Photo Credit



Telecommunications tower

Network / Service Separation / Network or Facilities Access

Download Chatbot

A brief snapshot of the approaches to network / service separation taken by a selection of countries is provided below.

Historically, telecommunications infrastructure and services in many countries have been operated by a state-owned or state-regulated monopoly. This situation reflected the significant capital investment required and the consequent high barriers to entry, as well as the strategic importance of telecommunications networks to the economic development and security of a country.

Despite many countries privatizing the state-owned telecommunications monopoly and encouraging competition by liberalizing the industry, ownership of telecommunications networks is still highly concentrated in many markets and is usually characterized by a dominant player (often the former monopoly). Combined with the high level of vertical integration in the telecommunications sector, consumers are often restricted to a limited number of service providers.

In economies with fully-developed telecommunications infrastructure and near-universal connectivity, network / service separation regulations aim to increase competition and consumer choice by making telecommunications infrastructure available on a wholesale, non-discriminatory basis and restricting infrastructure operators from leveraging their significant market power in the infrastructure market to the retail market. The ultimate goal is to encourage competition at the retail level by ensuring that all service providers, regardless of ownership of telecommunications infrastructure, are able to obtain equal access to networks and other “bottleneck” infrastructure.

Network / service separation can be achieved in a number of different ways. In countries where the telecommunications industry is dominated by a major player, regulators may require that the company separate its infrastructure and retail arms. The extent of separation can range from accounting separation, on the least intrusive end of the spectrum, to full structural separation, with operational or functional separation lying in-between. For example, the European Electronic Communications Code incentivizes the voluntary separation of vertically integrated operators with significant market power by withdrawing certain network access obligations that would otherwise apply, and allows national regulators to compel the functional separation of vertically integrated entities in exceptional circumstances, where competition issues or market failures have not been resolved by existing access or interconnection obligations. Other countries have implemented network / service separation by introducing a new wholesale-only infrastructure player.

In markets where universal access has not yet been achieved and basic network connectivity remains the priority, network / service separation regulations may be less appropriate. In these situations, access to “bottleneck” infrastructure can be facilitated through mandatory interconnection requirements, allowing new networks to take advantage of existing infrastructure and driving down the capital cost of providing telecommunications services to previously unconnected regions and communities.

Australia

Network / service separation in fixed services is primarily achieved through the National Broadband Network ("NBN"), which is an open access, wholesale-only broadband network owned and operated by NBN Co, a wholly-owned Commonwealth company. Retail service providers are able to offer fixed-voice, broadband and other data services through the NBN network.

The Telecommunications Act 1997 (Cth) ("Act") contains a number of provisions designed to protect the NBN from competition and ensure that any new fixed-line networks built to compete with the NBN must also be offered as a wholesale-only service.

When the NBN was introduced, the Australian Government also ensured the financial viability of NBN Co through a Structural Separation Undertaking ("SSU") with Telstra, Australia's largest telecommunications company and the owner of much of Australia's legacy fixed-line networks prior to the NBN. Under the agreement, Telstra agreed to progressively cease offering fixed voice and broadband services through its own legacy fixed-line networks and migrate those services onto the NBN, effectively requiring Telstra's structural separation. When the NBN evolved into a multi-technology network, Telstra also agreed to transfer ownership of its copper and HFC networks to the NBN where it was necessary to use those networks to provide an NBN service. The SSU also imposes various equivalence and transparency measures on certain regulated fixed-line wholesale services supplied by Telstra, although these are currently due to expire in July 2020.

There are several other access regimes which apply in Australia, the key ones of which are listed below.

- Under the Competition and Consumer Act 2010 (Cth) ("CCA"), the Australian Competition and Consumer Commission ("ACCC") has the power to declare carriage services (or services that facilitate the supply of carriage services) as "declared services". If requested by an access seeker, both carriers and carriage service providers are required to provide wholesale access to the declared service and allow interconnection of facilities, subject to the access seeker satisfying certain terms and conditions of access and use. The access provider must also take reasonable steps to ensure service quality and fault handling is equivalent to that which the access provider provides to itself, and provide billing information to the access seeker. The ACCC may set default upfront price and non-price terms for access to declared services through access determinations or temporary binding rules of conduct under the CCA.
- All carriers must comply with the standard carrier license conditions set out in Schedule 1 of the Act. Among other things, the conditions require a carrier to provide another carrier with access to its facilities where the access is provided for the sole purpose of enabling the second carrier to provide competitive facilities and competitive carriage services, or to establish its own facilities. Carriers must also provide other carriers with access to their underground facilities, telecommunications towers and sites of towers in certain circumstances.
- The ACCC has published a Facilities Access Code which regulates how access to certain telecommunications facilities owned by carriers (e.g. mobile towers and underground ducts) is provided to other carriers seeking to install their equipment on or in those facilities.

