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Establishing international reporting standards for OTT applications

Technical Report ITU-T DSTR-OTTReporting

Establishing international reporting standards for OTT applications

Summary

This Technical Report is intended to provide suggested guidelines and reporting standards for OTT applications for partnering with telecommunications services regulators internationally. The primary focus of the report is to explore the possible harmonization of reporting standards for OTT applications internationally and provide various guidelines on the indicators, definitions and data template formats that may be effective for reporting on dominant or modal OTT applications both domestically and internationally.

The Technical Report also provides case studies to the current regulatory frameworks for data reporting for OTTs, with the objective of gaining insights into a number of jurisdictions' policy perspectives on this topic.

Keywords

Data reporting, OTT applications, regulatory challenges, reporting standards.

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 DSTR-OTTReporting on "Establishing international reporting standards for OTT applications" approved at the ITU-T Study Group 3 meeting held in Geneva, 7 November 2025.

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Technical Report ITU-T DSTR-OTTReporting

Establishing international reporting standards for OTT applications

1 Scope

The scope of this Technical Report is to provide suggested guidelines and reporting standards for over the top (OTT) applications providers, focusing specifically on the indicators, definitions, and data template formats that may be necessary for the precise reporting and documentation of pertinent data to aid regulatory agencies in evaluating the telecommunications and broadcasting industries.

2 References

[ITU-T D.262] Recommendation ITU-T D.262 (2019), *Collaborative framework for OTTs.*

[ITU-T D.1101] Recommendation ITU-T D.1101 (2020), *Enabling environment for voluntary commercial arrangements between telecommunication network operators and OTT providers.*

[ITU-T D.1102] Recommendation ITU-T D.1102 (2021), *Customer redress and consumer protection mechanisms for OTTs.*

[ITU-T TR] ITU Technical Report (2017), *Economic impact of OTTs*.

3 Definitions

3.1 Terms defined elsewhere

This Technical Report uses the following term defined elsewhere:

3.1.1 over-the-top (OTT) [ITU-T D.262]: An application accessed and delivered over the public Internet that may be a direct technical/functional substitute for traditional international telecommunication services.

NOTE – The definition of OTT is a matter of national sovereignty and may vary among Member States.

3.2 Terms defined in this Technical Report

None.

4 Abbreviations and acronyms

This Technical Report uses the following abbreviations and acronyms:

ANATEL National Telecommunications Agency

BEREC Body of European Regulators for Electronic Communications

CRTC Canadian Radio-television and Telecommunications Commission

EC European Commission

ECS Electronic Communications Service

ECTEL Eastern Caribbean Telecommunications Authority

EECC European Electronic Communications Code

EST Electronic Sell-Through

EU European Union

FCC	Federal Communications Commission
IAS	Internet Access Service
ITU	International Telecommunication Union
NI-CIS	Number-Independent Interpersonal Communications Services
NRA	National Regulatory Agency
NTRC	National Telecommunications Regulatory Commissions
Ofcom	Office of Communications
OTT	Over the Top
SMS	Short Message Service
SVOD	Subscription Video on Demand Services
TATT	Telecommunications Authority of Trinidad and Tobago
TRAI	Telecom Regulatory Authority of India
TVOD	Transactional Video on Demand Services
UK	United Kingdom
URCA	Utilities Regulation & Competition Authority
US	United States of America
VOD	Video on Demand
VoIP	Voice over Internet Protocol
VSS	Video Streaming Services

5 Introduction

Creating and facilitating conditions which foster innovation and sustainable competition remains of paramount importance to telecommunications and broadcasting regulators globally. Unchecked market influence has been shown to enable large operators to limit innovation and new entrants in their respective industries. As such, regulators are proactively assessing new strategies and routinely conducting market studies to ensure that the market remains competitive.

The growing demand for OTT applications and its impact on telecommunications markets globally has garnered the attention of many regulators worldwide over the years and has reshaped several aspects of the telecommunications and broadcasting industry. The collective growth of OTT applications globally, added to sustained technological advances of 5G networks and its associated plethora of digital communication devices hold the potential to further pressure traditional telecommunication services networks. Therefore, regulators must become increasingly equipped and informed on the usage and uptake of OTT applications, to provide effective regulatory oversight to the evolving telecommunications and broadcasting landscape.

Accordingly, the ITU has conducted extensive research on the topic of OTTs under both the ITU-T and ITU-D as follows*, inter alia:*

i. ITU-T

- ITU-T Technical Report (TR) (2017): Economic impact of OTTs
- Recommendation ITU-T D.262 (2019/05): Collaborative framework for OTTs
- Recommendation ITU-T D.1101 (2020/08): Enabling environment for voluntary commercial arrangements between telecommunication network operators and OTT providers

- Recommendation ITU-T D.1102 (2021/12): Customer redress and consumer protection mechanisms for OTTs

ii. ITU-D

- ITU-D Study Group Paper for the Study Period 2018-2021: Economic impact of OTTs on national telecommunication/ICT markets

[ITU-T TR] (2017) comprehensively delved into the nuanced realm of OTT applications and its impact and identified those services that are more closely relevant to regulators in the telecommunications and broadcasting industry such as OTT applications (voice, video & messaging, broadcast linear video, and video on demand).

