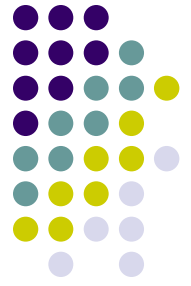
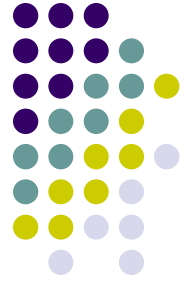


Launch of Consultation for determination of cost-based IUC on fixed networks in Mauritius



22 January 2007

Proceedings

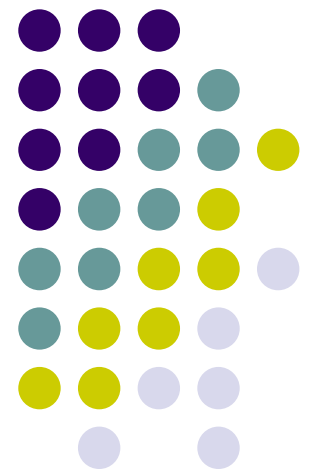


- 09:30 Opening addresses
- 10:00 Tea break
- 10:15 Plenary
 - Part I: Interconnection in Mauritius
 - Part II: Interconnection Usage Charges
 - Part III: Approach proposed by the Authority
 - Part IV: Consultation questions – way forward
- 11:30 Winding up and closing

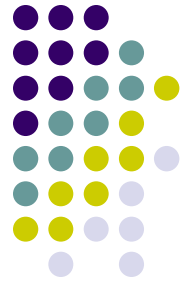
Part I



Interconnection in Mauritius



Commitments at the GATS - WTO Reference paper on telecommunications 24 April 1996



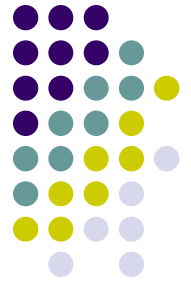
- **Interconnection (section 2)**
 - **applies to linking with suppliers providing public telecommunications transport networks or services in order to allow the users of one supplier to communicate with users of another supplier and to access services provided by another supplier, where specific commitments are undertaken.**
 - **Interconnection to be ensured**
 - **Interconnection with a major supplier will be ensured at any technically feasible point in the network. Such interconnection is provided:-**

Commitments at the GATS - WTO Reference paper on telecommunications 24 April 1996



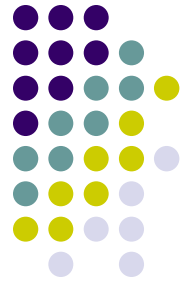
- **(a) under non-discriminatory terms, conditions and rates and of a quality no less favourable than that provided for its own like services or for like services of non-affiliated service suppliers or for its subsidiaries or other affiliates;**
- (b) in a timely fashion, on terms, conditions (including technical standards and specifications) and cost-oriented rates that are transparent, reasonable, having regard to economic feasibility, and sufficiently unbundled so that the supplier need not pay for network components or facilities that it does not require for the service to be provided; and**
- (c) upon request, at points in addition to the network termination points offered to the majority of users, subject to charges that reflect the cost of construction of necessary additional facilities.**

Commitments at the GATS - WTO Reference paper on telecommunications 24 April 1996



- **Public availability of the procedures for interconnection negotiations**
 - The procedures applicable for interconnection to a major supplier will be made publicly available.
- **Transparency of interconnection arrangements**
 - It is ensured that a major supplier will make publicly available either its interconnection agreements or a reference interconnection offer.

Commitments at the GATS - WTO Reference paper on telecommunications 24 April 1996

