

# TIX Memorandum of Understanding

The undersigned, representative of \_\_\_\_\_ (ISP), hereby confirms the participation of the above mentioned ISP in the Tanzania Internet Exchange (TIX). The Technical and Organizational Requirements below are accepted and will be adhered to.

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

Admin Contact: \_\_\_\_\_ (Name)

\_\_\_\_\_ (Email)

Technical Contact: \_\_\_\_\_ (Name)

\_\_\_\_\_ (Email)

Signature: \_\_\_\_\_

Name in print: \_\_\_\_\_

Date: \_\_\_\_\_

Filled by TIX: \_\_\_\_\_

Port on TIX switch: \_\_\_\_\_

IP on TIX net: 196.223.5. \_\_\_\_\_ /24

ASN: \_\_\_\_\_

## A. Technical requirements

1. Peers will be provided with 2U rack space. There might be restrictions in the future when capacity is limited.
2. TIX provides its participants with a layer-2 Ethernet switch fabric connecting several peers, and BGP route servers.
3. Participants may only connect equipment which they own and operate themselves to TIX. They may not connect equipment on behalf of third parties.
4. Peers may only utilize a single layer-2 MAC address to connect a single layer-3 router per port allocated from the TIX switch fabric.
5. Each participant must have their own public Autonomous System number.
6. TIX participants are encouraged to advertise routes to their IP address range(s), and the ones of their customers, to the TIX route servers. Peers shall not advertise routes other than their own, without the prior written permission of the assigned holder of the address space.
7. Peers shall not advertise a next- hop other than their own.
8. Peering between routers across TIX will be via BGP-4.
9. Peers shall not generate unnecessary route flap, or advertise unnecessarily specific routes in peering sessions with other participants across TIX.
10. Peers shall not point their default route to TIX or any peer.
11. Participants must, on all interfaces connected to the TIX switch fabric, disable Proxy ARP, ICMP redirect, CDP, IRDP, directed broadcasts, IEEE802 Spanning Tree, any interior routing protocol broadcasts, and any MAC layer broadcasts other than ARP or inverse-ARP.
12. Peers must, on all interfaces connected to the TIX switch fabric, disable any duplex, speed, or other link parameter auto-sensing.
13. Peers must set netmasks on all interfaces connected to TIX to include the entire TIX peering LAN – 196.223.5.0/24.
14. Peers shall avoid congestion on their interfaces or transmission links at or into TIX so as to not cause unwanted latency for traffic at TIX.
15. Participants shall not announce ("leak") prefixes including some or all of the TIX peering LAN to other networks without explicit permission of TIX.
16. Participants must clearly label all equipment that resides at the TIX facility with ownership and contact information.
17. Participants will not touch equipment and/or cabling owned by other participants and installed at TIX or in the

room containing TIX without the explicit permission of the participant who owns the equipment.

18. Peers should not routinely use the TIX switch fabric for carrying traffic between their own routers.

19. Participants will not install traffic monitoring software to monitor traffic passing through TIX, except through their own ports. TIX may monitor any port but will keep any information gathered confidential, except where required by law or where a violation of this Memorandum of Understanding has been determined by TISPA.

20. Participants shall endeavour to provide advance notice via email to each of their BGP peers, in the event that a service disruption or discontinuity of BGP peering can be foreseen.

For clarification:

1. ISPs should advertise all their networks to the IXP.

2. TIX does make statistics of the aggregate traffic flow over the exchange switch available to the public.

## B. Organizational Requirements

1. Participants have a duty of confidentiality to the other TIX Participants in TIX affairs.

2. Peers must provide 24x7 contact details for use by TIX staff.

3. In matters of TIX, the primary means of communication will be via email.

4. Peers must not refer customers or customers' agents to TIX staff. All queries must be directed through the peer's support staff.

5. Peers must not carry out any illegal activities through TIX. They are to obey the laws of the country.

6. Participants will pay annual fees in advance. Failure to do so will result in immediate disconnection. Fees are detailed in Annex C below.

7. It is Participants' responsibility to ensure that all contact information held by TIX in connection with their participation is correct and up to date.

8. All applications to join TIX must follow the correct joining procedure as follows:

Applications will be accepted, provided this MoU including the Technical and Organisational Requirements as well as the fees are accepted and the MoU is signed and necessary details given. Applications must be accompanied by the setup fee and the port connection fee for the current calendar year.

9. Any complaints must be referred in writing to the TIX Management Committee of TISPA. The working group will discuss them at the next meeting. The decision can be revised by the Board of TISPA, in which case that will be final.

10. TIX will not provide rebates of any sort for down time.

TISPA and TIX do not warrant or assume any liability or responsibility for services provided or not provided.

11. Participants of TIX must give 3 months notice in writing to TISPA if they intend to stop using the IXP. There will be no refund on charges under any circumstances.

### C. Fees schedule

1. TIX will charge each participant a port connection fee. This will allow the peer to connect to the designated port on the TIX switching fabric.

2. A once-off setup fee of USD 500.- will be charged for connecting to TIX. Optics for LR/LX are included, for other transmission the peer is to provide optics.

3. The below amounts are the port fees for one calendar year and payable annually in advance to TISPA:

Annual Port fees (USD)	TISPA member	Non-member
10/100/1000 BASE-T 1000BASE-xX	3,500.-	4,000.-
Additional port 1000BASE-x	1,200.-	1,700.-
10GBASE-xR	5,500.-	6,000.-
Additional port 10GBASE-xR	4,125.-	4,625.-

4. For connectivity within the TIX premises and not connecting to the peering fabric a cross-connect fee of USD 300.- per calendar year, or any part of a calendar year, applies.

5. Peers requiring more than the above mentioned 2RU space can be provided with additional space, when and where available, at USD 720.- annually for 1RU.