

**SmarTone's Response to OFTA's Discussion Paper  
on Open Network Regulatory Framework  
for Third Generation  
Public Mobile Radio Service in Hong Kong**

Version 0.8

**19 January 2001**

## **Table of Contents**

0	Executive Summary
1	Introduction
2	“Open Network” Requirement
3	“Open Network” Regulatory Framework
4	Non-discriminatory Treatment
5	Wholesale Price of Usage Offered by MNOs to NSPs
6	Open Network Percentage Measurement Methodology
7	Recommendation for the Way Forward
8	References

## **0 Executive Summary**

SmarTone is of the view that the TA should have the role to ensure there will be an undistorted market in 3G. SmarTone believes that the regulatory framework for the future 3G mobile services in Hong Kong is best to be implemented through full market forces. This will create the environment for more possibilities of all types and forms of MVNOs to thrive.

- SmarTone continues to support the principle of ‘open network provision’, as such arrangements will encourage innovation and the development of the telecommunications and information technology industries, and promotes the development of both large and small players.
- SmarTone continues to believe that letting market forces determine the commercial arrangement is the best approach. SmarTone is of the view that OFTA *should not mandate* 3G operators to sell a specific proportion of their network capacity to NSPs.
- SmarTone believes that the NSPs of an MNO will be of no difference from the MNO’s ordinary customers, if the open network environment is determined purely by market forces. However, a mandatory open network requirement and a pre-determined costing approach may result in a situation where commercial negotiation between MNO and NSP will always fail.
- However, if the TA insists on mandating the open network requirement, then SmarTone strongly proposes that:
  - contractually committed capacity by NSPs should be considered instead of measured traffic.
  - the TA needs to re-think on the measurement methodology. A simple solution must be adopted, and it should not impose a heavy administrative burden on both the MNO and the OFTA.
  - the open network percentage should be no greater than 20% in order to avoid any single NSP getting an aggregated capacity higher than that of an MNO.
  - NSPs should be subject to the same regulatory requirements of MNOs except for the open network requirement.
  - SmarTone suggests a hybrid pricing scheme (i.e. retail minus or cost plus, whichever higher) to ensure that MNOs will have a fair return on open network. SmarTone is also of the view that spectrum licence cost should be taken into considerations in the case of a cost plus approach.
- The TA should clearly define the meaning of “non-affiliated”.
- The TA should not rush to a conclusion on both open network requirement and licensing arrangement.

- In addition to the open network requirements set out in the discussion paper, all outstanding issues related to the licensing arrangement and regulatory framework should be transparently open to discussion with the industry before the licensing process starts.

## **1 Introduction**

SmarTone Mobile Communications Limited (SmarTone) is pleased to present its response to OFTA's discussion paper on open network regulatory framework for third-generation (3G) public mobile radio services in Hong Kong [1]. SmarTone has participated in the Industry Workshop held on 5 January 2001 and presented its preliminary views on the discussion paper. In addition to its short presentation at the workshop, SmarTone would like to submit its detailed views. SmarTone looks forward to working together with OFTA, and the wireless communications industry as a whole, to develop a framework which will ensure the contribution of the future 3G industry to Hong Kong's prosperity.

SmarTone will be pleased to have further opportunity to discuss this submission with OFTA, and to provide clarification of any of the points raised. In addition, SmarTone is of the view that all outstanding issues regarding the 3G licensing arrangement and the regulatory framework should also be discussed with the industry before they are finalized.

## **2 "Open Network" Requirement**

SmarTone continues to support the principle of 'open network provision'. This will encourage the development of the telecommunications, and information technology industries and promote the development of both large and small players. However, SmarTone continues to believe that letting market forces determine the commercial arrangements between MNOs and NSPs is the best approach. SmarTone is of the view that OFTA *should not mandate* 3G operators to sell a specific proportion of their network capacity to non-affiliated service providers (NSPs), for the following reasons:

- The current 2G market operates effectively without the need for regulatory recourse. There are numerous resellers and commercial partnerships between content providers and network operators already in place. These partnerships bring benefits to both parties, and will be a major element in any strategy to exploit 3G services. We expect more players will participate in different parts of the 3G value chain. Any regulatory intervention in these relationships can only inhibit this creative commercial dynamic.
- The 3G MNOs will have economic incentives to resell excessive capacity to the NSPs. They would not like to see the extra revenue go to their competitors.
- The 3G market will need large sums of capital and the returns are highly unpredictable. SmarTone believes that mandatory open network requirement is not needed in a market place with such a nature and with a number of relatively equal competitors. The proposal of mandatory requirement being proposed by the OFTA

seems more suitable to opening an established market where there is a dominant incumbent player.

