



MC.FOUNDER

www.MC.Founder.com

MC.FOUNDER LTD

4/F., WKK Building, 414 Kwun Tong Road, Kwun Tong, Kowloon, Hong Kong Tel: (852) 2154 3888 Fax: (852) 2154 3999

*Office of the Telecommunications Authority
29/F., Wu Chung House
213 Queen's Road East
Wan Chai, Hong Kong
Fax: 2803 5112*

Attn: Senior Regulatory Affairs Manager (Services Licensing)

November 13, 2000

Dear Sir,

**RE: Response to the TA on Third Generation Mobile Services
Licensing 2nd Consultation Paper**

We are very pleased to respond on the captioned paper as attached herewith.

For your information about our background, MC.Founder is a joint venture between Founder Data Corporation International Ltd., a subsidiary of EC.Founder (Hong Kong) Limited (stock number 618), and a team of experienced professionals in the industry. It is the company's vision to develop, deploy and promote innovative value added services of converged voice and data services via wireless platform.

As such, we deem it is our obligation and interest to express our opinions about the captioned paper. Should TA require further comments or information from MCF, please feel free to contact the undersigned.

Yours faithfully,

Joseph Lau
Managing Director

Response To TA
On
Third Generation Mobile Services
Licensing Second Consultation Paper

Date : 13th November, 2000

From : MC.Founder Limited
4/F WKK Tower
414 Kwun Tong Road
Kwun Tong
Kowloon

TABLE OF CONTENTS	Page
1. Introduction and Background	1
2. MCF viewpoints on MVNO	1
2.1 <i>Values of MVNO to the Market</i>	1
<u>2.1.1 Benefit to 3G MNO</u>	1
<u>2.1.2 Benefit to MVNO</u>	2
<u>2.1.3 Benefit to consumers and society</u>	2
2.2 <i>Difficulties in ensuring a fair playground for all parties concerned</i>	3
3. MCF proposed solution on MVNO – the “Open Network Hierarchy (ONH)”	4
3.1 <i>Open Network Hierarchy (ONH)</i>	4
3.2 <i>Key features to the ONH</i>	4
<u>3.2.1 Types of MVNO</u>	4
<u>3.2.2. MVNO - Independent companies</u>	5
<u>3.2.3. MVNO – 3G MNO affiliated companies</u>	5
<u>3.2.4. MVNO – 2G MNO</u>	5
3.3 <i>Number of MVNO and Limitation on Capacity</i>	6
3.4 <i>Regulation on MVNO</i>	6
<u>3.4.1 Availability of services</u>	6
<u>3.4.2 Freedom of choice</u>	7
3.5 <i>Wholesale Pricing</i>	7
<u>3.5.1 Universal and non-discriminatory pricing scheme</u>	7
<u>3.5.2 Benefits adjustment for affiliated and non-affiliated MVNO</u>	8
3.6 <i>Benefits of the ONH</i>	9
<u>3.6.1 Benefits to MVNO</u>	9
<u>3.6.2 Benefits to MNO</u>	9
<u>3.6.3 Benefits to 3G consumers and to society</u>	10
3.7 <i>Regulatory Requirements for the ONH</i>	10
<u>3.7.1 MVNO Commitments</u>	10
<u>3.7.2 Fair Treatment to MVNO</u>	10
<u>3.7.3 MVNO Network Code</u>	10
<u>3.7.4 Inter-MVNO Operability in the 3G and 2G Environment</u>	11
<u>3.7.5 Numbering Requirement</u>	11
4. Conclusion	11

1. Introduction and Background

MC.Founder Ltd. (MCF) responded to TA when the first 3G licensing consultation paper was issued on March 21, 2000. We are pleased that the TA had incorporated some of our views and concerns into the analysis of comments and preliminary conclusions in the second consultation paper. As such, MCF would like to express again our opinions herewith in response to TA's second consultation paper. This response paper manifests our macro view on the 3G licensing approach corresponding to sections **2.1, 2.2, 2.3, 2.4, 4.2, 4.4, 4.5, 4.6, 4.7, and 4.8** as indexed in the second consultation paper. MCF holds a neutral position to the TA's proposal detailed in all other indexed paragraphs not mentioned in this response paper.

