

CHARGING ARRANGEMENTS FOR INTERNATIONAL CALL FORWARDING SERVICES

Statement of the Telecommunications Authority

11 June 2002

INTRODUCTION

1. On 9 February 2002, the Office of Telecommunications Authority (OFTA) issued a consultation paper entitled “Charging Arrangements for International Call Forwarding Services”. This was in response to an earlier request from Fixed Telecommunications Network Services (FTNS) operators and Mobile Network Operators (MNO) for a review of the interconnection charging arrangements applied to International Call Forwarding Services (ICFS). The consultation paper aimed to solicit views and comments from the industry on such charging arrangements.

2. Upon requests from the six MNOs, OFTA extended the deadline for submissions from 8 March 2002 to 8 April 2002. By the closing of the consultation period, the TA received a total of 12 submissions as follows:

- ♦ PCCW-HKT Telephone Limited (PCCW-HKT)
- ♦ Hutchison Global Crossing Limited (HGC)
- ♦ Wharf New T&T Limited (New T&T)
- ♦ New World Telephone Limited (NWT)
- ♦ Hong Kong Broadband Network Limited (HKBN)
- ♦ Hong Kong CSL Limited (HKCSL)
- ♦ Hutchison Telephone Company Limited (Hutchison)
- ♦ SmarTone Mobile Communications Limited (SmarTone)
- ♦ New World Mobility (NWM)
- ♦ SUNDAY Communications Limited (Sunday)
- ♦ Peoples Telephone Company Limited (Peoples)
- ♦ The Society of Hong Kong External Telecommunications Service Providers (ETS Society)

The submissions can be downloaded from OFTA’s website at <http://www.ofta.gov.hk/>. Having considered the submissions, the TA sets out in this Statement his final views

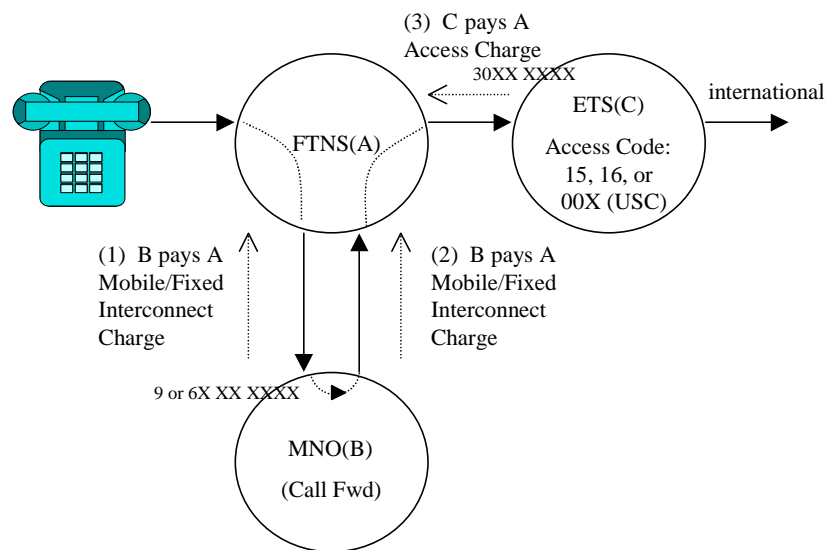


Figure 2

5. There have been arguments that MNO(B) is not fairly compensated for providing call forwarding service while FTNS(D) operator in Figure 1 and FTNS(A) operator in Figure 2 are over compensated as both of them receive mobile/fixed interconnection charge from MNO(B) as well as the access charge from ETS(C) operator. Furthermore, there are also concerns on whether the ICFS constitute an abusive use of personal numbers (PN)¹. To address these issues and concerns, the TA has reviewed the existing charging arrangements and proposed four options in the consultation paper.

PROPOSED OPTIONS

Option 1 – Call-by-call measurement of payment direction and level

6. Option 1 proposes that if the final destination of the call forwarding from the PN is identifiable, the responsibility for paying and the level of the interconnection charge should be determined on a call-by-call basis according to the relevant call types.

7. HGC, NWT, HKCSL, Hutchison and HKBN commented that Option 1

¹ The PN in Figure 1 may simply be used as an access code for an external service provided by, or connected to, FTNS(D).

could not be implemented on a practical basis as the final destination of the call is not known to the MNO. New T&T was concerned that Option 1 might require considerable investment. ETS Society also cautioned that Option 1 would increase the costs of monitoring and identification without generating any additional revenues or benefits.

