RACF/SDCC Network Operations
Status Report (June 7, 2018)

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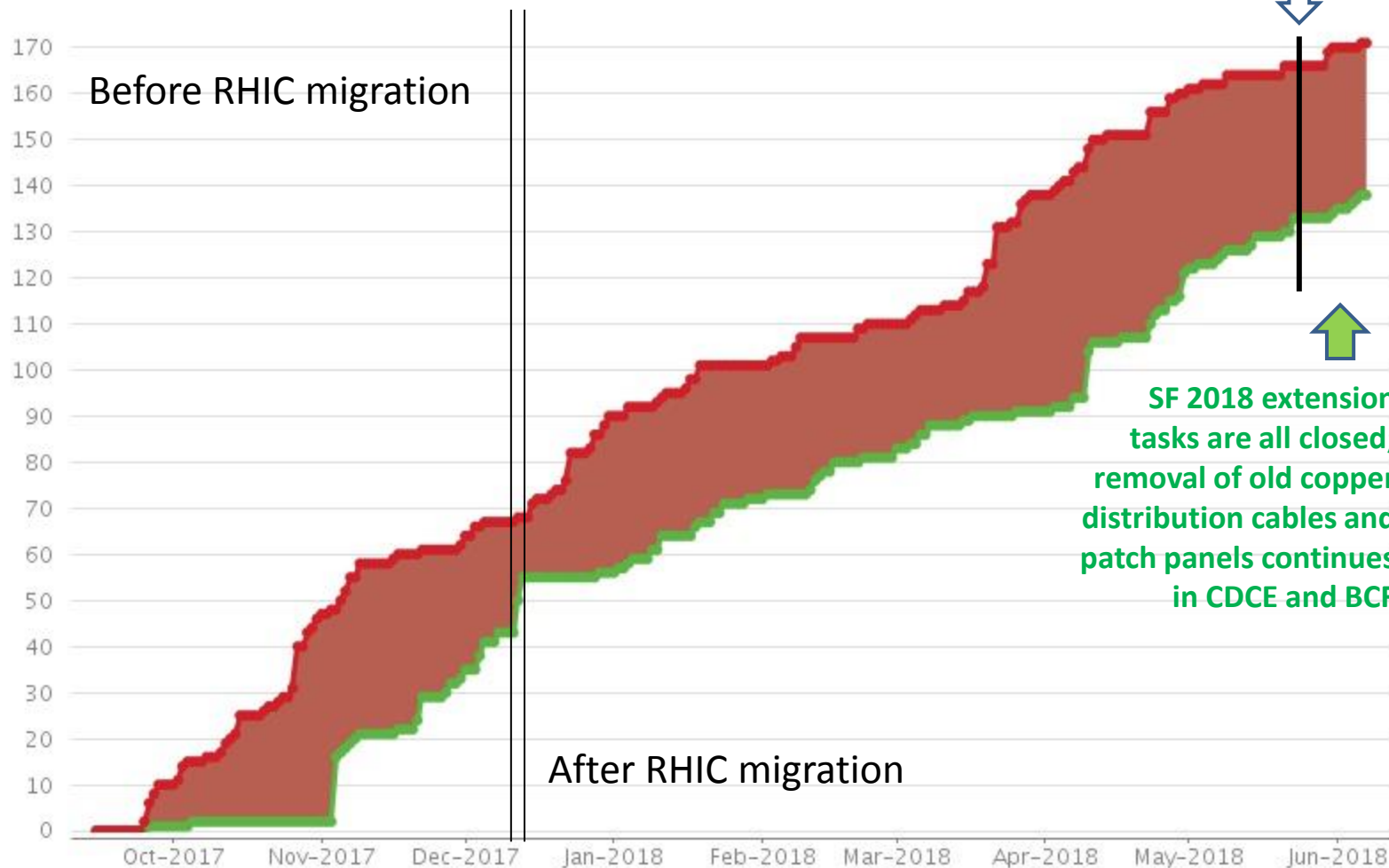# Project: RACF/SDCC Network Operations & Interventions

Chart

This chart shows the number of issues **created** vs the number of issues **resolved** in the last **266** days.