In our previous response to the first consultation, MCF has expressed our concerns on the issue of the separation of service provision from network operation. After a thorough analysis on TA's proposed approach to operator selection arrangement in Part II of the second consultation paper, we would like to propose the "**Open Network Hierarchy (ONH)**" as the effective mode of operation. Details of the proposal are elaborated as below.

2. MCF viewpoints on MVNO

2.1 Values of MVNO to the Market

MCF believes that the introduction of MVNO to the 3G environment can create more benefits to all parties concerned. These benefits are outlined in subsections 2.1.1 to 2.1.3.

2.1.1 Benefit to 3G MNO

- **Diversification of risks and steady revenue**

MVNOs can diversify business risk of carriers because through capacity wholesale, 3G MNO can enjoy a more predictable and consistent revenue in lump sum. Thus, MVNO can readily relieve the concern of high auction cost being transferred to investment risk as mentioned in **2.2.8** of the consultation paper.

- **Alternative to 3G business for 2G MNO**

As mentioned in **2.3.11** of the consultation paper, MVNO provide an alternative for existing 2G MNOs losing out in the 3G license bid to continue participating in the new environment by easily transforming themselves into the role of service providers.

- **More focused development in a cost-effective manner**

As a form of outsourcing 3G services to MVNO, 3G MNOs are able to streamline on their core competencies and that is, network infrastructure rollout and maintaining a high standard of quality carrier service. This is comparably much cost-efficient than diverting a carrier's attention to the 3G end-consumer market. In other words, MVNOs consolidate multi-revenue sources from consumers to 3G MNO and in the meantime creating more business opportunities for them.

- **Quicker return on investment**

3G MNOs can benefit from faster return on investment through whole selling airtime to MVNO which in turn stimulates a faster and larger scale of network infrastructure rollout. Again, in account to one of the arguments in 2.2.8 of the consultation paper that auction cost might increase risk of investment and in turn increase the financing cost, MVNO now creates capital values to 3G MNO through the pre-commitment on air-time value by MVNO.

2.1.2 Benefit to MVNO

Introducing more business opportunities to innovative but relatively small-scale companies to participate in the 3G environment.

2.1.3 Benefit to consumers and society

- **More choices and competitive price**

Consumers can enjoy a complete freedom of choice in an intensive competition amongst 3G MNOs and MVNOs. Prices for 3G services will also be driven down by market forces to become more affordable.

- **More job opportunities**

More job opportunities will be available to the telecom industry – extra

human resources will be added to the existing 2G industry where only network operators dominate the market. Furthermore, by separating network operation and service provider businesses into two entities, the telecom industry will certainly experience another boom since the deregulation of FTNS in 1995 and this can be another crucial catalyst for Hong Kong to become a leading telecom hub in Asia.

2.2 Difficulties in ensuring a fair playground for all parties concerned

- **Price manipulation**

3G MNO may easily manipulate the price of service by offering discriminatory prices to MVNO.

- **Manipulate on the Number of MVNO**

Demand for MVNO license may be a crucial factor to affect the price and quality of service being offered to general consumers.

- **Favourism to MNO's own customers**

If network operation is not separated from service provision, 3G MNO may have a chance to offer exclusive benefits to their own subscriber or subscribers of their affiliated MVNO.

- **Telephone number discrimination**

Similar to the points mentioned above, network operators may be able to reserve and allocate specific numbers for preferred customers in order to bias their choices of service providers.

