

The Hashemite Kingdom of JORDAN



Telecommunications Regulatory Commission

Consultation on draft Regulatory Decision

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Subject: Draft Regulatory Decision for Establishing an Internet Exchange Point (IXP)

According to Article (56) of the General Policy for the Information & Communications Technology and Postal Sectors 2018 TRC is committed to encourage the establishment of commercial Internet Exchange Points (IXPs).

This commitment is considered one of the main measures that will give additional resilience for the provision of services to customers in other countries, thereby improving the attractiveness of Jordan as a location for hosting services and call centres. Thus, the Board of commissioners has issued according to its decision number (1-12/2019) dated (27/10/2019) the draft Regulatory Decision for Establishing an Internet Exchange Point (IXP) in Jordan and its specialized technical attachment.

THE HASHEMITE KINGDOM OF JORDAN
Telecommunications Regulatory Commission (TRC)



Regulatory Decision For Establishing an
Internet Exchange Point (IXP) in Jordan

Telecommunications Regulatory Commission
TRC Board Decision No. (1-12/2019) Date (27/10/2019)

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TELECOMMUNICATIONS REGULATORY COMMISSION (TRC)
REGULATORY DECISION FOR
ESTABLISHMENT OF INTERNET EXCHANGE POINT (IXP) IN JORDAN

Issued Pursuant to Articles 6(a), 6(b), 6(e) of the Telecommunications

Law No. (13) For the Year 1995 and its amendments, and Article (56) of the General Policy for the Information and Communications Technology and Postal Sectors, 2018

1 CITIATION

1. The following terms constitute the TRC's Regulatory Decision on the Provisioning of a National Internet Exchange Point (IXP) to facilitate network interconnection through a centralized physical network access point, which is expected to minimize the upstream traffic connected to international Gateways of Internet service provider's (ISP) members in the IXP, thus avoiding additional costs, moreover exchanging and caching local Internet traffic, improving the bandwidth and the quality of Internet ecosystem traffic in Jordan.

This Regulatory Decision shall come into effect as of the date of their approval by the Board of Commissioners.

2 DEFINITIONS

The following words and phrases shall have the meanings assigned thereto hereunder, unless the context indicates otherwise. Any words and phrases not defined hereunder shall have the meanings ascribed thereto in the Telecommunication Law and the Regulations issued pursuant thereto:

2.1 **“Policy”**: Government of Jordan's GENERAL POLICY FOR THE ICT AND POSTAL SECTORS issued on 2018.

2.2 **“Telecommunications Law”**: means the Telecommunications Law (Law No. 13 of 1995 of Jordan, and its amendments).

2.3 **“TRC”**: The Telecommunication Regulatory Commission of Jordan.

2.4 **“License”** means the authorization granted by the TRC, or the contract or license agreement signed between the TRC and a Person (including all appendices and schedules

attached thereto), to allow a Person to establish, operate, and manage a Public Telecommunications Network, or provide Public Telecommunications Services, or use Radio Frequencies pursuant to the provisions of the Telecommunications Law and the by-laws and instructions issued pursuant thereto.

2.5 “**IXP**”: Internet Exchange Point established in Jordan, also called IX, or peering point. Both a physical networking location and a logical networking strategy, which facilitates interconnection between Internet-based networks, through which ISP (ISPs) and Content Delivery Networks (CDNs) exchange Internet traffic between their networks.)

2.6 “**Member**”: The Licensee who connects or participates in the IXP.

2.7 “**CDN**”: Content Delivery Network or Content Distribution who owns a geographically distributed Network of servers which work together to provide fast delivery of Internet content and delivering high availability and high performance by distributing the service spatially relative to end-users, with quick transfer of assets needed for loading Internet content including HTML pages, javascript files, stylesheets, images, and videos, including traffic from major sites like Facebook, Netflix, Amazon..Etc, once a CDN connects to an IXP in a country, the web traffic from the country to the CDN becomes local and provides upstream saving and increases performance for IXP members and help protect websites against some common malicious attacks.

2.8 ‘**Interconnection**’: means the physical and logical linking of the Telecommunications Systems in order to allow the Users of one Telecommunications Systems to communicate with Users of the same or another Telecommunications Systems or to access services provided by another Licensee. And it is subject to Interconnection’s Instructions issued by TRC.

2.9 ‘**Person**’: means any individual, company, corporation, partnership, joint venture, consortium, government or governmental entity.

2.10 ‘**Point of Interconnection**’ (or POI) refers to any technically feasible point where the Networks of Licensees are interconnected.

