



Suruhanjaya Komunikasi dan Multimedia Malaysia
Malaysian Communications and Multimedia Commission

A REPORT ON A PUBLIC INQUIRY:

Review and Expansion of Access List Determination

27 May 2005

This Public Inquiry Report was prepared in fulfilment of Sections 55(2), 55(4), 59, 61 and 65 of the Communications and Multimedia Act 1998.

CONTENTS

1.	INTRODUCTION	6
	1.1 Public Inquiry Process	6
	1.2 The MCMC's legislative obligations	8
	1.3 Consultation Process	8
	1.4 Submissions Received	9
	1.5 Structure of this Public Inquiry Report	11
2.	LEGISLATIVE CONTEXT	13
	2.1 Issues Relevant to the Rationale for Review	13
	2.2 Comments received	13
	2.3 MCMC's Final Views	15
3.	ACCESS REGULATION	17
	3.1 Access Regulation in General	17
	3.2 Comments received	17
	3.3 MCMC's Final Views	18
	3.4 Promotion of Long-Term Interests of End Users (LTIE)	20
	3.5 MCMC's Final Views	22
4.	MCMC'S METHODOLOGY	26
	4.1 Application of the LTIE criteria	26
	4.2 Comments received	27
	4.3 MCMC's Final Views	28
5.	INTRODUCTION TO THE RELEVANT MARKETS	33
	5.1 Relevant Markets for Analysis	33
	5.2 Comments received	34
	5.3 MCMC's Final Views	35
6.	FIXED LINE TELEPHONY	39
	6.1 Existing Access List Services	39
	6.2 Potential new Access List Facilities and Services	48

6.3	Conclusion	52
7.	MOBILE TELEPHONY	54
7.1	Existing Access List Facilities and Services	54
7.2	Potential New Access List Facilities and Services	58
7.3	Conclusion	71
8.	UPSTREAM NETWORK ELEMENTS	72
8.1	Existing Access List Facilities and Services	72
8.2	Potential New Access List Facilities and Services	72
8.3	Conclusion	77
9.	INTERCONNECTION	78
9.1	Existing Access List Facilities and Services	78
9.2	Potential New Access List Facilities and Services	79
9.3	Conclusion	81
10.	LEASED LINES	82
10.1	Existing Access List Facilities and Services	82
10.2	Conclusion	86
11.	BROADBAND SERVICES	87
11.1	Existing Access List Facilities and Services	87
11.2	Potential New Access List Facilities and Services	87
11.3	Conclusion	98
12.	BROADCASTING TRANSMISSION	99
12.1	Existing Access List Facilities and Services	99
12.2	Potential New Access List Facilities and Services	99
12.3	Conclusion	102
13.	NEW TECHNOLOGIES	103
13.1	Emerging Services	103
13.2	Voice over Internet Protocol	103
13.3	Wireless Broadband	106

13.4	Wireless Local Area Network	107
13.5	General Packet Radio Service	108
13.6	Virtual Private Networks	109
13.7	Premium Rate Services	110
13.8	SMS Gateway Services	110
13.9	Interconnection with Next Generation Networks, including use of Soft Switches	111
13.10	Conclusion	112
14.	AMENDMENTS TO THE MANDATORY STANDARD ON ACCESS	114
14.1	Amendments to the Mandatory Standard	114
14.2	Amendments to MS (Access)	115
15.	GUIDELINE ON IMPLEMENTATION OF ANE	119
15.1	Purpose of Guideline	119
16.	IMPLEMENTATION OF TIMEFRAMES AND INTERACTION WITH PRICING DETERMINATION	121
16.1	MCMC Objectives	121
16.2	The Effective Date and Interaction with Pricing	123
16.3	Technical Implementation	124
17.	CONCLUSION	126
ANNEXURE 1 - COMMENTS ON RESPONSES TO MANDATORY STANDARD ON ACCESS (MS (ACCESS))		

ABBREVIATIONS AND GLOSSARY

ACCC	Australian Competition and Consumer Commission
Access Agreement	An agreement entered into between Operators whereby the Access Provider provides access to an Access Seeker in accordance with the terms contained in such an agreement and which is to be registered with the MCMC in accordance with the CMA.
Access List	The list of facilities and services determined by the MCMC under Chapter 3 of Part VI of the CMA, in respect of which the Standard Access Obligations apply.
Access Provider	Is: (a) a network facilities provider who owns or operates network facilities on the Access List; or (b) a network service provider who provides network services on the Access List; and (c) who is a licensee as defined in the CMA.
Access Seeker	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 CMA and who makes a written request for access to network facilities or network services on the Access List.
ANE	Access to Network Elements
ARD	A document of the terms and conditions required to be formulated by an Access Provider under the MS (Access).
CMA	<i>Communications and Multimedia Act 1998</i>
Commission Act	<i>Malaysian Communications and Multimedia Commission Act 1998</i>
Dominance Determination	<i>Commission Determination on Dominant Position in a Communications Market, Determination No. 2 of 2004</i>
DTTB	Digital Terrestrial Television Broadcasting
IASP	Internet Access Service Provider
LTIE	Long-Term Interests of End Users
MAFB	Malaysian Access Forum Berhad (the Access Forum, designated by the MCMC as such under section 152 of the CMA).
The MCMC	The Malaysian Communications and Multimedia Commission

MNP	Mobile Number Portability
MS (Access)	<i>Mandatory Standard on Access, Determination No. 2 of 2003</i>
MVNO	Mobile Virtual Network Operator
National Policy Objectives (NPOs)	The National Policy Objectives for Malaysia's communications and multimedia industry, as set out in section 3 of the CMA.
Operator	A network facilities provider, a network service provider, an applications service provider or a content applications service provider (as the context requires) who is an Access Provider or an Access Seeker (as the context requires).
PC Paper on ANE	MCMC <u>Public Consultation Paper on Effective Competition in the Access Network</u> (23 July 2003)
PC Report for ANE	MCMC, <u>A Report On Public Consultation On Effective Competition In The Access Network</u> (18 November 2003)
PI Access List Paper	MCMC Public Inquiry Paper, <u>Review and Expansion of Access List Determination</u> (8 February 2005)
PI Access List Report	This MCMC Public Inquiry Report
PI Paper for Dominance	MCMC Public Inquiry Paper, <u>Assessment of Dominance in Communications Markets</u> (August 2004)
PI Report for Dominance	MCMC Report on a Public Inquiry: <u>Assessment of Dominance in Communications Markets</u> (December 2004)
PSTN	Public Switched Telephone Network
Public Inquiry	This Public Inquiry conducted pursuant to Chapter 3 of Part V of the CMA.
Standard Access Obligations (SAOs)	The obligation to provide access to network facilities or network services included on the Access List on reasonable terms and conditions in accordance with section 149 of the CMA.
Telekom	Telekom Malaysia Berhad
VoIP	Voice Over Internet Protocol

SUMMARY OF MCMC FINAL VIEWS ON VARIATIONS TO THE ACCESS LIST

In this Public Inquiry, the MCMC has undertaken a detailed examination of over 25 facilities and services for inclusion in the Access List. The Public Inquiry also examined a range of new and emerging technologies that may be relevant to existing or new Access List facilities and services.

The PI Access List Paper set out the MCMC's preliminary views on the above issues and invited comments in response to specific and general questions. Having considered the submissions received in response to the PI Access List Paper, the following table summarises the MCMC's reasoning for reaching the final views set out in this PI Access List Report:

	Facility/Service	MCMC Final View
1.	Fixed Network Origination Service	Retain the existing service on the Access List, with amendments to the service description to ensure technology/service neutrality.
2.	Fixed Network Termination Service	Retain the existing service on the Access List, with amendments to the service description to ensure technology/service neutrality for message communications including fixed SMS termination.
3.	Equal Access (PSTN) Service	Retain on the Access List with pre-selection removed, given that there remains some usage of the service and the unlikelihood that the service would be available commercially in the absence of regulation.
4.	Internet Access Call Origination Service	Retain the current service on the Access List with amendments for technology/service neutrality, in consideration of its potential importance to provide ongoing Internet accessibility.
5.	Public Mobile Radio Access Service	Covered by a technology/service-neutral version of the Fixed Network Termination Service and the Mobile Network Termination Service.
6.	Local Call Resale	Not to include on the Access List given the limited evidence that regulation is needed to address an access problem, or that regulation will stimulate infrastructure investment in Malaysia.
7.	Mobile Network Origination Service	Remove the current service from the Access List upon the commencement of mobile number portability.

	Facility/Service	MCMC Final View
8.	Mobile Network Termination Service	Retain on the Access List, with amendments to the service description to ensure technology/service neutrality in relation to message communications rather than data communications.
9.	2G Domestic Inter-Operator Roaming Service	Not to include on the Access List, in preference to infrastructure sharing to more effectively address coverage issues.
10.	3G-2G Domestic Inter-Operator Roaming Service	Include as a new service on the Access List, in consideration of the importance of any-to-any connectivity for the takeup of 3G services.
11.	MVNO	Not to include on the Access List, in preference to leaving the development of MVNO arrangements to the market.
12.	Inter-Operator Mobile Number Portability Support Services	Include specified inter-operator support services for MNP on the Access List, in order to facilitate the Ministerial Direction on MNP.
13.	Infrastructure Sharing	Include tower sharing on the Access List on a technology/service-neutral basis.
14.	International capacity services	Not to include on the Access List, in consideration of the current level of competitiveness for international services that does not warrant regulatory intervention.
15.	Domestic connectivity to international services	Include certain domestic connectivity services (ie backhaul, co-location and connectivity services) on the Access List, in light of the access issues raised and to address potential access issues arising from shifting bottlenecks.
16.	Interconnect Link Service	Retain on the Access List and separate co-location as a separate network service for inclusion on the Access List at any technically feasible point.
17.	Network Signalling Service	Include on the Access List in consideration of the importance of network signalling to facilitate interconnection, ANE and the technical feasibility of regulation.
18.	Private Circuit Completion Service	Retain, but not include pure resale of end-to-end circuits on the Access List.
19.	Domestic Network Transmission Service	Amend the service description to make it technology/service-neutral. Also clarify the right of "last milers" to acquire this service.

	Facility/Service	MCMC Final View
20.	Other data services	Not to include on the Access List, in light of the level of competitiveness in the relevant market for these services and the lack of access problems raised.
21.	Access to Network Elements	Include full access, line sharing, bitstreaming and access to sub-loop on the Access List due to benefits to competition and efficient use of infrastructure.
22.	DSL Resale	To include on the Access List as complementary to ANE and to facilitate broadband expansion.
23.	Internet Interconnection Service	Include Internet interconnection (peering) on the Access List due to systemic market failures which are not being addressed in the absence of regulation.
24.	Broadcasting Transmission Service	Include a broadcasting transmission service on the Access List as a new and separate service, to ensure greater clarity of broadcaster access rights and to facilitate future assessment of competition within the broadcasting transmission market.
25.	Digital Multiplexing as an input into Digital Terrestrial Broadcasting Service	Include digital multiplexing on the Access List in order to facilitate an environment for the development of competition in the provision of digital terrestrial broadcasting services.

Table 1: Summary of MCMC Final Views

1. INTRODUCTION

1.1 Public Inquiry Process

In its PI Access List Paper, the MCMC detailed the approach and methodology it proposed to adopt in this Public Inquiry to:

- (a) determine whether certain additional facilities and services should be included in the Access List; and
- (b) assess whether existing facilities and services on the Access List should be retained, either in their current or amended form.

The MCMC noted that under section 55(1) of the CMA, the MCMC may, from time to time, make a determination on any matter specified in the CMA. The relevant matter in this Public Inquiry is the question of access under Part VI, Chapter 3 of the CMA.

In consideration of the long-term consequences of access regulation, the MCMC adopted for this Public Inquiry the widest possible consultative approach under the legislation in order to obtain maximum industry and public impact. This approach was also designed to promote certainty and transparency in the exercise of the MCMC's powers.

In most cases, the PI Access List Paper set out the MCMC's preliminary views, inviting comments as to whether an Access List determination should be made consistent with those views. In some cases the MCMC noted that, at the time of publication of the PI Access List Paper, it did not possess sufficient information to reach a preliminary view. Accordingly, the MCMC asked stakeholders for more information before finalising its views on an Access List determination.

The PI Access List Paper explained:

- (a) the legislative context for this Public Inquiry;
- (b) the MCMC's rationale for conducting this Public Inquiry;
- (c) the tasks to be undertaken by the MCMC in this Public Inquiry;
- (d) the methodology the MCMC would employ in conducting this Public Inquiry;
- (e) the process for conducting the Public Inquiry;

- (f) the outputs from the Public Inquiry; and
- (g) the MCMC’s reasoning for combining the inquiries into each of these related outputs into a single inquiry, consistent with section 59 of the CMA.

In relation to items (f) and (g) above, it was explained that this Public Inquiry is principally concerned with three main outputs:

- (i) amendments to the Access List in accordance with section 146 of the CMA. Draft descriptions of amendments to existing Access List facilities and services, and proposed new facilities and services, were provided in **Annexure 2** to the PI Access List Paper. A draft Access List Determination was also provided in **Annexure 5** to the PI Access List Paper;
- (ii) consequential amendments required to the Mandatory Standard on Access No. 2 of 2003 (**MS (Access)**) for the inclusion of new or amended facilities and services on the Access List. Those draft amendments were provided in **Annexure 3** to the PI Access List Paper; and
- (iii) formulation of a Guideline for the Implementation of Access to Network Elements, in order to provide guidance to industry about how ANE could be facilitated. The Draft ANE Guideline was contained in **Annexure 4** to the PI Access List Paper.

The white areas in **Figure 1** reiterate the respective places of the three outputs in the access regime established under the CMA:

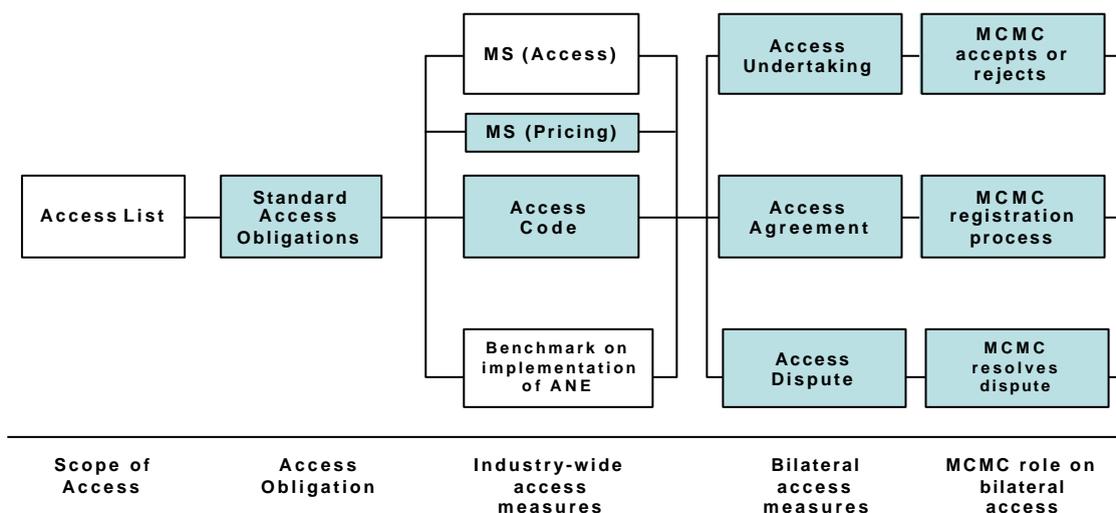


Figure 1: Outputs of this Public Inquiry

1.2 The MCMC's legislative obligations

Section 55(5) of the CMA requires the MCMC to make a determination within 45 days of the conclusion of a Public Inquiry. Consistent with section 61(1)(d) of the CMA, the Public Inquiry period was required to be held for a minimum of 45 days, within which public submissions were invited. In consideration of the wide-ranging and critical nature of this Public Inquiry, the MCMC provided stakeholders with more than 2.5 months to provide their comments in response to the PI Access Paper. This timeframe therefore far exceeded the MCMC's obligations for the minimum timeframe for public comment required by the CMA. Accordingly, the MCMC stressed that it would not be providing extensions of time for late submissions to the Public Inquiry.

The MCMC is now required to make any determinations arising out of the inquiry no later than **13 June 2005**, which is 45 days after the close of public comments on the PI Access List Paper. The MCMC proposes to make the following instruments arising from this Public Inquiry:

- (a) **a new Access List Determination**, which will repeal and replace the existing *Commission Determination on Access List (Determination No. 1 of 2001)*. This new Access List Determination will reflect the MCMC's final views expressed in this PI Access List Report in respect of amendments, deletions and additions to the existing list of services contained in the Access List. This new Access List Determination will be issued pursuant to the MCMC's powers and functions under sections 55 and 56 of the CMA, which deal with the making and revocation of determinations; and
- (b) **a new determination on the MS (Access)**, which will repeal and replace the existing *Commission Determination on the Mandatory Standard on Access (Determination No. 2 of 2003)*. This new MS (Access) Determination will reflect the MCMC's final views in relation to the new Access List Determination. This is because section 105 of the CMA requires the MS (Access) to be consistent with the objects of the CMA and instruments issued under the CMA. This new MS (Access) Determination will be issued pursuant to the MCMC's powers and functions under sections 105 and 106 of the CMA, which deal with the making and revocation of mandatory standards.

1.3 Consultation Process

The MCMC has consulted widely and openly with all interested stakeholders during this Public Inquiry, including:

- (a) consultations with a broad range of licensees prior to the release of the PI Access Paper, as set out in **Annexure 1** to the PI Access Paper;
- (b) publication of the PI Access Paper on 8 February 2005 and a request for comment, including publicity in relation to the same in the media and on the MCMC website;
- (c) clarifications in response to stakeholders in relation to specific items raised in the PI Access Paper during the consultation period; and
- (d) a series of public hearings on the overall Public Inquiry and specific items contained in the PI Access Paper. The details of those public hearings were held at the MCMC in Cyberjaya as follows:

9 am Monday, 14 March 2005	Public hearing on: (a) Public Inquiry on Review and Expansion of Access List (except Access to Network Elements (ANE) and New Technologies); (b) amendments to the Mandatory Standard on Access.
2 pm, Monday, 14 March 2005	Public hearing on: (a) ANE as part of the Public Inquiry on Review and Expansion of Access List; and (b) Guideline on Implementation of Access to Network Elements.
9 am, Tuesday 15 March 2005	Public hearing on New Technologies as part of the Public Inquiry on Review and Expansion of Access List (section 13 of the PI Access Paper).

1.4 Submissions Received

At the close of the public consultation period at 12.00 noon on 29 April 2005, the MCMC received written submissions from the following parties:

No.	Submitting Party	Documents
1.	Telekom	Appendix A (56 pages) – Main Submission Appendix B (13 pages)

No.	Submitting Party	Documents
		Appendix C (90 pages) Appendix D (8 pages)
2.	DiGi	1 Submission (47 pages)
3.	Maxis	1 non-confidential Submission (56 pages) 1 confidential Submission (57 pages) 1 Submission on the PI Access Paper Annexures (24 pages)
4.	TIME	1 Submission (23 pages)
5.	Celcom	1 Submission (21 pages)
6.	TM Net	1 Submission (11 pages)
7.	NasionCom	1 Submission (13 pages)
8.	TV3/8TV	1 Submission (3 pages)
9.	REDtone	1 Submission (14 pages)

In relation to the submissions received, two points should be noted.

Firstly, the MCMC received a written submission from Jaring at 5.30pm on 29 April 2005, which was after the advertised closing time for submissions. The MCMC clearly stated in the PI Access List Paper that given the extensive time period in which interested parties could provide submissions, no late submissions would be considered. The MCMC therefore notes the comments from Jaring but has not included consideration of Jaring's comments in this PI Access List Report.

Secondly, the MCMC received correspondence from TM Net after the closing date for submissions, in which TM Net requested that its comments in relation to question 33 of its submission should be substituted with an alternative view. As noted above, the MCMC explicitly stated that no submissions received after the closing date and time would be considered in this Public Inquiry. The MCMC therefore acknowledges TM Net's revised view but has not taken those comments into account in this PI Access List Report.

1.5 Structure of this Public Inquiry Report

The remainder of this PI Access List Report is structured as follows. The intention is to broadly follow the structure of the PI Access List Paper in order to provide a consistent context for the MCMC's specific questions for comment. The 68 numbered questions in the PI Access List are sequentially duplicated in each section, to enable the MCMC to systematically detail its final views on the submissions that are relevant to each issue:

Section 2: Legislative Context

Section 3: Access Regulation

Section 4: MCMC's Methodology

Section 5: Introduction to the Relevant Markets

Section 6: Fixed Line Telephony

Section 7: Mobile Telephony

Section 8: Upstream Network Elements

Section 9: Interconnection

Section 10: Leased Lines

Section 11: Broadband Services

Section 12: Broadcasting Transmission

Section 13: New Technologies

Section 14: Amendments to the Mandatory Standard on Access

Section 15: Guideline on Implementation of Access to Network Elements

Section 16: Implementation of Timeframes and Interaction with Pricing Determination

Section 17: Conclusion

The MCMC has given due consideration to all issues raised in the submissions received. MCMC also notes that in addition to responses on the specific questions raised in the PI Access List Paper, some respondents have provided some general comments in relation to the overall Public Inquiry process, the Malaysian communications and multimedia sector, and regulation in general.

The MCMC has noted and responded to those issues either in 2 to 5 of this PI Access List Report or, where relevant to a specific facility or service, in the market analysis sections in the remainder of the report. The MCMC notes that a number of the issues raised in the submissions are immediately pertinent and have significant implications for the parties concerned. In some cases, the MCMC understands that these issues are presently being addressed in inquiries and investigations currently being undertaken outside this Access List review. The MCMC will duly note those concerns raised in these other processes currently being undertaken.

The MCMC thanks interested parties for their participation in this consultative process and for providing their written submissions.

2. LEGISLATIVE CONTEXT

2.1 Issues Relevant to the Rationale for Review

Section 2 of the PI Access List Paper addressed the following issues as part of the legislative and policy context for the Public Inquiry:

- (a) the facilities and services in the current Access List;
- (b) the legislative powers and requirements of the MCMC;
- (c) the interaction between the ANE Public Inquiry and this Public Inquiry;
- (d) the Dominance Public Inquiry;
- (e) amendments to the Mandatory Standard on Access;
- (f) the Public Inquiry Process;
- (g) the objects of the CMA and the NPOs; and
- (h) the MCMC's overall regulatory approach.

The purpose of the discussion in the PI Access List Paper was to seek comments on the legislative and policy basis for this Public Inquiry, in relation to each of the above areas.

Question 1:

The MCMC seeks views on the need and timing for review of the Access List.

2.2 Comments received

2.2.1 General comments

The submissions received were largely supportive of the timing, context and rationale for this Public Inquiry.

DiGi, NasionCom and REDtone endorsed the need for the Access List review at this time. Maxis highlighted the need for constant review of the Access List and considered the

current timing of this review to be appropriate. TIME also agreed with the forward-looking nature of this review. TM Net submitted that implementation of the review should be conducted in stages according to the priority for access to certain services.

Telekom's view is that the Access List should only be reviewed in 2006. Telekom and Celcom submitted that the review was occurring too close to the implementation of the MS (Access). Telekom also submitted that a full licensing review should be undertaken first before any review of the Access List.

2.2.2 Specific comments

(a) Interaction between the Access List, MS (Access) and MAFB

Telekom raised specific concerns that the MAFB should have been given the opportunity to develop the Access Code and propose any amendments or extensions to the Access List. Telekom's concern was that this Public Inquiry has "cut across" the activities of the MAFB and led to uncertainty in the industry.

Telekom also argued that this Public Inquiry process does not appear consistent with the MCMC's previous thinking and assurances to the industry. Telekom queried how the MS (Access) could co-exist with any Access Code devised by the MAFB, when the MCMC has referred to the MS (Access) as a benchmark against which the Access Codes can be prepared. Telekom then questioned whether the MS (Access) would become void or assume advisory status only upon registration of any Access Codes by the MAFB.

Maxis considered that the timing of this review is appropriate in light of developments in the communications and multimedia sectors. Maxis also made some comments regarding any additional matters which it considers should be included in the MCMC's assessment of the Access List (question 68). These issues are also relevant to the issue of the relationship of this Public Inquiry with the MAFB. In response to question 68, Maxis called for greater consideration to the role of the MAFB and the Technical Forum in formulating industry codes and guidelines. Maxis further stated that the MAFB is currently finalising the Access Codes for existing services and that this process will be delayed in light of the new Access List Determination arising out of this Public Inquiry.

2.2.3 Timing of Access List, Access Pricing Review and MS (Access) review

DiGi expressed specific concern that the Access List review should not be reviewed concurrently with the MS (Access), noting that the MCMC had not reached a preliminary view on certain facilities and services for inclusion in the Access List.

DiGi also considered that since access pricing is being reviewed, with new pricing to become effective on 1 January 2006, any access negotiations relating to the revised Access List will be futile and burdensome to the industry. DiGi therefore requested the MCMC to reconsider the implementation timeframes for the Access List.

2.3 MCMC's Final Views

2.3.1 General comments

The MCMC concludes that the timing of this Public Inquiry is necessary and appropriate. The combination of the Access List review with a review of the MS (Access) will give certainty to existing and potential Access Providers and Access Seekers about their respective access rights and obligations.

2.3.2 Interaction between the Access List, MS (Access) and MAFB

In relation to Telekom's comments regarding the role of the MAFB, the MCMC highlights that the MAFB was consulted as part of this Public Inquiry and expressed an understanding of the MCMC's priorities in this review (such as updating the Access List to provide for technology/service neutrality and move away from its current telecommunications-centric focus). Furthermore, the MAFB will continue to play an important role in formulating the relevant codes to facilitate the introduction of new Access List facilities and services, such as ANE.

The MCMC therefore considers that the exercise of its powers to conduct this review is sound on a policy and legislative basis. This Public Inquiry and any MCMC Determination arising from it does not require prior recommendation by the MAFB, nor is there any need for it to be prefaced by a review of licensing in Malaysia. In particular, the MCMC notes that section 146 of the CMA enables the MCMC to determine whether certain facilities or services should be included in, or removed from, the Access List. This discretion is subject to the requirements in section 147(1) of the CMA, in which the MAFB may recommend the inclusion or removal of facilities and services from the Access List. In the event of such recommendation, and if the MAFB has undertaken the required consultation set out in section 147(1), the MCMC is required to make a determination in accordance with the MAFB recommendation.