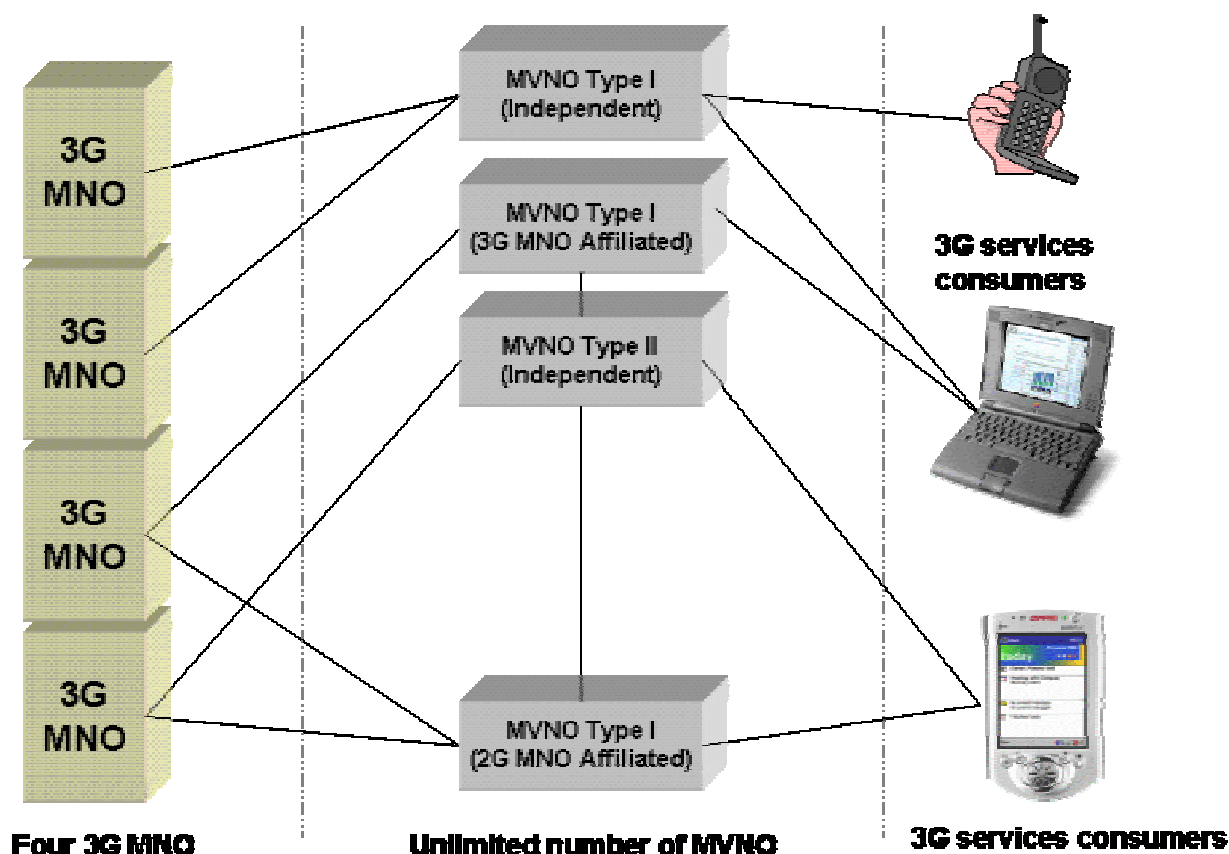
- **Technical barriers**

3G MNO unwilling to provide a technically open network platform can create significant barriers to entry and effectively reduce competition and threats from small-scale MVNO offering innovative services to consumers.

3. MCF proposed solution on MVNO – the “Open Network Hierarchy (ONH)”

3.1 Open Network Hierarchy (ONH)

MCF proposes a 100% free interconnected hierarchy for all three parties involve in the 3G services environment, i.e. carriers, service providers, and consumers. The ONH conceptualizes an ideal separation of service provision from network operation with a hierarchical structure of network operation and service provision, as illustrated in the following diagram:



3.2 Key features to the ONH

3.2.1 Types of MVNO

In the ONH concept, there will be three types of MVNO from four different categories of business background:

- Independent companies (Type I or Type II)
- 3G MNO affiliated companies
- 2G MNO (existing incumbent MNOs) affiliated companies

3.2.2. MVNO - Independent companies

As expected by TA in paragraph 2.3.13 of the consultation paper, MVNO may be either resellers or having and operating their own part of the mobile

network, either hardware or software or both, to provide value-added services. As such, we define Type I MVNO as owning part of the 3G infrastructure and Type II MVNO as simple airtime resellers with or without intangible value-added services or benefits consumers. Type I and II MVNOs may also cross sell their airtime to each other if there are any synergy and the deals are both commercially and technically feasible.

