



Network Termination Points

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1.0 Introduction

The electronic communications industry and in particular, the Internet enables an enormous range of activities which impact on many aspects of life and work in Gibraltar and elsewhere. Many consider that its successful and widespread deployment is essential to economic and social welfare, not just for individuals and businesses but for Gibraltar as a whole.

Communications services are delivered using communications networks, whether copper (PSTN), fibre, cable television networks, or radio of various kinds including WiMax, mobile, satellite or digital television broadcasting. Around the world, it is widely established that these services are a dominant source of revenue for network operators.

The electronic communications sector in Gibraltar continues to grow at an extremely fast pace and is playing a critical role in many areas of economic development. The Gibraltar Regulatory Authority ("The Authority") regulates the communications networks through which these services are provided.

Competing operators are currently extending their networks into housing estates where telephony and internet services are provided to the end customer. All this requires is a standard twisted copper pair cable or fibre extending from a fixed point, usually the basement to each and every residence in the building. This type of infrastructure is currently being used by the incumbent operator, Gibtelecom and spans every residence that subscribes to its service. With the rollout of new networks, alternative operators also wish to provide Internet services to residential customers either by deploying their own in-building infrastructure where it is feasible and space is available or by using the existing in-building wiring via an agreed network termination point.

The Universal Service Directive 2002/22/EC states that,

"The network termination point represents a boundary for regulatory purposes between the regulatory framework for electronic communication networks and services and the regulation of telecommunication terminal equipment. Defining the location of the network termination point is the responsibility of the national regulatory authority, where necessary on the basis of a proposal by the relevant undertakings".

In the Communications Act 2006, Network Termination Point (NTP) is defined as,

"the physical point at which a subscriber is provided with access to a public electronic communications network and, where it concerns electronic communications networks involving switching or routing, that physical point is identified by means of a specific network address, which may be linked to the subscriber's telephone number or name".

Additionally, under the provisions of Regulation 6(1) of the Communications Access Regulations 2006,

“The Authority shall, having regard to these Regulations and to its objectives as set out in section 19 of the Act, encourage and, where appropriate, ensure adequate access, interconnection and interoperability of services in such a way as to secure–

(a) efficiency on the part of persons operating in electronic communications markets;

(b) sustainable competition between such persons; and

(c) the greatest possible benefit for end-users of public electronic communications services”.

The Authority welcomes comments from all interested parties on the questions posed in this public consultation (a full list of questions is set out in Annex B) and will accept written comments up until 4pm on 8th May 2008.

In order to promote further openness and transparency, the Authority will publish the names of all respondents and their responses on its website and will also make available for inspection responses to the consultation at its offices. Please note that this is subject to confidentiality. Respondents are asked to clearly identify material which is to be treated as confidential.

2.0 Types of market players

The electronic communications market may, from a network perspective, be usefully segmented into a number of markets. As well as Internet service providers (ISPs) and communications companies themselves, the following groups need access to bandwidth:

□ Major telephony and IP bandwidth consumers

Companies involved in the major developments in telephony, web-hosting, data centres and application service providers of recent years need considerable bi-directional capacity from their bases in Gibraltar to customers and international locations. They need resilient networks, choice in supplier, rapid, guaranteed capacity delivery, and very competitive pricing. Closely related to this in terms of communications network needs are large corporate customers (generally multinationals) who send and receive large volumes of data on their own internal Intranets or engage in e-business with customers or suppliers.

□ The other business market

Small businesses right up to larger less technically focused companies require telephony and even leased bandwidth capacity, although on a smaller scale to large consumers. They too need resilience, choice in supplier, certain and rapid delivery and competitive pricing. For this group, less advanced telephony services and lower capacity ADSL provided by the incumbent is usually sufficient in meeting customer needs.

□ Residential market

The needs of these customers are at the lower end in terms of capacity as compared to other business users. These users are more likely to use basic telephony services, ADSL services or even dial-up access over a fixed line.

2.1 Role of the Authority

The Authority is aware that the technical and commercial models that support the delivery of communications services are still evolving. Capacity considerations are becoming increasingly important as the major businesses need enormous bandwidth and even small businesses need to upgrade as they expand their dependence on communications services. Quality expectations are increasing and some residential users may be looking for faster Internet access especially when using video based applications.

