

ITU Focus Group Technical Report

(10/2025)

ITU Focus Group cost models for affordable data services

Terminology and taxonomy related to domestic data services

Working Group 1: Cost models for domestic data services

PREPUBLISHED
Version



TECHNICAL REPORT - TERMINOLOGY AND TAXONOMY RELATED TO DOMESTIC DATA SERVICES

Summary

The main goal of Focus Group on Costing Data Services (FG-CD) Working Group 1 (WG 1) is to extend of existing work of ITU-D Study Group 1 especially on the aspects related to the affordability of domestic telecommunication/ICT services. Taking into account that ITU-D is the main platform for considerations of national aspects, the main source of terminology and taxonomy related to the FG-CD WG 1 is ITU Terms and Definitions database and related ITU-D deliverables. Considering the two resulting outcomes of WG 1 work is related to the cost-modelling and universal service funds, the main source of taxonomy is in ITU-D Question 4/1 Guidelines on Cost Modelling and ITU-D Question 4/1 and Question 5/1 Joint Deliverable on *Challenges and Opportunities of the Use of Universal Service Fund (USF) for Bridging the Digital Divide*.

This Technical Report provides the necessary terminology and taxonomy using in the deliverables of the FG-CD WG 1: Technical Report “*Policy, economic, and fiscal incentives for proliferation of affordable data services in unserved and underserved areas*” and Technical Report “*Best practices of cost assessment methodologies, regulatory and standardization aspects related to cost models for affordable data services*”.

Keywords

Terminology, taxonomy, cost-modelling, domestic services

Note

This is an informative ITU-T publication. Mandatory provisions, such as those found in ITU-T Recommendations, are outside the scope of this publication. This publication should only be referenced bibliographically in ITU-T Recommendations.

Change Log

This document contains Version 1.0 of the ITU-T Technical Report on “*Terminology and Taxonomy related to the Domestic Data Services*” approved at the FG CD meeting held online on 1st October 2025

Acknowledgements

This Technical Report was written by the Editor below as a contribution to the ITU Focus Group on cost models for affordable data services (FG CD).

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1 Scope

The scope of this report is to collect the necessary terminology and taxonomy using in the deliverables of the Focus Group on Costing Data Services (FG-CD) Working Group 1 (WG 1): Technical Report “Policy, economic, and fiscal incentives for proliferation of affordable data services in unserved and underserved areas” and Technical Report “Best practices of cost assessment methodologies, regulatory and standardization aspects related to cost models for affordable data services”.

2 References

- [1] ITU Terms and Definitions database. https://www.itu.int/br_tsb_terms/#/
- [2] ITU-D Question 4/1 Guidelines on cost modelling: Economic policies and methods of determining the costs of services related to national telecommunication/ICT networks. https://www.itu.int/dms_pub/itu-d/opb/stg/D-STG-SG01.04_CST_MOD-2021-PDF-E.pdf
- [3] ITU-D Question 4/1 and Question 5/1 Joint Deliverable on Challenges and Opportunities of the Use of USF for Bridging the Digital Divide. <https://www.itu.int/hub/publication/d-stg-sg01-04-05-2024/>
- [4] ITU-T Technical Report on Policy, economic, and fiscal incentives for proliferation of affordable data services in unserved and underserved areas. [Editor’s note: link will be added later]
- [5] ITU-T Technical Report on Best practices of cost assessment methodologies, regulatory and standardization aspects related to cost models for affordable data services. [Editor’s note: link will be added later]
- [6] Recommendation ITU-T D.264 Shared uses of telecommunication infrastructure as possible methods for enhancing the efficiency of telecommunications. <https://www.itu.int/ITU-T/recommendations/rec.aspx?rec=13918>
- [7] Recommendation ITU-T D.262 Collaborative framework for OTTs. <https://www.itu.int/rec/T-REC-D.262-201905-I>

3 Introduction

The main goal of FG-CD WG 1 is to extend of existing work of ITU-D Study Group 1 especially on the aspects related to the affordability of domestic telecommunication/ICT services. Taking into account that ITU-D is the main platform for considerations of national aspects, the main source of terminology and taxonomy related to the FG-CD WG 1 is ITU Terms and Definitions database [1] and related ITU-D deliverables. Considering the two resulting outcomes of WG 1 work is related to the cost-modelling and universal service funds, the main source of taxonomy is in ITU-D Question 4/1 Guidelines on Cost Modelling [2] and ITU-D Question 4/1 and Question 5/1 Joint Deliverable on Challenges and Opportunities of the Use of USF for Bridging the Digital Divide [3].

Following sections of the Technical Report based on the mentioned sources related to the two FG-CD WG 1 deliverables:

- ITU-T Technical Report on Policy, economic, and fiscal incentives for proliferation of affordable data services in unserved and underserved areas. [Editor's note: link will be added later];
- ITU-T Technical Report on Best practices of cost assessment methodologies, regulatory and standardization aspects related to cost models for affordable data services. [Editor's note: link will be added later].

