SDCC Network Operations
Status Report (Dec 10, 2020)

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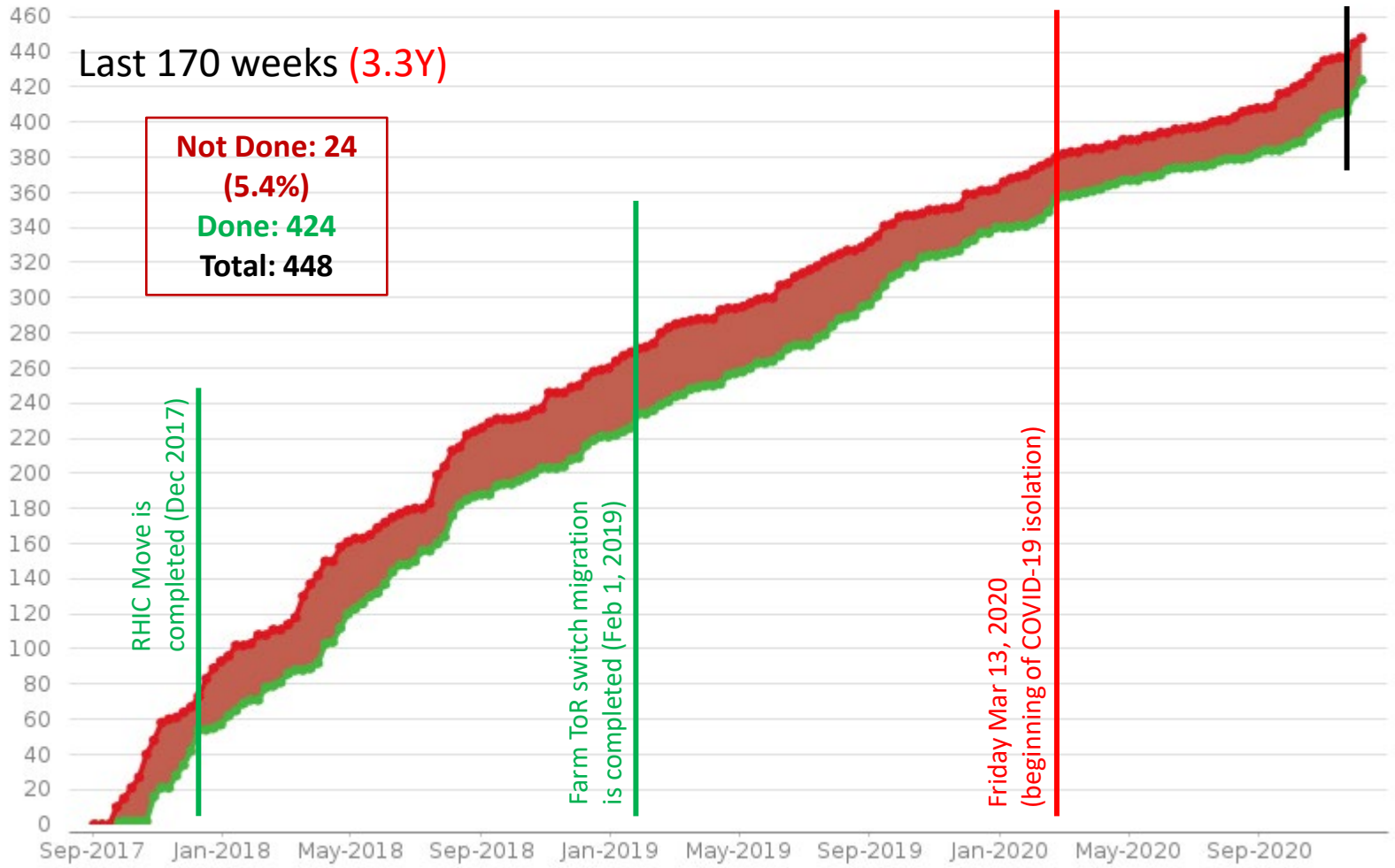
Project: SDCC Network Operations & Interventions

