

Consultation Paper No. 21/2019



Telecom Regulatory Authority of India



Pre-Consultation Paper

on

Enabling Unbundling of Different Layers Through Differential Licensing

9th December 2019

**Mahanagar Doorsanchar Bhawan
Jawahar Lal Nehru Marg,
New Delhi- 110002**

Written Comments on the Pre-Consultation Paper are invited from the stakeholders by 6th January 2020, which will be posted on TRAI's website www.trai.gov.in. The comments may be sent, preferably in electronic form, to Shri Syed Tausif Abbas, Advisor (Networks, Spectrum and Licensing), TRAI on the email ID advmn@traigov.in. For any clarification/information, he may be contacted at Telephone No. +91-11-23210481.

Pre-Consultation Paper on Enabling Unbundling of Different Layers Through Differential Licensing

A. DoT Reference

1. DoT through its letter No. 20-281/2010-AS-I Vol.XII (pt) dated 8th May 2019 (**Annexure-I**), inter-alia, informed that the National Digital Communications Policy (NDCP) 2018, under its 'Propel India' mission, envisages one of the strategies as 'Reforming the licensing and regulatory regime to catalyse Investments and Innovation and promote Ease of Doing Business'. Enabling unbundling of different layers (e.g. infrastructure, network, services and application layer) through differential licensing is one of the action plans for fulfilling the afore-mentioned strategy. Through the said letter dated 8th May 2019, DoT has, inter-alia, requested TRAI to furnish recommendations on enabling unbundling of different layers through differential licensing, under the terms of the clause (a) of sub-section (1) of Section 11 of the Telecom Regulatory Authority of India Act, 1997 (as amended) by TRAI Amendment Act, 2000.

B. Background

2. The Indian Telegraph Act, 1885 defines "Telegraph" as under:

"Telegraph" means any appliance, instrument, material or apparatus used or capable of use for transmission or reception of signs, signals, writing, images and sounds or intelligence of any nature by wire, visual or other electro-magnetic emissions, Radio waves or Hertzian waves, galvanic, electric or magnetic means.
3. Section 4 of the Indian Telegraph Act, 1885 provides exclusive privilege to the Central Government in respect of telegraphs and power to grant licenses. The relevant portion of the section 4 is reproduced below:

“4. Exclusive privilege in respect of telegraphs, and power to grant licenses.

(1) Within [India], the Central Government shall have exclusive privilege of establishing, maintaining and working telegraphs: Provided that the Central Government may grant a license, on such conditions and in consideration of such payments as it thinks fit, to any person to establish, maintain or work a telegraph within any part of [India]:

Provided further that the Central Government may, by rules made under this Act and published in the Official Gazette, permit, subject to such restrictions and conditions as it thinks fit, the establishment, maintenance and working-

(a) of wireless telegraphs on ships within Indian territorial waters [and on aircraft within or above [India], or Indian territorial waters], and

(b) of telegraphs other than wireless telegraphs within any part of [India].

...

(2) The Central Government may, by notification in the Official Gazette, delegate to the telegraph authority all or any of its powers under the first proviso to sub-section (1). The exercise by the telegraph authority of any power so delegated shall be subject to such restrictions and conditions as the Central Government may, by the notification, think fit to impose.

....”

4. Indian Telecom Sector was liberalised in 1994. Since then, several licenses have been issued for provision of different services. Considering the market and technological developments, the licensing

regime has evolved with the passage of time. Next section discusses the existing licensing framework.

C. Existing Licensing Framework

5. As per the existing telecom licensing framework in India (introduced in the year 2013), an Indian Company after fulfilling the eligibility criteria can apply for Unified Licence (UL) and it can take the desired authorizations permitted under UL. Only one Unified License is required for all telecom services in the entire country. List of various authorizations available are given below:

- a) Unified Licence (All Services)
- b) Access Service (Service Area-wise)
- c) Internet Service (Category – A with All India jurisdiction)
- d) Internet Service (Category – B with jurisdiction in a Service Area)
- e) Internet Service (Category – C with jurisdiction in a Secondary Switching Area)
- f) National Long Distance (NLD) Service
- g) International Long Distance (ILD) Service
- h) Global Mobile Personal Communication by Satellite (GMPCS) Service
- i) Public Mobile Radio Trunking Service (PMRTS)
- j) Very Small Aperture Terminal (VSAT) Closed User Group (CUG) Service
- k) INSAT Mobile Satellite System-Reporting (MSS-R) Service
- l) Resale of International private Leased Circuit (IPLC) Service

Authorization for Unified License (All Services) would however cover all services listed at para (b) in all the service areas, (c), (f) to (l) above.

