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PUBLIC CONSULTATION ON

CAPACITY-BASED INTERCONNECTION OFFER

(FLAT-RATE INTERCONNECTION TARIFF)

Contents:

1. BACKGROUND

ICP-ANACOM believes it is necessary to introduce a non-temprorized interconnection model in light of the electronic communications market's evolution and the emergence of competitive and innovative retail services which the current temporized interconnection model cannot completely address.

By opening the electronic communications market to competition, end user rates can be used to segment the market, strengthen existing customer loyalty and react to offers from competitors. A certain degree of freedom in defining rates is thus essential for competition in this market.

The underlying cost structure of PTC's network primarily reflects the costs of its size and not its traffic volume, while "per minute" billing imposes a substantial variable cost to competitors. Thus, by replicating PTC's offers and developing sustainable competition, operators competing with PTC can take advantage of a cost structure, derived from the interconnection conditions with PTC, for the most part identical with this company's. In general, the marginal cost of PTC's network traffic volume is essentially zero. Thus, when creating an actual competitive environment allowing other OSPs to replicate PTC's operating conditions, their marginal costs for traffic must also be zero. This goal can be achieved with capacity-based interconnection prices.

Consequently, in ICP-ANACOM's decision regarding the imposition of obligations in wholesale markets for call origination and termination[1], the obligation to provide a capacity-based interconnection service was imposed upon the PT Group, and ICP-ANACOM has promised (in its consultation report[2]), before the end of the first half of 2005, to present discussion guidelines for the alteration of the Reference Interconnection Offer (RIO) so that it may accommodate the capacity-based interconnection offer.

In this interconnection model, PTC will offer OSPs[3] a specific interconnection capacity at a given interconnection point at a fixed price. It will thus be necessary to define standards for

[1] See decision on imposition of obligations in wholesale markets for call origination and termination at: http://www.anacom.pt/streaming/decisao_final.pdf?categoryId=121019&contentId=246822&field=ATTACHED_FILE.

[2] See consultation report on imposition of obligations in wholesale markets for call origination and termination at: http://www.anacom.pt/streaming/relatorio_consulta.pdf?categoryId=121019&contentId=246825&field=ATTACHED_FILE.

[3] Public telecommunications network operators, telephone service providers (fixed and mobile) and data transmission service providers.

this capacity-based interconnection offer, namely eligible traffic, possible options for continued temporized interconnection, traffic transfer conditions (including an incentive price for correct planning) and the basic per-unit capacity price.

Establishing a capacity-based interconnection price and pricing levels leading to non-discriminatory treatment in the PT Group's various interconnection services requires a clear definition of underlying assumptions. At the outset, current traffic estimates must be used to determine an initial interconnection price. Such estimates can be tenuous, typically with discrepancies between regulator and operator information, and may not completely allow for the potential market effects of introducing capacity-based interconnection.

In this context, to evaluate capacity-based interconnection pricing under the principle of price orientation toward costs, PTC must substantiate its proposed pricing using actual data which it must make available. Specifically, this data includes traffic channels' percentage of occupancy and voice and Internet services' (wholesale and retail) total traffic weight, measured in volume per hour (to determine the peak hour), relative to total daily traffic. Given that voice service traffic and Internet service traffic evolve differently, it is also important to learn about each type of traffic's individual evolution in order to forecast this evolution.

Once established, any price based on prior average traffic volumes tends to stimulate increased traffic, eventually becoming unbalanced and requiring periodic reassessment.

The interconnection model also raises technical questions in the following areas: (1) planning interconnection in line with service quality levels, (2) definition of traffic transfer conditions, including price, (3) network operation and maintenance, including procedural definitions, (4) implementation deadlines for capacity-based interconnection, (5) interconnection price differences at various network levels.

