

The information is also available in Anacom's Internet website in:

<http://www.anacom.pt/template31.jsp?categoryId=240883>

Determination of 12.4.2007

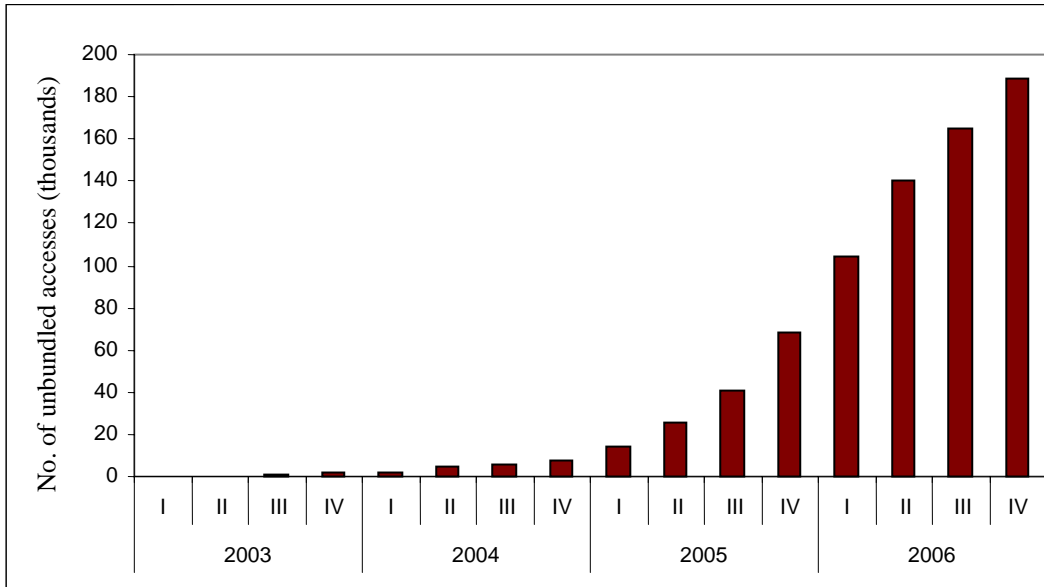
DETERMINATION OF ICP-ANACOM ON COLLOCATION PROCEDURES

1. FRAMEWORK

ICP-ANACOM has been taking action in the scope of the Local Loop Unbundling offer (LLU), which is deemed essential, given the current market structure, to improve competitive conditions enjoyed by Operators and Service Providers (OSPs), namely as regards broadband access retail offers.

These interventions, at several levels – concerning prices, operation conditions or contracts – have contributed towards improving the predictability of offer conditions, thus increasing the confidence of market participants. In fact, the number of unbundled loops by alternative operators in the fourth quarter of this year reached 195 thousand accesses, an increase by 14% relatively to the previous quarter and by 172% relatively to the end of 2005 (see Chart 1).

Chart 1. Evolution of the number of unbundled loops

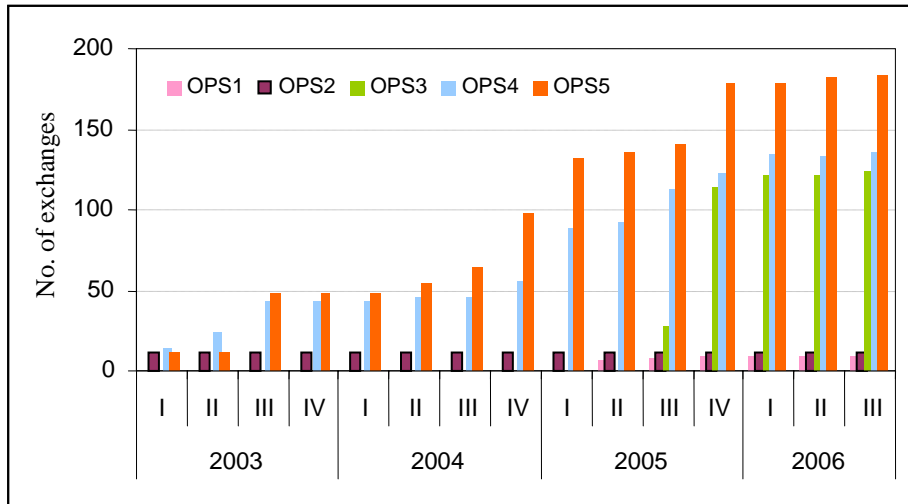


This increase of competition, supported also on the improvement of regulatory conditions guaranteed by ICP-ANACOM, led to the expansion of retail offers and services, with favourable conditions for end-users. In fact, the launch of offers with higher speeds and at competitive prices has contributed to the development of the Information Society.

In parallel with the increased number of unbundled loops, the number of OSPs interested in this offers and the number of MDFs¹ with collocated operators, which in the third quarter of 2006 reached 191 MDFs (see Chart 2), have increased as well.