2.11 ‘**Private Telecommunications Network**’ means the Telecommunications System operated for the benefit of a single Person or a single group of Persons under common ownership to serve their own needs.

2.12. ‘**Public Network Operator**’ means a Licensee that is an operator of a Public Telecommunications Network.

2.13 ‘**Public Telecommunications Network**’ or ‘**Network**’ means a Telecommunications System or a group of Telecommunications Systems for the offering of Public Telecommunications Services to Users pursuant to the provision of the Law.

2.14 ‘**Public Telecommunications Services**’ means a telecommunications service provided for compensation to the general public or any category thereof, in accordance with the Law.

2.15 ‘**Telecommunications System**’ means any transmission or switching device or other device or Computer system or instrument used to convey, receive or transmit Telecommunications signals for the purpose of providing Public or Private Telecommunications Services as the case may be.

2.16 “**Traffic** ” means any **computer data** relating to a communication by means of a computer system, generated by a computer system that forms part in the chain of communication, indicating its origin, destination, path or route, time, date, size, duration or type of underlying network service;

2.17 “**Bilateral agreement (BA)**”: an agreement (one-to-one agreement) between two networks to exchange traffic.

2.18 ‘**Interconnection Agreement**’ means an agreement made between two interconnected Licensees in accordance with the requirements of these Instructions.

2.19 “**Transit**”: An arrangement in which a network provides access to another network through to enable its connection to a third party network. Transit arrangements typically provide access to an array of networks not limited to one country. In many cases one Internet transit arrangement with a large network can provide a small, remote network with access to the rest of the world

2.20 “**Host**”: the authority or organization which will be responsible for providing the IXP’s physical location.

2.21 “**Internet Service Provider**” (ISP) : means any telecommunications licensee who holds a license to provide access to Internet and other data networks services under the telecom law in Jordan.

2.21 “**Class License**” means a License to provide Public Telecommunications Services and/or operate Public Telecommunications Networks (i) not requiring the use of Scarce Resources, or (ii) requiring the use of Scarce Resources that have been specifically exempted by the TRC from an Individual License requirement.

2.22 “**Individual License**” means a License to provide Public Telecommunications Services and/or operate Public Telecommunications Networks that use in the provision of some or all services or operation of networks Scarce Resources that have not been specifically exempted by the TRC from an Individual License requirement.

2.23 **Local internet traffic** means traffic generated when local users access to the digital contents

2.24 **Border Gateway Protocol (BGP)** is a standardized exterior gateway protocol designed to exchange routing and reachability information among autonomous systems (AS) on the Internet.

2.25 **Autonomous system (AS)** is a collection of connected Internet Protocol (IP) routing prefixes under the control of one or more network operators on behalf of a single administrative entity or domain that presents a common, clearly defined routing policy to the Internet.

2.26 “**eBGP**” is the protocol used to transport information to other BGP enabled systems in different autonomous systems (AS).

2.27 “**Routing Information Base RIB**”: is a routing table which is a data table stored in a router or a networked computer that lists the routes to particular network destinations, and in some cases, metrics (distances) associated with those routes.

2.28 **NITC**: means National Information Technology Center is Jordan. 2.29 **RIPE NCC** (is an open and voluntary organization of European ISP, the Regional Internet Registry for Europe, the Middle East and parts of Asia..

2.30 "**Computer data**" means any representation of facts, information or concepts in a form suitable for processing in a **computer system**, including a program suitable to cause a **computer system** to perform a function;

2.31 "**Computer system**" means any device or a group of interconnected or related devices, one or more of which, pursuant to a program performs automatic processing on **computer data**;

2.32 “**Internet protocol**” (IP) is the method or protocol by which data is sent from one terminal to another on the Internet. Each terminal (known as a host) on the Internet has at least one IP address that uniquely identifies it from all other terminals on the Internet.

2.33 “**Internet**” is a global information system that is: logically linked together by a globally unique address, based on internet protocol (IP) or its subsequent enhancements/up gradations; able to support communications using Transmission Control Protocol (TCP/IP) suite or its subsequent enhancements/up gradations, and all IP compatible protocols.

2.34 "**Peering**" the term used for exchanging traffic on the IXP. Peering is a bilateral agreement between two ISPs. There is no rule that governing how to peer with all other ISPs on the IXP. It is up to the individual ISP who they want to peer with.

2.36 "**User**" means any person using the services of an a telecommunications licensee.

2.37 **Interconnection Instructions:** Instructions Issued by TRC Board Decision No.(2-1/2005) Dated (5/1/2005) And amended by TRC Board Decision No.(18-11/2010) Dated(15/6/2010).

2.38 "Neutral Entity": an entity which does not favor any Licensee, company or Government.

