

Time Meeting 5-6-2025  
SDCC/SCDF

# Operational Issues (Power Outage)

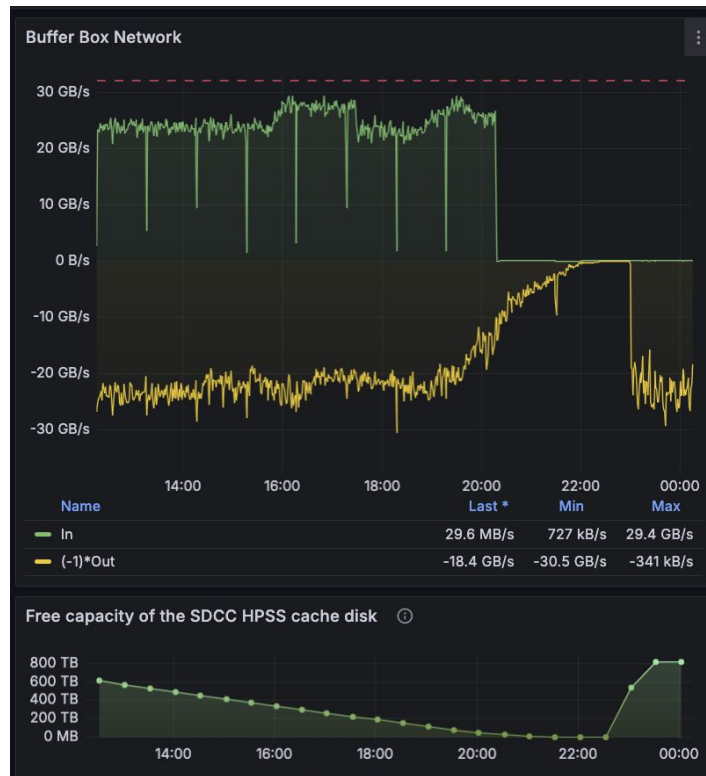
- Brief site-wide power outage on Friday (5/2)
  - Power loss in single row of compute nodes in the data center affecting STAR
  - Power loss revealed gaps in visibility of the configuration and status of the power feeds from the utility and diesel generators to the PDUs providing power to each row of equipment in the new data center
  - Issues with out of band management in the affected row extended the outage of compute as SCDF staff member needed to drive in to resolve
  - Operational, monitoring, and configuration changes are being instigated within the facility and at F&O to fix these issues.

# Operational Issues (RDHx)

- Failure of a Rear Door Heat exchange (RDHx) unit on rack with new sPHENIX compute nodes.
  - Pin hole in solder joint resulted in water short circuiting RDHx electronics
  - Resulting shutdown of RDHx fans cause thermal shutdown of nodes
- Operational procedures in development to handle RDHx failures
  - Codify communication path from operations team to notify affected team, in this case the fabric group, of the failure
  - Establish procedures to bring resource back online
  - Reduce mean time to repair

# Remaining Upgrades in Progress

- sPHENIX Lustr
  - Data rebalanced across all storage nodes in the sPHENIX Lustr system (minimal impact on operational performance)
- STAR HPSS Movers
  - New HPSS disk array still missing components.
  - Transition to production TBD
- Compute node network
  - Expect continued roll out of patch to leaf switches in compute racks to fix “port flapping” issues
  - Procedure has been altered to minimize disruptions
- Additional tuning of data transfers by sPHENIX to HPSS
  - Feedback loop in transfer logic to halt transfers, if sPHENIX buffer boxes outrun the HPSS disk cache



# Mock Data Challenge

sPHENIX CH Uplinks to Science Core 1



Name	Mean	Min
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ar0725-ScienceCore-1.t254-125.bnl.local_Ethernet3/11/1_Inbound	21.1 Gb/s	296 kb/s
ar0725-ScienceCore-1.t254-125.bnl.local_Ethernet3/12/1_Inbound	21.2 Gb/s	370 kb/s
ar0725-ScienceCore-1.t254-125.bnl.local_Ethernet3/17/1_Inbound	21.0 Gb/s	706 kb/s
ar0725-ScienceCore-1.t254-125.bnl.local_Ethernet3/11/1_Outbound	35.2 Mb/s	219 kb/s

