

Economic & Financial Terms of Interconnection

ACCESS & INTERCONNECTION

The concepts of access and interconnection are central to any understanding of the telecommunications services provided by multiple suppliers, yet they are often used without any attempt to distinguish between them or to understand the different purposes that they serve.

In this paper, the terms *access* and *interconnection* are used for quite specific purposes. *Access* is used in the context of access to services for economic or competitive purposes. *Interconnection* is used in the context of interconnection of networks to achieve connectivity between those networks; it is concerned with enabling any user on one network to connect to any user on any other network and has minimal competitive significance. The use of these two terms is quite arbitrary.

Interconnection is necessary to increase the population of accessible destinations and thereby to improve the utility of the service to consumers. It is necessary wherever there is more than one network providing the same, or a similar, service. It is not associated with competition in a market between the owners of those networks. For example, the telecommunications networks in two adjacent sovereign states, each owned by a separate monopoly carrier, would still have to be interconnected to ensure that calls could be made between the customers on each network.

While competition in telecommunications is a relatively recent phenomenon, work on the interconnection of networks, usually at the international level, has been in place for more than a century through organizations like the ITU and its predecessors, and similar regional bodies. The introduction of competition for telecommunications services means that interconnection often now take place between networks which compete for customers in the same geographic area.

The traffic resulting from the interconnection of two telecommunications networks also has quite different characteristics from the traffic generated by the provision of access. Except where there are significant market distortions, the traffic between the two networks will generally be symmetrical with the same volume of traffic in each direction.

This symmetrical* flow of traffic between the networks tends to balance the charges for each carrier's traffic and hence, the carriers will be much less sensitive to the level of the interconnection rates imposed by each carrier. By contrast, the traffic generated by the provision of access is normally highly asymmetrical and the rates charged for handling this type of traffic are usually extremely contentious.

This is not to say that competitive issues do not arise with interconnection. When two or more carriers compete in the same geographic market, consideration obviously has to be given to the relative market power of each competitor. A small new network which is not

* The traffic will not always be symmetrical. Traffic between a carrier and an internet service provider may be entirely in one direction. This can create disputes about interconnect charges and whether the arrangement should be treated as interconnection between carriers or as a service provider/customer relationship.

interconnected with a much larger incumbent network is likely to fail in the market. The incumbent is under no such pressure and may have an incentive to avoid interconnection for that reason. Furthermore, this effect is related to the market power of the incumbent carrier (essentially measured by its market share of local access services) and does not diminish with increases in the level of competition in the market for access services or with the deployment of competing infrastructure.

The only thing that is likely to diminish the power of an incumbent local access carrier over interconnection is a loss of market share which, in the absence of regulatory intervention, will rebalance the negotiating power of the parties. The mere existence of a competitive market for local access services alone is not sufficient to achieve this.

However, once interconnection has been provided to one new competitor, further new carriers can interconnect with the first new carrier, which would normally want to improve its market position through increased volumes, and the incumbent carrier loses much of its market power.

The symmetrical nature of the traffic also creates an expectation that the charges should also be symmetrical. Although this expectation is not entirely justified, it makes any attempt to misuse market power, through the application of highly asymmetrical charges, much more visible.

The need for interconnection is closely associated with use of the number spectrum. These numbers represent the unique addresses for each service on the network. Irrespective of the availability of number portability, each number can, at any given time, have only one location. While it is possible for competitors to provide competing direct connections on which customers can originate calls, there is generally only one location on which an incoming call can be terminated. It is therefore necessary that any interconnection obligations apply to those who have been allocated part of the national number spectrum. In general, this will mean carriers and service providers, but as number allocations can also be made directly to consumers or end-users, either directly or effectively through the provision of number portability, the interconnection obligations should apply more broadly. By way of contrast, access requires the ownership of infrastructure and access obligations would apply to a much smaller group.

There are therefore two distinct reasons for regulatory intervention in the telecommunications industry: to provide for call completion to maintain the connectivity of the overall network; and to promote competition in a market through the provision of access to services which cannot be economically replicated. The first is fundamental to the telecommunications industry and has been achieved by the industry, with little regulatory intervention, for more than a century. The second arises from the more modern phenomenon of competition in telecommunications markets.

Access and interconnection, while superficially similar, represent two very different concepts in telecommunications. In an environment where interconnection is the only consideration, access would not be mandated.

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