4 Terminology and Taxonomy related to the Policy, economic, and fiscal incentives for proliferation of affordable data services in unserved and underserved areas

Following list contains the terminology and taxonomy related to ITU-T Technical Report on Policy, economic, and fiscal incentives for proliferation of affordable data services in unserved and underserved areas, which is not covered in [1] and [3].

Digital inclusion

UN Office for Digital and Emerging Technologies¹ defines Digital inclusion as “equitable, meaningful, and safe access to use, lead, and design of digital technologies, services, and associated opportunities for everyone, everywhere”. This is an important concept not only for the purpose of providing data services in unserved and underserved areas, but in general to provide Universal and meaningful connectivity (UMC).

Universal and meaningful connectivity

Broadband Commission for Sustainable Development² defined it as follows: Universal & meaningful connectivity means that anyone, anywhere, regardless of geographic location, socio-economic status, race, gender, or any other differentiating demographic, has access to affordable services and devices to connect to reliable and safe internet. “Universal connectivity” means connectivity for all. “Meaningful connectivity” is a level of connectivity that allows users to have a safe, satisfying, enriching and productive online experience at an affordable cost. The two dimensions are complementary: neither universal connectivity with poor quality nor meaningful connectivity for the few will yield significant, society-wide benefits. At the same time, the two dimensions obviously reinforce each other: more use can lead to more meaningful connectivity, and vice versa.

¹ <https://www.un.org/digital-emerging-technologies/content/digital-inclusion>

² <https://www.broadbandcommission.org/universal-connectivity/>

At ITU³ UMC stepped in to expand the traditional way of understanding the digital divide concept, which initially has been understood as technical availability of telecommunication/ICT (like person who lives in the coverage area of base station is enough clause for using services). Nowadays with consideration of digital literacy and skills, affordability of services, availability of devices, etc., regulators are covering all of these concepts in one – UMC.

Universal service fund

Universal service fund is defined as fund consists of money collected from telecommunications service operators that is dedicated to fulfilling the main goal of universal service – to provide minimum reliable service of specified quality to all users everywhere at an affordable price. More practical information is available in [3].

Infrastructure sharing

Infrastructure sharing in the field of telecommunication/ICT consists of active and passive infrastructure sharing. Active infrastructure sharing is the sharing of radio access network elements, e.g., antenna, base transceiver stations and radio network controllers. Passive infrastructure sharing is the sharing of passive elements of the network infrastructure e.g., masts, containers, towers, power supply and air conditioning equipment. More information is available in [6].

Open RAN

Open Radio Access Network (Open RAN/O-RAN) is referred to the RAN that allows disaggregation of its parts and interoperability between hardware and software components. More information on Open RAN standardization is available at <https://www.o-ran.org/specifications>.

OTT

Over-The-Top (OTT) is defined as An application accessed and delivered over the public Internet that may be a direct technical/functional substitute for traditional international telecommunication services. More information is available in [7] and <https://www.itu.int/en/ITU-T/studygroups/com03/Pages/ott.aspx>.

VGF

Viability gap funding (VGF) is defined as a grant provided to support projects that are economically justified but are also financially weak. More information is available at <https://ppp.worldbank.org/sites/default/files/2022-03/eawp-06.pdf>.

Blended investment

The global network for blended finance Convergence⁴ (including membership from public, private, and philanthropic investors among others) defines blended finance as “the use of catalytic capital from public or philanthropic sources to increase private sector investment in sustainable development.”

The importance of blended finance is emphasised by the World Bank⁵ as a tool to mitigate risk and facilitate financing for private sector-led projects. Indeed, Private finance, possibly

³ <https://www.itu.int/itu-d/sites/projectumc/home/aboutumc/>

⁴ [Convergence](#) webpage.

⁵ [What is blended finance, and how can it help deliver successful high-impact, high-risk projects?](#) By the Independent Evaluation Group, part of the World Bank Group, January 27, 2020.

stimulated by public or philanthropic sources has a key role to play in the investment required to reach the SDGs.

Bill and Keep⁶ (BAK) is an alternative arrangement that network costs for providing termination services are recovered from end users without financial settlements between telecom providers.

5 Terminology and Taxonomy related to the Cost assessment methodologies, regulatory and standardization aspects related to cost models for affordable data services

Following list contains the terminology and taxonomy related to ITU-T Technical Report on Cost assessment methodologies, regulatory and standardization aspects related to cost models for affordable data services, which is not covered in [1] and [2].

Activity-Based Costing (ABC)

ABC method is allocates cost to the different activities needs to provide services rather than service at-whole.

Time Driven Activity Based Costing (TDABC)

TDABC method is an advanced ABC method which is centered around the unit cost of supplying capacity and the amount of time required to perform an activity.

Quantum Costing

Quantum Costing method is another alternative to ABC method which is centered around constraints of current system and time need to pass such constraints.

⁶ See

https://www.researchgate.net/publication/222659809_Using_'Bill_and_Keep'_Interconnect_Arrangements_to_Soften_Network_Competition