The respective abilities of the MCMC to make an Access List Determination, and the ability of the MAFB to make a recommendation on the Access List, are therefore not mutually exclusive.

One of the principles of the CMA is self-regulation and the MCMC therefore encourages the participation of the MAFB in its development of Access Codes. The absence of access codes would cause uncertainty with regard to terms and conditions of access and interconnection. Hence, the MCMC mandated the MS (Access) in 2003. The current exercise to incorporate relevant modifications in the MS (Access) is relevant, due to the fact that addition or revocation of facilities and services would require appropriate changes in the terms and conditions of content in the MS (Access) pursuant to section 106 of the CMA. The MCMC has also had regard to experience to date in the operation of the MS (Access) and the registration process.

The MCMC clarifies that the MAFB would be required to play an active role in the process of development of access codes, but until such time as those codes are registered with the MCMC, the MS (Access) would be applicable. After the codes are registered, the MS (Access) would be likely to co-exist. However, where any conflict arises between the MS (Access) and the access codes, the MS (Access) would take precedence over those codes pursuant to section 107 of the CMA.

The MCMC therefore notes the comments made by Telekom, Maxis and others regarding the role of the MAFB in the access regime. The MCMC has given due consideration to the role of the MAFB in this Public Inquiry, however the MCMC notes that the MAFB itself did not make a submission detailing any concerns it may have about its role in the access regime review. As noted by the MCMC in its comments on question 67 of this PI Access List Report, the MAFB is expected to play an active role in developing relevant access codes. Similarly, the MCMC is expected to remain proactive to ensure that the access regime remains effective and relevant. The MCMC's final views on these points are elaborated in section 14 of this PI Access List Report, as they are relevant to the comments received on the relationship of the MAFB and the MCMC on these issues.

2.3.3 Timing of Access List, Access Pricing Review and MS (Access) review

In relation to DiGi's comments, the timeliness of this Public Inquiry, its conduct and the combination with an inquiry into the MS (Access) is consistent with the objectives of the CMA. It represents an efficient use of regulatory resources and promotes certainty and transparency in the MCMC's decision-making processes.

Further comments in relation to the specific issues raised in relation to the amendments to the MS (Access), the implementation timeframes and the interaction with the MS (Pricing) are considered under the specific questions on those issues later in this PI Access List Report.

3. ACCESS REGULATION

3.1 Access Regulation in General

The PI Access Paper provided a theoretical overview of the purpose of access regulation and its application to communications in Malaysia. Targeting regulation of upstream markets in order to promote competition in downstream markets, while minimising distortions to efficient infrastructure investment in the long term, is also consistent with the purpose of the CMA. The Access List needs to remain consistent with these theoretical as well as practical objectives of regulation.

The comments sought by the MCMC invited submissions to consider the limitations or benefits of the current Access List, and how any reforms to the Access List would be consistent with the rationale for access regulation in the Malaysian communications and multimedia context.

Question 2:

What are the issues and constraints with the current Access List?

3.2 Comments received

3.2.1 General comments

Parties expressed a diverse range of opinions on the operation of the current Access List. The general view was that the Access List has the potential to work more effectively than is currently the case.

Telekom also highlighted some services that it considers should either be removed from or added to the Access List. It submitted that the Internet Access Call Origination Service and the Mobile Network Origination Service should be removed from the Access List. Telekom submitted that a Satellite Broadcast Television Service should be added to the Access List.

DiGi submitted that the current Access List focus on interconnection obligations is a significant constraint on clearly defining other access rights. It considered that the rights of Access Seekers to obtain Access List facilities and services are unclear, stating that rights of access are often tied to numbering and licensing issues. DiGi also made

general comments that access regulation needs to be supplemented by conduct regulation in order to promote competitive markets.

Similarly, TIME expressed concern that the effectiveness of the current Access List was being undermined in several respects by the anti-competitive behaviour of the “dominant operator”. REDtone’s view was that the current Access List was formulated to cater for vertically-integrated operators, hence it does not assist operators who have an ASP or NSP licence, or both.

Maxis highlighted the lack of technology/service neutrality with the current Access List, although stating that this should not in itself be a reason to apply technology/service neutrality to all facilities and services. NasionCom was also critical of the telecommunications-centric nature of the current Access List.

Celcom considered that the current Access List is operating effectively, as evidenced by the registration of several Access Agreements. Celcom also advocated a more detailed description of each Access List item to alleviate uncertainty from an Access Provider and Access Seeker perspective.

3.2.2 Specific comments

(a) 0154-type non-geographic numbers

Telekom raised specific concerns in relation to the allocation of 0154 numbers to VoIP operators. Telekom’s view was that the Access List was originally devised for interconnection between large switch operators, resulting in current uncertainties regarding its application to certain types of operators (eg VoIP providers).

3.3 MCMC’s Final Views

3.3.1 General comments

The MCMC has considered all the above views on a case-by-case basis when considering each existing or new facility or service examined in this Public Inquiry, in terms of how the operation of the Access List may be improved in specific areas.

The MCMC stresses that while the technology/service neutral amendments to the Access List are intended to reflect the shift away from the telecommunications-centric nature of the current regime, the MCMC endorses the view that the achievement of technology/service neutrality is not in itself a reason for regulation. As noted in the

comments on the individual facilities and services under consideration, technology/service neutrality is not endorsed for its own sake, but rather adopted by the MCMC where it fulfils the methodology employed in this Public Inquiry Process.

In relation to the regulation of new services such as the Satellite Broadcast Television Service, the MCMC notes Telekom's statement that it has long-argued for its inclusion in the Access List. In its discussions with licensees as part of this Public Inquiry process to ascertain which new facilities and services should be considered for inclusion in the Access List, the MCMC notes that this issue was not raised and that the MCMC has not been provided with submissions supporting its inclusion. For this reason, this service was not examined in this Public Inquiry. However, this does not preclude the issue of satellite broadcasting being considered by the MCMC in future for the purposes of competition analysis. As stated in the PI Report for Dominance, the MCMC noted the suggestion that satellite broadcasting should be examined. The MCMC stated there that it remains open for an assessment of dominance in that suggested market to be undertaken in future.¹

The MCMC notes concerns that the respective rights and obligations of Access Providers and Access Seekers need to be clarified in several respects. In this sense, the MCMC has formed a final view on amendments to the current descriptions in the Access List to provide such clarity, including in relation to technology/service neutrality and the rights of access for non-telecommunications providers. The MCMC considers that the amendments to the MS (Access) will also provide clarity in this respect, since this aspect of this Public Inquiry has arisen from similar concerns raised in the past.

The MCMC also notes comments made in relation to the need for robust anti-competitive constraints, and the enforcement of those constraints, to facilitate competitive markets. While the Access List is concerned with access regulation and conduct issues are the subject of other functions of the MCMC, the MCMC agrees that neither access nor behavioural regulation in isolation is sufficient to ensure effective competition. However the MCMC also highlights that other instruments, such as the MS (Access) provide certain requirements in relation to the standard of access relevant to giving effect to the pro-competitive rationale of the Access List.

3.3.2 0154-type non-geographic numbers

The MCMC recognises that this is an ongoing and immediate concern to the industry which needs to be resolved from an interconnection, as well as numbering, perspective.

¹ PI Report for Dominance, paragraph 14.1.3.

The issue of VoIP number allocation is also being investigated in other countries as take-up of VoIP services is increasing. The MCMC notes that Singapore and Australia, for example, are presently investigating the options for VoIP numbering. The Australian Communications Authority is evaluating submissions received in response to a discussion paper on VoIP numbering options, noting the objectives of the numbering regime include the facilitation of any-to-any connectivity.² In Ireland, the Commission for Communications Regulation recently issued a Decision Notice for the purpose of ensuring any-to-any connectivity for the 076 non-geographic number range designated for VoIP services.³ In Japan, which has a very high VoIP uptake, VoIP-specific “050” numbers have been allocated since 2002 for PSTN to VoIP calls.

These examples demonstrate that the issue of ensuring interconnectivity for non-geographic number ranges is universally pertinent. To this end, the MCMC is presently examining the provision of interconnect services between IP technologies and traditional communication services. This dedicated industry working group is currently also investigating a framework or guideline for nomadic numbers to provide further certainty to industry. The purpose of this specific investigation is to provide options for numbering and interconnection and clarify the technical requirements for interconnection for 0154 numbers. The MCMC will have due regard to Telekom’s comments and the need for regulatory certainty in relation to 0154 interconnection issues. This will be undertaken as part of the process currently being undertaken outside the Access List review.

3.4 Promotion of Long-Term Interests of End Users (LTIE)

Regulation for the long-term benefit of the end user is a critical NPO in the context of access regulation. The MCMC set out its interpretation of the “long-term interests of end users” (LTIE) as comprising consideration of the impact on the promotion of competition, the achievement of any-to-any connectivity, and the impact on infrastructure investment. Importantly, the LTIE criteria dictates that the interests of end users is paramount. There are also other significant criteria which the MCMC must consider when making a decision of what facilities and services to regulate, and how to implement that regulation, if regulation is indeed warranted.

The LTIE therefore formed the basis of the methodology applied by the MCMC in this Public Inquiry. The MCMC sought comments on the applicability of the LTIE criteria.

² Australian Communications Authority, *Regulatory Issues Associated with Provision of Voice Services Using Internet Protocol in Australia – Discussion Paper*, October 2004.

³ Commission for Communications Regulation, *Decision Notice: Directions to Enable Opening of Access to VoIP Services Based on 076 Number Ranges*, D5/05, 25 March 2005.

Question 3:

The MCMC seeks comments on the suitability of the LTIE test when considering the inclusion of facilities and services on the Access List.

3.4.1 Overview of the submissions received

The application of the LTIE test in this Public Inquiry was generally supported by all of the submissions except Telekom and Celcom. The comments received were largely based on a theoretical understanding of the LTIE test, rather than its practical application. This is understandable, considering that this preliminary section of the PI Access List Paper described only the MCMC's methodology, rather than applying it to the specific facilities and services under consideration in this Public Inquiry.

(a) Appropriateness of the LTIE analysis in Malaysia

Telekom disputed the applicability of the LTIE test in the Malaysian access regime. Telekom submitted that the LTIE test is based on foreign legislative regimes and is therefore inapplicable.

Telekom described the LTIE test as an "imported concept" that was being applied by the MCMC without proper acknowledgement, which it claimed was selectively being applied to support the NPO of the long-term benefit of end users at the expense of the other NPOs. Telekom asserted that the MCMC's methodology therefore has no legal basis and should be set aside. The MCMC's assessment of regulation, Telekom argued, must include affordability as well as national economic growth and development.

Telekom further argued that there are important differences between Malaysia and other countries which utilise the LTIE test for regulatory analysis, such as Australia. It therefore proposed that if the MCMC were to devise a test for Malaysia, it should be an alternative one that takes these differences into account, rather than applying the LTIE.

(b) Telekom's alternative "LTBEU test"

Telekom proposed an alternative "Long Term Benefits of End Users" test to be applied in Malaysia, which it argued would include potential end users. Telekom also argued that the LTBEU test would take into account the inherent costs of regulation, in contrast to the LTIE test.

In support of its alternative LTBEU test, Telekom also asserted that this proposed test would promote efficient competition, rather than promoting competitors. To achieve the promotion of efficient competition rather than the promotion of competitors, Telekom concluded that regulation must be inherently light-handed in nature. The LTIE test, it argued, is not light-handed and would have the negative effect of distorting investment incentives and decisions.

Telekom therefore concluded that the appropriate regulatory test for Malaysia must be framed in accordance with its proposed LTBEU criteria.

(c) Other criteria and issues

Maxis cautioned against applying all the LTIE criteria in an “unqualified manner”. Maxis advocated, for example, that the any-to-any connectivity criteria should be confined to what it termed a “network level” and to “well-established” services with bottleneck characteristics, rather than to all service layers across a network.

DiGi highlighted the importance of secondary objectives to be assessed in conjunction with the LTIE criteria.

TIME’s view was that the LTIE test does capture other important objectives, such as the NPOs, in its application and is therefore appropriate. NasionCom endorsed the application of the LTIE test only for “well established” services. REDtone was supportive of the suitability of the LTIE test.

3.5 MCMC’s Final Views

3.5.1 Appropriateness of the LTIE analysis in Malaysia

Telekom’s fundamental arguments against the LTIE are that it places undue preference on the long-term interests of end users at the expense of other relevant considerations. To the contrary, the MCMC’s analysis in the PI Access List Paper applies a series of steps in the LTIE test which capture exactly the analysis that Telekom argues is absent. As part of the LTIE test, the MCMC has undertaken a detailed qualitative analysis of the impact of regulation (or refraining from regulation) for each facility and service in the areas of the impact on competition; any-to-any connectivity; and the impact on infrastructure investment. To the extent that any data was available or provided by licensees, the MCMC also undertook as much quantitative analysis as was capable in each of these areas.

The very arguments raised by Telekom in opposition to the LTIE analysis are precisely the issues addressed and applied by the MCMC in this Public Inquiry.

The MCMC therefore continues to believe that the LTIE test is appropriate for Malaysia. The MCMC's methodology is focused on the interests of end users because this is the paramount reason for access regulation. The MCMC maintains that analysis of effective competition utilising the LTIE test means that the focus remains on end users as the ultimate beneficiaries of a robust access regime.

The LTIE test encapsulates best practice considerations in access regulation. As noted above, in addition to and integral to the focus on end users, the LTIE test considers whether regulation is necessary to promote competition; whether regulation will facilitate any-to-any connectivity; and the implications of regulation for infrastructure investment.

In response to Telekom's assertion that the MCMC has applied the LTIE analysis without having regard to Malaysia's specific communications features and markets, this is incorrect. For each stage in which the LTIE test has been applied, it has been done so by reference to Malaysia-specific factors. For example, each step of the MCMC's analysis was based on the current state of competition in each market, using the latest data available, and considering the specific issues which arose in the initial consultation period of this Public Inquiry. Although it is regulatory best practice to consider how regulators around the world have considered specific issues, there is no suggestion in any of the MCMC's deliberations that regulatory decisions in Malaysia are driven by overseas precedents alone. To the contrary, the MCMC could be considered negligent if it did not have some regard to the success or failings of regulatory decisions in other countries, for the purpose of considering how Malaysia could benefit from those experiences and avoid the mistakes made by others.

The LTIE analysis undertaken in this Public Inquiry is not a borrowed concept from foreign jurisdictions. It is a sound, best practice interpretation of the CMA access regime requirements. This is notable considering that the CMA does not actually provide any guidance on the NPO to regulate for the long-term benefit of the end user, nor the methodology that must be applied by the MCMC in undertaking this Public Inquiry. The adoption of best practice application, as well as Malaysia-specific considerations, therefore produces a strong basis for the regulatory analysis applied in this Public Inquiry.

The LTIE test is objectively sound and has been properly applied in the Malaysian context for every service and facility examined in this Public Inquiry. The MCMC therefore does not accept Telekom's assertions that the LTIE test is incorrect at law, has

been applied without reference to Malaysia-specific issues, and cannot be utilised in this Public Inquiry.

3.5.2 Telekom's alternative "LTBEU test"

The MCMC does not consider that the "LTBEU test" proposed by Telekom would add to the rigour of the decision-making process employed in the PI Access List Paper. In particular, the MCMC notes that the PI Access List Paper makes specific reference to future as well as existing end users in the application of the LTIE test in the regulatory decision-making process adopted in this Public Inquiry.

The MCMC also notes the suggestion that the LTBEU test would take into account the costs of regulation. In response, MCMC reiterates that the LTIE test takes a long-term view of the costs of regulation and assesses those against the benefits. These costs are examined in terms of technical feasibility as well as monetary implications for investment.

The MCMC does not accept Telekom's argument that the LTBEU test is appropriate compared to the LTIE test, on the basis that the LTIE test favours competitors over competition. The LTIE test is not intended to, and does not provide opportunities for, changes which "will benefit competitors rather than competition", as suggested by Telekom. The MCMC's objective in using the test is to promote competition generally and ensure that relevant communications markets are effectively competitive. The LTIE test properly applied assists the MCMC in promoting effective competition in markets where factors other than bottlenecks may be impeding the emergence of effective competition.

Considering all of Telekom's views on the issue, the MCMC does not agree with the suggestion that the LTIE test does not have a legal basis, in comparison to the proposed LTBEU test. The MCMC further disagrees with Telekom's suggestion that since regulation must always be very light-handed in every case, only the LTBEU test is appropriate to assess the need for access regulation. The suggestion that regulation must always be very light-handed – for every country and for every facility and service, including Malaysia – has no basis in access regimes anywhere in the world. Telekom has provided no evidence to support its argument that the MCMC must always take a "very light handed" regulatory approach, regardless of the extent of any access problem that may exist.

3.5.3 Other criteria and issues

The MCMC stands by its choice and application of a methodology that places end users first. However as noted in the PI Access List Paper, the LTIE test also requires an assessment of a range of other factors such as technical feasibility. In addition to the LTIE criteria, the MCMC has also had regard to the promotion of, and consistency with, the NPOs specific to Malaysia.

The MCMC's view is that the LTIE test has an important place within the context of the decision tree, which must be applied to any assessment of whether regulation is necessary and appropriate. In this sense, the LTIE test is not applied in a vacuum, but rather by reference to the particular issues in the Malaysian communications and multimedia sectors and the legislative basis of the access regime.

In response to the suggestion by Maxis that the LTIE criteria should be selectively applied to only the "network level" rather than any "service layer", the MCMC considers that this would be inconsistent with the very basis of the test. Properly applied, the uniform application of the any-to-any connectivity stage in the LTIE test assesses the overall benefits to end users. The any-to-any stage is also only one aspect of the LTIE analysis. Further, the LTIE test appropriately balances investment in network facilities and the stimulation of infrastructure and services-based competition. The MCMC does not agree with the suggestion that the LTIE should always be skewed towards investment in network facilities in preference to services-based competition in every case.

The MCMC has also explicitly stated that its methodology requires it to balance some often competing NPOs. The structure of the PI Access List Paper reflects these competing priorities. The MCMC's preliminary views were based on the LTIE test, as well as an evaluation of these other objectives.

4. MCMC'S METHODOLOGY

4.1 Application of the LTIE criteria

The MCMC indicated that it would apply the LTIE criteria through two inter-related means:

- (a) firstly, if a facility or service has "bottleneck" characteristics, mandating access is considered to be in the LTIE in the absence of strong evidence to the contrary; and
- (b) alternatively, a facility or service which is not characterised as a bottleneck will be assessed against the individual components of the LTIE test.

The MCMC then set out the steps to be undertaken as part of the LTIE analysis. The analytical techniques to assist its assessment of the LTIE would include:

- (i) the cost/benefit test;
- (ii) the "with or without" test; and
- (iii) the assessment of technical feasibility.

Question 4:

The MCMC seeks views that if facilities or services satisfy the bottleneck test, whether this establishes a prima facie position that those facilities or services should be included on the Access List.

Question 5:

The MCMC seeks views on whether there are any additional, practical tests the MCMC should apply (in addition to cost-benefit and with/without tests) when considering the inclusion of facilities and services on the Access List.

4.2 Comments received

4.2.1 Bottleneck criteria

Telekom submitted that the bottleneck test was the only suitable criteria for regulation, consistent with what it termed as the global cornerstone of intervention based on the essential facilities doctrine. Telekom argued that only bottleneck services can and should be contained in the Access List. Telekom reiterated its view that regulation would favour competitors, rather than competition, if access extended beyond the scope of “well-established” bottleneck facilities.

Maxis drew attention to the use in the United States of an “impairment” test for the determination of access to network elements, which it claimed is slightly different to the bottleneck test.

Maxis also expressed the opinion that satisfaction of the bottleneck test should not be an automatic trigger for inclusion in the Access List and proposed that it be applied only to well-established services. Maxis also raised three separate issues in response to question 5. The first issue relates to how potential benefits of the introduction of new services will be taken into account in Access Listing considerations. Maxis was concerned that the MCMC’s focus might be biased towards generating competition in existing markets. The second issue relates to a statement in the PI Access List Paper about the rating of consumer surplus vis a vis producer surplus. The third issue relates to potential difficulties in assessing social welfare for existing or emerging relatively minor services.

TIME proposed the test for dominant position set out in the Dominance Determination. TIME also suggested an examination of the financial performance of the Access Provider and the presence of indicia such as super-normal profits.

4.2.2 Additional tests

DiGi expressed concern that the bottleneck test in isolation would be inappropriate to assess the need for regulation of certain facilities and services. DiGi considered that a balanced application of the bottleneck and with/without test would be sufficient to determine the necessity of access regulation.

Celcom considered the prima facie conclusion to be fair, but that the tests should not be relied on in isolation. TIME and NasionCom agreed with the MCMC’s approach to apply

both the LTIE and bottleneck tests as appropriate. NasionCom again submitted that the tests should only be applied to “well established” services.

Telekom reiterated that it did not support any test other than the bottleneck criteria. It also noted that some of these tests, such as cost/benefit analysis, could not be undertaken in the absence of specific data such as direct costs. Telekom therefore considered that the current economic analysis of costs/benefits of new and existing Access List services contained in the Access List review is not detailed enough for the MCMC to be confident of the outcomes of regulation.

Telekom reiterated its views in response to question 3 that consideration of other criteria would benefit competitors rather than competition. However Telekom also argued that notwithstanding these views, additional tests of access deficits and dynamic efficiency should be undertaken. Telekom proposed that at least 6 additional factors be considered, each of which appears relevant to the assessment of regulation on the Access Provider. Telekom argued that the PI Access List Paper did not consider the direct costs that accrue to Access Providers as a result of compliance with the SAOs. In essence, Telekom’s argument was that the costs of regulation were not considered in the MCMC’s analysis.

Telekom also argued that the level of proven demand for access should determine whether or not regulation is required. Celcom concurred with this view.

REDtone and NasionCom considered that no additional tests were required.

4.3 MCMC’s Final Views

4.3.1 Bottleneck criteria

The MCMC considers that satisfaction of the bottleneck test represents an important first test in the determination of inclusion of a service on the Access List. The presumption underlying the test is that a determination in favour of listing would be made in the absence of strong evidence to the contrary.

Such a presumption, however, does not mean that regulation follows automatically from satisfaction of the bottleneck test. Throughout this Public Inquiry, the MCMC has been conscious of examining the Malaysia-specific factors which inform its view of regulation, within the construct of the CMA (such as the NPOs) as well as the specific concerns and issues raised by the industry. The MCMC therefore considers Telekom’s arguments regarding the bottleneck criteria being the sole cornerstone of international regulatory

practice to be inconsistent with these important Malaysia-specific considerations. This is why the MCMC's application of the LTIE test becomes so relevant: the individual components of the LTIE test examine these issues in the Malaysian context and, importantly, focus on end users rather than the academic application of the essential facilities doctrine.

The MCMC notes Maxis' view and stresses that the bottleneck criteria has been applied in the context of each individual facility and service considered in this Public Inquiry. In essence, Maxis' view advocates that the criteria for regulation should be undertaken on a case-by-case basis. This has been adopted by the MCMC in terms of the additional tests which have been employed as far as possible in its analysis.

However, the MCMC does not agree with the concept proposed by Maxis and Telekom that the bottleneck test should be applied only to "well-established" bottleneck facilities and services. The MCMC seeks to promote competition in general with the aim of ensuring that all relevant communications markets are effectively competitive. Such an aim requires that each case be considered on its merits. A blanket, automatic inclusion, as proposed by Maxis, would not be consistent with the MCMC's aim to promote effective competition.

4.3.2 Additional tests

The MCMC does not agree that its analysis has neglected consideration of the costs of regulation. To the contrary, the MCMC has specifically considered for each service and facility the potential impact on competition and the impact on investment.

The MCMC also notes Telekom's observation concerning the limited use of cost/benefit analysis, particularly analysis of direct costs. The MCMC acknowledges the limited scope of its cost/benefit analysis in this Public Inquiry, due to the lack of quantitative data provided in response to requests made to operators during the Public Inquiry process. While the MCMC would have preferred a more detailed analysis, relevant data was not available for the MCMC to undertake this step. This was despite the MCMC having requested specific data from Telekom and other licensees in order to conduct the step that Telekom now disputes as a deficiency in the MCMC's analysis. The MCMC received no response from Telekom in response to this request.

The MCMC therefore acknowledges the limitations on its ability to conduct and apply detailed cost/benefit analysis of proposals for change to the Access List because the necessary data for exhaustive, quantitative cost/benefit analyses were not made available. Under the circumstances, the MCMC believes that a limited and largely

qualitative cost/benefit analysis is still a valuable input to this Access List review and therefore such qualitative assessments have been conducted on this occasion.

It should be noted that in forming its final views, the MCMC is not required to assess or estimate the magnitude of cost/benefits likely to result from a change to the Access List. While an accurate estimate of the magnitude of the net benefit would be informative for the purpose of a determination a high degree of accuracy is not necessary. To satisfy itself that a change is desirable, the MCMC need only establish a reasonable expectation that the change will lead to a positive net benefit. In most cases under the current considerations, a qualitative assessment is likely to be sufficient to establish whether or not a change is likely to produce a net benefit. Difficulty arises only when such likelihood cannot be clearly established. In any event, the qualitative analysis undertaken by the MCMC is only one of the factors which the MCMC has taken into consideration in forming its final views.

(a) Issues raised by Maxis

As noted above, Maxis made three detailed points in relation to the bottleneck criteria and the MCMC addresses each of them in turn.

In relation to how potential benefits of the introduction of new services will be taken into account in Access Listing considerations, the PI Access List Paper sets out the MCMC's approach to ensure that all relevant communications markets are effectively competitive. Important elements of improving competition include interventions designed to constrain the ability of firms to raise prices, and interventions to lower barriers to entry to enable efficient competitors to enter the market. The MCMC is conscious that restrictions on access to the access network can impede the capacity of new entrants to offer competitive service with significant potential benefits to end users in terms of price, quality or diversity of services. For instance, the MCMC noted that the potential for such benefits to accrue to end users was an important consideration in reaching the preliminary view that all types of ANE should be included in the Access List.