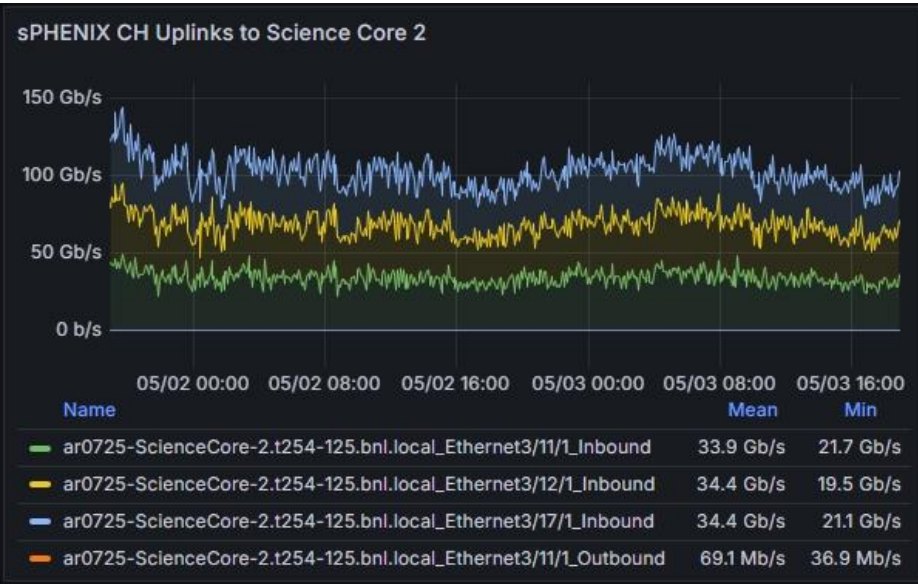
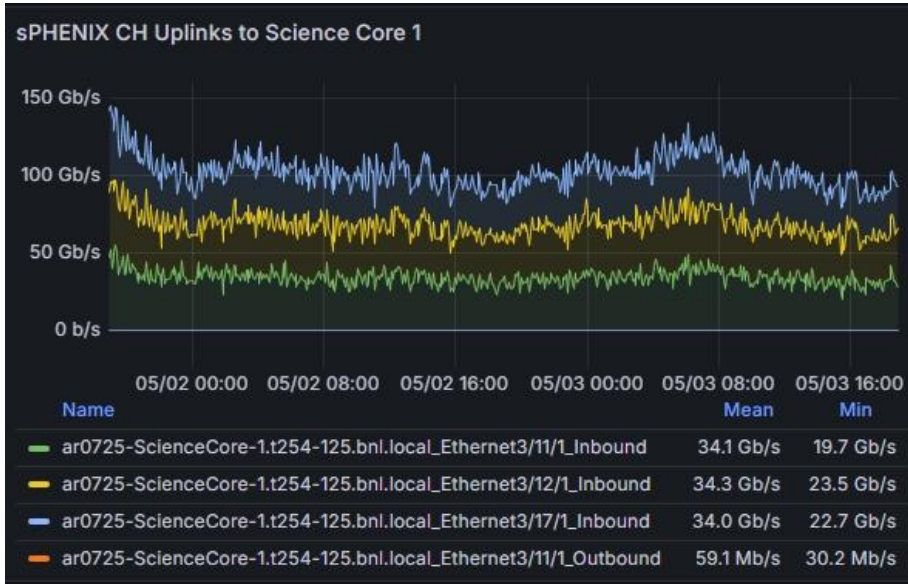
sPHENIX CH Uplinks to Science Core 2



Name	Mean	Min
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ar0725-ScienceCore-2.t254-125.bnl.local_Ethernet3/11/1_Inbound	20.9 Gb/s	187 kb/s
ar0725-ScienceCore-2.t254-125.bnl.local_Ethernet3/12/1_Inbound	21.2 Gb/s	311 kb/s
ar0725-ScienceCore-2.t254-125.bnl.local_Ethernet3/17/1_Inbound	21.0 Gb/s	438 kb/s
ar0725-ScienceCore-2.t254-125.bnl.local_Ethernet3/11/1_Outbound	41.0 Mb/s	147 kb/s

# Mock Data Challenge



Close up of last period of sustained transfers show > 25.6GB/sec sustained transfers