



**Suruhanjaya Komunikasi dan Multimedia Malaysia**  
Malaysian Communications and Multimedia Commission

## **COMMUNICATIONS AND MULTIMEDIA ACT 1998**

### **COMMISSION DETERMINATION ON ACCESS LIST**

#### **DETERMINATION NO. 2 OF 2015**

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

#### **Citation and commencement**

1. This Determination may be cited as the **Commission Determination on Access List, Determination No. 2 of 2015**.
2. This Determination shall come into operation on 1 September 2015.

#### **Interpretation**

3. For the purpose of this Determination, unless the context otherwise requires,
  - (i) any term used in this Determination shall have the same meaning as in the Act or the regulations made under it;
  - (ii) words in the singular include plural and vice versa; and
  - (iii) the following terms used in this Determination shall have the stated meaning:

“Access Provider” means a network facilities provider who owns or provides Facilities and/or a network service provider who provides Services, listed in this Determination, and who is a licensee as defined in the Act;

“Access Seeker” means a network facilities provider, a network service provider, an applications service provider, or a content applications service provider who is a licensee as defined in the Act and who makes a written request for access to Facilities or Services, listed in this Determination;

“Any-to-Any Connectivity” means a connection which is achieved when an End User is able to communicate with another End User, whether or not the End Users are connected to the same network;

“Associated Tower Sites” means land owned, leased or tenanted by an Operator surrounding or on which the tower is situated, including necessary right-of-way and permission to dig;

“ ‘A’ party” means, in the context of communications between End Users, the End User from whom the communication originates;

“ ‘B’ party” means, in the context of communications between End Users, the End User to whom the communication terminates;

“Call Communications” means communications in whole or in part involving a number or IP address used in the operation of each Operator’s network including Message Communications;

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

“Communications Wire” means a copper or aluminium based wire forming part of a Public Switched Telephone Network;

“Contention Ratio” means the notional bit rate expressed as a proportion of the per user bit rate;

“Customer” means, in relation to an Operator, a person having a contractual relationship with that Operator for the provision of communications by means of that Operator’s Facilities and/or Services;

“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;

“End User” means a consumer and final recipient of the service, and includes an ultimate retail Customer of an Operator;

“Facilities” means network facilities and/or other facilities which facilitate the provision of network services or applications services, including content applications services;

“Fixed Network” means network facilities and/or network services comprising the Public Switched Telephone Network and/or networks based on Internet Protocols for the provision of communications by guided electromagnetic energy or by point-to-point unguided electromagnetic energy;



“HSBB Network” or “High-Speed Broadband Network” means an IP-based network capable of providing services of at least 10 Mbps. For the avoidance of doubt, “HSBB Network” or “High-Speed Broadband Network” which includes but not limited to:

- (a) the High-Speed Broadband Network, Phase 1;
- (b) the High-Speed Broadband Network, Phase 2; and
- (c) the Sub Urban Broadband Network;

“Interconnecting Networks” means interconnection of the network of an Access Provider and the network of an Access Seeker;

“Interconnection Service” means Facilities or Services including the physical connection between separate networks, to facilitate Any-to-Any Connectivity provided by an Access Provider to an Access Seeker which involves or facilitates the carriage of communications between an End User connected to the network of the Access Provider and a Point of Interconnection;

“Intermediate Point” means any technically feasible point between the network side of the Network Boundary and a Point of Interconnection;

“IP” or “Internet Protocols” means network-layer which is 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;

“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;

“Lead-In Duct” means a duct which extends from an End User location to the first manhole associated with such a duct;

“Mainline Duct” means each duct or series of ducts, which extend(s) from one or more Lead-In Duct(s) to the closest exchange building associated with the duct(s);

“Message Communications” means communications that provide only text with or without associated images, audio clips and video clips. Examples of Message Communications include Short Message Service and Multimedia Message Service and any other technology which is currently available or which may be developed in future that involves the carriage of text communications with or without associated images, audio clips and video clips;

“Mobile Network” means network facilities and/or network services comprising the public cellular mobile network and/or the public mobile radio network, for the provision of communications;

“MyIX” means the Malaysia Internet Exchange;

“MVNO” or “Mobile Virtual Network Operator” means an Operator that is not a holder of a relevant spectrum assignment or an apparatus assignment under Chapter 1 of Part VII of the Act, but is capable of providing public cellular services to End Users;

“Network Boundary” has the meaning given to that term in section 128 of the Act;

“Operator” means:

- (a) a network facilities provider;
- (b) a network service provider;
- (c) an applications service provider; or
- (d) a content applications service provider,

who is, an Access Provider or an Access Seeker;

“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;

“POI” or “Point of Interconnection” means any technically feasible point which demarcates the Interconnecting Networks, and is the point at which communication is transferred between the Interconnecting Networks, such as MyIX;

“POP” or “Point of Presence” means a point at which an Access Seeker has established itself for the purpose of obtaining access to Facilities and/or Services;

“PSTN” or “Public Switched Telephone Network” means a telephone network accessible by the public providing circuit switching and transmission facilities utilising analogue and/or digital technologies;

“QoS Class” or “Quality of Service Class” means a set of quality of service parameters as defined above as Latency, Jitter and Packet Loss, that are associated with Layer 2 connectivity;

“Services” means network services and/or other services which facilitate the provision of network services or applications services, including content applications services;

“Transport Stream” means a packet based method of multiplexing one or more digital video and audio streams having one or more independent time bases into a single stream; and

“Unconditioned Communications Wire” means Communications Wire which is not conditioned for voice services only, for example by means of loading coils, taps, bridges or pair gain systems.

## **Access List**

### **4. (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.

Examples of technologies used in the provision of the Fixed Network Origination Service include PSTN, Integrated Services Digital Network ("ISDN"), other IP based networks and any other fixed network technology which is currently available or which may be developed in future that involves the carriage of Call Communications.

(2) 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.

Examples of technologies used in the provision of the Fixed Network Termination Service include PSTN, Integrated Services Digital Network ("ISDN"), other IP based networks and any other fixed network technology which is currently available or which may be developed in future that involves the carriage of Call Communications.

(3) Mobile Network Origination Service

(a) A Mobile Network Origination Service is an Interconnection Service for the carriage of Call Communications from an '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.

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" or "3G");
- (iii) Worldwide Interoperability for Microwave Access ("WiMAX");
- (iv) Long-Term Evolution ("LTE");
- (v) International Mobile Telecommunications – Advanced ("IMT-Advanced" or "LTE-Advanced"); and
- (vi) any other mobile technology which is currently available or which may be developed in future that involves the carriage of Call Communications.

(4) 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.

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" or "3G");
- (iii) Worldwide Interoperability for Microwave Access ("WiMAX");
- (iv) Long-Term Evolution ("LTE");
- (v) International Mobile Telecommunications – Advanced ("IMT-Advanced" or "LTE-Advanced"); and
- (vi) any other mobile technology which is currently available or which may be developed in future that involves the carriage of Call Communications.

(5) 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.



(6) Wholesale Local Leased Circuit Service

(a) A Wholesale Local Leased Circuit Service is a Facility and/or Service for the carriage of communications by way of a private circuit between a POI at the Access Provider's premises and an End User location or an Access Seeker Point of Presence, 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 Interconnect Link Service or onward transmission via a Trunk Transmission Service provided by the same Access Provider; and
- (iii) a digital protocol including Internet Protocols.

Examples of technologies used in the Wholesale Local Leased Circuit Service would be Integrated Services Digital Network ("ISDN"), IP based networks and Ethernet interfaces.

(7) 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.

(d) Provision of space at Associated Tower Sites includes space where the Access Seeker may place its cabin or outdoor equipment and space required for cable gantry connecting to the tower and generator set.

(8) Domestic Connectivity to International Services

Domestic Connectivity to International Services is a Facility and/or Service which comprises physical connection services at the Access Provider's submarine cable landing station, between the Access Seeker's equipment and any submarine cable system to which the Access Seeker has informed the Access Provider that it has a right to connect.

(9) 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 in 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 in the Access List, and includes co-location provided at any location where main distribution frame is housed.

(10) Full Access Service

(a) The Full Access Service is a Facility and/or Service for the use of Unconditioned Communications Wire between the Network Boundary at an End User's premises and a point on a network that is a potential POI located at, or associated with, a Customer Access Module and located on the End User side of the Customer Access Module.

(b) The Full Access Service includes the use of optical fibre cable and associated transmission services between an Intermediate Point and the POI, associated tie cable services, shared splitting services, interfaces to operational support systems and network information.

(11) Line Sharing Service

(a) The Line Sharing Service is a Facility and/or Service for the use of the non-voiceband frequency spectrum of Unconditioned Communications Wire, over which wire an underlying voiceband PSTN service is operating, between the Network Boundary at an End User's premises and a point on a network that is a potential POI located at, or associated with, a Customer Access Module and located on the End User side of the Customer Access Module.



