

INFORMATION & COMMUNICATION TECHNOLOGIES AUTHORITY



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Port Louis, MAURITIUS

Ref.: ICTA/IUC/TD/1/2008

30th April 2008

THE TELECOMMUNICATION DIRECTIVE (1 of 2008)

In the implementation of its statutory objects and functions, and the exercise of its powers conferred upon it under the Information & Communication Technologies Act 2001, as amended, (hereinafter 'the Act'), the Information & Communication Technologies Authority (hereinafter 'the Authority') hereby issues this **Directive** to determine the rates for interconnection, hereinafter referred to as the **Interconnection Usage Charges (IUC)**, for fixed and mobile access networks in Mauritius.

1. Short title, extent and commencement:

- (i) This Directive shall be called "The Telecommunication Directive 1 of 2008 - (TD1 of 2008)".
- (ii) The Telecommunication Directive 1 of 2008 shall come into effect on the **15th May 2008** (hereinafter 'the **implementation date**')

2. Charging Principles

- (i) Where an IUC has been prescribed in respect of a service by way of a Telecommunication Order/Directive, no other additional charges may be levied on the consumers, by the network licensee or public operator receiving IUC for the supply of interconnection, in respect of such service.
- (ii) The net IUC payable shall comprise of origination, termination, and transit, as applicable, in accordance with this Directive.
- (iii) The nature and routing of call shall determine the applicability of origination, termination and transit charges constituting the net IUC to be paid by one public operator to another, as specified in this Directive.

3. Interconnection Usage Charges for inter network calls

- (i) The IUC prescribed in respect of origination and termination of calls in fixed and mobile access networks, by way of previously issued Telecommunication Orders and Determinations by this Authority are repealed and replaced by the IUC determined under this Directive.
- (ii) A new set of origination and termination charges is prescribed in Annexure-I Part(a) of this Directive.
- (iii) The transit charges for routing of ILD calls from, or, to mobile network through a fixed line network, and the transit charges for inter-island calls are prescribed in

Annexure-I Part (b) of this Directive. The transit charges are specified as a separate charge in this Directive and are part of the total IUC payable.

- (iv) In line with the Government Policy direction, no Access Deficit Charge (ADC) is prescribed for the below-cost access charges (also known as line rentals) of the incumbent fixed line operator.
- (v) The principle of minimum termination charges for incoming international calls terminated in Mauritius is maintained as provided under TO2 of 2006.

4. Payment Mechanism for IUC

The payment mechanism for the IUC in accordance with the charging principles is provided in Annexure-II of this Directive.

5. Deficit on Dial-up Internet Calls

The compensatory mechanism for below-cost IUC in respect of dial-up Internet calls is provided in Annexure-I Part (a) of this Directive.

6. Impact on Tariff

- (i) As a consequence of the IUC prescribed under this Directive a reduction in retail tariffs is envisaged in respect of international calls from both fixed and mobile telephones, and for mobile to fixed calls.
- (ii) No increase in tariffs for fixed to fixed calls is expected as a result of this Directive.
- (iii) The Authority invites the operators to submit their proposals, in accordance with section 31 of the Act, to revise their present retail tariffs resulting from the reductions in the IUC so that consumers benefit from the reductions at latest by the implementation date. In case of insufficient response from the operators, the Authority may intervene in the interest of the general public.

7. Explanatory Memorandum

This Directive contains at Annexure-III, an explanatory memorandum regarding the Interconnection Usage Charges specified in this Directive, which shall form an integral part of this Directive.

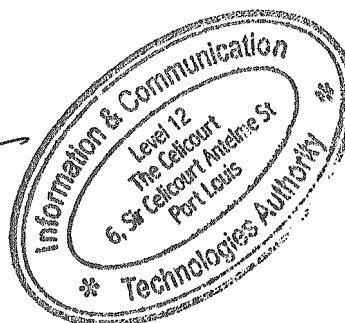
8. Repeals

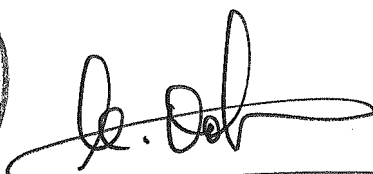
The following Orders/Directives are repealed: **TO5 of 2003, TO7 of 2003, TO11 of 2003 and TD 1 of 2007**

To:

- 1. All PSTN Operators
- 2. All PLMN Operators
- 3. All International Long Distance Operators
- 4. All Internet Telephony Service Providers
- 5. All Internet Service Providers


Mr. T. Dwarka
Chairman




Dr. M. K. Oolun
Executive Director

**Interconnection Usage Charges applicable
with effect from the 15th May 2008**

Part-(a) Origination & Termination Charges

- I. Calls originated from or terminated onto fixed network – Rs.0.38 per minute
- II. Calls originated from or terminated onto mobile network – Rs.0.90 per minute
- III. Fixed network to dial-up Internet calls – Rs.0.10 per minute

Notes:

- (i) The above uniform rates (except for III.) shall apply to all incoming and outgoing calls to and from the respective network except for incoming international calls.
- (ii) **The termination charges to access providers in terms of the provisions of the TO2 of 2006 are maintained at Rs.1.25 per minute.**
- (iii) The prescribed IUC for incoming international calls terminated in Mauritius is higher than the cost for both the mobile networks (Cost Rs.0.90 per minute) and the fixed line networks (Cost Rs.0.38 per minute). The extra amount received by the fixed line operators shall contribute in meeting the below cost IUC for dial-up Internet access on fixed line networks.
- (iv) The IUC for dialup Internet calls remains below cost at Rs.0.10 per minute with a view to providing affordable Internet access to the public.
- (v) The origination rates as set out above shall also apply to calls made from the Public Call Offices (PCO).

Part-(b) Transit Charges

- I. Inter-Island Calls – Rs.1.80 per minute
- II. International calls routed through another access network – Rs.0.15 per minute

Notes:

- (i) The transit charges specified at I and II in this section are the maximum payable for transiting the respective calls. The operators are free to negotiate a lower rate in accordance with the provisions of the Act.
- (ii) The transit charges given at II above are payable by ILDO/ITSP or the access provider, at whose preference the transit route is employed.

Part-(c) Minimum Termination Charges and IUC to access providers for Incoming International Calls terminated in Mauritius

The provisions of the TO2 of 2006 shall remain applicable.

Payment Mechanism for IUC determined on current charging principles effective from 15th May 2008

A. Domestic Calls				
Call Type	Cost based Origination / Termination Charges (per minute)	Prescribed IUC (per minute)	Payable by	Payable to
Fixed to Fixed	Rs.0.38	Rs.0.38	Fixed (Originating)	Fixed (Terminating)
Mobile to Mobile	Rs.0.90	Rs.0.90	Mobile (Originating)	Mobile (Terminating)
Fixed to Mobile	Rs.0.90	Rs.0.90	Fixed	Mobile
Mobile to Fixed	Rs.0.38	Rs.0.38	Mobile	Fixed
Fixed to Internet	Rs.0.35	Rs.0.10⁽¹⁾	ISP	Fixed
B. International Long Distance Calls				
Call Type	Cost based Origination / Termination Charges (per minute)	Prescribed IUC (per minute)	Payable by	Payable to
I. Incoming International Calls				
ILD to Fixed	Rs.0.38	Rs.1.25⁽²⁾	ILD	Fixed
ILD to Mobile	Rs.0.90	Rs.1.25⁽²⁾	ILD	Mobile
II. Outgoing International Calls				
Fixed to ILD / ITSP	Rs.0.38	Rs.0.38	ILD / ITSP	Fixed
Mobile to ILD / ITSP	Rs.0.90	Rs.0.90	ILD / ITSP	Mobile

Glossary:

ILD: International Long Distance

ITSP: Internet Telephony Service Provider

References:

- (1) below-cost dial-up Internet calls prescribed to provide affordable access to dialup Internet
- (2) in accordance with the provisions under TO2 of 2006

Notes:

- (a) The payment of IUC shall be made directly between the operators concerned.
- (b) For inter-island calls, the transit charges as per Annexure-I Part(b), where applicable, shall be in addition to the IUC specified in the Table above given in this Annexure.
- (c) The inter-operator billing cycle for IUC shall not be less than a month.
- (d) The rates are prescribed on a per-minute basis; the billing, however, shall be made on cumulative seconds.