The working definition outlined in [ITU-T TR][1] and later defined in [ITU-T D.262] continues to hold as the working definition of interest, that is:

> *"over-the-top (OTT): An application accessed and delivered over the public Internet that may be a direct technical/functional substitute for traditional international telecommunication services.*
>
> *NOTE – The definition of OTT is a matter of national sovereignty and may vary among Member States."*

Within the context of this definition, a number of policy/regulatory challenges may arise, as some OTT applications may be regarded as functionally equivalent to traditional telecommunications services, hence changing the market dynamics, and potentially creating a competitive constraint in the industry. Uniform and harmonized reporting standards for OTT applications may provide an important opportunity to advance data collection and evidence-based regulation in new telecommunications services globally by identifying and resolving reporting gaps, leaving no jurisdiction behind in the international information society.

In order for regulators to accurately assess the potential competitive effects that have arisen with the evolution of OTT applications, relevant OTT data needs to be accessible. However, some regulatory bodies have repeatedly highlighted their inability to acquire information and datasets from large OTT providers to analyse and develop market studies. Given the shortfall in the availability of OTT data, regulators may become increasingly underinformed and underequipped to provide regulatory oversight to the complete range of new telecommunications services in its jurisdictions.

Therefore, it may be beneficial for OTT providers to partner in the data gathering work of telecommunications regulators which will facilitate the efficient operation of the evolving industry. Through the development of international guidelines and standards of reporting for OTT providers, there will be an enhancement in information symmetry, currently required in the regulation of the telecommunications and broadcasting industry.

5.1 Challenges and competition concerns

Telecommunications regulators undertake a myriad of market studies to maintain fair and sustainable competition within their jurisdictions, such as dominance determinations, market definition evaluations, mergers and acquisitions reports, economic tests and other market reports. Traditional telecommunications network operators are obligated to meet routine data reporting requirements,

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[1] The working definition outlined in [ITU-T TR] is similar to that later outlined in [ITU-T D.262] that is, *"an OTT service is an online service that can be regarded as potentially substituting for traditional telecommunications and audiovisual services such as voice telephony,* short message service *(SMS), video on demand and television."*

Note that ITU-T Study Group 2 (SG2) is the lead study group on telecommunication/ICT service definition, and question 3/2 is responsible for establishing the principles of service provision by OTT applications, their operational requirements, capabilities, and impact on other services.

whereas OTT providers may not necessarily be obligated to uphold standardized national reporting requirements. These differences in reporting may present several potential regulatory challenges, including *inter alia*:

i) Protracted delays in data gathering

Some telecommunications regulators have noted appreciable delays in attempts to gain market data related to OTTs for competition and anti-trust assessments. Some countries have also noted protracted delays in gathering national information from OTTs. For example, in the case of the Republic of Trinidad and Tobago the telecommunications regulator has experienced delays in the data gathering process when conducting market assessments (such as in the market definition assessments that were conducted during the 2023 to 2024 period[2]).

ii) Regulatory infringement

The absence of consumer data in OTTs can engender regulatory hindrances and risk. These obstacles include inter alia, widening information asymmetry, market distortions, regulatory uncertainty, and customer vulnerability regarding quality of service and redress.

iii) Escalating costs of market studies

To perform required regulatory assessments, costly customer surveys have been undertaken. In some cases, market studies have remained incomplete, rulings delayed and market correction woefully protracted, due to the absence of OTT datasets. For example, the Telecommunications Authority of Trinidad and Tobago (TATT) in defining its retail mobile and fixed markets resorted to conducting consumer surveys to gather data/information on OTT adoption and usage in the absence of OTT data [b-TATT-2023]. This approach was also employed by the Bahamas Utilities Regulation and Competition Authority in its review of the domestic retail mobile market utilities regulation & competition authority. [b-URCA-2022].

iv) Data gaps in regulatory toolkit

The absence of periodic and routine submission of OTTs datasets may also compromise some regulators' ability to employ quantitative tools including econometric modelling in competition studies. OTT subscriber data may provide an invaluable complement to operator datasets. Some regulators consider OTT traffic an important dataset for performing market determinations and economic sensitivity tests. However, the absence of relevant data including timeseries information on OTT traffic generated by domestic consumers, can encroach on econometric modelling efficiency and generate bias.

At the same time, in looking to standardize industry data collection, regulators should consider the burden reporting requirements may present, particularly when mechanisms to track the requested data may not be built into the targeted services. Any effort to replicate reporting that was common in traditional telephony may not reflect the market realities of OTT applications. For example, because traditional telephony was monetized on a per-minute basis, operators already had mechanisms to meter traffic, and reporting such data involved negligible additional costs. Conversely, OTT applications, which are typically not metered, may not have such built-in need. Similarly, since traditional telecommunications services were often tariffed, and often depend on cost justifications, detailed accounting data was core to the ability to justify a tariff. Interconnection involved formal, contractual relationships between operators, determining costs and prices for both regulators and operators requiring significant investment in measurement, as did the complex models that were often used to set interconnection rates. Some of these factors may not necessarily be relevant to the market dynamics surrounding OTT applications, which depend on the dynamic, highly competitive informal arrangements that make up the global Internet.