Chart

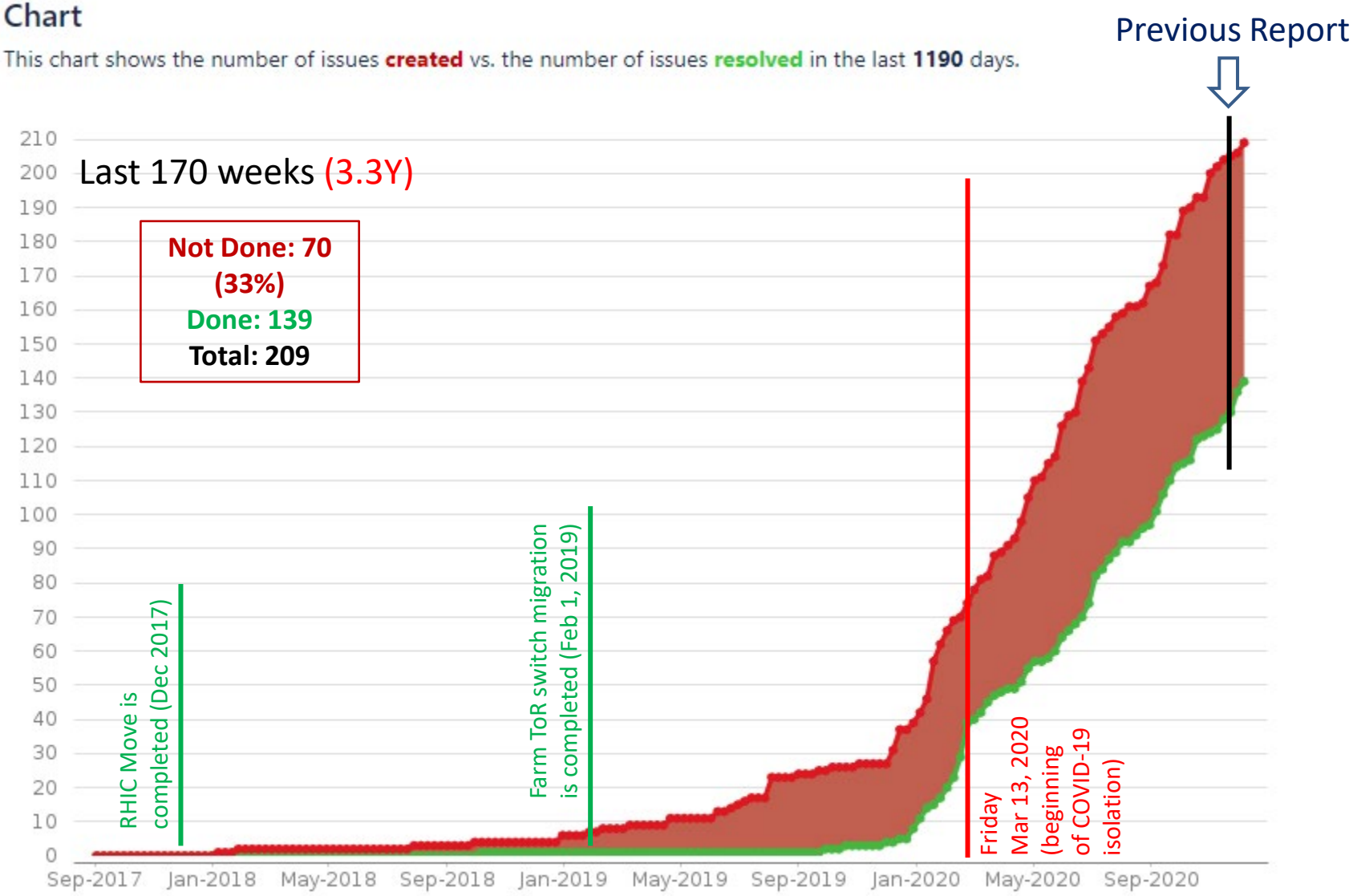
This chart shows the number of issues **created** vs. the number of issues **resolved** in the last **1190** days.