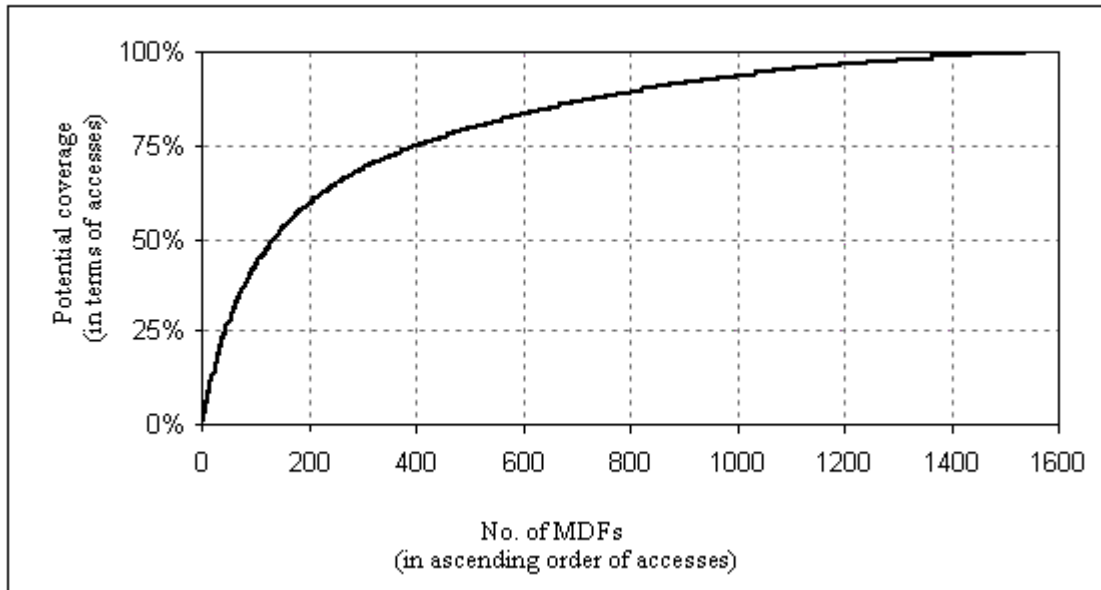
¹ MDF – Main Distribution Frame. In a narrow technical sense, this corresponds to the copper loops main distribution frame. In this determination, MDFs should be understood in a broader sense, comprising the exchange or remote unit/small building to which operators have access, in the scope of the LLU.

Chart 2. Evolution of the number of MDF with collocated OSPs (per OSP)



This presence in PTC’s MDFs enables OPS to reach a significant coverage of population in terms of potential accesses, exceeding 50% (see Chart 3), with a particular concentration in the urban areas of Lisbon and Oporto and main cities.

Chart 3. Potential MDF coverage



PT Comunicações, S.A. (PTC) identified, as from June 2005, a set of constraints that hindered the swift provision of conditions for the collocation of equipment or the extension of modules engaged by OSPs, thus harming the development of alternative offers and, ultimately, end-users. These constraints concern especially the availability of

space in PTC's MDF rooms² and in distribution frames, and the availability of DC³ power supply of the equipment.

In this context, this Authority has taken from that date different types of enforcement actions, which have contributed towards the resolution of certain constraints, as well as to gain a deeper understanding of the problem, enabling the detection of situations in need of an intervention so as to ensure an effective competition in the market.

The assessment of operational conditions at the level of collocation and availability of DC power supply in PTC's exchanges, as well as the definition of rules to be implemented in the Reference Unbundling Offer (RUO), in order to minimize the identified constraints, are outlined below.

The definition of such rules complies with three basic principles:

- (a) The conditions for the physical collocation of OSP equipment in PTC's exchanges and the reservation of space by some OSPs, together with the limited space in some exchanges and the fact that it is not possible to determine the immediate extension of facilities to meet all requests, result in the need to specify rules for the use of this scarce resource.
- (b) Likewise, the conditions for the provision and use of DC power, together with securing requirements and demand predictability, lead to the need to specify rules for the use of this resource.
- (c) These rules must be minimally necessary to achieve the target of accommodating the demand from different OSPs, in an efficient and non-discriminatory manner.

2. BACKGROUND AND CURRENT SITUATION

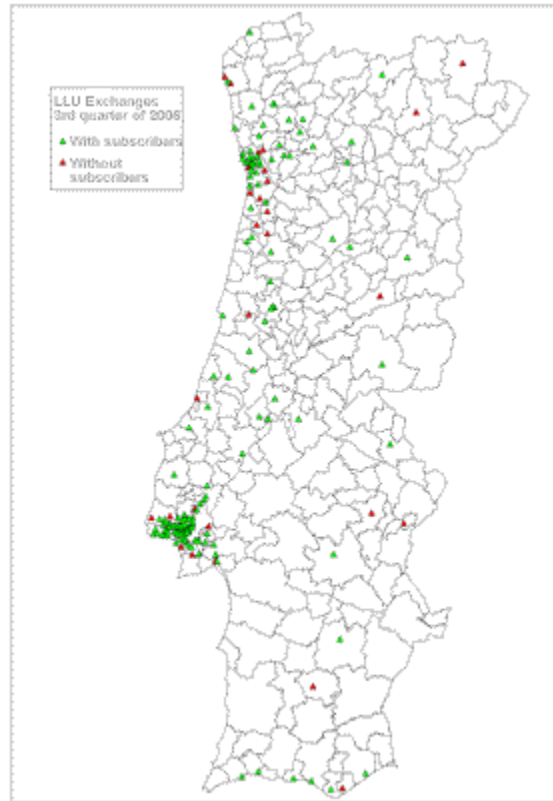
In the course of 2005, a strong growth was registered at the level of LLU, as a result of a significant increase of OSP applications, for the extension of equipment in PTC's MDFs where they are already collocated and also collocation in new MDFs, so as to increase coverage of their offers in areas outside Lisbon and Oporto municipalities (see Chart 2 and Picture 1). In fact, and to reinforce the LLU significant evolution, it should be stressed that the number of OSP modules⁴ in PTC's MDFs is now more than one thousand.

² For the purpose of physical collocation in open space, in the main distribution frame room.

³ Direct current (at -48 Volt).

⁴ An open space collocation module corresponds to a rectangular area of 2×60 cm×60 cm.

Picture 1. MDFs with OSP modules



In the last quarter of that year, ICP-ANACOM identified a significant number of pending OSP applications, on account of the fact, according to PTC, that there were constraints at the level of DC power systems in twenty eight exchanges and, at the level of distribution frames, in twenty two exchanges.

Accordingly, ICP-ANACOM launched a procedure to assess and validate constraints pointed out by PTC, namely requesting detailed data and proposals for the resolution of such problems, and taking several enforcement actions from the second half of 2005 until the third quarter of 2006⁵.

Notwithstanding the fact that in some situations the mentioned constraints have been overcome, as a result of a system extension or of a reassessment of dimensioning rules (as for example in the case of 100-pair sets), several constraints have remained, limiting or ultimately preventing collocation of new OSPs or the immediate or future extension of currently installed equipment.