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[2] TATT. (n.d.). Table of consultative documents. Retrieved from the telecommunications authority of Trinidad and Tobago: https://tatt.org.tt/consultations/table-of-consultative-documents/

Notwithstanding, while it is important to consider the potential burden that reporting requirements may have on OTTs, the collection of key datasets from OTTs remains essential to gaining market insights and making informed regulatory decisions. Notably, OTTs do collect valuable data for advertising, marketing and research and development purposes. Some of these datasets may include the number of subscribers to its platforms and consumer uptake and usage behaviour statistics. These datasets can be formalized into a workable format for regulators to use in their assessments. Therefore, reporting mechanisms may need to be tailored to the unique characteristics of OTT services as the importance of data driven regulation remains critical in fostering a sustainable and competitive telecommunications industry.

v) Competition

It is important to note that the telecommunication/ICT sector is generally subject to sector competition regulation (e.g., ex-ante and dominant operator regulation, particularly on access and interconnection), as well as general competition law. Holistic market data is a key factor in effective competition regulation in dynamic markets such as the telecommunications/ICT sector. The absence or the availability of insufficient data from OTT providers compromises effective competition regulation in the market. This is because direct regulatory intervention, that is not supported by clear data, can distort the incentive structure of firms (for example, by distorting the incentives to invest) and harm consumers and typically resulting in welfare loss. At the same time, generally applicable competition rules, should be applicable to all service providers − traditional operators and app-based service providers[3].

5.2 Towards the development of reporting standards for OTT services

Accordingly, while OTTs are not subject to the same regulatory frameworks as telecommunications operators, they appear to serve as potential substitutes for traditional services (such as providing calls and messaging). Therefore, as their adoption and usage grow regulators may benefit from directly collecting and analysing OTT data to enhance market assessments that accurately reflect the evolving industry.

However, developing countries are often under-equipped to gather the data needed for market studies which can hinder evidence-based assessments and regulation. Inadequate data collection may also contribute to disparities in market intelligence, potentially affecting the transition towards an information society. Hence, to facilitate a quantitative or evidence-based approach to regulation it may be necessary to collect time-series data from all service providers (OTTs and telecoms) and consumers to inform, inter alia, critical anti-trust rulings, auctions, and pricing.

Therefore, a possible approach to addressing this issue is to consider identifying the minimum data required from OTTs and seek standardized relationships with OTTs to gather such data. Consequently, partnering with OTTs for periodic submission of data could potentially improve quantitative evidence-based regulatory decision making and assist in complementing the data gathered from traditional telecommunications services operators. Given the global trends, it may be considered reasonable for regulators and OTT providers to amicably engage and collaborate so that mutually beneficial relations to data sharing can be achieved.

6 Existing guidelines and reporting standards

There has been some work in selected jurisdictions to establish data reporting standards for OTT service providers. This is discussed below:

[3] ITU, 2018, Regulatory challenges and opportunities in the new ICT ecosystem, https://www.itu.int/hub/publication/d-pref-bb-reg_out03-2018/

6.1 Body of European regulators for electronic communications (BEREC)

BEREC has conducted extensive work to provide new definitions for interpersonal communications services to fulfil the objectives of the EECC and initiate the process to identify and define harmonised metrics which are of interest to many European National Regulatory Agencies (NRAs). The final report was published in September 2021, whereby BEREC noted that the intention of its report was neither to impose on NRAs the obligation to collect data from OTT providers, nor to instruct NRAs on the scope, modalities, and frequency of such data collections. Rather, the report is intended to provide harmonized definitions of a limited number of indicators that may be necessary for NRAs to collect in the framework of their regulatory mandate [b-BEREC 2021][4].

The indicators that were put forward in BEREC's report fall under the categories (i) Number-independent interpersonal communications services (NI-ICS) and (ii) Video-streaming services (VSS). Table 1 provides an extract of the metrics/indicators proposed by BEREC.