ANACOM thus believes it is important to hear from the various entities involved with regard to questions surrounding the implementation of a capacity-based interconnection model. Under the scope of its jurisdiction pursuant to Article 6, Item 1, Section m) of its articles of association, passed by Decree Law no. 309/2001, of 7 December, ANACOM is launching this public consultation to reflect on the issue (including past experiences in Spain, the only European Union country known to have a capacity-based interconnection offer for voice and Internet) and invites discussion on the various questions whose answers will be valuable in ultimately defining the capacity-based interconnection model to be adopted in Portugal.

2. CAPACITY-BASED INTERCONNECTION OFFER IN SPAIN

2.1 INTERCONNECTION MODEL

In 2001, Spain's national regulatory authority (CMT) defined a capacity-based interconnection model, revisited in 2003, to complement its temporized interconnection model (based on per-minute billing). In this capacity-based model, an operator may purchase a specific capacity of interconnection services from the historic operator (*Telefónica*) at a given Point of Interconnection (PoI) with a fixed cost calculated using the forecast traffic volume, regardless of the associated use, i.e. type of traffic (Internet and/or voice data) and the actual usage time.

The capacity-based interconnection model adopted by CMT is fundamentally different from the temporized interconnection model in terms of the size of its traffic overflow routes. In the capacity-based interconnection model, traffic transfer may be routed using elements associated with the actual capacity-based interconnection network and/or the temporized interconnection network (model/current network).

2.2 ELIGIBLE TRAFFIC

Eligible traffic for capacity-based interconnection includes access (call origination) and call termination traffic, and does not distinguish the type of traffic (voice and/or data). Transit services, international call termination and special services (together with intelligent network services) are not included. Interconnection capacity may be purchased at the local, metropolitan and transit levels (single and double).

Such an approach offers the following advantages: (1) greater flexibility in buying and selling capacity, (2) minimized risk in failing to account for capacity needs for a given interconnection, (3) optimization of network services made available to OSPs which, by streamlining and distributing traffic (temporarily, for instance) can route higher numbers of minutes at lower unit costs. Some inherent complications do, however, exist: (1) excessive unbundling, given that a basic 64-Kbps unit can create management and operating problems in the interconnection network, (2) the historic operator may need to make adjustments to the switching and interconnection network to furnish the required capacity at local exchanges, (3) traffic transfer routing, which may have to be done using network elements associated with the temporized interconnection model, with additional costs and complications.

2.3 BASIC CAPACITY UNIT

In Spain, temporized interconnection is structured around a basic network unit of 2 Mbps (E1), i.e. a route's minimum capacity, while the basic capacity-based interconnection unit is 64 Kbps, i.e. capacity purchased by an operator must be a multiple of this unit. If, in a given 2-Mbps interconnection, there are *x* units of capacity purchased, the remainder (30-*x*) must be used in temporized interconnection. In routes with more than 4 E1s (120 units), this multiple goes from 1 to 5, meaning that the increments of capacity in these larger routes are done in groups of 5 x 64 Kbps, while keeping a minimum capacity unit of 64 Kbps for routes whose capacity is 4 E1s or less. Responsibility for the sizing of capacity units rests solely on the operator originating the traffic and is done according to its traffic forecasts, service level and overflow conditions as specified in the RIO[4].

2.4 Traffic Transfer Conditions

Telefónica's RIO currently includes the following traffic transfer options for operators purchasing a specific interconnection capacity:

- Interconnection without transfer: Overflow traffic is lost
- Interconnection with transfer: Overflow traffic can be rerouted in one of two ways:
    i) Transfer over temporized routes in the same PoI. The associated cost of this transfer is the per-minute price in time-based interconnection (originated/terminated) multiplied by 5 to offset *Telefónica*'s network planning and operating costs and, primarily, to discourage interconnection capacity downsizing by the OSP.
    ii) Alternate routing via temporized interconnection at another PoI. This option is only activated when interconnection (by capacity and time) at the PoI has been completely consumed. The associated cost of this option corresponds to the "alternate routing service" as specified in *Telefónica*'s RIO.