The Authority is responsible for regulating, supervising and enforcing compliance with conditions applicable to communications services provided over communications networks. With regards to commercial negotiation between telecommunications companies, the Authority has rights and obligations to intervene both of its own initiative, or following, for example, a formal dispute raised by an operator against another.

The Authority has no role in some important aspects of Internet service provision, for example, in relation to content provision. Nevertheless, the Authority can facilitate the development of the market by, for example, authorising competing operators, developing frameworks for different technologies suited to internet delivery (such as WiMax, LLU), pricing of interconnect services and the delivery of facilities against agreed service levels.

The Authority believes that its role is not to prescribe technical or commercial models for the delivery of communications services, but to facilitate the competitive provision of services by addressing actual or potential market failures.

Question 1: Do you see the need for the Authority to define the network termination point? Please give reasons for your answer.

3.0 Types of access

Competitive bottlenecks exist if there is competition in one market (competition for subscribers), but a monopoly position in a related market (providing access to these subscribers).

With one-way access the incumbent holds a monopoly on an input that is vital to the entrant while the incumbent needs nothing from the entrant. If the incumbent is vertically integrated, and thus competes directly with the entrant on the consumer market it has additional incentives to limit access to its network to its (retail) competitors. The entrants do not have the power to negotiate access at reasonable tariffs. The incumbent therefore has a stimulus to apply high access tariffs or to withhold access to entrants altogether. This means a continuation of the incumbent's market power.

One-way access is especially important when competition is just starting, because competitors then do not have (sufficient) infrastructure and therefore have no access to their own users. One-way access is characterised by an extremely asymmetrical position between incumbent and entrants. Regulation serves to safeguard access to the incumbent's network under reasonable conditions. With two-way access, all market parties must purchase an essential input, i.e. access to the competitor's subscribers, from one another. This, therefore, relates to parties that both have users connected to their own infrastructure. Market parties can negotiate access and access tariffs between themselves. The market parties compete for the same customers, giving them an incentive to keep the prices they charge other parties within reasonable limits. However, if the market is not mature small entrants should be protected from high access tariffs charged by the incumbent. Asymmetrical regulatory measures can be defended in such situations.

3.1 The Concept of Interconnection

A fixed carrier's network is generally divided into the customer access network part and the backbone network part. A customer access network part is the "last mile" of a fixed network, running from local telephone exchanges of the network to customer premises, while the backbone network part comprises the other parts of the network.

Interconnection to a fixed carrier's network occurs at the customer access network level. Through the interconnection, the party requesting the interconnection can use the customer access network of that fixed carrier to provide a service. Three forms of interconnection are available at present: (See Annex A, Figure 1.0)

(a) Interconnection applicable to telephone exchanges – interconnection made at the telephone exchanges such that the party requesting the interconnection may use customer access network starting from the telephone exchanges to customer premises;

(b) Interconnection applicable to a distribution point on public streets – interconnection made at a distribution point on public streets, such that the party requesting the interconnection may use the customer access network starting from that distribution point to customer premises. Such distribution points are usually located between telephone exchanges and customer premises; and

(c) Interconnection applicable to in-building wiring systems – interconnection made at the in-building wiring system in individual buildings, such that the party requesting the interconnection may use the in-building wiring system within that building.

Although all three forms of interconnection are available, in this consultation we shall only be dealing with in-building interconnection, point (c). For this type of arrangement there exists a need from the owners of the in-building wiring systems to lease their infrastructure to operators offering competing services.

Question 2: Do you agree with the three types of interconnection as mentioned above? Are there any other forms of interconnection available?

3.2 In-building Interconnection

In-building interconnection is a regulatory measure requiring a fixed carrier, normally an incumbent who enjoyed a monopolistic position before market liberalisation, to open up its copper-based customer access network to its competitors at the “last mile”. This regulatory tool is widely deployed in the world to facilitate market entry, speed up market competition, enable early realisation of consumer benefits, and avoid wasteful duplication in network investment.

