WRITTEN SUBMISSION

OF

NEW WORLD PCS LIMITED

SECOND CONSULTATION ON

DIGITAL TERRESTRIAL BROADCASTING IN HONG KONG

5 Dec 2003 ("Consultation")

1. This paper sets forth the written submission of New World PCS Limited ("NWPCS") in response to invitation of the Commerce, Industry and Technology Bureau ("CITB") of the Communications and Technology Branch, HKSAR, for comment on the Consultation.

2. First of all, we welcome the Government's intention to introduce digital terrestrial television (DTT) broadcasting into Hong Kong as soon as practicable[1]. Not only would it greatly enhance and enrich terrestrial television, but also it stimulates the growth of TV industry and its associated business sectors, such as network operators, content and program providers, as well as new interactive multimedia service providers. The DTT broadcasting will bring to the existing telecommunications, media and broadcasting industries new market opportunities.

3. Secondly, we concur with the CITB with regard to the "market-led" approach[2] on the technical standard of DTT broadcasting, where a multiplex operator would have the option to propose any technical standard, provided it can meet the criteria set forth by the Telecommunications Authority and fulfill the rollout schedule. Furthermore, we strongly support the Government's recommendation of adopting DVB-T, and in particular its enhanced mobile version DVB-H (see Paragraph 6 below), as the DTT standard for Hong Kong, given that it has been widely deployed in Europe and partly in Asia.

4. DVB-T supports one-to-many broadband wireless data transport of video, audio, data and most importantly IP packets. Coupled with its mobile reception capacity, DVB-T can form complementary networks with existing GSM/GPRS networks to offer content-rich

[1] Paragraph 9 of the Consultation
[2] Paragraph 15 of the Consultation

interactive multimedia services to mobile users. The hybrid DVB-T and GSM/GPRS networks can provide opportunity of new revenue stream to mobile operators and benefit the whole DTT broadcasting ecosystem. We envisage that there are two possible service scenarios for the hybrid networks:

(a) Services to fixed receivers (set-top boxes)

GPRS can provide a return channel for DTT networks. There is no need for new wired infrastructure in the customer's premises. Security of transaction can be exploited by existing SIM features. Customer care, billing, authentication, marketing and related services are core competence of mobile network operators and can be readily handled.

(b) Services to hand-held receivers

DVB-T can broadcast general information to a large target of subscribers, while GSM/GPRS can supplement to provide additional detailed information to individual subscribers or selected small target of subscribers.

5. Thirdly, we support the CITB proposed three player model in the multiplex licensing framework[3], namely multiplex operator, content provider and value-added service (VAS) solution provider. Similar to the MVNO[4] in the mobile network regime, VAS solution provider can rent the spare transmission service from multiplex operator to offer additional enhanced services to its own subscribers.

6. Finally, we envision that there are two enabling technology for convergence of broadcasting and mobility – DVB-H and IP Datacast.

(a) DVB-H stands for Digital Video Broadcasting – Handheld[5] and is basically an extension to older DVB-T standard. The emerging DVB-H standard uses DVB-T as the base technology and aims to provide digital TV reception in

[3] Paragraph 24 of the Consultation
[4] Mobile Virtual Network Operator
[5] Refer DVB Organization (www.dvb.org) for the standardization of DVB-H.

mobile devices. DVB-H adds to the traditional DVB-T with variants specific to handheld devices[6]: mobility, smaller screens and antennas, indoor coverage and reliance on battery power. DVB-H is compatible with DVB-T in that both components can be transported in one DVB transport stream. Existing DVB-T receivers which cannot decode the DVB-H portion are not disturbed by this DVB-H portion[7].

(b) IP Datacast[8] is a service where digital content formats, software applications, programming interfaces and multimedia services are combined through IP with digital broadcasting. All contents are delivered as IP packets, and therefore most suitable for being carried over DVB-H networks.

7. Current mobile networks (GSM/GPRS) are not scalable for mass content delivery. Broadcast networks should be preferred over point-to-point mobile networks. DVB-H combined with IP Datacast enable distribution of many kinds of digital contents such as TV broadcast, music, games, etc. They are new forms of multimedia enjoyment for consumers, offered with high bandwidth and high transmission speeds but insensitive to number of recipients. Mobile operators could participate in DVB-H network build by co-siting with their existing GSM/GPRS sites. They are attractive from business perspective, and open new market opportunities for telecommunications, broadcasting and content industries.

Submitted by
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[6] "The Nokia 7700 will support the Nokia Streamer SU-6 accessory, the first mobile IP Datacast receiver designed to demonstrate the mobile phone television experience using the DVB-H network. The Nokia Streamer can be attached to the Nokia 7700 like a battery pack, and will be used in pilot projects to showcase the future of digital broadcasting on mobile devices." (http://press.nokia.com/PR/200310/922406_5.html)

[7] In Europe, two pilot broadcasting projects are scheduled using DVB-H. One of them is a pilot-broadcasting project called "bmco" (Broadcast Mobile Convergence) in Berlin, Germany, in the spring of 2004. The other is scheduled in Helsinki, Finland, around the autumn of 2004.

[8] Refer IP Datacast Forum (www.ipdc-forum.org)