2.5 Minimum Service Agreement Time and Capacity Unit Cancellation Procedure

There is a minimum service agreement time of two years for every basic capacity unit purchased at a given PoI. At the end of this period, the OSP may terminate the capacity agreement or substitute it with a temporized interconnection agreement with no penalties being incurred.

[4] See *Telefónica* RIO at: http://www.telefonicaonline.com/qx/manual/textoconsolidado_oir2003.pdf.

Premature cancellation of basic capacity units is grounds for a compensatory fine of 25% of all remaining services through the end of the minimum service agreement time. In the event of cancellation (or migration) of a portion of the capacity purchased, basic units having the highest (most recent) CIC[5] are altered/removed, so that circuit numbering does not have to be reorganized each time the number of units must be changed, regardless of the beginning of the interconnection agreement.

2.6 DEADLINES AND COMPENSATION FOR NON-FULFILLMENT

Data which must be exchanged between *Telefónica* and OSPs purchasing capacity include: (1) data identifying the capacity order, (2) data identifying the OSP, (3) type of migration, (4) desired capacity. Various phases of capacity orders have been likewise identified, such as: (1) pending approval, (2) in progress, (3) awaiting resolution of obstacle to deployment.

Deadlines for migrating from one interconnection model to another are as follows: (1) 5 working days for order approval, (2) 20 days for operational deployment, including tests.

Notwithstanding general measures on non-fulfillment of deadlines for orders to construct and expand PoIs, the following additional provisions have been established for the unique circumstances of the capacity-based interconnection model:

- Non-fulfillment of deadline for migration to capacity-based model: If *Telefónica* has not completed the actual migration within the 5+20 day time period, interconnection traffic is billed according to the capacity-based interconnection model from that moment forward.
- Non-fulfillment of PoI construction/expansion deadlines: In such cases, in addition to the application of penalties, the operator pays interconnection prices for alternate routings of traffic originally routed through the capacity purchased, with a 50% discount.

2.7 FLAT TARIFF CALCULATION METHODOLOGY

According to the CMT, the main principles to be upheld in calculating interconnection prices are setting prices based on the cost of long-term efficient service, including a reasonable return on investment and the model's economic continuity, i.e. maintaining an average level of return for the operator providing the capacity combined with a reduction in unit costs for operators requesting this same capacity.

[5] Circuit Identification Code

Therefore, the CMT has established a relationship between the monthly capacity price and the per-minute price by means of size-related criteria: scheduled monthly traffic.

Monthly price per 64-Kbps unit:

Level	Voice and Internet RIO 2003
Local	€ 44.20
Single Transit	€ 73.77
Double Transit	€ 106.20

Interconnection price per minute (access and termination):

Level	"Peak" RIO 2003	"Off-Peak" RIO 2003
Local	€ 0.71	€ 0.42
Single Transit	€ 1.05	€ 0.63
Double Transit	€ 2.14	€ 1.29

3. CAPACITY-BASED INTERCONNECTION OFFER IN PORTUGAL

The capacity-based interconnection model must entail a transparent and non-discriminatory offer from PTC to OSPs of a given capacity of interconnection services, optionally to the temporized interconnection model, at geographic Points of Interconnection (PoIs) specified in the RIO, at a fixed price (i.e. flat interconnection tariff).

The flat interconnection tariff is based on the capacity purchased, irrespective of the volume and duration of the traffic actually routed. Capacity purchased is measured in multiples of the basic capacity unit to be defined later.

The capacity-based interconnection model involves PTC's provision of network resources aimed at filling interconnection orders from operators purchasing a given capacity to route eligible traffic, in accordance with agreed quality and availability goals, with associated traffic transfer costs, to encourage efficient and sound use of capacity-based interconnection.

