Interconnect Tariff Model

User Guide

Status: Final

InterConnect and Partners

CONTENTS

1   Executive Summary

This User Guide describes the structure and function of the Interconnect Tariff Model.

The purpose of the model is to provide a means to calculate a interconnect tariffs the 24 hour average cost results produced by the LRIC Hybrid Model for interconnection services. The model can be used to set a tariff gradient and a glide path for the determination of interconnection tariffs over a certain period. The model specifies two methods for the setting of a glide path and the user can specify the starting charge, target charge and start and target periods for the path.

The User Guide includes an Introduction where the use of the model is discussed and a section on the structure of the model, including detail of assumptions made and description of how the user should operate the model.

2   Introduction

A LRIC Hybrid Model (HM) has been developed to calculate the costs of the following interconnection services.

- Interconnection for local call origination at fixed locations

- Interconnection for local call termination at fixed locations

- Interconnection for regional call origination at fixed locations

- Interconnection for regional call termination at fixed locations

- Interconnection for national call origination at fixed locations

- Interconnection for national call termination at fixed locations

- Interconnection for switched single transit

- Interconnection for switched double transit.

The HM produces results in Euro cents per minute for the above services averaged over a 24 hour period. As retail tariffs are split into peak and off peak periods, if interconnect rates are set at a 24 hour averaged rate, there is the risk that margins in the off peak period can be very small or even negative for operators providing competing retail services to Romtelecom. Therefore it is usual to apply a tariff gradient to the 24 hour average interconnection rate to allow consistent margins to apply for peak and off peak traffic. The Interconnect Tariff Model allows the calculation of a tariff gradient to apply to the results of the HM.

If the cost based rates produced by the HM differ significantly from the current interconnection tariffs that are in place, an option is to apply a glide path from a starting (e.g. current) tariff to a target (e.g. cost based) tariff at some time in the future. This allows the introduction of cost based rates to be phased in over a period. The shape of the glide path and the length of the glide period will determine the tariff applied for the duration of the glide path. The Interconnect Tariff Model can determine two different types of glide path: straight line, which indexes the interconnect rate by the same amount every period, or an adjusted glide path, which implements a step change in rate for the first period.

This User Guide describes how the model is structured, any assumptions used and how the user should operate the model.

3 STRUCTURE of the Interconnect Tariff Model

The Interconnect Tariff Model is an Excel workbook with six worksheets. Each of the worksheets is described below.

3.1 Rates

This sheet is used to show the starting and target rates used within the model are:

- Starting rates – current Romtelecom interconnect tariffs. These are split into peak and off peak periods, but no 24 hour rate is given. As the glide path sheets in the model glide the 24 hour rate, an estimate of the 24 hour rate has been made. This estimate has assumed the 24 hour rate as between the current peak and off peak rate, i.e. slightly less than the peak rate.

- Target rates – these have been set at the rates produced by the LRIC Hybrid Model. These rates are copied through into the other sheets of the model.

- Estimated 24 hour averaged rate

3.2 Tariff Gradient

This sheet calculates the tariff gradient to be applied to 24 hour average rates used in the model.

A tariff gradient is a factor which is applied to a 24 hour average rate to uplift the tariff in the peak period and to reduce it in the off peak period in order to allow operators to manage the demand on the network. When the network is busy during the day the higher tariff is used to manage demand at that time. In the evening when the network is quiet, a lower tariff encourages use of the network which has been dimensioned for use in the busy part of the day and as such is underutilised in the off peak period.

It is usual to link the tariff gradient which is applied to interconnect rates to the retail peak and off peak periods to avoid any margin squeeze issues which could arise if tariff gradients were different. Therefore the model uses revenue and minutes in the retail peak and off peak periods to set the tariff gradient which is applied to interconnect rates in this model.

The formula which is used to calculate the tariff gradient is

$$\text{Peak Gradient} = \frac{\text{Peak Revenues/Minutes}}{\text{Total Revenues/Minutes}}$$

$$\text{Off Peak Gradient} = \frac{\text{Off Peak Revenues/Minutes}}{\text{Total Revenues/Minutes}}$$

Therefore the model takes as inputs Romtelecom revenue and respective minutes of billed traffic in the peak and off peak period for the latest available year – 2004, starting with June 2004 when the invoicing has begun to be done on a per minute basis. This will calculate an average peak and off peak gradient for all services provided by Romtelecom. The nature of the data collection is such that accurate actual data is not available until the end of the year

for which rates will be set. As a result the data used to calculate the tariff gradient will be for the previous year than the tariffs to which it is applied. The actual revenue and minute information sourced from Romtelecom to derive the 2004 gradient is confidential and is therefore not shown in the public version of the model.

The model calculates the tariff gradients using the formula shown above and the results are shown in cells D12 (peak) and E12 (off peak).

As an example the model then applies the calculated tariff gradient to the target charges from the Rates sheet.

3.3 Straight Line Glide Path

This sheet calculates a straight line glide path for each of the interconnection services which are shown in row 2.