6. One of the strategies under National Telecom Policy (NTP) 2012 was to move towards Unified Licence regime in order to exploit the attendant benefits of convergence, spectrum liberalisation and facilitate delinking of the licensing of Networks from the delivery of Services to the end users in order to enable operators to optimally and efficiently utilise their networks and spectrum by sharing active and passive infrastructure.
7. While introducing the UL regime (in its first phase) in the year 2013, DoT decided that this regime may be introduced over two phases with the delinking of licensing for networks from the delivery of services in a second phase. In convergence era, same network can provide various services which are independent of network layer, that means, the delivery of services can be provided by one operator and network may be owned by a distinct operator.
8. In the year 2016, VNOs (Virtual Network Operators) were permitted in India. Thus, in addition to UL, there is another category of licence called Unified License (Virtual Network Operators) [UL (VNO)]. UL(VNO) is a regime parallel to UL. It offers all the authorisations as available in UL. In addition, it offers an authorisation for 'Access Services Category B', wherein the service area is a District of a State/Union Territory.
9. VNOs are Service Delivery Operators (SDOs) treated as an extension of network service operators (NSOs), who do not own the underlying core network(s) i.e. VNOs are not allowed to install equipment interconnecting with the network of other NSOs. No spectrum is assigned to VNOs. Parenting with only one NSO is permitted for access services. VNOs can provide any or all telecom services which are being provided by the existing telecom service providers. VNOs not only help in maintaining the level of competition, but also make way for innovative services in niche, unserved areas; facilitate effective and efficient utilisation of the infrastructure/resources created by existing Telecom Service Providers (TSPs); encourage local entrepreneur with

small investment for providing various services to a number of villages in few blocks or District by becoming a VNO.

10. In addition to the UL and UL(VNO), a company registered as Infrastructure Provider-I (IP-I) with DoT is permitted to lay telecommunication infrastructure. The existing framework for regulating the telecom infrastructure providers in India is prescribed in the guidelines for 'Registration of Infrastructure Provider Category-I' issued by DoT. As per these Guidelines, IP-I can provide assets such as Dark fibers, Right of Way, Duct space, and Towers on lease/rent out/sale basis to the licensees of telecom services on mutually agreed terms and conditions. In the year 2009, the scope of IP category-I registration was enhanced to cover the active infrastructure limited to antenna, feeder cable, Node B, Radio Access Network (RAN) and transmission system for and on behalf of Unified Access Service Licence (UASL)/ Cellular Mobile Service Provider (CMSP) licensees. However, IP-1 providers are not permitted to own and share active infrastructure i.e. these elements should be owned by the TSPs (companies who have been issued license under Section 4 of Telegraph Act, 1885).
11. To enhance the scope of infrastructure provider, TRAI has already floated a consultation paper on 'Review of Scope of Infrastructure Providers Category-I (IP-I) Registration' on 16th August 2019.
12. To achieve the objectives of NDCP, 2018, infrastructure is one of the key areas, wherein sharing amongst the TSPs needs to be promoted. Therefore, reform of telecommunication license regime would cover all the forms of licence/permission granted by the Central Government for provision of telegraph activity.

D. Need for unbundling of different layers of License

13. The NDCP 2018, released by the Government of India in 2018, seeks to unlock the transformative power of digital communications

networks to achieve the goal of digital empowerment and improved well-being of the people of India.

14. Improvement in regulation and ongoing structural reforms are the pillars of a sound policy initiative. Regulatory reform is not a one-off effort, but a dynamic, long-term and multidisciplinary process. The NDCP 2018 recognises the importance of continued improvement in the regulatory framework for attracting investments and ensuring fair competition, to serve the needs of Indian citizens. Given the sector's capital-intensive nature, the Policy aims to attract long-term, high quality and sustainable investments. To serve this objective, the Policy further aims to pursue regulatory reforms to ensure that the regulatory structures and processes remain relevant, transparent, accountable and forward-looking. Additionally, the Policy aims to remove regulatory barriers and reduce the regulatory burden that hampers investments, innovation and consumer interest. The Policy also identifies steps to strengthen the sector's institutional mechanism and legislative framework, to ensure that India's economy and citizens can derive the full potential of its digital communications sector.
15. One of the missions under NDCP 2018 is 'Propel India', which envisages enabling Next Generation Technologies and Services through Investments, Innovations and IPR Generation. This is to harness the power of emerging digital technologies, including 5G, Artificial Intelligence (AI), Internet of things (IoT), Cloud and Big Data to enable provision of future ready products and services; and to catalyse the fourth Industrial revolution (Industry 4.0) by promoting Investments, Innovations and IPR.
16. The NDCP 2018 under the mission 'Propel India', inter-alia, mentions that *'the recent past has witnessed an unprecedented transformation in the Digital Communications Infrastructure and Services sector with the emergence of new technologies, services, business models and players. There is, hence, an imperative need to review the existing*

