

For discussion
on 8 January 2001

Legislative Council
Panel on Information Technology and Broadcasting

Interconnection

Introduction

Competition has commenced in the operation of local fixed networks since July 1995 with four wireline-based local fixed networks licensed. In January 2000, the operator of subscription television broadcasting services was licensed to operate telecommunications services over its hybrid-fibre-coaxial cable network, forming the fifth wireline-based local fixed networks. Five wireless local fixed networks have also been licensed in the first quarter of 2000.

2. The operation of mobile networks has always been in the competitive arena since the middle of the eighties. There are now eleven networks operated by six licensees.

3. In a multi-network environment, interconnection between network is important to enable:

- (a) customers connected to one network to communicate with customers, or to have access to services, connected to another network;
- (b) customers can be reached by one network operator through the customer access network of another network operator.

4. In Hong Kong, interconnection to achieve objective (a) in the preceding paragraph is called "Type I" interconnection. Interconnection to achieve the objective (b) is called "Type II" interconnection.

5. Without interconnection, it will be extremely difficult for new entrants to compete effectively with the incumbent operator in the market. For example, without Type I interconnection, customers would be reluctant to be connected to the networks of the new entrants as the vast majority of the parties they want to

communicate with are connected to the incumbent's network. Without Type II interconnection, the new entrants will have to duplicate the customer access networks first (which may be a time consuming process or space constraints may prevent such duplication) before they can deliver their services to the customers.

Regulation on Interconnection

6. As interconnection is so important to protect consumer interest and promote effective competition, the obligation to interconnect promptly and efficiently is included in licence conditions of network operators. A number of other requirements such as implementation of number portability have been imposed as part of the obligations for interconnection.

7. The preferred arrangement is for network operators to agree among themselves the terms and conditions for interconnection on a commercial basis. However, if commercial agreement cannot be reached within a reasonable time, either party may request the Telecommunications Authority (TA) for a determination of the relevant terms and conditions.

8. Section 36A of the Telecommunications Ordinance empowers the TA to determine the terms and conditions of interconnection, including financial and technical terms and conditions. Section 36B empowers the TA to issue directions to operator to secure interconnection between networks.

9. The June 2000 amendments to the Telecommunications Ordinance have clarified and reinforced the powers of the TA in determining terms and conditions of interconnection. For example, the amended Ordinance empowers the TA to determine the terms and conditions of interconnection at any technically feasible point, to any element or part of a network and to empowers the TA to select, among a number of alternative methods, the appropriate method to calculate the charges for interconnection based on the relevant reasonable costs attributable to interconnection.

10. The principles based on which the TA is to make a determination under section 36A have been further elaborated upon in a series of Statements issued by the TA in 1995. In November 1997, one of the more important Statements on charging principles was revised after an industry consultation exercise.

11. The important principle of the TA in making determinations on interconnection is that the interconnection charges between carriers should be based on the relevant reasonable cost based on Long Run Average Incremental Costs including a reasonable cost of capital. The TA considers that such a costing standard simulates the efficient price in a competitive market and provides an economically efficient signal to the market for the “build or lease” decision.

12. The procedure for making determination is set out in a document issued by the Office of the Telecommunications Authority in October 1995.

13. In 2000, the TA conducted an industry consultation and issued a Statement on the principles for determining interconnection for broadband services. Type II interconnection to copper local loops will be extended to broadband services from 1 March 2001. OFTA is now working with the wireline-based local fixed network operators to develop the necessary code of practice and specifications for the implementation of Type II interconnection for broadband services.

14. As a determination needs to be made through a due process, the process must allow reasonable time for the parties to make submissions and to comment on the submissions made by the other side. Preliminary Analysis has to be issued by the TA for comment by the parties prior to finalizing the determination. These steps inevitably take some time, and consume the resources of the parties as well as those of OFTA. To deal with urgent cases of interconnection, appropriate measures are taken to address the urgency of the particular cases, such as directing interconnection and passing of traffic when the commercial negotiations or determination proceedings are in progress if such measures are in the public interest.

15. Very often, an informal mediation process is often adopted by OFTA to resolve interconnection-related disputes between operators rather than resorting the more formal process of determination under section 36A.

Determinations Made and in Progress

16. A list of the determinations which have been completed by OFTA since July 1995 is given in Annex 1 and a list of determination currently in progress is given in Annex 2.

17. Many types of problems have been, or are being resolved, either through

formal determination or informal mediation process. Some examples are given below:

- (a) Parties fail to agree on the capacity required for interconnection, and the delivery dates for the capacity required, and the cost recovery mechanism for the capacity;
- (b) Parties seeking Type II interconnection cannot agree with the operator owning the customer access network on the space requirement for co-location, the turnaround time for effecting interconnection;
- (c) Parties cannot agree on the charges for interconnection and the associated services, such as services to port numbers (to achieve number portability);
- (d) Parties fail to agree on the prices for the supply of trunk facilities.

Office of the Telecommunications Authority

4 January 2001

**Determinations Already Made by Telecommunications Authority under Section
36A of the Telecommunications Ordinance**

Date	Parties	Subject Matter
9 Aug 1995	Wharf Cable Limited and Wo Kee Hong Limited	Interconnection between subscription television network and Satellite Master Antenna Television (SMATV) system
29 Sept 1995	Hong Kong Telecom International and local network operators	Delivery fee for interconnection between international gateway and local fixed and mobile networks
16 Feb 1996	Wharf Cable Limited and Global Satellite TV Limited	Interconnection between subscription television network and Satellite Master Antenna Television (SMATV) systems
13 June 1996	Wharf Cable Limited and Global Satellite TV Limited	Interconnection between subscription television network and Satellite Master Antenna Television (SMATV) systems
26 Nov 1997	Wharf Cable Limited and Global Satellite TV Limited	Interconnection between subscription television network and Satellite Master Antenna Television (SMATV) systems
24 April 1998	Yieldhost and Public Mobile Radiotelephone Service Operators	Interconnection between mobile networks and integrated radio system at Hong Kong Convention and Exhibition Centre
21 Aug 1998	Hong Kong Telephone Company Limited and New T & T Hong Kong Limited	Terms and conditions for Type I interconnection between fixed networks
7 Oct 1998	Hong Kong Telecom International and local network operators	Delivery fee arrangement for interconnection between international gateway and local fixed and mobile networks
30 Dec 1998	Hong Kong Telecom International and local network operators	Implementation of local access fees and modified delivery fee arrangements
19 Apr 1999 (settled by mediation)	Hong Kong Telephone Company Limited and New World Telephone Limited	Charges for Type II interconnection between local fixed network operators
19 Aug 1999	Hong Kong Telecom International and local network operators	Revised gateway prices and delivery fees for Category B routes

10 Dec 1999	Cable & Wireless HKT Telephone Limited and New World Telephone Limited	Interconnection charges to be paid by fixed network operator providing the service chosen by the payphone users and to be received by the fixed network operator operating the payphone
12 July 2000	Rediffusion Satellite Services Limited and Hutchvision Hong Kong Limited	Interconnection between services under satellite television uplink and downlink licence and Satellite Master Antenna Television (SMATV) systems

**Determination Proceedings in Progress by Telecommunications Authority under
Section 36A of the Telecommunications Ordinance (January 2001)**

Parties	Subject Matter
Two local wireline fixed network operators	Terms and conditions for the supply of Point of Interconnection capacity for Type I interconnection between networks
Two local wireline fixed network operators	Level of charges between operators for the implementation of Operators Number Portability for Non-level 2 numbers
Two local wireline fixed network operators	Level of charges between operators for the implementation of Operators Number Portability for Level 2 numbers