

RACF/SDCC Network Operations

Status Report (October 3, 2019)

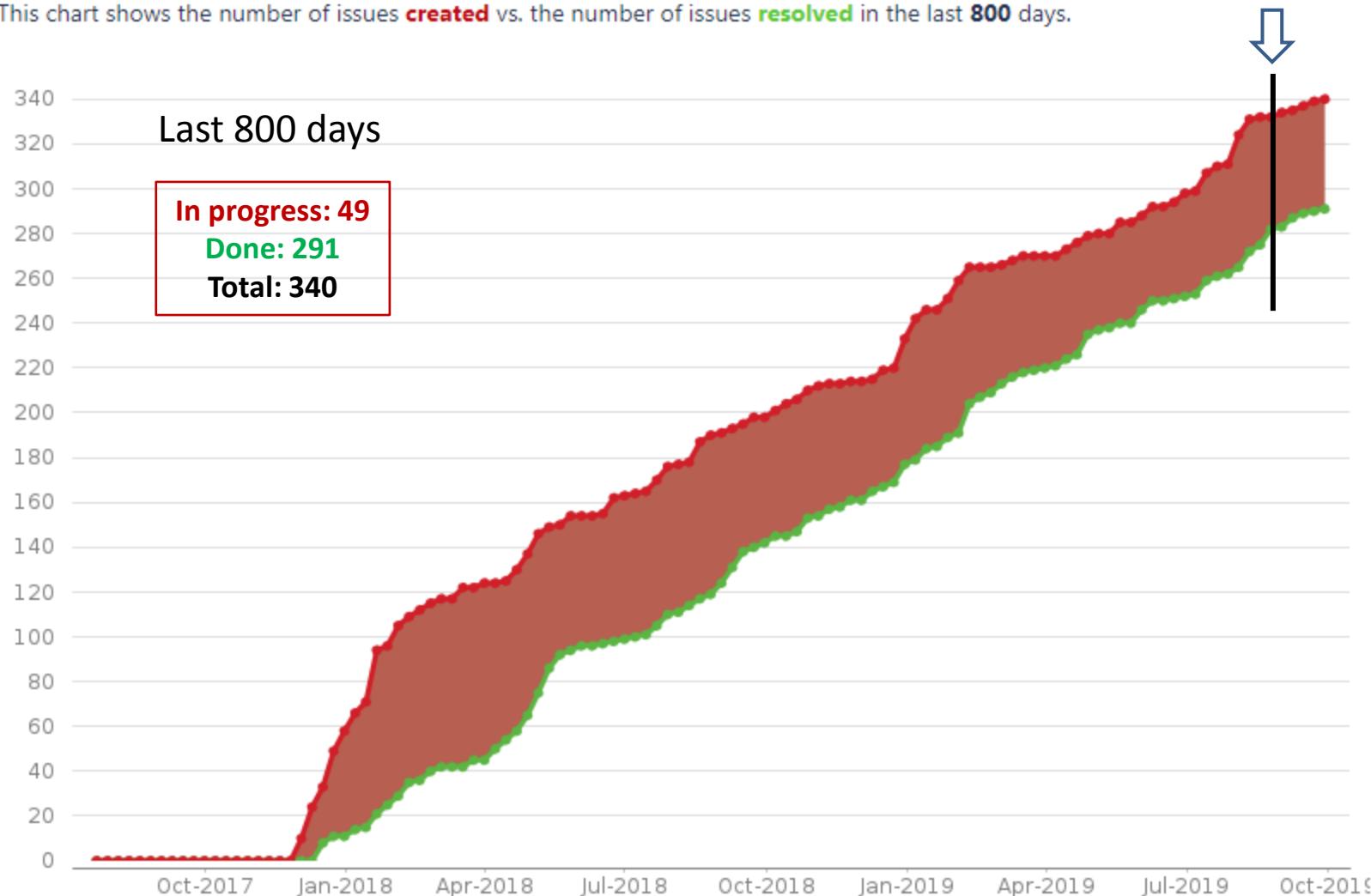
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Project: Post RHIC Migration BCF & CDCE Cleansing & Service Normalization (2018Q1-2019Q4)

Chart

This chart shows the number of issues **created** vs. the number of issues **resolved** in the last **800** days.

