

A Response to the Second Consultation Paper on the Licencing Framework for Third Generation Mobile Services

Summary

In response to the further consultation paper SUNDAY holds the following views:

- All holders of 2G licences should automatically qualify as bidders in the 3G auction. (paragraphs 1.1. – 1.5)
- The definition of MVNO requires further development and the rights of MVNOs and the obligations held by 3G licencees to MVNOs must be fully defined by regulation and made transparent before the auction commences. (paragraphs 2.1 – 2.10)
- To assist the TA in fully refining the MVNO concept the TA should immediately convene a 3G Implementation Task Force to consider all 3G matters which will have an impact on the industry. (paragraph 2.13)
- Should the TA choose a cash auction rather than royalty payments against a guaranteed minimum payment, then payment should be by instalment, over the term of the licence. (paragraphs 3.1 – 3.3)
- The bidding bond should be set by international benchmarks and not be a barrier to entry. (paragraphs 4.1 – 4.2)
- The concept of “Open Network Access”, based on access to a percentage of 3G network capacity, may be complex to implement. Other means of

regulating access to the 3G network could also be considered. (paragraphs 5.1 – 5.3)

- If 2G operators are to participate and fully support the development of 3G services they need guaranteed tenure on the spectrum allocated to them. The TA should confirm as a matter of priority, that the 2G licences will be renewed on the same terms and conditions as those in the current licences. (paragraphs 6.1 – 6.3)
- The TA should determine the timetable and conditions for the allocation of further spectrum designated by the ITU for 3G services in parallel with the 3G auction. (paragraphs 7.1 – 7.4)
- Roaming between 3G and 2G networks should be commercially negotiated. (paragraphs 8.1 – 8.2)

Introduction:

With the publication of the second consultation process on 25 October the TA has clarified many of the issues which will determine the form and success of 3G services in Hong Kong. But there are a number of key issues which are still to be resolved. Foremost amongst these are:

- Pre-qualification criteria
- The definition of Mobile Virtual Network Operators (MVNOs) and the rights they will hold in terms of access to 3G networks.
- The “Open Network” obligations of 3G network operators.
- The auction rules and the size of the bidding bond and method of payment of the amount bid at auction.
- Provisions which prevent collusive behaviour either during or after the auction.
- Tenure of 2G operators over their spectrum
- Plans for the use and allocation of other spectrum designated for 3G services.
- Contingent regulation on 3G to 2G roaming, access pricing, interconnection, and accounting separation.

The following comments are addressed to these issues. SUNDAY has not revisited the threshold issues on which the TA has made a decision such as the number of licences and the award of the licences by auction. Nor has SUNDAY commented further on the issues such as standards, spectrum allocation, number portability etc. because the proposals that the TA has made reflect a broad industry consensus.

SUNDAY has sought to identify and give its views on those issues which need immediate resolution so that bidders will have access to all the information needed to make a fully informed decision. SUNDAY believes that by acting on our recommendations the TA can ensure that the 3G licencing round brings the same consumer and industry benefits that marked the allocation of PCS licences.

1 – Automatic Pre-qualification of 2 G Operators

- 1.1 The TA has set out a number of criteria that must be met by bidders before they qualify as bidders in the 3G auction. SUNDAY believes that in recognition of their achievements the incumbent 2G operators should automatically qualify as bidders.
- 1.2 Although SUNDAY believes that all 2G incumbents could readily satisfy the pre-qualification criteria it seems unnecessary that incumbent operators should be evaluated before they can proceed to the auction proper. This is especially so when the achievements of the 2G operators are well known to the TA.
- 1.3 Nevertheless automatic pre-qualification should not excuse the incumbents from submitting the same information as newcomers. The interests of fairness and transparency would be best met if all bidders were obliged to submit the same information before bidding began.
- 1.4 The achievements of the 2G industry are widely known. High levels of penetration, low tariffs, continued service innovation and high quality of service have been delivered within a fiercely competitive market. Penetration now stands at over 65%, a level only matched by the leading Nordic markets. Per minute charges have fallen by 60% in real terms

over five years and the average monthly subscription fee has fallen by 75%. Change has been driven by the PCS operators licenced in 1996. The PCS operators have pioneered innovative products such as location specific services which are expected to be a key element in 3G service.

- 1.5 Third generation mobile services represent a clear evolution from second generation and with the deployment of 2.5G technology Hong Kong's second generation operators such as SUNDAY are leading these developments. By exempting the incumbent 2G operators from the pre qualification stage the TA would encourage their participation in 3G licencing and so ensure that Hong Kong builds on their success as it enters the 3G era.

