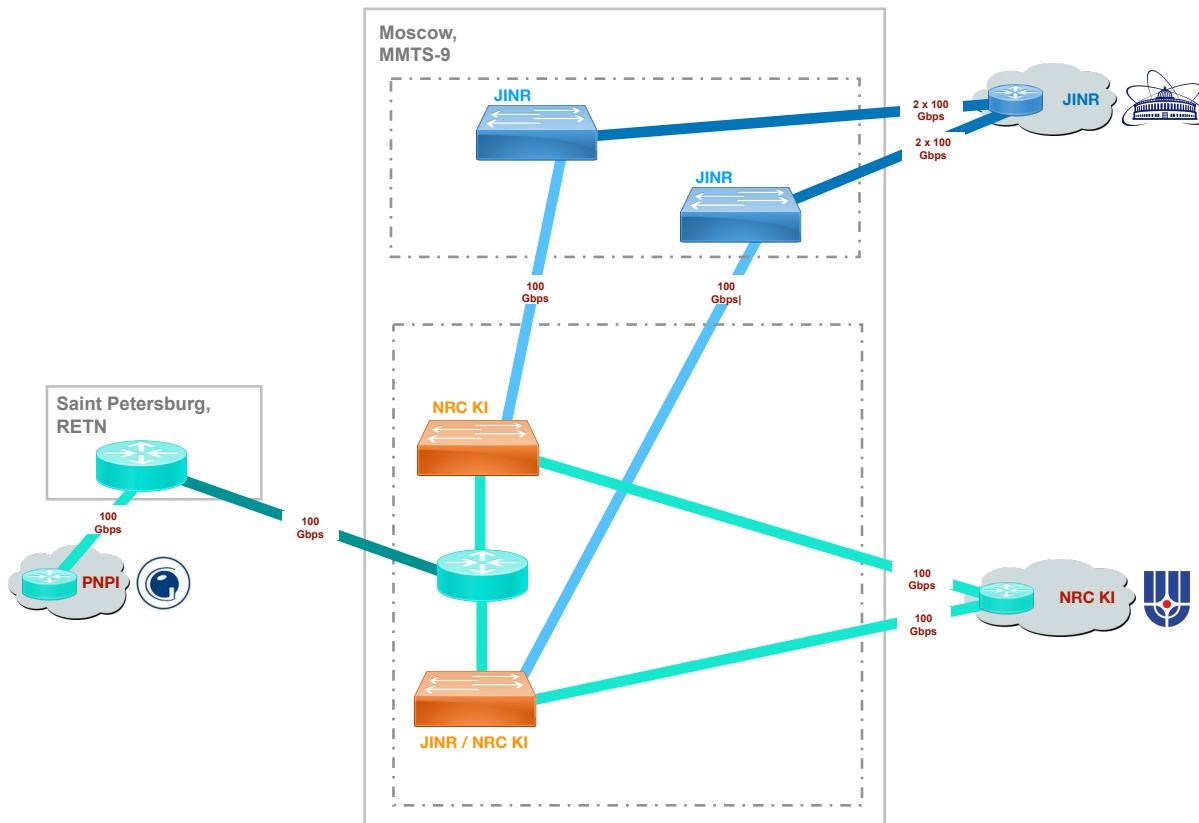


PNPI & JINR Infrastructure Current Status

Andrey Kiryanov

Network



Data Challenges

- ❑ Manual migration (via FTS) of test dataset between JINR and PNPI
 - ❑ 200 files of 4GB, random garbage
 - ❑ PoC tests for FTS and network
- ❑ Automatic replication (via Rucio) of production dataset from JINR to PNPI
 - ❑ 190TB (size of PNPI storage), 163K files
 - ❑ A mixed bag of root files
 - ❑ ~1.8GB input
 - ❑ ~1.3MB output
 - ❑ JINR EOS → PNPI EOS → JINR dCache
- ❑ Transfer speed
 - ❑ JINR->PNPI reaching 4Gbps
 - ❑ PNPI->JINR reaching 6Gbps
 - ❑ Limited by both storage and network

Monitoring

Details for <https://mss3.pnpi.nw.ru> → <https://juno-se-dr03.jinr.ru>

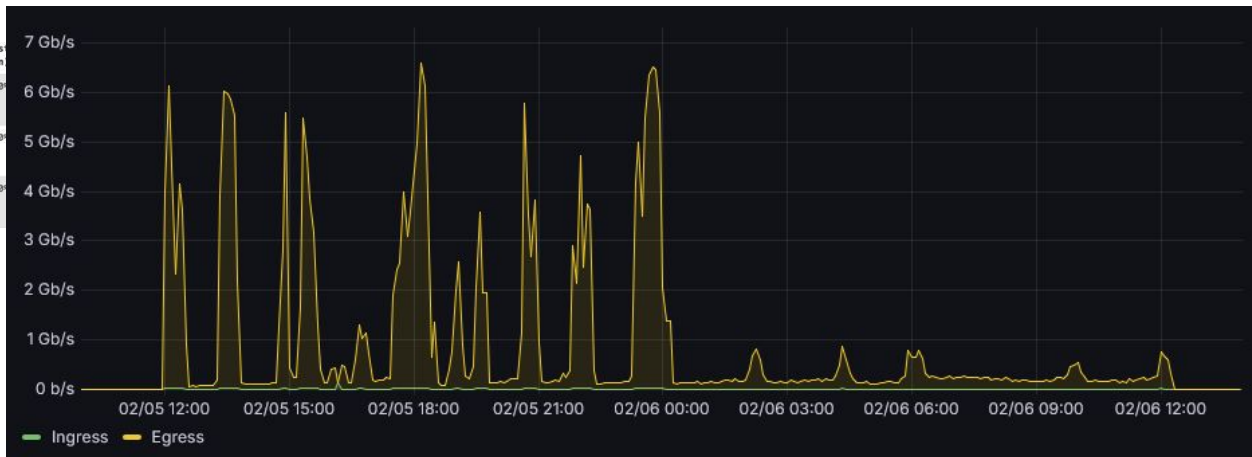


← FTS

First Previous 1 2 Next Last

Timestamp	Decision	Running	Queue	Success rate (last min)
2025-02-07T12:39:13Z	104	102	3811	100.00%
2025-02-07T12:38:13Z	102	100	3835	100.00%
2025-02-07T12:37:13Z	100	98	3853	100.00%

Network →



Infrastructure

- ❑ Starting from December 2024 we'd been observing lots of transfer errors
 - ❑ Most errors were “file not found” or “connection failed” on JINR side
 - ❑ Network was initially (wrongly) blamed as issue clashed with channel upgrade at PNPI
 - ❑ Turns out to be an operational issue with JINR EOS
 - ❑ An unannounced drain and migration of EOS disk servers from Centos7 to Alma9
- ❑ As this was a major issue not only from technical but from an operational perspective, it was decided to deploy an independent EOS instance for SPD at JINR MLIT
 - ❑ 3 MGM servers (4x1.5T NVMe)
 - ❑ 15 FST servers (2x1.5T NVMe + 24x20TB SAS)
 - ❑ 7.2PB raw capacity
 - ❑ Data layout and redundancy TBD