- The measurement and monitoring of open network percentage that would need to be implemented would represent a significant burden to both the operators and OFTA. This is against the spirit of OFTA of providing “a regulatory environment conducive to business investment”.
- One of the inherent characteristics of a 3G broadband data network is the cost efficiency that is achievable through sharing a large data communications pipe. This could be jeopardised by the distorted dimensioning practice, which would arise due to the mandatory requirement of partitioned network capacity for third parties. Such inefficiency will impact the entire 3G market and is against the spirit of OFTA's objective of “making a wide range of services available to the community at reasonable cost” [3].
- There are examples of countries with no mandatory MVNO requirement where MVNOs have established themselves (e.g. UK). A market driven environment has facilitated the development of MVNOs.
- OFTEL of the UK published a consultative document in February 1999 entitled “Competition in the Mobile Market” [6] which reviewed the mobile market generally in the UK and considered practically the requirement in the licenses of two of the four mobile operators that they should provide wholesale airtime to service providers, how they should provide airtime to service providers and how that should be fairly priced (chapter 3 of the document). In October 1999, OFTEL issued a statement following on from the earlier February consultative document entitled “OFTEL Statement on Mobile Virtual Network Operators” [7]. This document concludes that OFTEL is reluctant to take action that might dictate a particular form of MVNO when some of the benefits might also result from different arrangements that can be achieved by commercial negotiation. OFTEL believed that the best way to identify the exact form of MVNO operation that minimizes the costs associated with MVNOs and adds maximum value to the mobile industry and consumers is by commercial negotiation between network operators and potential MVNOs.
- The 3G business case is very much unknown and there is no success reference point of a regulatory framework overseas which has successfully mandated open network provision. Having strong regulatory restrictions will incur negative effects on the investment initiative of MNOs especially in the early phases of the network rollout.

However, if the TA still insists on mandating open network capacity provision, SmarTone is of the view that it should be no greater than 20% in order to avoid any single NSP getting an aggregated capacity higher than that of an MNO. The reason is that OFTA should have measures to prevent any NSP from dominating the market by taking advantage of different MNO operators through the regulatory framework.

## **2.1 Difference between an ordinary customer of an MNO and its NSPs:**

SmarTone is of the view that under a mandatory open network environment, there will be differences between an ordinary customer of an MNO and its NSPs :

- Where the open network environment is determined purely by market forces, the NSPs of an MNO will be of no difference from the MNO's ordinary customers. However, a mandatory open network requirement and a pre-determined costing approach may result in a situation where commercial negotiation between MNO and NSP will always fail. The NSP would prematurely push for escalation to OFTA for determination. This will incur a heavy burden for both the MNO and OFTA.
- SmarTone notes that the current regulatory regime on interconnection has made a clear distinction between PNETS and FTNS licensees, such that PNETS licensees can only interconnect with FTNS licensees at a retail standard rate. PNETS licensees have not been accorded the 'carrier' status to negotiate with the FTNS licensees on a 'carrier-to-carrier' basis. SmarTone appreciates that this regime has taken the differences between the two type of licensees into consideration, and believes that it could encourage FTNS licensees to invest in telecommunications infrastructure in Hong Kong. It is therefore our views that the same regulatory regime should be applicable to the 3G environment, in which the NSP, as a PNETS licensee, should not be given the right to request the TA to make a determination on the MNO's wholesale price of usage (up to the Open Network Percentage) under the interconnection provisions of the Telecommunications Ordinance. The relationship between MNO and NSP could be adequately dealt with under the existing regulatory regime, and there should be a distinction between MNO and NSP so as to provide incentive for MNO to invest in the 3G infrastructure.

