

**MALAYSIAN COMMUNICATIONS AND  
MULTIMEDIA COMMISSION**

**A CONSULTATION PAPER ON LOCAL ACCESS FUNDING**

**13 May 2002**

**MCMC/IDD/IRA/LAF/No. 4 of 2002**

## **Preface**

Determination of Cost-Based Interconnection Prices and the Cost of Universal Service Obligation or TRD 006/98 introduced the concept of Local Access Funding as a mechanism to fund any increase in the net cost of universal service provision arising from the introduction of equal access. This determination required the government to determine equal access operators' contribution to the LAF and to review it on a yearly basis or as the need arose.

The Malaysian Communications and Multimedia Commission (MCMC) is currently undertaking a full review of Local Access Funding mechanism and the issue of access deficit more generally in Malaysia. As part of this review, MCMC invites submissions from interested parties on the contents of this public inquiry document. Written submissions should be provided to the Commission by **12 noon, 1 July 2002**. Submissions should be provided in hard copy as well as electronic form and addressed to:

The Malaysian Communications and Multimedia Commission  
Level 11, Menara Dato' Onn,  
Putra World Trade Centre  
45 Jalan Tun Ismail  
50480 Kuala Lumpur

Attention: Puan Shafarina Saleh  
Tel: 4047 7000  
Email: [laf@cmc.gov.my](mailto:laf@cmc.gov.my)

Any confidential material should be provided under a separate cover clearly marked 'Confidential'.

The Commission thanks interested parties for their participation in this consultative process.

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## **ABBREVIATIONS**

IP	Internet Protocol
ISP	Internet Service Provider
LAF	Local Access Funding
MCMC	Malaysian Communications and Multimedia Commission
NERA	National Economic Research Associates
TMB	Telekom Malaysia Berhad
USO	Universal Service Obligation
USP	Universal Service Provision

## **GLOSSARY**

The Act	The Communications and Multimedia Act 1998.
Net USP cost	The loss incurred by a universal service provider from supplying services to a universal service area in the course of fulfilling the universal service obligation.
Universal Service Obligation	The obligation to ensure that the universal service objectives in respect of an area are fulfilled
Universal Service Provider	A provider designated by MCMC as a universal service provider in respect of an underserved area or group within the community with responsibility to take all reasonable steps to fulfill the universal service obligation so far as it relates to that area.
Universal Service Provision Fund or USP Fund	A fund established under section 204 of the Act.

## **SECTION 1: INTRODUCTION**

Determination of Cost-Based Interconnection Prices and the Cost of Universal Service Obligation or TRD 006/98 stated that a Local Access Funding (LAF) mechanism should be set up to fund any increase in the net cost of universal service provision arising from the introduction of Equal Access. This determination required the government to determine equal access operators' contribution to the LAF and to review it on a yearly basis or as the need arose.

Key features of the LAF mechanism are that:

- Equal Access providers alone have to contribute;
- only local access network operators providing universal services receive funding; and
- the cost of LAF is to be determined by the Director General of JTM.

The initial cost was determined to be a levy of 10 sen per minute on all originating traffic minutes of Equal Access operators. This is the rate that equal access operators currently pay to Telekom Malaysia Berhad (TMB).

MCMC has decided to launch a review of the current LAF mechanism with National Economic Research Associates (NERA). This review has been prompted by the recent introduction of a new Universal Service Provision (USP) Determination, which replaces the previous Universal Service Obligation (USO) system on which the LAF mechanism is based.

This public inquiry report is structured in the following manner:

**Section 2** considers the LAF mechanism in the light of recent changes in universal service system in Malaysia and whether a revocation of the LAF mechanism might raise issues relating access deficit;

**Section 3** explores the current sources of funds available to TMB to recover any access deficit;

**Section 4** considers how the access deficit should be defined and calculated;

**Section 5** considers other rationales for the recovery of the access deficit; and

**Section 6** explores conceptually how an access deficit funding mechanism might work, if one were to be set up.

## **SECTION 2: REVIEW OF CURRENT LOCAL ACCESS FUNDING MECHANISM**

As noted in Section 1, the aim of the current Local Access Funding mechanism was to fund any increase in universal service costs arising from the introduction of equal access. Under the TRD 006/98 regime, only Telekom Malaysia Berhad (TMB) was obliged to offer universal services. Therefore, other non-universal service operators were not entitled to receive any LAF payment.