3.2.3. MVNO – 3G MNO affiliated companies

MCF welcomes TA's suggestion of a total of four 3G mobile network operators (3G MNO). In our proposed concept of ONH, **the four 3G MNOs must be separate business entities from mobile virtual network operators (MVNO)**. As also proposed by TA in **2.3.16**, the two entities may be affiliated companies but operate with two distinctive sets of accounting balance sheets. We recommend TA to include such requirement as mandatory when granting 3G carrier licenses to prevent and safeguard any anti-competitive from arising.

3G MNO will only play the role of a distributor to offer airtime, capacity, or frequency spectrum in bulk to MVNOs at wholesale price (details of our proposed wholesale pricing scheme will be presented at section **3.5** of this paper).

3.2.4. MVNO – 2G MNO

As mentioned by the TA in paragraph **2.3.11** of the consultation paper, incumbent 2G MNO may have a chance of losing out in the 3G license bidding process but will be allowed rooms to take part in the 3G business. As such, the ONH expects 2G affiliated companies to continue participate in 3G services as Type I MVNO with part of their existing 2G infrastructure.

3.3 Number of MVNO and Limitation on Capacity

MCF recommends that there should be unlimited number of MVNOs in the market. This can introduce effective competition in service provision to the Hong Kong 3G environment. In turn, this will benefit consumers by introducing

more innovative services with competitive pricing.

In regard to the percentage of open network requirement as mentioned by TA in paragraphs **2.3.5** to **2.3.16** of the second consultation paper, **MCF recommends the maximum percentage to be 60% for 3G MNO affiliated MVNO and the remaining 40% strictly for non-affiliated ones.** In other words, the TA will need to mandate this requirement into licensing and impose appropriate regulations to enforce the rule after licenses are granted.

The ONH proposes that the number of MVNO lining up with a particular 3G MNO should also be unlimited up to the point where carrier network quality can be maintained at a grade of service predefined by the 3G MNO when carrier license is bided and subsequently granted. In addition, during the license bidding stage, potential 3G MNOs will be required to provide traffic forecast and resale estimation. At the point of saturation with the grade of service starting to deteriorate where a particular 3G MNO cannot accept any more of MVNO, which is very unlikely in a technical sense, the carrier will be required to take remedial action to expand its network capacity to cater additional MVNO. The approach of using grade of service to determine the number of MVNO being accepted to a carrier network can effectively create incentives for the MVNO to enter the services market as early as possible. It is because latecomers may have disadvantages of being rejected by 3G MNO upon the grade of service limitation.

3.4 Regulation on MVNO

3.4.1 Availability of services

MCF would stress the point that services offered by the MVNOs must be available to consumers publicly. In other words, an MVNO should not be allowed to operate its network to provide services solely for a confined group of users, such as operating a virtual private network (VPN) for a company's internal use. MCF realizes that this may not be a practical situation in nature but would advise TA to safeguard it from happening. The rationale is to prevent organization from acquiring bulk airtime at wholesale price for private use, and consequently defeat the original purpose of having MVNO to provide innovative services to public consumers. It can also minimize manipulation of the market price by reserving massive amount of capacity.

3.4.2 Freedom of choice

- **MVNO**

In addition to our recommendation of having unlimited number of MVNOs, we would also suggest that **both Type I and Type II MVNOs may have free choices to line up with any number of 3G MNOs through commercial negotiations.** This approach is an analogy of previous ISR licensees having the choice of acquiring or sub-leasing international bandwidth simultaneously from multi-carriers. However, under the circumstance where commercial negotiation should fail, TA should involve to investigate and regulate any anti-competitive behaviour of the 3G MNOs for creating barriers to entry.