Project: SDCC Datacenter B515/B725 Transition (CY20-23)

Chart

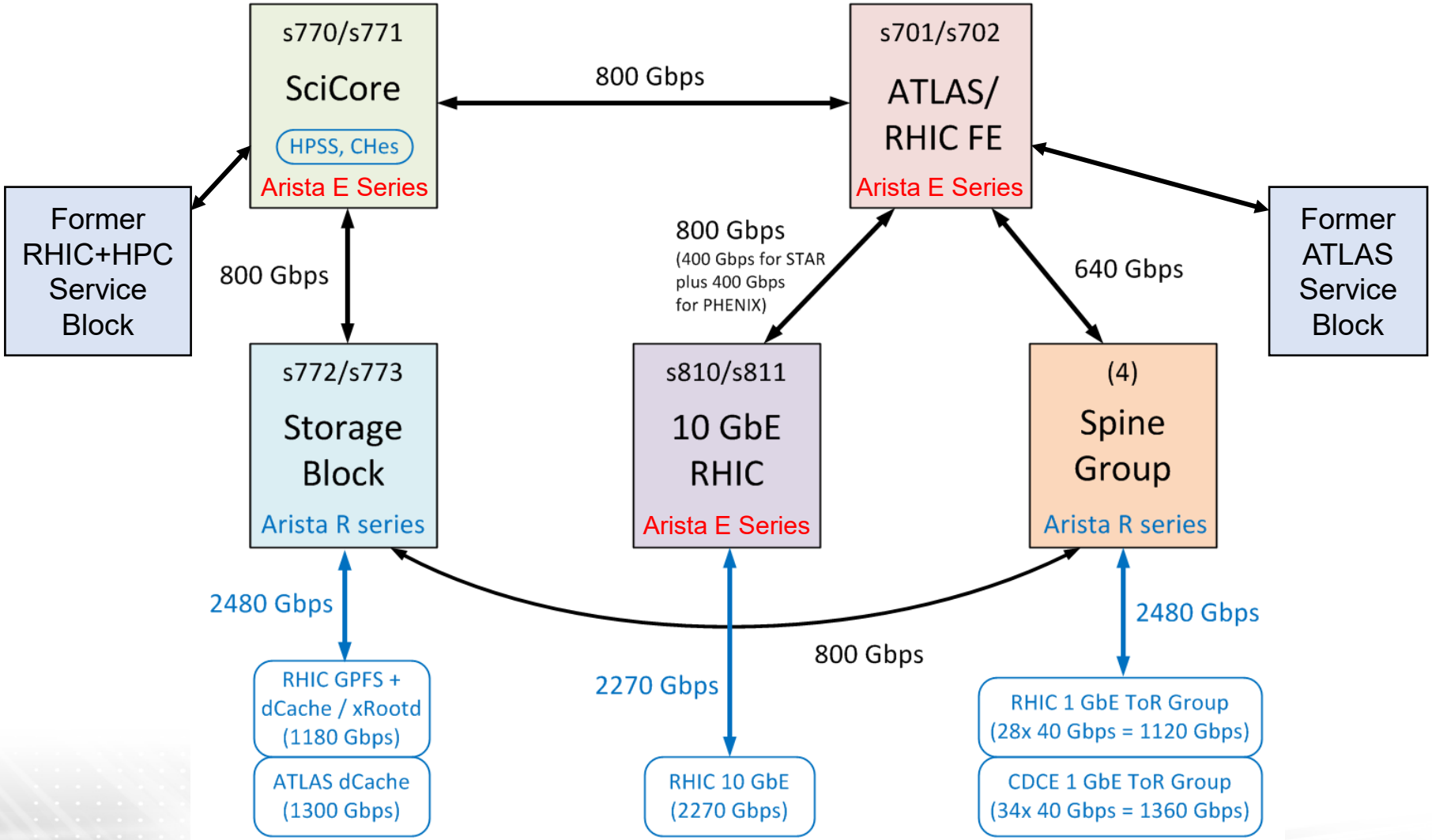
This chart shows the number of issues **created** vs. the number of issues **resolved** in the last **1190** days.