MCMC has now introduced a new system for universal services, the Universal Service Provision (USP) system, which consists of two phases. Phase 1 provided for TMB to continue to be the sole provider of universal services from 1 January 2001 until 31 December 2001. Under Phase 2, MCMC may designate a licensee other than TMB as universal service providers.

The new USP system is entirely separate from the previous system and all licensees<sup>1</sup> are now required to contribute 6% of their weighted revenue (the “contribution” into a USP Fund, unless MCMC decides otherwise. There is therefore a separate and explicit funding mechanism that MCMC can use to fund universal service providers’ net USP cost.

Under the new USP regime, TMB will no longer be able to claim any net USO cost on existing lines. This will in effect make the LAF mechanism, as defined by TRD 006/98, obsolete.

There is, therefore, a need to consider revoking the current LAF mechanism.

### **Question 1**

**Do you believe that the current LAF mechanism should be revoked? Please explain your answer.**

### **2.1 Implications of revoking the LAF mechanism**

TMB was the only operator to receive revenue under the LAF mechanism. If this mechanism is revoked, the question arises as to whether TMB would face an access deficit in relation to existing lines (new universal service lines would be funded through the USP Fund) due to the loss of both USO contributions and the LAF mechanism.

An access deficit arises when the cost of providing ordinary exchange lines to customers is greater than regulated connection (both new connections and reconnections) and rental revenues. In these circumstances access network operators use the profits made from calls to cover the access deficit. If an Equal Access operator is using the same lines to provide call services, the access network operator may no longer recover the loss incurred on the provision of access (the lines) through revenues earned on calls.

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<sup>1</sup> Except content applications service providers; holders of registered licenses under the Broadcasting Act 1988; and those whose total revenue derived from designated services in a calendar year is less than RM 500,000.00

In principle, MCMC considers that the implications of revoking the LAF mechanism on access deficit issue should be examined. However, assessment of the implications is not a straightforward matter because:

- TMB already has a number of opportunities to recover any resulting access deficit from other sources; and
- MCMC does not have any evidence on the size of any access deficit.

These two issues are discussed further in sections 3 and 4 respectively.

**Question 2**

**MCMC invites comments as to whether it should consider the issue of access deficit in Malaysia in the light of any revocation of the LAF mechanism.**

### **SECTION 3: ALTERNATIVE SOURCES FOR RECOVERING AN ACCESS DEFICIT**

Under the current regime, TMB in particular is able to recover its access deficit (and any losses on local and Internet calls to 1515 and 1511 services), through the following two main sources of funds:

- cross-subsidization from profitable call services; and
- high interconnection charges.

These two sources are discussed below.

#### **3.1. Cross-subsidization from profitable call services**

Under the current rate regulation regime, TMB has been able to generate revenues well in excess of its costs for some key services (national calls, calls to mobile phones and international calls). This is mainly due to three factors:

- muted competition in the fixed line business;
- regulated rate ceilings for national calls, set at a level well above reasonable costs. Although the Minister of Energy, Communications and Multimedia has recently announced rate changes that reduce national call rates (and hence the ability of national call revenues to cross subsidize the access network), the reductions are relatively small; and
- until recently, the existence of a price floor which did not allow competitors (or TMB) to undercut TMB's standard rates by more than 20%, even for those services such as international calls which are not regulated.

TMB may also be able to derive excess economic profits from the provision of non-mainstream services such as leased lines, the provision of links to other operators etc.

#### **3.2 High interconnection charges**

The interconnection rates that TMB charges are those set out in TRD006/98. These are in general significantly higher than long run incremental cost (LRIC) plus a reasonable mark-up to cover fixed and common costs (see MCMC consultation paper on Access Pricing).

#### **Question 3**

**Do you agree that these alternative sources of funds also need to be taken into account when considering the impact of any revocation of the LAF mechanism?**



## **SECTION 4: CALCULATING AN ACCESS DEFICIT**

One key input into deciding whether or not there an access deficit funding mechanism would be needed to replace the LAF mechanism, would be the likely size of TMB's access deficit, should one exist following the recent regulatory changes. At present, MCMC does not have the necessary data to assess whether TMB would be likely to have an access deficit or if so, how significant it would be.