8. Having considered the submitted views, the TA agrees that Option 1 involves practical difficulties and thus should not be pursued.

Option 2 – Origination charge at the level of local access charge with transit for all calls to PN

9. Option 2 proposes that the interconnection charge for all calls forwarded from MNO to PN via another FTNS operator as transit network should always be “origination” charge and the level of origination charge should be set equal to that for “local access charge with transit”.

10. HKCSL, Hutchison, SmarTone, NWM and Peoples supported that all calls to PN should be treated as value-added service (VAS) and therefore origination charge should be applied. However, HKCSL, Hutchison and NWM argued that calculation of the proposed compensation needed to be examined in light of MNO’s cost structure such that the fee can adequately compensate the MNO for use of their networks. On the other hand, SmarTone, Sunday and Peoples suggested that the compensation should be determined by commercial negotiation between the MNO and the ETS operator.

11. On the contrary, PCCW-HKT, HGC, NWT and HKBN argued that Option 2 would over-compensate the MNO. They believed that the proposed compensation was unreasonably high and not applicable to MNOs as MNOs do not have local loops and do not invest in local network infrastructure. Moreover, PN may also be forwarded to local numbers. Some FTNS operators argued that it was the MNO’s commercial decision of not applying a usage-based charge for the call forwarding service. PCCW-HKT quoted that some of the MNOs are already charging their prepaid card customers on a per-minute basis for call forwarding services. As a result, Option 2 will over-compensate MNO who can fully recover or have already fully recovered their cost of providing call forwarding services. New T&T also believed that Option 2 would go against the fundamental concepts of cost causality and fair compensation. Furthermore, PCCW-HKT raised the billing issues in their

submission. As FTNS(D) operator in Figure 1 cannot identify whether the call to the PN is directly originated from a mobile customer connected to MNO(B) where a termination charge is applied, or the call is forwarded and re-originated from MNO(B) where an origination charge is applied, it cannot verify the amount of termination charge it is entitled to receive from MNO(B) and the amount of origination charge it is required to pay to MNO(B).

12. Under the existing charging arrangements, MNO(B) has to pay two mobile/fixed interconnection charges² to FTNS operator(s) for every call forwarded from the its mobile network to a level “8” PN or a “30X” access code. Furthermore, MNO(B) has to ensure that their network transmission capacity can cope with the increasing traffic volume generated from the call forwarding services and, if necessary, may need to increase the transmission capacity such that the call forwarding functions can be performed by their networks efficiently. However, MNOs generally are charging their customers on a flat rate only for call forwarding services. Accordingly, under the existing charging arrangements, MNOs are not able to fully recover their costs in the provision of the call forwarding services.

13. Some FTNS operators might argue that it was the MNO’s commercial decision to charge a flat rate for call forwarding services and some MNOs were already charging a per-minute rate. While it is true that some MNOs are charging their prepaid card customers a per-minute rate for call forwarding services, all MNOs are currently charging their non-prepaid card customers a flat monthly rate for such services. The TA agrees that it is the MNO’s commercial decision to design the charging scheme of their call forwarding services and it is the MNO’s own discretion whether to apply a flat rate or a per-minute rate for their services. However, under the existing competitive environment in the mobile services market, it might not be feasible for MNOs to introduce per-minute charges for call forwarding services. Furthermore, not all users of mobile services would use the ICFS. The interest of consumers not using ICFS might be adversely affected by the introduction of “across-the-board” usage-based charges for call forwarding services. From the cost causality point of view, it is more logical for the providers of the ICFS to cover the call forwarding cost as a component of the operating costs of ICFS. Whether or not the ICFS providers would pass on the call forwarding cost to the ultimate users of ICFS is a commercial decision of the ICFS providers. This arrangement is similar to that for other VAS accessible over the Public Switched Telephone Network, e.g. “PNETS

² Two mobile/fixed interconnection charges plus a transit charge in Figure 1 and two mobile/fixed interconnection charges in Figure 2.

charges” for Internet access services. PN and ICFS are VAS, and FTNS(D) operator and ETS(C) operator are receiving revenues from their customers for providing such services. As such, they should pay MNO(B) a reasonable interconnection charge for compensating the costs MNO(B) has incurred in delivering the call via their network. Therefore, origination charge should be applied to calls to these services.