2 – The Role and Structure of Mobile Virtual Network Operators (MVNOs)

- 2.1 If an auction is to deliver optimal outcomes both for the bidders and users of mobile services then the bidders must have complete information available at the earliest opportunity. Foremost amongst the information that is urgently needed is greater detail on how MVNOs will operate, what regulatory rights will they hold and what reciprocal obligations will be placed on 3G network operators under the “Open Network” requirement.
- 2.2 The TA has indicated that MVNOs are service providers. They may be either “simple” resellers of 3G network capacity or facilities based. The TA has also indicated that whilst he prefers to leave access charges for 3G capacity to commercial negotiation he will, if requested, make a determination under the interconnection provisions of the

Telecommunications Ordinance. Prices would then be determined on either a “cost plus” or “retail minus” formula.

- 2.3 The structure and role of 3G MVNOs have been considered at length by the UK regulator Oftel. Oftel has made a distinction between facility based MVNOs and resellers, noting that facility based MVNOs will be obliged to make a large investment in switches and IN and billing platforms whilst resellers will rebrand a 3G operators services. A further distinguishing feature is that MVNOs will issue their own SIM cards which will have their own unique network address.
- 2.4 Despite common understandings about the nature of MVNOs the concept is largely untested in the market and there is little real experience with regulation. Only the Norwegian, Danish and Swedish regulators have been called to rule upon the manner in which MVNOs should operate. All three have formally ruled on disputes relevant to MVNOs following the launch of Sense Communications in Scandinavia.
- 2.5 Sense Communications is a virtual network providing ‘seamless’ 2G roaming across the Nordic mobile market. Sense sought access to the various national GSM networks in terms of interconnection, i.e. it argued it was interconnecting its switch, HLR, Billing and IN platforms with the networks in Norway, Sweden and Denmark. The regulators in each country found that Sense was not seeking an interconnection service but was roaming onto the various networks. Consequently it has been obliged to pay a retail minus price for airtime rather than the cost based tariff it would have enjoyed had the regulators deemed its service to be an interconnect service.

2.6 Further consideration of the matter by UK Oftel reinforces the view that MVNOs roam onto, rather than interconnect, with the host network. In its discussion paper on MVNOs Oftel stated that:

“OFTEL is increasingly of the view that the key feature of MVNO operations, recognition of a SIM card, is not a service which falls under the category of interconnection”

The European Commission has also indicated that it views MVNOs as roaming onto rather than interconnecting with host networks.

2.7 Whether an MVNO holds interconnect rights, or whether it is deemed to be roaming on the host network, has direct implications for the charging regime that is used. Also the classification of MVNOs as either interconnecting operators or roaming operators will determine the extent of regulatory intervention by the TA. If the TA deems that MVNO access is an interconnect service then Long Run Average Incremental Cost (LRAIC), or marginal cost plus methodology would be suggested for charging. If the MVNO is considered to be roaming onto the host network then retail minus would be a more appropriate basis for charging for network use. SUNDAY believes that retail minus would require less intervention by the TA .

2.8 The definition of MVNOs has direct implications for the returns that a 3G operator can expect from hosting MVNOs and similarly it has direct implications for the viability of MVNOs. Based on the evidence from markets such as Australia and the United Kingdom, cost plus pricing for access, based on Long Run Average Incremental Cost (LRAIC) will generally yield access prices below those derived from a retail minus formula.

- 2.9 Although cost plus is used as the basis for interconnection charges in many markets, it can be complex to apply and arbitrary decisions will often be made about the appropriate costs that should be included. SUNDAY believes that a more transparent approach to pricing MVNO access could be achieved by the use of retail minus.
- 2.10 Although less complex to apply the question of what costs should be included in the wholesale access price still has to be addressed if retail minus is used. SUNDAY believes that the TA should clarify, as soon as possible whether, for example, the royalties that might be paid under the auction can be included in the wholesale price and passed onto the MVNOs. Similarly if there are licence fees, in addition to the auction fee, to be levied on the 3G licence, can these be included in the calculation of wholeale price?
- 2.11 The TA has suggested that accounting separation between 3G carriage and the 3G network operator's services will be necessary so that there is no discrimination against the MVNO's services by a network operator providing the same or similar services. The concept of non discriminatory treatment is the key to providing a level playing field for MVNOs, yet it could prevent the operator from realising the economies of scale and scope which come from the integration of carriage and service provision. SUNDAY is concerned that the principle of "non discrimination" could require that the 3G network operator offers carriage services to MVNOs at the same internal price the operator builds into their own services.
- 2.12 SUNDAY believes that it is in the interests of the consumer that network operators be allowed to deliver the full economies of scale and scope that

meshing together their 2G and 3G services and infrastructure would allow. Network operators must be allowed to bundle services, including 2G services with 3G services, at a price below which unbundled elements are made available to MVNOs or to 3G operator's who need roaming.