Annexure-IIIEXPLANATORY MEMORANDUM**Introduction**

1. The ICT Authority prescribed the interconnection usage charge (IUC), in accordance with section 28 of the Act, for the first time in 2003 through its Telecom Order No 5 of 2003. Since then many changes have occurred in the telecom market including the opening of the ILD sector to competition, the introduction of the Calling Party Pays (CPP) regime, amongst others. To meet the emergent requirements of specifying new rates of IUC, which is imminent with the evolution in the market, the Authority has on several occasions issued Telecom Orders amending the existing rates and/or prescribing new IUC rates.

2. The IUC rates for fixed network, prescribed in 2003, were arrived at in the context of a tariff rebalancing exercise, although the cost incurred by the incumbent fixed line operator, i.e. Mauritius Telecom, was also given due consideration. As the IUC rates were a result of a 'tariff rebalancing exercise', the compensation for the below-cost rentals were built into the applicable IUC rates.

3. On numerous occasions telecom operators have represented to the Authority that the prevailing rates of IUC are above the actual cost. They have also expressed the view that the Access Deficit Charge – compensation for below cost rentals - if any, is to be prescribed separately. Having regard to the overall changes in the telecom sector and considering that sufficient time has elapsed since the last exercise was conducted, the ICT Authority in mid-2005 initiated the process for computation of cost-based IUC by forming a joint working group with MT, and also seeking information on a number of cost and traffic parameters.

4. The Joint Working Group started its work in February 2006 and a total of 4 meetings of the group had been held.

5. Given the format in which the data were provided by MT, the Authority, decided to determine the cost-based IUC on the historical cost using the Fully Distributed Costing (FDC) methodology. The Authority is however of the opinion that the IUC needs to be based on latest costing principles like Long Run Incremental Cost (LRIC). The change over to LRIC will however require a number of modifications in the existing system of accounting and also clear inputs on optimum technology. As such, the Authority has proceeded with the present exercise based on the FDC, which is indeed a step towards the LRIC based IUC determination for which consultation will be launched at a later stage.

IUC Consultation Process

6. The Authority launched a consultation paper under **Ref 2007/1** on 22nd January 2007 regarding '**Determination of Interconnection Usage Charges for Fixed Networks**'. The purpose of this consultation document was to elicit the comments, views and contributions of various stakeholders on the Authority's views on the determination

of IUC for fixed networks. In response, the Authority received comments from 8 stakeholders.

7. After consulting with the stakeholders, the Authority had published the responses received in an agreed format on its website.

8. This was followed by an interactive session on 7th March 2007 with the operators concerned, as the comments received were of diverse nature and there was the need to explain the concept, methodology etc... to the operators and to clarify the points on which some doubts were expressed.

9. The Authority after taking into account:

- a. the comments made by the stakeholders in their written submissions in response to the consultation paper;
- b. the deliberations during the interactive sessions with the stakeholders; and,
- c. the Government policy,

has proceeded with the determination of IUC for the fixed networks.

Cost Determination Methodology

10. The cost determination for the purpose of this exercise is based on the annual accounts of MT for the year 2004 i.e. the Balance Sheet as on 31st December 2004 and the Income Statement for the year 2004, as these were the latest audited accounts available when the said exercise was initiated.

11. For determining the IUC only the **relevant** cost have been used since it is not uncommon for an operator, especially one with many service segments (such as MT), to have overlapping costs. The cost-based component of the IUC has been calculated only in respect of the network elements that are employed in call origination and termination.

12. For the purpose of the exercise, the entire network had been divided into smaller elements that are either required or used for each type of calls. Based on the specific routing of the calls, the network elements identified are: **Local Access, Exchange equipment which may be either RLU / ME, Transmission network in respect of RLU-ME, ME-ME and ME to International Gateway, Earth Stations, International Gateway, International Bandwidth, Administration and Retail**. The MT data network as well as MT's other businesses have been classified as a separate element. **As such, the costs incurred on these elements have not been considered in the calculation of the cost-based IUC.**

13. The entire expenses of Mauritius Telecom on capital assets, depreciation and operations were allocated to the various identified network elements.

14. The common cost relating to administration has been appropriately apportioned over the various network elements. Moreover, the costs of marketing, retail billing and retail customer services are not relevant to the interconnection and accordingly are **not** included in the cost-based IUC.