14. While the TA agrees that a charge at the level of “local access charge with transit” may not truly reflect the cost incurred by the MNO in delivering the call as MNO does not have local loop and the level of “local access charge with transit” is based on the costs of a fixed network, the TA does not subscribe to New T&T’s view that an origination charge to MNO will violate the concepts of cost causality and fair compensation. While the FTNS(D) operator in Figure 1 has been compensated with an access charge from ETS(C) operator, or receiving the revenue from the operation of the ICFS if FTNS(D) is integrated with ETS(C) in the provision of the ICFS, FTNS(D) operator should compensate MNO(B) with an origination charge for the cost incurred in delivering the call to FTNS(D) via MNO(B)’s network. In this regard, the cost incurred by MNO(B) includes at least the sum of the mobile/fixed interconnect charge and transit charge. Figure 3 illustrates the new charging arrangements for ICFS operated by an FTNS operator.

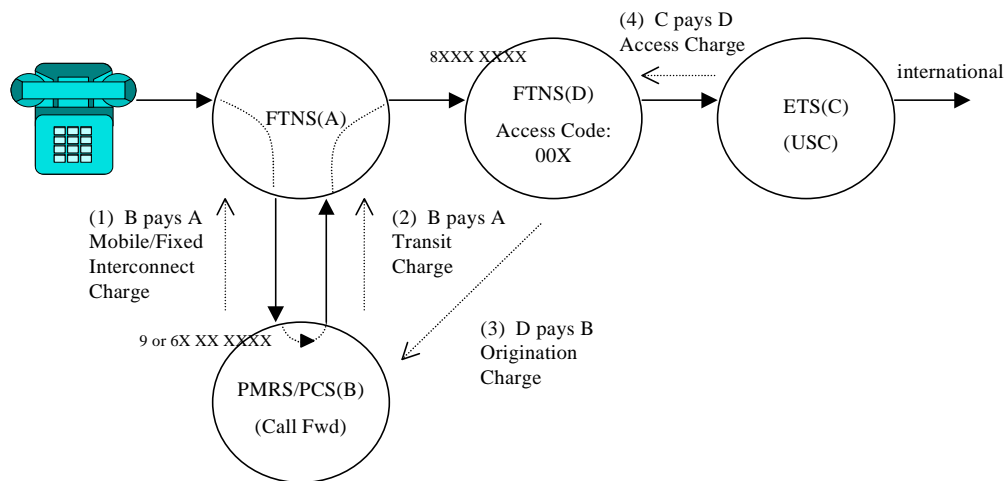


Figure 3

Similarly, while FTNS(A) operator in Figure 2 has been compensated with two mobile/fixed interconnection charges from MNO(B), the access charge from ETS(C) operator should be paid to MNO(B), instead of FTNS(A) operator to compensate

MNO(B) for the cost incurred in forwarding the call to ETS(C) via FTNS(A). Figure 4 illustrates the new charging arrangements for ICFS operated by an ETS operator.

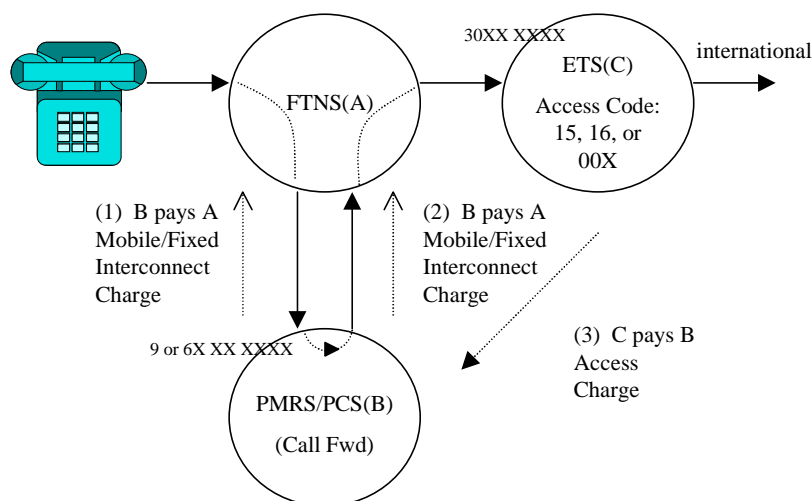


Figure 4

15. As PN and ICFS are VAS, the TA agrees that the origination charge to MNO(B) from FTNS(D) operator in Figure 3, and the access charge to MNO(B) from ETS(C) in Figure 4, should be left to commercial negotiation. However, these charges should be cost-based. If the parties cannot agree on the level of charge, either party may request the TA for determination. The TA will determine the origination charge based on the cost incurred by the MNO in providing the call forwarding service. With a cost-based origination charge, the TA does not agree with the FTNS operators that Option 2 would over-compensate the MNOs.