licensing, regulatory and resource allocation frameworks to incentivize investments and innovation to optimise new technology deployments and harness their benefits. It envisages 'Enabling unbundling of different layers (e.g. infrastructure, network, services and applications layer) through differential licensing' as one of the strategies for catalysing investments for Digital Communications sector. Referring to NDCP 2018, DoT in its reference, has requested TRAI to furnish recommendations on enabling unbundling of different layers through differential licensing. DoT has referred to enabling unbundling of different layers such as:

- Infrastructure
- Network
- Service
- Application

17. As per the current licensing regime, under Unified License, infrastructure, network & service layers are not segregated and are part of Unified License. However, the Infrastructure layer is unbundled in the form of Infrastructure Provider Category - I (IP-I), though with a limited scope. If the scope of IP-I provider is enhanced and it includes active infrastructure elements also, it will rightly serve the purpose of an independent infrastructure layer. The Authority is already seized of the matter and a consultation process on enhancement of scope of IP-I providers has already been initiated.
18. Unified License further offers service-wise authorisations, for establishing service-specific network and provide the authorised service(s). For instance, in case of Access Service authorisation under UL, both, creation of network and delivery of service are embedded in the license. The network layer for Access Services consisting of the Radio Access Network, Spectrum, Backhaul, Core Network etc. is currently being served by the licensees of Unified License with Access service authorization. Along with the network operations, such UL licensees are also providing the services to the customers. There is no

separation of network layer from the service layer. The licensees of UL establish the network, maintain it, provide the service to the subscribers, manage the tariff, billing, QoS, customer care, etc.

19. UL (VNO) attempts to segregate the Service Layer from Network Layer. For service layer, the current regime of UL(VNO) may aptly fit into it. At present, the UL (VNO) license for service delivery is quite successful in some of the telecom services, such as, Internet and Long-Distance Services. However, for mobile services, the VNOs are not picking up as the existing network operators, that is, Unified Licensees are providing the services to the subscribers themselves on retail basis; and they could not find any commercial interest in providing the network services (bulk services) on wholesale basis to VNO who then can retail it to the subscribers. Contrary to it, one of the PSU Service Provider has offered the network services for few VNOs.
20. In unbundling of the network layer and service layer, there will be a concept of independent network service provider / operator who will establish the network and provide it on wholesale basis to the service delivery operator for retailing purpose.
21. As the current licensees of the UL are having their own network as well as providing the services to the consumers, it may be difficult for them to split their functions into two layers and act as network service provider and service delivery operator separately. However, it is possible to enable a parallel regime where the license itself can be granted for establishing a network, maintaining it and provide it on wholesale basis to the service delivery operators for retailing purpose. In order to promote such a regime, some incentive could be built-in for such standalone network operators who will be providing only network layer services on non-discriminatory basis.
22. The application layer consists of those application providers who are providing various application services to different verticals using telecom resources. With the upcoming technologies such as Machine

to Machine (M2M) communications, IoT, Cloud services, data centres, e-commerce etc., different application providers are in the field and they are using the telecom resources. TRAI has already given its recommendations on M2M, Cloud services, Other Service Providers (OSPs) etc. with very light touch regulation for such entities.

23. With the increasing digitalization, telecommunication sector has become even more important. Telecommunication facilities serve as the backbone for almost all the sectors. Further, the next generation mobile technology i.e. 5G would support many more use cases not only in telecom sector but also in other sectors. 5G supports techniques such as network slicing, which makes it capable of offering Network as a Service (NaaS). At the same time, 5G would require establishment of small cells for densification of the network, which would require a lot of capital investment. To serve the entire nation in a cost-effective manner, it is essential that telecom resource sharing happens at a greater level. Therefore, it is essential that the licensing and regulatory regime are reformed in a manner to provide in-built resource sharing (including network) and to enable all the sectors including non-telecom sectors to get benefitted by the technological advancements. There will be many applications which would cater to different non-telecom sectors, but will use telecom resources for provision of services. The application market is bound to be huge and everything cannot be provided and managed by the TSPs that will require innovation and field specific knowledge. Moreover, if application providers are not supported by the licensing regime, the country may not be able to reap the real advantages of next generation telecom technology i.e. 5G. The licensing regime should allow such application providers with a light touch regulation.
24. Unbundling of different layers will offer opportunities for sharing of telecom resources and thereby optimum utilization of it which will contribute in achieving the objectives defined in NDCP 2018 along with additional source of revenue for the owners/service providers.