Previous Report

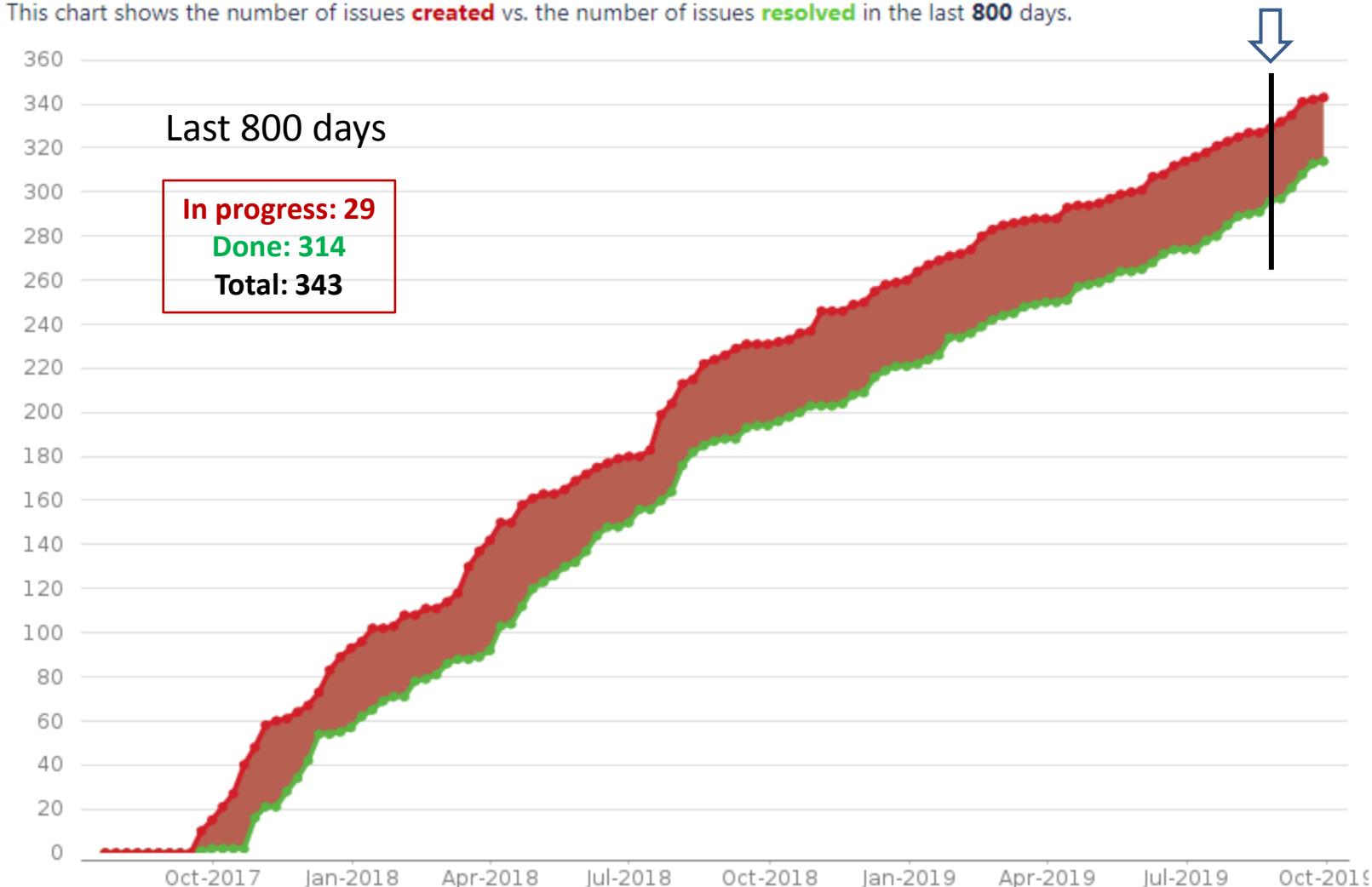


Project: RACF/SDCC Network Operations & Interventions

Chart

This chart shows the number of issues **created** vs. the number of issues **resolved** in the last **800** days.