BEREC further recommended, given seasonality, that NRAs collect the data on the above listed indicators as follows:

- *"for active users/active business users that the data shall refer to the calendar months of: March, June, September and December.*
- *for registered users/registered business users that data shall refer to the following dates: 31st March, 30th June, 30th September and 31st December.*
- *for usage data, that aggregate quarterly data, as of the 31st of March, 30th June, 30th September and the 31st December, should be sought."*

Table 1 – BEREC's proposed indicators for OTT data reporting for the European NRAs

NI-ICS indicators	VSS indicators
1. **Number of monthly active users** (MAU) who used the service in the last calendar month as of the date of measurement, by country of residence, and by service. This metric refers to the users that cannot be qualified as business users. 2. **Number of monthly active business users** who used the service in the last calendar month as of the date of measurement, by country of service deployment, and by service. 3. **Number of registered users**, who registered with a specific NI-ICS, by country of residence and by NI-ICS, at a specific date. This metric refers to the users that cannot be qualified as business users. 4. **Number of registered business users**, who registered with a specific NI-ICS, by country of residence and by NI-ICS, at a specific date. 5. **The total number and minutes of voice calls made** by NI-ICS users towards other NI-ICS users, by country of residence of the caller, in a specific period.	1. **Number of registered users, who subscribed to a specific "subscription service"** by country of residence, at a specific date. Only for subscription video on demand services (SVOD). 2. **Number of "simultaneous streams"** that are marketed with "subscription" services by country of residence at a specific date. Only for subscription video on demand services (SVOD). If one registration only provides for one stream, it would count as one, but if it provides three simultaneous streams, it will count as three. 3. **Number of content pieces sold** in a specific period, by country of residence of the user. Only for electronic sell-through (EST) and transactional video on demand services (TVOD). 4. **Number of registered users** at a specific date, by country of residence of the registered user. Only for electronic sell-through (EST) and transactional video on demand services (TVOD) 5. **Number of monthly active users at a specific date, who used the video-streaming service** at

[4] BEREC indicated that it would continue to evaluate the list of indicators proposed in its report and may add, remove, or adjust to ensure a continued harmonisation of the data collected by NRAs and adjust to NRAs' needs.

Table 1 – BEREC's proposed indicators for OTT data reporting for the European NRAs

NI-ICS indicators	VSS indicators
6. **The total number and minutes of video calls made** by NI-ICS users towards other NI-ICS users, by country of residence of the caller, in a specific period. 7. **The total number of instant messages sent** by NI-ICS users towards other NI-ICS users, by country of residence of the sender, in a specific period.	least once in the last calendar month as of the date of measurement, by country of residence and service. Only for subscription video on demand services (SVOD) bundled with other non-entertainment services (other than Internet access service (IAS)). 6. **User-based revenue** from video-streaming services split by recurring fees (SVOD) and one-time purchases (electronic sell-through (EST) and transactional video on demand services TVOD), by country and service in a specific period. 7. **Other direct user revenue** sources, by country and service, in a specific period.

6.2 Canada

In February 2022, the Canadian radio-television and telecommunications commission (CRTC) launched an annual digital media survey which required OTT media services (that fall under the category of audio services and audio-visual services [5]) operating in Canada to provide basic information on their activities starting with a filing for the 2020-2021 broadcast year[6]. The CRTC anticipated that the collected data would at minimum permit the commission to validate, if not improve upon, current revenue estimates obtained from third party sources, as well as the numbers of subscriptions data is expected to allow the commission to better evaluate OTT reach (CRTC, 2022)[7].

The data categories outlined in the annual digital media survey published by the CRTC in the broadcasting regulatory policy CRTC 2022-47 (CTRC, 2022)[8] included indicators such as: revenues (subscription, advertising, transactional and other), expenses (programming and non-programming), number of subscriptions paying full prices, number of subscriptions paying discounted rates and total number of free subscriptions.

However, the CTRC with the issuance of the broadcasting regulatory policy 2024-121-1 (issued in June 2024)[9], amended and integrated the annual digital media survey into the broadcasting surveys from the fall of 2024. This was done to reduce any duplication in data collection by the CTRC.

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5 The broadcasting regulatory policy CRTC 2022-47 outlines (1) Audio services as commercial radio undertakings, satellite services and digital media broadcasting undertakings) and (2) Audiovisual services as conventional and discretionary television undertakings, broadcasting distribution undertakings, pay-per-view services, video-on-demand services and digital media broadcasting undertakings.

6 The bill to modify the Broadcasting Act seeks to make consequential amendments to other Acts, such as the Online Streaming Act of Canada received royal assent in April 2023. Notably, this legislation brings online broadcasters – including online streaming platforms – under the same regulatory framework as traditional broadcasters providing services and content in Canada. The amendments to the Broadcasting Act have given the CRTC the regulatory powers to gather information from OTT media services.

7 Reference points 138 to 140 (Going forward metrics): https://crtc.gc.ca/eng/publications/reports/rp220714.htm#a6

8 https://crtc.gc.ca/eng/archive/2022/2022-47.htm

9 Broadcasting regulatory policy CRTC 2024-121-1 and broadcasting order CRTC 2024-194, accessible at: https://crtc.gc.ca/eng/archive/2024/2024-121-1.htm

7 Proposed indicators, definitions and data template formats for reporting

Comprehensive datasets encompassing user metrics, service usage patterns, and OTT revenues may enable regulators to conduct in-depth analyses that go beyond the qualitative type assessments currently being undertaken. Regulators with this data could potentially discern not only the scale of market influence exerted by OTTs but also the specific mechanisms through which they gain traction (that is whether through communication type services (voice/video calls or messaging) or through broadcasting (media) services). In addition, regulators may be able to utilize more evidence-based decision making and formulate targeted policies that strike a balance among all stakeholders involved.