The second issue raised by Maxis relates to a statement in the PI Access List Paper about the rating of consumer surplus vis a vis producer surplus. The full statement to which Maxis refers to says:

“The transfer of surplus effects of a fall in price is a redistribution of income from producers to consumers. In economic welfare terms, such a transfer has no effect on efficiency because surplus accruing to producers is valued exactly the same as surplus accruing to consumers. However, an objective of the CMA is to

enhance the interests of end users, the surplus accruing to consumers is accorded a relatively higher social value than the surplus to producers (so long as the legitimate interests of the producers are not eroded).” (page 57)

It would be incorrect to interpret this statement as an indication that the MCMC would be seeking to value consumer surplus at a premium above the value of producer surplus. Such a differential approach to the valuation of consumer and producer surplus would be inconsistent with principles of social welfare analysis and if adopted could lead to decisions that would be inconsistent with efficient market outcomes. The MCMC therefore has no intention of departing from the principle that “surplus accruing to producers is valued exactly the same as surplus accruing to consumers”. The qualification in the PI Access List Paper with reference to objective of the CMA that regulation should promote the long term interests of end users should be interpreted as saying that in the event that regulation was to have only the effect of transferring a given amount surplus from producers to end users, with all else being equal, the objective of the CMA creates a presumption that the regulation would be desirable, whereas without that objective there would be no presumption of favouring consumers over producers.

The third issue raised by Maxis relates to potential difficulties in assessing social welfare for existing or emerging relatively minor services, and the suggestion that overseas practices could be used to determine what should or should not be regulated. Also, Maxis stated that it would have difficulty in accepting “regulation of new mobile services that form a significant part of its competitive offering”. The MCMC accepts that it may be difficult to assess social welfare in some particular circumstances. The MCMC also accepts that overseas practices can provide useful guidance in particular circumstances. However, it would not be appropriate to base regulatory decisions solely on approaches taken in other countries. The MCMC must take full account of the conditions prevailing in Malaysian and determine whether regulation is warranted on the merits of each individual case. As noted repeatedly in the PI Access List Paper and elsewhere, the MCMC is concerned with promoting the conditions for effective competition in communications markets, including in emerging markets. Where competition can be demonstrated to be effective, the MCMC would give due consideration to the range of additional factors before making any decision to regulate.

(b) Other comments raised

The MCMC also notes Telekom’s comments on the potential impact on regulated prices of services that may be affected by an access deficit. The MCMC is aware of the implications that an access deficit may have for the determination of prices for relevant

services. However, this is a matter for consideration in relevant access price determinations and does not affect considerations of whether a particular service should be included on the Access List. This does not mean that the MCMC has not taken the costs of regulation into account in its deliberations. Although the specific issue of the access deficit is not an issue which is within the scope of this Public Inquiry, the MCMC notes these comments and encourages Telekom to raise those concerns in the access pricing consultative process.

5. INTRODUCTION TO THE RELEVANT MARKETS

5.1 Relevant Markets for Analysis

The MCMC noted that the process of market definition provides the service, geographic, product and temporal dimensions within which competition can be measured. Market definition is therefore an important tool for drawing the boundaries within which the elements of the LTIE criteria can be applied and assessed.

The MCMC analysed seven relevant markets identified in the PI Report for Dominance. The PI Access List Paper applied those seven markets to its assessment in this Public Inquiry, namely:

- (a) fixed line telephony;
- (b) mobile telephony services;
- (c) upstream network elements;
- (d) interconnection (encompassing wholesale call termination and origination);
- (e) leased line services;
- (f) broadband services; and
- (g) broadcasting transmission.

The MCMC noted the potential alternative approach to selecting particular markets in which to assess competition and, hence, access issues, is to identify services based on licence classifications. Having considered the limitations of this approach, the MCMC applied the market-based approach to evaluating the appropriateness of an Access List facility or service.

The MCMC sought comments on the appropriateness of applying the Dominance Inquiry markets in this Public Inquiry in preference to other categories for competition assessment.

Question 6:

The MCMC seeks views on the MCMC’s proposed approach to use the market definitions adopted in the PI Report for Dominance in this Public Inquiry as the way of considering facilities and services for inclusion on/removal from the Access List. Alternatively, do you believe the licensing approach should be adopted?

5.2 Comments received

5.2.1 General comments

Other than Telekom, most respondents agreed on the MCMC’s market-based approach. It was broadly submitted that the limitations of following the licensing approach would not warrant its application, hence the use of the market-based approach was justified.

DiGi did, however, highlight that the MCMC should remain aware of the licensing categories and policies that impact on the operation of the Access List and any new facilities or services. Similarly, Maxis generally endorsed the market-based approach but cautioned that consideration needed to be given to the differences between licensing categories and act as a “second level check” on proposed regulation.

5.2.2 Telekom’s comments

(a) Claims that the use of dominance analysis is ultra vires for access

Telekom opposed the approach followed by the MCMC. Telekom instead proposed an approach based on convergence principles focusing on bottleneck facilities and services. Telekom made reference to its earlier submission in the public inquiry on the MS (Access) conducted in 2003. There, Telekom opposed the concept and application of asymmetric regulation for access purposes. Telekom argued again on this occasion that the proposed regulation of dominant operators was void for inconsistency with the CMA.

The basis of Telekom’s argument was that the access regime established under the CMA does not take into account or include dominance issues in determining access. Accordingly, Telekom’s submission is that the MCMC’s adoption of the market-based approach utilised in the PI Access List Paper is inapplicable and ultra vires.

(b) Suggestion of an additional market

Telekom expressed the view that, if the MCMC were to support proposals for the use of market definitions developed in the PI Report for Dominance for access purposes in Malaysia, then an additional market should be defined as the digital broadcasting transmission service. It claimed this was especially important because of ASTRO's monopoly status in the delivery of satellite broadcasting in Malaysia. In particular, Telekom argued that this Public Inquiry should have included an examination of the set-top boxes owned and operated by ASTRO.

Telekom therefore submitted that ASTRO's dominance should be the subject of detailed attention by the MCMC.

(c) Geographic market delineation

Telekom warned of potential dangers associated with the adoption of a single national market and recommended the use of geographic markets for the purpose of regulation. In support of its assertion on the operation of geographic markets, Telekom drew attention to an observation by the ACCC in Australia that unbundling of the local loop was unlikely to be popular outside metropolitan areas. Telekom submitted that these geographic discrepancies are more pronounced in Malaysia.

Telekom's arguments here centred on what it described as an insufficient economic analysis by the MCMC, which failed to recognise the existence of highly competitive geographically defined markets such as metropolitan areas. Telekom considered that the danger of the single national market based approach adopted in the PI Report for Dominance results in misguided regulation, on the basis that the predicted take-up of new regulated services is likely to be concentrated in areas of existing high utilisation.

5.3 MCMC's Final Views

5.3.1 General comments

The MCMC notes the views of DiGi and Maxis in relation to the ongoing importance of licensing considerations. This has been an issue that the MCMC has been mindful of in reaching its final views in this PI Access List Report.

5.3.2 Telekom's comments

Telekom raised some substantial comments in relation to the relevant markets for analysis. The MCMC has considered each of those issues and provides its responses below.

(a) Claims that the use of dominance analysis is ultra vires for access

The MCMC considered the views of Telekom regarding asymmetric regulation in the 2003 MS (Access) public inquiry. There, the MCMC acknowledged that the access regime is a broader concept and all the access obligations are equally applicable to all Access Providers.

Chapter 5 of the PI Access List Paper discussed two possible approaches for the purpose of identifying access issues in Malaysia. One approach is market-based and the other is based on licensing. There are several limitations of following the licensing based approach, as outlined in section 5.3 of the PI Access List Paper. The advantage of the market-based approach is not only in terms of consistency with the criteria in the PI Report for Dominance, but utilises the substantial analysis undertaken in that inquiry in terms of competition assessment useful to this Public Inquiry. However, this approach does not change the underlying principle of the application of access obligations which applies to all Access Providers.

Telekom's comments assume that the MCMC proposes to make decisions based on asymmetric considerations, or purely based on the dominance of any operator arising out of the PI Report for Dominance. This is not the case. The MCMC employed the analysis of the relevant markets in the PI Report for Dominance as the basis of market definition and as an analysis of the state of competition in each communications and multimedia market in Malaysia. Market definition is the universally accepted starting point for competition analysis. Importantly, the MCMC's analysis has been of access issues in the relevant markets, not focused on how it should regulate a particular entity. Contrary to Telekom's continued claim, the MCMC's methodology has always been applied only to identify relevant markets in order to assess the need for regulation in those markets. This approach has never been concerned with the regulation of competitors.

There is no suggestion in the MCMC's analysis that regulatory decisions arising from this Public Inquiry are based on the dominance of any entity. There is no proposal in either the PI Access List Paper nor this PI Access List Report to impose regulation on any operator solely on the basis of dominance. The MCMC's methodology for assessing

whether or not to regulate a service or facility is detailed in Chapter 4 of the PI Access List Paper: the LTIE criteria is applied by considering that regulation of a facility or service with bottleneck characteristics is in the LTIE; and, alternatively, a facility or service without bottleneck characteristics will be assessed against all the LTIE criteria.

The MCMC is in no doubt that the methodology adopted in this Public Inquiry is sound and is not ultra vires.

Further, the PI Access List Paper does not stipulate any possibility for application of asymmetric regulation to be applied for the purpose of access. Hence, the MCMC is of the view that the approach taken in this paper is consistent with the previous approaches by the MCMC. The MCMC does not agree with Telekom's submission that the dominance analysis is ultra vires for the purposes of this Public Inquiry.

(b) Suggestion of an additional market

The MCMC appreciates the views expressed by Telekom in relation to its proposed additional market for digital broadcasting transmission. Currently, as noted by Telekom, ASTRO is the only licensed provider of satellite delivered pay television services. As noted in the PI Report for Dominance, the MCMC sought views there on whether any additional markets should be considered. The MCMC noted that Telekom in that case sought satellite broadcasting to be included in the study. The MCMC concluded that it may undertake such a dominance assessment on the suggested market in future. The views of Telekom are open for consideration in the context of any future review that may be undertaken by the MCMC to include satellite broadcasting as an additional market.

Finally, as noted in the PI Access List Paper, access to set-top boxes, which are a form of customer equipment, cannot be addressed through the Access List. This is because only network facilities, network services and associated facilities/services may be specified on the list.

(c) Geographic market delineation

The MCMC has given due consideration before following the market-based approach, to ensure that the markets identified in the PI Report for Dominance would remain relevant for stipulating terms and conditions for access in respect of upstream markets. The segmentation of national markets into different geographical markets is not envisaged, as this would be inconsistent with the licenses granted on single national market, rather than geographic or regional basis. Further segmentation of the markets would create

anomalies with respect to the provision of facilities and services in different markets by licensees.

The MCMC disagrees that regulation of services in a single market would lead to “subsidised” competition. The MCMC grants licenses on a national basis, whereas the service providers choose economically remunerative areas to roll-out their services. While roll-out of infrastructure in unremunerated areas is separately governed by universal service provision, the choice to roll-out infrastructure and services in other areas, by and large, lies with the individual service provider. With the introduction of competition, an objective of service providers to obtain a quick return on investment often leads to a tendency to focus on highly populated areas, such as metropolitan areas, in Malaysia.

The MCMC notes Telekom’s comments that other countries have considered geographic market delineation in their regulatory analysis. However, this cannot and should not be the sole reason for disregarding the need for regulation in each case. Takeup and demand for services certainly varies between different geographic areas, as can be seen from the differing rates of teledensity in the different States of Malaysia. This fact cannot be the sole criterion for not facilitating an environment capable of making a service available (or enabling competitive service delivery to emerge) in certain geographic regions. The MCMC’s view is that a competitive beginning has to be made.

The MCMC is also aware of the arguments for the recognition of differences in cost structures that may be evident in different areas within an overall market. Definition of a market requires broader considerations than just differences in cost structures that may be at play in different geographic areas. A factor of particular significance on the supply side of telecommunications markets is the way in which major suppliers are structured. As noted above, licenses are granted for national coverage and operators generally compete with each other nationally. Under those circumstances, the existence of local differences in cost structures would not be a compelling reason to define localized geographic markets for regulatory purposes.

However, this does not prevent appropriate recognition of differences in local cost structure for the purpose of determining regulatory prices. The over-arching aim of the MCMC in this respect is to ensure that true costs are considered in determining cost structures, and that these are specific to the Malaysian context. Again, the MCMC encourages parties to raise these issues in the context of the pricing review being undertaken separately to this Public Inquiry.

6. FIXED LINE TELEPHONY

6.1 Existing Access List Services

The MCMC identified the following existing Access List services as relevant to fixed line telephony:

- (a) the Fixed Network Origination Service;
- (b) the Fixed Network Termination Service;
- (c) the Equal Access (PSTN) Service; and
- (d) Internet Access Call Origination Service.

6.1.1 Fixed Network Origination and Termination Services

Question 7:

The MCMC seeks comments on its preliminary view that the current Access List description of the Fixed Network Origination and Termination Services should be amended to ensure technological/service neutrality.

Question 8:

What would be the impact of adopting a technology/service-neutral approach to the description of the Fixed Network Origination and Termination Services?

(a) Comments received

Most respondents agreed that the Fixed Network Origination and Termination Services descriptions should remain on the Access List and be made technology/service neutral. It was noted in several places that as the service description in the current Access List are based on specific technologies which limits the potential of accommodating innovative technologies which are capable of similar services, this undermines the basic principle of technology neutrality in the CMA.

Most respondents considered that the technology/service neutral definitions proposed would have a positive impact on competition and provide consistency with the principles

of the CMA. Specific implications in relation to VoIP operators and cost were also raised, as discussed further below.

Maxis raised concerns about grant of equivalent access rights to VoIP operators which are not commensurate with the investments made in infrastructure. Maxis also suggested two types of VoIP operators – those who are bypass operators with no investment in networks (non NFPs/NSPs) and those who have network infrastructure and customers (NFPs/NSPs), and different treatment to be given to the two groups.

In principle, DiGi believed that the new service description would benefit new operators in fixed telephony market. However, DiGi disagreed that VoIP operators satisfy the any-to-any connectivity objective.

Telekom raised concerns that the cost of termination of calls to PSTN and IP networks varies substantially and argued that whereas call types may be within one Access List category this should not preclude any costing study determining differential prices. In addition, Telekom raised comments that interconnection at all POIs would impose undue burdens on the Access Provider, as they would be required to have all the network infrastructure and support systems available at all locations. Telekom proposed that the Access Provider be allowed to determine the technology options that can be made available at specific POIs.

Telekom also provided a detailed analysis of fixed and mobile substitutability, arguing that there is a high degree of fixed to mobile convergence and fixed to mobile substitutability in Malaysia. Telekom submitted that the MCMC should consider amendments to ensure technology/service neutrality by new, but not merged, categories. Telekom stated that this would mean that single and double tandem interconnection definitions should be retained. Telekom further argued that consideration should be given to “converging” the fixed network origination and termination definitions with similar mobile network services. Telekom stated that a letter from the MCMC dated 25 April 2005 supported this view, in which the MCMC noted that substitution from fixed to mobile services was an “international phenomenon”.

Telekom concluded that the impact of a technology/service neutral approach to these service descriptions would result in adverse consequences. These include difficulties for cost modelling, possible underestimation of Telekom’s costs of supplying these services, and enormous investment to support billing systems for the different technologies that will be included in the definition.

6.1.2 MCMC's Final Views

The MCMC's view is that the Fixed Network Origination and Termination Services are crucial elements of the interconnectivity of network services. This is because the services are inputs to a variety of services that originate or terminate on the fixed network. Accordingly, the MCMC concludes that the Fixed Network Origination and Termination Services should remain on the Access List, subject to amendments to the service descriptions to ensure technology/service neutrality of the description of the services.

The MCMC also sought views on the impact of adopting a technology/service neutral approach to the existing service definitions. The MCMC makes the following points about the rationale of technology/service neutrality at this juncture, considering that comments have been sought on its reasoning and application at several stages in this Public Inquiry:

(a) Meaning of technology/service neutrality

The benefits of technology/service neutrality become relevant with emergence of convergence, where evolving technologies play a significant role in the provision of similar services to end users, regardless of the platforms used to provide them with services. Stipulation of service specific descriptions based on certain technologies would therefore be against the spirit of the CMA.

(b) Objectives of technology/service neutrality

The NPOs include the desire to establish Malaysia as a global major global centre and hub in the communications and multimedia sphere. The CMA establishes the convergent legislative basis for achieving those objectives and the MCMC itself is charged with regulating in a manner that promotes technology/service neutrality.

(c) Benefits of technology/service neutrality

The forward-looking approach adopted in this Public Inquiry recognises that technologies are evolving constantly. Accordingly, a forward-looking approach supports amending the definitions of services in the Access List to ensure technology/service neutrality. The inclusion of new services and facilities should also promote technology/service neutrality to the greatest extent feasible.

The MCMC's regulatory approach in pursuit of technology/service neutrality is well-established. For example, the MCMC's licensing approach is consistent with the provisions in the CMA to allow flexibility with respect to licensing structures as licensing requirements vary over time. As the MCMC has previously stated, "As the industry evolved towards convergence, licences under the CMA are formulated to be both technology and service neutral."⁴

The MCMC therefore concludes that the service descriptions for the Fixed Network Origination and Termination Services should be consistent with these above factors. The MCMC therefore confirms its preliminary view to amend these descriptions to achieve technology/service neutrality.

The MCMC also notes that several specific comments on this issue have been made in relation to VoIP services. It has been suggested in several places throughout this Public Inquiry that differential treatment should apply for VoIP operators compared to other Access Seekers, or even that differential regulatory rights should apply as between different types of VoIP operators. The MCMC's view is that VoIP services provide choice of additional services to end users. The operation of VoIP services contributes to the promotion of competition in Malaysia. The MCMC does not agree with Maxis' view on the issue of equivalent access rights for VoIP operators. The provisioning of VoIP services requires only an ASP license. By virtue of being applications service provider, ASPs are not expected to have infrastructure and services of their own. The licensing regime under the CMA envisages that ASPs can obtain facilities and services from the available NFP/NSPs so that they can provide application services. In addition, the access regime grants them rights as an Access Seeker in respect of facilities and services contained in the Access List. The MCMC believes that VoIP operators should benefit from equivalent access rights to all other Access Seekers.

The MCMC also notes the technology-specific definitions in the current Access List are being used as one of the major reasons for denial of access rights to some Access Seekers, such as VoIP providers. This has been brought to the MCMC's attention in this Public Inquiry and also in other fora, such as the CEO Dialogues conducted by the MCMC. Considering the role of IP in future and the potential benefits it will provide to end users, the MCMC would like to facilitate access. Hence, one of the reasons for modifying the service descriptions in this case is to achieve this objective.

The MCMC also notes Telekom's submission that consideration should also be given to whether these service descriptions should be merged with similar mobile network

⁴ MCMC, *Information Paper: Licence Application Procedure and Licensing Criteria*, 8 August 2003 at paragraph 2.2.

services. The MCMC appreciates the detail provided by Telekom in relation to the issue of fixed and mobile substitutability on this point. However, the MCMC disagrees that there is conclusive evidence to support Telekom's view that fixed and mobile services are perfect substitutes. In this regard, Telekom relies on the MCMC's *Hand Phone Users Survey* (December 2004) in support of its contentions. MCMC highlights that the purpose of this survey was not to form a definitive view on fixed and mobile substitutability. Furthermore, the survey based on a sample of less than 5,000 consumers was never intended to be, and cannot be held out to be, a substitute for detailed study to demonstrate fixed to mobile substitutability in Malaysia.

The MCMC also notes that the letter referred to by Telekom was provided in the context of responding to Telekom's concerns about what it views as disparities between fixed and mobile access charges. The MCMC's statement that fixed and mobile substitutability is occurring internationally, as well as in Malaysia, was made to note that Telekom (like other fixed operators around the world) does have opportunities to utilise its network and other infrastructure to find ways of competing with mobile operators. The MCMC does not agree that the comments in its letter, or their interpretation by Telekom, support the notion that fixed network services should somehow be merged with mobile network services on the Access List.

The MCMC also notes Telekom's concerns that a technology/service neutral definition will create difficulties for cost modelling and determining direct costs of the service. The MCMC notes these concerns and will be considering them in the access pricing review which is currently being undertaken by the MCMC. However the MCMC also notes that Telekom provided limited specific evidence, if any, to support its claim that the amended service descriptions will result in it having to incur "massive investment" to support new technologies which will arise from the amended service descriptions. In the absence of such evidence to enable the MCMC to conduct an analysis on this point, the MCMC cannot conclude that Telekom's concerns are substantiated. Nevertheless, the MCMC will consider Telekom's views and any other submissions that are made in the context of the access pricing review on this issue.

The MCMC's opinion is that the concept of technology/service neutrality will promote provision of same service functionality by different technological options, therefore in fulfilment of the objectives and benefits of technology/service neutrality noted above. This will facilitate access to upstream services by Access Seekers on reasonable terms and conditions. The MCMC also recognises that different technological solutions would provide different quality of service as well as different infrastructure cost. Hence, the costing study would take into consideration the elements of cost involved for

provisioning of such services. The MCMC expects Access Providers to make available access at any technically feasible POI.

Having considered the submissions received, the MCMC therefore confirms its preliminary view that Fixed Network Origination and Termination Services should remain on the Access List, but that amendments to the service descriptions are necessary to ensure technology/service neutrality of the services.

6.1.3 Equal Access (PSTN) Service

Question 9:

The MCMC seeks comments on its preliminary view that the Equal Access (PSTN) Service should be retained on the Access List.

(a) Comments received

Most respondents other than Telekom and Celcom who commented on this question agreed with the MCMC's proposal to retain Equal Access (PSTN) Service on the Access List. Maxis commented that though there is no measurable success with Equal Access, there are still a few operators that are currently offering Equal Access to existing customers, though limited in number, who will benefit from the retention of the service on the Access List.

The contention of Telekom to remove Equal Access service from the Access List is based on limited customer interest and progressive de-registration of the service. Further, Telekom emphasised that the use of VoIP technology has undermined the need to continue regulation of the service.

TIME stated that it believed very firmly that the service should be retained on the Access List. TIME argued that although VoIP is emerging as an access option, end users should still be offered the choice of whether to make a call via the PSTN or by VoIP. TIME particularly highlighted its view that negotiation for the service would be extremely difficult in the absence of regulation.

(b) MCMC's Final Views

Noting the specific concerns of Access Seekers in this regard, it is not conclusive that Telekom would have the incentive to commercially negotiate access to its network using

this solution if the Equal Access (PSTN) Service were removed from the Access List. This would affect the ability of the existing operators offering the service to the end users. This is further substantiated by submission from TIME, wherein they have highlighted that there is a history of blocking strategies and that their customers have experienced interruptions at fixed access lines of the Access Provider's network.

In response to comments regarding the substitutability of VoIP for the Equal Access service, the MCMC noted in its *Public Consultation Report on Implementation of Pre-selection* (30 November 2004) that the limited takeup of Equal Access is partly attributable to the advent of other options such as VoIP. However, the MCMC's conclusions on that occasion need to be taken in context: there, the MCMC was examining whether it was necessary or desirable to mandate a pre-selection requirement. The MCMC determined that question in the negative. Most importantly, the MCMC determined that even if pre-selection were mandated, call-by-call Equal Access should be retained. It is highly unlikely that this conclusion could have been reached if VoIP were considered to be a perfect substitute.

It is also notable that many of the submissions, including from Telekom, Maxis, TIME, Celcom and REDtone supported the retention of the call-by-call Equal Access Service in the event that pre-selection was mandated. It is therefore difficult to reconcile the views of some of those licensees in this Public Inquiry who have argued that VoIP is a perfect substitute for call-by-call Equal Access. If perfect substitutability between VoIP services and call-by-call Equal Access was indeed the case, one would assume that those licensees would have been in favour of the removal of the Equal Access Service from the Access List in the MCMC's previous pre-selection inquiry also.

One of the key factors cited by the MCMC, and supported by many licensees in the pre-selection inquiry, was the importance of retaining end user choice. Here, the MCMC also considers that end users should retain a choice of access mechanism provided by the existence of the Equal Access Service. This further reinforces the retention of the service as being in the LTIE. The MCMC further notes that licensees have already made investments to implement Equal Access and that future, unsustainable investment in the service is unlikely to occur if the service is retained in the Access List.

The MCMC concludes that it is premature to remove the Equal Access (PSTN) Service from the Access List and that its retention is in the LTIE. The MCMC has therefore determined to retain the service on the Access List in a modified form, with pre-selection removed.

6.1.4 Internet Access Call Origination Service

Question 10:

The MCMC seeks comments on its preliminary view that the Internet Access Call Origination Service should be removed from the Access List.

Question 11:

Do you think that commercial arrangements will work effectively in the event of removing the Internet Access Call Origination Service from the Access List?

(a) Comments received

Most respondents agreed with the MCMC's preliminary view for the removal of the Internet Access Call Origination Service from the Access List, other than TIME and Maxis. TIME submitted that though there is a focus on broadband penetration there are still pockets of population who are relying on the dial-up internet service. TIME further submitted that the price differential between dial-up internet service (narrowband) and broadband service is considerable.

TIME further argued that dial-up Internet access will continue to be the dominant mode of access, but that Telekom's terms of access makes it difficult to obtain the service. These factors, TIME argued, suggest that the service should be retained on the Access List.

Maxis argued strongly for the retention of the service and noted that the lack of demand of the service from operators is not attributed to a lack of interest from the competing ISPs, but rather due to difficulties in reaching beneficial commercial agreements in setting the level of origination price for service. Maxis also sought some detailed guidance from the MCMC in a way that facilitates commercial negotiation of the acquisition of the service.

(b) MCMC's Final Views

The MCMC notes the concerns raised by TIME and Maxis, particularly the submissions that the lack of interest in this service was due to the difficulties in commercial negotiations to acquire the service. Although the service exists on the Access List, the arguments have been made that it is either difficult or not possible for Access Seekers to negotiate reasonable terms and conditions of access to the service.

In light of the submissions received, the MCMC therefore did not believe that if the service is removed from the Access List, commercial negotiations would be sufficient to address the needs of Access Seekers. Further, the MCMC has not been provided with any evidence to prove that there is any extra cost to maintain this service on the Access List, or that the benefits of retention are outweighed by costs.

One of the most pertinent arguments noted by the MCMC in the submissions received is that although there is a gradual shift towards broadband accessibility, the statistics demonstrate that dial-up services are still utilised widely in Malaysia at present. The MCMC's latest statistics show a total of 3,293,000 end users have Internet subscription dial-up services, compared to 252,501 for broadband subscriptions.⁵ For geographic areas and citizens with specific socio-economic and demographic needs (including low users) the ability to use dial-up access remains very important. The retention of the service on the Access List would mean that the MCMC still retains a role in the upstream terms and conditions of access. This ultimately benefits end users of the service in respect of the terms and conditions on which they acquire the service at the retail level.