- **Consumers**

As to consumers of 3G services, everyone will have free choice in subscribing to any one or more MVNOs. In addition, **consumers should also enjoy free choices to select and access 3G networks of which their subscribed MVNOs are lining up with.** (This can be technically implemented with the multi-subscription approach to be mentioned in **section 4.3** of this paper) With this approach, consumer benefits are maximized in a way that selection from network carriers to service providers are completely transparent and free to end-consumers and therefore, effectively protect their interests to the best of their knowledge.

3.5 Wholesale Pricing

3.5.1 Universal and non-discriminatory pricing scheme

With reference again to **2.3.13** of the second consultation paper, TA has mentioned the mode of operation of service providers being in the form of “MVNO” or simple “reseller”. MCF is in the view that disregard of reselling in any forms of airtime, data capacity, or frequency spectrum, there should be an open, universal, and non-discriminatory price scheme applied by each 3G MNO to the MVNO lining up with its network, including its own affiliated companies. In other words, a price scheme with volume discount may only differ amongst 3G MNOs but different MVNOs lining up with the same 3G MNO should enjoy the same set of wholesale price based on volume, period, or value-added commitment.

Other commercial terms should also be reasonable and fair for all, disregard of the scale of an individual MVNO operation, customer base, or its company background being affiliated to the 3G MNO or commercially related in any sense. MCF proposes this non-discriminatory wholesale pricing scheme to facilitate a just and level playfield for MVNOs from different corporate backgrounds where 3G MNO cannot easily prevent non-affiliated MVNOs from entering the services market by imposing different price scheme in creating entry barriers or intentionally driving innovative players out of the game.

3.5.2 Benefits adjustment for affiliated and non-affiliated MVNO

As to TA's consideration on the choice of wholesale pricing approach, the ONH proposes no such need for benchmark. In fact, the only pricing requirement is the non-discriminatory pricing basis as mentioned from last paragraph. However, since 3G affiliated MVNO by definition are entitled to a maximum of 20% more of the network capacity than non-affiliated ones, affiliated MVNO may potentially enjoy additional benefits from MNO at maximum benefit level where non-affiliated MVNO being technically impossible to achieve. As such, there should be corrective adjustment in benefits and commitment schemes from MNO to non-affiliated MVNO. For example, non-affiliated MVNO achieving the ceiling of 40% network capacity commitment should enjoy equivalent benefits in volume pricing and period commitment as affiliated MVNO achieving the 60% ceiling in network capacity. Nor should there be any cross subsidy from the 3G MNO to affiliated companies. The MVNO pricing schemes and commercial terms of potential 3G MNO should be submitted to TA for review, together with the bidding document.

3.6 Benefits of the ONH

MCF firmly believes that our proposed ONH concept can effectively create benefits to all parties of the 3G environment as well as the telecom industry in Hong Kong. By tri-secting the 3G environment into a three-level simple hierarchy, many business and investment incentives can be created as outlined in the sections below.

3.6.1 Benefits to MVNO

The ONH is a balanced approach in maximizing incentives for the MVNOs. To put it in the simplest terms, MVNO can enjoy complete freedom in choosing to line up with any 3G MVNO. As elaborated in the previous paragraph, incumbent 2G MNO can easily transform to 3G service provider. Moreover, new entrant MVNO with independent background can also break free from being manipulated by the carriers because the ONH is virtually a free market where wholesale price is relatively fair in commensurate with commitments. MVNOs who are affiliated with 3G MNO can prove to be competitive in the level playground as long as they can provide innovative services to consumers. Equity is thus achieved and maximized in the ONH concept.

3.6.2 Benefits to MNO

TA has expressed his concern in creating investment and business incentives for 3G MNOs to deploy faster and more extensive rollout of their infrastructure. The ONH concept proposed by MCF creates benefits for 3G MNO to rollout their infrastructure in a cost effective and timely manner.