- 2.13 Considerable uncertainties still mark the MVNO concept. How the service is defined will have significant commercial implications both for potential 3G network operators and MVNOs. Given the importance of these issues to the viability of Hong Kong's 3G industry SUNDAY believes that the definition of MVNOs requires further development and that the rights of MVNOs and the obligations held by 3G licencees to MVNOs must be fully defined by regulation before the auction commences. To assist the TA in fully refining the MVNO concept the TA should immediately convene a 3G Implementation Task Force to report on all issues which will impact upon the industry within as soon as possible.

3 - Auction Rules - Payment of the Bid Price

- 3.1 Given recent international experience, bidders with the deepest pockets have generally been successful in auctions and there is a clear need to ensure that incumbent 2G operators are not disadvantaged. This is especially so when the winning bidder is required to pay the full price in one instalment. The TA has recognised the dangers inherent in an "up front" payment and has suggested that the bids should be based on royalties with a guaranteed minimum payment. He has suggested that royalties could be based either on profits or turnover.

- 3.2 Although royalty based payments would spread the auction fee over the life of the licence, there are practical problems in implementing it. SUNDAY is not aware of any international precedent for basing a spectrum auction on a committed royalty payment. SUNDAY believes that these practical problems may lead the TA to use a cash auction, especially given his belief that the multiple round, ascending auctions used in the UK and Germany are a useful model for Hong Kong. Should the TA adopt the UK and German model, SUNDAY believes that, at the minimum, it would be appropriate to adopt the UK's deferred payment option. Under the UK model the winning bidder was offered the option of paying half the amount due by instalment, over the life of the licence.
- 3.3 SUNDAY believes the best solution that if a cash auction is held the winning bidder should have the option of deferring payment and pay by annual instalments over the life of the licence, having provided the TA with any necessary guarantee. Deferred payments would represent an ongoing source of government revenue that would supplement its budget.

4 – Auction Rules - The Bidding Bond

- 4.1 If the participation of the incumbent 2G operators is to be encouraged by exempting them from the pre-qualification process, then the auction rules should not then act as a disincentive or barrier. Whilst the incumbents have achieved success it is not necessarily the case that all 2G operators can match the financial capacity of major international players. As other auctions have demonstrated the international operators have deep pockets. The incumbents could be disadvantaged relative to these companies unless the rules are structured to ensure that the bid bond is not excessive and payment for the licence can be made over the life of the licence.

- 4.2 There are a number of international benchmarks for setting the bid bond including the auctions in the UK and Germany. The TA has indicated that the auctions in those markets could provide a model for the Hong Kong auction. In the UK the bond was set at 50 million Pounds (HK\$ 550 million) In Germany the deposit was 20 million DM (HK\$68 million). When these benchmarks are adjusted for the size of the Hong Kong market they indicate that a deposit of between HK\$7 million and HK\$ 70 million would be appropriate.

5 - “Open Network Access”

- 5.1 The TA has suggested that 30% - 50% of the network should be made available to MVNOs based upon “the busiest cells during peak traffic hours”. SUNDAY believes that allocating network capacity on this basis could be difficult to implement given the dynamic traffic patterns that will be imposed on 3G networks. 3G services based on both voice and more bandwidth hungry data applications, will involve both circuit switched and packet switched transmission and this will require the dynamic allocation of capacity. If an operator is required to reserve capacity for an MVNO it could induce inefficiencies in spectrum use and in the use of network resources.
- 5.2 The uncertainties that surround this suggested form of capacity allocation are such that SUNDAY cannot express a view on the amount of capacity that should be reserved for MVNOs. The problem is further compounded by the lack of a working definition for MVNOs. This definition could have significant implications for the way in which they are charged for 3G network use.

- 5.3 SUNDAY believes that basing access for MVNOs on a mandated percentage of 3G radio network capacity will be complex to implement. Other means of regulating access to the 3G network could also be considered especially given the possible definition of an MVNO as a roaming service. For example it may be possible to define access by the number of MVNO customers registered at the host network's HLR.

6 – Renewal of 2G Licences

- 6.1 SUNDAY believes that the question of tenure over 2G spectrum cannot be uncoupled from the 3G licencing process. The TA has proposed that 2G operators may make use of their existing 2G spectrum for 3G services, during the validity of their current licences and he noted that:

“this would provide a natural evolution path for the incumbent operators and enable efficient utilization of the radio spectrum”.

