

RIPE

# Development of IXP.mk - "Ups & Downs"

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Past, Present, Future...



# Some history

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- IXP.mk is born 09.07.2018, we are young 😊
- Started with only 3 peers (University, Faculty, One Company)
- 2019 – Donations from ISOC (2 new switches and some Optics)
- 2 new peers (smaller ISPs)
- An then... – Covid19 ...



# Covid 19 – Year 2020

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- Ministry of Health declares a pandemic in One Municipality – 3-2020
- Ministry of Education stop educations process (10.03.2020)
- FCSE in just 7 days switches to full online classes
- Internet links 2 x 1 Gbit (Geant + Commercial ISP) full
- People start to work from home – regular outages/latency during the work hours (8-18)

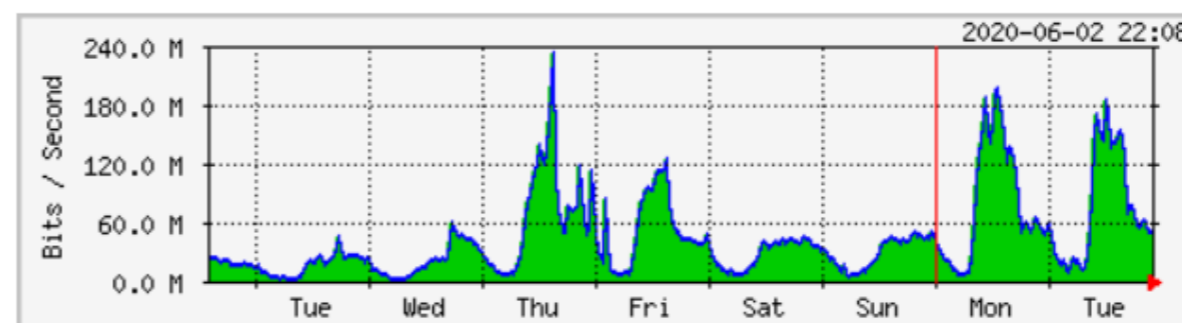


# Covid 19 – year 2020 (part 2)

- FCSE contacts Macedonian Telekom – they have almost full upstream capacity and lead time for upgrade 60+ days
- Macedonian Telecom joins IXP.mk (18.03.2020) 😊
- 2 smaller ISPs join – 4-2020
  
- First test: Exam Week 6-2020

- Yes - ~250 Mbit

IXP.mk Aggregate Traffic



|     | Max           | Average      | Current      |
|-----|---------------|--------------|--------------|
| In  | 233.910 Mbits | 43.365 Mbits | 47.685 Mbits |
| Out | 233.909 Mbits | 43.385 Mbits | 47.676 Mbits |



# Covid 19 – year 2020 (part 3)

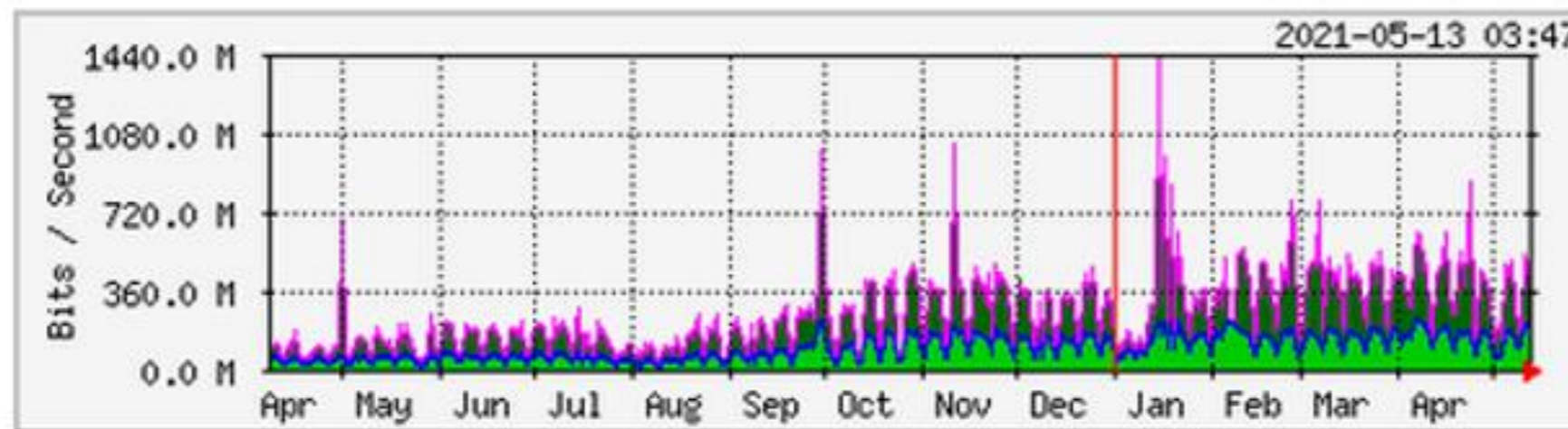
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- A1 Macedonia joins IXP.mk (08.2020) 😊 😊
- Telekom joins IXP.mk (11.2020)
- New Donation from ISOC (third switch + Optical Mux)
- New POP @ Telesmart DC (neutral DC with large colo space to grow) – Black Fiber lease donated by private company
- Plans for creating a fiber RING



