzing to the fourth leading digits. Alternatively, if a paging network operator has been assigned with the entire block "781" for a single type of paging service, the paging network operator could subscribe to a FTNS operator for serving the number range "7810 XXXX-7814 XXXX" and the second FTNS operator to serve the remaining number range "7815 XXXX-7819 XXXX". This could achieve service provider diversity and there will not be a complete loss of service if there is a breakdown in one FTNS network.

5. For normal paging services, paging network operators are assigned with 1K numbers in the "711XX" and "713XX" numbering range as shown in Appendix A4 and A5 of the Code of Practice. FTNS operators need to analyze up to the fifth digits in order to achieve the proper routing to these service providers. The assignments of paging numbers in Hong Kong are given in Annex 1. It shows that FTNS operators should have no technical difficulties to analyse up to four leading digits for paging services.

TA's Considerations

6. To facilitate the operational requirements of paging network operators and to be in line with the number allocation given in the above Code of Practice, the TA is of the view that FTNS operators should analyse the digit length up to the fourth leading digit of a paging number block assigned to a paging network operator concerned. There should not be any technical difficulties for FTNS operators to accomplish this requirement.

Advice Sought

7. Members are invited to give their views and comments on the proposed routing arrangements for paging numbers and the TA's considerations as given in this paper.

Office of the Telecommunications Authority
4 January 2001

Leading Digit 7

Leading Digits	Digit Length	Type of Services	Status
70	N.A.	Reserved for Special Services	Reserved
711	8	Normal Paging Services	Ref. A.4
713	8	Normal Paging Services	Ref. A.5
71(0, 2, 4-9)	8	Other Paging Services	Ref. A.3
7(2-3, 5-9)	8	Other Paging Services	Ref. A.3
74 (0-6)	8	Reserved	Ref. A.3
74 (7-9)	8	Other Paging Services	Ref. A.3

A.3 Existing Numbering Plan for Paging Services

Leading Digit 7

Leading Digits	3rd Digit 0	1	2	3	4	5	6	7	8	9
71	Telecom Paging S(0-3,8)	Refer A.4	Kantone Paging S	Refer A.5			China Motion A(8,9)	Good Rely S(1)		Unicom Paging S
72	Hutchison Paging S	Asia Paging A(1, 8)	Hutchison Paging S	Telecom Paging S				Telecom Paging R(2, 7-9)	Telecom Paging S	Hutchison Paging A(1-5) S(0,6-9)
73	China Motion S	Hutchison Paging S	Chevalier Paging S	China Motion S				China Motion A(0), S(1-3,6,9)	ChinaMotion S	China Motion S(2,3,5,8,9) A(6,7)
74	Reserved							Telecom Paging S		
75	Asia Paging R(5)	China Motion S				Telecom Paging S(0,2,3) RS(1,4,5)		China Motion S	Hutchison Paging S	
76	Hutchison Paging S(0-7)		Telecom Paging S(2,3,6), RS(7,8,9)	Telecom Paging S(0,2,4,6,8) RS(1,3,5,7,9)		China Motion S	Realink Paging S		Realink Paging S(3,4,8)	Grandlink Paging RS(6,9)
77	Realink Paging S		Asia Paging & Wanbao Telecom S *1	Epro Paging S(0-3)				Telecom Paging S	Chevalier Paging A(6-9)	Unicom Paging A
78	Realink Paging S(0,1,2,3,4,6,8)		China Motion S	China Motion S			China Motion S	China Motion A(0), S(1-9)	China Motion A(0), S(1-9)	China Motion S
79	China Motion S	Telepaging S	China Motion S			Telecom Paging A(5-8)	China Motion A(1), S(0,2,4,6-8)	Rightone Telecom S(0,3,6-9), RS(1,2)	Financial Telecom S	New Telecom S

Spare block Note : T (N) Where T = S - Secretarial T = A - Automatic T = R - Roaming N = numbers of sub-level / Nil entry for full level

*1 Asia Paging: 772(0-6), Wanbao Telecom: 772(7-9)

A.4 Existing Numbering Plan for Paging Service
(Normal Paging Service)

Leading Digit 711

Leading Digits	5th Digit 0	1	2	3	4	5	6	7	8	9
7110				Chevalier Paging						Telepaging
7111	Realink Paging	Kantone Paging				Epro Paging			Telecom Paging	Telecom Paging
7112				Hutchison Paging			Hutchison Paging	Hutchison Paging	Hutchison Paging	
7113										China Motion
7114										
7115										
7116	Asia Paging	Asia Paging	China Motion	China Motion		Asia Paging	China Motion		China Motion	
7117		Telecom Paging					Realink Paging			Telecom Paging
7118										
7119		Unicom Paging	Unicom Paging			China Motion				

Spare block

A.5 Existing Numbering Plan for Paging Service
(Normal Paging Service)

Leading Digit 713

Leading Digits	5th Digit 0	1	2	3	4	5	6	7	8	9
7130	New Telecom			Wanbao Telecom						China Motion
7131		Realink Paging	Realink Paging	Telecom Paging						China Motion
7132										
7133				Telecom Paging						
7134										
7135										
7136										
7137										
7138										
7139									China Motion	China Motion

Spare block