(b) The Line Sharing Service includes the use of optical fibre cable and associated transmission services between an Intermediate Point and the POI, associated tie cable services, shared splitting services, interfaces to operational support systems and network information.

(12) Bitstream with Network Service

(a) The Bitstream with Network Service is a 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 an End User's premises and a POI at the Access Seeker's premises, where:

- (i) the Customer's equipment is directly connected to an Access Provider's network; and
- (ii) the Access Seeker, but not the Access Provider, assigns the Customer with an IP address.

(b) Bitstream with Network Service includes shared splitting services, interfaces to operational support systems and network information.

(13) Bitstream without Network Service

(a) The Bitstream without Network Service is a 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 an End User's premises and a POI at the Access Provider's premises, where:

- (i) the Customer's equipment is directly connected to an Access Provider's network; and
- (ii) the Access Seeker, but not the Access Provider, assigns the Customer with an IP address.

(b) Bitstream without Network Service includes shared splitting services, interfaces to operational support systems and network information.

(14) Sub-loop Service

(a) The Sub-loop Service is a Facility and/or Service for the use of Unconditioned Communications Wire between the Network Boundary at an End User's premises and a point on a network that is a potential POI located at, or associated with, a Customer Access Module and located on the End User side of the Customer Access Module. For Sub-loop Service, the Customer Access Module is housed in a roadside cabinet.

(b) The Sub-loop Service includes the use of optical fibre cable and associated transmission services between an Intermediate Point and the POI, associated tie cable services, shared splitting services, interfaces to operational support systems and network information.

(15) Digital Subscriber Line Resale Service

(a) The Digital Subscriber Line Resale Service is a Service for the provision of connectivity for the carriage of certain communications, being data in digital form and conforming to Internet Protocols, to customer equipment insofar as it relates to IP addresses directly and indirectly connected to the Access Provider's network. The Digital Subscriber Line Resale Service uses digital subscriber line technology for carriage over the Communications Wire between the Network Boundary at an End User's premises and the Customer Access Module of the Access Provider's network.

(b) The Digital Subscriber Line Resale Service is limited to the wholesale provision of the digital subscriber line service ordinarily provided by the Access Provider to End Users.

(16) Digital Terrestrial Broadcasting Multiplexing Service

The Digital Terrestrial Broadcasting Multiplexing Service is a Facility and/or Service for the combining of multiple content applications service Transport Streams into a single Transport Stream with or without the addition of conditional access information.

(17) 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.

(18) Layer 2 HSBB Network Service with Quality of Service ("QoS")

(a) The Layer 2 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 an End User'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; and
- (iv) the Access Seeker assigns the Customer with an IP address.

(b) The Layer 2 HSBB Network Service with QoS includes shared splitting services, interfaces to operational support systems and network information.

(c) Nothing in this service description is intended to limit:

- (i) the number of concurrent Layer 2 HSBB Network Services with QoS acquired by an Access Seeker from an Access Provider associated with a single Customer;



- (ii) concurrent acquisition of Layer 2 HSBB Network Service with QoS and other HSBB Network Services by an Access Seeker from an Access Provider associated with a single Customer; or
- (iii) the number of HSBB Network Services that may be acquired by a single Access Seeker, either in a single location or at multiple locations (or permit an Access Provider to require an Access Seeker to acquire any minimum or maximum number of HSBB Network Services, either in a single location or at multiple locations), as a condition of an Access Provider supplying the Layer 2 HSBB Network Service with QoS.

(d) The Layer 2 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 an unconstrained network service which the Access Seeker rate shapes, i.e. determines the speed. This option is only available with QoS Class 5.
32 kbps	32 kbps	Voice over Internet Protocol ("VoIP") service
64 kbps	64 kbps	
135 kbps	135 kbps	
1 Mbps	256 kbps	Residential and Entry level Business broadband services
1 Mbps	1 Mbps	
6 Mbps	1 Mbps	
6 Mbps	6 Mbps	
10 Mbps	5 Mbps	
10 Mbps	10 Mbps	
20 Mbps	5 Mbps	
20 Mbps	10 Mbps	
20 Mbps	20 Mbps	
25 Mbps	5 Mbps	
25 Mbps	10 Mbps	Medium level Business broadband services
25 Mbps	25 Mbps	