Applying the MCMC's methodology in this Public Inquiry, the MCMC is therefore of the view that the retention of the service on the Access List would be consistent with the NPOs in relation to promoting access to communications and civil society. The MCMC's choice of regulation places end users as paramount in stimulating Internet usage to achieve these objectives, and to ensure that such usage is facilitated through reasonable terms and conditions. By ensuring that regulation does not favour one form of technology (such as broadband accessibility) over another (such as dial up accessibility), the MCMC is acting in accordance with those objectives.

The MCMC's preliminary view to remove the service from the Access List was partly based on an understanding that no demand appears to have developed for the Internet Access Call Origination Service. The submissions provided on this point have argued strongly for the retention of the service, and that the access regime retains an important role in ensuring fair and reasonable terms of access. This contrasts with the MCMC's initial reasoning for removal from the Access List, which saw two possibilities for why minimal benefits had been derived from the regulated service to date. The first reason was that industry developments at the time of the service being included on the Access List had failed to materialise; and the second was that the availability of substitutes had overcome the need for regulation. The submissions on this point appear to demonstrate that these reasons did not comprise the full range of considerations that should be taken into account in the MCMC's final decision.

⁵ MCMC, *Communications and Multimedia Selected Facts and Figures*, Q4 2004.

For these reasons, the MCMC is persuaded to reconsider its preliminary view that the service should be removed from the Access List and that continued regulation would satisfy the LTIE test. The MCMC's final view is that the service should be retained on the Access List, and amend the service description to ensure technology/service neutrality for the service.

6.2 Potential new Access List Facilities and Services

The MCMC has identified two new services relevant to the market for fixed line telephony to evaluate for inclusion on the Access List. These are:

- (a) the Public Mobile Radio (**PMR**) Access Service; and
- (b) the Local Call Resale (**LCR**) Service.

6.2.1 Public Mobile Radio (PMR) Access Service

Question 12:

The MCMC seeks comments about whether Public Mobile Radio Access Service interconnection should be mandated? If so, do you agree with the MCMC's view that PMR interconnection could be facilitated through a technology/service-neutral version of the Fixed Network Termination Service and Mobile Network Termination Service on the Access List.

Question 13:

What would be the implications for PMR services by not mandating PMR interconnection in any form?

(a) Comments received

Most respondents considered the need for a mandated PMR Access Service to be a low priority. The views expressed by DiGi, NasionCom and Maxis were that PMR usage represented niche demand in which the potential for interconnection remains an option. Celcom considered that the need for interconnection is itself driven by the business model adopted in each case for the PMR Access Service.

TIME and other submissions considered that PMR access could be provided through a technology-neutral version of the Fixed and Mobile Network Termination Services.

Several submissions also favoured leaving PMR interconnection to commercial negotiations rather than regulation. This view was endorsed by Telekom, who further stated that it did not foresee any adverse implications of not mandating PMR interconnection.

(b) MCMC's Final Views

The MCMC notes the comments received, however its view is that even if any potential Access List service were to be properly characterised as niche, this in itself is not a reason for excluding it from regulation. The niche status of a service may indicate that there is limited commercial incentive to provide access, and that this could potentially be enhanced by clarifying the access rights and obligations in relation to the service.

Applying the LTIE criteria, the MCMC holds the view that a service should be included on the Access List which promotes interconnectivity between a PMR service and the fixed and mobile networks. Taking into consideration the MCMC's final views in relation to the Fixed Network and Mobile Network Termination Services, the technology/service-neutral service descriptions would serve the function of providing interconnectivity between the PMR service and the fixed/mobile networks. The MCMC has also not been provided with any data for cost/benefit analysis in the submissions received which would influence an alternative conclusion on application of the LTIE test.

By citing the PMR Access Service, the MCMC elaborated on how services could benefit from an access perspective if service descriptions are provided in a technology/service neutral way. Hence, this can accommodate services or technologies without the need for specifying each individual service that can be provided and can overcome the current limitations of the Access List.

The MCMC's conclusion is to refrain from specifically mandating a PMR Access Service at this stage, however the MCMC believes that the existing or likely access issues can be addressed now with a technology-neutral version of the Fixed and Mobile Network Termination Services. The MCMC therefore concludes that technology/service neutral definitions of the Fixed and Mobile Network Termination Services would be sufficient to achieve the objectives of Access List regulation, without specifically including PMR interconnection on the Access List.

6.2.2 Local Call Resale (LCR) Service

Question 14:

Do you foresee demand in Malaysia for a Local Call Resale Service?

Question 15:

The MCMC seeks comments on whether a Local Call Resale Service should be included on the Access List. If included, the MCMC also seeks comments on whether a Local Call Resale Service should include local calls and/or line rental services.

(a) Comments received

Telekom submitted that in light of factors such as the takeup of VoIP services in Malaysia, there is no need to mandate the pure resale of a local call service. Telekom made specific comments in relation to pricing and costs, arguing that the costs of providing a similar LCR service in other countries has demonstrated that recoupment of charges to end users is difficult and in many cases does not make the provision of the service viable by a wide range of competitors in any case.

DiGi considered that it is unlikely that new potential resellers will enter the market for local calls unless tariffs are rebalanced to reflect a reasonable margin. DiGi's comments on the positive outcomes of regulating a LCR service appeared to be contingent on such rebalancing occurring.

The price of access was also an issue highlighted by Maxis. Maxis argued that the success of a mandated LCR service would be difficult considering that local calls are regulated with a price ceiling. The price of access must establish a margin that allows an entrant to provide marketing and customer service, while the access service itself is priced at a level that enables a competitive retail offering against Telekom. Maxis' view was that the achievement of this would be highly problematic.

TIME argued that there would be demand for a LCR service, arguing that this would provide an opportunity for smaller players to enter and bundle existing services with their own products. TIME did not address the issue of competitive costs, as outlined above.

NasionCom's view was that the mandate of a LCR service would only be viable if local call tariffs and local call termination rates could be rebalanced appropriately.

REDtone considered that there is a foreseeable demand for a mandated LCR service, however consideration must be given to the wholesale costs of the reseller in order to make it a viable business proposition.

(b) MCMC's Final Views

A Local Call Resale Service has been mandated in several countries including the United States, New Zealand and Australia as a wholesale product to facilitate services-based competition in local and other fixed telephony services, including long distance and international services. The general rationale for regulation is to give competing operators the opportunity to provide a "full" fixed line service to customers.

The MCMC notes that some respondents can foresee the need for an LCR service in order to also provide such competitive bundled offerings in Malaysia. However, the MCMC also notes that the level of detail in the submissions on this point is limited. In assessing the comments received, the MCMC does not conclude that there are any immediate demands for access to this upstream service in order to provide competing retail offerings. While this is not a factor in and of itself to reach a conclusion on whether or not to include the service on the Access List, the MCMC is mindful that even in the absence of regulation, it is still possible for a competing service provider to request a wholesale service (such as LCR) from an Access Provider. The MCMC has not been provided with any evidence that such requests have been made of Telekom, or that an access problem exists in this regard which need to be addressed.

The MCMC's analysis in the PI Access List Paper noted that Telekom does not have an incentive to provide a wholesale LCR Service on reasonable terms and conditions to other competing operators. The MCMC recognises that there are several strong and divergent competing reasons for and against regulation of a LCR service. These include balancing the potential for new and competing operators to enter the market through re-supplying a basic service; and the efficient use of sunk investments.

The issue of tariff rebalancing is a pertinent one raised in many of the submissions. The MCMC is conscious, in applying the LTIE test, that regulation should not be done for its own sake. In its other conclusions in this PI Access List Report, the MCMC has reached some final views based on the forward-looking approach to regulation and potential access issues. In relation to a LCR service, the MCMC finds it difficult to identify an existing or potential access issue as long as the constraints over pricing appear to

similarly constrain any Access Seekers from taking up the service, even if it were mandated.

Regulated pure resale of end-to-end services need to be considered on a case-by-case basis, having regard to the objectives of regulation in each instance and the potential for stimulating infrastructure investment. In the above considerations, the MCMC has considered the views in the submissions of the potential for regulation in the case of an LCR service to stimulate infrastructure-based competition. The MCMC does not consider that regulation of a pure end-to-end service in this case is likely to lead to infrastructure-based competition in the case of Malaysia. Although the rationale for regulation in some other countries has been that such infrastructure-based competition will eventuate, the characteristics of the fixed line telephony market in Malaysia do not sustain the same conclusion.

The MCMC's final view is that in consideration of the above issues, a LCR service will not be included in the Access List at this time. The MCMC stresses that even in the absence of a regulated service, there is nothing which prevents a potential Access Seeker from requesting an upstream service from Telekom in order to provide a competing retail service. In the event that access issues arise from such occurrence in the future, the MCMC notes that there are presently other powers at its disposal to potentially address such issues. Behavioural regulation could be employed by the MCMC. If access intervention is warranted, the MCMC notes that it remains within its functions to monitor such developments and potentially intervene by access regulation in future.

Finally, it is outside the scope of this Public Inquiry to specifically address the issues of tariff rebalancing. The MCMC can therefore only consider whether regulation is warranted in relation to a LCR service. It is outside the scope of this Public Inquiry for the MCMC to actually create an environment in which any service could be made commercially viable.

6.3 Conclusion

The MCMC's overall assessment of the fixed line telephony market is that regulation remains necessary to address existing bottlenecks. Amendments to existing services in the Access List are also required to fulfil the objective of technology/service neutrality.

The MCMC also concludes that the Access List remains an essential tool to ensure that VoIP services are able to be offered on a competitive level playing field in the fixed line telephony market. The MCMC also acknowledges the existing and potential competitive

impact of VoIP services. This is reflected in the MCMC's final view not to include the LCR Service on the Access List.

The MCMC has also determined to address downstream issues that are relevant to access regulation, as reflected in continued regulation of the Equal Access (PSTN) Service and the Internet Access Call Origination Service.

7. MOBILE TELEPHONY

7.1 Existing Access List Facilities and Services

There are two existing Access List services that are relevant to the market for mobile telephony:

- (a) the Mobile Network Origination Service; and
- (b) the Mobile Network Termination Service.

7.1.1 Mobile Network Termination Service

Question 16:

The MCMC seeks comments on:

- (a) its preliminary view that the Mobile Network Termination Service should be retained on the Access List, but amended to ensure technological/service neutrality;**
- (b) the impact of adopting a technologically/service neutral approach to the description of the Mobile Network Termination Service; and**
- (c) the potential impact of including voice and data in the Mobile Network Termination Service description.**

(a) Comments received

All respondents agreed that the Mobile Network Termination Service should be retained on the Access List with a technology/service neutral description.

Telekom raised concerns about the applicability of the pricing for termination using different mobile technologies, such as 2G and 3G, and argued that termination prices for 3G services should be left to commercial negotiation. Maxis and Telekom raised similar concerns about the implications of adopting technology/service neutral descriptions which might affect investment infrastructure. Maxis further argued about different terms and conditions to be applied to VoIP/ASP for accessing termination services.

TIME raised an issue of the disparity between fixed and mobile rates.

DiGi, Maxis and Celcom disagreed with the inclusion of data services in the service description for the Mobile Network Termination Service.

(b) MCMC's Final Views

The Mobile Network Termination Service continues to satisfy the bottleneck test and should therefore remain on the Access List. The MCMC has not been deterred from this view following consideration of all the submissions in relation to this service.

The MCMC has used the approach of technology/service neutrality to facilitate termination on mobile networks by new and emerging technologies. This concept will allow equitable terms and conditions of access for termination of mobile calls by competing service providers using technology of their choice. This approach has also been adopted in several other countries and reflects best-practice convergence regulation.

The MCMC recognises the fact that termination of calls on mobile networks using different technological solutions would be based on the costs of the network elements involved using different technologies. Hence, the costing study would take into consideration the elements of cost involved for provisioning of such services. The MCMC considers that arguments of cost differentials based on different technologies used cannot be sustained as a ground for denial of access.

In respect of the above matters and concerns regarding disparities between fixed and mobile termination rates, the MCMC encourages respondents to participate in the costing study undertaken which includes fixed and mobile termination rates. The operators should provide accurate cost data and necessary information to the MCMC based on which the termination rates would be determined.

The MCMC therefore confirms its preliminary view that the Mobile Network Termination Service should be retained on the Access List, and that necessary amendments should be made resulting in the technology/service neutrality of the service.

7.1.2 Mobile Network Origination Service

Question 17:

The MCMC seeks comments on whether the Mobile Network Origination Service should be removed from the Access List. In particular, the MCMC would be interested in whether the removal of the Mobile Network Origination Service would be likely to have an adverse impact on VoIP operators.

(a) Comments received

All respondents other than REDtone and TIME agreed with the proposal to remove the Mobile Network Origination Service from the Access List. Both these submissions claimed that it is difficult to obtain the service at reasonable terms and conditions, and the price charged is excessive.

TIME emphasised that the service is required for access to VoIP services as well as services such as call centre, customer service centre and other commercial entities. TIME also stated that it provides a choice to end users to make call between mobile and fixed lines which support some of the NPOs. TIME's view was that removal of the service would have an adverse impact on VoIP operators as they would have to use 7/8 digit numbers, involving higher cost to them.

(b) MCMC's Final View

The MCMC notes that mobile subscribers may have several alternative methods to obtain services such as freephone 1800 number services and toll free 1300 number services, other than pursuant to the Mobile Network Origination Service using a mobile service.

The MCMC is of the view that once mobile number portability is implemented, end users will have significant countervailing power which would have the effect of preventing mobile operators from raising prices for the Mobile Network Origination Service or not providing access to 1800/1300 numbers on a reasonable commercial basis. This is because end users will be able to change to another mobile network and retain their number if they are not satisfied with the level of access given to 1800/1300 numbers by their current mobile operator.

The MCMC notes that the removal of the service from the Access List following the implementation of mobile number portability would not mean that the availability of service on commercial basis would cease to exist. Access Seekers could obtain the

service through commercial negotiations failing which they could request MCMC intervention. This is consistent with the MCMC's desire to promote conditions for self-regulation, whereby industry could develop and build commercial alternatives to mandatory regulatory interventions. The incentive for adopting such approach would directly reduce the regulatory cost and provides an opportunity for the industry to rely on commercial negotiations.

Regulatory review with respect to inclusion and exclusion of certain facilities and services is an ongoing process and opportunity to be provided to the industry to develop commercial models for the service which is considered for removal. The approach taken by the MCMC is consistent with international regulatory precedence. For instance, the ACCC in Australia has also removed this service from the Australian equivalent of Access List.

Applying the LTIE test in the Malaysian context and specifically by reference to the submissions received, the MCMC highlights three important points that have informed its final view to de-regulate the Mobile Network Origination Service upon the implementation of Mobile Number Portability. The MCMC has noted above that the absence of a mandate for the service does not mean that it will not be provided as a rule. To the contrary, the MCMC considers that, in reality, the service will continue to be provided even in the absence of regulation. A case in point is the June 2004 decision of the ACCC to revoke regulation of the mobile originating access service in Australia. The ACCC concluded that generally, network providers of the origination service are likely to have commercial incentives to interconnect to ensure any-to-any connectivity, without the ongoing requirement for regulation. This is partly because of the charging arrangements for mobile terminating and originating access, where a single amount for termination is commonly charged and any originating charge are effectively set off against this amount.

Although some respondents have complained in their submissions about the price for the origination service, the MCMC has received little by way of evidence in those submissions to identify an existing access problem. The MCMC does not dispute the validity of those concerns and the reasons why they have been raised, however the issue of access pricing is being dealt with separately by the MCMC in its current review, independently of this Public Inquiry. The MCMC encourages those parties to participate in that review and highlight their concerns in that process.

Some submissions noted the concerns that VoIP providers might raise in opposition to the removal of the service from the Access List, but said that the concerns of parties such as REDtone and TIME are unfounded. The MCMC wishes to highlight to REDtone

and TIME that if the views of those parties in relation to the potential adverse implications of the service being negligible are proven to be incorrect, the MCMC has other means at its disposal to address this issue in future.

One of the important roles of the MCMC is to ensure that the regulation is responsive and applied proportionately: only where necessary, and to the extent necessary, to achieve its objectives. The MCMC applies this principle as a best-practice rule in its deliberations. In the absence of evidence to substantiate the existence of an access problem that requires resolution through the Access List, the MCMC exercises regulatory forbearance.

The MCMC stresses that if adverse implications arise which have a detrimental effect on end users following the removal of the service from the Access List, the MCMC will use other powers at its disposal to investigate and deal with such issues.

7.2 Potential New Access List Facilities and Services

The MCMC has identified 5 new facilities or services relevant to the market for mobile telephony to evaluate for inclusion in the Access List. These are:

- (a) the 2G Domestic Inter-Operator Roaming Service;
- (b) the 3G-2G Domestic Inter-Operator Roaming Service;
- (c) the Mobile Virtual Network Operator Service;
- (d) the Mobile Number Portability Inter-Operator Service; and
- (e) Infrastructure Sharing.

7.2.1 2G Domestic Inter-Operator Roaming Service

Question 18:

How can domestic roaming facilitate nationwide coverage and promote competition?

Question 19:

How can domestic roaming facilitate investment in mobile infrastructure?

Question 20:

The MCMC invites comments on whether the 2G Domestic Inter-Operator Roaming Service should be included on the Access List.

Question 21

The MCMC seeks comments on the most efficient solution to implement inter-operator domestic roaming.

(a) Comments received

Telekom submitted that commercial arrangements were sufficient to provide domestic roaming and that regulation was not necessary. Maxis believed that domestic roaming would only have any benefit if implemented in existing non-overlapping coverage areas.

Celcom submitted that the need for regulated domestic roaming has been obviated by events such as industry consolidation, the Time One and Time Two initiatives, tower sharing arrangements and efficiently-planned network rollout arrangements.

In contrast, DiGi submitted that it has been unsuccessful in obtaining commercial domestic roaming terms with Celcom and Maxis. It stated that Celcom refused to start serious commercial discussions with DiGi, and that Maxis' agreement to roaming at one location only resulted from Government pressure to do so. DiGi also submitted that although domestic roaming was encouraged at a policy level, there remained a lack of clarity on whether it presented a short-term or long-term coverage solution.

TIME and REDtone broadly supported mandated domestic roaming on the basis of national coverage improvements and centering competition in customer services.

Telekom also submitted that mandated domestic roaming would not facilitate infrastructure investment. Maxis also cautioned against the potential for distorted network investment.

In relation to mobile coverage issues, Telekom stated that it and Celcom are committed to the Time One and Time Two processes.

(b) MCMC's Final Views

Coverage and investment considerations emerged as the major arguments for and against the inclusion of this service on the Access List. Although mandated roaming may address the critical issue of coverage, mobile operators are licensed on a national basis. A mandated service may inhibit operator investment in infrastructure. Alternatives such as infrastructure sharing may also be a more efficient means of addressing access issues. Many countries have also weighed up the same considerations and declined to regulate a domestic roaming service. Reasons for this have included a preference to leave such arrangements to commercial negotiation.

Having considered the submissions received, the MCMC concludes that there are significant disadvantages posed to competition in the mobile sector by mandated national roaming. The MCMC has a number of concerns about this outcome from a competitive perspective. By the nature of this service, the MCMC has weighed up the benefits and disadvantages of roaming compared to infrastructure sharing.

First, coverage is currently an important competitive differentiator. Full national roaming will remove coverage as a competitive differentiator. This may be initially attractive because of the importance of coverage as a national issue rather than a competitive one. However, it is likely that if coverage is removed as a competitive differentiator, that the mobile operators will move their investment away from coverage to other matters. Thus, the result may be that none of the mobile operators extend coverage any further because they receive no benefit from doing so.

Secondly, there may be a negative impact on infrastructure investment (see further below) and hence infrastructure based competition. Infrastructure based competition is essential to the development of new products and better pricing for consumers. If Access Seekers can more easily rely on roaming over another party's network than building out their own infrastructure, then there may be an overall lessening of competition. It may be that Access Seekers will become increasingly reliant on the networks and the features offered by the Access Provider because of the lack of incentives to roll-out networks. This in turn may lead to a downward spiral, where Access Providers do not offer differentiated features because they can be used by their competitors on a roaming basis.

The MCMC notes comments that roaming is a more efficient use of resources and an efficient use of investment. Rather than requiring all operators to rollout separate national networks, roaming would enable ubiquitous mobile coverage regardless of the

subscriber's choice of operator. This could assist in alleviating inefficient duplication of network infrastructure, particularly in regions where it is uneconomical to invest.

However, as discussed above, regulation of national roaming may distort an operator's decision to maintain, improve and expand its network because it could rely on the network of the "host" operator. This in turn could discourage infrastructure investment in regions with insufficient coverage, as the existing "host" network may also have diminished incentives to maintain, improve and expand its network in those regions.

There is also a counter argument that domestic roaming discourages efficient use of infrastructure because it compromises quality of service. The MCMC's previous consideration of roaming arrangements has shown that operators have adopted a non-seamless approach to coverage. The result is that when subscribers move between adjacent cells which are operated by different providers, those subscribers often experience disruption in communication. Then when the subscriber returns to their "home" network, their handsets do not automatically register the home network.

In the event of inclusion on the Access List, there is a risk that existing potential new entrants will see an advantage in extending their network coverage through roaming rather than building or extending their own networks in areas where network duplication would be economic. There is also a risk that existing operators' investment plans may similarly be adversely affected by the inclusion on the Access List. They may be deterred from making investments in new facilities or enhancing existing facilities over which it would not have full control.

There would also be less willingness by operators generally to invest in the provision of innovative services with uncertain returns. In such a case, an investor would incur the full cost in the event that the investment is not successful. On the other hand, if the investment is successful, the inclusion of inter-operator roaming on the Access List would force the investor to share the gains with its competitors. As a result, there would be an increased tendency among operators to wait for others to invest first, and consequently retard future investment and the associated potential gains in dynamic efficiency.

Apart from the impact on infrastructure investment, the relationship between mandated roaming and the national nature of mobile licences also raises an issue of efficient spectrum utilisation. If regulated domestic roaming provides operators with an incentive not to utilise the spectrum that has been allocated to it, the failure to utilise a scarce resource becomes an inefficient use of that spectrum.

With inclusion in the Access List, consumers requiring full national access could benefit from increased competition as a result of mandated roaming. However, these benefits would have to be weighed against the potential losses of dynamic efficiency from reduced incentives for operators to invest in network extensions and network enhancements over which they would not retain full control. It would also introduce additional regulatory compliance costs for the operators.

In terms of qualitative consideration of costs and benefits, the MCMC therefore concludes that the inclusion of 2G inter-operator roaming on the Access List would impose additional compliance and administrative costs on operators without balanced benefits. Such costs include configuration of networks to accommodate the service and ongoing costs of administration of agreements.

Although the MCMC regards inter-operator roaming to be an important contributor to national coverage and competition in mobile services, its final view, on balance, is that there would be little to be gained in the LTIE from including inter-operator roaming services on the Access List. In reaching this conclusion the MCMC took into consideration that inclusion is likely to lead to adverse investment incentives, with negative impact on facilities-based competition in the mobile services market; inclusion would be unlikely to lead to substantial increases in consumer benefits; and inclusion would impose regulatory compliance costs on operators.

In addition, the MCMC is mindful that mandated roaming may not be necessary if the Time One and Time Two initiatives promote a commercial solution to the issues, having regard to an appropriate balance of the relevant issues. The MCMC notes the submissions received indicating that these initiatives are being progressed. For these reasons, the MCMC's final view is not to include the service on the Access List.

7.2.2 3G-2G Domestic Inter-Operator Roaming Service

Question 22:

- (a) Do you agree with the MCMC's assessment of including 3G-2G roaming on the Access List?**
- (b) Should there be a sunset date for the phase out of 3G-2G roaming from the Access List?**

(a) Comments received

Telekom considered that the LTIE criteria of any-to-any connectivity could be ensured without regulation. It submitted that if combined with the 3G spectrum licensing allocation arrangements, this would constitute “double” regulation of 3G-2G roaming.

Similarly, DiGi submitted that 3G-2G roaming needs to be considered in the context of the 3G spectrum allocation process and 3G MVNO arrangements. DiGi set out some potential scenarios for 3G-2G roaming and the ways in which roaming may or may not be required. Its conclusion was that mandated 3G-2G roaming would potentially only be required in a limited range of circumstances: to enable DiGi as a 3G MVNO to provide handover to and from DiGi’s 2G network in cases where there is no 3G coverage; and to facilitate the entry of a new 3G MVNO with no 2G network of its own. In the latter case, DiGi supported a short sunset period.

Celcom also highlighted a limited number of scenarios in which 3G-2G roaming could operate. Celcom did not support an additional assignment of 3G spectrum to a party that does not have a 2G network. If a 3G MVNO arrangement is entered into, Celcom submitted that regulation would not be required to compel the parties to reach appropriate roaming arrangements. Celcom also cautioned against the potential for a mandated 3G-2G roaming service to send incorrect signals to the industry at a time when the market has demonstrated that it can only profitably support a limited number of operators. Celcom therefore disagreed with the MCMC’s preliminary view on inclusion in the Access List.

Maxis did not support the inclusion of a 3G-2G roaming service, in preference to commercial negotiations for roaming in line with its views on 2G domestic roaming. Maxis cautioned against the disincentives that regulation could have on infrastructure investment in new technologies such as 3G services. In the event that the MCMC’s final view is to mandate 3G-2G roaming, Maxis endorsed a sunset period of either two years or the next Access List review, whichever comes first.

TIME and REDtone supported the inclusion of a 3G-2G roaming service on the Access List, but without a sunset date.

(b) MCMC’s Final Views

The MCMC notes the comments of the parties opposed to the mandate of a 3G-2G roaming service, who have cited a preference for commercial negotiations and market forces to determine such arrangements. However in light of the difficulties with 2G

domestic roaming and the importance of forward planning to ensure 3G service coverage, the MCMC remains unconvinced that 3G-2G roaming would be provided on a commercial basis.

The MCMC recognises the concerns relating to “free riders” on 3G network investment and their validity in some respects. However, the MCMC also notes there would be significant benefits from mandating 3G-2G roaming, particularly from the desire to create the environment of an efficient market structure to facilitate competition in the long term. The MCMC does not consider it necessary to include a sunset date by which time regulation of the service would cease, which would reflect the development of competitive conditions and obviate the need for ongoing regulatory intervention for the service. Part of the MCMC’s functions include ongoing monitoring and response to complaints from operators. If a sunset period were also included, it is possible that the appropriate sunset date would co-incide with a future review of the Access List in any event.

The MCMC also notes that 3G-2G roaming is likely to stimulate investment, because it would not cause a 3G spectrum assignee or a new 3G MVNO to be contingent on network rollout to commence competitive operations.