Although every local fixed network operator has a statutory right to install wiring systems in the common parts of buildings to serve the residents, there are mostly one to two copper wiring systems inside buildings. Apart from commercial considerations, there are physical constraints imposed by the limited number and sizes of conduits leading into individual units in the buildings. Generally, there is only one set of such conduits for telecommunications wiring. If the buildings have been occupied, it would be very difficult to install additional sets or enlarge existing ones without disturbing internal decorations and causing nuisance to the residents. As a result, the wiring leading into individual units become “bottlenecks”.

Many problems may arise which are related to wiring for access to individual units. In some instances, residents cannot access the service of a network operator even though that operator has laid copper or fibre to the building, because the operator could not gain access to the in-building wiring system. On other occasions, improper means could be employed in an attempt to install additional access wiring, e.g. damaging the wiring already in the conduits in the course of installation.

If the network operator owning the wiring for access into a consumer's flat should have absolute advantage in serving that consumer, the consumer's choice would certainly be restricted. Commercial agreements among operators for the mutual leasing of in-building wiring are therefore vital for business and residential customers to reap the benefits of high quality services at competitive prices.

A pre-requisite for effective competition is that service providers are able to reach the customers so that they can freely choose the services that suit their needs. Bottleneck facilities should therefore not be accessible to a single operator only as they should not expect that “owning the access wiring means owning the customer”.

Question 3: Do you agree that access to in-building wiring should be available to any operator that requests access? Please give reasons for your answer.

Question 4: Have you encountered any problems with in-building interconnection? If so, please explain what the issues are and suggest how they can be resolved.

4.0 Availability of Network Termination Points (NTP)

The Authority considers that the incumbent's in-building wiring has the characteristics of an essential facility and that their access must be guaranteed on non discriminatory terms and conditions to competitors. Therefore, the block-wiring provider, when being the only existing provider in a new building, and/or the building developer is to provide sufficient block-wiring capacities to meet the requirement of all local fixed carriers in the same building within a reasonable period from the issue of the occupation permit.

In buildings where there only exists one set of copper wiring infrastructure, the NTP should be placed in a suitable location, for example in the basement of a building, from where potential customers are easily accessible. The block-wiring provider, upon receiving a request from another operator, must provide access to all or part of its infrastructure under a commercial agreement negotiated by all parties involved.

In a multi-occupancy building each operator may have their own NTP or equivalent and customers are free to request a transfer to an alternative operator. In practice, the NTPs should be positioned in a way which provides convenient access to staff from all operators which own or lease all or parts of the in-building wiring systems. All equipment belonging to operators must be clearly identifiable with a clear delineation point between them.

If all the existing facilities for interconnection are exhausted, the requesting operator may negotiate in good faith with the building developer and or the block-wiring provider, installation works for additional infrastructure. All parties involved shall endeavour to satisfy such a requirement of the requesting operator.

Question 5: Do you agree that installation works for additional infrastructure should be carried out if all existing facilities for in-building interconnection are exhausted? Please give reasons for your answer.

5.0 Commercial Negotiation and Determination

It is the Authority's view that there may exist two types of agreement when dealing with these interconnection issues and access to the Network Termination Points.

□ Example of Agreement 1

In this type of agreement the in-building cabling infrastructure is solely owned by the building developer and it is free to negotiate the terms and conditions including charges for interconnection on a commercial basis with all parties involved.

□ Example of Agreement 2

In this type of agreement one operator owns the in-building cabling infrastructure and leases all or part of this infrastructure to another operator under the terms of the Reference Unbundling Offer (RUO). Alternative operators gain indirect access to customers under this arrangement as they interconnect at point C and provide services over another operator's network at the "last mile". (See Annex A, figure 1.0.)

Please note that the RUO is currently under review and its terms and conditions including prices contained in it may change. It is the Authority's view that the current upfront charge as stipulated in the RUO would not apply to Agreement 2 as the co-location room for e.g. building basement where NTPs are located, would not be owned by any operator, the equipment needed by operators is minimal and the alternative operator would only be leasing a minor part of the other operator's network.

As with all agreements, if no commercial arrangement can be reached between the parties concerned, the Authority may intervene and if necessary issue a direction. In case there is any dispute, they may also seek assistance from the Authority for dispute resolution.