It should not be excluded that some of these constraints, namely those that are due to the lack of space, may remain or even worsen in a near future, in case no intervention measures are taken in this matter, so as to contribute towards a more efficient use of resources. This is a result of the limited resources in MDFs where operators are

⁵ Enforcement actions were taken based on the priority order indicated by OSP and the number of pending applications.

collocated, as well as of the progressive evolution to more peripheral and smaller exchange areas (some of which are more recent, and thus have a lower capacity), where restrictions in terms of space and system capacity are likely to be more evident. Moreover, the number of OSPs who benefit from the RUO has increased as well.

As resources are limited, it is essential to detail the rules that apply to the RUO implementation, so as to make collocation a more effective process and to optimize the use of existent infrastructures, thus minimizing possible constraints. This optimization will minimize additional investments, such as the extension of the distribution frame, of power supply systems or works to make additional space available, thus benefiting all participants in the process.

To address current constraints in an integrated way and aiming to promote a greater certainty and swiftness in the access to MDFs, as well as to minimize reactive intervention, on 20 September 2006 ICP-ANACOM requested data from PTC and RUO beneficiaries, on the following matters:

- (a) from PTC, updated systematic information on constraints, indicating (i) the criteria used to assess available power, (ii) specific criteria to allocate/bear costs associated with the extension of DC systems and (iii) the impact of the development of the “PT ADSL Network” offer as regards DC power needs;
- (b) from RUO beneficiaries, information on modules engaged for each PTC MDF (where they are collocated) and the way these modules are used, namely by identifying the type of installed equipment, whether it is in use and its maximum capacity.

Information received was usefully applied to prepare this determination.

On the other hand, Apritel, by letter of 10 November 2006, showed concern as regards delays in solving any constraints in PTC’s exchanges and the respective budgets, and proposed a two-month maximum deadline to solve constraints, in case no masonry work was involved, and a six-month deadline otherwise, as well as the presentation of detailed budgets.

2.1 Collocation space and availability of blocks in MDFs

In most cases, OSPs have applied for open space collocation, and in an increasing number of cases, the available space for collocation of modules is small or non-existent, thus making the installation or extension of equipment not viable.

In many cases, the space is “virtually” occupied by modules of other OSPs, which has often been requested and provided for several months, however no equipment has yet

been installed, or if installation has taken place, the equipment is not in use. Overall, there are several hundred vacant modules⁶ (installed, but unused or without equipment).

On the other hand, more recent DSLAM have a higher capacity, and may reach up to 3024 ports/loops⁷ per each 60x60 rack (ETSI measure), that is, per “half module”. However, the likely need for an ONU⁸, which has a unit capacity of around 1000 ports, shall restrict the potential number of loops per module. Thus, at an initial stage of collocation space optimization, two modules (generally with a DSLAM rack and an ONU rack, an HDF⁹ rack and a transmission equipment rack¹⁰) shall support around one thousand ports/loops¹¹. The assessment of data submitted by OSPs relatively to the current occupation of collocation spaces suggests a conservative amount of 750 loops per module. Where there are few modules (two or three) this amount may be lower, however collocation spaces with a high number of modules (more than five) may reach around 900 loops.

It is thus estimated that OSPs that benefit from the RUO currently enjoy, in some cases, a maximum theoretical capacity close to the total number of lines in use in MDFs where they are collocated¹². It is likely that the near future technological evolution leads to the increase of the number of ports in collocated equipment, enabling an increasing number of unbundled loops “per module” and the optimization of space in rooms, namely in an open space regime.

In cases where space is scarce, these situations of reservation of space prevent the collocation of new OSPs or the extension of equipment of beneficiaries who are already installed (including PTC itself).

⁶ There are cases of modules supplied in December 2006 wherein no equipment has yet been installed. For example, in the exchange of Setúbal, one of the collocated OSP has currently more vacant modules (five) than modules in use, yet this exchange presents serious restrictions in terms of available space. This OSP holds also six vacant modules in the exchange of Guimarães (where there are no constraints), and in this exchange also another OSP holds four or more vacant modules in five MDFs. A third OSP had engaged two modules with installed equipment in 122 MDFs, yet this equipment is not in use and loops have not been put into service (except for 2 unbundled loops, by the end of the third quarter of 2006, which are assumed to be test loops), a situation which has been going on for several months.

⁷ The Internet provides information on maximum capacity, as regards the number of DSLAM ports per rack, for the following providers: i) Huawei – 2.688; ii) Alcatel – 2.304; iii) Lucent – 3.024; and iv) Nokia – 2.160.

⁸ ONU – Optical Network Unit, or equivalent access equipment (for example, AMG) for the provision of narrowband/voice services (not supported in the broadband access service).

⁹ HDF – Handover Distribution Frame, equipment intended for the connection to copper pair DSLAM from the intermediate distribution frame. It has an indicative capacity of more than 1500 copper pairs per rack.

¹⁰ One rack for transmission equipment shall be generally enough in a given exchange or collocation space.

¹¹ This number may be higher, in case ONU are unnecessary or, on the contrary, if 2 ONU are used (in which case the number of loops would be limited on account of the HDF maximum capacity).

¹² In the cases mentioned above of exchanges in Setúbal and Guimarães, one of the beneficiaries holds eight and ten modules, respectively, which would ultimately allow a number of unbundled loops similar to the number of analogue lines in use in those exchanges. For one of the OSP it is estimated that the maximum theoretical capacity of modules currently installed (whether or not in operation) may reach around 600 thousand unbundled loops, under the current assumptions. Another OSP requested, in 2006, several hundred modules for almost all MDFs where it was collocated, when, in the second quarter, only 7% of its installed modules had occupation rates above 50%, irrespective of modules without any equipment. In case all modules were accounted for (with a theoretical capacity of 750 loops per module) only 2% of MDFs where this OSP is collocated would have an occupation rate above 50% (of the maximum theoretical capacity).

