

100G BIX Reseller Program (BIX ViP)

1. The objective of the BIX Reseller Program is to provide the services of BIX on locations outside of Budapest with transparent conditions with help of contracted Reseller partners.
2. Basic concepts:

- a) *BIX (Budapest Internet eXchange)*: A homogenous network comprising of the totality of BIX nodes, which ensures the exchange of the IP traffic of BIX members. More information is available on the www.bix.hu website and in the BIX policy.
- b) *BIX Member*: A Member contracted for the services of BIX who connects directly to the BIX and complies with the requirements detailed in Articles 2/b and 3 of the BIX policy.
- c) *Virtual BIX Member*: A Member contracted for the services of BIX who connects to the BIX through a reseller partner and complies with the requirements detailed in Articles 2/b and 3 of the BIX policy. The Virtual BIX Member shall conclude a BIX policy contract with the BIX operator, in which the Virtual BIX Member undertakes to accept the BIX policy. The Virtual BIX Member shall be entitled to use the services of the BIX equally as the BIX Member
- d) *BIX operator*: the technical infrastructure of the BIX is operated by the Council of Internet Service Providers; (full name: Council of Internet Service Providers of Hungary Scientific Association, registered seat at H-1089 Budapest, Bláthy Ottó u. 9.), hereinafter referred to as CISP
- e) *BIX Reseller*: A telecommunication operator contracted for the sale of BIX services who accepts the terms and conditions of the reseller contract.
- f) *BIX policy contract*: A free-of-charge contract (in accordance with the BIX policy) concluded with the Virtual BIX member regarding the rules of the BIX use.
- g) *BIX node*: Technical infrastructure established by the BIX operator at a given place for the provision of BIX services (POP)
- h) *Dedicated reseller BIX port*: A reseller connection which is dedicated to realize resold BIX traffic exclusively.
- i) *Hybrid reseller BIX port*: On the connection used for reseller connecting, in addition to the resold traffic it also ensures the transfer of the reseller's own BIX traffic.

3. The services / bandwidths to be provided in the framework of the program:

The bandwidth of the BIX service sold by Resellers – unlike the BIX service used on the BIX nodes – may be 1000 Mbit/sec multiplied by any whole number. The service provider shall not differ from the service provided by BIX in respect of any other parameter, Reseller shall not be entitled to change those.

4. Conditions of BIX Resale:

- 4.1. Reseller shall comply with the following requirements:

- a) Telecommunication operator status

- b) Active BIX membership (may be acquired together with the reseller application)
- c) Maintaining constant (24/7) network operations control (NOC)
- d) Redundant telecommunication backbone network

4.2. Requirements related to sales

In the framework of the reseller scheme the BIX service may be sold exclusively to those parties who accept the BIX policy, whose application is approved by the BIX members in accordance with the policy and who conclude BIX policy contracts for the services of BIX.

5. Technical requirements of the BIX resale

5.1. The connection point of the service:

The reseller service provision may be realized through connecting to any BIX node. The type of connection may be dedicated reseller BIX port or hybrid reseller BIX port. In case of resold BIX service in excess of 20 Gigabit in total, the Reseller shall connect redundantly, to at least two BIX nodes.

5.2. Type and quantity of connection ports:

Reseller may connect to the BIX Nodes on $n \times 100\text{G}$ Ethernet ports.

The type and quantity of the ports shall be chosen so that total capacity thereof is equal to or greater than the aggregated bandwidth of the virtual BIX connections sold by the BIX Reseller.

The traffic of the reseller BIX ports shall not exceed 95% of the 100G ports.

5.3. Technical requirements of the connection:

Technical requirements are specified in the annex related to the backbone network technology chosen: Annex 1: IP/MPLS

If any different backbone network technology is applied, the technical solution shall be arranged and have approved by CISP, the result of which shall be recorded as the new annex of the reseller program.

6. Remuneration of the reseller service:

6.1. The basis of the remuneration of the service shall be the sum of the maximum aggregated capacity of the reseller BIX port(s) – regardless whether those are dedicated or hybrid – and the capacity of the virtual BIX services sold. If the capacity used on a given port(s) exceeds half of the maximum bandwidth usable on the port(s), then the basis of the remuneration shall be the sum of the capacities of the services used on the port(s) concerned, in any other cases the basis of the remuneration shall be the half of the maximum bandwidth ensured by the port concerned.

6.2. In the framework of the reseller program only those BIX port(s) may be included on which resold traffic is transmitted as well.

- 6.3. The Spare reseller BIX port(s) used in the framework of the reseller program, and maintained exclusively for the purpose of redundancy shall be free of monthly fee.
- 6.4. The fee of the service shall be determined according to ranges based on the fee of the service specified in Article 6.1 and the BIX rates applicable. The unit of invoicing is 10 Gbps.

Type of interface	Remuneration (HUF + VAT/month)*	Remuneration (EUR + VAT/month)*
100 Gbps	calculated capacity in 10 Gbps x HUF 58 000 (minimum HUF 290 000/port)	calculated capacity in 10 Gbps x EUR 160 (minimum EUR 800/port)

*The difference – if any – between the BIX capacity sold and the half of the maximum capacity shall be calculated without surcharge.