In addition, the capacity of the two 3G spectrum assignment holders to attract and build a customer base for their 3G customers, particularly in the early development phase of 3G, would be improved by 3G-2G roaming. Access to roaming on existing 2G networks on a non-discriminatory basis would also remove a significant potential barrier to entry by prospective additional 3G licensees or MVNO.

Given the importance and imperatives of facilitating access to new technologies such as 3G services, the MCMC does not consider it is warranted to leave this service to commercial negotiation rather than mandate. The MCMC also notes that the implications of regulation in any event do not preclude commercial means to negotiate access to the service. On the application of the LTIE test therefore, and in doing so to ensure that end users obtain maximum benefit from 3G service availability, the MCMC has determined to include this service on the Access List.

7.2.3 Mobile Virtual Network Operator Service

Question 23:

The MCMC seeks comments on the definition of MVNO and the implications of the various MVNO models on the potential access issues and application of the NPOs identified below.

Question 24:

The MCMC seeks comments on its preliminary view that any MVNO arrangements should be determined by market forces, and therefore inclusion on the Access List is not warranted.

(a) Comments received

Telekom agreed with the MCMC's assessment that a single accurate definition of all forms of MVNO is not possible, hence any inclusion in the Access List would be uncertain. Telekom's preference was to let the market determine the emergence of any MVNO models and business cases.

The MCMC's position was also broadly supported by all three mobile operators. In particular, the MCMC notes that none of the submissions presented comprehensive statements as to their planned or potential activities in the MVNO sphere and reasons why regulation is essential in order to provide for MVNO to be developed and facilitated.

Only TIME held a strong view that MVNO should be included on the Access List, contending MVNO to be parallel to an equal access requirement. REDtone conceded that it did not have a firm view on the issue.

(b) MCMC's Final Views

The MCMC maintains that the definition of MVNO, to a large extent, depends on the business model chosen to implement MVNO. Depending on the choice of business model, the limited number of identifiable potential access issues can vary. A decision to mandate MVNO should not result in discrimination between any business model through an Access List service description.

The MCMC has reservations about the appropriateness of using the access regime to favour a business model in this way. The MCMC prefers to leave it to the market to

determine the most appropriate market outcome. This led to the MCMC's preliminary view that MVNO should not be included on the Access List. In addition, the MCMC considered that the commitments made by UMTS and Telekom are sufficiently binding to provide a degree of ongoing regulatory and commercial certainty that an MVNO is a viable means of entering the 3G segment of the market.

As noted above, the MCMC has not been provided with compelling evidence in the submissions received to negate these earlier views. To the contrary, none of the submissions received provided a compelling case as to the necessary regulation of MVNO in order to achieve the functions of MVNO. The MCMC has not been provided with evidence in the submissions that an identifiable access problem exists to require regulation of MVNO.

Applying the LTIE criteria and the experience of international best practice, the submissions received provide no compelling case for regulation and a clear preference for the development of MVNO to be left to market forces. The MCMC has therefore decided not to include this service on the Access List.

7.2.4 Mobile Number Portability Inter-Operator Support Service

Question 25:

The MCMC seeks comments on the most appropriate mechanism for implementing the MNP Direction, specifically whether this should be achieved through the access regime or numbering regulation.

Question 26:

The MCMC invites comments on the potential service description for the Inter-operator MNP Support Services.

Question 27:

The MCMC invites comments on the likely technical and implementation issues for MNP, particularly the feasibility of allowing industry to develop these standards.

(a) Comments received

All respondents other than DiGi raised concerns regarding implementation of MNP through the Access List.

Maxis has proposed the formation of a working group to look into implementation of MNP. Telekom has commented that MNP issues should be commercially negotiated. In addition, Telekom and Celcom raised concerns about insufficient demand of service by the consumers and cost of implementation for MNP.

The MCMC notes that some of the submissions tended to focus on a debate as to whether or not MNP is desirable, rather than the actual implementation of MNP. The MCMC considered this service from the perspective of identifying access issues necessary to implement MNP.

(b) MCMC's Final Views

There is no question that MNP must be introduced in Malaysia, due to the requirement for MNP in Malaysia now being subject to the Ministerial Direction on Number Portability Direction No. 2 of 2004 (Ministerial Direction on MNP). The MCMC takes note of the comments by the respondents regarding the Ministerial Direction on MNP. The task for the MCMC is to implement MNP in a manner consistent with this Direction.

The MCMC is aware that the relevant instrument to implement MNP is through the Numbering and Electronic Addressing Plan under section 180(2)(e) of the CMA. In this regard, the MCMC has begun work on an appropriate solution for implementation of MNP. This process will involve thorough consultation with industry stakeholders and detailed examination of issues before the appropriate solution is determined during the consultancy on MNP currently being undertaken.

However, the MCMC considers that facilitating end user choice through MNP is not only an issue of numbering. The MCMC is of the view that while the Numbering and Electronic Addressing Plan would stipulate rules for portability of assigned numbers and electronic addresses from the end user perspective, porting involves two operators undertaking certain processes to implement the port. These processes should be on transparent and non-discriminatory terms and conditions. Therefore it would be essential to stipulate obligations of Access Providers under the MS (Access) in relation to inter-operator processes. This would require Access Providers to publish terms and conditions of porting the numbers through publication of the ARD. It will provide certainty once the rules under section 180(2)(e) of the CMA are in place. Further

considering the requirements as stated above, the MCMC is of the view that provision of the inter-operator MNP services in the Access List will complement effectively the initiatives undertaken by the MCMC under section 180(2)(e).

The MCMC believes that implementation of MNP can be achieved through inclusion in the Access List by including certain supporting inter-operator services necessary to give effect to a customer's right to choose their operator and retain their existing mobile service number. The MCMC notes that there would be some inter-operator processes for porting of numbers and obligations of Access Providers to facilitate effective interworking of MNP, as explained above. In this regard, it is appropriate to streamline inter-operator processes and applications as a part of this Access List review. Hence, stipulating generic obligations in respect of porting the mobile numbers will be required under content obligations of the MS (Access). The access regime therefore has a critical role to play to ensure that MNP is implemented effectively in Malaysia.

The current MNP consultancy indicates that international best practice is being followed by the MCMC in fulfilling the MNP mandate. International experience shows that countries with the greatest success in implementing MNP – which is a right conferred on an end user to facilitate competition between service providers – are those countries which undertook detailed inter-operator processes prior to implementation. This includes the cost studies and technical planning being examined in the current MNP consultancy. The inclusion of the service at the inter-operator level of the Access List will ensure that the MCMC continues to have a mandate for ensuring that the terms and conditions at the inter-operator level provide for MNP to end users in the most efficient way, consistent with the pro-competitive rationale for the Minister having mandated MNP in the first place.

As to the range of technical, implementation and cost issues to be considered for the introduction of MNP, the MCMC will involve industry stakeholders in a separate exercise being undertaken to implement MNP by the MCMC. The Access List mandate for the MNP Inter-Operator Service would therefore need to be complemented by detailed processes set out by the MCMC to enable implementation of MNP.

To this end, the MCMC encourages all operators as a matter of priority to focus on this implementation stage, the purpose for which the MCMC confirms its preliminary view to mandate this service, and the current process being undertaken by the MCMC to determine the details of the inter-operational solutions for MNP.

The MCMC therefore considers the Access List regime to be the appropriate means for implementing the Ministerial Direction, combined with the detailed implementation plans noted above.

7.2.5 Infrastructure Sharing

Question 28:

The MCMC seeks comments on:

- (a) whether the provisions under section 228 of the CMA are sufficient to deal with infrastructure sharing; or**
- (b) whether the inclusion of relevant network facilities on the Access List would be a more effective way of dealing with the identified access issues.**

Question 29:

The MCMC seeks comments on its preliminary view that tower sharing should be included on the Access List. MCMC also seeks comments on other types of facilities that should be included in the Access List.

(a) Comments received

Most submissions broadly concurred with the MCMC's preliminary view that the scope of section 228 of the CMA is not sufficient and further requires the access regime to be utilised as an effective option to facilitate infrastructure sharing.

A preference for commercial negotiation of infrastructure sharing was favoured by Telekom, Maxis and Celcom. The submissions here stated that there is no entry barrier for infrastructure sharing (and hence no access failure) other than high security risks, including in relation to national security.

Telekom further submitted that if infrastructure sharing were included on the Access List, pricing would need to be determined on a site-by-site basis since the costs at each site are wide-ranging. Telekom specifically advocated that in the event of its inclusion in the Access List, use of LRIC pricing for infrastructure sharing would be inappropriate.

DiGi strongly supported the inclusion of infrastructure sharing on the Access List. DiGi also raised the issue of State Backed Companies and infrastructure sharing obligations and potential issues of anti-competitive conduct. DiGi also sought clarification regarding the rights of CASPs to share network facilities without having NFP licences.

REDtone and TIME also strongly supported the inclusion of tower sharing on the Access List and also suggested the inclusion of equipment ancillary to the operation of infrastructure, such as power supply and cabin spaces.

(b) MCMC's Final Views

MCMC confirms its view that access to network facilities, or infrastructure sharing, can act as an alternative or complementary form of regulation with domestic roaming services. This is also a highly relevant issue for broadcasters.

Despite the submissions received in favour of commercial arrangements for infrastructure sharing, MCMC remains concerned by the specific access problems that have been raised particularly in the broadcasting services market. The submissions against the inclusion of infrastructure sharing on the Access List have not persuasively alleviated those concerns. The MCMC also doubts the extent of the technical feasibility issues that have been raised in opposition to a regulated service.

The MCMC considers it to be in the LTIE to utilise the Access List to address the apparent ongoing access issues for telephony operators and broadcasters. The Access List mandate would include a technology/service-neutral infrastructure sharing set of network facilities, so that access to types of infrastructure will not be limited to a technology-specific purpose (eg limited to broadcasting or mobile etc).

The comparative costs and benefits of mandated 2G inter-operator roaming and infrastructure sharing also favour infrastructure sharing as the preferred option for solution to current access problems. In contrast to domestic roaming, infrastructure sharing is more likely to promote efficient use of existing infrastructure and more efficient investment in new infrastructure. These results are unlikely to be realised in the absence of regulation, and are also more preferable to the inefficient outcomes that the MCMC believes are more likely to result from mandated roaming.

Based on the the submissions received, it remains unlikely that commercial arrangements alone would ensure provision of infrastructure sharing on reasonable terms and conditions. Considering the importance the MCMC has placed on infrastructure sharing to address the access issues identified in relation to coverage and

investment, the MCMC's view that mandated infrastructure sharing is required is only reinforced by this fact.

Finally in relation to the issues raised by DiGi in terms of State Backed Companies and potential anti-competitive conduct issues, the investigation of such specific conduct is outside the scope of this Public Inquiry. However, these concerns are noted. The MCMC encourages parties who wish to make complaints and assist in any enforcement issue, in this case or any other, to do so in order for the issues to be addressed under the appropriate instruments and powers of the MCMC. The MCMC further clarifies in relation to DiGi's query about NFP licences that such a licence is not required to gain access rights for infrastructure sharing.

The MCMC therefore confirms its preliminary view to include infrastructure sharing on the Access List, and to do so in a technology/neutral manner to enable the access concerns of broadcasters raised in this Public Inquiry to be addressed. The scope of the mandated access requirement will include towers and associated tower sites and environmental services (such as electricity, heat, light, ventilation and air-conditioning).

7.3 Conclusion

The mobile telephony market continues to be relatively competitive. In light of this level of competition, the MCMC concludes that there is no requirement for regulation of 2G domestic roaming or MVNO. There remains an imperative to address some existing bottlenecks such as mobile termination. It is also necessary to include regulation of bottlenecks that exist as a function of mobile number portability.

However, the MCMC believes there are some emerging competition issues in the market such as 3G-2G inter-operator roaming which should be addressed through regulation because competition may not adequately resolve that issue. The MCMC also concludes that access regulation is needed to address existing competitive problems such as tower access by broadcasters which constitute bottleneck facilities.

8. UPSTREAM NETWORK ELEMENTS

8.1 Existing Access List Facilities and Services

There are no present Access List facilities which are described in terms of network elements at present.

8.2 Potential New Access List Facilities and Services

The MCMC has identified access to International Capacity Services as a relevant issue for consideration. The MCMC's consideration of Access to Network Elements is contained in this PI Access List Report in relation to broadband services.

8.2.1 International Capacity Services

Question 30:

The MCMC welcomes views about whether competition could be further enhanced through the regulation of international capacity (in particular prices).

(a) Comments received

Most respondents agreed that there is sufficient capacity available and the need to regulate international capacity may not be necessary.

DiGi dismissed the need for regulation in this area outright. TIME also dismissed regulation outright on the basis that no access problem exists for this service.

Maxis highlighted that Malaysia has witnessed 10 years of international operator competition and that established links to Singapore now exist, among other routes. Its view was that unless there is a particular competition problem with a route that needs to be examined, regulation of price is not warranted.

Telekom argued that there is no need to regulate this service as there is sufficient capacity available and there are few barriers to entry, and the market is competitive.

Some respondents felt the need to regulate the price of the international capacity and others highlighted the need to regulate the price for backhaul. The issues in relation to backhaul are discussed in section 8.2.2.

Telekom questioned the authority to enforce regulated prices on foreign operators.

(b) MCMC's Final Views

This issue as considered by the MCMC in the PI Access List Paper largely sought comments on the level of capacity and in turn the competitiveness of prices for international capacity. As such, the MCMC's LTIE analysis largely sought to be supplemented by data to enable a cost/benefit study to be undertaken.

In relation to Telekom's query about the MCMC's powers, the MCMC clarifies that it does not intend to impose prices on foreign operators. In the event international capacity were to be regulated, the MCMC has powers to impose the obligations for terms and conditions of access to international capacity as well as the pricing on its licensees. The MCMC exercises its powers with respect to access in accordance with section 149 of the CMA.

As they stand, the submissions received did not evidence a necessity for intervention by pricing regulation. In the absence of an identifiable access problem and on an application of the LTIE methodology, the MCMC's final view is to refrain from regulation with respect to this particular service.

As noted above, several comments were made by parties in relation to access problems for domestic connectivity service. These are detailed in the questions below.

8.2.2 Domestic Connectivity to International Services

Question 31:

The MCMC seeks views on the state of competition and issues with respect to access:

- (a) to the connection service;**
- (b) to co-location at submarine cable landing stations and satellite earth stations; and**
- (c) to domestic backhaul transmission services.**

Question 32:

The MCMC seeks comments on:

- (a) whether international capacity services should be included on the Access List;**
- (b) the MCMC's preliminary view that certain domestic connectivity services (ie connection service, co-location and backhaul) should be included on the Access List; and**
- (c) the scope of the domestic connectivity services that are proposed for inclusion on the Access List.**

(a) Comments received

(i) Connection service

REDtone and TIME agreed that all domestic connectivity services should be included in the Access List and endorsed the inclusion as proposed above also broadly in relation to the other aspects of the services below. REDtone further submitted that there are significant difficulties gaining access on a commercial basis to connection services.

DiGi supported the inclusion of a connection service and co-location on the Access List. This view was also supported by Maxis, however Maxis considered that the requirement need not extend to satellite earth stations.

Telekom objected to the inclusion of connectivity services on the Access List. It argued that there is no shortage of capacity. In addition, the landing party in respect of a cable system has the exclusive right to connect domestic to international capacity. Telekom submitted that there is vigorous competition for connection services and competitive tariff offerings. It further argued that regulation in this area would have a negative impact on future infrastructure investment.

(ii) Co-location

NasionCom supported the inclusion of co-location at landing stations and satellite earth stations on the Access List.

As noted above, this was also supported by DiGi, who considered that regulation would have a positive impact on efficient service provisioning.

Telekom submitted that submarine cable landing stations and satellite earth stations are not designed for co-location. It argued that co-location would compromise security issues and the fault and fraud issues would be difficult to determine.

(iii) **Backhaul**

In relation to backhaul, Telekom argued that commercial arrangements are in place for several Access Seekers for this service, and further that Access Seekers are not obligated to acquire backhaul from Telekom. Telekom therefore disputed the presence of entry barriers or other access issues that warrant regulatory intervention.

Similarly, DiGi submitted that the market for backhaul services was competitive, with a range of providers.

However, the above arguments were disputed by Maxis and NasionCom. Maxis noted that operators who find difficulty obtaining co-location services at cable landing stations would also be compelled to acquire Telekom's backhaul service from those stations to their interconnecting POPs. Maxis considered that the inclusion of a regulated requirement for co-location could alleviate access issues on the issue of domestic backhaul. In areas that are remote and where there are no alternatives for access to landing stations, the importance of backhaul becomes more pronounced. Maxis considered, however, that most areas were actually competitive.

NasionCom highlighted disparities between the costs in a 2Mbps domestic leased submarine fibre circuits, which can cost approximately USD5,500 per month. In contrast, the same circuit from the Philippines to Kuala Lumpur costs around USD3,000 per month. The cost of domestic backhaul on these figures appears substantially more expensively than international capacity.

(b) **MCMC's Final Views**

Based on its own analysis and on the submissions received, the MCMC note that bottlenecks have emerged in at least three points in relation to domestic connectivity to international capacity: the backhaul, co-location at international cable landing stations and satellite earth stations and the connection service component. Access issues have therefore become apparent in each of these areas that warrant being addressed through the Access List.

These issues highlight the importance of domestic services being provided on a competitive basis in order to realise the competitiveness of the international sector as a whole. The MCMC notes comments in relation to the previous service considered (international capacity services) and the general views that the service is competitive and has a large number of providers. However, the MCMC believes that the competitive benefits of access to international capacity are being undermined by access problems at the connection, co-location and backhaul level.

The MCMC has considered the various views in relation to the relative competitive of each of the above 3 aspects. The MCMC has considered the relationship of each of these aspects, as well as their standalone attributes and the commentary provided on each. The MCMC is cautious not to regulate in a way that simply diverts bottlenecks from one area of a service to another. The MCMC concludes that by refraining from regulation in the area of connection, any bottleneck addressed here has the potential to shift to, for example, the backhaul or co-location service.

The MCMC is particularly mindful that the NPOs and the policy objectives of Malaysia as a whole are geared towards establishing Malaysia as a global communications hub. Domestic connectivity, comprising the 3 components considered above, must remain competitive in order to achieve that objective. On an application of the LTIE test, the MCMC's final view is that each of the facilities comprising the domestic connectivity service should be included on the Access List.

In addition, the MCMC notes that its proposal here is consistent not only with best practice, but also for the achievement of similar regional policy objectives. The IDA in Singapore introduced similar regulation in order to promote its national interests in achieving competition following liberalisation. The experience of the IDA has also shown a progressive need to address competition concerns as they arise in different aspects of the domestic connectivity service.

In particular, the MCMC notes that the IDA requires the services to be offered on a modular basis. The MCMC proposes to adopt the same approach to ensure that bundling or tying, either as currently practised or as could potentially arise, is averted. Commercial requirements to offer the services on a standalone basis are integral to achieving this.

Finally, the MCMC notes specific comments by Telekom that questioned the technical feasibility of mandating co-location. The MCMC considers that this is incorrect and not supported by international evidence. For example, co-location is mandated in Singapore and was considered in detail by Hong Kong's regulator. There, the regulator also

mandated co-location at submarine cable landing stations. The MCMC does not consider that technical issues in Malaysia would make the ability to offer the service any different than in these jurisdictions. The MCMC also disagrees with Telekom's suggestion that an exclusive right of connection should preclude access regulation. Hong Kong again provides a similar example of where the owner of an indefeasible right of use enters into a contract for the termination of cable capacity with a licensee. The regulator there concluded that this was not an issue concerned with exclusive rights of connection. The arrangement simply meant that co-location facilities are being used in a manner permitted under the access seeker's licence.⁶ In this case, regulation of domestic connectivity services is not a question of interference with any exclusive right, even though the MCMC could examine any such exclusivities if it chooses to do so.

The MCMC therefore concludes that in order to address existing and potential access issues in each of the 3 domestic connectivity to international capacity components, these three aspects should be included on the Access List. This includes in respect of such services between and at submarine cable landing stations and earth stations.

The MCMC has considered the position in Singapore where only submarine cable landing stations are considered to be bottlenecks. However the MCMC believes that satellite earth stations in Malaysia may still constitute a bottleneck and has chosen to regulate at this stage.

8.3 Conclusion

The MCMC has assessed competition in the international services component of the market for upstream network elements in two respects. The MCMC has found that the international component that comprises international services is competitive and therefore there is no need to regulate at the access level.

In relation to domestic connectivity to international services however, the MCMC has identified some bottlenecks which point to competitive problems in this component. Regulation of the domestic connectivity component is therefore necessary to stimulate additional competition in end-to-end international services.

⁶ Statement of the Telecommunications Authority, Hong Kong, *Access to and Co-location at Cable Landing Stations*, 19 September 2000.

9. INTERCONNECTION

9.1 Existing Access List Facilities and Services

The MCMC has dealt with the originating and terminating access services for fixed and mobile services in its comments in sections 6 and 7 respectively of this PI Access List Report. The MCMC has also dealt with the Equal Access (PSTN) Service in section 6.1.3. The only other existing Access List service that is relevant to the market for interconnection is the Interconnect Link Service.

9.1.1 Interconnect Link Service

Question 33:

The MCMC seeks comments on its preliminary view to retain the Interconnect Link Service, but to separate co-location as a separate network facility for inclusion on the Access List.

(a) Comments received

Telekom and Celcom stated their strong opposition to the separation of co-location into a separate service. These parties argued against separation on the basis that requirements for co-location are highly dependent on the type of link and service being provided.

DiGi considered that the specific facilities that require co-location should be included on the Access List. DiGi further submitted that a refusal to provide co-location is an enforcement issue that should be addressed accordingly.

TM Net and Maxis agreed with the retention of the Interconnect Link Service on the Access List and supported the MCMC's conclusion to consider co-location as a separate service to facilitate the provision of the Interconnect Link Service.

TIME, REDtone and NasionCom also broadly supported this position. REDtone submitted further that bundling of the co-location and interconnect link services gives rise to abuse and cross-subsidisation. TIME considered that by having separate terms for co-location, this would facilitate offering the service on reasonable terms and conditions.

(b) MCMC's Final Views

The MCMC's preliminary view was to designate co-location at any technically feasible point as a separate service on the Access List. This designation would be separated from the Interconnect Link service, being the physical network connection itself. The MCMC also proposed to expand the Network Co-location Service beyond the provision of space at exchanges for the purposes of establishing an interconnect link. Co-location will be required at all technically feasible points where it is necessary to do so for the purpose of the Access Seeker acquiring any facility or service on the Access List.

The comments received in the submissions on the above issues confirm the MCMC's view that there is an access issue that should be addressed by regulation. The MCMC does not consider that the provision of co-location and the interconnect link service would be hampered if separated and subject to their own terms and conditions. On application of the LTIE test, the MCMC concludes that the practical denial of access needs to be addressed and it is technically feasible to do so.

MCMC continues to consider the Interconnect Link Service as fundamental to the achievement of interconnection. In light of the broad support for the separation of co-location and the complaints received about refusals to provide co-location, this confirms the MCMC's preliminary view that issues surrounding the refusal to provide physical co-location probably stem from the fact that physical co-location is currently bundled with the Interconnect Link Service.

The MCMC also notes the comments from DiGi in relation to co-location being broadly described. The MCMC does not consider that this would impose additional burdens on the Access Provider, as the MS (Access) deals with a range of safety and security issues that might be particular to each site. The MCMC has decided to mandate co-location at any technically feasible point. This is also consistent with international best practice. The MCMC notes, for example, that the IDA requires a modular approach for interconnection and co-location.

The MCMC therefore concludes that in order to address the access problems prevalent in the provision of co-location, the Interconnect Link Service should remain on the Access List, and that a separate Network Co-location Service should be specified.

9.2 Potential New Access List Facilities and Services

The MCMC has identified one new service relevant to the market for interconnection to evaluate for inclusion on the Access List. This is the Network Signalling Service.

9.2.1 Network Signalling Service

Question 34:

The MCMC seeks comments on its preliminary view to include the Network Signalling Service on the Access List.

(a) Comments received

NasionCom commented that the Network Signalling Service is integral to the network and should not be separated. Maxis' view was that signalling is a common inter-operator connection service, in which the cost of signalling is embedded in the interconnect charge. Maxis considered that this could cause operational problems if separation occurred.

Telekom submitted that it was neither viable nor cost effective to implement the Network Signalling Service and was opposed to its inclusion on the Access List. Similar arguments were raised by Celcom and Maxis. Celcom argued that there had been no requests for the service, although there was some acknowledgement of technical feasibility.

Telekom presumed that the reason for the MCMC's preliminary view to include the mandated service was the growth of VoIP. Telekom submitted that interconnect signalling in future would be based on IP and that CCS7-based interconnection would be inconsistent with world trends.

DiGi also opposed the listing of the service.

REDtone supported the MCMC's preliminary view. TIME supported the MCMC's preliminary view on the basis of its importance to ANE.

(b) MCMC's Final Views

The MCMC considers that Network Signalling Services are bottleneck services and that the mandate of network signalling is fundamental to interconnection. Network Signalling Services enable information between networks at the point of interconnection. The MCMC noted that access issues arise in network transit where there is the need for a decision as to how much network signalling information a transit network provider can mask from the two networks that it interconnects.

The MCMC does not agree with the comments made in several submissions that technical infeasibility would dictate the service not be mandated. To the contrary, the MCMC notes that the Finnish Communications Regulatory Authority on 1 April 2005 issued its regulation on interconnection, interoperability and signalling in communications networks that included the issues of concern and analogous to the MCMC at this time.⁷ Interworking between SIP-SS7 is also technically feasible and is occurring, again an example being the case of Finland most recently. The MCMC further notes that network signalling is mandated in Australia either under law (in the case of calling line identification) or industry codes; that ETSI specified signalling requirements are mandated in the EU; and that all countries that require a reference interconnection offer include specification of network signalling, including appropriate standards.

The MCMC's final view is that it is technically feasible to introduce a network signalling service and that it is in the interests of facilitating competition in other relevant markets for it do so. The MCMC therefore concludes that the Network Signalling Service should be included in the Access List.

9.3 Conclusion

The MCMC has identified and drawn conclusions regarding existing bottlenecks in interconnection, as set out in sections 6 and 7 above.

The MCMC has also identified competitive problems in the Interconnect Link Service concerning access to co-location. Regulation is therefore necessary to address the distortions created by this. These distortions will be addressed by separating co-location from the Interconnect Link Service.

The bottleneck nature of interconnection in relation to the Network Signalling Service also warrants regulation. This is to facilitate competition in the market for interconnection.