In this respect, highlight should be given to the position of the Independent Regulators Group (IRG) in the document “Principles of implementation and best practice regarding LLU”¹³:

“Preferably collocation space should be allocated on the basis of a clearly defined set of principles, agreed by the industry subject to a “use or lose clause”. The allocation system needs to take into account the diverse needs of users and beneficiaries and be acceptable for the NRA.”

Moreover, through Determination of 19 June 2003, ICP-ANACOM prevented PTC from reserving space for its own use, and deemed that the collocation space should always be granted without any reservation of the available space. PT Comunicações was subject to the obligation to provide case-by-case grounds for any refusal of a collocation request.¹⁴

An option would be thus to determine the immediate return of all reserved spaces which are not in use or have deactivated equipment, regardless of whether or not there are space constraints in a given MDF. However, this option seems to be extreme and disproportionate, relatively to aimed targets. Thus, it is deemed more appropriate to grant a reasonable time period, of six months, for the return of spaces – so that OSPs may adapt to rules now specified – as well as to impose, to the extent strictly necessary¹⁵, the return of spaces only when there is a space constraint and unsatisfied demand from another OSP or PTC itself.

It seems reasonable also that in this stage of offer development, OSPs may maintain a module and/or four blocks, even if they are not used beyond the granted deadlines, in order to meet peak demand. Thus, rules defined in this determination apply to free modules and blocks that exceed these units.

For this purpose, and where there are critical situations in terms of availability of space, it is deemed that OSPs should submit information to ICP-ANACOM on each MDF, thus enabling this Authority to duly monitor the situation.

In parallel, and similarly to constraints on equipment collocation space, there are also some constraints at the level of space available in distribution frames; however, it is deemed that to overcome this situation, alterations to the structure of main distribution frames should be avoided as this is a slow and expensive process.

In this context, Annex 3 to the RUO states that¹⁶:

¹³ http://irgis.anacom.pt/site/en/conteudos.asp?id_conteudo=21107&id_l=274&ln=en&id_area=277&ht=Documents

¹⁴ See determination at <http://www.anacom.pt/template31.jsp?categoryId=214862>. PTC intended that space made available for the co-mingling modality would take into account the necessary reservation, for its own future needs, of continuous space in an area corresponding to 25% of the area already occupied, as well as the reservation of power and air conditioning for that effect.

¹⁵ At an initial stage, OSP shall be required to (uninstall and) provide only the necessary modules/blocks to meet, for a given exchange, the collocation application of another OSP. Otherwise, a disproportionate obligation would be imposed relatively to the specific problem. Nevertheless, the obligation upon all beneficiaries to effectively manage their collocation resources remains in force.

¹⁶ Point 1.3. HDF. Protection against Overvoltages.

“(...) In PT Comunicações’s exchange MDF, an intermediate distribution frame shall be established, the IDF, comprising verticals on the Exchange side, each one being equipped with as many 100 pairs Siemens-type blocks as may be installed, at the same amount as the number of blocks installed or to be installed in the future, in HDF situated in modules intended for OLOs”.

That is, the criterion used by PTC to assess the presence of constraints was the existence of available space to install blocks requested by OSPs.

As applications are usually made taking into account the maximum capacity of DSLAM, OSPs have applied for a large number of blocks per collocation module, yet as referred above, sometimes they request modules which sometimes are not used in the short run. In fact, in some exchanges, the absence of space in a distribution frame for such a large number of blocks, implies that the installation (or extension) of the OSP module(s) is not viable¹⁷.

In the scope of enforcement actions, the above mentioned criterion was reviewed, and it was considered that a constraint existed when it was not possible to install “on the exchange side” of the MDF, at least a 100 pair block. This means that it is now possible to install a block in any space of the MDF, and not only in the intermediate distribution frame (intended for the LLU), and thus, theoretically, the whole MDF is “eligible” for collocation purposes, although the set of blocks may likely have to be split.

Nevertheless, it should be stressed that the installation of a single block enables meeting 100 new local accesses, whereas a new module supports several hundred accesses, depending of the DSLAM/ installed equipment, thus in practise, and for this type of cases, the constraint will remain.

It is thus necessary to establish a set of rules that allow a sensible and non-discriminatory allocation of a scarce resource, as is the case of space for modules and blocks in the distribution frame¹⁸, namely by adopting the principle “use it or loose it” as regards the installation of unused equipment or the reservation of space in PTC’s premises by OSPs, as well as by establishing that PTC should accept the installation of “half-modules”, so as to make available space more efficient, in situations where there is infrastructure demand with a serious lack of space¹⁹, namely in smaller exchanges or exchanges with serious lack of space, ensuring at the same time that OSPs my be collocated.

¹⁷ For example, in the exchange of Guimarães (in the first half of 2006), an OSP held five times as many blocks in MDF as another one, with a low occupation rate, and there were constraints registered for that MDF (a third OSP had not been able to install a single block). Another example, by mid-2005, in the exchange at Maia, there were blocks installed for three thousand loops, for two beneficiaries, with less that 30% actually unbundled loops. In the first quarter of 2006, the occupation rate was just above 50% of the installed capacity, but this didn’t prevent PTC from taking action to increase MDF capacity in February.

¹⁸ OSPs are naturally responsible for the management of HDF where they are collocated.

¹⁹ This possibility should be restricted to the cases of substantiated limitation of space for the installation of a full module, the current modality being maintained in normal situations.

2.2 Planning the needs of OSPs

As regards collocation and planning of needs, annexes 6 and 12 of the RUO provide respectively as follows:

“5. CONSTRAINTS RELATED TO COLLOCATION

PT shall identify and inform OLOs on GPI exchanges with constraints resulting from the saturation of the distribution frame, DC system capacity and collocation physical space which do not present a practical solution, or which imply the need for a budget and works, as well as the period of time necessary for these activities and budgets to be borne by OLOs.

The action described above shall occur within 20 working days from the reception, by PT Comunicações, of OLO forecast plans, for comprised non-GPI exchanges.

Conditions associated to constraints identified in each exchange, namely its type, viability, solution, implementation deadline and budget for resolution shall concern the situation on the date they are stated, thus may not be necessarily valid at a subsequent date.