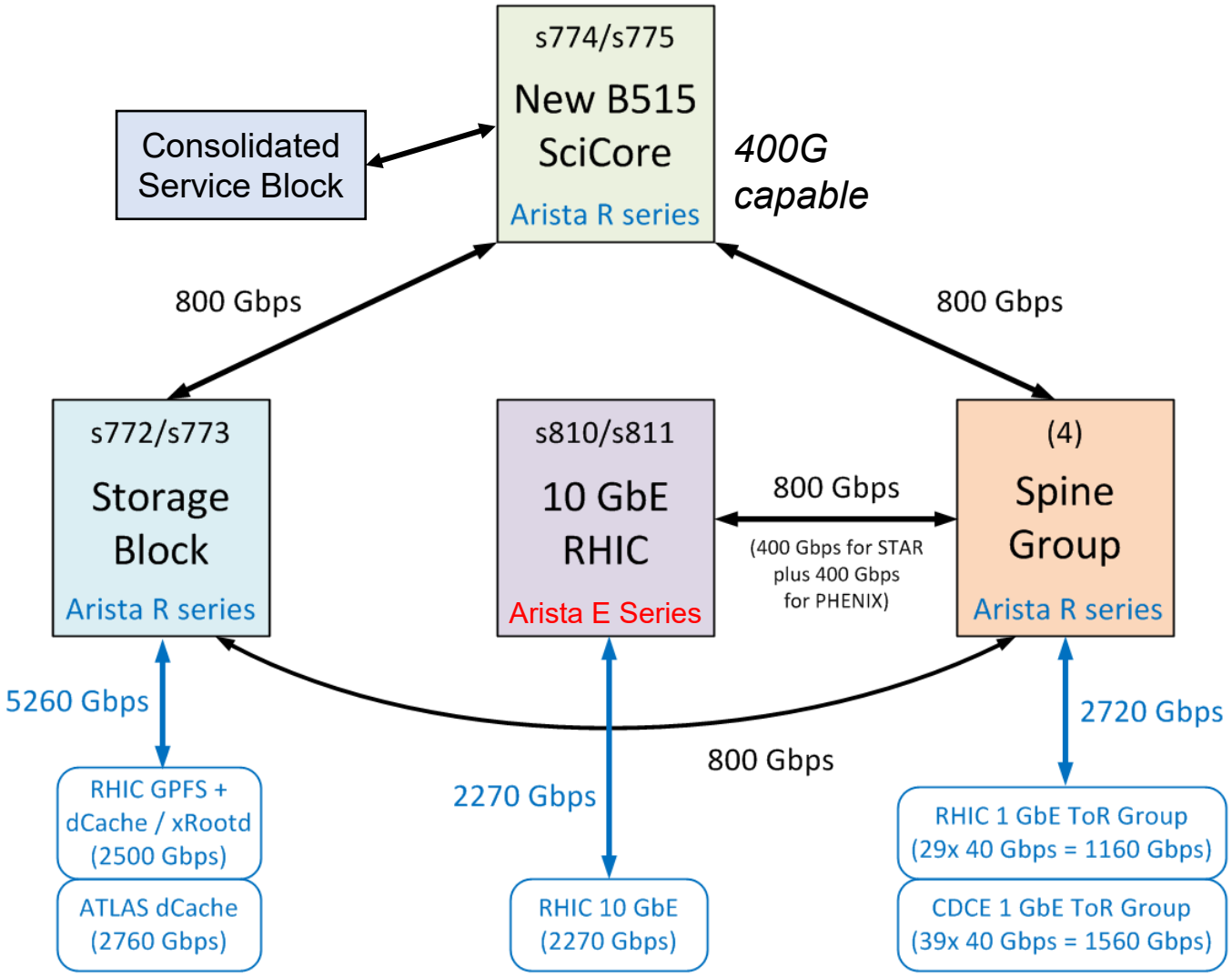
Network Intervention of Dec 1, 2020

- As of 17:20 BNL LT on Dec 1, 2020 we have seen the recovery of all SDCC production systems to a functional state, and thus can declare the Facility wide network intervention of Dec 1, 2020 completed successfully
- All primary goals of the intervention listed in the original message below are now fulfilled withing the designated time window, and as the result the central networking system of the SDCC Facility is ready for the transparent transition to the B515/B725 datacenter operations later in FY21
- This is likely the largest scale disruptive intervention we are going to need to perform for the Facility until the next hardware refresh of the central network equipment for B725 expected in FY25-26 timeframe
- Great many thanks to all who participated in the planning, execution and the Facility subsystem recovery related to this intervention!

B515 Datacenter: Network Consolidation



B515 Datacenter: Network Consolidation



Ongoing/Upcoming Interventions and Equipment Deployment/Retirement Operations

- NSLS II HPC cluster: 2 racks to be deployed in positions 33-[4, 5] in QCDOC
  - Both racks are in place and being commissioned by the Farm/Fabric Group
  - All network uplinks are provisioned for both racks
- NSLS II Lustre addition: 2 racks to be deployed in positions 33-[2, 3] in QCDOC
  - Rack frames are populated with equipment by the GS Group
  - All network uplinks are provisioned, including private network for row 33 (QCDOC)
- NSLS II infrastructure addition: dedicated NSLS II RHEV, MongoDB and Kafka servers to be deployed in position 33-6 in QCDOC using the existing rack and CDU set
  - NSLS II RHEV nodes are in the rack
  - Kafka servers are received and being deployed by GS Group
  - MongoDB servers are yet to be received
  - All network uplinks are provisioned, including private network for row 33 (QCDOC)
