

TELECOMMUNICATIONS NUMBERING ADVISORY COMMITTEE

Mis-dialed calls to Police's "999" Emergency Services Centres (III)

Purpose

At the 34th and 35th NAC Meeting, Members were briefed about the problem of mis-dialed 999 calls to the Police "999" Emergency Services Centers which might be due to numbering pattern in the numbering plan. To reduce mis-dialed calls to the Police "999" Centres, the Hong Kong Police Force (HKPF) requested the Telecommunications Authority (TA)

- to withhold the assignment of numbers ending with digits "999" to customers and number blocks with close resemblance to "999" to operators, and
- to change the industry's practice of using digit "9" for seizure of outgoing trunks from the Private Automatic Branch Exchange (PABX) systems.

2. In order to study the issue in detail, a Task Group was established to study the impact and the amount of volume of mis-dialed calls to the Police's "999" Emergency Services Centres. This paper gives an account of the findings of the Task Group and the TA's consideration.

Findings of the Task Group

3. The Task Group had requested fixed and mobile network operators and the HKPF to conduct a two-day measurement of emergency calls passed to the Police's "999" Emergency Services Centres. The measurements were carried out on 3 March 2000 and 7 March 2000. It was found that there were about 12,000 calls per day (60 % from fixed networks and 40 % from mobile networks) routed to the Police's "999" Emergency Services Centres for which HKPF only handles about 8,000 calls per day because some of these calls were abandoned by callers before answering by the Police. Of the 8,000 calls handled by the Police, 30% of them were genuine calls while the rest were mis-dialled or nuisance calls.

4. As Hutchison Global Crossing (HGC) could capture all the dialed digits of "992/999" calls in its network, the data collected from this network could be used to estimate the amount of mis-dialled "992/999" calls from fixed networks. As for mobile networks, Hutchison's Orange, Peoples and SmarTone had also captured the complete dialed strings of their "992/999" calls in order to determine the amount of mis-dialled calls. The measurements in March 2000 indicated the percentage of mis-dialed calls over the total dialled "992/999" calls from HGC's fixed network and the three mobile networks were 10 % and 7.2 % respectively.

5. In order to have a larger sample size of misdialled pattern in fixed network, HGC had performed an additional one-week measurement of "992/999" calls in April 2000. From the additional data, it was verified that the average percentage of misdialled "992/999" calls was 9.9 %, which matched very well with the data collected in March 2000. CWHKT confirmed that it could also modify its systems such that some of its exchanges could be able to measure the mis-dialled "992/999" calls. However, due to the high risks involved for the modification such as the prolonged delay for genuine "992/999" calls and inaccessibility of payphone users to the emergency services during the measurement period, the Task Group had abandoned this idea. Though HKPF had some reservations, the Task Group considered that the figure of 10% mis-dialed "992/999" calls from the HGC's network could be used generally for the rest of fixed networks.

6. For the mis-dialed calls generated from the remaining three mobile networks which had not yet implemented the *en bloc* routing (i.e. 7.2% of total representing about 100 mis-dialed calls per day), HKPF decided that these networks should also implement the *en bloc* routing in order to totally eliminate the mis-dialled "992/999" calls from mobile networks. Upon this request, the three mobile network operators (SmarTone, Peoples and Hutchison) have agreed to implement the *en bloc* routing in their mobile networks. Peoples and SmarTone have already completed the re-configuration in May 2000 while Hutchison will implement it in three months' time.

7. The Task Group had studied the use of other digit such as digit "6" instead of digit "9" for PABX out-dialing purpose but concluded that it could not eliminate the mis-dial problem entirely. The reason is that when digit "6" is to be used for getting an outgoing line, the digit "9" might then be assigned as PABX extension numbers. In an office environment, there would be a mix of PABX extension telephones and DEL telephones. It is possible that a caller picks up a DEL telephone and dial "992X/999X" for an internal call. As a result, the call would be delivered to the Police's "999" Emergency Services Centres.

8. The Task Group had also studied the impact to "992" faxlines by mis-dialed calls. Currently, each of the Police's "999" Emergency Services Centres has been equipped with two "992" emergency fax lines. In the past, each Centre had received about 5 to 6 genuine calls per year through these "992" fax lines requesting for emergency services. However, the rest of calls reaching the fax machines were all mis-dialled or nuisance calls. From the findings, it showed that some users with the intention of dialling to the mobile numbers starting with "92" did make some mis-dialled calls to the "992". This might be caused by users accustomed to using PABX extensions with digit "9" for outgoing line seizure or faulty telephone equipment etc. The mis-dialled "992" calls were usually of the nature of very short duration as users would abandon the calls once they had detected that they had wrongly dialled to a fax machine. The Task Group suggested that HKPF could consider implementing some technical means such as using voice and fax discriminator box or fax server in order to alleviate the line occupancy problem.

TA's Considerations

9. The TA considers that after the implementation of *en bloc* routing in all

mobile networks, there will be no mis-dialed "992" and "999" calls from mobile networks to the Police's "999" Emergency Services Centres. As for mis-dialed calls from fixed networks, it is estimated that there remain about 735 calls per day which accounts for about 9 % of total "992/999" calls received per day by HKPF. After studying the findings of the Task Group, the TA considers that there is no effective measure to eliminate the existing 9 % mis-dialled calls from fixed networks. The TA would like to seek views from members on this and particularly on whether we should now withhold the assignment of number blocks with close resemblance to "999" to operators.

10. The TA is aware that mis-dialed calls had increased the occupancy of the "992/999" lines and trunks. It would be advisable for HKPF to consider adding circuits to compensate the increased trunk occupancy caused by mis-dialled calls.

11. As for the use of digit "9" to seize outgoing trunks in PABX systems, the TA considers that it would be difficult to change this long standing practice which has been adopted by the business community in Hong Kong at large. The TA suggests to issue a circular letter to the industry especially the PABX suppliers and maintenance contractors in order to draw their attention to the issue and particularly the need for carrying out proper programming and maintenance work whenever required on their PABX systems and terminal equipment.

Office of the Telecommunications Authority
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