⁷ FICORA, *Regulation on Interconnectivity, Interoperability and Signalling in Communications Networks*, 1 April 2005.

10. LEASED LINES

10.1 Existing Access List Facilities and Services

There are 2 existing Access List services that are relevant to the market for leased lines:

- (a) the Private Circuit Completion Service; and
- (b) the Domestic Network Transmission Service.

The PI Access List Paper did not identify any potential new Access List facilities and services for this market, but did note that some managed data services are regulated as wholesale services in some jurisdictions. The MCMC did not identify any access issues in relation to managed data services in Malaysia, but opened the issue for public comment.

10.1.1 Private Circuit Completion Service

Question 35:

The MCMC seeks comments on the implications for regulating pure resale of end-to-end circuits.

Question 36:

The MCMC seeks comments on its preliminary view:

- (a) **to refrain from including end-to-end circuits on the Access List; and**
- (b) **to amend the service description to clarify the definition of end user.**

(a) Comments received

Telekom and TM Net supported the MCMC's preliminary view not to mandate the pure resale of end-to-end circuits. However, Telekom maintained that the proposed definition of "end user" remained unclear and should be defined to be "the final user of the service provided."

By contrast, DiGi submitted that a mandated end-to-end service would produce immediately positive results and be consistent with the LTIE methodology. DiGi disputed the accuracy of the reservations raised in the PI Access List Paper. DiGi also agreed that

the definition of end users should be clarified but did not provide a suggested form of words.

Maxis was also highly supportive of regulation of pure end-to-end resale services as a mechanism for stimulating competition. Maxis disputed that such regulation would discourage infrastructure investment.

(b) MCMC's Final Views

The relevant access issue for consideration in the PI Access List Paper was whether a revised definition of the PCCS should allow pure resale as an end-to-end service, or be limited to the existing service offering in the Access List.

The MCMC confirms its preliminary view that regulation which encourages infrastructure-based competition, and competition based on price and functionality, are superior to pure resale based competition. On an application of the LTIE criteria, this final view is supported and reinforced. In particular, the MCMC notes that very few (if any) countries in the world have chosen to regulate pure end-to-end resale. The MCMC does not consider that there are unique circumstances in Malaysia which would require this service to be regulated. Indeed, the submissions did not propose that there were any such special and unique circumstances.

It is also important to distinguish the particular reasons for and against regulating pure resale of specific services. This needs to be assessed on a case-by-case basis. In the case of the PCCS, this is primarily relevant for services delivered to corporate customers. This is a segment of the market which is highly conducive to efficient infrastructure investment, in which operators can be expected to reap returns on their investments. Unlike other services considered in this Public Inquiry such as DSL Resale, it is not necessary to regulate pure resale of PCCS in order to stimulate infrastructure investment. Such stimulation is already provided by the very nature of the PCCS and the customers serviced at the downstream level. Regulation is therefore not warranted and the MCMC's final view is consistent with this position.

In addition, the MCMC notes concern to clarify the definition of "end user". The MCMC notes that the PCCS Service amendments, as proposed in the PI Access List Paper, include:

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

The MCMC therefore concludes that it will retain the Private Circuit Completion Service in the Access List, but refrain from expanding the service description to include end-to-end circuits.

10.1.2 Domestic Network Transmission Service

Question 37:

The MCMC seeks comments on the current ability or impediments for 'last milers' to acquire the Domestic Network Transmission Service.

Question 38:

The MCMC seeks comments on its preliminary view to amend the service description for the Domestic Network Transmission Service for technological/service neutrality and clarity of 'last miler' rights to acquire the service.

(a) Comments received

Telekom submitted that the "last miler" requirements for connectivity under the current Access List and licensing regime does not permit it to offer certain services beyond the licence rights of such would-be Access Seekers. Telekom and Celcom stated that a definition of eligibility was necessary and that this should be undertaken through licence conditions. On this point, Telekom referred to a letter from the MCMC dated 24 April 2003 where it considered the MCMC confirmed that "last milers" did not have license rights to acquire the service.

DiGi did not consider that there are any impediments to "last miler" access, however agreed with the proposed amendment to the service description if technically feasible. Maxis acknowledged the potential for "last miler" difficulties in gaining access and agreed with the amended description for technically feasible points and clarity of "last miler" access rights. This view was also supported by TIME, REDtone and NasionCom, however the latter considered that there were no real impediments to "last miler" access.

(b) MCMC's Final Views

The MCMC sought comments on a range of access issues concerning the Domestic Network Transmission Service by amending the service description. The amendments are intended to address the following issues:

- (i) the ability of wireless "last milers" to be supplied with the service, addressing the lack of clarity surrounding the contention they are not considered to be licensed to acquire the service;
- (ii) consistent with the objective of encouraging infrastructure build using different technologies, amendments to the service description to enable the provision of the service between any technically feasible network transmission points (thus removing the technological limitation that the service is provided between certain specified switching centres); and
- (iii) deleting the exclusion contained within the existing description of the Domestic Network Transmission Service that the service is not regulated if there are three or more infrastructure providers on a particular route.

The MCMC's primary concern in relation to this service was to retain the service, in light of Telekom's dominance in this market, but ensure that any access refusals to certain operators are addressed. Considering the submissions received, the MCMC considers that the proposed amendments to the service definition will provide clarity.

On the issue raised by Telekom in relation to the MCMC's alleged confirmation that "last milers" do not enjoy the licensing rights in question, the MCMC has examined the letter referred to by Telekom. The MCMC concludes that there is nothing in that letter which supports Telekom's conclusion. To the contrary, the letter states that "...the last miler service provider [is enabled] the right to interconnect with existing service providers" (at paragraph 6). The MCMC wishes to raise its concern that this reference by Telekom to the MCMC's previous statements is another example in this Public Inquiry of the MCMC being quoted or interpreted out of context.

10.1.3 Other data services

Question 39:

The MCMC would welcome views about:

- (a) whether there are any access issues in relation to the provision of managed data services;
- (b) if so, whether the existing services on the Access List are adequate to deal with these access issues;
- (c) any other access issues arising in relation to the leased line market which should be considered by the MCMC in this Public Inquiry.

(a) Comments received

None of the submissions presented compelling views in favour of the inclusion of any other managed data services, nor identified access issues arising from them.

(b) MCMC's final views

The MCMC declines to regulate any managed data services, on the basis of the lack of competitive concern and also considering the best practice examples of other countries who have similarly chosen not to regulate for similar reasons.

10.2 Conclusion

The leased lines market is not fully competitive. It is therefore necessary to retain the Private Circuit Completion Service and the Domestic Network Transmission Service on the Access List. This is in order to further enhance competition.

However, the MCMC does not propose to regulate to enhance such competition at the expense of infrastructure-based competition. For this reason, the MCMC has decided not to regulate the pure resale of end-to-end circuits.

It is also necessary to address access issues which are presently emerging as a result of the entry of "last milers". This has been addressed through clarifications which amend the existing Domestic Network Transmission Service.

11. BROADBAND SERVICES

11.1 Existing Access List Facilities and Services

Except for the Private Circuit Completion Service discussed in section 10.1.1, which is only suitable for large corporate users, there are no existing Access List services that are relevant to the market for broadband services.

11.2 Potential New Access List Facilities and Services

The MCMC has identified 3 new services relevant to the market for broadband services to evaluate for inclusion on the Access List. These are:

- (a) Access to Network Elements (**ANE**);
- (b) the DSL Resale Service; and
- (c) the Internet Interconnection Service.

11.2.1 Access to Network Elements (ANE)

Question 40:

In addition to any comments submitted as part of the ANE public consultation process, do you have any further views in relation to the advantages and disadvantages of regulating ANE?

Question 41:

Do you agree with the MCMC's assessment of the overall costs and benefits of including the relevant ANE services on the Access List? Do you agree with the MCMC's assessment of Telekom's incentives to maintain its network in the event that ANE Services are included on the Access List?

NOTE: Question 42 dealing with DSL resale is dealt with in section 11.2.2 below.

Question 43:

Do you consider that all forms of ANE (full access, line sharing, bitstreaming and access to sub-loop) should be included on the Access List?

(a) Comments received

Telekom expressed disagreement with the assessment of the overall costs and benefits of including ANE on the Access List and considered it essential that a fully quantified cost benefit analysis (taking into account geographical markets) be undertaken before any decisions are made. Telekom offered to assist the MCMC in the development of a model. In Telekom's view, the current qualitative analysis draws from only selective experience from other regimes and failed to address the key problem of groups of population who have no access to the fixed network.

Telekom also provided substantial analysis between overseas jurisdictions in support of its view that the MCMC has undertaken insufficient analysis to warrant the inclusion of ANE on the Access List. In this, Telekom also highlighted the substantial time undertaken in New Zealand in a similar inquiry and compared those timeframes for analysis there with Malaysia.

The MCMC notes the view of TM Net against the inclusion of all forms of ANE on the Access List. Telekom made substantive arguments and provided detailed data on the point of other methods required to achieve enhanced broadband penetration. Further specific responses to Telekom's arguments are detailed below.

Maxis supported the inclusion of all forms of ANE on the Access List because, in its view, the various elements have distinctive applicability best suited to particular situations. The introduction of ANE was welcomed by DiGi.

TIME endorsed the MCMC's preliminary views on ANE.

NasionCom and REDtone endorsed both the MCMC's views on all forms of ANE.

(b) MCMC's Final Views

The MCMC's preliminary view was that access to network elements is likely to promote efficient investment and economically efficient use of infrastructure in local markets that may not support duplication of facilities. ANE is therefore central to the development of competition in the access network, which could be enhanced by the inclusion of a DSL resale service on the Access List (described in section 11.2.2).

As a general comment on the time and analysis undertaken in relation to ANE, the MCMC points out that this issue has also been the subject of substantive review over the past few years, culminating in the PC Report for ANE. The MCMC wishes to respond to Telekom's example that the New Zealand Commerce Commission undertook a year long study of ANE before reaching its conclusion. The MCMC undertook a public consultation process by publishing the PC Paper on ANE (July 2003) and the PC Report for ANE (November 2003). When the 4 month timeframe for publication of ARDs is taken into account, along with this Public Inquiry, the timeframes show that the MCMC will have devoted over 2 years and 8 months to the process of ANE implementation – before it is actually implemented. The MCMC therefore does not accept Telekom's arguments that its analysis and implementation process for ANE is deficient by international standards. To the contrary, the evidence shows that the consultation process in Malaysia is vastly superior.

The MCMC proposed to include ANE on the Access List, without limiting the types of ANE to be included.

The MCMC notes Telekom's views and is grateful for its offer to assist with the development of a model. The MCMC's analysis is primarily qualitative in nature due to the absence of appropriate quantitative data. A model as proposed by Telekom would help assess the order of magnitude of the costs and benefits but would be unlikely to be capable of fully quantifying all costs and benefits including increases in productive and dynamic efficiency likely to be associated with competitive use of network elements. Ultimately the MCMC would still need to rely in large measure on qualitative assessments to make its determination. The current qualitative assessment draws on overseas experience only to the extent that such experience is relevant to the Malaysian situation. All the elements of the qualitative assessment point to the likelihood of a net benefit accruing from the Access Listing of ANE. In such a situation, the need to accurately determine the magnitude of the net benefit is not critical to making a determination.

The question of geographic markets raised by Telekom does not impact significantly on the issue of whether ANE should be listed. The MCMC is of the view that competition in

the market for telecommunication in Malaysia is structured and organised on a national basis. The absence of direct competition for some services at a local level is likely to be an indication of present commercial realities. Those parts of the market remain contestable by the national operators and may well attract entry if changes in technology and commercial consideration occur. Local cost differences may be relevant in the determination of regulated prices for services and the MCMC will give due consideration to them when they are relevant.

Other issues raised by Telekom were related primarily to regulated prices. The MCMC makes only a broad observation on this issue to the effect that regulated prices for access to Access Listed facilities are intended to compensate the Access Provider for the cost of supplying the access (including a normal return on relevant assets). Telekom, however, seems to be arguing that regulated prices should provide for above normal returns to enable it to cross-subsidise non-profitable services. Any such pricing would be inefficient and distort investment and competition. A cost-based, access price regime, does not discriminate against any particular technology and will not hinder the development of new or more competitive technologies.

Other than expressing its general disagreement with the analysis, Telekom did not indicate what specific elements of the analysis it disagrees with nor give any reason for its disagreement other than suggest that it "appears to draw only on selective experience from other regimes".

The issue of an apparent lack of demand for all forms of unbundling raised by Telekom is noted by the MCMC. However, it is not apparent to the MCMC how listing of ANE would be distortive to Telekom's rollout of broadband facilities and service. If there is no demand for a particular unbundled element, the mere fact of listing that element will not change the demand conditions and there will be little use of that element. If, however, the lack of demand is due to pricing of services that reflects a lack of competitive pressure the listing of unbundled services will make the market more contestable and will be likely to lead to improved efficiency and additional benefits to end users.

The MCMC appreciates the point raised for promoting competition across competing platforms as the optimal approach to accelerate broadband. The various technologies to accelerate the growth of broadband could be DSL, cable modem, OFC, HFC, satellite, WiBro, 3G, LMDS, MMDS etc. However, the MCMC follows the principle of technology neutrality which allows different technologies to compete in the market place and provides opportunity for the consumers to choose from amongst the most suitable solution. While different technological solutions for dissemination of broadband are available, many of them have limitations in terms of their reach, affordability and

inability to provide two-way communications (for example, satellite). Hence, the above solutions may not compare with the wider reach of the access network owned, maintained and operated by the incumbent.

Different countries have different priorities, demography and state of competition in communications and multimedia markets. While international comparison would provide useful guidance with regard to accelerating broadband deployment, we would need to take into consideration these differences, hence, the application of any country specific models would have to be moderated with our local conditions.

As pointed out in PC Paper on ANE, the unbundling of local loop is one of the tools to promote competition in access network and increase broadband penetration in Malaysia. Internationally, it has been widely recognised by policy makers and regulators that unbundling of local loop is the primary form of promoting broadband uptake. For instance, most of the OECD countries have undertaken serious deployment initiatives for mandating unbundling of the local loop:

	LLU '000	All DSL '000	Non DSL '000	All B'band '000	B'band Take-up Per capita	LLU/ B'band %
Austria	26.7	279.5	400.0	618.5	8.4%	3.9%
Belgium	6.6	765.2	479.6	1244.7	12.1%	0.5%
Denmark	66.7	473.2	205.5	678.7	12.7%	9.8%
Finland	100.6	345.6	88.7	494.3	8.4%	23.2%
France	276.7	3262.8	393.9	3656.7	6.2%	7.6%
Germany	1350.0	4498.1	144.2	4667.5	5.6%	29.1%
Greece	0.7	8.6	1.4	10.0	0.1%	7.0%
Ireland	1.4	25.2	9.7	34.9	0.9%	4.0%
Italy	538.8	2158.5	580.9	2739.3	4.7%	19.7%
Luxembourg	1.2	10.9	1.6	12.4	2.8%	9.7%
Netherlands	208.1	920.2	930.0	1908.2	11.6%	11.2%
Portugal	1.8	185.2	316.0	500.4	4.9%	0.4%
Spain	16.0	1676.5	551.7	2228.2	5.5%	0.7%
Sweden	50.9	555.1	364.4	919.5	10.4%	5.5%
UK	8.2	1804.6	1838.5	3172.1	5.3%	0.3%

Table 2: Provision of Broadband Services across Member States (January 2004)

In the study undertaken by OFCOM⁸, LLU accounts for a very substantial percentage of broadband provision in Germany and Finland. The takeup in United Kingdom was initially slow however recent figures published by the Office of the Telecommunications Adjudicator⁹ show that the targets for unbundling in UK stand at 2.5 million lines at the end of 2006. This remains an indicia of the substantial importance of LLU to competition in the United Kingdom.

The MCMC also wishes to address Telekom's comments regarding what it considers to be an incomplete analysis of key issues related to ANE.

The MCMC takes note of the observations made by Telekom regarding the issues to be considered while undertaking the analysis of ANE. However, the MCMC does not agree with Telekom that detailed analysis has not been carried out. The MCMC would like to refer to the PC Paper on ANE and PC Report on ANE which examines in details all the issues pointed out by Telekom. For example, the MCMC is of the view that sunset clauses were considered irrelevant as the review of Access List is an ongoing process.

With regard to the consideration for de-averaged pricing of unbundled local loop similar to Australia, the MCMC reasoned that the geography of Malaysia is different than that of Australia. In addition, the retail rates in Malaysia are also based on averaged pricing, hence, application of a different concept for retail and wholesale pricing could potentially distort the market conditions. As regards to the exclusion of certain areas from unbundling requirements, the MCMC is of the view that the nationwide implementation of ANE may not be possible from day one. However, planned implementation in phases such as the one with 3G implementation could be undertaken.

The MCMC therefore remains of the view that the listing of ANE will encourage competition in the provision of services which will be in the interest of end users and confirms its preliminary view. The MCMC also determines, based on the LTIE test and the submissions received, that a complementary DSL Resale Service also be included on the Access List.

⁸ *Review of the Wholesale Local Access Market*, 12 May 2004.

⁹ *Progress Update on Telecommunications Adjudication Scheme*, 3-7 February 2005.

11.2.2 DSL Resale Service

Question 42:

Do you consider that a DSL Resale service warrants inclusion on the Access List?

(a) Comments received

DiGi considered that a DSL resale model is a useful access alternative to avoid incurring large upfront capital expenditure. This view was endorsed by Maxis, who considered the service to be a stepping-stone to enhanced broadband service delivery and competition.

Telekom did not support the inclusion of a DSL Resale Service and argued that a Layer 3 DSL service is available through commercial negotiation.

NasionCom, REDtone and TIME also supported the inclusion of a DSL Resale service in the Access List.

(b) MCMC's Final Views

The MCMC's primary objective in its detailed consideration of ANE in this Public Inquiry and its previous public consultation has been to focus on access issues relevant to enhancing broadband penetration. The regulation of DSL resale services is not a novel consideration for Malaysia. Other countries have either removed restrictions on the lease of copper loop for DSL resale (such as Singapore and the United States); or utilised conduct regulation rules to enable DSL resale to be facilitated (such as under the telecommunications-specific behavioural rules in Australia). In the case of Australia, the threat of regulation was used as an incentive for opening up competitive DSL service offerings.

The objective of DSL resale is to stimulate investment in infrastructure as a stepping stone towards infrastructure-based competition. The mandate of DSL resale is complementary to ANE. This is because it enables competitors, on non-discriminatory terms and conditions, to build up a customer base while making the investments in any of the forms of ANE. DSL resale therefore enables competition to develop beyond services-based aspects to enable those competitors to migrate customers to their own services and platforms.

In the discussion of its final views in relation to the pure resale of the PCCS in section 10, the MCMC noted that resale can operate to stimulate infrastructure investment and needs to be assessed on a case by case basis. In the case of DSL Resale, there is a clear rationale for encouraging competition in broadband service delivery by a range of means. On this analysis, DSL Resale is conducive to stimulating infrastructure investment.

Enhancing consumer broadband take-up is one of the most pertinent issues for regulatory intervention in Malaysia. Although Telekom asserts that wholesale DSL access is available commercially, the MCMC wishes to ensure that the regulation of ANE results in increased consumer broadband penetration. It is therefore fundamental to the NPOs for the MCMC to examine and evaluate every mechanism within the access regime that can be utilised for this purpose.

Accordingly, the MCMC concludes that the LTIE test favours the inclusion of a DSL Resale Service in the Access List. For clarity, the Access Provider in the case of the DSL Resale Service will not be the network provider. The Access Provider will instead be the entity designated as the wholesale provider of the retail DSL service, such as the provider of the TM Net and Maxis broadband services.

11.2.3 Internet Interconnection Service

Question 44:

Do you share the MCMC's view that the exchange of domestic Internet traffic is currently subject to systemic market failure that warrants regulatory intervention?

Question 45:

Do you consider that the Malaysian Internet Exchange (MIX) completely obviates the need to regulate Internet interconnection in Malaysia or does access to internet connectivity continue to remain a problem?

Question 46:

The MCMC seeks comments on its preliminary view to include Internet interconnection on the Access List.

(a) Comments received

Maxis submitted that with TM Net's dominant position in the ISP sector, it is able to exercise its market power by refusing to undertake a normal peering relationship with Maxis. As such, Maxis agreed that at present there is systemic market failure in the exchange of domestic Internet traffic. It further asserted that the MIX at present does not play its role effectively in ensuring fair peering in Internet interconnection amongst ISPs. Based on its experience Maxis stated it was unable to obtain Internet interconnection on fair terms and further contended that this is evidence of market failure. It agreed with the MCMC's preliminary view to include Internet interconnection on the Access List. This will facilitate increased peering amongst local ISPs which is essential to reduce the amount of overseas transit capacity.

TIME agreed that the situation warrants regulatory intervention. It further submitted that no proper consideration was given during the establishment of the MIX. It stated that Tier-1 local ISPs should be involved in the MIX construction, not only Jaring and TMNET. TIME pointed out that the criteria to get connected to MIX are not well defined and the rate is not competitive and does not follow the market trend. The MIX should be run by non-commercial body so that only administrative fees shall be incurred for the connectivity. TIME agreed that the regulation should be through both the internet interconnection and MIX and supported the inclusion of the Internet Interconnection Service (bilateral peering on "sender keeps all" basis) on the Access List.

Both Telekom and TM Net expressed strong disagreement with the MCMC's preliminary assessment that the exchange of domestic Internet traffic is currently subject to systemic market failure that warrants regulatory intervention. Both also questioned various aspects of the description of the Internet interconnection services in the PI Paper.

Both Telekom and TM Net provided some data on Internet traffic and IP address allocations in Malaysia to argue against the need for regulation.

NasionCom also agreed with the preliminary view of the MCMC.

Telekom did not agree that there is a systemic market failure and contended that this notion is based on flawed information. Telekom also detailed the Internet interconnection diagram reflecting actual state of Internet interconnection in Malaysia. Telekom further argued that 99 per cent of Malaysian traffic remains within Malaysia and the only Internet traffic traversing outside Malaysia is from Maxis.

DiGi suggested that the regulatory intervention should be based on concrete evidence of systemic market failure. DiGi further highlighted the difference in Internet interconnection versus telecommunications regulation. DiGi recommended further study of the structure of Internet interconnection market and financial settlement arrangements before applying any regulatory response.

TM Net disagreed with MCMC's view on regulating the exchange of domestic traffic, on the basis that ISPs have option to choose to interconnect to TM Net or Jaring. In addition, TM Net argued that Malaysia has achieved the objective of MIX to localize domestic traffic. It contended that both MIX operators are working on reducing the MIX pricing to attract more ISPs to subscribe to MIX. TM Net expressed the opinion that there is no urgency to regulate the Internet interconnection service. It argued that MIX is meeting its objective but acknowledges that there is a challenge in attracting more participants, especially ISPs, to the MIX. It also indicated that TM Net and Jaring are reviewing pricing to make it more affordable.

In contrast, Maxis drew attention to the fact that unlike a typical co-operative Internet exchange operated on a non-profit basis for the benefit of its members, the MIX is an internet exchange jointly owned and operated by TM Net and Jaring. This has given them substantial market power to set non-competitive rates.

(b) MCMC's Final Views

From the outset, the MCMC wishes it to be noted that its consideration of Internet interconnection as a regulated service is not concerned with mandating the MIX as such. It is concerned with the specific problems detailed in the PI Access List Paper concerning the role of access regulation to address specific access issues.

The second important point relates to TM Net's assertion in particular that the MCMC reasoning is based on unsubstantiated complaint by other operators. The MCMC highlights that this Public Inquiry included specific and dedicated time consulting licensees individually, which included raising those claims provided with TM Net. TM Net did not refute those claims of anti-competitive conduct which were detailed in the PI Access List Paper. The MCMC also highlights that in terms of anti-competitive conduct, this Public Inquiry has always aimed to identify and resolve access issues by access means. It is not the forum by which the MCMC has investigated anti-competitive conduct, but again instead is the process by which access issues have been raised, and assessed against whether or not they are indeed access issues and can be resolved by access regulation. The MCMC maintains that the problems of Internet interconnection

raised in this Public Inquiry are limited in scope to access issues and, accordingly, are capable of being addressed through the Access List.

The MCMC confirms its view that Internet interconnection is a fundamental requirement for efficient routing of IP traffic amongst the Malaysian ISPs. The need for MIX also cannot be over-emphasised as it would reduce reliance on international links and result in substantial cost saving and improvement in quality of service and would additionally provide opportunity for development of local content in Malaysia.

The MCMC notes that the commercial arrangements between TMNET and Jaring are not transparent as standard terms and conditions of access to MIX are not published transparently. The submissions by Maxis and TIME provide clear evidence of systemic market failure. Telekom cited in its submissions that the only traffic traversing outside of Malaysia is from Maxis. Maxis submitted that TM Net is able to exercise its market power by refusing to undertake a normal peering relationship with Maxis.

The observations presented by TM Net tend to reinforce the MCMC's views that inefficiencies continue to be present in the Malaysian Internet market. While it accepts that the MIX arrangements are improving the situation to some extent, the rate of improvement appears to slow. The inclusion of the Internet Interconnection Service on the Access List should inject a significant boost to the development and implementation of more efficient interconnection arrangements.

While the MCMC encourages initiatives from the industry for establishment of an independent, not for profit MIX, the focus of this Public Inquiry is to examine and resolve access issues relating to the MIX run by TMNET and Jaring. The MCMC would like to clarify that the Figure-19 proposed by the MCMC in the PI Access List Paper indicates that access to and from any ISP router should be made available upon request without any discrimination.

The MCMC's effort to resolve the current problems with internet interconnection is consistent with best international practices. While the MCMC is not in a position to substantiate the extent of inefficiency inherent in the current peering arrangements in Malaysia, there are credible indications of the existence of inefficient practices. The fact that Maxis uses an international link to connect to TM Net in preference to connecting to a MIX operator is suggestive that there are disincentives associated with the use the utilization of connections to a MIX operator. Telekom acknowledges that some of Maxis traffic travels overseas before connecting to TM Net. Under the circumstances, the MCMC is inclined to the view that listing of the Internet Interconnection Service will be

likely to improve efficiency in the Malaysian market in accordance with the methodology employed in this Public Inquiry.

The MCMC therefore confirms its preliminary view that the Internet Interconnection Service should be included in the Access List.

11.3 Conclusion

The MCMC notes that competition in the broadband services market continues to be characterised by low levels of broadband penetration. Broadband accessibility remains fundamental to Malaysia's NPOs and the emergence of an online society.

