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SERIES D: TARIFF AND ACCOUNTING PRINCIPLES AND INTERNATIONAL TELECOMMUNICATION/ICT ECONOMIC AND POLICY ISSUES

Recommendations for regional application – Recommendations applicable to the African Region

OTT voice bypass

Recommendation ITU-T D.608 R

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OTT voice bypass

Summary

OTT voice bypass is now widely recognized as a form of traffic bypass and a growing source of losses for international inbound voice revenues. This regional Recommendation for Africa focuses on national and regional collaboration between member states and operators to deal with the OTT voice bypass issue.

History

Edition	Recommendation	Approval	Study Group	Unique ID*
1.0	ITU-T D.608 R	2022-05-02	3	11.1002/1000/14772

Keywords

Consumer protection, fraud, OTT, OTT voice bypass, regional collaboration.

* To access the Recommendation, type the URL http://handle.itu.int/ in the address field of your web browser, followed by the Recommendation's unique ID. For example, http://handle.itu.int/11.1002/1000/11830-en.

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications, information and communication technologies (ICTs). The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

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Introduction

The threat of OTT voice bypass is getting greater with the entrance of some OTT players to the wholesale market as international call terminators. OTT voice bypass is a fusion of the legal 'Over-The-Top' model with the illegal international bypass model, for which, a call originating as a traditionally dialled voice call via the operator's public switched telephone network (PSTN) (or cellular network), is taken on a detour and terminated to the OTT application on the called party's phone. This deprives the receiving telecommunication operator from the termination fees related to this call. The calling subscriber, who initiated a normal voice call with a called number within the terminating network, is unaware of the way the call was terminated; the called subscriber receives a voice over Internet protocol (VoIP) call.

Besides the fact that operators lose from OTT bypass frauds, governments and consumers are also negatively affected. Governments will lose a part of the revenue associated with taxation. Consumers are also affected as they are not aware of the real mode of the call they initiated or received. By opting for a traditional call, the originating customers have consciously chosen not to use an OTT service, so they may feel cheated when they will receive a lower service quality than the one they thought they were paying for, as this type of traffic has neither a service level agreement (SLA) nor a guarantee for quality of services. Considering all these drawbacks, OTT bypass is a risk that should not be underestimated; it brings the need for national and regional collaboration between member states and operators to control this type of international telecommunication fraud.

[b-ITU-T Technical Report] provides technical and policy background to the international community in both developed and developing countries as to the nature and implications of Over-the-Top and related online services.

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OTT voice bypass

1 Scope

This regional Recommendation for Africa covers the need for national and regional collaboration to mitigate the challenges posed by OTT bypass to ensure effective consumer protection and revenue assurance for operators and Member States.

2 References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

None.

3 Definitions

3.1 Terms defined elsewhere

This Recommendation uses the following terms defined elsewhere:

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

3.2 Terms defined in this Recommendation

This Recommendation defines the following terms:

3.2.1 OTT voice bypass: Redirecting of terminating traffic from legitimate mobile calls onto Over-the-Top applications.

4 Abbreviations and acronyms

This Recommendation uses the following abbreviations and acronyms:

GSM Global System for Mobile Communications

NRAs National Regulatory Authorities

OTT Over the Top

PSTN Public Switched Telephone Network

SLA Service Level Agreement

VoIP Voice over Internet Protocol

5 Conventions

None.

6 Regional Collaboration

6.1 Given the global nature of OTTs, collaboration across multiple Member States and Sector Members to control OTT voice bypass is strongly encouraged.

6.2 Member States should endeavour to ensure that National Regulatory Authorities (NRAs) in collaboration with Sector Members take all reasonable measures to stop OTT voice bypass provision within their territories.

6.3 Member States should ensure that NRAs in collaboration with Sector Members put in place mechanisms to share information on OTT voice bypass incidences and disclosure of perpetrators.

6.4 Member States should ensure that NRAs in collaboration with Sector Members establish collaborative dispute resolution and redress mechanisms for OTT voice bypass.

7 Fraud detection and control mechanisms

7.1 Member States through their NRAs and Sector Members are encouraged to foster the implementation of appropriate technological fraud management systems to detect, control and combat OTT voice bypass in order to ensure the sustenance of international telecommunications networks and services.

7.2 Member States through their NRAs should ensure that such fraud detection and revenue assurance systems have the following capabilities:

i) To classify data traffic as OTT chat and OTT voice, and further sub-classify it as OTT to OTT and PSTN/GSM-to-OTT.

ii) To detect and automatically block/log calls that originate from a public switched telephone network (PSTN)/Global System for Mobile Communications (GSM) network and lands on an OTT application without affecting OTT-to-OTT traffic.

iii) To trigger a notification that is sent to users of the fraudulent application.

8 Consumer protection

8.1 Member States are encouraged to ensure that NRAs establish comprehensive consumer protection frameworks to protect consumers from threats across the network, including OTT voice bypass.

8.2 Member States through their NRAs are encouraged to educate consumers and raise awareness on OTT voice bypass so that they can report on incidences of bypass fraud thus enabling collaboration between consumers and telecommunication network operators. In particular, consumers must be made aware of the following:

i) The possibility of them being charged the tariff of a conventional international call instead of tariff for a bypassed VoIP call which has no guarantee for high quality of service.

ii) The possibility of being prejudiced by being charged data for receiving bypassed calls originated as voice calls.

iii) The mechanisms in place to identify and mitigate OTT voice bypass.

iv) The established dispute resolution mechanisms to facilitate consumer redress for OTT voice bypass.

Bibliography

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

[b-ITU-T Technical Report] Technical Report (2017), *Economic Impact of OTTs*. https://www.itu.int/pub/T-TUT-ECOPO-2017

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