Bit rate		Note and example applications
Downstream	Upstream	
30 Mbps	5 Mbps	
30 Mbps	10 Mbps	
30 Mbps	30 Mbps	
50 Mbps	10 Mbps	Enterprise Grade Business broadband services
50 Mbps	20 Mbps	
50 Mbps	50 Mbps	
100 Mbps	40 Mbps	
100 Mbps	50 Mbps	
100 Mbps	100 Mbps	

(ii) in accordance with the following QoS Class, as selected by the Access Seeker:

QoS Class	Latency	Jitter	Packet Loss	Notes and example applications
0	≤ 100 ms	≤ 50 ms	≤ 10 <sup>-3</sup>	Real-time, jitter sensitive, high interaction – VoIP
1	≤ 200 ms	≤ 50 ms	≤ 10 <sup>-3</sup>	Real-time, jitter sensitive, interactive – IPTV
2	≤ 100 ms	-	≤ 10 <sup>-3</sup>	Transaction data, highly interactive – signalling
3	≤ 400 ms	-	≤ 10 <sup>-3</sup>	Transaction data, interactive – business data
4	≤ 1 s	-	≤ 10 <sup>-3</sup>	Low loss only (short transactions, bulk data) – video streaming
5	-	-	-	Best efforts – traditional applications of default IP networks

(19) Trunk Transmission Service

(a) The Trunk Transmission Service is a Facility and/or Service for the carriage of communications between any two technically feasible network



transmission points, not being End User locations or Access Seeker Points of Presence, on the Access Provider's network, via such 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 including, for example, Ethernet interfaces.

(c) The functionalities of the Trunk 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; and
- (iv) a digital protocol including Internet Protocols.

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

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

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

## (20) Duct and Manhole Access

(a) Duct and Manhole Access is a Facility and/or Service which comprises provision of physical access to:

- (i) Lead-In Ducts and associated manholes;
- (ii) Mainline Ducts and associated manholes in areas in which a single Operator has exclusive rights to develop or maintain duct and manhole infrastructure, whether or not in combination with other Facilities and Services; and
- (iii) sub-ducts where there is no room for the Access Seeker to install its own sub-ducts.

(b) Provision of physical access includes the provision of:

- (i) space at specified network facilities to enable an Access Seeker to install and maintain its own lines, equipment and sub-ducts; and
- (ii) access for the personnel of the Access Seeker.

(c) Exclusive rights to develop or maintain duct and manhole infrastructure includes exclusive rights in contracts, arrangements or understandings between the Access Provider and any person.

(21) Layer 3 HSBB Network Service

(a) The Layer 3 HSBB Network Service is an access and transmission Facility and/or Service for the provision of Layer 3 connectivity for the carriage of certain communications, being data in digital form and conforming to Internet Protocols, between customer equipment at an End User's premises and a POI at the Access Provider's premises or the Access Seeker's premises, as selected by the Access Seeker, 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; and
- (iii) the Access Seeker selects the Classes of Service ("CoS").

(b) The Layer 3 HSBB Network Service includes:

- (i) any hybrid Layer 2 and/or Layer 3 functionality required for the provision of the service;
- (ii) shared splitting services;
- (iii) interfaces to operational support systems; and
- (iv) network information.

(c) Nothing in this service description is intended to limit:

- (i) the number of concurrent Layer 3 HSBB Network Services acquired by an Access Seeker from an Access Provider associated with a single Customer;
- (ii) concurrent acquisition of the Layer 3 HSBB Network Service and other HSBB Network Services by an Access Seeker from an Access Provider associated with a single Customer; or
- (iii) the number of HSBB Network Services that may be acquired by a single Access Seeker, either in a single location or at multiple locations (or permit an Access Provider to require an Access Seeker to acquire any minimum or maximum number of HSBB Network Services, either in a single location or at multiple locations), as a condition of an Access Provider supplying the Layer 3 HSBB Network Service.