In this section MCMC considers more closely how in principle the "access deficit" should be defined and calculated.

### **4.1 Definition of Access Deficit**

Before the term "access deficit" is defined, it is necessary to first define the term "access network" to be used in the context of access deficit.

MCMC uses the following definition of access network in this consultation paper.

#### **Box 4.1: Access Network**

Access network = ordinary exchange lines in the fixed network.

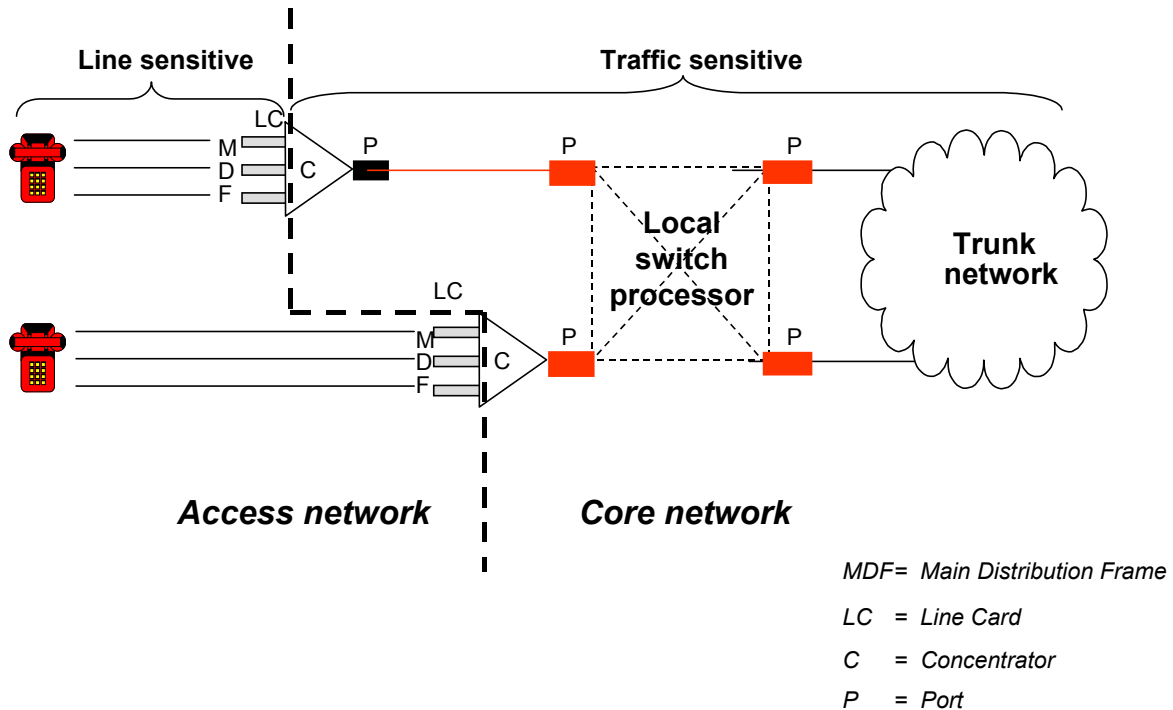
where:

"ordinary" exchange line excludes the provision of ISDN lines;

"exchange line" excludes leased lines.

An exchange line runs from the customers' premises to the line card as illustrated in Figure 4.1. The costs of this part of the network are driven by the number of lines (i.e. they are line sensitive). This is in contrast to the costs of the core (or conveyance) network, which are traffic sensitive. The access network can be based on copper technology, wireless local loop technology or any other technology.

**Figure 4.1  
Access Network and Core Network**



Similarly, in the context of this document, "access network services" means the provision of an ordinary exchange line, which, for the customer, translates into a connection fee and a monthly rental charge.

#### 4.2 Defining the Access Deficit

In principle, the cost of providing ordinary exchange lines to customers should be recovered through:

- connection revenues (both new connections and reconnections); and
- rental revenues.

An access deficit will arise if these revenues fall short of meeting the cost of providing access. Therefore the access deficit can be defined as set out Box 2 below.