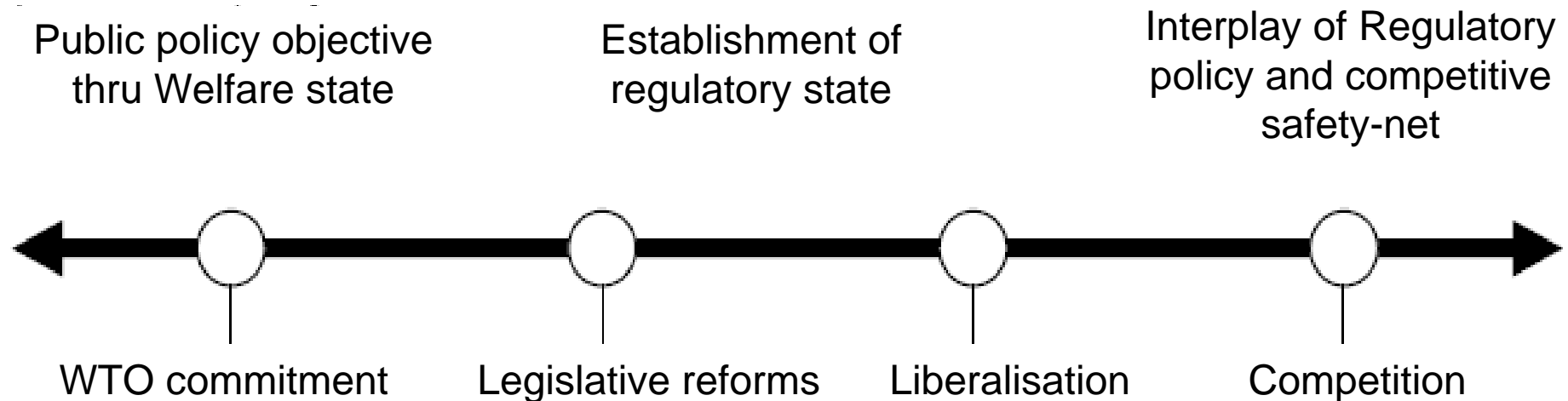


- **Interconnection: dispute settlement**
 - **A service supplier requesting interconnection with a major supplier will have recourse, either:**
 - (a) at any time or
 - (b) after a reasonable period of time which has been made publicly known
 - **to an independent domestic body, which may be a regulatory body to resolve disputes regarding appropriate terms, conditions and rates for interconnection within a reasonable period of time, to the extent that these have not been established previously.**

Facts for Mauritius - 1



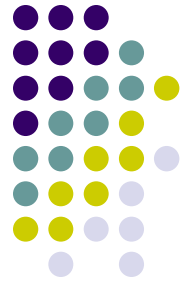
Continuum of perspectives on competitive reform in the telecommunication sector



- **First Tariff re-balancing: October 2002**
- **Liberalisation in the Telecom sector: 1st January 2003**

Facts for Mauritius - 2

- New operators were expected to join the market
- Since there was no IUC prescribed at that time, it was very difficult for new operators to start their business
- The Authority embarked, with the assistance of a costing consultant (Mr Manoj Anand), on a Tariff Rebalancing exercise + the computation of IUC for MT's network

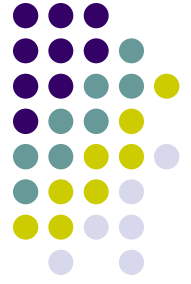




Facts for Mauritius - 3

- Prior to the determination of IUC, the Authority had to remove some anomalies that existed for calls between mobiles and fixed networks.
 - Direct interconnection was made possible and effective as from 1st May 2003
- The Authority issued Telecom Order 7 of 2003 to establish the first IUC determination and which was applicable as from 15 September 2003

Facts for Mauritius - 4

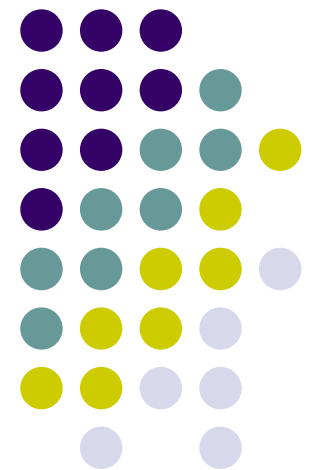


- The Authority implemented CPP as from 1st October 2004 and Telecom Order 5 of 2004 was issued accordingly
- The Authority issued Telecom Order 1 of 2006 to encourage direct interconnection between mobile and ILD operators and thus preventing consumers to be charged twice
- Pursuant to Government decision to regulate incoming international calls, the Authority issued Telecom Order 2 of 2006 to fix a floor on termination rate.
- It is now high time that a new fully cost-based IUC framework be established to render the sector more competitive

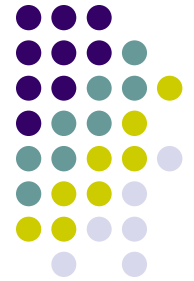
Part II



INTERCONNECTION USAGE CHARGE

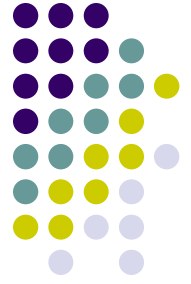


INTERCONNECTION USAGE CHARGE



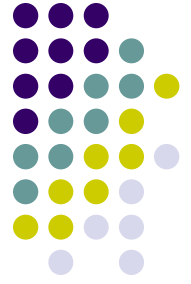
- The main objective is to present the methodology adopted by the Authority in the computation of IUC