Previous Report



Ongoing/Upcoming Interventions and Equipment Deployment/Retirement Operations

- **ATLAS/RHIC/Belle II/EIC FY19 compute addition (Farm/Fabric Group)**
 - 6 racks (155 compute nodes + 1 sysmanager) are deployed by the Farm/Fabric group for production with Arista BoR connectivity (the Southern side of the block of racks allocated to Farm in CDCE is now populated to maximum design capacity; the flor PDU infrastructure is holding at 84% peak utilization)
 - 4 racks in row 50N (CDCE) and 3 racks in row 25 (RCF) are expected to be decommissioned in 2019Q4-2020Q1 prior to the deployment of FY20 CPU purchase
 - Additional 7x EIC compute nodes are being deployed in partially populated rack 49-22 (CDCE) – 1 GbE local Arista ToR connected
 - Additional EIC dedicated Farm VMMS node is deployed in the shared infrastructure rack 42-6 – 2 x 10 GbE (LACP) connected
- **CSI ML (Machine Learning) cluster in QCDOC (Farm/Fabric Group)**
 - Dedicated passive network rack is deployed in position 30-3 in QCDOC
 - Two racks are deployed in positions 30-[4, 5] in QCDOC with 5 compute nodes in total: 2x 10 GbE (LACP) connected to the Ethernet of the IC/LQCD cluster
 - The Installation can scale to 3 racks with 12 compute nodes in total within the available space and power feeds at the given location
- **New ATLAS Prod Ceph OSD nodes in Sigma-7 and CDCE (Storage Group)**
 - 16 new OSD servers are deployed, 8 MON + 4 GW nodes are deployed in the final location and connected to network on SciZone side
 - 11x legacy H130 racks are inventories and HW RAIDset are configured
 - **8x legacy Nexsan racks are being inventoried, bending the HW RAIDset configuration**

Ongoing/Upcoming Interventions and Equipment Deployment/Retirement Operations

- New central storage for RHIC (2 disk array + server pairs) to be deployed in rack 43-4 in CDCE (Oct 2019) – **purchase is in progress**
- Dedicated CSI hypervisor added to the SDCC RHEV
 - Subnet 6 side was disconnected from SDCC RHEV NFS in preparation to the future B515 SciZone service block merge (2020Q3)
- External antenna deployed on the platform on the roof of B515 is connected to the first GPS NTP appliance deployed in CDCE
 - This marks the completion of about 9 months long project to deploy this system in B515 to validate the GPS NTP solution to be used in the B725 datacenter starting from FY21
 - **We are now protected against the anticipated CDMA NTP service drop by the end of this year**
- First rack of dedicated NSLS II storage (Lustre) is to be deployed in rack 79-5 (Oct 2019) – **purchase is in progress; purchase of the new rack frame is in progress**
- New HPSS movers and infrastructure components in row 44S in CDCE
 - Replacement HPSS DB servers in racks 44-[2, 6] – **deployed in the racks; installation in progress**
 - Replacement rsk* servers in racks 44-[2, 6] – **network is provisioned, installation in progress, rsk* server replacement is expected next week (Oct 7, 2019)**
 - Second rack of RHIC movers to be established in position 44-3 – **quoting is in progress; CDU purchase is in progress**
- **Preparations for the BCF Silo #3 migration to CDCE Silo position #7 on Nov 18-19, 2019 are ongoing (silo is expected to be moved empty; the electrical work to begin on Nov 15, 2019)**