# Covid 19 – year 2021

- Donation of used Optical MUX + SFP modules
- Tender procedure for lease of fibers for fiber ring (ring will be possible for 2 POPs)
- PCH node ~~in progress~~ online
- FCSE starts next school year (2021-2022) online



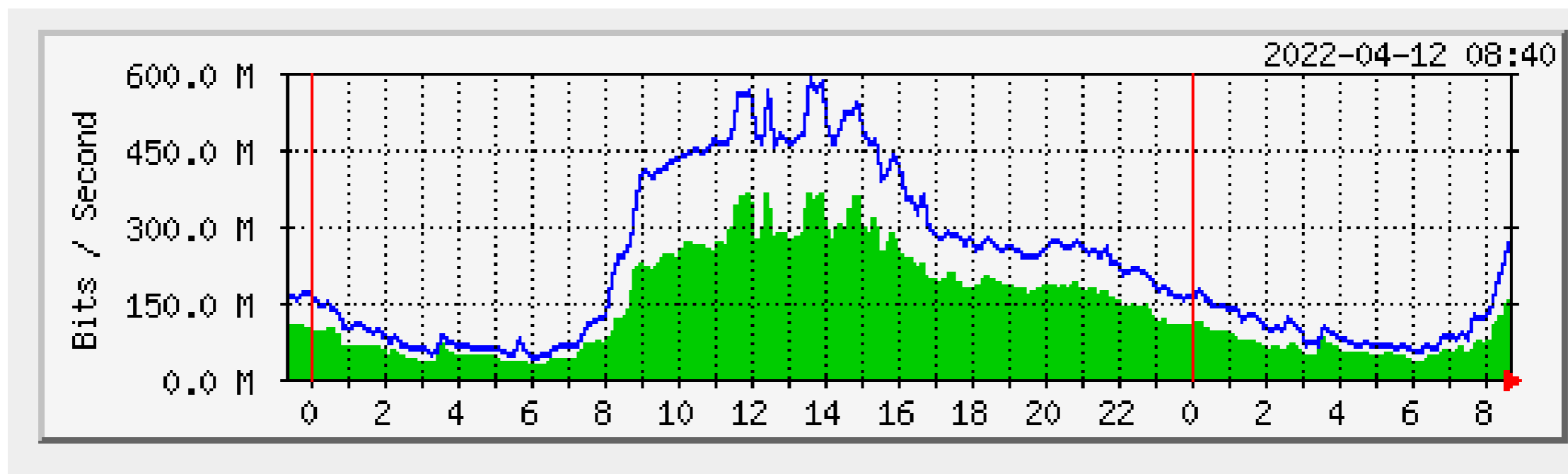
|     | Max         | Average      | Current       |
|-----|-------------|--------------|---------------|
| In  | 1.416 Gbits | 95.331 Mbits | 118.161 Mbits |
| Out | 1.416 Gbits | 95.374 Mbits | 118.172 Mbits |

Daily record: 1.22 Gbit (January 2021)



# Covid 19 – year 2022

- Tender procedure for lease of fibers for fiber ring (ring will be possible for 2 POPs) started
- K-root node in progress
- Neotel joine 😊😊😊 (planned migrations with equipment needed, ZTE equipment sometimes sends strange packets)



# The future?

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- Keep things running smoothly (we have zero incidents so far – fingers crossed)
- Get upstream (10G-20G) capacity for IXP.mk usage which does not cost a fortune per month (cache fill, services, etc...) in order not to impact the FCSE/UKIM capacity – possible donation
- New core router (something scalable for n X 10 Gbit BGP) - VM for core router sometimes is stressful... But works
- Upgrade IXP Manager to latest
- Promote IPV6 usage (RS are ready, no peers ☹ )
- First “ISP Technical meeting @ IXP.mk” – Q3-Q4 and hopefully not online 😊





Connect with us – [www.ixp.mk](http://www.ixp.mk)

# Questions?



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