(...)

Final note: The capacity of PT Comunicações to meet all applications for analysis of viability and order depends on the previous supply, on the part of OLO, of plans and forecasts, according to annex 12 of this Offer, to as to optimize existent resources necessary for the evolution of OLO.”

“3. PLANNING AND FORECASTS

3.1 General Principles

To ensure a correct planning and the optimization of resources owned by PT Comunicações, which is necessary to ensure the evolution of the Local Loop Unbundling offer, the OLO is bound to present a plan with local loop demand forecasts, for both modalities provided for in this offer, as well as forecasts on collocation and signal transport requirements.”

As is it necessary for PTC to plan collocation and loop installation needs on the part of OSPs, the latter must present a forecast plan on collocation requirements (as well as a forecast on local loop demand, for both modalities provided for, and on signal transport demand).

However, as a rule OSPs do not submit to PTC demand forecasts, alleging that it is complex to make medium- and long-term forecasts in a dynamic market, for an offer in a stage of significant growth.

In practise, given the lack of timely forecasts and planning of OSP needs, PTC starts to solve constraints when an OSP places an effective order, which entails the provision of spaces for large periods of time or the extension of power supply systems.

On the other hand, OSPs are subject to present forecasts one year to one year and a half in advance, which is deemed an excessively long time period, especially in a stage of rapid growth such as the current one and given the lack of a reliable historic base on the part of OSPs to enable such long-term forecasts.

Thus, ICP-ANACOM maintains its view that the provision of forecasts, which should be prioritized for the several areas of the exchange, is fundamental for a good planning and efficient allocation of LLU resources, and deems that the method for submitting OSP forecast plans should be reviewed, and reduced the time period for presenting forecasts.

As regards the conveyance of information to ICP-ANACOM by OSPs, so as to render easier the subsequent processing of information, the model²⁰ previously submitted by this Authority to RUO beneficiaries (OSPs and any companies of the PT Group) may be used, duly filled out, all exchanges (with collocation) considered.

2.3 DC power supply in exchanges/MFD with collocation

Annex 3 of the RUO provides as follows:

“The OLO is responsible for the installation of means for measuring the actual consumption of its equipment, and shall pay PT Comunicações for the corresponding power consumption as provided for in Annex 14.”

Annex 14 specifies as follows:

“The OLO is responsible for the installation of means for measuring the actual consumption of its equipment. Power consumption shall be billed on a monthly basis to the OLO, based on the reading of respective meters (...)

Where the OLO decides not to install the appropriate measuring means, the monthly power consumption to be paid by the OLO shall correspond:

- *to the consumption that corresponds to the maximum power of equipment, for each piece of equipment or equipment set owned by the OLO in a given installation, with a consumption up to 5 Kw;*
- *a minimum consumption of 20% of the maximum installed power, for each piece of equipment or equipment set owned by the OLO in a given installation, with consumption that exceeds 5 Kw.”*

²⁰ Model mentioned at the beginning of Chapter 2.

However, as a rule, OSPs do not install any reading meters (DC) when they are collocated in open space, and have opted for a maximum “theoretical” value for the consumption of their equipment, namely when the installation of modules is applied for.

PTC considers at the moment that there is a power constraint (“power deficit”) if the Available Effective Power (AEP) is zero or negative, according to the following formula:

$$AEP (W) = [DC System power^{21} (W) - power of 1 DC converter^{22} (W)] - [battery capacity (Ah)/10 (h) \times 50 (V)^{23}] - [exchange/equipment consumption (A) \times 50 (V)] - [maximum power which OSPs declared to be consumed by their equipment in ordered but not yet equipped modules (W)]$$

The strength of power systems ensures that only in the event of (i) failure in the public power supply network, (ii) failure of the power unit, with a serious discharge of batteries or (iii) failure of two or more N+1 converters, the DC power necessary for the functioning of the exchange will not be guaranteed. In most exchanges of larger dimensions there is a power unit, thus the exchange power consumption is ensured by batteries for a limited period of time, until the power unit starts operating.

It is considered that the formula above establishes an asymmetry as regards the handling of requests for installation of OSP equipment in the scope of the RUO relatively to the installation of PTC’s equipment. In fact, although it is reasonable to deem that the AEP results from the consumption of exchange/installed equipment, it is not acceptable that it should depend on the maximum power which OSPs declared to be consumed by their equipment in ordered but not yet equipped modules. In fact, the maximum power which OSPs declared to be consumed by their equipment in ordered but not yet equipped modules, is a theoretical power, and may only be registered in the long-term, when the equipment is used in full. Moreover, OSP power needs are gradual and significantly lower than the exchange power consumption needs.

The DC power supply systems of exchanges increasingly do not have, in “theory”, any available capacity to meet values indicated by OSPs when they apply for the installation of modules²⁴. In these cases, PTC argues it would have to install or extend the DC, with long implementation periods, during which collocation would be prevented.

²¹ PTC’s DC power supply systems comprise N+1 rectifier modules/converters (that is, with redundancy) and batteries, that allow, for a short period of time, the necessary power for the functioning of the equipment installed in the exchange.

²² In a system with N+ 1 converters, the capacity of the redundancy element is withdrawn (1).

²³ Batteries are charged by the DC system, 10% of the capacity of batteries to be charged being reserved, by specification.

²⁴ It should be taken into account that the identification of power constraints in an exchange is based on values indicated by OSPs already collocated in a given exchange and not on the actual consumption at a given moment, that is, the power that corresponds to the maximum power of equipment identified by OSPs when placing the order for a new module must be available.

In some situations²⁵, the effective consumption of DC power in collocation modules is significantly lower than the value stated initially by some OSPs (the difference reaches 50% in some cases), even when the collocated equipment is used at its maximum capacity. In other situations, as the ordered space is not being used, the power applied for is not effectively consumed²⁶, just “reserved”²⁷.