Access regulation remains critical to fulfilling the above objectives. There are many alternatives for access regulation in this respect. The MCMC's approach is that no single provider should dictate business models to its competitors. The MCMC has therefore included all forms of ANE on the Access List. The MCMC has also broadened the range of options available, by including regulation of a DSL resale service in order to stimulate broadband competition.

The competition problems in relation to Internet interconnection are in direct conflict with Malaysia's NPOs, particularly the importance of establishing Malaysia as a major global centre and hub for communications, multimedia and information and content services. These problems need to be addressed and they can be addressed through access regulation.

12. BROADCASTING TRANSMISSION

12.1 Existing Access List Facilities and Services

The MCMC raised a question in the PI Access Paper as to whether the Domestic Network Transmission Service could be utilised by broadcasters in relation to the transmission of television signals. Otherwise, there were no existing Access List services identified that are relevant to the market for broadcasting transmission.

12.2 Potential New Access List Facilities and Services

The MCMC identified 3 new categories of services relevant to the market for broadcasting transmission to evaluate for inclusion on the Access List. These are:

- (a) the Broadcasting Transmission Service;
- (b) the Infrastructure Sharing Service (discussed in section 7.2.5); and
- (c) inputs into the Digital Terrestrial Television Broadcasting (**DTTB**) Service.

12.2.1 Broadcasting Transmission Service

Question 47:

Do you have any comments on the access issues that have been raised concerning the prices for broadcasting transmission services and the tying of these services with tower access?

Question 48:

The MCMC seeks comments on its preliminary view that the Broadcasting Transmission Service should be included on the Access List. Do you consider that the Domestic Network Transmission Service (as amended) could be utilised for broadcasting purposes, and thus potentially avoid the need to regulate a new service?

(a) Comments received

TV3/8TV expressed strong concerns with Access Provider bundling of services and the apparent lack of rationale in price setting. TV3/8TV therefore supported the inclusion of

the Broadcasting Transmission Service in the Access List, not bundled with the Domestic Network Transmission Service.

In response, Telekom cited the large number of bad debt / alternative payment arrangements with broadcasters and its view that any alleged tying of transmission services to tower access needs to be considered as part of an integrated end-to-end service. Celcom expressed similar opposition to the arguments raised in the PI Access List Paper.

DiGi considered that the Access List alone would not overcome the problems raised in the PI Access List Paper and that more onerous obligations on dominant operators were necessary, outside the access regime.

(b) MCMC's Final Views

The MCMC's preference was to use the Domestic Network Transmission Service as the appropriate means by which the broadcasting transmission service would be regulated at the access level if it functionally provided the service required by broadcasters for the above purpose. The submissions received on these questions confirm that there is an access issue concerning tying which needs to be addressed; and that it is more appropriate for the MCMC to include a broadcasting market-specific service in the Access List.

The MCMC therefore notes the concerns of broadcasters to have a specific service for its market to cater for their specific functionalities as broadcasters. The views of broadcasters in this Public Inquiry have included the need to recognise that there are specific broadcasting concerns, existing and potential uses of services by broadcasters, which broadcasters consider need to be addressed. The MCMC notes these views. The MCMC concludes that the mandate of a specific broadcasting service will facilitate the monitoring of competition in this market and whether any other measures (such as behavioural rules) are required in future.

In particular, the MCMC notes the concerns raised by broadcasters in this Public Inquiry concerning their unique requirements with respect to access to the Domestic Network Transmission Service. Although mindful of the importance of technology/service neutrality, the MCMC is mindful not to disregard these concerns. Importantly, as noted throughout this PI Access List Paper, the MCMC does not regulate for the purpose of technology/service neutrality for its own sake. Technology/service neutrality is pursued to resolve a particular access problem. In this case, the broadcasting segment of the communications and multimedia industry has indicated very specific concerns that it

wishes to see addressed in the market for broadcasting transmission. This separate market has its own competition issues and the MCMC is minded to have regard to those concerns through a mandated broadcasting service.

The MCMC therefore concludes that there should be regulation of the Broadcasting Transmission Service in the Access List.

12.2.2 Digital Terrestrial Television Broadcasting (DTTB) Service

Question 49:

Do you have any comments in relation to the potential access issues identified by the MCMC in relation to DTTB?

Question 50:

The MCMC seeks comments on its preliminary view that multiplexing services (as an input into the DTTB service) should be included on the Access List. Do you consider that any other inputs to the DTTB Service should be included on the Access List?

(a) Comments received

TV3/8TV considered access to reception equipment to be critical to the success of DTTB at launch. TV3/8TV also supported the addition of set-top boxes in the Access List, foreseeing the likely profusion of incompatible set-top boxes.

In terms of multiplex services, TV3/8TV considered that this issue would only arise if Malaysia adopts standard definition television.

Telekom expressed its total opposition to the inclusion of DTTB on the Access List.

(b) MCMC's Final Views

The MCMC continues to hold the view that a number of potentially significant access issues may arise when DTTB is introduced in Malaysia. The forward-looking approach adopted in this Public Inquiry is highly relevant and substantiated by the concerns raised by parties who will be participating in the actual launch of DTTB services.

Given the desire to establish a competitive environment at launch and to facilitate the success of DTTB, the MCMC considers that as far as possible where other access issues have been addressed, and discounting those areas where access regulation is not possible (such as access to set-top boxes), the MCMC is mindful to provide the available mandate to ensure that those access issues are addressed now.

For these reasons, the MCMC's final view is to include multiplexing services on the Access List. In order to address previous concerns raised by the industry regarding access issues for all digital terrestrial services, the MCMC's final view is that the mandated service should be applicable to all forms of digital terrestrial transmission. The MCMC again reiterates that it is open to reconsider the appropriateness of Access Listing at such time if and when competitive conditions occur in the provision of digital transmission services.

12.3 Conclusion

The state of competition in the broadcasting transmission market is affected by the critical issue of the bundling of transmission services with tower access. The MCMC has therefore determined to regulate infrastructure sharing to address this, as discussed in section 7.

Access regulation can only address carriage and network issues, not content issues. In response to the competition problems that are apparent in the carriage and network issues raised in the broadcasting transmission market, it is necessary to address these bottlenecks and upstream dependencies. The MCMC has therefore determined that a separate Broadcasting Transmission Service should be regulated. This is necessary to stimulate downstream broadcasting competition and competition for upstream elements.

It is also necessary to address potential bottlenecks and upstream dependency. The MCMC has therefore concluded that regulation of digital terrestrial broadcasting in the area of multiplexing services is required.

13. NEW TECHNOLOGIES

13.1 Emerging Services

The PI Access List Paper raised a number of emerging services and their relationship to access issues:

- (a) voice over Internet protocol;
- (b) wireless broadband;
- (c) wireless local area network;
- (d) general packet radio service;
- (e) virtual private network;
- (f) premium rate services;
- (g) short message service gateway services; and
- (h) interconnection with next generation networks.

The MCMC sought comments on these 8 services to ascertain any existing or potential access issues that may arise. This inquiry is consistent with Malaysia's objective of establishing itself as a global hub in the communications, multimedia and technology sphere. It is also consistent with the forward-looking approach adopted in the Public Inquiry process.

13.2 Voice over Internet Protocol

13.2.1 Description of Services

The PI Access List Paper invited comments on 3 different types of VoIP services which connect to the PSTN:

- (a) retail based calling card type services;
- (b) networks which use VoIP that interconnect with the PSTN; and
- (c) VoIP over broadband which may or may not connect to the PSTN.

Question 51:

The MCMC seeks comments on whether VoIP operators are able to compete effectively through the acquisition of wholesale services at unregulated rates? The MCMC also seeks comment on whether a technology/service-neutral description of the Fixed Network Termination Service will resolve current interconnection problems faced by VoIP operators?

13.2.2 Comments received

The MCMC received extensive comments on the VoIP services offered by a range of operators.

Telekom submitted that VoIP operators are able to compete effectively at present and that the use of technology neutral service descriptions would result in some signalling (eg with SIP) and transport solutions which would be very low cost to the VoIP operator but result in costs loaded onto the network provider. Telekom therefore argued that there was no need for interconnection with VoIP operators and that any interconnection should be performed on a reciprocal basis. Telekom also argued that VoIP interconnection would not meet the current definition of "any-to-any" in the current Access List Determination.

Maxis stated that VoIP operators are able to compete effectively and disagreed that VoIP operators should be given access to access based pricing to networks. Maxis supported its arguments stating that VoIP operators were only bypass operators. Maxis also wanted VoIP operators who were offered interconnection to commit to QoS.

DiGi's views were similar to Maxis and DiGi stated that the VoIP market was sufficiently competitive without needing to provide VoIP operators with regulated pricing. DiGi also requested the MCMC to consider further consultations to resolve regulatory disparities between VoIP operators and other voice service providers. Celcom expressed similar views about the competitiveness of VoIP operators and that there was no need to extend regulated pricing to VoIP.

TIME submitted that imposition of regulated prices at this stage would have only short term effects because attrition is likely to occur. TM Net believed that open market negotiation was the best method for setting price for VoIP operators.

REDtone submitted that prices for VoIP interconnection were not competitive. REDtone submitted that all operators should be allowed to compete on a level playing field and

that technology neutral descriptions will assist in resolving issues faced by VoIP operators. NasionCom also supported regulation of prices for VoIP interconnection.

13.2.3 MCMC's Final Views

The MCMC believes that the access regime under Chapter 3, Part VI of the CMA should be applied equally across all Access Seekers. The MCMC does not agree with grounds which would result in VoIP operators receiving fewer or lesser rights than other operators. The MCMC believes that VoIP operators contribute significantly to end user welfare and to the competitive environment in Malaysia.

The MCMC does not consider that SIP inter-working as raised by Telekom is a significant issue that impacts upon interconnection between VoIP operators and network providers. Other issues such as nomadic numbering are being considered by industry working groups. In relation to Telekom's comment on any-to-any connectivity, the MCMC proposes to specifically amend the Access List so that any-to-any connectivity is not limited to the same or similar applications services.

So far as cost differential between network providers and VoIP operators is concerned, these issues will be considered by the MCMC during the costing study process.

In relation to Maxis' comments on reciprocity, as VoIP operators are ASPs there are no access obligations imposed on these operators under Chapter 3, Part VI of the CMA. The MCMC does not agree that QoS requirements are an impediment to VoIP interconnection. The MCMC is not aware of any QoS issues at present. However, any Grade of Service commitments necessary for interconnection may be considered, in accordance with the MS (Access).

In relation to DiGi's concerns about differential regulation, the MCMC notes that the *Ministerial Determination No. 2 of 2004* regarding Required Applications Services only imposes obligations on network services providers who provide PSTN services. This is the current state of regulation which the MCMC is required to take into account.

The MCMC therefore believes that a technology neutral service description, which accommodates VoIP interconnection will enhance end user welfare and is the appropriate course of action.

13.3 Wireless Broadband

The MCMC sought comment on Wireless Broadband as a “last mile” technology for the delivery of data services to end users. The MCMC noted that there appears to be a need to ensure that wireless broadband operators (“last milers”) are able to acquire a transmission service for inter-base station transmission. The MCMC’s final view, set out in this PI Access List Report is to make certain amendments to the Domestic Network Transmission Services in order to address this issue.

In relation to connectivity by wireless broadband operators to the Internet, the MCMC’s final view is to amend the Access List to include Internet interconnection, in order to promote access by wireless broadband operators and others to wholesale Internet related services.

Question 52:

The MCMC seeks comments on whether the Domestic Network Transmission Service (as amended) would address the issue currently faced by wireless broadband operators and whether there are any other issues faced by these operators.

13.3.1 Comments received

Telekom did not believe that the acquisition of the Domestic Network Transmission Service was a significant issue. Telekom did not believe that there were any serious proposals for the rollout of wireless broadband. Telekom was also concerned about the cost imposed on network providers if the service was provided on a technology neutral basis.

Issues were also raised about the legal rights of last milers to acquire this service based on the scope of their licence.

Maxis, REDtone, NasionCom and TIME all generally supported the MCMC’s proposal to make such a service available to wireless broadband operators. DiGi appeared to generally support the MCMC’s proposal but had some reservations and requested the MCMC to take a measured regulatory approach because of the lack of standards in the area of wireless broadband.

13.3.2 MCMC's Final Views

The MCMC received a strong degree of support for its proposal. The MCMC does not agree with Telekom that wireless broadband is not an issue, as it has been raised specifically with the MCMC. The MCMC also wishes to take a forward looking approach to technologies and to put in place a regulatory environment which does not impose artificial constraints on new technologies.

The MCMC also wishes to confirm that it does not believe there are any legal or licence impediments which restrict wireless broadband operators ("last milers") from acquiring the Domestic Network Transmission Service. The MCMC rejects the submissions which argue for a limited interpretation of last miler licences, as it has done so in the past.

The MCMC proposes to move forward with its proposal to amend the service description for the Domestic Network Transmission Service.

13.4 Wireless Local Area Network

The PI Access List Paper specifically considered the issue of roaming between hot spots. The MCMC's initial view was that it is too early to tell how roaming between hotspots and as between different technologies will arise.

Question 53:

The MCMC seeks comments on whether access issues relevant to WiFi hotspots are adequately dealt with through the acquisition of DSL services through commercial arrangements.

13.4.1 Comments received

None of the submissions raised any specific regulatory concerns about WiFi hotspots. Some such as NasionCom supported the regulation of the DSL resale service.

13.4.2 MCMC's Final Views

The MCMC does not propose to specifically address WiFi hotspots through regulation for the reasons specified in the PI Paper. The MCMC's discussion on DSL Resale as a regulated service is discussed in section 11.2.2 above.

13.5 General Packet Radio Service

The MCMC considered in its discussion access issues relating to the degree to which a GPRS enabled mobile network operator could refuse access and thereby only offer “walled garden” content and applications to its customers. Examples of successful walled garden content is the I-Mode service offered by NTT DoCoMo in Japan and recently offered in Australia by Telstra. The MCMC noted that if an operator is successful in producing a walled garden which is attractive to end users then there is a potential for the walled garden itself to become a bottleneck.

The MCMC also noted that a number of business models may emerge in relation to the services. The MCMC stated its view in the PI Access List Paper that the access regime is sufficiently flexible to provide alternative outcomes based on different business models.

Question 54:

The MCMC seeks comments on the inclusion of data interconnection in the description of the Mobile Network Terminating Service to facilitate access by content applications service providers to GPRS networks.

13.5.1 Comments received

Telekom and Celcom submitted that the MCMC should exercise extreme caution in this area as it could have a chilling effect on GPRS services offered by cellular operators.

Maxis submitted that all data services should be developed through open access mechanisms however Maxis was concerned that the inclusion of GPRS would not be beneficial for mobile operators or consumers in the long term. Maxis in particular had concerns about the detrimental impact on commercial competitiveness in the mobile market.

DiGi offers two modes of access at present through the DiGi portal or via an independent service. DiGi had no issues if the service was included on the Access List.

REDtone supported an open regulatory system to content providers over mobile networks.

13.5.2 MCMC's Final Views

The MCMC believes that the issue of access to GPRS and 3G networks for data communications is finely balanced. The MCMC supports an any-to-any connectivity approach to voice and data services. However, the MCMC is also aware of the potential detrimental affect on competition on investment in platforms.

The MCMC has not heard a strong case for regulating this service at this stage. On the other hand, the MCMC will wish to ensure that competition flourishes between all content providers over GPRS and 3G networks. Therefore, the MCMC does not propose to regulate data communications services over GPRS and 3G networks at this stage but will monitor the issue to ensure that competition is not impeded in any way.

13.6 Virtual Private Networks

From an access point of view, the PI Access List Paper noted that Virtual Private Networks operate successfully across the public Internet in Malaysia and elsewhere in the world, but other countries have had issues with exclusive provision of VPN services within segments of the public Internet. The MCMC's view in the PI Access List Paper was that it is important to ensure that there is nothing done to prevent public Internet segments in Malaysia from being used to deliver Virtual Private Network services.

Question 55:

The MCMC seeks comments on whether the regulation of ANE would further facilitate the provisioning of VPNs.

13.6.1 Comments received

The submissions received did not believe that the introduction of ANE would have any impact on VPNs.

13.6.2 MCMC's Final Views

The MCMC does not propose to take any action on this issue at this time. The MCMC will continue to ensure that ANE is implemented in a way which does not prevent access to a wide range of services.

13.7 Premium Rate Services

Premium Rate Services allow a PSTN or mobile network user to access content and applications. The MCMC noted that it is difficult, from an access perspective, to determine in the case of premium rate services who is the Access Provider and who is the Access Seeker and several interpretations are possible.

Question 56:

The MCMC seeks comments on whether sufficiently competitive solutions are available to premium rate services operators.

13.7.1 Comments received

REDtone was strongly of the view that this service should be regulated due to the uneven bargaining position of the parties. REDtone was also concerned about discrimination in favour of internal operations of existing NFPs/NSPs.

All other operators believed that this issue was best dealt with through commercial negotiation. TIME submitted that if not resolved commercially, then the issue may be a competition issue and not an access issue.

13.7.2 MCMC's Final Views

The MCMC maintains its view that access regulation is not the appropriate forum at this stage to address these issues. However, the MCMC acknowledges REDtone's concerns that discrimination may arise and that there may be a degree of uneven bargaining power. The MCMC will not regulate this service at this stage but will monitor the issue to ensure that anti-competitive practices do not occur.

13.8 SMS Gateway Services

The MCMC noted complaints that businesses which buy multiple Mobile Terminated message parts (MTs) from operators are finding significant delays before their SMSs are delivered to consumers. This creates a business problem because end users have specifically sought the SMS service to be updated, on real time basis, of live events (eg a sporting event).

Question 57:

The MCMC seeks comments on whether sufficiently competitive solutions are available to SMS gateway operators to overcome congestion on SMS links.

13.8.1 Comments received

Telekom and Celcom submitted that regulatory intervention was not necessary and that it is in the best interests of mobile operators to keep SMS businesses happy. Maxis submitted that there was sufficient competition between the mobile operators to ensure that delivery of SMS was carried out satisfactorily. Maxis also submitted that failures across the SMS gateway were rare.

DiGi stated that it provides non-discriminatory access to content providers to its platform. DiGi currently undertakes a number of measures to improve network reliance. DiGi also raised issues on the side of the content providers about congestion.

REDtone raised concerns about discrimination and believed that the MCMC had a role to play to ensure that these issues were addressed.

13.8.2 MCMC's Final Views

For the reasons expressed in relation to the Mobile Network Terminating Service, the MCMC believes that SMS and MMS should be included in the service description for the purposes of any-to-any connectivity.

Access to this service therefore has to be provided on a non-discriminatory basis and SMSs terminated in accordance with the Mobile Network Terminating Service. The MCMC does not propose to take any further action at this stage but expects full compliance with the access regime in relation to the termination of SMS.

13.9 Interconnection with Next Generation Networks, including use of Soft Switches

The MCMC's view is that next generation networks (**NGNs**) which use alternative switching technologies require ongoing vigilance in terms of potential regulatory implications. While many of the amended descriptions probably cater for new switching technologies in the future, additional measures may be necessary to ensure a technology/service-neutral approach.

Question 58:

The MCMC seeks comments on the implications of next generation networks on the amended description of facilities and services included on the Access List

13.9.1 Comments received

Telekom submitted that the inclusion of full access and line sharing would significantly impact on the profitability of Telekom and its ability to invest in NGNs.

DiGi submitted that NGN interconnection could occur based on similar principles on which current interconnection occurs. However, DiGi raised QoS issues about interconnecting telephony over IP based networks and submitted that there should be different network interconnection agreements for different market categories.

Maxis submitted that access services which cater for NGNs should be independently listed. Maxis raised a number of issues about NGN interconnection and submitted that this issue could be dealt with through MAFB or the Technical Forum.

13.9.2 MCMC's Final Views

The MCMC notes the comments made in the submissions. The MCMC views about a technology neutral approach are clear and this is the basis on which the MCMC proposes to move. The MCMC does not however believe there are any other grounds to examine NGNs for regulation at this stage.

The MCMC encourages the MAFB to examine the issues raised by Maxis and to make any suitable recommendations to deal with future NGN interconnection issues.

13.10 Conclusion

Question 59:

The MCMC seeks comments on whether any additional new technologies should be considered by the MCMC in this Public Inquiry.

13.10.1 Comments received

Telekom and Celcom raised concerns about wireless Access Providers controlling bottlenecks and satellite broadcasting services.

REDtone had some concerns about broadband phones.

13.10.2 MCMC's Final Views

The MCMC's views about satellite broadcasting services are expressed elsewhere in this PI Access List Report at sections 3.2, 3.3 and 5.3.2. In relation to wireless Access Providers controlling bottlenecks, the MCMC believes that the technology/service neutral description of the Fixed Network Termination Service should address bottleneck issues.

The MCMC has not been provided with sufficient information about other services raised by the submissions to comment. However, the MCMC encourages discussion of these services within MAFB and for parties to provide comments or recommendations accordingly.

14. AMENDMENTS TO THE MANDATORY STANDARD ON ACCESS

14.1 Amendments to the Mandatory Standard

The MCMC noted that it may determine a modification or variation of a MS (Access) under section 106 of the CMA if it is satisfied that the mandatory standard is no longer consistent with:

- (a) the objects of the CMA; or
- (b) any relevant instrument under the CMA; or
- (c) any relevant provisions of the CMA or its subsidiary legislation.

As also discussed above, in circumstances where the Access List has facilities or services included or removed, it is likely that modifications to the MS (Access) would be required. In such a case of modifications or variations to the MS (Access), no Ministerial direction is required.

Question 60:

The MCMC seeks views on the obligations which should be included in the Mandatory Standard arising from the addition of/removal from (or changes to) facilities and services arising from this Public Inquiry.

14.1.1 Comments received

DiGi noted its surprise that the MS (Access) was being carried out in advance of the Access List Determination and submitted that a review was premature until the Access List Determination review had been completed.

Telekom provided detailed comments but noted that in its view ASPs who have not made substantial investments in network infrastructure should not be provided with the same access and interconnection rights as NFPs and NSPs.

Maxis provided some detailed comments on the MS (Access) but expressed concerns that it was not in a position to provide detailed comments about new services included in the MS (Access) at this stage. Maxis also expressed concerns about the undue specification of detailed terms and conditions in the MS (Access) and encouraged further consultation between the MCMC and the industry.

REDtone emphasised the importance of proper enforcement of the MS on Access by the MCMC.

TIME emphasised the importance of QoS issues and specific issues relevant to ANE, being quality of access network elements and the exchange of information.

14.1.2 MCMC's Final Views

As expressed in the PI Access List Paper, the MCMC believes it is in line with best practice to provide regulatory certainty and to ensure that industry participants are well informed of the extent of regulation prior to the regulation coming into effect. The MCMC therefore believes it is appropriate to deal with the MS on Access at this time.

The MCMC believes it has taken an appropriate, balanced approach to the specification of terms and conditions in the MS (Access), including in relation to new services. The intention of the MCMC has been to provide early guidance on the extent of regulation through the inclusion of new services on the Access List. The MCMC believes that this is an important step in informing parties about regulatory decisions.

The MCMC also believes there is further room to develop the details in the MS (Access) into an Access Code. The MCMC believes that the MAFB should progress these issues quickly and expects to see results through the development of the Access Code.

14.2 Amendments to MS (Access)

The MCMC proposed a number of amendments to the MS (Access). In particular, the MCMC proposed a fast track process for applications and agreements, specifically applicable for Access Seekers whose requirements for access and interconnection are relatively simple.

Question 61:

The MCMC seeks views on:

- (a) the merits of a fast track application and agreement process;**
- (b) whether the Access Providers, as proposed, should determine the criteria for deciding which Access Seekers qualify for the fast track application and agreement process;**

- (c) alternatively, should the MCMC determine standard criteria for fast track applications and agreements;**
- (d) if so, what should the qualifying criteria be for fast track (eg limited by number of E1s ordered per year, number of minutes etc);**
- (e) whether there should be a standard industry-wide fast track application and agreement and, if so, who should prepare these documents.**

14.2.1 Comments received

TIME supported the inclusion of a fast track process. TIME also encouraged the MCMC to prepare guidelines for fast track and in some cases to expand the analysis.

DiGi did not agree with a fast track process on the basis that it was impractical to deal with interconnection matters, which are highly technical, through a simplified process as suggested by the fast track process.

Telekom and Celcom strongly opposed the fast track process and submitted that there was no interconnection that had a minima impact as suggested by the MCMC. Telekom also expressed concerns about whether new entrants knew what they were seeking in negotiations on interconnection.

REDtone strongly agreed with the fast track process and believed that the MCMC could play a stronger role in determining standards and criteria for the fast track process. REDtone also believed that MAFB could play a role in developing the fast track process.

Maxis raised a range of concerns about the fast track process. Maxis believed there were adequate protections against protracted delays under the dispute resolution procedures. Maxis felt that 10 Business Days was too short. Maxis highlights the technical difficulties associated with interconnection. Maxis also states that the ability to accept an ARD already provides an adequate alternative in sections 5.4.6 and 5.4.7(a).

Maxis is also concerned about discrimination issues that might arise if some Access Seekers are provided with faster access than other Access Seekers. If fast track is to be implemented, Maxis supported the criteria being established by the Access Providers and not through an industry wide consultation.

14.2.2 MCMC's Final Views

The MCMC notes the comments of parties on fast track. As it stands, there is a disagreement amongst the industry about whether a fast track can operator effectively. However no operators have raised any particular concerns about the costs of regulation in this case, except the discrimination claim by Maxis. Given that there may be some benefits that arise from this process, then the MCMC has decided to retain the fast track process.

In particular, the fast track process addresses a common complaint associated with interconnection, being unnecessary delays in the process of establishing interconnection. While the fast track process only addresses the agreement stage of the interconnection process, delays in reaching agreements are particularly unnecessary where ARDs already exist and the requirements of the Access Seeker are relatively simple. Accordingly, a fast track process eliminates a cost to Access Seekers, which is ultimately passed on to end users, being the cost of delay. Delays prevent the emergence of competition and lower prices for end users.

It is the MCMC's role to regulate for the benefit of end users and to address delays in the interconnection process which provide a potential benefit for end users. Therefore addressing delays is an issue that the MCMC believes is consistent with best practice regulation, applied in the Malaysian context.

In relation to Telekom's comments that no interconnection is simple, MCMC does not believe that this reflects reality or the likely internal processes of Telekom. In relation to claims of discrimination, the MCMC does not agree with Maxis. The MCMC believes that the fast track process is likely to reflect a process that occurs at present within Access Provider operations where simple, additional requests for interconnection are made internally within the organisation and are provided on a fast basis. Therefore, a fast track process is more likely to reflect a non-discriminatory process than to create a discrimination.