16. Under Option 2, PN will be treated as VAS and thus originating charge should be applied irrespective of the origin of the call, for example, whether the call is directly originated by a mobile customer or the call is originated from a fixed line customer but re-originated by a mobile network through call forwarding. In accordance with this principle, the TA considers that for all calls to PN or access code for ICFS originated from mobile customers connected to MNO, or re-originated by the MNO in a call forwarding service, the payment directions should conform to Figure 3 and Figure 4. However, some FTNS operators might argue that MNO(B) receives airtime charge from their customers in case the call to a PN is directly originated from a mobile customer and MNO(B) will be over-compensated if it also receives an origination charge from FTNS(D) operator. The TA would like to point

out that such revenue would also be considered in computing the net cost of the MNO(B) in delivering a call from their network to a PN. The TA believes that this can resolve the billing issues raised by PCCW-HKT in paragraph 11. However, if the MNO and the FTNS operator concerned should wish to commercially negotiate alternative arrangements on how to resolve the billing issues, for example, use of separate routes to distinguish different call types, or any other solutions that the operators consider appropriate and feasible, the TA has no objection to these alternative arrangements applicable to the two operators under their commercial agreement.

17. Regarding the new charging arrangements, some FTNS operators have concerns that there are equal chances that the PN may be forwarded to local numbers. Therefore, the payment of origination charge for all calls to PN regardless of the destination of the calls will over-compensate the MNO. Nowadays, all FTNS subscriber numbers with prefix “2” and “3” and all mobile subscriber numbers with prefix “6” and “9” can be forwarded to any local FTNS subscriber number, local mobile subscriber number or local paging number. Together with the function of remote call forwarding³, the genuine demand for a dedicated PN service no longer exists in Hong Kong. Currently, an overwhelming proportion of all calls to PN are for the purpose of call forwarding to overseas destinations for ICFS. Considering the small number of PN forwarded to local numbers, the TA does not agree that Option 2 will over-compensate the MNO. Furthermore, the limited number of PN forwarded to local numbers does not justify the resources to be spent on distinguishing the calls forwarded to local numbers from those forwarded to overseas numbers. The TA considers that this option is fair and could be pursued.

Option 3 - Two groups of PN, one usable for international call forwarding and one not usable for this service

18. Option 3 proposes two groups of PN, one for local call forwarding and the other for international call forwarding. For those calls to PN for local call forwarding, the termination charge will always apply. For those calls to PN for international call forwarding, the origination charge at the level of “local access charge with transit” will always apply.

19. Both PCCW-HKT and HKCSL agreed that Option 3 was a possible solution.

³ Remote call forwarding allows the subscriber to perform the call forwarding function of a FTNS subscriber number or a mobile subscriber number via any fixed or mobile phone by using a password.

On the other hand, HGC, New T&T, NWT, HKBN and ETS Society objected to Option 3. They believed that two groups of PN would cause inconvenience to the users, defeat the fundamental objective and functionality of PN, affect the existing numbers and services, and might lead to a waste of natural resources. ETS Society argued that Option 3 would increase the costs of ETS operators as they will have to provide two separate sets of circuits.

20. Option 3 proposes the creation of two groups of level “8” PN and therefore this should not require the ETS operators to provide two separate sets of circuits. As mentioned in paragraph 17, there is very limited number of PN being forwarded to local numbers. Considering the fact that number blocks are valuable resources, the TA is of the view that it is not justified to allocate a group of PN specifically for local call forwarding only. Thus, this option is not appropriate at this stage in light of the current market situation.

Option 4 – PN to adopt the same call forwarding arrangement as for the normal customer numbers of FTNS

21. Option 4 proposes that level “8” PN should have the same treatment as the levels “2” and “3” numbers, and thus cannot be forwarded to an overseas destination. Customers who wish to forward their calls to an overseas destination could still do it by call forwarding their level “8” numbers to their local mobile number first.

22. HKCSL, Hutchison, SmarTone and ETS Society supported that PN should not be forwarded to an overseas destination. HKCSL, SmarTone, NWM and Sunday believed that ICFS was an abusive use of PN and this abusive use should not be allowed.

23. HGC, New T&T, NWT and HKBN did not subscribe to Option 4. HGC explained that levels “2” and “3” numbers are not allowed to be forwarded to overseas destinations because the calling customers might be wrongly billed for the IDD charges⁴. However, level “8” number does not have this billing issue and thus should be allowed to be forwarded to overseas destinations. NWT argued that Option 4 will suffocate the development of ICFS that competes with the more expensive mobile roaming services.