SUNDAY fully supports this proposal but stresses that in the absence of secure tenure over their licences, 2G operators may not be able to offer 3G type services.

- 6.2 The PCS licences will expire in 2006 giving the licencees insufficient time in which to generate the necessary return upon the heavy investment that would be need to be made in the delivery platform and content. SUNDAY is now rolling out 2.5G services. SUNDAY's commitment to further large scale investment should be matched by an automatic extension of SUNDAY's licence for a minimum of three years.

- 6.3 SUNDAY urges the TA to begin immediate consultation on the renewal of 2G licences so that this process can run in parallel with the ongoing consultation that is needed on the 3G licencing process. The TA should renew the 2G licences on the same terms and conditions that they were initially granted.

7 – Future Allocation of UMTS Spectrum

- 7.1 At the World Radio Conference, held mid year in Istanbul, the International Telecommunication Union designated three new spectrum blocks for the delivery of terrestrial and satellite based UMTS services within its IMT 2000 standard. These supplementary allocations have been made to ensure that the continued growth of mobile services and the demands for additional bandwidth do not limit the growth of UMTS. The ITU noted that the extra spectrum requirement would amount to “160 MHz above and beyond that of the bands identified in 1992.”
- 7.2 Three bands have been designated in addition to the original 1992 allocation in the 1885-2025 MHz and 2110-2200 MHz bands. The newly designated bands for terrestrial UMTS service are 806-960 MHz, 1710-1885 MHz and 2500-2690 MHz. Use of the 806 – 960 MHz. band does not have great significance for UMTS Hong Kong. These bands are primarily used by PMRS and there is little scope for clearance. The higher frequency bands offer greater potential for UMTS growth but given their present usage the TA would need to embark on a clearance programme as a matter of urgency if the bands are to become available for UMTS in the short to medium term.

**Current Use of Newly Designated UMTS Spectrum at 1710 – 1885 MHz and
2500 –2690 MHz.**

Hong Kong Allocation and Band Plan	Existing Utilisation
1710 – 1885 Fixed Mobile	1.Fixed (Point to point and MMDS) 2.Personal Communication Services (PCS) 1710 –1785 paired with 1805 – 1880 MHz. 3. DECT 1880 – 1900 MHz.
2500 –2690 MHz. Fixed Mobile Satellite	2500 – 2655 MHz. 1.Fixed 2.ENG links 2655 –2690 MHz. ENG Links

7.3 SUNDAY believes that clearance of the higher frequency bands would ensure that all 2G operators could participate fully in 3G services in the longer term.

7.4 The TA should determine the timetable and conditions for the allocation of further spectrum designated by the ITU for 3G services in parallel with the 3G auction and give priority to the reassignment and clearance of the supplementary UMTS bands allocated by the ITU.

8 – Roaming and Other Regulatory Issues

8.1 If SUNDAY were successful in the forthcoming auction it would accept a condition that allowed roaming by a new 3G entrant on its 2G network.

But SUNDAY stresses that the terms for roaming should be determined by commercial negotiation.

- 8.2 If regulatory intervention is needed because of the failure of commercial negotiation SUNDAY stresses that the same pricing principle should not be applied to both new entrant 3G network operators and MVNOs who may require 2G roaming. Roaming provided to MVNOs should be on purely commercial terms and would be comparable to international roaming. Cost plus would be an appropriate basis for MVNO roaming.

Interconnection

- 8.3 3G and the convergence of fixed and mobile services is adding weight to the need for reform of interconnection. Interconnect is currently based on upon Fully Distributed Cost (FDC), and the principle that the 'Receiving Party Pays'. There is international evidence that the use of the FDC formula can result in economic inefficiencies. Similarly 'Receiving Party Pays' can inhibit growth particularly in the prepaid market where it denies the user the prime advantage of pre- payment, the ability to fully control their usage costs.
- 8.4 SUNDAY believes that it is now time to restructure Hong Kong's interconnection regime in line with best international practice. This is especially so given the need to align fixed and mobile licence conditions and the need to provide for broadband interconnection for 3G services. Neither the current time based charge nor the 64 Kbit line charge are appropriate to the interconnection regime needed to support 3G services. Wideband service will require new interconnection principles matched to the needs of both 'bit' based volume charging as well as the traditional timed interconnect charges.

9 – Conclusion

There is an urgent need to clarify the rules and procedures for the auction. SUNDAY urges the TA to issue an information memorandum once the Implementation Task Force has reported. Following publication of that memorandum the TA should publish drafts of the regulations under which the auction will be held to allow further industry consultation on the final conduct of the auction.

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