For each of the services the user can enter discrete information regarding the required glide path for that service. The user should enter (in the yellow area for each interconnection service);

- The starting period – i.e. the date from which the glide path will start. This has been denoted Period 0 in the model.

- The starting charge – the 24 hour interconnection rate (in € cents/min) which is appropriate for the starting period.

- The target period – i.e. the period in which the glide path will end. The glide path can be up to 11 periods long from the starting period, i.e. up to a maximum of 10 steps.

- The target charge – the 24 hour average charge (in € cents/min) which will be applicable in the target period. This has been copied from the Rates sheet and represents the results of the LRAIC Hybrid Model.

This data can be different for each interconnection service.

The model glides the 24 hour rates in a straight line over the chosen period. A straight line glide path indexes the rates in equal steps throughout the glide path. Therefore if the rate is planned to fall by 1 cent over 5 periods, the interconnect rate will fall by 20%, or 0.2 cents each period.

The model does not take into account any changes in the value of the Euro over the glide path period. It is expected that that would be considered by the user when entering the target charge into the model.

The model shows the 24 hour average rates in every period of the glide path period for each interconnection service.

ANRC has applied a straight line glide-path in two steps to all interconnection services.

3.4 Straight Line Single Service

This sheet takes one interconnection service to allow the user to view more detail of the glide path of the tariffs for that service.

The user should choose the name of the service in cell C2 of the Straight Line Single Service sheet. The starting and target period and charges will automatically update from the Straight Line Glide Path sheet.

This worksheet shows the 24 hour glide path rates for the service (whose name also appears updated in cell B12/13) and also applies a tariff gradient to the rates over the

length of the glide path. The model uses the 2004 gradient over the whole period of the path. In reality it is likely that the previous years (or latest available) tariff gradient will be applied to the "glided" 24 hour rate of each period. As a result the model will need to be updated to reflect any future calculated tariff gradients.

The model plots a graph of the glide path using a bar chart. A bar chart is considered to be more accurate a representation of the glide path than a line chart as in effect the rates for each period will stay the same for that period. A line graph would give the impression that rates would be continually falling over the year, whereas a stepped approach is more accurate.

The graph will automatically update if differing data on target or starting rates or periods is entered into the Straight Line Glide Path sheet.

3.5 Glide Path – 1st Step Adjustment

This sheet calculates an adjusted straight line glide path for each of the interconnection services which are shown in row 2. The adjustment is made where a larger or smaller step percentage adjustment than a straight line glide path can be made in the first step. The user can set a percentage adjustment in the difference between the starting and target rates for each interconnection service. This can be set by entering their chosen percentage value in row 5. Following the first step adjustment a straight line glide path (as described in Section 3.3) is calculated for the remaining periods until the target period is reached.

This method allows the user to set the charge with a more or less aggressive decline in the first period in order to meet their criteria for interconnection rates. For example an adjustment of 0% allows the rates to stay the same for the first period, or an adjustment of 50% creates a large decrease in the rate as a one off to be followed by a more gentle glide path than that which would have applied if a straight line glide path had been applied for the whole period.

For each of the services the user can enter discrete information regarding the required glide path for that service. The user should enter (in the yellow area for each interconnection service);

- The starting period – i.e. the date form which the glide path will start. This has been denoted Period 0 in the model.

- The starting charge – the 24 hour interconnection rate (in € cents/min) which is appropriate for the starting period.

- The percentage adjustment factor for the first period.

- The target period – i.e. the period in which the glide path will end. The glide path can be up to 11 periods long from the starting period, i.e. up to a maximum of 10 steps.

- The target charge – the 24 hour average charge (in € cents/min) which will be applicable in the target period. This has been copied from the Rates sheet and represents the results of the LRAIC Hybrid Model.

This data can be different for each interconnection service.

The model does not take into account any changes in the value of the Euro over the glide path period. It is expected that that would be considered by the user when entering the target charge into the model.

The model shows the 24 hour average rates in every period of the glide path period for each interconnection service.

3.6 Adjusted Glide Single Service

This sheet takes one interconnection service to allow the user to view more detail of the glide path of the tariffs for that service.

The user should choose the name of the service in cell C2 of the Adjusted Glide Single Service sheet. The starting and target periods and charges will automatically update from the Glide Path – 1st step Adjustment sheet.

This worksheet shows the 24 hour glide path rates for the service (whose name also appears updated in cell B13/14) and also applies a tariff gradient to the rates over the length of the glide path. The model uses the 2004 gradient over the whole period of the path. In reality it is likely that the previous years (or latest available) tariff gradient will be applied to the "glided" 24 hour rate of each period. As a result the model will need to be updated to reflect any future calculated tariff gradients.

The model plots a graph of the glide path using a bar chart. A bar chart is considered to be more accurate a representation of the glide path than a line chart as in effect the rates for each period will stay the same for that period. A line graph would give the impression that rates would be continually falling over the periods, whereas a stepped approach is more accurate.

The graph (including the title) will automatically update if differing data on target or starting rates or periods is entered into the Glide Path – 1st step Adjustment sheet.