INTERCONNECTION USAGE CHARGE



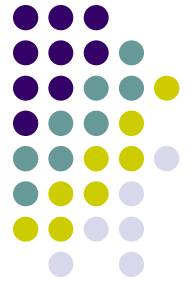
- IUC are the charges payable between interconnecting operators for the actual use of each others network to originate, transit or terminate a call

INTERCONNECTION USAGE CHARGE



- In a small economy like Mauritius it is not cost efficient and feasible for all operators to establish an access network to subscribe to end users.
- IUC is therefore a crucial element to achieve fair competition in a liberalised market

INTERCONNECTION USAGE CHARGE



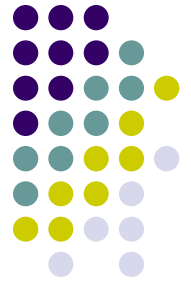
- There are basically 3 specific phases of the overall evolution of the market as regards to costing and pricing mechanisms to charge for interconnect charges. These are as follows:

INTERCONNECTION USAGE CHARGE



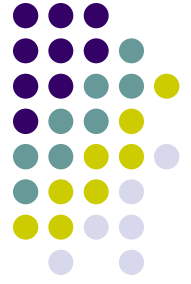
Stage One	Stage Two	Stage Three
Legal, or at least de facto, monopolies	Dominant operator(s) with multiple small/weak new entrants	Multitude of competing operators, none able to control the market
<ul style="list-style-type: none"> ▪ High, unregulated, prices ▪ High (historic) costs 	<ul style="list-style-type: none"> ▪ Falling, regulated, prices ▪ Falling costs 	<ul style="list-style-type: none"> ▪ Low, unregulated, prices ▪ Low (current) costs

INTERCONNECTION USAGE CHARGE



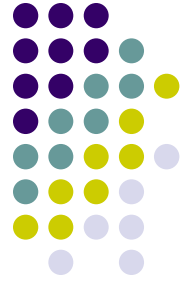
- The emphasis of this interconnect costing is in relation to the 2nd phase and is largely driven by the desire of the Authority to promote competition in the market

INTERCONNECTION USAGE CHARGE



- As recommended by ITU there are three general approaches to cost studies which can be pursued, either separately or in combination:
 - ***Bottom-Up,***
 - ***Top-Down, and***
 - ***Outside-In.***

INTERCONNECTION USAGE CHARGE



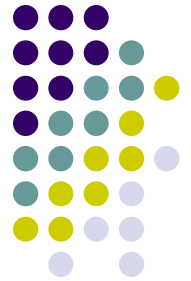
- **The Bottom-Up Approach:**
- According to ITU, this method is arguably the most “accurate” means of measuring unit costs, assuming sufficient data are available. It is based on the idea that service costs can be identified from the facilities and other inputs needed to provide the services.

INTERCONNECTION USAGE CHARGE



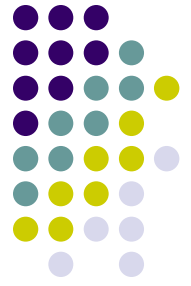
- **The Top-Down Approach:**
- As per ITU recommendation, the Top-Down approach begins with aggregate, company-wide cost data such as total annual expenditures, capital investments and operating costs. The goal of a top-down study is to take these aggregate costs and allocate them among all services provided by the carrier

INTERCONNECTION USAGE CHARGE



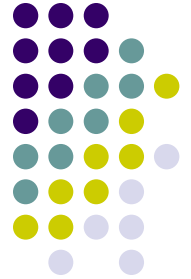
- **The Outside-In Approach:**
- The third approach is to use “proxy” estimates from outside sources, establishing cost “benchmarks”, or ranges of costs, for services or facilities.

INTERCONNECTION USAGE CHARGE



- Internationally accepted interconnection principles require interconnection charges to be cost based or “cost oriented”. There are different approaches to cost based interconnection computation:
 1. Historical Cost
 2. Current Cost
 3. Long Run Incremental Cost (LRIC)

INTERCONNECTION USAGE CHARGE



- Telecom Gurus are of the view that historic set of accounts represents the starting point of a journey and LRIC set of accounts the destination, however, the target destination will evolve year after year and can never actually be reached!. LRIC can therefore never be a one-off exercise.