PTC, for a large set of exchanges where allegedly there were constraints in the DC systems, presented also a power deficit²⁸ that reached -44% in one case. Notwithstanding the system power deficit, the company informed that “*we consider that all necessary measures have been taken to prevent any failure, and we deem that the conditions for the normal functioning of services provided are not hindered, namely at the level of continuity and quality*”.

According to information submitted by PTC, even after constraints had been identified at the level of power supply systems, PTC installed its own equipment and that of other companies of the PT Group in around 10 exchanges. In such situations, PTC informs in these situations that “*the equipment was installed before the DC constraint had been identified*”, and that “*the consumption of equipment under consideration was accounted for in the Reserved Power, and, as such, reflected in the calculation of the Available Power*”. PTC sees to contradict itself, as it informs, on the one hand, that the equipment was installed after the constraint had been identified, and, on the other, that the installation was made viable before the constraint had been identified. This fact, if confirmed, entails the granting of privileges to its own services or to companies of the PT Group relatively to OSPs.

As regards the specific criteria used by PTC to allocate/bear costs with the extension of DC systems, that company informed that in situations where it was necessary to extend these systems as a result of the consumption of equipment necessary to the provision of its own services, it has borne all costs incurred for the purpose, even if such an extension has allowed meeting collocation orders that pended until then as a result of power constraints. PTC refers also that when the power system extension is necessary to meet the application from a single collocated operator, this extension takes place only after the budget from at least one operator has been received and accepted. In this situation, according to PTC, the allocation of incurred costs abides by rules defined in paragraph 5 of annex 6 of the RUO. In practice, PTC bore in full the costs with the DC power system extension in around forty cases.

It should be noted that in case any constraint is due to collocation applications by OSPs, and PTC presents them with a budget for its resolution, the allocation should also include

²⁵ For example, in the case of the exchange at Santo Tirso.

²⁶ Even if this implies, according to the rules on RUO, a monthly charge for the (maximum) consumption estimated by the OSP.

²⁷ For example, in exchanges in Setubal and Braga, among others, where there are several vacant modules, there were, in the second quarter of 2006, reserved DC capacity and constraints at the level of DC systems. In case the forecasted value was in fact consumed, the “theoretical” surplus could be allocated to another OSP/module.

²⁸ For example, for MDFs in Barreiro, Braga, Corroios, Maximinos, Nogueira, Póvoa de Varzim, Santo Tirso, Torre da Marinha, Viana do Castelo, Vila das Aves, Vila Nova de Famalicão, Albufeira, Barcelos and Simopre.

companies of the PT Group who wish to install (or have installed after the constraint has been identified) equipment in that exchange (or those exchanges).

PTC is responsible for measuring power needs in exchanges, and is entitled optionally²⁹, in case OSPs have not installed DC reading meters in collocation spaces, to measure for this purpose the effective consumption, by installing DC reading meters or by applying isolated measures, passing on the costs to OSPs in any event.

In case PTC deems it necessary to extend the DC system³⁰, it may do so without refusing collocation requests, except in special situations which must be duly substantiated on a case-by-case basis. Thus, given the above, PTC must not refuse any collocation or module extension requests from an OSP by alleging constraints at the level of DC power systems, provided that this OSP has supplied PTC with demand forecasts. Notwithstanding, if PTC needs to take action so as to provide solution for any constraints caused by demand of collocation services, namely at the DC level, it shall be compensated for any costs incurred, and at least one OSP must accept the budget for the installation.

Taking into account the need to set simple and objective criteria, that are measurable and stable over time, that promote an effective management of collocation spaces, the allocation of costs associated with DC power supply systems shall be calculated based on the proportion of additional space rented to all operators who benefit from this intervention (that is, OSPs collocated in that exchange, PTC and other companies of the PT Group) within one year from the extension.

2.4 Assessment of viability of open space collocation

In enforcement actions pursued by ICP-ANACOM, there were cases where PTC refused collocation viability requests on account of absence of available space, and having solved these constraints, it waited for a new request from the OSP, failing to indicate or disclose that space had already been made available³¹. Although this procedure complies with rules set out in the RUO (see Annex 6), it is not deemed efficient, and it is considered that it should be amended.

²⁹ Notwithstanding, the principle in the RUO that determines that OSP are responsible for installing power measurement equipment remains valid (see extract of Annex 14).

³⁰ The need for substitution/extension of a DC power system must be specifically dealt with as PTC is the single responsible entity for measuring correctly total power needs for each exchange at a specific moment.

³¹ For example, in the exchange of Alfragide, the constraint at the level of space was solved, but the OSP whose initial application was refused had to present a new collocation viability request, formally unaware that meanwhile the constraint had been solved.

Thus, PTC should deem a collocation viability request³² for a given exchange as a full expression of interest from the OSP³³, and in case of a constraint, this request should remain in a pending state, until all restrictions have been dealt with (the order of reception of requests should be maintained).

In fact:

- if collocation is entirely impossible, PTC must submit grounds for refusing the request, and the request shall be deemed void, where the impossibility is duly evidenced;
- if constraints may be solved, PTC must submit to the OSP a budget (together with a deadline forecast) to deal with the constraint, and the request shall remain in a pending state until a reply on the budget is provided by the OSP, which should take place within 15 working days.

2.5 Information from PTC to ICP-ANACOM in case applications are not viable or of alleged constraints

In order to allow a closer monitoring action from ICP-ANACOM, PTC must inform this Authority, together with the reply from the OSP (as regards the reply to forecast plans), whenever it alleges that a collocation application is not viable or has constraints.

2.6 Conclusion

To summarize, constraints felt by OSPs when installing equipment in PTC's MDFs shall be minimized by means of the following measures:

- (a) Implementing the rule "use it or lose it", thus preventing the extended reservation of resources by OSPs in situations of lack of space;
- (b) Preventing PTC from refusing or delaying collocation by alleging DC power constraints, when the OSP has submitted demand forecasts;
- (c) Making the installation of smaller modules viable, thus maximizing the use of available space;
- (d) Rendering easier and more credible the demand forecasts from OSPs, systematizing procedures concerning their provision and processing.

³² Whether the request concerns a new installation or the extension of modules/blocks.