This will further help in catalysing investment and innovation, cost cutting, effective utilisation of infrastructure.

25. With convergence in Information Communication Technologies and Broadcasting markets, various countries have been modifying their telecommunications regulations to support the development of convergent services and the expansion of markets and competition, with the objective of promoting the provision of new and innovative services, reduction of prices and increase of efficiency in the provision of services, and increasing the variety of offerings for subscribers. The international scenario on telecom licensing is available in **Annexure-II**.
26. With this background, a pre-consultation is being done with all the stakeholders to elicit the issues which are required to be considered for the unbundling of different layers of telecom services and the changes required in licensing conditions for facilitating such licensing regime.

(i) Issues for pre-consultation

It may please be noted that answers/ comments to the issues given below should be provided with justification.

Q1. In your view, what could be the possible benefits and anticipated problems in having an unbundled licensing regime? Kindly suggest the measures that can be taken to overcome the anticipated problems (if any).

Q2. In case it is decided to unbundle the different layers of licensing,

**(a) what should be the different layers and their scope?
What changes would be required in licensing regime to enable such a framework?**

(b) Should there be a new regime of licensing on which the existing licensees should migrate within a specified time frame or there should be a parallel incentivized licensing regime for unbundled layers of license?

Q3. In case you are of the opinion that there is no need of unbundling of different layers of the license, what changes should be made in the existing licensing regime to (i) promote sharing to increase utilization of the existing resources, and (ii) catalyse investments and innovation in Digital Communications sector?

Q4. What other reforms / changes are required in the existing licensing regime?

Government of India
Ministry of Communications
Department of Telecommunications
Access Services Wing
Sanchar Bhavan, 20, Ashoka Road, New Delhi-110001

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Date:08.05.2019

To,
The Secretary,
Telecom Regulatory Authority of India,
Mahanagar Doorsanchar Bhawan,
Jawaharlal Nehru Marg, Old Minto Road,
New Delhi-110002

Subject: Seeking recommendations of TRAI on strategies of National Digital Communications Policy, 2018 - reg.

The National Digital Communications Policy, 2018 (hereinafter, referred to as, the NDCP, 2018) of the Government of India envisages, *inter-alia*, the following strategies under its 'Connect India' and 'Propel India' missions:

"

1. Connect India: Creating a Robust Digital Communications Infrastructure

...

Strategies:

1.1 Establishing a 'National Broadband Mission – Rashtriya Broadband Abhiyan' to secure universal broadband access

...

- (j) *By Encouraging innovative approaches to infrastructure creation and access including through resale and Virtual Network Operators (VNO)*

2. Propel India: Enabling Next Generation Technologies and Services through Investments, Innovation, Indigenous Manufacturing and IPR Generation

...

Strategies:

...

2.1 Catalysing Investments for Digital Communications sector:

...

(b) *Reforming the licensing and regulatory regime to catalyse Investments and Innovation, and promote Ease of Doing Business by:*

...

v. *Enabling unbundling of different layers (e.g. infrastructure, network, services and application layer) through differential licensing*

...

(c) *Simplifying and facilitating Compliance Obligations by:*

...

v. *Reforming the Guidelines for Mergers & Acquisitions, 2014 to enable simplification and fast tracking of approvals*

...

viii. *Creating a regime for fixed number portability to facilitate one nation – one number including portability of toll free number, Universal Access Numbers and DID numbers*

...

2.2 Ensuring a holistic and harmonized approach for harnessing Emerging Technologies

...

(e) *Ensuring adequate numbering resources, by:*

...

ii. *Developing a unified numbering plan for fixed line and mobile services*

...”

2. Telecom Regulatory Authority of India is, hereby, requested to furnish recommendations, under the terms of the clause (a) of sub-section (1) of Section 11 of the Telecom Regulatory Authority of India Act, 1997 (as amended), in respect of the afore-mentioned items of the NDCP, 2018.