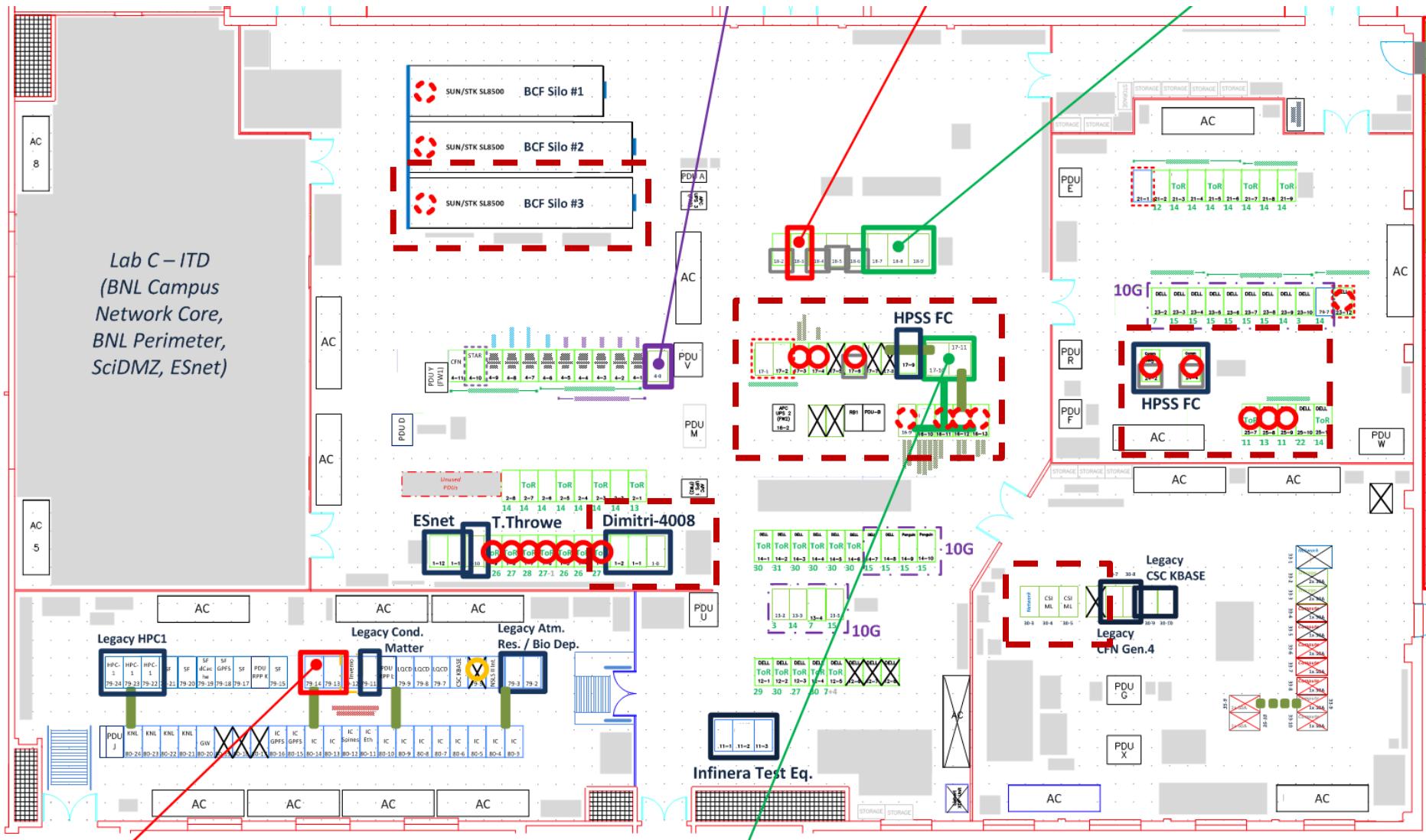
Ongoing/Upcoming Interventions and Equipment Deployment/Retirement Operations

- DUNE dCache instance is being established in row 41 (CDCE) using spare hardware
- Belle II Rucio subsystem is being added to Belle II Tier-1 site: part based on spare hardware in rack 31-10 in Sigma-7 / part based on RHEV VMs
- Talks with CSI has begun on refurbishing the legacy equipment in rack 1-[0-2] in main BCF
- The legacy passive HPSS FC infrastructure racks in the row 24 (RCF) are no longer in use and prepared to be removed

