



COMMUNICATIONS AND MULTIMEDIA ACT 1998

VARIATION TO COMMISSION DETERMINATION ON ACCESS LIST (DETERMINATION NO. 1 OF 2005)

DETERMINATION NO. 1 OF 2009

In exercise of the powers conferred by sections 55, 56 and 146 of the Communications and Multimedia Act 1998 [Act 588], the Commission hereby determines as follows:

Citation and commencement

1. (1) This Determination may be cited as the **Variation to Commission Determination on Access List (Determination No. 1 of 2005), Determination No. 1 of 2009.**

(2) Subject to paragraph 6, this Determination shall come into force on 2 February 2009.

Variation of paragraph 2

2. The Commission Determination on Access List, Determination No. 1 of 2005 ("the principal Determination") is varied at paragraph 2 as follows:

(a) by substituting for the definition of "Call Communications" the following definition:

‘ "Call Communications" means communications involving (in whole or in part) a number or IP address used in the operation of each Operator's network including Message Communications;’;

(b) by inserting after the definition of "Call Communications" the following definition:

‘ "Common Antenna System" means a system of Facilities comprising antennas and cabling to the antennas inside a building, which is owned or operated by one or more Mobile Network Operators in association with in-building coverage;’;

(c) by deleting the definition of "Centrex services";

- (d) by inserting after the definition of "Communications Wire" the following definition:
- ‘ “Contention Ratio” means the notional bit rate expressed as a proportion of the per user bit rate;’;
- (e) by substituting for the definition of "Customer Access Module" the following definition:
- ‘ “Customer Access Module” means a device that provides a connection (including ring tone and ring current) to customer equipment. Examples include a customer line module of a local switch, remote terminals of a digital line carrier system, a digital subscriber line access multiplexer, a node in a fibre to the node network, and an optical line terminating equipment in a fibre to the premises network;’;
- (f) by inserting after the definition of "Fixed Network" the following definitions:
- ‘ “High-Speed Broadband Network” means an IP-based network capable of providing services of at least 10 Mbps. For the avoidance of doubt, High-Speed Broadband Network in this Determination includes but is not limited to the “high-speed broadband network” specified in the Ministerial Direction on High-Speed Broadband and Access List, Direction No. 1 of 2008;’;
- (g) by substituting for the definition of "IP" or "Internet Protocols" the following definitions:
- ‘ “IP” or “Internet Protocols” means network-layer (Layer 2) protocol, as defined by the Internet Engineering Task Force, that contains addressing information and some control information that enables packets to be routed;’;
- (h) by inserting after the definition of "IP" or "Internet Protocols" the following definitions:
- ‘ “Jitter” means the difference between the actual Latency of a packet and a reference Latency for a packet population of interest. The reference Latency of a population of packets is the minimum Latency for the packets within the population of interest. Jitter is a statistical sample, measured over a packet population of interest;
- “Latency” means the one-way time interval between the moment the first bit of a IP packet crosses an entry point of a network and the moment the last bit of the same packet crosses an exit point of the network (dimensioned in time);’;
- (i) by inserting after the definition of "Mobile Network" the following definition:
- ‘ “MyIX” means the Malaysia Internet Exchange;’;

- (j) by substituting for the definition of “Mobile Virtual Network Operator” the following definition:

‘ “Mobile Virtual Network Operator” means an Operator that is not a holder of a spectrum assignment or an apparatus assignment under Chapter 1 of Part VII the Act but is capable of providing public cellular services to end users;’;
- (k) by inserting after the definition of “Operator” the following definition:

‘ “Packet Loss” means the ratio of total lost IP packets to total transmitted packets in a population of interest. Total lost packets includes any delivered with errors or Latency greater than 3 seconds;’;
- (l) by substituting for the definition of “POI” or “Point of Interconnection” the following definition:

‘ “POI” or “Point of Interconnection” means any technically feasible point which demarcates the network of an Access Provider and the network of an Access Seeker (collectively referred to as the ‘Interconnecting Networks’) and is the point at which communication is transferred between the Interconnecting Networks. An example of a POI is MyIX;’; and
- (m) by inserting after the definition of “PSTN” or “Public Switched Telephone Network” the following definition:

‘ “QoS Class” means a set of quality of service parameters (defined in terms of Latency, Jitter and Packet Loss) associated with Layer 2 connectivity;’.