3. For sake of convenience, the strategies/ items under strategies of the NDCP, 2018, on which recommendation of TRAI are being sought, are summarized below:

- (a) Strategy 1.1 (j) of 'Connect India' mission,
- (b) Item (v) under Strategy 2.1 (b) of 'Propel India' mission,
- (c) Items (v) & (viii) under Strategy 2.1 (c) of 'Propel India' mission, and,
- (d) Item (ii) under Strategy 2.2 (e) of 'Propel India' mission.

4. This issues with the approval of the Secretary, Department of Telecommunications, Government of India.


(S.B. Singh) 8/5/18

Deputy Director General (AS)

Tel: 011-23036918

International Scenario on Telecom Licensing

International Scenario¹

a) Malaysia²

1. The Malaysian Communications and Multimedia Commission issues licenses under the Communications and Multimedia Act 1998, the Postal Services Act 1991 and the Digital Signature Act 1997.
2. The Malaysian licensing framework separates the network from the service, and places emphasis on the activity rather than on the technology. The licensing regime allows a licensee to undertake activities that are market specific. This creates opportunities for expansion into the industry particularly in the area of Applications Service Providers and provides for a more effective utilization of Network Infrastructure. There are four categories of licensable activities.

(i) Network Facilities Providers

They are the owners of facilities such as satellite earth stations, broadband fiber optic cables, telecommunications lines and exchanges, radio-communications transmission equipment, mobile communications base stations, and broadcasting transmission towers and equipment. They are the fundamental building block of the convergence model upon which network, applications and content services are provided.

¹ https://www.itu.int/dms_pub/itu-d/opb/stg/D-STG-SG01.10.2-2010-PDF-E.pdf

² <https://www.skmm.gov.my/sectors/telco/licensing>

(ii) Network Services Providers

They provide the basic connectivity and bandwidth to support a variety of applications. Network service enables connectivity or transport between different networks. A network service provider is typically also the owner of the network facilities. However, these services may also be provided by a person using network facilities owned by another.

(iii) Applications Service Providers

They provide particular functions such as voice services, data services, content-based services, electronic commerce and other transmission services. Applications services are essentially the functions or capabilities, which are delivered to end-users.

(iv) Content Applications Service Providers

They are special subset of applications service providers including traditional broadcast services and the latest services such as online publishing and information services.

3. Within these four categories, two types of licences exist: individual licences (granted for activities with a high degree of regulation, e.g. the need to grant rights of use for spectrum) and registration (renewed yearly and recorded in the registry administered by the Communications and Multimedia Commission of Malaysia). Furthermore, lesser activities within each category are exempt from the requirement of obtaining a licence.

b) Tanzania

4. As in Malaysia, Tanzania also have Converged Licensing Framework (CFL). The CFL includes the same four categories of licences as those established in Malaysia, namely, Network Facility Licence, Network Service Licence, Application Service Licence and Content Service Licence.

c) Uganda

5. Uganda has also developed a new streamlined technology-neutral licensing regime that was implemented in January 2007. Under the regime, there are three categories of licences: (i) public service provider licence; (ii) capacity provider licence; (iii) infrastructure provider licence; and (iv) general authorisation. Details are given below:

Type of Licence	Services Covered Under Licence
Public Service Provider Licence	<p>Category 1: Public Voice and Data - Cellular, Fixed voice, GMPCS, Internet access (including IP telephony + Virtual Private Networks), Internet exchange services, Virtual Private Networks (VPNs) that are not provided over the Internet</p> <p>Category 2: Capacity Resale - Local and international capacity resale, calling cards</p>
Capacity Provider Licence	<p>Category 1: Licensees already permitted to install infrastructure of the type they have already invested in, for example Internet Access Providers with wireless networks</p> <p>Category 2: Persons whose core business is not in telecommunications but who possess private communications facilities with surplus capacity and wish to resale this to third parties</p> <p>Category 3: New entrants in the Internet Access market operating their networks using the Industrial, Scientific and Medical frequency (ISM) band, e.g., 2.4 GHz and 5.7 GHz bands</p>
Infrastructure Provider Licence	<p>Public Infrastructure Provider</p> <p>Private Network Infrastructure</p>
General Authorisation	<p>Category 1: Public Pay Communication Services (e.g., Internet Cafés, Payphones, telephone bureaus, et</p>