From Hong Kong's experience with the Internet environment, it is apparent that a large number of Internet Service Providers (ISP) existed in the market. In an open network environment such as the Internet, the demand for service providers will be freely adjusted by market forces. In the MVNO market, we can readily foresee a significant demand of licenses from existing Internet Content Providers (ICP), ISP, Application Service Providers (ASP), and other utility companies. In our ONH model, an unlimited supply of MVNO licenses will eventually reach saturation and consolidations become inevitable.

3.6.3 Benefits to 3G consumers and to society

In a 100% free concept of the ONH, MVNOs and 3G MNOs will compete against each other in better VAS and network, thus achieving the most favourable results to benefit customer and matching with the ultimate goal of the OFTA.

3.7 Regulatory Requirements for the ONH

MCF would like to recommend TA to incorporate some regulatory

requirement for both 3G MNOs and MVNO upon their entering into the 3G market.

3.7.1 MVNO Commitments

MVNOs must deliver service commitments to the consumers. They will be responsible to maintain and uphold the grade of service in aspects such as customer service and value-added service quality.

3.7.2 Fair Treatment to MVNO

TA would mandate, monitor, and regulate the separation of network from provision of service. TA should take proactive measures to prevent affiliated MVNO/carriers to offer discriminatory services and pricing to maintain a level playground.

3.7.3 MVNO Network Code

In order to differentiate MVNO by service and branding, MCF foresee the needs for each MVNO to be allocated a unique network code so that MVNO could be more innovative in value-added services with their own network code and held responsible for the level of service. As such, there is a technical needs from MVNO to have their own network code. For example, MVNO should be responsible to implement and maintain a high level of wireless transaction security so that a sense of trust and service differentiation will be built between the MVNOs and end-consumers.

3.7.4 Inter-MVNO Operability in the 3G and 2G Environment

Further to TA's recommendation on mandatory MNP and roaming between 2G and 3G MNOs, MCF would add that MVNO services should be interchangeable and inter-operable amongst different carrier networks. This would be the case where different users subscribing to the same MVNO but using frequency spectrums of different 3G MNOs (the ONH proposes that one MVNO can have the choice of lining up with to multi-carriers). In other words, 3G service users subscribing to the same MVNO should be able to enjoy a transparent carrier-to-carrier service irrespective of their preferences on carrier networks. Moreover, direct roaming between MVNO and existing 2G MNOs is also a mandatory requirement for MVNO subscribers to enjoy extensive geographic coverage before the 3G infrastructure comes to

maturity. As such, a requirement for Type I MVNOs to obtain their own network codes is crucial for technical implementation. This will eventually lead to a multiple subscription concept for MVNO subscribers using one physical SIM card to selectively access their preferred 3G MNO available.

3.7.5 Numbering Requirement

As to the numbering issue, MCF is in the view that TA remains the authority in centralizing the number allocation plan. We further recommend that numbers will be allocated to each MVNO in lot size of 10,000 to 30,000 numbers.

4. Conclusion

In MCF's macro view of the 3G environment, it is apparent that the introduction of MVNO would bring in value added services and create benefits for all parties involved. In order to facilitate a fair playground in the 3G environment, all parties in our proposed ONH including 3G MNOs and MVNOs should be regulated under the same set of anti-competitive rules set out by TA. Regulations are to be implemented and strictly enforced on pricing, interconnectivity and interoperability. MCF is confident that our proposed ONH can effectively facilitate fast network infrastructure rollouts by 3G MNOs, high-quality and innovative services provisioned by MVNOs, resulting in extra benefits to end consumers.

Last but not least, the issue of open network brings up another issue of the need for SMS cross-network openness in both the future 3G as well as the existing 2G environments. MCF would ask TA to constantly monitor and drive the progress of this issue which will enhance user benefits to a great extent even in the existing 2G environment. To the best of our knowledge, there should not be a significant technical barrier to implement this approach. The deferral of this inter-operability can very much reduce consumer benefits and creates hurdles for introduction of value-added services from the market. These will negatively affect HK's reputation of being the most advanced city in Asia with state-of-the-art mobile technology and the highest mobile subscription penetration rate. We urge TA to address and resolve this issue as soon as possible.

*** * * E N D * * ***