**Box 2: Access Deficit**

**Access deficit = total connection revenue + total line rental revenues – cost of providing access network (ordinary exchange lines).**

### 4.3 Calculation of the access deficit

It is important that if an alternative funding mechanism is to be set up, the access deficit is calculated using costs that would be incurred if the licensee(s) who operate access network were **relatively efficient**. This estimated cost figure would be lower than actual access deficit of a licensee who operates access deficit.

Efficient costs should be used to calculate the size of the access deficit for funding purposes because:

- otherwise other contributing licensees would be paying more than they need to and would in effect be subsidizing the access network operator's inefficiency; and
- by so doing, the licensee who operates access network is provided with strong incentives to reduce its costs. If instead the actual access deficit costs were calculated, this would give the licensee who operates access network no incentive to reduce costs.

This approach was incorporated into the UK's access deficit regime, which defined an efficiency standard and reduced access deficit contributions if BT fell short of it.

#### Question 4

**Do you agree that where an access deficit is calculated for funding purposes, the relevant standard is the access deficit of an efficient operator? Please explain your answer.**

In addition, it is important that if other licensees were in the future required to contribute towards TMB's access deficit, then the calculation of TMB's access deficit should be transparent and audited.

#### Question 5

**TMB and any other licensees with an access network that believe they are likely to face an access deficit are requested to provide MCMC with their data and calculations. A breakdown of annualised capital and operating costs should be provided, along with cost of capital and depreciation calculations.**

## **SECTION 5: RATIONALE FOR THE RECOVERY OF THE ACCESS DEFICIT**

In this section, MCMC considers whether there are other rationales for funding licensees' access deficits. The following issues are considered:

- the difference between a monopoly and a competitive environment; and
- existing constraints on the retail rates (as this has an impact on the size of the access deficit).

### **5.1 Monopoly Versus Competition**

In a monopoly environment, the loss incurred from the provision of ordinary exchange lines can simply be recovered through cross-subsidization, notably from other profitable lines of business such as national calls and international calls. Excess economic profits derived from these lines of business are used to compensate the lower profitability or loss incurred by the access business (and also local calls).

Where competition is introduced, an interconnection regime is invariably established that enables competing operators to terminate and originate calls (equal access) on the incumbent operator's network.

Where the incumbent's charges for national and international calls are set above costs for the purpose of cross-subsidizing the provision of unprofitable exchange lines, competitors are likely to take advantage of the resulting arbitrage opportunity. If the equal access charges to originate and terminate calls on the incumbent's network are cost based (so that in principle other operators pay the same as the incumbent for use of the latter's network), other operators are likely to be able to offer substantially lower national and international call rates than the incumbent, because they are likely to have few, if any, exchange lines to cross-subsidise. Hence they may be able to enter the market and gain market share, even if they have higher costs than the incumbent. This phenomenon, known as inefficient entry, is undesirable (particularly in the long term) as it raises the cost of providing PSTN services.

This has led regulators in a number of countries including the UK to propose that an appropriate approach would be to require competitors in the long distance and international markets to pay the same implicit "access deficit" contribution per call minute as the incumbent. In this way, all operators would be on a level playing field. However, opponents of this view have argued that there are many factors that mean that the playing field starts with a pronounced tilt in favour of the incumbent operator. For example, there are a variety of entry barriers that need to be taken into account. These are both "natural" (e.g. advertising and marketing, economies of scale) and "artificial" (e.g. lack of equal access, lack of number portability).