Therefore, this Technical Report proposes a possible standardized dataset on traffic, customer metrics, service type and revenues, of modal or dominant OTT applications that are prevalent in Member States internationally. Establishing a standardized framework that aligns reporting practices among OTTs globally may facilitate meaningful cross-border analysis on the impact of OTTs on the telecommunications and broadcasting industry. Table 2 provides an example of twenty-seven (27) possible indicators for consideration that could potentially be captured on OTT applications.

Table 2 – Example of proposed indicators and definitions for OTT data reporting

No.	Indicator	Definition
1	OTT application	The type of OTT application being reported on.
2	OTT subscriptions (total)	The total number of (active) subscriptions to the OTT application.
3	OTT subscriptions (business accounts)	The total number of (active) subscriptions to the OTT application that are business accounts only.
4	OTT downloads/accounts (total)	The total number of downloads of the OTT application.
5	OTT voice (minutes)	The total number of voice traffic (in minutes) traversing over the OTT application.
6	OTT voice (calls)	The total number of voice calls executed on the OTT application.
7	OTT voice (data consumed) (GB/TB)	The total volume of data (in GB or TB) consumed for voice traffic on the OTT application.
8	OTT messaging (total)	The total number of text messages executed on the OTT application.
9	OTT messaging (data consumed) (GB/TB)	The total volume of data (in GB or TB) consumed in the transmission of text messages on the OTT application.
10	OTT video (number of calls)	The total number of video calls executed on the OTT application.
11	OTT video (calls) – data consumed (GB/TB)	The total volume of data (in GB or TB) consumed in the transmission of video calls on the OTT application.
12	OTT video (number of messages)	The total number of video messages executed on the OTT application.
13	OTT video (messaging) – data consumed (GB/TB)	The total volume of data (in GB or TB) consumed in the transmission of video messages on the OTT application.
14	OTT video data (GB/TB) (media – broadcast (linear) video)	The total volume of data (in GB or TB) consumed in the streaming of broadcast (linear) video content via the Internet protocol television (TV).

Table 2 – Example of proposed indicators and definitions for OTT data reporting

No.	Indicator	Definition
15	OTT video data (GB/TB) (media – video on demand)	The total volume of data (in GB or TB) consumed in the streaming of video/media content on demand via the Internet.
16	OTT data consumption (total) (GB/TB)	The total volume of data consumed for all products/services (voice, messaging, video media, etc.) by the OTT application represented in GB or TB (aggregated).
17	OTT investment expenditure (USD per annum)	The total value (in USD) of OTT provider's investment expenditure.
18	OTT revenue (voice calls) (USD)	The total value (in USD) of revenues earned from voice calls traversing over the OTT application.
19	OTT revenue (messaging – text and video) (USD)	The total value (in USD) of revenues earned from text and video messaging executed on the OTT application.
20	OTT revenue (video calls) (USD)	The total value (in USD) of revenues earned from video calls executed on the OTT application.
21	OTT revenue (media – broadcast (linear) video) (USD)	The total value (in USD) of revenues earned from media related to broadcast (linear) videos over the Internet on the OTT application.
22	OTT revenue (media – video on demand) (USD)	The total value (in USD) of revenues earned from media related to video on demand (VOD) over the Internet on the OTT application.
23	OTT revenue (all subscriptions) (USD)	The total value (in USD) of revenues earned from all subscriptions on the OTT application
24	OTT revenue (business subscriptions) (USD)	The total value (in USD) of revenues earned from business subscriptions only on the OTT application.
25	OTT revenue (advertising) (USD)	The total value (in USD) of revenues earned from advertising on the OTT application.
26	OTT revenue (transactional) (USD)	The total value (in USD) of revenues earned from transactional operations.
27	OTT revenue (other sources – to specify) (USD)	The total value (in USD) of revenues earned on the OTT application from other sources. The source must be specified in the data template. Additional columns can be added to specify each source individually.

In addition, Annex A details an example of a proposed data template for reporting on these indicators.

8 Concluding remarks

Regulatory agencies, through market observations and consumer surveys, have revealed that there is a growing demand and perceptible movement in consumer preferences towards OTT applications. However, the lack of reporting mechanisms for OTT applications may inhibit regulators from transparently quantifying their influence on the telecommunications and broadcasting industry. In this context, the availability of standardized data (encompassing user metrics, service usage patterns and revenues) from OTT providers could play a pivotal role in assessing market performance, sustainability, and competition.