³³ In fact, this part of Annex 6 of the RUO "*The OLO shall confirm to PT Comunicações that it retains the interest in modules to be collocated, placing an order to PT Comunicações*" may be removed, as it should be assumed that the viability request is a clear expression of interest in the installation of modules.

3. DETERMINATION

Taking into account the above assessment and whereas:

- (a) Pursuant to assessments made to the unbundled access wholesale market, broadband access wholesale market and market for wholesale terminating and wholesale trunk segments of leased lines, PTC must meet all reasonable requests for access to, and use of, specific network elements and associated facilities (including collocation);
- (b) The following purposes are deemed as regulatory objectives (i) to promote competition in the provision of electronic communications networks and services; (ii) to ensure that users derive maximum benefit in terms of choice, price, and quality, (iii) to encourage efficient investment in infrastructure, and (iv) to promote innovation;
- (c) Situations of serious constraints at the level of viability (or extension) of collocation infrastructures are emerging increasingly;
- (d) PTC, or OSPs, may not engage in any form of discrimination as regards the reservation of unused space, hampering the efficiency of the use of spaces and, in some cases, implying that other OSPs are prevented from benefiting from the offer;
- (e) It is not reasonable to force PTC to incur in large investments to extend space so as to accommodate needs of OSPs in a very long term, or to enable an inefficient use of available space on the part of OSPs;
- (f) The situations where OSPs are prevented from extending in due time the capacity of their equipment call into question the swift development of the LLU, as OSPs are usually prevented from providing services for a certain period of time, and end users hold alternative operators responsible for the delay, thus harming their image and the development of competition;
- (g) Operators must supply demand forecasts of engaged services in the scope of the RUO, namely collocation needs, so as to allow PTC, in an effective and timely manner, to provide the necessary resources for the performance of the work involved and to overcome any constraints;
- (h) PTC must be granted a reasonable period of time to solve any constraints at the level of space or distribution frames, provided they result from planned situations;
- (i) A significant part of exchanges with alleged constraints at the level of DC power already operated, according to rules used by PTC itself, under a “power deficit” situation, which according to that company did not hinder the necessary

conditions for the normal functioning of services provided, namely at the level of continuity and quality;

- (j) The needs for DC power on the part of OSPs, in a given exchange, are gradual, as the use of broadband, and namely the number of unbundled loops, continues to increase in that exchange;
- (k) At a given time, power needs may not be proportional to the maximum power OSPs have declared to be consumed by their equipment in ordered but not yet equipped modules;
- (l) The consumption of PTC's equipment in an exchange is significantly higher than the consumption of OSP equipment, thus PTC is able to have a high degree of certainty as regards the consumption needs of DC power in that exchange;
- (m) The need for DC energy results not only from needs of OSPs who wish to be collocated or to extend the number of modules in PTC's exchange, but also from the expansion needs felt by PTC itself;
- (n) There will be an adverse effect on competition and the development of the Information Society if OSPs are subject to a period of 8 months to install equipment in a significant set of MDFs³⁴;
- (o) Between the date the constraint was identified and the date it was solved, PTC installed equipment for its own use or for the use of subsidiary companies in some MDFs;
- (p) It is necessary to clarify and systematize the mechanism, roughly provided for in the RUO, through which PTC meets forecasts of OSPs and OSPs reply to budgets presented by PTC, in this last case without prejudice to OSPs being entitled to request the intervention of ICP-ANACOM in situations where they deem the amount excessive and/or unjustified;
- (q) The existence of constraints leads to the need to budget and to establish deadlines for the resolution of the problem and to set mechanisms to allocate costs, and an increased transparency in the information provided by PTC to RUO beneficiaries should be required,

Taking into account comments received and grounds for the decision in the "Report on the prior hearing concerning the draft decision on collocation procedures", which is an integral part hereof, the Board of Directors of ICP-ANACOM, in the scope of assignments provided for in points b), e) and f) of article 6 of the Statutes, approved by Decree-Law no. 309/2001, of 7 December, and pursuant to point a) of paragraph 3 of article 68 of Law no. 5/2004, and in the exercise of responsibilities laid down in points b)

³⁴ In one extreme case, the OSP had to wait for twelve months.

and g) of article 9 of the Statutes, and to implement measures determined following the assessment of the unbundled access wholesale market, hereby determines as follows:

1. PTC must alter the RUO within one month, in compliance with the following:

- (a) PTC shall not refuse any collocation or module extension requests from an OSP by alleging constraints at the level of DC power systems, provided that this OSP has supplied PTC with demand forecasts within established deadlines and conditions.
- (b) PTC is responsible for measuring power needs in exchanges, and is entitled optionally, in case OSPs have not installed DC reading meters in collocation spaces, to measure for this purpose the effective consumption, by installing DC reading meters or by applying isolated measures, passing on the costs to OSPs in any event, establishing a cost-orientated price.
- (c) In case PTC deems it necessary to extend the DC system, and taking into account the provision in point (a), it may do so – informing OSPs of this fact (as well as of the respective budget and respective performance deadline) without refusing collocation requests, except for special situations which must be duly substantiated on a case-by-case basis. The allocation of costs with DC power supply systems shall be calculated based on the proportion of additional space rented to or occupied by all operators who benefit from this intervention (including companies of the PT Group) within one year from the extension. For this purpose, PTC shall be in possession of plans of the exchange, with the identification of spaces occupied at the date the power system was installed and further updates (within a one-year period).
- (d) PTC shall accept the installation of “half-modules”, which are smaller spaces with cost-orientated prices, which should be duly justified to ICP-ANACOM, thus maximizing the use of the available space in situations of serious scarcity of resources, and all refusals shall be duly justified to ICP-ANACOM:
 - as regards a multifunctional 60cmx60cm rack;
 - as regards a multifunctional 30cmx60cm rack.
- (e) The total number of blocks in the distribution frame – the ones that already exist and the ones to be ordered – shall not exceed that of the total effective capacity of modules already installed and/or ordered.
- (f) In case of lack of available space to accommodate collocation requests from an OSP, modules and/or blocks supplied for more than six months and which are not in effective or minimally efficient use, shall be deemed

free to accommodate, to the extent strictly necessary, the referred collocation requests³⁵.

