

UNITED REPUBLIC OF TANZANIA
TANZANIA COMMUNICATIONS REGULATORY AUTHORITY

ISO 9001:2015 CERTIFIED



**GUIDELINES ON THE USE OF PRIVATE AUTOMATIC BRANCH
EXCHANGE (PABX)**

Issued by;
Director General,
Tanzania Communications Regulatory Authority,
September, 2020



Guidelines on the use of Private Automatic Branch Exchange (PABX)

1.0 Introduction

PABX stands for Private Automatic Branch exchange which is an automatic telephone switching system used by organisations or private companies that enables communication within and outside the organisation through extension numbers and connection to mobile/fixed networks respectively. It is a switch that is managed by the organisation or private company that will need fixed voice services from mobile/fixed service providers' networks in order to facilitate internal calls to their staff, calls from their customer's service centres including interactive voice response, as well as incoming and outgoing calls to other external users.

From the mobile/fixed service provider point of view, provision of voice services to PABX involve installation of physical links through either voice over IP trunking, E1 connections or physical SIM cards. Also, it involves configuring electronic communication numbers (virtual numbers) for the purpose of establishing connectivity between the PABX and the mobile/fixed service provider network.

This document describes the procedures and guidelines governing the management of PABX and provision of fixed services to PABX through E1 and Session Initiation Protocol (SIP) connections. The guidelines refer to both TDM and SIP based PABX as being used by the private companies, government/non-government organisations and international organisations. The guidelines intend to provide information to mobile service providers, internet service providers, and general public on the key issues to take into consideration when managing and providing fixed voice service to PABX.

2.0 Interpretations

“Authority” means Tanzania Communications Regulatory Authority.

“E1” means a standardized digital interface in communication networks used on an integrated services digital network to carry multiple voice channels (32 voice channels) to an organization PABX. E1 connection is used for TDM-PABX.

“IP” means Internet Protocol used for identifying and interconnecting devices in the private and public communications networks including the Internet.

“PABX” means Private Automatic Branch Exchange.

“SIP” means Session Initiation Protocol which is a voice over internet protocol technology used in establishing and control of voice



Guidelines on the use of Private Automatic Branch Exchange (PABX)

communications. It is a type of technology used for providing voice connectivity for IP-PABX.

“TDM” means time division multiplexing which is a transmission method of transmitting and receiving multiple communication signals over a common path.

“Virtual private network (VPN)” means a virtual private network that allows an organization to create a secure private connection to another network over the public Internet.

3.0 PABX USE GUIDELINES

- 3.1** PABX in use by corporate organizations, institutions and individual customers must be type-approved by the Authority; a process that is performed online through: <https://otas.tcra.go.tz/>.
- 3.2** Internet service providers (ISP), mobile and fixed service providers that provide E1 connections and/or SIP trunking or its alternatives to PABX customers must make sure that they keep registers of all PABX owners and services subscribed and submit the same to the Authority on bi-annual basis.
- 3.3** Mobile and fixed service providers shall make sure that they properly vet their customers’ PABX system architecture and assure themselves that it is not prone to fraud.
- 3.4** Mobile/fixed service providers and PABX owners shall make sure that they regularly enhance their telecommunication traffic fraud detection systems and ensure that the provisioned PABXs are not used for the intention to terminate fraudulent international voice traffic.
- 3.5** Mobile/fixed service providers and PABX owners shall make sure that international voice traffic is terminated through licensed international gateway and PABX shall be used to exchange local voice traffic only.



Guidelines on the use of Private Automatic Branch Exchange (PABX)

- 3.6** Mobile service providers, fixed service providers, and PABX owners shall make sure that they adhere and comply to the requirements of the Electronic and Postal Communications Act, Cap 306, The Electronic and Postal Communications (Electronic Communications Equipment Standards) Regulations, 2018, The Electronic and Postal Communications (SIM Card Registration) Regulations, 2020 and the Electronic and Postal Communications (Tele-Traffic) Regulations, 2018.
- 3.7** Mobile and fixed service providers that assigns virtual numbers to the PABX customers shall notify the Authority in writing on the same including the name of organisation/company, count of virtual numbers assigned and purpose of use. And as such service providers shall make sure that they comply to the requirements of Electronic and Postal Communications (Electronic Communication Numbering and Addressing) Regulations, 2018.
- 3.8** Mobile/fixed service providers and their PABX customers shall have signed service level agreements (SLA) which among other things address issues of security enhancement and fraud protection.
- 3.9** Mobile/fixed service providers and their PABX customers shall make sure that there is no established VPN tunnel to foreign countries for the purpose of termination of international voice traffic.
- 3.10** PABX used by the organizations and private companies such as hotels, assisted living facilities or hospitals shall be able to allow end user to call the emergency services numbers such as 112.

4.0 Amendment of the Guidelines

These guidelines may be reviewed from time to time to accommodate changes in technology pertaining to use of PABX.