3.1 CAPACITY-BASED INTERCONNECTION OFFER BENEFICIARIES

ICP-ANACOM foresees no reasons to restrict the types of organizations which may benefit from the capacity-based interconnection offer based on the existing specifications of the RIO. Beneficiaries will thus be those currently specified in the RIO (public telecommunications network operators and providers of telephone services at a fixed location, mobile telephone services and data transmission services).

Question 1: Do you agree that the capacity-based interconnection offer's beneficiaries should be those currently specified in the RIO? If not, indicate who the beneficiaries should be, specifying reasons why.

3.2 TRAFFIC AND SERVICES ELIGIBLE FOR CAPACITY-BASED INTERCONNECTION

The capacity-based interconnection model is compatible with voice traffic and dial-up Internet access traffic.

In addition to standard switched traffic interconnection services, call origination and termination services, essentially indirect access, make up the fundamental interconnection support. For this reason, the following traffic should be eligible for capacity-based interconnection:

a.) Call origination: local, single transit and double transit

b.) Call termination: local, single transit and double transit

Access to the following services is excluded from eligible traffic for capacity-based interconnection due to their highly variable rate schemes, complexity in terms of additional dispersal over various existing support routes and the unique features of the final services offered, all of which have impacts on the size and management of interconnection resources:

a.) intelligent network services, namely: toll-free (800), local-call-rate (808), virtual calling card (882), etc.

b.) emergency services (112) and short numbers (117, 118, etc.)

c.) value-added services such as audiotext (601), televoting (607), etc.

d.) international call termination and transit traffic

Question 2: Do you agree that the types of traffic to be used in capacity-based interconnection should be alike (i.e. voice and data)? Do you agree that the services eligible for capacity-based interconnection should be access (call origination) and call termination services at the local, single transit and double transit interconnection levels? If not, indicate which services should be eligible for capacity-based interconnection, specifying reasons why.

3.3 DEFINITION OF BASIC CAPACITY UNIT

Currently, temporized interconnection between operators is structured around a basic transmission network unit, the 2-Mbps circuit[6]. If the basic interconnection capacity unit were a 2-Mbps circuit, the capacity to be purchased by an OSP would then be a multiple of 2 Mbps.

A second definition for basic capacity unit could also be explored: the 64-Kbps circuit[7]. Such an approach would present two distinct advantages:

1. Permit easier access to the interconnection model by OSPs currently having no need to purchase a 2-Mbps circuit merely for this purpose
2. Permit more flexible planning in terms of the capacity to be purchased, adjusted to the needs of OSPs, in particular at lower-traffic PoIs, minimizing risks of inaccurate traffic forecasting

On the other hand, adopting a 64-Kbps circuit as the basic capacity unit could lead to certain complications, namely:

1. Substantial change to the network structure (since physical support would always be a multiple of 2 Mbps, unable to be unbundled)
2. Increased complexity in planning, implementing and managing interconnection, which may be viewed as disproportional since impacts would only be seen at the local level, given that the primary beneficiaries of the RIO currently use multiple 2-Mbps circuits per PoI for single transit and double transit
3. The need for greater processing capacity at switching exchanges

Question 3: Which basic capacity unit should be considered: 2 Mbps or multiples of 64 Kbps? Specify reasons why.

3.4 RESALE OF CAPACITY-BASED INTERCONNECTION UNITS

The possibility of reselling capacity-based interconnection units to third parties exists in Spain, both in the capacity-based interconnection model (Point 9.4 of *Telefónica*'s RIO) and the temporized interconnection model.

[6] Generally supports 31 bi-directional interconnection channels at 64 Kbit/s. It is assumed that 1 of the 32 channels of an E1 (2 Mbps) is used for synchronizing. Normally only one channel needs to be allocated to signalling per every 10 E1 of interconnection capacity.

[7] Basic unit used in the Spanish model for capacities purchased, per PoI, up to 4 E1s (120 channels). Multiples of 5x64 Kbps must be purchased for higher capacities.