Variation of paragraph 5

3. The principal Determination is varied by substituting for paragraph 5 the following paragraph:

- “5. (1) Unless otherwise determined by the Commission,
- (i) paragraphs 6(7), 6(8), 6(13)(i) and 6(22) shall be in force until 30 June 2010; and
 - (ii) paragraphs 6(10) and 6(21) shall be in force until 1 January 2011.
- (2) Paragraphs 6(16), 6(17) and 6(19) shall have application except where subject to deferment by the Ministerial Direction on High-Speed Broadband and Access List, Direction No. 1 of 2008.
- (3) Paragraphs 6(18) and 6(20) shall have application except in respect of premises to which High-Speed Broadband Network is connected.”.

Variation of paragraph 6

4. The principal Determination is varied at paragraph 6 as follows:

(a) by substituting for paragraph (1) the following paragraph:

“(1) Fixed Network Origination Service

(a) A Fixed Network Origination Service is an Interconnection Service provided by means of a Fixed Network for the carriage of Call Communications from an ‘A’ party to a POI. The Fixed Network Origination Service comprises transmission and switching (whether packet or circuit) for Fixed Network-to-Fixed Network, Fixed Network-to-Mobile Network and Fixed Network-to-international outgoing calls insofar as they relate to freephone 1800 number services, toll free 1300 number services, and other similar services which require Any-to-Any Connectivity.

(b) The functionalities of the Fixed Network Origination Service include:

- (i) transmission and switching (whether packet or circuit); and
- (ii) the signalling required to support the Interconnection Service.

(c) Examples of technologies used in the provision of the Fixed Network Origination Service include PSTN, Integrated Services Digital Network (ISDN) and other IP based networks.”;

(b) by deleting paragraph (2);

(c) by substituting for paragraph (3) the following paragraph:

“(3) Fixed Network Termination Service

(a) A Fixed Network Termination Service is an Interconnection Service provided by means of a Fixed Network for the carriage of Call Communications from a POI to a ‘B’ party. The Fixed Network Termination Service comprises transmission and switching (whether packet or circuit) for Fixed Network-to-Fixed Network, Mobile Network-to-Fixed Network and incoming international-to-Fixed Network calls and messages which require Any-to-Any Connectivity.

(b) The functionalities of the Fixed Network Termination Service include:

- (i) transmission and switching (whether packet or circuit); and
- (ii) the signalling required to support the Interconnection Service.

(c) Examples of technologies used in the provision of the Fixed Network Termination Service include PSTN, Integrated Services Digital Network (ISDN) and other IP based networks.”;

- (d) by substituting for paragraph (4) the following paragraph:

“(4) Mobile Network Origination Service

(a) A Mobile Network Origination Service is an Interconnection Service for the carriage of Call Communications from a ‘A’ party to a POI. The Mobile Network Origination Service supports Mobile Network-to-Mobile Network, Mobile Network-to-Fixed Network and Mobile Network-to-international outgoing calls insofar as they relate to freephone 1800 number services, toll free 1300 number services, and other similar services which require Any-to-Any Connectivity.

(b) The functionalities of the Mobile Network Origination Service include:

- (i) transmission and switching (whether packet or circuit); and
- (ii) the signalling required to support the Interconnection Service.

(c) Examples of technologies used in the Mobile Network Origination Service would be:

- (i) Global System for Mobile Communications (GSM);
- (ii) International Mobile Telecommunications 2000 (IMT-2000); and
- (iii) Worldwide Interoperability for Microwave Access (WiMAX).”;

- (e) by substituting for paragraph (5) the following paragraph:

“(5) Mobile Network Termination Service

(a) A Mobile Network Termination Service is an Interconnection Service for the carriage of Call Communications from a POI to a ‘B’ party. The Mobile Network Termination Service supports Mobile Network-to-Mobile Network, Fixed Network-to-Mobile Network, incoming international-to-Mobile Network calls and messages which require Any-to-Any Connectivity.

(b) The functionalities of the Mobile Network Termination Service include:

- (i) transmission and switching (whether packet or circuit); and
- (ii) the signalling required to support the Interconnection Service.