However, the Authority, does not consider it necessary to intervene unless the requesting operator cannot reasonably acquire necessary block-wiring facilities from any block-wiring provider, or is unreasonably rejected by, or after a reasonable period of negotiations, fails to reach a commercial agreement with all block-wiring providers, in respect of those buildings.

Question 6: What are your views of the two types of agreements mentioned above?

Question 7: If you have any other issues or additional comments which you would like to raise, please do so under this section.

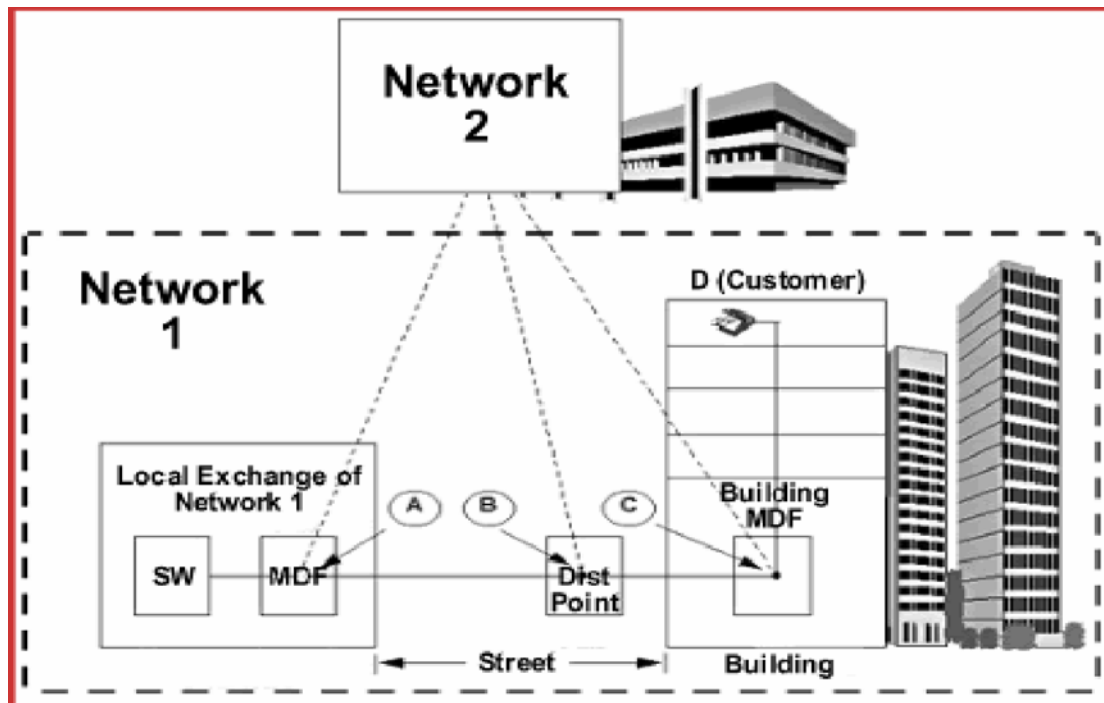
Annex A

Block-wiring is defined as the wiring system inside the building or inter-linking clusters of buildings within a building complex.

Interconnection takes place at "A" on the customer side of the main distribution frame at the local exchange, or at "B" the street level distribution point, or at "C" the customers' premises main distribution frame.

Interconnection at Point C is the arrangement for a local fixed carrier to reach a customer via the block-wiring or part of the block-wiring of another local fixed carrier.

Figure 1.0



Annex B

Summary of Consultation Questions

The Authority recognises that the electronic communications sector is entering a new more mature stage of its development and wishes to understand how interested parties consider the market will or should develop with particular attention to the access of Network Termination Points.

Question 1: Do you see the need for the Authority to define the network termination point? Please give reasons for your answer.

Question 2: Do you agree with the three types of interconnection as mentioned above? Are there any other forms of interconnection available?

Question 3: Do you agree that access to in-building wiring should be available to any operator that requests access? Please give reasons for your answer.

Question 4: Have you encountered any problems with in-building interconnection? If so, please explain what the issues are and suggest how they can be resolved.

Question 5: Do you agree that installation works for additional infrastructure should be carried out if all existing facilities for in-building interconnection are exhausted? Please give reasons for your answer.

Question 6: What are your views of the two types of agreements mentioned above?

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