Annex A

Example of the proposed data template for reporting by OTT applications

Year	Country	1	2	3	4	5	6	7	8	9
	Indicator	**OTT application**	**OTT subscriptions**	**OTT subscriptions**	**OTT downloads/ accounts**	**OTT voice**	**OTT voice**	**OTT voice**	**OTT messaging**	**OTT messaging**
	Description		**Total**	**Business accounts**	**Total**	**Minutes**	**Calls**	**Data consumed (GB/TB)**	**Total**	**Data consumed (GB/TB)**
2023	Trinidad and Tobago		Xx	xx	xx	xx	xx	xx	xx	xx
2023	Trinidad and Tobago		Xx	xx	xx	xx	xx	xx	xx	xx
2023	Trinidad and Tobago		Xx	xx	xx	xx	xx	xx	xx	xx
2023	Trinidad and Tobago		Xx	xx	xx	xx	xx	xx	xx	xx
2023	Trinidad and Tobago		Xx	xx	xx	xx	xx	xx	xx	xx
2023	Trinidad and Tobago		Xx	xx	xx	xx	xx	xx	xx	xx
2023	Trinidad and Tobago		Xx	xx	xx	xx	xx	xx	xx	xx

Year	Country	10	11	12	13	14	15	16	17	18
	Indicator	**OTT video**	**OTT video**	**OTT video**	**OTT video**	**OTT video**	**OTT video**	**OTT data consumption**	**OTT investment expenditure**	**OTT revenue**
	Description	**Video calls (number)**	**Video calls (data consumed) (GB/TB)**	**Video messaging (number)**	**Video messaging (data consumed)**	**Media (broadcast (linear) video) – GB/TB**	**Media (video on demand) – GB/TB**	**Total (GB/TB)**	**USD per annum**	**Voice calls (USD)**
2023	Trinidad and Tobago	xx	xx	xx	xx	xx	xx	xx	xx	xx
2023	Trinidad and Tobago	xx	xx	xx	xx	xx	xx	xx	xx	xx
2023	Trinidad and Tobago	xx	xx	xx	xx	xx	xx	xx	xx	xx
2023	Trinidad and Tobago	xx	xx	xx	xx	xx	xx	xx	xx	xx
2023	Trinidad and Tobago	xx	xx	xx	xx	xx	xx	xx	xx	xx
2023	Trinidad and Tobago	xx	xx	xx	xx	xx	xx	xx	xx	xx
2023	Trinidad and Tobago	xx	xx	xx	xx	xx	xx	xx	xx	xx

Year	Country	19	20	21	22	23	24	25	26	27
	Indicator	**OTT revenue**	**OTT revenue**	**OTT revenue**	**OTT revenue**	**OTT revenue**	**OTT revenue**	**OTT revenue**	**OTT revenue**	**OTT revenue**
	Description	**Messaging (USD)**	**Video calls (USD)**	**Media (broadcast (linear) video) (USD)**	**Media (video on demand) (USD)**	**All subscriptions (USD)**	**Business subscriptions (USD)**	**Advertising (USD)**	**Transactional (USD)**	**Other sources (to specify) (USD)**
2023	Trinidad and Tobago	xx	xx	xx	xx	xx	xx	xx	xx	xx
2023	Trinidad and Tobago	xx	xx	xx	xx	xx	xx	xx	xx	xx
2023	Trinidad and Tobago	xx	xx	xx	xx	xx	xx	xx	xx	xx
2023	Trinidad and Tobago	xx	xx	xx	xx	xx	xx	xx	xx	xx
2023	Trinidad and Tobago	xx	xx	xx	xx	xx	xx	xx	xx	xx
2023	Trinidad and Tobago		xx	xx	xx	xx	xx	xx	xx	xx
2023	Trinidad and Tobago		xx	xx	xx	xx	xx	xx	xx	xx

Annex B

Empirical cases on OTT (Policy perspectives)

Country specific insights is a crucial initial step in understanding how individual nations are navigating and shaping their regulatory approaches to maintain a competitive environment in response to the proliferation of OTT applications. The subsequent clauses provide a synopsis of the current policy initiatives being undertaken by several countries to integrate OTT applications in the telecommunications regulatory domain.

The country cases presented highlighted that although economies around the world are proactive in reaching a common ground on the treatment of OTTs, economies are yet to reach conclusive determinations regarding a suitable regulatory framework. The current status quo reveals a significant gap in regulatory oversight. OTT providers are not required by law in most jurisdictions to submit any data, in contrast to the reporting obligations imposed on traditional telecommunications operators. This poses a challenge for telecommunications regulators, especially in instances where the presence of OTT applications has been observed to have created a competitive constraint within the telecommunications market.

B.1 Trinidad and Tobago

The telecommunications authority of Trinidad and Tobago (the authority) in October 2024 published its framework on over-the-top services in Trinidad and Tobago[10]. The framework recognised that OTT services provide a competitive constraint as it *"may be a full or partial substitute for, and/or may compete with a public telecommunication and/or broadcasting service"* [b-TATT-2024]. Assessing the true impact of OTT services on the domestic economy has posed an ongoing challenge for the regulatory agency. Specifically, the authority in 2024 completed two (2) market reviews to define the relevant markets for the domestic retail fixed telephony and fixed broadband markets and the domestic retail mobile telephony market[11]. The consumer survey that was conducted to aid in the assessment of the relevant fixed telephony market(s) revealed a notable increase in OTT service adoption, as evidenced by the increased percentage of calls conducted over the Internet – rising from 10% in 2018 to 63% in 2022 among fixed Internet subscribers [b-TATT-2023].

