

Montenegro Internet eXchange Point (MIXP) – broadband opportunity

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Content

- Short history of the MIXP
- Members
- Benefits
- Plans



The MIXP history

- Agency for Electronic Communications and Postal Services has started some activities to promote an IXP building at the end of 2013.
- CIS UoM produced the Feasibility Study on the Establishment of Internet Exchange Point (IXP) in Montenegro on April 2014 and validated through many public debates and events (INFOFEST 2014).

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The MIXP history

- Based on FS, the Ministry of Information Society and Telecommunications prepared the information and recommendation for the Government of Montenegro, and the Government has made the Decision at November 2014. to make in the CIS UoM the first national IXP.
- The technical team of the CIS UoM with SOX help has created the detailed specifications of the equipment and activities necessary for the technical part of installing the IXP.



The MIXP history

- Since **ITU** and **ISOC** have showed great interest and have expressed the readiness to help on installing the first IXP, we have contacted their representatives and organized a comprehensive workshop (part of 20th international scientific conference IT 2015 in Žabljak) which gave the final design to the IXP.
- **July 2015** is appointed as the deadline by when the IXP in Montenegro to be established.

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The MIXP history

- **Telenor** and **Crnogorski Telekom** have truly made an effort to help on the installation of the first IXP and have agreed to together procure all equipment for current MIXP infrastructure.
- The resources for the implementation of necessary infrastructural changes (the network and power installation) have come from the **ITU** which helping the development of the IXP in Montenegro.
- **Agency for Electronic Communications and Postal Services** support MIXP for staff development and trainings
- **ITU** help us to upgrade the MIXP equipment this year, again

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The MIXP history

- **6th July 2015.** – configuration of the MIXP was completed and two ISPs were connected to it (doMen and University of Montenegro).



The MIXP history

- The opening of the MIXP took place on **22.07.2015.**



MIXP - synergy



There was the synergic effect of cooperation between the CIS UoM, the Ministry, the Agency, ITU, ISOC, RIPE, ICANN, CISCO, France-IX, INEX, SIX, NIX.CZ, SOX and local ISPs (Telekom CG and Telenor).



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MIXP – services



- Peering (10/100 Mbps and 1 Gbps)
- Route server (bird with BGP)
- DNS resolving (F-root, 192.5.5.241)
- Looking glass (view routing information)
- Peering matrix (who is interconnected to whom)
- Traffic monitoring

MIXP – members



- Connected: **UCG, doMEn, CG Telekom, Telenor, Mtel, MNnews**
- Ongoing: **The Government network. Orion**
- Negotiation: **Telemach, ...**

Traffic growing ...

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MIXP – traffic



IXP Manager

89.188.43.228/ixp/statistics/members

infofest 2016

MIXP IXP Manager Member Information Peering Documentation **Statistics** Support Staff Links

View a Customer... My Account

Search...

IXP CUSTOMER ACTIONS

- Customers
- Interfaces
- Users
- Contacts
- Colocated Equipment
- Meetings

IXP ADMIN ACTIONS

- Infrastructures
- Locations
- Cabinets
- Switches
- IP Addressing
- MAC Addresses
- Vendors
- Console Server

Infrastructure: Aggregate Traffic Graph Type: Bits Period: Day

Member	Graph Type	Period
Crnogorski Telekom	Bits	Day
doMEN	Bits	Day
Ministarstvo IDT	Bits	Day
MIXP	Bits	Day
MNNEWS	Bits	Day
Mtel	Bits	Day
Telenor	Bits	Day
UCG - CIS	Bits	Day

89.188.43.228/ixp/statistics/member/ixp/1/shortname/mixp/monitorindex/aggregate/category/bits

Windows Taskbar: 23:13 9/7/2016

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MIXP – benefits



- Reduces latency
- Accelerates local internet exchanges between ISPs
- Improves overall bandwidth
- Improves the routing efficiency
- Relieve links for global Internet access,
- Improve the quality of Internet access services
- Improve security of local communications
- Lower prices for some services,

MIXP – benefits



- Increase the number of potential ISPs
- Help technological start-ups and develop relationships with research and training organizations
- Improve attracts foreign companies (high-tech and network) which are used to benefit from MIXP
- ...

MIXP – advisory board



The board is composed of representatives from:

- MIXP,
- Agency for Electronic Communications and Postal Services,
- Ministry for Information Society and Telecommunications, and
- operators using the IXP services.



MIXP – plans

- Connect all local ISPs.
- Establishing an association of MIXP users.
- Introduction of new services.

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MIXP – plans

- Caching global services and contents most commonly used in the local community within the IXP
- Connecting with the neighboring IXPs
- Connecting with more significant global ISPs



Thank you !

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