(c) Examples of technologies used in the Mobile Network Termination Service would be:

- (i) Global System for Mobile Communications (GSM);
- (ii) International Mobile Telecommunications 2000 (IMT-2000); and

- (iii) Worldwide Interoperability for Microwave Access (WiMAX).”;

(f) by substituting for paragraph (6) the following paragraph:

“(6) Interconnect Link Service

An Interconnect Link Service is a Facility and/or Service which enables:

- (i) the physical connection between the network of an Access Provider and the network of an Access Seeker for the purpose of providing an Interconnection Service; and
- (ii) the interconnection of the Signalling System Number Seven (SS7) network of an Access Provider to the SS7 network of an Access Seeker at the signal transfer points.”;

(g) by inserting after paragraph (7) the following paragraph:

“(7A) Wholesale Local Leased Circuit Service

(a) A Wholesale Local Leased Circuit Service is an Interconnection Service for the carriage of communications by way of a private circuit between a POI and an end user, available only at one end of a private circuit. The Wholesale Local Leased Circuit Service comprises transmission and switching (whether packet or circuit) at such transmission rates as may be agreed between the Access Provider and the Access Seeker on a permanent or virtual basis.

(b) The functionalities of the Wholesale Local Leased Circuit Service include:

- (i) transmission and switching (whether packet or circuit);
- (ii) the signalling required to support the Interconnection Service; and
- (iii) a digital protocol (including Internet Protocols).

(c) An example of a technology used in the Wholesale Local Leased Circuit Service would be Integrated Services Digital Network (ISDN) and IP based networks.

(d) An end user includes a wholesale or retail customer and includes an Operator and the final recipient of the service.

(e) For the avoidance of doubt, the Wholesale Local Leased Circuit Service comprises but is not limited to the Facilities and/or Services specified in paragraph 6(7).”;

(h) by deleting paragraph (9);

(i) by deleting paragraph (11);

- (j) by substituting for paragraph (12) the following paragraph:

“(12) Infrastructure Sharing

(a) Infrastructure Sharing is a Facility and/or Service which comprises the following:

- (i) provision of physical access, which refers to the provision of space at specified network facilities to enable an Access Seeker to install and maintain its own equipment; or
- (ii) provision of access to in-building Common Antenna Systems and physical access to central equipment room.

(b) Specified network facilities include towers and associated tower sites.

(c) Physical access includes power, environmental services (such as heat, light, ventilation and air-conditioning), security, site maintenance and access for the personnel of the Access Seeker.”;

- (k) by substituting for paragraph (13) the following paragraph:

“(13) Domestic Connectivity to International Services

Domestic Connectivity to International Services is a Facility and/or Service which comprises, each individually:

- (i) a backhaul transmission service between a network transmission point and a submarine cable landing centre or an earth station;
- (ii) connection services to the submarine cable system.”;

- (l) by substituting for paragraph (14) the following paragraph:

“(14) Network Co-Location Service

(a) The Network Co-Location Service is a Facility and/or Service which comprises:

- (i) physical co-location, which refers to the provision of space at an Access Provider's premises to enable the Access Seeker to install and maintain equipment necessary for the provision of the Access Seeker's services through the Facilities and/or Services of any Operator. Physical co-location includes physical space, power, environmental services (such as heat, light, ventilation and air-conditioning), security, site maintenance and access for the personnel of the Access Seeker;
- (ii) virtual co-location, which refers to the provision of facilities or services at an Access Provider's premises to enable the acquisition by the Access Seeker of Facilities and Services on the Access List, where

equipment is owned and maintained by the Access Provider; or

- (iii) in-span interconnection, which is the provision of a POI at an agreed point on a physical cable linking an Access Provider's network facilities to an Access Seeker's network facilities.

(b) Network premises at which co-location is to be provided includes switching sites, submarine cable landing centres, earth stations, exchange buildings, other Customer Access Modules (including roadside cabinets) and such other network facilities locations associated with the provision of a Facility or Service on the Access List, and includes co-location provided at any location where main distribution frame is housed.”;

- (m) by deleting paragraph (15);

- (n) by inserting after paragraph (23) the following paragraphs:

“(24) Wholesale Line Rental Service

The Wholesale Line Rental Service is a Service which allows an Access Seeker's Customer to connect to an Access Provider's Public Switched Telephone Network, and provides the Access Seeker's Customer with an ability to make and receive Call Communications.

(25) HSBB Network Service with QoS

(a) The HSBB Network Service with QoS is an access and transmission Facility and/or Service for the provision of Layer 2 connectivity for the carriage of certain communications (being data in digital form and conforming to Internet Protocols) between customer equipment at a Customer's premises and a POI at the Access Seeker's premises, where in respect of the service:

- (i) the customer equipment is directly connected to an Access Provider's High-Speed Broadband Network;
- (ii) the Access Seeker selects the bit rate;
- (iii) the Access Seeker selects the QoS Class;
- (iv) the Access Seeker selects the Contention Ratio; and
- (v) the Access Seeker assigns the Customer with an IP address.