At the time of its response to the public consultation regarding the imposition of obligations in wholesale markets for call origination and termination (markets 8 and 9)[8], PTC asserted that introducing a flat interconnection tariff would give rise to serious competitive imbalances, particularly for larger-sized operators, by offering surplus capacity to smaller operators at prices below cost.

With resale, operators buying interconnection capacity are not only responsible for correct forecasting of retail demand, but also wholesale demand from third-party operators through capacity purchased, thus avoiding surplus wholesale demand for capacity. In some ways, this can actually stimulate development of the wholesale market by providing the option of sharing previously-purchased capacity with other operators, thus enhancing business opportunities.

In this way, there appear to be no reasons at the outset for any restrictions to the possibility of reselling capacity-based interconnection units to third parties**.**

Question 4: Can you see any disadvantages in reselling capacity-based interconnection units to third parties? If so, specify the disadvantages and indicating specific resale prevention methods and how these would be implemented.

3.5 TRAFFIC OVERFLOW CONDITIONS

By introducing the capacity-based interconnection model and installing (through PTC) the capacity forecast by OSPs, the required capacity may be more than the amount purchased, thus causing sporadic congestion of capacity-based interconnection resources at the outset. Note that according to the current RIO, traffic interconnection circuits should be sized so that the loss at each interconnection route does not exceed 1%.

Thus, regardless of whether operators forecast their capacity-based interconnection so as to avoid congestion, all traffic exceeding the capacity purchased under the flat-rate regime should be subject to transfer under one of two optional scenarios:

> **Option 1:** Through circuits associated with temporized interconnection at the same PoI. In this case, a compensatory payment is required to offset additional costs from the incorrect sizing of the capacity-based interconnection by the OSP, which has impacts on the capacity of other resources. This amount must be high enough to encourage correct

[8] http://www.anacom.pt/streaming/Grossistas-BE-

planning of capacity-based interconnection routes and effective sharing of the inherent risks of forecasting demand. Following overflow at capacity-based interconnection circuit(s), the OSP must pursue the necessary procedures to extend the number of circuits (in accordance with the current specifications of the RIO).

Option 2: When all capacity-based and temporized interconnection circuits at a given PoI are busy, transfer of eligible traffic should be done by means of the current agreed system between the operators, i.e. if overflow is done using interconnection circuits at another PoI, this PoI's interconnection prices (temporized model) would apply for the interconnection level in question.

With regard to applicable pricing for traffic overflow Option 1, ANACOM believes an amount equalling 5 times the temporized interconnection price is appropriate. As previously discussed, this scenario has been used in Spain, and ICP-ANACOM has no knowledge of any inequities resulting from this solution.

It should also be noted that another possibility exists, also foreseen in Spain, involving the option of interconnection without overflow in which all exceeding traffic is simply lost. The CMT, in its resolution dated 10 July 2003[9], chosed to introduce the no-overflow option, although given its reduced interest in Spain, it is not believed to be a relevant option to pursue in Portugal.

Question 5: Do you agree with the proposed model in which all traffic exceeding the capacity purchased under the flat tariff is subject to overflow? Do you agree with setting a traffic overflow price to encourage efficient and sound use of capacity-based interconnection, and in particular, the reference price specified by ICP-ANACOM for "Option 1" (equaling 5 times the temporized interconnection price)? If not, indicate the methodology you believe would be most fitting to set this price and its corresponding reference value.

3.6 PROCEDURES FOR CAPACITY PURCHASE AGREEMENTS AND FOR MIGRATING FROM THE CURRENT INTERCONNECTION MODEL TO THE CAPACITY-BASED INTERCONNECTION MODEL

The capacity-based interconnection offer must be characterized by transparency, efficiency and speed, and thus warrants specific procedures to be implemented in the RIO, including:

GRUPOPT.pdf?categoryId=136402&contentId=246816&field=ATTACHED_FILE.

[9] http://www.cmt.es/cmt/document/decisiones/2003/RE-03-07-10-00.pdf.