- The first instalment of sPHENIX central storage (5.4 PB usable) in rack 46-8
  - All JBODs and headnodes are deployed in the rack 46-8 and powered up
  - All network uplinks are provisioned
- CFN Lustre HW refresh targeting rack position 33-8 in QCDOC
  - The rack frame is in place but the CDUs are yet to be received
  - All network uplinks are provisioned

Ongoing/Upcoming Interventions and Equipment Deployment/Retirement Operations

- Belle II CPU addition of FY21 (2 new racks)
  - Targeting rack positions 51-[3, 4] with CDCE, replacing the existing CPU racks standing there
  - To be added to the set of rack to be moved to B725 in 2021Q3 (18 CPU racks in total on the move now)
  - The ToR switches and transceivers/uplinks are to be reused
- Belle II DISK addition of FY21: a single JBOD+headnode pair to be added to rack 43-4
  - Adjustment of power distribution is needed for racks 43[4-6] in order to accommodate this additional storage in B515 datacenter before B725 datacenter is available (all transparent)
  - Adjustments to the physical layout of existing JBOD rack 43-4 is needed to accommodate the 5th JBOD+headnode pair (getting it to a similar layout as new sPHENIX JBOD rack 46-8)
  - All network uplinks are provisioned
- DL-2 (BNL Campus subnet 59) distribution switches is to be performed before the start of the RHIC run of FY21
  - s201/s202 switch pair: all clients are redundantly attached)
  - s241/s242 switch pair: some clients are single attached including:
    {mail, pobox, idm2, webmail, nfs01}.phy.bnl.gov (rack 1-10 in main BCF)
    {sun, sunbelt}.star.bnl.gov (rack 4-10 in main BCF)
  - 20 min long interruption is need for each switch withing a time window of 1h
  - Proposed to be executed on Wednesday Dec 16, 2020 at 8:00-9:00 BNL LT
  - The disruption can be minimized to several shorter interruptions (about 1 min long each) for the single attached clients if desired

Questions & Comments