### **5.2 Constraints on Retail Rates in Malaysia**

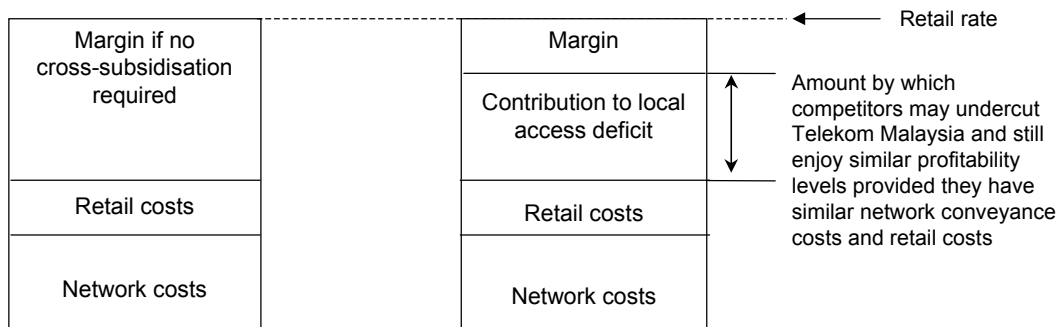
At present, retail rates for connection, rental, local calls and national calls are regulated and are determined by the Minister of Energy Communications and Multimedia. This means that TMB is not free to rebalance and increase its connection fee and the rental charge to levels that would allow it to fully recover the cost of providing ordinary exchange lines.

If under the current rate structure, under which relatively high contributions could be made from national and international calls:

- there were no access deficit charge in place; and,
- interconnection charges were truly cost-based;

then TMB could well find itself at a disadvantage by having to compete with operators who can terminate and originate calls on TMB's network without having to contribute towards the access deficit (see Figure 5.1).

**Figure 5.1**  
**The Relative Profitability of a National/International Call**



**Competitor**

**Telekom Malaysia**

One possible source of funds would be for other licensees to contribute to the access deficit. However, if TMB itself were making no such contribution where it offers discounts in order to compete with other licensees, it would put competitors at an unfair disadvantage if they had to make contributions to the access deficit.

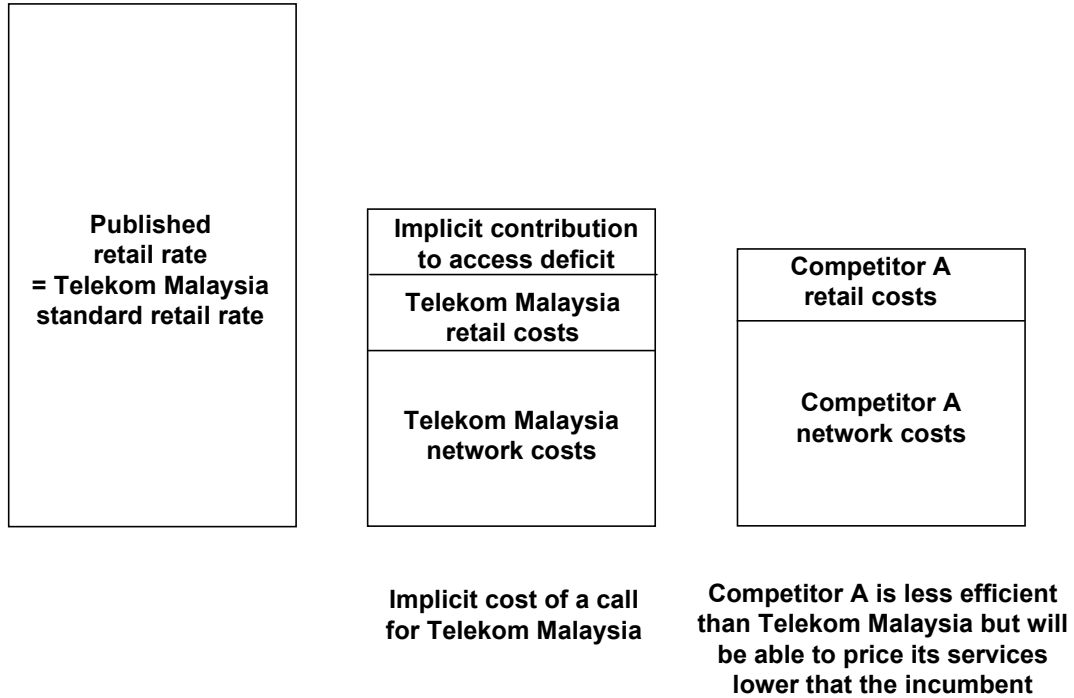
If TMB were making some contribution to the access deficit where it offered discounts, it would be possible to require competitors to make the equivalent contributions.

If there were still insufficient funds to cover the access deficit, it would be necessary to find other TMB products whose prices could be increased or to increase standard rates.