1. Means of communicating capacity/migration order (responsibility: OSP)
2. Means of communicating acceptance/refusal of the order (responsibility: PTC)
3. Means of communicating service activation (responsibility: PTC)

A procedure must also exist for communicating anomalies in the deployment/migration process:

1. Means of communicating anomalies (responsibility: PTC)
2. Means of communicating resolution of anomalies (responsibility: OSP)

In this context, ICP-ANACOM sees no reason, in principle, to change the PTC/OPS communication methods currently defined in Appendices 7 and 8 of the RIO, namely with regard to ordering circuits and other means of interconnection. Capacity/migration orders must be issued in writing to the contact point designated by PTC, which must keep records of all orders/refusals made for a minimum of three years.

Question 6: Do you agree that procedures associated with purchasing interconnection capacity with PTC should be similar to the PTC/OSP communication procedures currently specified in the RIO? If not, specify which procedures you would change and why.

3.7 DEADLINES FOR POI CREATION/EXTENSION AND CIRCUIT MIGRATION

To start, the maximum deadlines for creating and extending PoIs should not depend on the interconnection model (temporized or capacity-based), and are currently defined in Sections 13.4 and 13.5 of the RIO, corresponding respectively to:

a) Maximum deadlines for creating a new PoI:

   1) Order analysis and PoI deployment: 22 working days

   2) PoI deployment following order confirmation: 45 working days

b) Maximum deadlines for expanding an existing PoI:

   1) Cases involving changes to the network structure or replacement/expansion of transmission equipment: 1 month

   2) Other cases: 15 working days

The RIO should also establish a deadline for migrating temporized interconnection circuits to capacity-based interconnection and vice versa with no delays to the maximum deadline for

expanding an existing PoI. On the other hand, given the need to deploy the model and guarantee user interests, migration order confirmation deadlines will have to be proactive, and thus ANACOM believes it is appropriate to establish the following deadlines:

a) Migration order confirmation deadline from temporized interconnection model to capacity-based interconnection model (and vice versa): 5 working days (note that this is identical to the deadline specified by the CMT)

b) Maximum deadline for migration (the same as the current deadline for extending an existing PoI, in the case of temporized interconnection):

1) Cases involving changes to the network structure or replacement/expansion of transmission equipment: 1 month

2) Other cases: 15 working days

Question 7: Do you agree that deadlines should be established (deadlines for creating, extending and migrating PoIs from the temporized interconnection model to the capacity-based model and vice versa)? If so, explain which deadlines should be established, what their maximum time periods should be, and why.

3.8 MINIMUM SERVICE AGREEMENT TIME AND QUALITY OF SERVICE PARAMETERS

Alterations to be introduced under the new interconnection model do not imply direct changes to current interconnection service quality parameters and levels designated in Appendix 3 of the RIO, namely the quality of OSP networks and circuits and losses in interconnection trunks.

In order to deploy the new capacity-based interconnection model, PTC will be required to make changes to its network planning and network structure as well as its associated information systems. In this respect, a minimum service agreement time must be set for interconnection capacity to promote stability in interconnection and adequate planning of interconnection traffic.

In light of these issues, the Authority believes that the minimum service agreement time should be two years, the same as the time period practiced in Spain. At the end of this time period, the OSP may opt to continue, alter or terminate the capacity-based interconnection agreement with no applicable penalties to be imposed by PTC. In the event of non-fulfillment of this minimum time period, namely through premature cancellation of basic capacity units

or premature migration, partially or in whole, of the capacity purchased for a given PoI, a reasonable compensatory fine to be defined in the RIO shall apply.

Question 8: Do you believe it is necessary to establish service quality levels and indicators for capacity-based interconnection? If so, which service quality levels and indicators should be used to monitor the deployment of the capacity-based interconnection offer?

Question 9: Do you agree with a minimum service agreement time of two years to promote stability in interconnection and adequate planning of interconnection traffic? If not, specify what the minimum PTC/OSP service agreement time for capacity-based interconnection should be, and why.