d) Singapore³

6. In Singapore, the licensing system is composed of only two types of licences:
 - Facilities-based operator (FBO) and
 - Service-based operator (SBO).
7. The first is awarded to those telecommunications services providers that deploy their own infrastructure, such as operators of fixed and mobile telephone networks, trunking, etc. The second type is awarded to those operators that provide services over a third party's infrastructure, as for example, resellers of services, providers of virtual private networks, Internet access, etc. While the FBO always takes the form of an individual licence, the SBO may be awarded via an individual licence or general authorisation or notification, depending on the service.
8. Facilities-based operations refers to the deployment and/or operation of any form of telecommunications networks, systems and/or facilities by any person for the purpose of providing telecommunications and/or broadcasting services outside of their own property boundaries to third parties. Such third parties may include other licensed telecommunication operators or the general public. Parties intending to deploy such operations will require a FBO Licence from Infocomm Media Development Authority (IMDA). Examples of telecommunications systems that will be licensed will include mobile communications systems (e.g. base stations, mobile switching centres) needed to offer public mobile phone, paging, trunked radio and mobile data services, and fixed telecommunications systems (e.g. exchanges, fiber, submarine cables, frontier stations, international

³ <https://www2.imda.gov.sg/regulations-and-licensing-listing/competition-management/full-competition-in-singapores-telecommunication-sector>

gateways) to offer services such as local and international voice and data services, and leased circuit services.

9. Service-Based Operators (SBOs) are the Operators intending to lease the telecommunication network elements (such as transmission capacity and switching services) from any FBO licensed by IMDA so as to provide their own telecommunication services, or to resell the telecommunication service of FBOs, to third parties, may apply to IMDA for a SBO Licence. Operators who have deployed telecommunications networks, systems and facilities within their own property boundaries, but wish to offer telecommunications services to third party residents within their property boundaries, should also apply for an SBO licence.

10. The SBO licences issued by IMDA fall under two categories:
 - (i). SBO (Individual) Licence category - where individual licensing is required for the stipulated types of operations and services; and
 - (ii). SBO (Class) Licence category - where interested parties will only be required to register with IMDA before providing the stipulated types of services.

e) Eastern Caribbean

11. The Eastern Caribbean Telecommunications Authority (ECTEL), has developed a technology-neutral licensing approach with four categories of licences:
 - Individual Licences (generally for services that are infrastructure-oriented);
 - Class Licences (ISPs or resale, among others);
 - Frequency Authorization Licences (that is an ancillary licence that would be required in addition to an Individual or Class Licence); and

- Special Licences (that are foreseen for special cases in emergency circumstances).
12. ECTEL classifies licences based on the service that will be provided without regard to the type of technology being used. For instance, whereas previously an operator might obtain a VSAT licence, it now obtains a licence for the service (i.e., a private or a public network service) it will be offering using that VSAT.

f) Kenya⁴

13. Kenya's licensing regime, is a unified and technology-neutral licensing framework that permits any form of communications infrastructure to be used to provide any type of communications service. Kenya's current Unified Licensing Framework (ULF) consists of three main technology-neutral licences: (i) Network Facilities Provider (ii) Application Service Provider (iii) Content Service Provider. In addition, investors seeking to land a submarine cable in Kenya require a Submarine Cable Land licence while those interested in building system for the provision of international voice/data services are required to get a licence for international Systems and Services. An operator may be issued multiple commercial licenses, provided that it maintains separate accounts for each licence.

g) Australia⁵

14. The key regulators are the ACCC, which regulates competition and consumer issues, and the ACMA, which regulates technical issues. The ACCC and ACMA function independently from the Government except where the Communications Minister has residual regulatory powers, including, in relation to, the imposition of conditions to

⁴ <http://www.ictregulationtoolkit.org/toolkit/6.4>

⁵ https://www.acc.com/sites/default/files/resources/20190314/1494557_1.pdf & <https://www.communications.gov.au/policy/policy-listing/rules-carriers-and-service-providers>

carrier licenses, and directing the ACCC and ACMA in some respects of their performance of their regulatory powers.

15. The Telecommunications Act distinguishes between:

- **Carriers** – entities that own telecommunications infrastructure on which carriage and content services are provided to the public and hold a carrier licence. Carrier licence is required to use network units to supply services to the public. Network units are basically transmission facilities. The following are the types of network units under the Telecommunications Act:
 - line links connecting distinct places in Australia, where the line link or links meets certain minimum distance requirements
 - satellite-based facilities used to supply carriage services between two or more points in Australia
 - base stations used for mobile services or wireless local loop (customer access network) services
 - some fixed radiocommunications links.
- **Carriage service providers (CSPs)** – entities that have direct contact with consumers and use carriage services to supply phone and/or internet services to the public; and
- **Content service providers.**

(Most carriers are carriage service providers)