The MCMC notes the view expressed by Maxis that the ability to accept an ARD is an adequate alternative to a fast track process. The MCMC believes that the establishment by Access Providers of an independent fast track process which is highlighted to Access Seekers is likely to provide incremental benefits by having a self-contained process based on fast track.

In relation to determining criteria, the MCMC has taken a middle course in the MS (Access) by establishing principles which will guide the determination of criteria.

However, the MCMC has included an additional principle, to reflect the above discussion, that such criteria must be determined and applied on a non-discriminatory basis. So, if Access Providers provide a fast track process internally to their own organisation, then this same process must be made available to Access Seekers.

Some submissions requested the MCMC to determine the criteria. The MCMC does not have sufficient information at this stage to determine the criteria. Indeed the criteria may vary depending on the impact of the interconnection request on the individual Access Provider.

To the extent that fast track criteria can be applied on an industry wide basis, the MCMC regards this as an operational issue and the MCMC again encourages the MAFB to determine whether there are any industry wide agreements that can be reached on criteria or on the fast track process generally. The MCMC believes this is an operational matter which is best suited to the MAFB and is not a regulatory issue necessary to be dealt with by the MCMC.

Question 62:

The MCMC welcomes comments on Annexure 3 which contains suggested amendments to the MS (Access).

14.2.3 Comments received

Comments of parties on the MS (Access) are summarised in Annexure 1 to this Public Inquiry Report.

14.2.4 MCMC's Final Views

The MCMC's final views on the matters raised in the submissions on the MS (Access) are summarised in Annexure 1 to this Public Inquiry Report.

15. GUIDELINE ON IMPLEMENTATION OF ANE

15.1 Purpose of Guideline

As part of the Public Inquiry, the MCMC has devised draft guidelines on the Implementation of Access to Network Elements. These were attached to the Public Inquiry Paper.

The MCMC believed that the possible inclusion of certain Network Elements on the Access List may require guidance in relation to, for example, the technical implementation of such access. This has occurred in other countries where technical standards and codes have been developed in relation to access to unbundled network elements.

Question 63:

Do you have any comments on:

- (a) the role of guidelines for implementation of ANE;**
- (b) the interaction between such guidelines and the role of the MAFB;**
- (c) the implications for commercial negotiations between operators with respect to ANE; and**
- (d) the content of the Guideline.**

15.1.1 Comments received

Telekom provided a revised draft of the Guideline on Implementation of ANE. Telekom submitted that the guidelines should be kept to a high level and that the MAFB be asked to review them. In the revised draft and in summary, Telekom proposed to limit the Guidelines to the Bitstream with the Network Service. Telekom also extended the service levels applicable to that service, by effectively doubling most of the timeframes.

Maxis supported the provision of the Guideline and submitted that the Guideline provides important guidance to the industry. Maxis made some general comments and some specific amendments. Generally, Maxis sought expansion of the guidelines in certain areas. Maxis also noted the role of the MAFB to deliberate on issues concerning ANE.

TIME supported the Guideline and encouraged MAFB to deal with the issues in more detail. REDtone generally supported the Guideline and also saw a role for MAFB in the expansion of the concepts.

15.1.2 MCMC's Final Views

The MCMC thanks interested parties for their support of the Guideline. In line with the MCMC's views about ANE, the MCMC does not propose to limit the Guideline to Bitstream services as suggested by Telekom.

The MCMC also believes that the service levels specified in the draft Guideline are fair and has not made changes.

The MCMC notes Maxis' comments about the expansion of the Guideline. However, it is MCMC's preference at this stage to leave expansion issues to the MAFB. As discussed above, the MCMC believes that this issue needs to be dealt with quickly by the MAFB and expects results from the MAFB soon, at least in the form of an Access Code.

One minor amendment has been made by the MCMC regarding the use of spectral masks as suggested by Maxis.

16. IMPLEMENTATION OF TIMEFRAMES AND INTERACTION WITH PRICING DETERMINATION

16.1 MCMC Objectives

The MCMC believes that speedy implementation of the Access List determination is important so that the emergence of competition is not delayed. It would not be in the long-term interests of end users for there to be a significant delay between the identification of access issues and the making of a determination which seeks to address those access issues.

Question 64

Do you agree that:

- (a) Access Providers should be given a 90 day period from the effective date of the Access List Determination to formulate Access Reference Documents;**
- (b) Access Providers and Access Seekers should be given a 180 day period from the effective date of the Access List Determination to re-negotiate existing Access Agreements.**

16.1.1 Comments Received

Maxis submitted that 90 days was insufficient to formulate ARDs. For example, it believed that the timeframe to develop terms and conditions for ANE may take longer. Maxis proposed 180 days for development of ARDs. Maxis then proposed a time of 120 days from the date of the MCMC pricing determination, for re-negotiation of existing agreements. Maxis raised concerns about re-negotiations of existing agreements having to be duplicated in the case of a new pricing determination being released after the other terms and conditions have been finalised.

Telekom and Celcom also suggested a 180 day period for new ARDs to be put in place because of the breadth of the Access List Determination. Telekom proposed a 270 day timeframe for re-negotiation of existing agreements. Telekom also sought ongoing monitoring by the MCMC of the take up of services on the Access List.

DiGi supported the 90 day timeframe for ARDs but raised similar concerns to Maxis about the timing of the MCMC's pricing determination and its impact on re-negotiations having to be duplicated. DiGi disagreed with the 180 day timeframe.

TIME agreed with the 90 day timeframe for ARDs but raised similar concerns to Maxis about the timing of the MCMC's pricing determination and its impact on re-negotiations having to be duplicated.

TM Net suggested a 180 day timeframe for ARDs but agreed with the period for renegotiation.

REDtone agreed with the timeframes proposed.

16.1.2 MCMC's Final Views

The MCMC acknowledges the concerns about timing. However, the MCMC believes that a delay until mid-2006 for parties to reach agreements on the Access List Determination is too long, given that implementation will occur sometime after that.

The MCMC accepts the views expressed in the submissions that parties should not have to duplicate negotiations after the MCMC makes its pricing determination. Therefore, the MCMC proposes the following timeframes:

- (a) a 120 day timeframe for the preparation of ARDs, having regard to the complexity of the task; and
- (b) a further 120 days (ie total of 240 days as against the 180 days proposed earlier) to amend existing agreements. This means that parties effectively have until the end of February 2006 to finalise agreements. So, parties can commence discussions of non-price terms and conditions by early November 2005. It remains the MCMC's expectation to finalise pricing by end December 2005. The parties then have time to finalise agreements, taking into account the MCMC's pricing, by end February 2006.

The MCMC also clarifies that it is possible for an Access Seeker to accept an ARD within the timeframes specified in the MS (Access) after the ARD is published.

16.2 The Effective Date and Interaction with Pricing

The MCMC then needs to consider what the effective date of the Access List Determination will be. The MCMC proposed a date of 1 July 2005 in the Public Inquiry Paper.

Question 65

Do you agree with the MCMC's proposal that the Access List Determination should take effect on or around 1 July 2005?

16.2.1 Comments Received

Telekom, Celcom and TM Net disagreed with an immediate implementation date. In relation to ANE, Telekom stated that in New Zealand the investigation on Local Loop Unbundling took over one year with a series of detailed steps thereafter.

Maxis, TIME, REDtone agreed with a 1 July start date. DiGi proposed a start date for the MS on Access as 1 January 2006.

16.2.2 MCMC's Final Views

The MCMC believes that immediate implementation is important. The MCMC believes that parties should commence preparation of ARDs immediately and to prepare for implementation of services such as ANE. The MCMC also disagrees with Telekom's views about quick implementation of ANE. The MCMC has been discussing ANE with the industry since 2003. The MCMC now believes it is time for implementation.

The new Access List Determination will take effect on or around 1 July 2005.

The MCMC also clarifies that the existing Access List Determination will be revoked by the new Access List Determination. This revocation will be effective except in respect of the operation of the existing *Commission Determination on the Mandatory Standard on Access Pricing, Determination No. 1 of 2003*. The effect is that pricing in this existing pricing Determination will apply to the services previously described in the current Access List. However, a new pricing Determination will apply to the newly described facilities and services in the revised Access List Determination. The existing pricing Determination expires on 31 December 2005.

16.3 Technical Implementation

Question 66

What role do you think the MCMC should play (if any) in the practical implementation of the Access List Determination? Please provide specific views where possible.

Most submissions made some general comments on the role of the MCMC. Maxis and some others made comments on the MAFB's role vis-à-vis access. The MCMC believes that the MAFB now has an important role to play in relation to implementation of the new services, particularly in relation to ANE. The MCMC expects to receive quick results from the MAFB on these issues in the form of an Access Code, together with other matters referred to above. REDtone also made submissions that unfair bargaining power manifests in the deliberations of the MAFB and suggests that the MCMC monitor carefully the outputs of the MAFB. The MCMC notes REDtone's comments and repeats that it expects the MAFB's deliberations and outputs to be representative across the whole communications and multimedia industry and for such outputs to appropriately balance the views across the industry.

Telekom and Celcom also made comments about best practice in the implementation of the Access List, such as focussing on the National Telecommunications Sector policy. These matters are noted by the MCMC. The MCMC agrees with Telekom that the MCMC should maintain an ongoing monitoring role in certain areas and the MCMC proposes to do so.

Telekom and Celcom finally submitted that the MS (Access) should not be too prescriptive and that parties should be able to commercially negotiate access arrangements without regulatory intervention. The MCMC continues to believe that the MS (Access) strikes a fair balance between addressing uneven bargaining power in access negotiations and providing reasonable commercial freedom for parties to agree on matters in addition to those specified in the MS (Access). The MCMC also notes the MAFB's role in developing appropriate guidance to address uneven bargaining positions.

DiGi raised concerns about delay in interpretation and implementation of the MS (Access), as did TIME. The MCMC has addressed specific implementation timeframes for the MS (Access) above. The MCMC also notes DiGi's submissions regarding the need for strong enforcement of regulatory principles and agrees with DiGi's views.

TM Net submitted that MCMC is in a position to monitor the implementation of the Access List Determination but also to consider constraints encountered by Access Seekers and Access Providers in the development of the Malaysian economy. The MCMC agrees with the ongoing monitoring role suggested by TM Net.

17. CONCLUSION

The MCMC thanks parties for their participation in this Public Inquiry. The MCMC believes that the review has been timely and that all parties will be in a better position to fulfil the NPOs as a result of this inquiry.

Question 67:

The MCMC welcomes comments on any additional matters that stakeholders consider should be included in the MCMC's assessment of the Access List, the MS (Access) or the Guideline on Implementation of Access to Network Elements.

The MCMC notes the following views expressed in response to this question, together with the MCMC's response:

- (a) Telekom requested the MCMC to review fair access to rights of way in respect of which Telekom submitted that there are considerable complications at the local and State authorities. The MCMC notes these views however they are outside the scope of this Public Inquiry;
- (b) REDtone suggested that the MCMC should look into access to SMS network elements such as the SMSC and submitted that competition would flourish further if ASPs were provided with access to certain network elements. REDtone also argued that the MCMC should examine SMS pricing in the upcoming pricing review. The MCMC does not agree with unbundling of mobile networks given that individual bottlenecks (except termination) do not appear to exist in the mobile network. Competition in the mobile market should be sufficient to address reasonable requests for access. The MCMC will be examining costing of SMS termination in the pricing review;
- (c) Maxis submitted that this Public Inquiry was very comprehensive but wanted the MCMC to give greater guidance to the MAFB and the Technical Forum to finalise the Access Code. The MCMC thanks Maxis for its comments. In relation to the MAFB's role, the MCMC believes it has been clear in responses above about the role it expects MAFB to play and the timeframes within which MCMC expects to receive outputs;

- (d) DiGi argued for asymmetric regulation and noted international practice where specific prohibitions and obligations were imposed only on dominant operators. The MCMC notes DiGi's views. However the MCMC is operating under a different legislative environment to other countries, such as in the European Union. Access obligations under the CMA are applicable to all NFPs and NSPs and there is no distinction made between dominant and non-dominant operators in this particular part of the CMA. Accordingly, the MCMC has retained the "flat" nature of access obligations in its subsidiary instruments and legislation.

Question 68:

The MCMC welcomes comments on the technical specification of facilities and services in Annexure 2.

The MCMC thanks parties for their comments on these matters and have taken them into account in the final Access List Determination.

The MCMC notes the following detailed aspects of the Access List Determination, based on comments made by parties in the Public Inquiry and for the purpose of further clarification:

- (a) REDtone requested the definition of Call Communication be made more generic and for references to "numbers" to be removed. The MCMC has not made this amendment because the MCMC believes that some definition needs to be retained around definitions. If definitions are made too generic, then uncertainty will arise about their application. The MCMC believes that the "numbering" aspect of Call Communications is important both for interconnection purposes (ie Access Providers and Access Seekers need to be able to determine origins and destinations of calls by reference to something) and to distinguish Call Communications from Message Communications (and, although now removed from the description of the Mobile Network Termination Service, Data Communications);
- (b) REDtone also requested the MCMC to further define SMS and MMS. The MCMC has not further defined these terms as they are well understood, including the fact that non-mobile platforms now also support these services;
- (c) Telekom requested the reinstatement in the definition of Any-to-Any Connectivity the requirement that such connectivity is only required to be provided between the same or similar applications services. The MCMC does not agree with this

reinstatement and has removed these words. The MCMC wishes to encourage interconnection between different technologies providing functionally similar services and accordingly does not believe that interconnection should be limited by reference to technology;

- (d) Maxis made various submissions consistent with its views on the services and facilities to be included in the Access List. These issues are addressed above in relation to the relevant service. Maxis again also made comments about cost differentiation between origination and termination on different platforms and the MCMC has noted these views for the purposes of its pricing review;
- (e) Maxis requested a definition of VoIP be included and the MCMC has done so. Maxis was also unclear about the distinction between POPs and POIs. The MCMC has made certain clarifications that a POP is a location established by an Access Seeker at which it acquires network services and network facilities, whereas a Point of Interconnection is a point of demarcation between the networks of the Access Provider and the Access Seeker;
- (f) Maxis requested that MMS be removed from the description of the Fixed Network Termination Service as MMS will not be supported in the near future. The MCMC is concerned by Maxis' comments and believes that Maxis should be working towards full MMS interconnectivity. Maxis also requested that packet switching be removed from the Mobile Network Termination Service. Again, the MCMC wishes to foster interconnectivity between different networks and does not agree that interconnection should be limited to interconnection between circuit switched networks;
- (g) the MCMC notes that, in accordance with the technology/service neutral approach discussed above, all references to specific switching types have been removed from all relevant service descriptions. It is the MCMC's specific intention not to limit interconnection to traditional forms of switched interconnection;
- (h) the MCMC notes that in the description of the Equal Access (PSTN) Service, references to preselection have now been removed in accordance with the MCMC's previous Public Inquiry. Equal Access is also only relevant to provision over the PSTN;
- (i) the MCMC has added Message Communications in the descriptions for the Fixed Network Termination Service and the Mobile Network Termination Service, thus requiring full interconnection between networks which support SMS and MMS;

- (j) the MCMC received several submissions requesting clarification of the definition of end user in the service description of the Private Circuit Completion Service. The MCMC has clarified that an end user for the purposes of the Private Circuit Completion Service includes a wholesale or retail customer and includes an Operator and the final recipient of the service. In particular, the MCMC wishes to clarify that the PCCS may be acquired to connect to a customer premises or to a network location such as a GSM base station or a POP;
- (k) Telekom made submissions concerning the extension of rights to acquire the Domestic Network Transmission Service to wireless broadband operators or 'last milers' and sought to limit the service description of the service accordingly. The MCMC does not agree with this amendment for the reasons expressed above and believes that last milers have the right to acquire this service;
- (l) the MCMC has amended the service description for the Internet Access Call Origination Service to remove the references to switching, in line with the approach discussed above. The MCMC has also limited access to the service through the use of short codes. The MCMC wishes to confirm its view that short codes should be used for internet dial-up traffic and that the Internet Access Call Origination Service should be limited accordingly;
- (m) the MCMC also wishes to clarify that in relation to each of the services described in paragraphs (a), (b) and (c) of the Domestic Connectivity to International Services that each of the services is to be offered on an unbundled, modular basis;
- (n) the MCMC has included a service description for the DSL Resale Service. This service is a pure resale service of DSL retail offerings available in the market, which the MCMC requires to be offered on a wholesale basis. The DSL Resale Service description is in two parts. The first part is a general description of a DSL service. The second part confirms and clarifies that the requirement is imposed on Access Providers to offer a wholesale version of the DSL services offered at retail. Prices for the DSL Resale Service will be considered as part of the MCMC's costing Public Inquiry.

Finally, Telekom made extensive submissions about the technical limitations of ADSL and made some comments about the ordering aspects of Access to Network Elements. The MCMC disagrees with Telekom's views about the need for absolute commitments instead of forecasts for ANE for reasons related to Telekom's OSS. The MCMC expects Telekom to provide non-discriminatory access to systems which support ANE and does not agree

with the imposition of more stringent ordering obligations on Access Seekers than it imposes on itself.

27 MAY 2005

MALAYSIAN COMMUNICATIONS AND MULTIMEDIA COMMISSION

ANNEXURE 1

COMMENTS ON RESPONSES TO MANDATORY STANDARD ON ACCESS (MS (ACCESS))

Subject area	Comment and amendment
Interpretation	A number of definitions have been included for clarification, including a definition of the Access List Determination and ANE. Services that are defined in the Access List Determination that are used in the MS (Access) will have the same meaning as in the Access List Determination. For clarity, note that where terms are defined in the Access List Determination, they are no longer defined in the MS (Access).
Equal Access	Telekom has requested the removal of Equal Access from the MS (Access). For the reasons stated in the Public Inquiry Report, the Equal Access (PSTN) Service is to be retained on the Access List (although limited to call-by-call access) and hence it is to be retained in the MS (Access).
Registration of Access Code	Telekom has requested the inclusion of a provision that upon the registration of the Access Code, the Standard will become null and void. As the MCMC has stated on several occasions, until the Access Code is developed, it is not possible to tell whether the Standard will remain in place. It is possible (and even likely) that the MS (Access) will be retained as setting the general principles, with the Access Code setting out the more detailed provisions. Telekom's suggested amendment has not been made.
MS (Access) not to apply to ASPs	Telekom has requested the inclusion of a provision that the MS (Access) is not applicable to ASPs who have not made substantial investment in network infrastructure. The MCMC does not agree with this limitation and has not included it for the reasons stated in the Public Inquiry Report. ASPs necessarily do not invest in network infrastructure and therefore Telekom's suggestion would effectively mean that ASPs obtain no benefit from the MS (Access). The MCMC sees ASPs playing an important role in the development of competition in Malaysia and they should have equivalent access rights under the MS (Access).
ARDs	DiGi has requested several amendments to the ARD provisions in section 5.3. DiGi has requested that ARDs be made available in paper form or on the website (not both, as currently expressed). DiGi also objects to agreements based on ARDs being automatically amended in case of changes to the ARD (although Access Seekers may dispute such an amendment). The MCMC believes that ARDs should be available in paper form and on the website. The MCMC also believes that agreements based on an ARD should change if the ARD is changed to maintain non-discriminatory terms across Access Seekers who acquire services from an Access Provider. Hence, the MCMC has not made the changes suggested by DiGi.

Subject area	Comment and amendment
Security requirements	DiGi has requested that security requirements in section 5.3.8 not be imposed where an Access Seeker owns a network facility, has a paid-up capital of RM1 million and above and has been trading for more than 10 years. The MCMC has not included this requirement, although it could be negotiated between Access Seekers and Access Providers. The reason that the MCMC has not made the amendment is that a large Access Seeker may incur significant charges owing to Access Providers and that Access Providers may seek security in these cases depending on the financial status of the Access Seeker on a case by case basis.
Access Requests	Several submissions have reinstated paragraphs in section 5.4.6 that the MCMC proposed to delete from an Access Request, for streamlining purposes. The MCMC has not reinstated ready for service dates because this information is likely to be commercially sensitive to the Access Seeker. Names of negotiating teams have not been reinstated as this can be resolved at the initial meeting and, as requested by DiGi, this has also been streamlined in section 5.4.9. However, the MCMC still believes that initial meetings are useful and this process has been retained. Hence sections 5.4.13 and 5.4.14 regarding objections to negotiating teams has also been deleted. The MCMC has reinstated the provision of technical information by the Access Seeker as this may be relevant to the Access Provider but has not required inclusion of QOS information as this issue can be discussed during negotiations.
Fast track application	As discussed in the Public Inquiry Report, several parties have requested the deletion of the fast track process in section 5.4.21 (now 5.4.19). As the MCMC has stated in the report, the MCMC believes that the fast track application may assist with simpler requests for access and there are likely to be some benefits in such a process. The MCMC does not believe a fast track process imposes significant, if any, costs on Access Providers, and hence has retained these provisions.
Ordering	<p>Maxis has proposed amendments to section 5.7.14 about the commencement of the ordering timeframes contained in that section. The MCMC accepts that it is reasonable for timeframes to be extended where delays are caused by the Access Seeker, However, the MCMC understands the practice in Malaysia is to commence work while wayleaves and government approvals are being obtained. Therefore, the MCMC does not believe, based on practice in Malaysia, that the absence of wayleaves and government approvals should further delay the Ordering timeframes.</p> <p>Amendments suggested by Maxis have also been made to section 5.7.16 which requires Access Seekers to respond to Access Provider requests within a certain period of time and allowing Access Provider's to claim for additional costs where the costs were incurred due to the Access Seeker. These amendments appear reasonable and have been included.</p>

Subject area	Comment and amendment
	Amendments suggested by DiGi that would allow for ordering in case of 75% or more utilisation has not been made as this seems unnecessary. An Access Seeker may order capacity at any time provided it is willing to pay for that capacity.
Deemed Access Providers	Telekom and Maxis have requested the reinstatement “at the same place” in section 5.9.4. This would mean that deemed Access Providers only have to provide physical co-location not other forms of co-location. The MCMC believes this is a reasonable request and has reinstated these words.
Costs of equal access	Maxis has requested an amendment to section 5.12.4 to clarify that Access Providers are required to bear the cost of upgrading networks for Equal Access purposes. The MCMC agrees that the clarification reflects the MCMC’s intention and has made this change.
Billing and settlement	<p>The MCMC has received several requests for changes to the billing and settlement provisions in section 5.14. Overall, the MCMC believes that the existing billing and settlement provisions strike a fair balance between Access Provider and Access Seeker interests. The MCMC’s amendments to this section are limited to areas of clarification. Hence clarifications to the set-off provisions where there are several outstanding invoices, backbilling provisions for simplification purposes and to adjustments to Provisional Amounts have been included.</p> <p>The MCMC does not believe that any clarification is required in relation to the time for invoicing under section 5.14.1 as requested by DiGi. DiGi has also sought a limitation on billing disputes concerning interconnection services and a threshold for such disputes. The MCMC does not agree with these amendments as this would overly restrict Access Seeker’s rights to dispute invoices. The MCMC believes that some operational issues such as the exchange of billing summaries can be resolved commercially and there is no need to include these provisions in the MS (Access).</p>
O&M Obligations	<p>Maxis has suggested changes to target times for fault response and rectification in section 5.15.13. The MCMC has made changes suggested by Maxis on route blocking thresholds as these appear reasonable given the timeframes involved for response and rectification. The MCMC has not made changes concerning the inclusion of a new set of target times for progress updates. The MCMC believes this is an operational issue that can be resolved commercially.</p> <p>DiGi has suggested amending the emergency maintenance provision in section 5.15.16 to clarify that 24 hours notice is provided instead of 1 Business Day. The MCMC agrees with this change given that emergencies may occur outside business hours or during the week.</p>

Subject area	Comment and amendment
	<p>New provisions have also been included concerning complaints handling and routine testing as suggested by Maxis as these appear reasonable. However, more operational aspects of those provisions such as the use of particular forms will be left to commercial negotiation.</p>
<p>Technical Obligations</p>	<p>Some clarifications have been made to the table in section 5.16.9 as suggested by Maxis for clarification. The MCMC has not made changes requested by DiGi to incorporate service levels under the MS on QoS. The MS on QoS has a separate purpose for end users and is not relevant to interconnection and has not therefore been included in this MS (Access). In any case, the MS on QoS is separately enforceable and does not need to be duplicated in this MS (Access).</p> <p>The MCMC also requires Access Providers to agree network congestion requirements with Access Seekers in relation to SMS in line with world's best practice.</p>
<p>Termination</p>	<p>Several submissions have suggested amendments to the termination provisions. In summary:</p> <ul style="list-style-type: none"> • the MCMC has clarified the notice period in section 5.17.3, as allowing for a single 30 day remedy period for breach but immediate termination in the case of a winding up (subject to MCMC approval). The MCMC does not agree to broaden the insolvency category because of the importance of interconnection to an Access Seeker; • the MCMC has included a termination right in case of a force majeure which continues for 90 days (subject to MCMC approval); • the MCMC has included a new right of suspension in case of breach of laws. The MCMC does not agree to limit rights of suspension only in the case of 2 consecutive invoices being outstanding as this may encourage gaming by Access Seekers; • the MCMC has retained the requirement for approval of termination, suspension or material variation because of the importance of interconnection to Access Seekers. The MCMC also wishes to receive notice under section 5.17.6 at the same time as Access Seekers receive that notice. The MCMC will not agree to timeframes that require it to respond within a fixed time period as termination, for example, is a complex issue and may take some time for the MCMC to consider; • the MCMC has made some clarifications to the return of deposits and guarantees provisions in section 5.17.10 to clarify that outstanding amounts may be deducted from such deposits and guarantees.
<p>Service specific</p>	<p>The MCMC has not received substantive suggestions to these</p>

Subject area	Comment and amendment
obligations	provisions, except to delete or limit their application in line with submissions made by parties as discussed in the Public Inquiry Report. The MCMC has retained these provisions in line with the MCMC's views under the Public Inquiry Report. Some clarifications have been made to the Internet interconnection provisions as suggested by TM Net.
Timelines	The MCMC has made changes to the dates for existing agreements to be amended (section 6.2.4) and ARDs to be in place (section 6.2.6) as per the MCMC's discussion in the Public Inquiry Report.
Disputes	Some clarifications have been made in Annex A to the billing dispute provisions as per suggestions from DiGi. However, the MCMC has not extended the timeframe for billing disputes to be resolved. This would appear to cause unnecessary delay.