Return on Capital Employed

15. The Authority has worked out an average rate of 10% per annum for the weighted average return on capital employed (ROCE). This has been applied on the net capital employed [assets (fixed and current) less current liabilities] in business as on 31st December 2004. The gross return has been reduced by the special earnings from dividends, interest income, etc. The amount has been increased by loss of investment, etc. The exchange loss and gain has been ignored.

16. The above ROCE in the opinion of the Authority is justified and also compares well with the 9.8% value allowed by ARCEP – the French Regulator, for the fixed line networks for 2006 & 2007.

Reduction of non-call or indirect revenues from costs

17. Apart from call revenues, MT also benefits from '*positive network externalities*' to generate revenue from the leasing out of its facilities, etc. It also receives revenue from surcharge, management fee, commission etc. Such non-call related revenues have been reduced from the gross expenses to arrive at the net operational expenses. In order to maintain a broad distinction between the wholesale and retail businesses of MT, only 80% of such revenues have been reduced for the calculation of its net operating expenses. The net surplus from sale purchase activities have been excluded and have not been used to reduce the operational expenses.

Cost Based Interconnection Usage Charge

18. The entire traffic of 2,094 million minutes for 2004 has been distributed over 16 different traffic or call categories which also includes the transit traffic handled by MT. The various network elements involved in the conduct of each type of call has been considered to calculate the utilization of each network element. This has been used as the denominator to derive the cost of each network element. Using the per minute cost of each network element and the number of times it is put to use for each type of call, the cost of the various calls, including the interconnect calls, has been computed.

19. The average cost of origination and termination of inter-network calls in the network of MT comes to Rs 0.38 per minute. This amount constitutes the cost-based component of the applicable IUC that is to be paid by the other operators for terminating or originating a call in MT's network.

Origination & Termination

20. Based on the above cost calculation, the Authority prescribes the origination and termination at Rs.0.38 per minute for calls originated and terminated respectively in MT's fixed line network. Apart from MT, MTML has also commenced its operations in 2006. The comparative details of MTML are not yet available. As such, the origination

and termination charges as specified above shall also apply to the calls originated or terminated in the MTML network.

21. The charge specified at Rs.0.38 per minute shall be applicable for all calls originated and terminated in the PSTN (fixed) network except for the dial-up Internet for which the existing special rate shall continue at Rs.0.10 per minute.

PCO Calls & Inter-Island Calls

22. The origination and termination charges have been calculated taking into account the entire cost of MT. Hence, the prescribed origination charge of Rs.0.38 per minute shall also be applicable to calls from Public Call Offices (PCO's). The same origination and termination charges shall also be applicable for inter-island calls. The transit charges for inter-island calls shall be in addition to the origination and termination charges.

Transit Charges

23. MT's network is also used for transit of calls; the transit charges for operators using MT's network for transiting calls between ILDO/ITSP operators and other access providers have been calculated based on the cost incurred by MT. The cost thus arrived at has been rationalized in view of the future increase in traffic. Accordingly, the ceiling transit charges (maximum) for ILD to mobile calls or vice versa through MT are prescribed as Rs.0.15 per minute (cost Rs.0.21 per minute) and for inter-island calls are prescribed as Rs.1.80 per minute (cost Rs.2.00 per minute). The transit charges, where applicable, shall form part of the total IUC payable. However, with a view to providing flexibility to operators to take advantage of new technologies, the operators are permitted to negotiate a lower charge.

Access Deficit Charge

24. The depreciation and recovery on capital employed in the access network (local loop) has been used for calculating the cost-based access charges. The access cost is divided by the number of DELs in place as of end of 2004, (i.e. 357,452) to obtain the cost-based access charges of Rs.152 per month. The difference between the cost-based access charges and the actual rental is defined as the 'access deficit'. The access deficit for the year 2004 is calculated as Rs.42 per month per line on an average, after reducing the average rental receipt of Rs.110 per month per line.

25. In line with the Government Policy direction, **no Access Deficit Charge (ADC) is prescribed under this Directive** for the below-cost access charges of the incumbent fixed line operator.