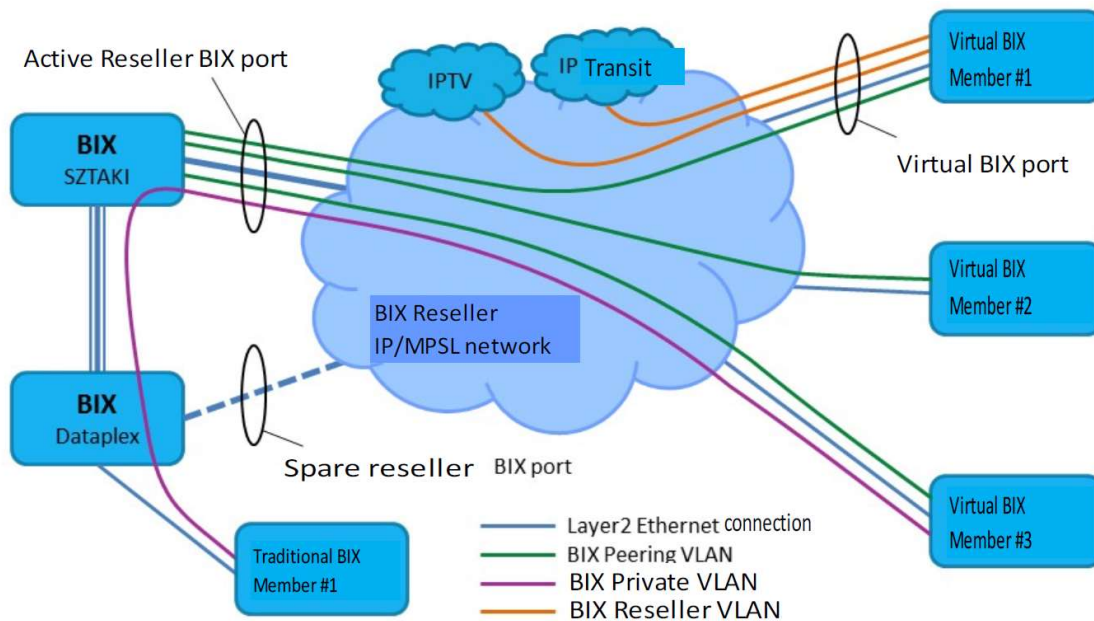
- 6.5. Regarding the fee payable for the establishment of the Reseller BIX ports CISP concludes an individual agreement with Reseller.

7. Conclusion of the BIX Reseller contract

- 7.1. Reseller applications shall be submitted to CISP. The application shall include:
- official company data (for the conclusion of the contract)
 - contact data
 - Brief introduction (maximum A4)
 - Brief presentation of the planned sales locations (network map)
 - Brief presentation on the integration of the reseller concept into the portfolio (maximum A4)
 - Statement on the acceptance of the contract terms and conditions
- 7.2. Reseller contract are concluded after having been approved by the Board of CISP.

Annex 1: Technical description of the BIX reseller network

In case the IP/MPLS technology is used



Technical requirements related to the BIX reseller network:

1. Specifications regarding the establishment of the reseller network

- a. Reseller shall have a redundant IP/MPLS backbone network.
- b. On the side of Reseller the **Reseller BIX port** shall connect to a network device which has a redundant connection to the IP/MPLS backbone network.
- c. Reseller may also request a **Backup Reseller BIX port** in order to increase availability of the virtual BIX services sold. The redundancy solution applied shall be arranged with and have approved by the BIX Operator in advance.
- d. The network device serving the **Virtual BIX port** – according to the needs of the Virtual BIX member – may have a redundant or a non-redundant connection to the IP/MPLS backbone network of Reseller.
- e. The recommended technology is the use of point-to-point Ethernet over MPLS virtual circuits. Layer2 switching (VPLS) is not allowed for Reseller.
- f. The virtual circuits and connections established by Reseller shall be transparent on the Layer2 level and shall guarantee a minimum 1522-byte Layer2 payload (IP MTU).
- g. On the **Reseller BIX port** 802.1q VLAN trunking shall be applied.
- h. On **Virtual BIX ports** 802.1q VLAN trunking is recommended, but not mandatory.

2. Rules applicable to virtual services and VLANs

- a. The virtual BIX connections sold by Reseller shall be provided to the BIX on individually dedicated VLANs per each connection. The IPv4 and IPv6 peering currently requires the transfer of two separate VLANs. (**Peering VLAN**)
- b. If requested, the transfer of additional dedicated VLANs shall be ensured between the Virtual BIX tag and the BIX, which transfer shall comply with the BIX policy. (**Private VLAN**)
- c. Reseller may also sell its own services on the Virtual BIX port to the Virtual BIX member. (**Reseller VLAN**)
- d. The VLAN identifiers used in the **Reseller BIX port** shall be arranged by the BIX Operator and Reseller in advance. From the predetermined VLAN domain the Reseller may distribute the identifiers for the services sold.
- e. The VLAN identifiers used in the **Virtual BIX port** shall be arranged by Reseller and the Virtual BIX member in advance. Reseller – if necessary – may use VLAN ID translation in course of the transfer, which Reseller shall report to the BIX Operator.
- f. In case **Hybrid Reseller BIX port** is used, Reseller's own BIX peering connection is transferred by the BIX through the IPv4 10 and IPv6 11 VLAN.
- g. The connections of the Virtual BIX members (managing all VLANs of each Virtual BIX member together) shall be transferred to the BIX on the bandwidth dedicated in the Reseller BIX port and without overbook. The BIX operator is responsible for adjusting and restricting the dedicated bandwidth, which is the basis of the financial accounts between the BIX operator and Reseller.

3. Rules applicable to SLA

- a. Reseller shall undertake SLA for its own network only – between the **Reseller BIX Port** and the **Virtual BIX Port** – towards the Virtual BIX Member. In respect of the rate of the SLA the last mile technical solution and the redundancy chosen by the Virtual BIX Member shall be taken into consideration.
- b. Reseller shall undertake SLA only for the backbone network – without the last mile connections of the Virtual BIX members – towards the BIX Operator.

The rate of expected SLA:

- i. Annual 99.6% availability.
- ii. Maximum 0.1% of package loss.
- iii. Maximum 8-hour troubleshooting period.