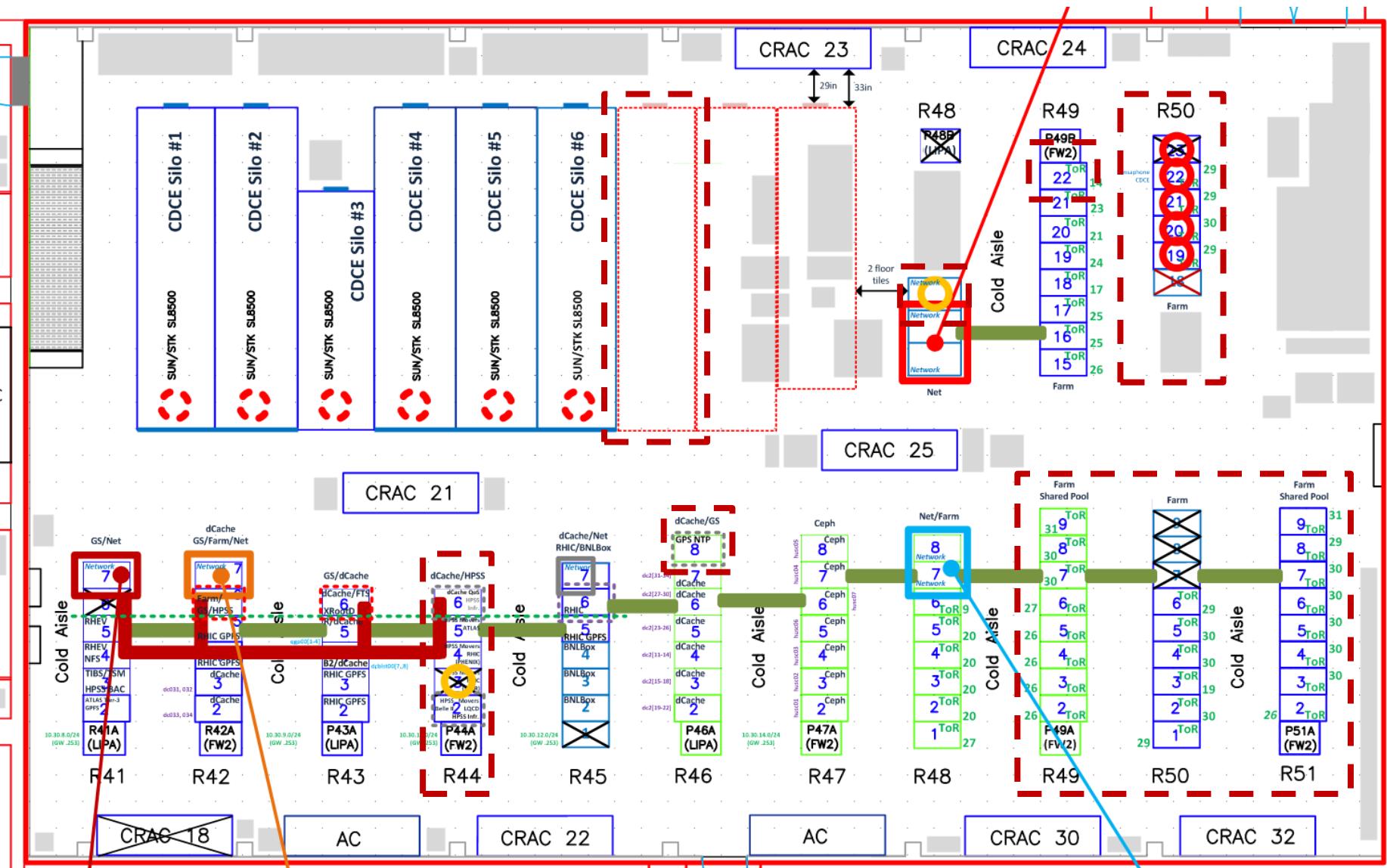
Upcoming Network Equipment Upgrades and Interventions

- DL2 (s201/s202) switch pair replacement – ALL DONE
 - This brought the EOL Arista network equipment replacement campaign of FY19 to a close
- Decommissioning of the s751 legacy Dell switch stack in row 17 (BCF) serving the HPSS subnet 11 network connectivity to BCF is being targeted for 2019Q4
- B515 SciCore & Merged FE replacement / migration to CDCE and merging of the former RHIC/SDCC and ATLAS service blocks into one served of the new SciCore
 - Still waiting for the Arista 7500R3 series equipment availability on the market
 - Tentative schedule for the intervention – July 2020 (after the RHIC run)
 - The MMF fiber termination for this project is approaching conclusion
 - The deployment of the SMF fiber through the basement of B515 is to be carried out in 2020Q1-2

Main BCF Area (Current)



CDCE Area (Current)



Questions & Comments