Comparative IUC

26. The total amount for the IUC as determined under this Directive is lower than the total amount applicable under the current regime. A comparative of the existing and new rates to be effective as from the **15th May 2008** is given in the Table that follows:-

Comparative of Existing and New IUC for various call types

All cost figures in Rs per minute

Call Type	Existing				New Regime			Difference Per minute
	IUC	SA	Tran	Total	IUC	Tran	Total IUC	
F2F	0.16			0.16	0.38		0.38	0.22 ⁽¹⁾
F2M	0.90			0.90	0.90		0.90	0.00
M2F	1.25			1.25	0.38		0.38	-0.87
M2M	0.90			0.90	0.90		0.90	0.00
F2ILD	1.00	1.50		2.50	0.38		0.38	-2.12
M2ILD	1.00	1.50		2.50	0.90		0.90	-1.60
M-AP-ILD	1.00	1.50	NS	2.50	0.90	0.15	1.05	-1.45 ⁽²⁾
ILD2F	1.25	1.50		2.75	1.25		1.25	
ILD2M	1.25	1.50		2.75	1.25		1.25	
ILD-AP-M	1.25	1.50	NS	2.75	1.25	0.15	1.40	
F2 Internet	0.10			0.10	0.10		0.10	0.00
F2F(II)		NS			0.38	1.80	2.18	
F2M(II)		NS			0.90	1.80	2.70	
M2F(II)		NS			0.38	1.80	2.18	
M2M(II)		NS			0.90	1.80	2.70	

Glossary:
 NS = Not specified,
 AP = Access Provider
 Tran = Transit Charges
 ADC = Access Deficit Charges
 IUC = Interconnection Usage Charges
 SA = Special Account

Notes:

- (1) The increase in IUC will not impact on the tariff for fixed to fixed calls as the same amount will be received for the incoming traffic.
- (2) The actual decrease would be much more as the details of present charges are not specified.

Payment Mechanism for IUC

27. The payment mechanism for the IUC is provided in Annexure-II of this Directive. The payment mechanism for the IUC is generally the same as applicable at present i.e. the call originator shall pay the applicable IUC to the call terminating operator except for ILD/ITSP and the ISP calls where the ILD/ITSP or the ISP respectively shall pay the IUC to the access providers.

28. The total IUC prescribed under this Directive will include the transit charges, where applicable.

Financing below cost dial-up Internet calls

29. The IUC for dial-up Internet calls are set below the cost incurred by the fixed-line operators with a view to providing affordable Internet access to the public. The deficit on this account is proposed to be compensated through above cost IUC in respect of incoming international calls terminated on fixed networks in terms of the provisions at Annexure-I.

Review of New IUC regime

30. The review of the new IUC regime shall be carried out at the earliest. The Authority considers the present determination as a step towards establishing a LRIC based interconnection charges. The Authority, pursuant to the consultation exercise, considers 15 months as from the coming into effect of this Directive, as a reasonable amount of time for the implementation of LRIC based interconnection charges once the process is initiated.

Other Relevant Provisions

31. The other relevant provisions for the application of the new IUC regime are as hereunder:

- a. **Date of coming into force:** The new IUC regime shall come into force on the 15th May 2008.
- b. **Tariff Compliance:** The tariffs of all operators have to ensure compliance with this IUC Determination.
- c. **Consequential Amendments:** The provisions specifying the amount payable in respect of interconnection, under interconnection agreements presently in force between operators, shall be amended in accordance with section 28 of the Act, and the determination made under this Directive.

Confidentiality

32. The cost calculation has been made on the traffic data, and detailed break-up of incomes, expenses, assets and liabilities of MT. These are considered to be of a commercially sensitive nature and therefore have not been provided in further detail in this explanatory memorandum.

33. Glossary

ADC	Access Deficit Charge(s)
ARCEP	<i>L'Autorité de Régulation des Communications Electroniques et des Postes</i>
CPP	Calling Party Pays
DEL	Direct Exchange Line
FDC	Fully Distributed Cost
Fixed	Fixed line operator
ICT Authority	Information and Communication Technologies Authority
ICTA	Information and Communication Technologies Authority
ILD	International Long Distance
ISP	Internet Service Provider
ITSP	Internet Telephony Service Provider
IUC	Interconnection Usage Charge(s)
LRIC	Long Run Incremental Cost
ME	Main Exchange
MT	Mauritius Telecom
MTML	Mahanagar Telephone Mauritius Limited
NA	Not Applicable
NS	Not specified
PCO	Public Call Offices
PSTN	Public Switched Telephone Network
RLU	Remote Line Unit
SA	Special Account
TD	Telecommunication Directive
TO	Telecom Order
Tran	Transit Charges