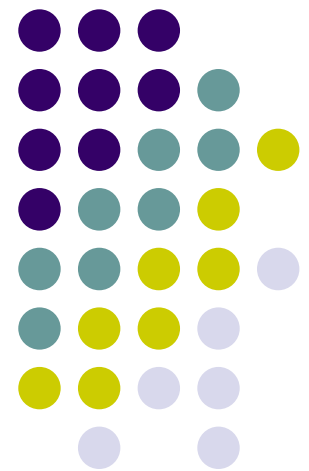


Why Historical cost (HC)?

- A fully allocated historical cost basis has been adopted for the following reasons:
 - 1. the determination has be made quickly and therefore the only verifiable data available was on HC
 - 2. other methodology like CCA and LRIC requires a lot time before data are made available
 - 3. the cost of the exercise is much lower in case of HC

Part III

Approach of the ICT Authority





When the exercise started?

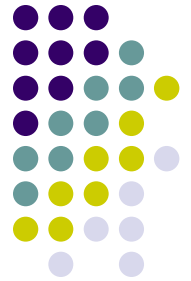
- The Authority started collecting data from MT in 2005. The latest Audited financial available was for the financial year ending 2004
- The data was however made available on a piece meal basis as it required a lot of analysis on the part of the operator
- The required level of data, for the exercise to be carried out, was available by Jan 2006



The process

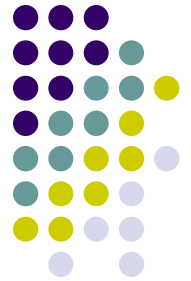
- Seeking basic information from MT
- setting up of a joint working group consisting of consultant, the Authority and MT
- Consultant submitted its draft computation to the Authority
- Consultation to seek views and comments of stakeholders
- Compilation and consideration of views and comments
- Issue of directive
- Open house

Approach towards calculation of cost based IUC?



- Verification of data submitted to the audited financial statements
- Information on MT network diagram and routing of calls
- Unbundling the network of MT
- Identification of services offered by MT
- Calculation of cost of capital

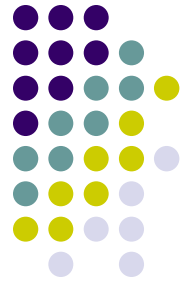
Approach towards calculation of cost based IUC?



STEP 1

- The unbundled Network Elements (UNE) for MT were identified as :
 1. Local Access
 2. Local Exchange
 3. Transmission network RLU-ME
 4. Transmission Inter-Exchange network
 5. Transmission from Main Exchange to International Gateway
 6. Earth stations for inter-island call
 7. International gateway
 8. International Bandwidth
 9. Data network
 10. Administration
 11. Retail
 12. Other business

Approach towards calculation of cost based IUC?



STEP 2

- Identify the major traffic streams and the related traffic together with the respective revenues

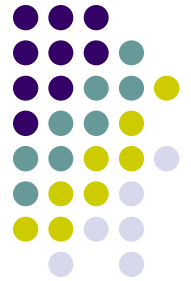
STEP 3

- Distribute entire fixed assets over the unbundled network element

STEP 4

- Distribute the depreciation charges over the various network elements on the same allocation principles as that used for fixed assets

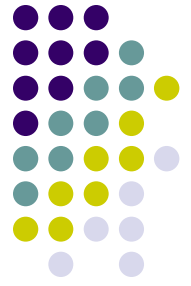
Approach towards calculation of cost based IUC?



STEP 5

- Calculation of return on capital employed (ROCE)
 1. Bifurcate capital employed between debt and equity
 2. Calculate the rate of interest paid on debt and adjust for tax benefit
 3. Calculate the return on equity by taking the risk free rate and adding a rate for risk
 4. Calculate the ROCE based on the debt equity ratio
- The ROCE is distributed over the UNE

Approach towards calculation of cost based IUC?



STEP 6

- Distribute the operational expenses over the UNE

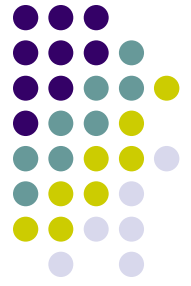
STEP 7

- Adding steps 4 to 6 = gross annual expenses for UNE

STEP 8

- Deduct non-call revenues (after adjustment for a margin) from the gross annual revenue

Approach towards calculation of cost based IUC?