Nepal

Nepal does not have a network / service separation regime, which reflects the developing nature of its telecommunications market. Instead, the regulatory focus is on facilitating the rollout of new networks and telecommunications services to previously unserved regions and communities through the interconnection regime under section 31 of the Telecommunications Act 2053 (1997), which prescribes non-discriminatory wholesale access to existing telecommunications networks.

Under the interconnection regime, telecommunications services licensees have a duty to provide other licensees with access to their networks to facilitate interconnection between networks. The regime is intended to ensure that telecommunications infrastructure is used in an economically efficient manner and is not

unnecessarily duplicated, while increasing the availability and quality of telecommunications services in Nepal by encouraging new entrants into the sector by reducing the capital investment required to build a new telecommunications network.

The Interconnection Guideline 2076 (2019) ("Guideline") establishes the policy objectives and the regulatory principles to be applied to the interconnection regime. The overarching purpose of the Guideline is to:

"establish and maintain fair competition between licensed network operators and service providers, prevent dominant operators with large market shares to delay or deny the new entrant's right to be connected to the existing operators and to make use of existing infrastructure to make services available and affordable for people and businesses throughout Nepal."

Under the Guideline, licensees are required to provide a minimum of 30 E1 channels to new licensees and must increase the national and international point of interconnection capacity if the utilization of the capacity is greater than 75%. If two licensees are unable to negotiate an Interconnection Agreement between themselves, the Nepal Telecommunications Authority may determine an Interconnection Agreement in accordance with the Guideline, which will be legally binding on the parties.

Importantly, licensees must ensure that interconnection is of at least the same technical standard and quality as that provided to the licensees' own facilities and services, and must provide interconnection on an equitable and non-discriminatory basis. Whether a service is provided on a non-discriminatory basis will be determined by comparing against the service that the licensee provides to itself or to any other party in a similar situation. Furthermore, a licensee may only charge cost-based fees for interconnection services, although the fee should include the cost of capital of the assets used and reflect the need for the licensee to earn a reasonable rate of return on investment.

United Kingdom

The telecommunications sector regulator, Ofcom, has sought to achieve network / service separation through a series of undertakings provided by BT, the former state telecommunications monopoly and the largest provider of fixed-line, broadband and mobile services in the UK.

Following Ofcom's 2005 Strategic Review of Telecommunications which highlighted concerns that BT's control of a significant proportion of the UK's wholesale network infrastructure prevented equality of access to bottleneck infrastructure, BT gave Ofcom an undertaking to functionally separate its infrastructure arm (including cables, ducts, cabinets and exchanges) into a separate division called Openreach. This arrangement was subsequently reviewed in 2016 through the Strategic Review of Digital Communications, which found that functional separation had not addressed BT's incentive to favor its own retail business when making strategic decisions about new network investments by Openreach. While Ofcom considered forcing BT to sell Openreach, Ofcom ultimately settled on the legal separation of Openreach into a subsidiary company with separate management and employees. Ofcom has also separately imposed a number of rules on Openreach, including rules that grant rival network operators unrestricted access to Openreach's ducts and poles to lay full-fiber networks and require Openreach to provide physical access to fiber-optic cables at exchanges where there are no rival networks present.

There are other network access regimes which apply in the UK. All providers of electronic communications networks and services must comply with the regulatory conditions contained in the General Conditions of Entitlement. Condition A1.2 requires all providers of "public electronic communications networks" to, on request, negotiate an interconnection agreement with another such provider within a reasonable period. Furthermore, the Communications Act 2003 gives Ofcom broad powers to make and impose binding access-related conditions which relate to the provision of network access and service interoperability. Ofcom also has the power to determine whether a network provider has significant market power in an identified services market and to impose certain conditions on that network provider relating to the provision of network access, the use of the network and the availability of network facilities.

Related Content

- **Telecommunications / Information & Communication Technology PPPs**
- **General Telecommunications Framework (by Country)**
- **Telecommunications Licensing (by Country)**
- **Telecommunications Universal Access / Universal Service**
- **Telecommunications Interconnection and Price Regulation**
- **Telecommunications Competition Policy**
- **Case Studies on PPP arrangements for Telecommunications**

Additional Resources

- Climate-Smart PPPs
- Public-Private Partnerships for Transport
- Selected World Bank Tools

Partner Resources



Renewable Energy Project Resource Centre (REPRC)

hosted by Energypedia

Wiki-based library of energy project resources. Includes sample terms of references, procurement documents, economic analyses and case studies (success factors and lessons learned).

Disclaimer: *The resources on this site is usually managed by third party websites. The World Bank does not take responsibility for the accuracy, completeness, or quality of the information provided, or for any broken links or moved resources. Any changes in the underlying website or link may result in changes to the analysis*

and recommendations set forth on the Public-Private Partnership Resource Center. *The inclusion of documents on this website should not be construed as either a commitment to provide financing or an endorsement by the World Bank of the quality of the document or project. If you have any comments on any of the links provided on the* Public-Private Partnership Resource Center, *please get in touch here*