## **3 “Open Network” Regulatory Framework**

### **3.1 Definition of NSP:**

SmarTone would like to request the TA to very clearly define the expression of “non-affiliated”.

### **3.2 Regulatory Framework for NSP**

- Should the open network be mandated then the NSPs should be subject to the same regulatory requirements of MNOs except for the open network requirement. These requirements include those in relation to mobile number portability, interconnection, CLI delivery, mobile licence fees, PNET charges, USO charges and so on.

- Any relaxation of the NSP's obligation would be unfair to MNOs as there is no difference in capability (if NSPs so wish) except that NSPs do not have 3G radio spectrum.
- There must be mechanisms to ensure NSPs pay for the committed open network capacity and for the time frame they have committed whether they use it or not.
- NSPs demanding capacity should be required to provide bank guarantee to ensure that the investments made on network capacity on the basis of their request will have a return. Otherwise, MNOs are open to being messed about by their "competitors".

### **3.3 Definition of "undistorted" market as quoted by the TA in the discussion paper section 16:**

- SmarTone believes that the TA has the role to provide a regulatory framework to ensure an "undistorted" market in the 2G and 3G market.
- SmarTone believes that the current 2G market is experiencing distorted competition.
- SmarTone believes that a regulatory framework which is conducive to optimum competition will be to the benefit of the public as a whole since this will not only bring value for money to the consumers but also help in developing an innovative, growing, healthy and profitable industry. The industry players will then be able to re-invest in the industry over a longer term. However, over-competition in the market may result in a distorted market. All the players will only make short-term network investments and attract consumers by irrationally low tariff plans.

## **4 Non-discriminatory Treatment**

- There must be a mechanism to ensure that NSPs will not use capacity exceeding their contracted maximum capacity. Otherwise, one NSP unexpectedly using a lot of capacity, may seriously degrade the overall quality of the network impacting the business of the MNO and other service providers connected to the MNO. The non-discriminatory treatment should apply both-way for MNO and NSP. Otherwise, it will be unfair to the MNO and its connected NSP.

## **5 Wholesale Price of Usage Offered by MNOs to NSPs**

- The regulatory framework should provide incentives to MNOs to open their networks with a fair return.
- SmarTone agrees with the TA that the retail minus approach will not be applicable in a "distorted market".



- Fully distributed cost including CAPEX, the spectrum licence cost and operating overhead should be taken into consideration in the case of a cost plus approach. NSP's traffic would contribute to a significant percentage of the MNO's network traffic and there is no point in using LRAIC as costing approach. This argument is used by OFTA in PNET charge determination.
- SmarTone suggests a hybrid pricing scheme (i.e. retail minus or cost plus, whichever higher) to ensure that MNOs will have a fair return on open network.

## **6 Open Network Percentage Measurement Methodology**

### **6.1 Disagree with the TA's proposed measurement methodology:**

- The TA's proposed measurement methodology only calculate the ultimate spectral capacity without considering the installed hardware capacity. SmarTone is of the view that open network capacity should be based on contractually committed capacity and installed hardware capacity rather than the theoretical RF capacity measured from RAT.
- Measurement solutions that do not conform to the 3GPP standard should be avoided.
- The tolerance of the measured RAT value can be very large. However, measurement methods to achieve high accuracy will have severe impacts on the system processing loading in the network equipment.
- Different requirement on Quality of Service can lead to different "network capacities" as derived by the loading value.
- The Service Mix and the Radio Environment also lead to different "network capacities" as derived by the loading value. This can be challenging as different vendors may have different forms of implementation.
- Reporting of data volume on per cell basis is not feasible because Cell ID information in CDR is not specified as a mandatory feature in 3GPP R99. Even if Cell ID information is available, CDRs cannot reflect traffic usage of intermediate cells in case of handovers.
- The calculation of uplink capacity is not practical because it needs the network management system to support automated and regular reporting of RAT value, and the activation of such facility for real time measurement may cause serious impacts on system capacity and stability.
- The equation of downlink capacity is not valid because RF resources in a 3G network are likely downlink limited and the RF theoretical capacity is independent of the real time traffic ratio.