In conclusion, if TMB faced an access deficit under the current retail rate regime, then:

- in the absence of an access deficit charge and in the absence of a price floor, TMB could be at a disadvantage since its competitors would have access to its local access network on more favorable terms than TMB's own long-distance business;
- In the absence of an access deficit charge, TMB would be at a disadvantage compared with its competitors who would not, in general, have their own access deficits to fund. As argued in an earlier section of this paper, this gives rise to the danger of inefficient entry of TMB's competitors. This is illustrated in Figure 5.2 below.

**Figure 5.2  
Incentives for Inefficient Entry**



**Question 6**

**Do you believe that a separate rationale for access deficit funding exists, as set out above? Please explain your answer.**

## **SECTION 6: MECHANISMS FOR FUNDING ACCESS DEFICITS**

MCMC is currently open-minded about whether there is a need for an access deficit fund mechanism in Malaysia, but nonetheless wishes to consider at a conceptual level, broad form that such a mechanism might take, should MCMC later decide that one is needed. At this stage, MCMC is soliciting views on the advantages and disadvantages of opting for:

- an additional per minute charge on top of certain interconnection charges (originating and/or terminating charges); or
- a lump sum contribution, which would allow operator to choose how they recover their contribution.

These two different mechanisms are discussed in turn.

### **6.1 Supplementary per minute charge**

Under this approach an additional per minute charge would be levied on top of interconnection charges. This supplementary per minute charge could be targeted so that it is only added to those services which use TMB's ordinary exchange lines, or whichever subset of types of calls MCMC chooses to target. In addition, different charges could be applied to different types of calls, depending on the existing contributions of different types of TMB call currently make to the access deficit.

However, using a supplementary per minute charge as opposed to a lump sum charge is more likely to introduce distortions. Economic efficiency is achieved when price equals marginal cost, or incremental cost in sectors such as telecommunications where there are significant fixed costs. When a tax is applied, which is in effect what the access deficit payment is, it should be levied so that the distortions on consumption and output decisions are minimized. This can be achieved by levying the tax on services for which demand is unresponsive to changes in price (inelastic demand). In this way, the outcome is likely to be closer to so called Ramsey pricing (efficient pricing whereby the optimum mark-up over marginal cost is inversely proportional to the elasticity of demand for that good.)<sup>2</sup> The best way to get close to this would be to allow operators to choose from which services they recover the access deficit contribution rather than the regulator deciding on how the charge is recovered.

In addition, a per minute charge would limit competition from other licensees to "me too" pricing for those services on which the additional per-minute charge is levied.

### **6.2 A lump sum contribution**

Under this mechanism, licensees would be required to pay a fixed lump sum, which they can then recover from their customers as they choose. This would be similar to the lump sum payment licensees are required to pay into the USP Fund.

To determine each licensee's lump sum contribution, MCMC could apportion the total access deficit according to each licensee's share of total "qualifying" traffic minutes. So, for example, if Operator A has 20% of total qualifying traffic minutes, it has to pay 20% of the access deficit.

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<sup>2</sup> Indeed, Ramsey pricing was developed in response to the question where would it be best to levy indirect taxes (e.g. sales taxes). The answer is that such taxes should be levied on services with the lowest price elasticities of demand.

MCMC would be able to choose which type of call minutes qualify for inclusion (e.g. traffic minutes for local calls only etc) and in this way target specific services.

In addition, if desired, MCMC would also be able to weight the traffic minutes of particular services in a manner similar to MCMC's current weighting of revenues for USP Fund contributions.

An important advantage that a lump sum payment would have over a per minute charge is that it has the potential to be less distorting. Licensees are in a better position to judge how they should recover their contribution compared with the regulator and under this approach the licensees are able to do so. They would be able to take into account their own price elasticities of demand of different services and select the ones with the least elastic demand and recover the contribution with as few distortions as possible.

**Question 7**

**Which type of mechanism (per minute or lump sum) do you consider preferable and why?**

**Question 8**

**In principle, which types of services do you think the per minute charge should be levied on or should be taken into account when calculating licensees' contributions under a lump sum scheme?**

**Question 9**

**In principle, which licensees do you believe should contribute to access deficit funding mechanisms / be liable to supplementary interconnection charges?**