(d) The Layer 3 HSBB Network Service 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, subject to the maximum bit rate supported by the access technology used at particular End User premises:



Symmetric base bit rates	
4 to 30 (inclusive) in 1 Mbps increments	
	32
	50
	60
	100

Additional Bit Rates the Access Seeker may request	
Downstream	Upstream
32 kbps	32 kbps
64 kbps	64 kbps
128 kbps	128 kbps
256 kbps	256 kbps
512 kbps	512 kbps
1 Mbps	256 kbps
6 Mbps	1 Mbps
10 Mbps	5 Mbps
20 Mbps	5 Mbps
20 Mbps	10 Mbps
25 Mbps	5 Mbps
25 Mbps	10 Mbps
30 Mbps	5 Mbps
30 Mbps	10 Mbps
50 Mbps	10 Mbps
50 Mbps	20 Mbps
100 Mbps	40 Mbps
100 Mbps	50 Mbps

- (ii) in accordance with the following CoS, as selected by the Access Seeker, with traffic in each CoS prioritised as set out below in the case of congestion:

Class of Service	Traffic Priority
VoIP	1
IPTV, Video-on-Demand	2
Management, Business Internet	3
Residential Internet, Best Efforts Connection	4

(22) End-to-End Transmission Service

(a) The End-to-End Transmission Service is a Facility and/or Service for the carriage of communications between:

- (i) two End User locations;
- (ii) between two Access Seeker Points of Presence; or
- (iii) between one End User location and one Access Seeker Point of Presence,

via such 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 including, for example, Ethernet interfaces.

(c) The functionalities of the End-to-End 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; and
- (iv) a digital protocol including Internet Protocols.

(d) An End User location or Access Seeker Point of Presence in subparagraph (a) may include submarine cable or satellite link between Sabah and Sarawak and Peninsular Malaysia, submarine cable landing centre or an earth station.

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

(f) Technologies used to supply End-to-End Transmission Service, such as Metro-E may be requested by Access Seekers and the Access Provider must supply End-to-End Transmission Service using these technologies on request.

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

(h) For the avoidance of doubt, the End-to-End Transmission Service comprises but is not limited to the Facilities and/or Services specified in the Trunk Transmission Service and the Wholesale Local Leased Circuit Service.

(23) MVNO Access

(a) MVNO Access is a Facility and/or Service for access to the Mobile Network used by the Access Provider to provide public cellular services to the public, for the purpose of the Access Seeker providing public cellular services to the public.

(b) MVNO Access may include access to the Facilities and Services used by the Access Seeker to provide:

- (i) one or more of voice, data and application services, as selected by the Access Seeker; and



- (ii) services over networks including GSM, IMT-2000 or 3G, WiMAX, LTE, IMT-Advanced or LTE-Advanced, and any other mobile networks which are currently available or which may be developed in future.

Examples of Facilities and Services to which the Access Seeker may request access to which includes but not limited to the Access Provider's:

- (i) radio network;
- (ii) Serving GPRS Support Node and Gateway GPRS Support Node;
- (iii) Home Location Register;
- (iv) value-added service platforms (such as its Short Message Service Centre, Multimedia Service Centre and Voicemail Server);
- (v) SIM provisioning and configuration;
- (vi) customer billing; and
- (vii) customer relationship management.

#### **Applicability under Paragraphs 4(10), 4(11), 4(12), 4(13), 4(14) and 4(15)**

5. Paragraphs 4(10), 4(11), 4(12), 4(13), 4(14) and 4(15) shall have application except in respect of premises to which High-Speed Broadband Network is actively connected and at which the Operator of the High-Speed Broadband Network only offers retail services over the High-Speed Broadband Network.

#### **Revocation**

6. The **Commission Determination on Access List, Determination No. 1 of 2005** and the **Variation to Commission Determination on Access List (Determination No. 1 of 2005), Determination No. 1 of 2009**, shall be revoked with effect from 1 September 2015.

#### **Transitional and Savings**

7. Access agreements that have been registered with the Commission under the **Commission Determination on Access List, Determination No. 1 of 2005** and the **Variation to Commission Determination on Access List (Determination No. 1 of 2005), Determination 1 of 2009**, shall continue to be in full force and effect as if registered under this Determination.

8. In so far as the **Commission Determination on Access List, Determination No. 1 of 2005** and the **Variation to Commission Determination on Access List (Determination No. 1 of 2005), Determination 1 of 2009** are being referred to in the following Commission Determinations, on or after 1 September 2015, this Determination shall be applicable as if this Determination were referred to in the following Commission Determinations:

- (a) the **Commission Determination on the Mandatory Standard on Access Pricing, Determination No. 1 of 2012**;
- (b) the **Commission Determination on the Mandatory Standard on Access, Determination No. 2 of 2005**; and

- (c) the Variation to Commission Determination on the Mandatory Standard on Access (Determination No. 2 of 2005), Determination No. 2 of 2009.

Made: 24 August 2015



DATO' SRI DR. HALIM SHAFIE  
Chairman  
*Malaysian Communications and Multimedia Commission*