3 GENERAL PRINCIPLES

The actions taken by the TRC pursuant to this regulatory decision shall take the following into consideration:

3.1 Implemented in an objective and impartial manner.

3.2 Conducted in accordance with best standards of transparency taking into consideration the need to protect the national interest.

3.3 Conducted in according the approvals issued by TRC with the corporation of the IXP Host.

3.4 IXP members to comply with any decision and directive given by TRC in respect of matters concerning the duty to interconnect to an IXP provided for in this Instructions and shall promptly take such measures as TRC may direct them to take for the purposes of implementing or of facilitating the implementation of this Instructions.

4 PROVISIONING OF (IXP) IN JORDAN

4.1 The IXP shall have, but are not limited to, the following characteristics:

4.1.1 The **Host** should be a Neutral entity, and shall be responsible also for day-to-day operations, in addition to the ability to allow for-profit/Commercial and revenue to members by facilitating BA's and encouraging international CDN's to join.

4.1.2 Each member shall provide required devices and equipment required to connect to the IXP, initial equipment will include all devices for functioning on Layer 2 only on the establishment phase, once a CDN wishes to connect, members who share services with the CDN should allow Layer 3 (IP traffic).

4.1.4 There will be no limitation for the number of members allowed to join the IXP, taking into consideration any future issued decisions in this concern from TRC.

4.1.5 If any entity wishes to offer a new additional or redundant physical location for the IXP, TRC will supervise the establishment until launch, considering any further regulatory decision that will be issued by TRC on this matter.

4.1.6 The Capital expenditures (CAPEX) and operating expenses (OPEX) cost of the IXP will be divided on all members in coordination with the Host.

4.1.7 Any future member shall endure the costs and expenses as decided by the Host, taking into consideration the expenses and cost endured by previous members.

4.1.8 If a member wishes to withdraw from the IXP at any stage, a formal letter should be conveyed to TRC explaining the detailed reasons, TRC has the right to study the request and issue the required decision accordingly.

5 INTERCONNECTION

5.1 By default, Transit traffic will be not open, unless two members sign an interconnection agreement approved from TRC and it shall be subject to Interconnection Instructions issued by TRC on this behalf, more details on Interconnection are available in APPENDIX I accompanying this document.

6 QUALITY OF SERVICE (QoS)

6.1 The IXP shall be subject to the Quality of Service (QoS) obligations issued by TRC, more details on Quality of Service are available in (APPENDIX I) accompanying this document.

7 GENERAL PROVISIONS

7.1 IXP is an interconnection point of ISP ISPs in Jordan. The main goal is to enable the traffic exchange locally without routing through international networks. However IXP can also be used for routing of internet traffic between the networks in Jordan and the peer or downstream networks of IXP participants in other countries. IXP serves and IXP members who holds licenses, and local and international Research and Education networks as well as international network services providers and Internet exchanges via licensed networks.

More details regarding General Provisions are available in APPENDIX I accompanying this document.

8 FEES AND TARRIFS

8.1 The IXP management (the Host) has the right to set up the tariff policy/ per unit according to agreed parameters (Data traffic, bandwidth, etc...).

8.2 Tariff policy shall be approved by the TRC.

9 MANAGEMENT OF OPERATIONS

9.1 IXP shall have a system to ensure reliable and continuous operation, and information security control and monitoring. System data shall be stored at least 6 months or as stipulated in the data retention instructions.

9.2 The following principles shall be complied to solve troubleshooting. Those are:

9.3 When troubleshooting occurs, immediately inform related parties by using fully automated control system.

9.4 Involved IXP members shall quickly repair and troubleshoot.

9.5 Record troubleshooting type/classification, period and solutions, and analyze.

9.6 Host should agree with all ISP members to define proper down-time in the BA.

9.7 More details on operations which regard to system interference and reporting are specified in the APPENDIX I accompanying this document.

10 Dispute resolution

10.1 Any unresolved dispute between IXP members or between them and the Company with a special license or between any of the previous parties and the IXP Host regarding the terms and conditions of interconnection to the IXP or relating to any matter concerning the implementation of these Instructions may be brought before TRC for resolution by any party to such dispute.

10.2 In deciding upon any dispute referred to in these Instructions the TRC shall employ easily accessible and in principle, inexpensive procedures to resolve such dispute in a fair, transparent and timely manner.

10.3 The existence of a dispute about the terms and conditions of interconnection to the IXP or with regard to any matter concerning the implementation of these Instructions shall not exempt, suspend or postpone the obligation of an ISP to interconnect to the IXP in terms of these Instructions.