The findings from these market reviews suggested that OTT services in Trinidad and Tobago are used by a wide cross section of the population. The authority acknowledges that OTT product characteristics facilitates its users to generate voice calls in a similar fashion to traditional fixed and mobile voice calls. The rapid growth in the adoption of OTT services necessitates the conduct of frequent market studies to account for the expanding dynamics of OTT services. Moreover, it is recognized that in order to draw more informed and sound market conclusions, essential statistical datasets, such as OTT traffic and revenue data, must be provided by OTT service providers, and hence the need for establishing reporting standards for these OTT service providers.

B.2 Bahamas

In 2018, the Bahamas utilities regulation & competition authority (URCA) undertook a consultation to determine, *among other things*, its regulatory measures in relation to net neutrality and OTT services. After considering the feedback from the market the URCA concluded that it will not introduce ex ante regulation at this time to treat with net neutrality and OTT services. Specifically, URCA is of the view that a significant part of the response to the prevalence of OTTs should be the

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[10] TATT. 2024. Framework on over-the-top services in Trinidad and Tobago. Telecommunications authority of Trinidad and Tobago. https://tatt.org.tt/wp-content/uploads/2024/12/Framework-on-OTTs-for-publication.pdf

[11] https://tatt.org.tt/consultations/table-of-consultative-documents/

adoption by affected regulated entities of innovative strategies that embrace the natural but rapid changes in the technological environment while remaining profitable, as has historically occurred in response to other disruptive influences on the electronic communications market ([b-URCA-2018]). However, URCA has been reviewing its position and although it has decided to not review OTTs as a separate/sole workstream, it has conducted market determination exercises in both the mobile and fixed markets with a focus on whether OTT communication services form part of those relevant markets. Preliminary conclusions indicated that OTT services were not part of either the mobile voice market [b-URCA-2022] or fixed voice market [b-URCA-2024].

B.3 Eastern Caribbean countries

There has been no formal regulatory response to the proliferation of OTT services in the Eastern Caribbean countries (Dominica, Grenada, St. Kitts and Nevis, Saint Lucia and St. Vincent and the Grenadines) which is regulated by the Eastern Caribbean telecommunications authority (ECTEL) and the National telecommunications regulatory commissions (NTRC). However, the ECTEL supports the principle of net neutrality and views blocking of OTT service providers as a practice that interferes with regional objectives[12] [b-ECTEL].

B.4 Brazil

Currently under the Federative Republic of Brazil's legislation, OTT applications are classified as value-added services (Serviço de Valor Adicionado or SVA), which implies that OTTs are characterized as users of the telecommunication service, and, consequently, are not considered as either telecommunications or broadcasting services. However, Brazil's telecommunications authority (National telecommunications agency – ANATEL, has been engaged on the topic of OTTs and, currently, ANATEL[13], under its 2023-2024 regulatory agenda, is evaluating a project regarding the need for regulation assigned to relevant telecommunication service users. Under this project, ANATEL expects to discuss impacts of new business models and players on the digital ecosystem of telecommunication networks and services.

Additionally, Congress is currently discussing a bill[14] that applies to OTT, a charge over commercial transactions of videos and films, which is known as Condecine (Contribution to the development of the national film industry). Currently, this tax is charged on the production, licensing and distribution for commercial purposes of video content in Brazil but does not include OTT.

In summary, although there are general tax obligations for OTT applications, there is no regulatory framework or reporting requirements for OTTs in the context of the telecommunications industry in Brazil.

B.5 The European Union

The European Union (EU) is guided by the European electronic communications code (EECC) which was established by the Directive (EU) 2018/1972 of the European Parliament and of the Council on 11th December 2018 [b-BEREC]. The EECC expanded the definition of electronic communications

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[12] In 2015, the ECTEL appealed to all telecommunications service providers operating within its Member States, to immediately refrain from the practice of blocking OTT services, websites and or throttling speeds, and commit to the principle of an open Internet.

[13] Request for comments 13/2023 (*Portuguese only*). https://apps.anatel.gov.br/ParticipaAnatel/VisualizarTextoConsulta.aspx?TelaDeOrigem=3&ConsultaId=10120. The contributions received could be accessed at https://apps.anatel.gov.br/ParticipaAnatel/RelContribuicoesConsultas.aspx?ControleProcesso=10120&TelaAnterior=1.

[14] Projeto de Lei n° 2331, de 2022 (*Portuguese only*). https://www25.senado.leg.br/web/atividade/materias/-/materia/154545.

services (ECS) to include OTTs. Specifically, the EECC provides two distinct frameworks, that is, (i) number-based services (enables communications via the PSTN) and (ii) number-independent services (does not connect or enable communication with publicly assigned numbers). OTT services that provide access to publicly assigned numbering resources are obligated to adhere to regulations akin to those applicable to traditional telecommunications operators. Whereas those that offer "number-independent interpersonal communications services," will fall under a less stringent regulatory regime.