In case there is deactivated equipment in the collocation space, the OSP that installed is responsible for its removal – this must take place within 15 working days (after that, PTC is responsible for this task) – as well as for any costs incurred by PTC with the uninstallation of services previously installed (and with the removal of OSP equipment, in case the OSP does not deal with this issue within the established deadline). These cases shall be assessed by ICP-ANACOM, upon request from the OSP to whom the collocation request was refused and who does not hold any unused spaces.

The six-month period of time shall run as from the date of publication of the final decision of this Authority.

The installation price charged by PTC to the new OSP shall be cost-orientated and lower than the price of an initial installation.

- (g) In case there is more than one OSP in the conditions provided for in the preceding point, that is, with free space for future requests from remaining OSPs, space shall be allocated based on the order it was supplied by PTC, equipment installed earlier being removed first.
- (h) In case it is clearly necessary to extend or remodel the space in the room or main distribution frame, the respective costs shall be allocated by all operators who benefit from this incremental intervention, costs being passed on to other companies on the proportion of space occupied by operators who benefit from this intervention (including companies of the PT Group) within one year from the extension. For this purpose, PTC shall be in possession of plans of the exchange, with the identification of spaces occupied at the date the power system was installed and further updates (within a one-year period).
- (i) Until the last day of the first quarter of N six-month period, each OSP shall provide PTC with a demand forecast plan concerning N+1 and N+2 six-month periods, indicating PTC's exchange areas for which the OSP expects to request the following offers (the respective order of priority must be included):
 - Unbundled access to the local coop, identifying the amount of local loops in the modalities of shared and full access;
 - Signal transport, as well as the respective modalities;

³⁵ This rule applies to free modules and blocks that exceed one and four units, respectively.

- Physical collocation, as well as the respective modalities, the amount of modules, of cables for connection to the main distribution frame and blocks and estimated consumption of DC power,

Requests should be broken down according to the respective PTC exchange area.

Forecasts for N+2 six-month period are merely indicative and shall be compulsorily reviewed up to the last day of the first quarter of the following six-month period (N+1).

- (j) Up to the last day of the first month of the second quarter of N six-month period:
 - PTC shall prepare a prior assessment of the impact of OSP forecasts, identifying likely constraints and respective solutions. Where constraints are identified, it shall send OSPs a detailed budget for analysis, with a copy to ICP-ANACOM, identifying the deadline for resolution of constraints;
 - Operators who benefit from the RUO shall submit to ICP-ANACOM, for all exchanges where they are collocated, information on:
 - Number of engaged modules;
 - Number of engaged distribution frame blocks;
 - Date of reception from PTC of information on the conclusion of the order for module/block;
 - Whether modules have connected /installed power;
 - Whether modules have installed equipment and of what type it is (for example, DSLAM/HDF/ SDH/ONU)
 - Whether modules have installed/functioning equipment; and
 - Maximum capacity of ONUs/DSLAMs (in accesses).
- (k) In a situation where constraints are identified, each OSP shall assess, within at the most fifteen working days from the date the budget from PTC is received, whether it accepts the proposed budget – thus incurring in the cost of solving constraints and being entitled to place the collocation order subsequently– otherwise it is subject to PTC’s best efforts to ensure that any subsequent order is met.
- (l) At any moment, an OSP is entitled to place an order for collocation services, even if no forecasts have been provided, being subject to PTC’s best efforts to meet it.
- (m) PTC should deem a collocation viability request for a given exchange as a full expression of interest from the OSP:

- if collocation is entirely impossible, PTC must submit grounds for refusing the request, and the request shall be deemed void, where the impossibility is duly evidenced;
 - of constraints may be solved, PTC must submit to the OSP a budget (together with a deadline forecast) to deal with the constraint, and the request shall remain in a pending state until a reply on the budget is provided by the OSP, which should take place within 15 working days.
- (n) PTC shall maintain an up-to-date list, for information to OSPs, on:
- exchanges with identified but not overcome constraints, as no budgets were approved by at least one OSP or as the respective resolution is not viable (specifying the relevant situation);
 - Exchanges with constraints that are currently being solved by PTC, identifying (i) the number of eligible operators for cost allocation, (ii) prepared budget and (iii) deadline for resolution;
 - Exchanges where constraints have been solved, but where the period of one year during which beneficiaries are eligible for allocation of costs of constraint resolution has not elapsed, identifying the number of operators who are involved in the constraint resolution, the budget and the deadline.
- (o) Within the scope of the mechanism of allocation of costs with the constraint resolution, and after it has taken place, PTC shall:
- submit to OSPs a bill of the performed intervention, identifying the number of entities among whom the respective cost shall be originally allocated (according to the above rule);
 - notify, within at the most fifteen days, any alteration concerning the referred number of entities, and
 - consequently, include in the bill of the month following the alteration, a credit for the amount to be received by (the) OSP comprised by the alteration.
- (p) PTC must inform ICP-ANACOM, together with the reply from the OSP, whenever it alleges that a collocation application is not viable or has constraints.

2. To submit to the prior hearing of interested parties, pursuant to articles 100 and 101 of the Code of Administrative Procedure, the following determination, a maximum time limit of 10 working days being set for interested parties to assess the issue in writing:

PTC shall alter the RUO within 10 working days, taking the following into consideration:

- (a) Each new module shall be supplied with at the most 2 50A protected lines, the distribution of power within a module being incumbent on the operator.
- (b) The procedure for resolution of faults in loops, as a result of failure in internal cables or in HDF:
 - Each operator shall reserve, for each module or associated group of modules, in a given exchange, a block of 50 or 100 pairs, and corresponding HDF positions, which shall be used only in case of faults;
 - In this situation, these positions in the distribution frame may be freely used only in case of a failure of a pair, in a distribution frame cable or terminals, the operator being requested to indicate the new HDF position to be used.