In summary, the TA's proposal for open network percentage measurement is not viable since its technical feasibility, accuracy and practicality are highly questionable. Should the TA insist to mandate a mechanism to measure the open network capacity, a simple but clear measurement methodology should be well defined so as to allow the OFTA, MNOs and NSPs to judge the actual open network capacity requirements and utilisation.

## **6.2 Disagree with the TA's proposal of monthly reporting**

- TA's proposed arrangement will involve customized reporting facility that will be costly and time consuming to develop, if not totally impractical.
- Monthly reporting will be a tedious job and a burden for MNOs as well as OFTA. Therefore, a longer reporting period or report generation on-demand is suggested.

## **6.3 Lead time to provision capacity**

- Generally speaking, MNOs will need at least about 9 months to build extra capacity after confirmation of committed capacity from its own service provider or from the MNO's internal network expansion forecast. Therefore SmarTone has concern over what the TA has defined as "short-term busy hour traffic capacity" in section 9 of the discussion paper.
- In an MNO's normal network planning and dimensioning, there will be certain capacity buffer and engineering margin to cater for its own business growth and unexpected traffic surge. As mentioned in the discussion paper, the "open network" requirement is not intended to compel MNOs to leave network capacity idling, waiting for the demand from NSPs. Consequently, the MNO's capacity buffer and engineering margin should not be taken as the "short term capacity" available for new demands from NSPs.

## **7 Recommendation for the Way Forward**

- SmarTone is of the view that the TA should have the role to ensure there will be an undistorted market in 3G.
- SmarTone continues to believe that letting market forces determine the commercial arrangement is the best approach. SmarTone is in the view that OFTA *should not mandate* 3G operators to sell a specific proportion of their network capacity to NSPs.
- However, if the TA insists on mandating the open network requirement, then SmarTone strongly proposes that:
  - contractually committed capacity by NSPs should be considered instead of measured traffic.
  - the TA needs to re-think on the measurement methodology. A simple solution must be adopted, and it should not impose a heavy administrative burden on both the MNO and the OFTA.
- The TA should not rush to a conclusion on both open network requirement and licensing arrangement.
- In addition to the open network requirements set out in the discussion paper, all outstanding issues related to the licensing arrangement and regulatory framework

should be transparently open to discussion with the industry before the licensing process starts. The outstanding issues include the following:

- What are the terms and conditions for the extension of the 2G spectrum granted to existing licensees?
- Will there be additional 3G licences issued in the future? If yes, when and how many additional licences will be issued?
- What are the details of the licensing process?
- What is chosen auction fee payment method?
- Is accounting separation between 3G licenses, MVNO and NSP necessary at this premature stage?
- Will the total amount of capacity that can be sought by any one MVNO from all network operators be subject to regulatory review?

## **8. References**

1. *“Open Network” Regulatory Framework for Third Generation Public Mobile Radio Services in Hong Kong – Discussion Paper for Industry Workshop To be held on 5 January 2001*
2. *Licensing Framework for Third Generation Mobile Services: Analysis of Comments Received, Preliminary Conclusions and Further Industry Consultation, OFTA, 3 October 2000.*
3. *About OFTA, OFTA Internet site, reference:*  
*[http://www.ofta.gov.hk/index\\_aboutus\\_eng.html](http://www.ofta.gov.hk/index_aboutus_eng.html).*
4. *Second Consultation Paper of Licensing of Third Generation Mobile Services – A Hybrid Method with Open Network Requirement, Information Technology and Broadcasting Bureau Press Release, 3 October 2000.*
5. *Vision, Mission and Values, OFTA Internet site, reference:*  
*[http://www.ofta.gov.hk/index\\_aboutus\\_eng.html](http://www.ofta.gov.hk/index_aboutus_eng.html)*
6. *“Competition in the Mobile Market”, consultative paper published by OFTEL of UK in February 1999*
7. *“OFTEL Statement on Mobile Virtual Network Operators”, statement made by OFTEL UK, October 1999.*