With respect to data reporting requirements, Article 2 of the EECC provides a new definition for interpersonal communications services giving European national regulatory authorities (NRAs) the legal power needed to collect data from providers of "number independent interpersonal communications services". In addition, Article 20 provides the legal basis for NRAs to request data from undertakings which are not active in the electronic communication services or networks but are still operating in closely related sectors, to the extent that these requests are substantiated and proportionate. The body of European regulators for electronic communications (BEREC) conducted work to harmonise definitions for indicators regarding OTT services relevant to electronic communications markets. This is further discussed under clause 7.

Notably, not all EU Member States have implemented the EECC and as such the European Commission (EC) has referred the remaining EU countries (Spain, Croatia, Latvia, Lithuania, Ireland, Poland, Portugal, Romania, Slovenia, and Sweden) to the court of justice of the EU over their failure to fully transpose and communicate to the commission how national measures transpose the EU electronic communications code [b-IEU].

B.6 United Kingdom (UK)

Office of Communications (Ofcom), the UK communications regulator, collects information from the number-independent interpersonal communications services (NI-ICS) on a quarterly basis. Ofcom has information gathering powers for NI-ICS under Section 135(2)(g) of the Communications Act 2003 which are applied for the purposes of Ofcom's consumer research.

As part of this process, Ofcom collects quarterly information on the following indicators from several major NI-ICS providers:

- Number of monthly active users by customer type (residential / business)
- Total number and minutes of outgoing calls split by call type (voice / video) and customer type
- Total number of outgoing calls, split by call type, number of participant and application type
- Total number of outgoing messages split by customer type, message type, application type and number of recipients.

As the UK's converged communications regulator, Ofcom, considers it to be important to take a high-level look at competition and consumer issues in the NI-ICS sector and its impact on traditional calling and messaging markets. This work aims to increase Ofcom's knowledge and understanding of these services, and to provide evidence-based thinking, through the lens of the existing UK competition and consumer protection duties in telecommunications markets. As a result, Ofcom conducted research into this area which included a consumer survey to collect qualitative insights into consumers' use of such services. The report is publicly available here.

Ofcom also regulates linear and on-demand services, some of which are delivered OTT. Through its regulation of these services, Ofcom regularly collects data (such as its annual TV industry data collection and as set out in its on-demand rules and guidance) and conduct and publish research.

B.7 India

The telecom regulatory authority of India (TRAI) has been actively engaged in the discussions surrounding the treatment of OTT services which are currently not regulated in the country. The most recent development by the TRAI was in July 2023 whereby stakeholder feedback was requested on a consultation paper – regulatory mechanism for OTT communication services and selective banning of OTT services [b-TRAI-2023]. The outcome of the consultation is yet to be determined. Notably, the new Telecommunications Act 2023 does not explicitly include OTTs within the definition of telecommunications services[15]. Currently, OTTs fall under information technology regulations which include code of ethics, procedures and safeguard rules in relation to digital media. Notwithstanding, assessments are still being conducted on OTTs [b-Chambers and Partners].

B.8 Zimbabwe

The postal and telecommunications regulatory authority of Zimbabwe (POTRAZ) conducted stakeholder consultations on over-the-top services in 2016 and 2017. The consultative process included telecommunications/ICT players, consumers, wider industry, academia amongst others. The consultative process sought to examine the economic impact of OTT services on all stakeholders, examine regulatory and legislative measures for the provision of OTT services as well as to come up with a framework for levelling the playing field and promoting sustained sector growth. The consultation culminated in valuable insights. Key amongst them was the regulatory dilemma arising from a lack of holistic, quantitative, and country specific time series data on OTTs such as traffic, revenues generated, subscriptions, etc. Whilst the regulator had sufficient data on operators of local domicilium, this was not so for application-based service providers. The stakeholders agreed that direct economic and policy intervention without sufficient, quantifiable evidence on the impacts of OTTs, at that time, would not yield intended outcomes. Nevertheless, POTRAZ plans to include OTTs in upcoming market studies, whose outcomes may impact future policy and regulatory interventions on all players, including OTTs.

B.9 Bahrain

The consideration of OTTs in the Kingdom of Bahrain has been implicitly noted in the telecommunications regulatory authority (TRA) consultation on determining the licensing approach to Internet protocol-based voice and messaging services in the Kingdom of Bahrain. Specifically, in 2021 after various stakeholder consultations the TRA finalized its position whereby a distinction was made between number-based and number-independent services. From this distinction the TRA concluded that number-based services qualify as telecommunications services and would require different licenses (where applicable) unless the services are provided within a private network. Whereas number-independent services do not qualify as telecommunications services and hence do not require a license. In addition, under the Internet service provider (ISP) license, the prohibition on providing "basic voice services" includes number-based services and does not extend to number-independent services. Furthermore, the law applies to all number-based service providers irrespective of the jurisdiction of their establishment and the location of their technical equipment, if they effectively, deliberately, and purposefully direct their activities to residents of the Kingdom of Bahrain [b-TRA].

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