3.9 PRICE CALCULATION METHODOLOGY FOR CAPACITY-BASED INTERCONNECTION

The main principles to be upheld in calculating interconnection prices are that prices should be determined based on actual service costs and should foster the model's economic continuity. In other words, prices should reflect the cost of long-term efficient service, including a reasonable return on investment, an average level of return for the operator providing the capacity and a simultaneous reduction in unit costs for operators requesting this same capacity through the most efficient anticipated use of the capacity.

Therefore, a relationship will be set between the monthly capacity price and the per-minute price by means of the criterion used for sizing: forecast monthly traffic.

Calculation of minutes switched during peak hours

Interconnection between operators is structured around a basic network unit of 2 Mbps. The number of 2-Mbps circuits to be purchased is determined by two parameters:

- Number of simultaneous conversations during the busiest hour (in terms of calls routed), i.e. during the peak hour (PH)
- Loss of calls in interconnection (service level B) = 1%[10].

According to the Erlang B formula[11], during peak hours, for a basic capacity of 2 Mbps:

[10] According to the RIO: "Circuits for interconnection should be sized so that the traffic lost at each interconnection trunk does not exceed 1%, with the amount of the loss calculated using the ADPH method over Erlang B in one week of observation each month."

[11] Erlang B is the most commonly used traffic model to determine how many channels are necessary for a given amount of traffic flow (measured in Erlang) during the busiest hour (peak hour).

No. of Circuits	Traffic Intensity (Erl)	Percentage of Occupancy	Minutes Routed (at PH)
31[12]	21.19 (for B = 1%)	68.35%	1.271 (31 x 60 x 68.35%)

The number of minutes routed during PHs is obtained by multiplying the number of circuits (31) by the number of minutes in an hour (60) by the percentage of occupancy (68.35%). If telephone traffic were perfectly stable throughout the day and the month, one could simply multiply the above estimated amount by 24 hours (per day) and 30 days (per month) to obtain the amount of 915.00 minutes/month/basic unit. However, these assumptions would be incorrect given the normal levels of telephone traffic. Thus, the total estimated number of minutes routed per month in basic units is given by:

Minutes per month = Minutes at PH / WTr x WD x M

According to normal traffic profiles, it is generally assumed that:

1. During the busiest hour, an average of 10% to 15% of the total daily traffic is routed. Thus, WTr = weight of PH traffic on daily total.
2. To calculate average monthly traffic, the number of daily minutes is multiplied by the number of working days, normally between 20 to 25 per month. Thus, WD (working days per month) = 20 to 25.
3. One or two months should be subtracted to account for holiday periods where traffic is generally reduced (normally July and August). Thus, M = 10/12 or 11/12.

Examples:

Minutes at PH	WTr	Daily Minutes	WD	M	Minutes Routed in One Month (2 Mbps)
1,271	8%	15,887	23	11/12	*334,961* (1,271/8% x 23 x 11/12)
1,271	10%	12,710	22	10/12	*233,017* (1,271/10% x 22 x 10/12)

Estimation of Tariff for Capacity-Based Interconnection

[12] 31 64-Kbps channels may be used in each 2-Mbps circuit in the event that no signalling circuits exist. There is a reduced number of signalling circuits in the interconnection networks between PTC and OLOs: with up to 20 2-Mbps circuits, only one signalling circuit is needed (quasi-associated mode, up to 10 2-Mbps circuits).

Finally, the average price of the basic capacity unit can be determined by multiplying the minutes associated with the unit by the average per-minute interconnection price for the level in question (local, single transit or double transit), which is specified in the RIO for temporized interconnection.

Basic unit price = minutes per month x price per minute

Question 10: Do you agree with the methodology and parameters used to calculate capacity-based interconnection tariffs, based on the per-minute price of temporized interconnection and scheduled monthly traffic? If not, specify the calculation methodology and parameters which you would propose, and why.