⁴ Because the calls forwarded to the IDD service providers carry the Calling Line Identification of the callers rather than that of the users who have call-forwarded the calls.

24. PN were originally allocated to enable users to be contacted via the PN irrespective of the users' location or the type of terminals they are using. With the widespread use of mobile services and the call-forwarding functions provided by mobile network operators, the numbers for mobile services have largely performed the intended function of PN. Furthermore, as explained in paragraph 17, the genuine demand for a dedicated PN service no longer exists in Hong Kong. On the other hand, PN have been mainly used as access codes to ICFS only and the TA is of the view that such use of the PN does not constitute a genuine use of PN. In order to stop this abusive use of level "8" PN and to preserve number blocks for other services, the TA may consider to put an end to the use of level "8" for dedicated PN service. If and when this is done, all number blocks allocated for PN service will eventually be redeployed for other services, e.g. ordinary fixed line numbers. However, the TA has a concern that if PN services were stopped with immediate effect, the existing customers of PN would be affected. Contractual issues would then arise between the customers and the providing operators. Therefore, the TA considers it is not practicable nor appropriate to put an end to level "8" PN with immediate effect. Similarly, if PN were barred from being forwarded to overseas destinations with immediate effect, the existing customers of ICFS through PN would also be affected. As an alternative, the TA may in the future replace the level "8" PN which has been used for ICFS with "30X" access code. Under this approach, level "8" PN will no longer be misused for ICFS only and could be deployed for other uses to extend the life of the current 8-digit numbering plan. Consumers can still have choices between mobile roaming service and ICFS through "30X" access code. Industry views may be sought later on the issue of replacing level "8" PN with "30X" access code for ICFS and to put an end to the assignment of level "8" for dedicated PN service.

IMPLEMENTATION

25. The TA understands that when the charging arrangement in Option 2 is implemented from June 2002, only the MNO involved has all the necessary data for billing FTNS(D) (in the case given in Figure 3) and ETS(C) (in the case given in Figure 4). Hence, the TA takes the view that the MNO should keep record of the relevant ICFS traffic and bill the relevant parties according to its own record of the ICFS traffic (when the level of charge is agreed upon, and with retrospective effect from the effective date of the revised charging principles). However, to ensure the integrity and accuracy of the ICFS traffic and corresponding billing data, the MNO should have ICFS traffic and the billing data independently audited. However, if the

MNO and the FTNS operator concerned should wish to commercially negotiate alternative arrangements that the operators consider appropriate and feasible, the TA has no objection to these alternative arrangements applicable to the two operators under their commercial agreement.

26. The TA believes that FTNS operators who are directly connected to the PN platform or the ETS platform will have the means (based on call forwarding parameters to be made available in April 2003) to derive the relevant ICFS traffic starting from 1 April 2003. This is because the fixed and mobile network operators providing call forwarding services should implement HKTA 2204 by 1 April 2003 according to the Paper No. 9/2002 presented to the Telecommunications Standards Advisory Committee entitled “Adoption of HKTA 2204 Specification for Network-to-Network Connection to Call Forwarding Services in the Public Telecommunications Networks in Hong Kong” issued in January 2002. Hence, by 1 April 2003 the ICFS traffic and billing data of MNO can be cross checked by FTNS(D) in the case given in Figure 3 and FTNS(A) the case given in Figure 4.

CONCLUSION

27. After due consideration of the submissions and the feasibility of the four proposed options, the TA determines that Option 2 should be implemented and origination charge will be applied to all calls forwarded from MNO to a PN. As such, an origination charge should be paid to the MNO from which the call is forwarded to a PN, regardless of whether the PN will further be forwarded to local numbers or overseas numbers. Likewise, an access charge is payable by the ETS operator to MNO for a call forwarded to the ICFS by the MNO. The origination or access charge should be cost-based and preferably be determined by commercial negotiation. However, if the parties cannot agree on the level of charge, either party may request the TA for determination. The TA will determine the level of charge based on the net cost incurred by MNO in providing the call-forwarding service to the PN or ICFS.

28. To protect consumer interest and to ensure a fair competition environment, the TA considers that the call forwarding functions performed by the MNO must be performed efficiently although the actual level of origination or access charge has not yet been settled by commercial negotiations or TA’s determination.

29. In the future, the TA may replace level “8” PN which has been used for ICFS with “30X” access code. Industry views may be sought later on this issue through consultation if the TA considers necessary.

30. The charging arrangements for ICFS as described in paragraph 27 will be effective from 11 June 2002.

The Office of the Telecommunications Authority
11 June 2002