(b) The HSBB Network Service with QoS includes shared splitting services, interfaces to operational support systems and network information. Nothing in this service description is intended to limit the number of concurrent HSBB Network Services with QoS acquired by an Access Seeker from an Access Provider associated with a single Customer. Further, an Access Seeker may acquire HSBB Network Service without QoS from an Access Provider associated with a Customer for which the Access Seeker is acquiring HSBB Network Services with QoS.

(c) The HSBB Network Service with QoS shall be supplied to the Access Seeker as follows:

- (i) at pre-defined speeds which are capable of providing the bit rates specified below, as selected by the Access Seeker:

Bit rate		Note and example applications
Downstream	Upstream	
Unconstrained	Unconstrained	Access Provider does not constrain the speed of the service itself but would provide a “raw” network service which the Access Seeker rate shapes (that is, determines the speed). This option is only available with QoS Class 5.
135 kbps	135 kbps	VoIP service
1 Mbps	256 kbps	Entry level broadband access service
6 Mbps	1 Mbps	Mid level broadband access service
10 Mbps	1 Mbps	Full high speed broadband access service

- (ii) in accordance with the following classes (each a “QoS Class”), as selected by the Access Seeker:

QoS Class	Latency	Jitter	Packet Loss	Notes and example applications
0	≤ 100 ms	≤ 50 ms	$\leq 10^{-3}$	Real-time, jitter sensitive, high interaction – VoIP
1	≤ 400 ms	≤ 50 ms	≤ 10	Real-time, jitter sensitive, interactive – IPTV
2	≤ 100 ms	-	≤ 10	Transaction data, highly interactive – signalling
3	≤ 400 ms	-	≤ 10	Transaction data, interactive – business data
4	≤ 1 s	-	≤ 10	Low loss only (short transactions, bulk data) – video streaming
5	-	-	-	Best efforts – traditional applications of default IP networks

- (iii) at the following contention ratios which correspond to the QoS Class selected by the Access Seeker in paragraph (ii):

Contention Ratio		Available with QoS Class
Downstream	Upstream	
1:1	1:1	0, 1, 2
1:1	10:1	1
10:1	10:1	3, 4
20:1	20:1	3, 4, 5

(26) HSBB Network Service without QoS

The HSBB Network Service without QoS is an access Facility and/or Service (including transmission only to the POI) for the provision of Layer 2 connectivity for the carriage of certain communications (being data in digital form and conforming to Internet Protocols) on a best efforts basis and delivered over the High-Speed Broadband Network with a pre-defined Contention Ratio and delivered to a POI which is co-located with an aggregation router or other aggregation device, and where the bit rate is controlled by the Access Seeker.

(27) Transmission Service

(a) Transmission Service is a Facility and/or Service for the carriage of communications between any two technically feasible network transmission points (not being Customer transmission points) via network interfaces at such transmission rates as may be agreed between the Access Provider and the Access Seeker on a permanent or virtual basis.

(b) Network interfaces may use any technology as may be agreed between the Access Provider and the Access Seeker.

(c) The functionalities of the Transmission Service include:

- (i) transmission and switching (whether packet or circuit);
- (ii) the signalling required to support the technology or to provide a service;
- (iii) termination at either end by a port, router, network termination unit, switch, submarine cable landing centre or earth station;
- (iv) a digital protocol (including Internet Protocols).

(d) A technically feasible network transmission point in paragraph (a) includes submarine cable and satellite link between Sabah and Sarawak and Peninsular Malaysia, submarine cable landing centre and an earth station.

(e) The Transmission Service may be for the carriage of communications which comprise of content applications service.

(f) An Access Seeker for the Transmission Service includes (but is not limited to) a network facilities provider or network service provider which is only authorised to provide limited (e.g. in the last mile) network facilities or network services, but wishes to acquire the Transmission Service in order to connect its limited network facilities or network services.

(g) For the avoidance of doubt, the Transmission Service comprises but is not limited to the Facilities and/or Services specified in paragraphs 6(8), 6(13)(i) and/or paragraph 6(22).".

Other provisions of principal Determination intact

5. Save for the variations expressly provided in this Determination, all other provisions as contained in the principal Determination shall remain unchanged and continue in full force and effect.

Transitional and Savings

6. Notwithstanding this Determination, all provisions as contained in the principal Determination shall remain in force for the purpose of and application to access agreements registered with the Commission prior to 2 February 2009.

Made: 5 January 2009



DATUK DR. HALIM BIN SHAFIE

Chairman

Malaysian Communications and Multimedia Commission