STEP 9

- Step 7 less step 8 = Net annual expenses for each UNE

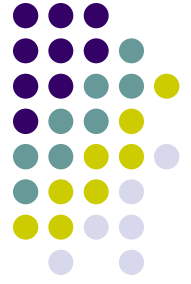
STEP 10

- Determine the UNE used in each type of call

STEP 11

- Allocate the minutes of usage based on actual to traffic over UNE

Approach towards calculation of cost based IUC?



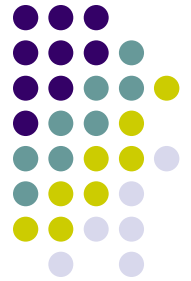
STEP 12

- Divide the net annual expenses by the minutes of usage for each UNE to arrive at the cost per minute of UNE

STEP 13

- Determine the IUC based on use of UNE for each type of call

Approach towards calculation of Access Deficit?



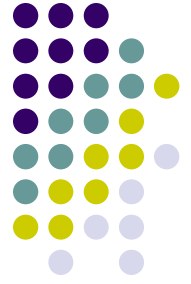
- The depreciation and capital recovery in the access have been used for calculating the cost access cost
- The total access cost is divided by the number of DELs to arrive at the cost per DEL
- The difference between the total access cost and the actual revenue from line rentals is the Access Deficit



Recovery of access deficit?

- The IUC should be purely cost based
- It is proposed that the access deficit is to be recovered from international calls principally so as not to burden the domestic tariffs
- Currently part of ADC is payable in the Special Account and then to MT
- In the new regime it is proposed that ADC be paid directly to MT on international calls entering and leaving its network

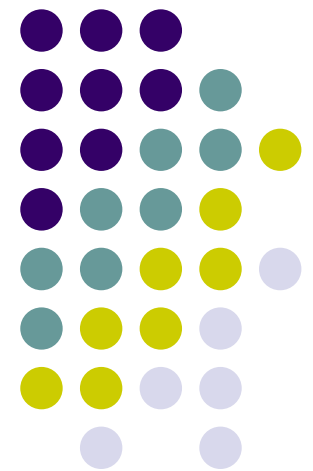
IUC for Internet dial up calls?



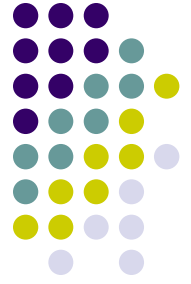
- The current IUC for internet dial up calls is below the actual cost
- The Authority proposes to continue to prescribing below cost IUC for internet
- This is to render internet more affordable

Part IV

Way forward

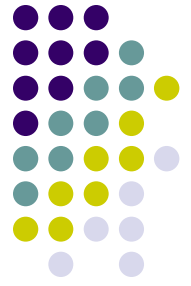


Consultation paper



- **Consultancy questions**
 - **ISSUES RELATED TO CALCULATION METHODOLOGY (3)**
 - **ISSUES RELATED TO COST BASED IUC (4)**
 - **ISSUES RELATED TO ADC (2)**
 - **TARIFF (1)**

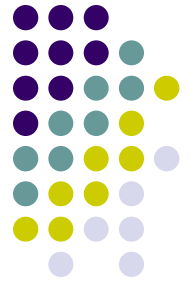
Activities plan



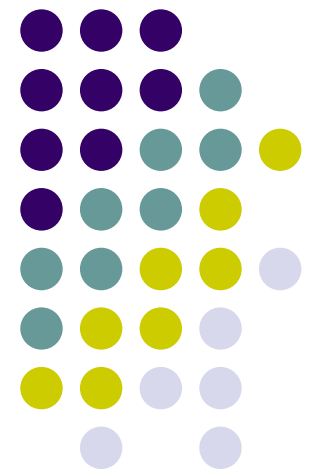
- Expect to receive comments by 29 January 2007
- After analysing the relevant comments further consultations planned
- Open house around mid of February 2007 + issue of relevant directive
- The new IUC determination is expected to be effective from 1st March 2007
- The consultation paper on LRIC may be expected by early May 2007

Summary

- Describe context
 - Sector reform, legislation, tariff rebalancing, liberalisation, paving the way to competition.
- Basics of IUC
 - Concepts, terminologies, approach, models
- Approach adopted by ICTA
 - Historical, UNE, Fully distributed cost, transparency in IUC amount and ADC
- Project planning
 - Launch of consultation, open house, directive, consultation on LRIC, creation of ADC framework



Questions???





THANK YOU