Previous Report

171

Before RHIC migration

SF 2018 extension tasks are all closed; removal of old copper distribution cables and patch panels continues in CDCE and BCF
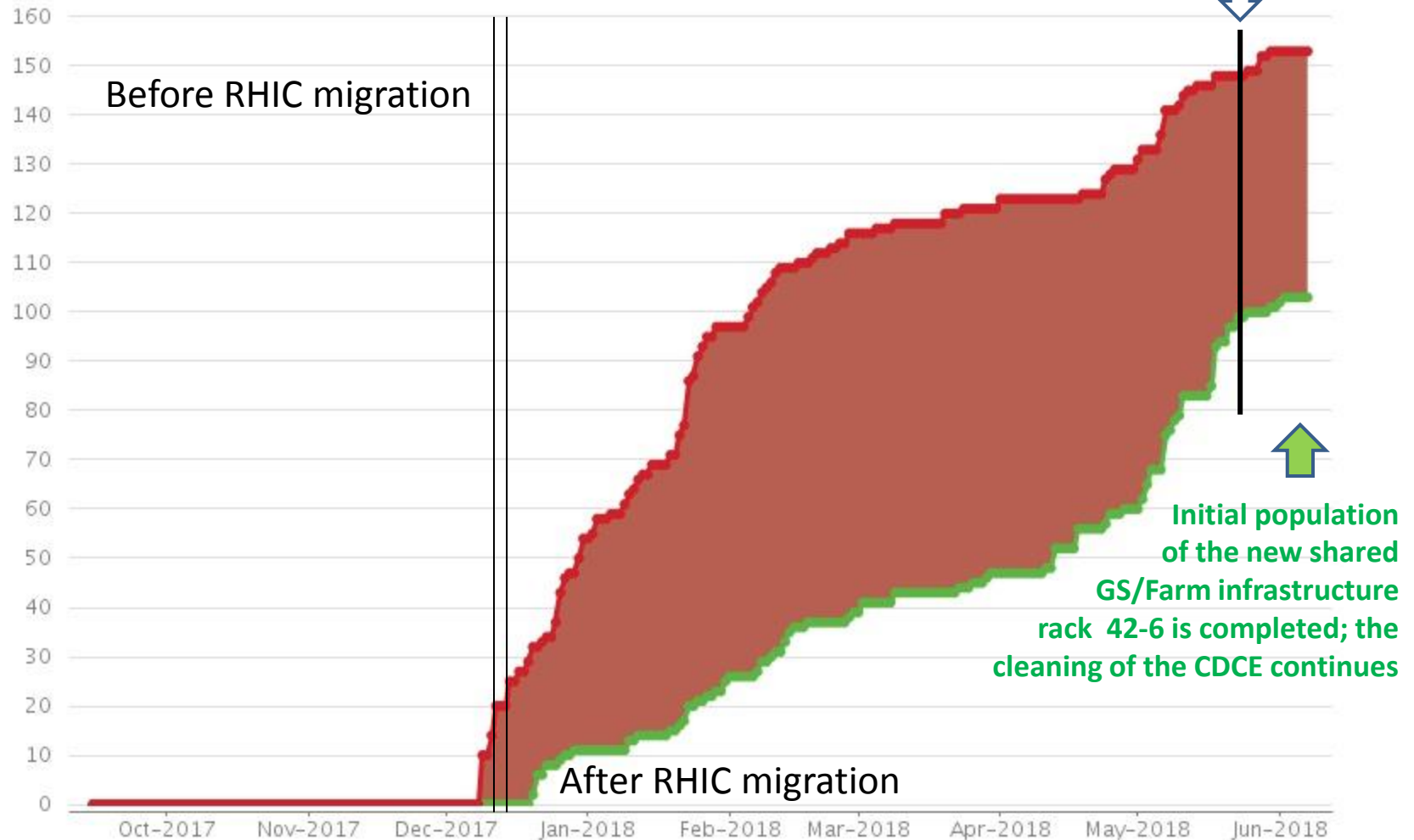
After RHIC migration

Project: Post RHIC Migration BCF & CDCE Cleansing & Service Normalization (2018Q1-3)

Chart

This chart shows the number of issues **created** vs the number of issues **resolved** in the last **266** days.

Previous Report

153

Before RHIC migration

After RHIC migration

Initial population of the new shared GS/Farm infrastructure rack 42-6 is completed; the cleaning of the CDCE continues
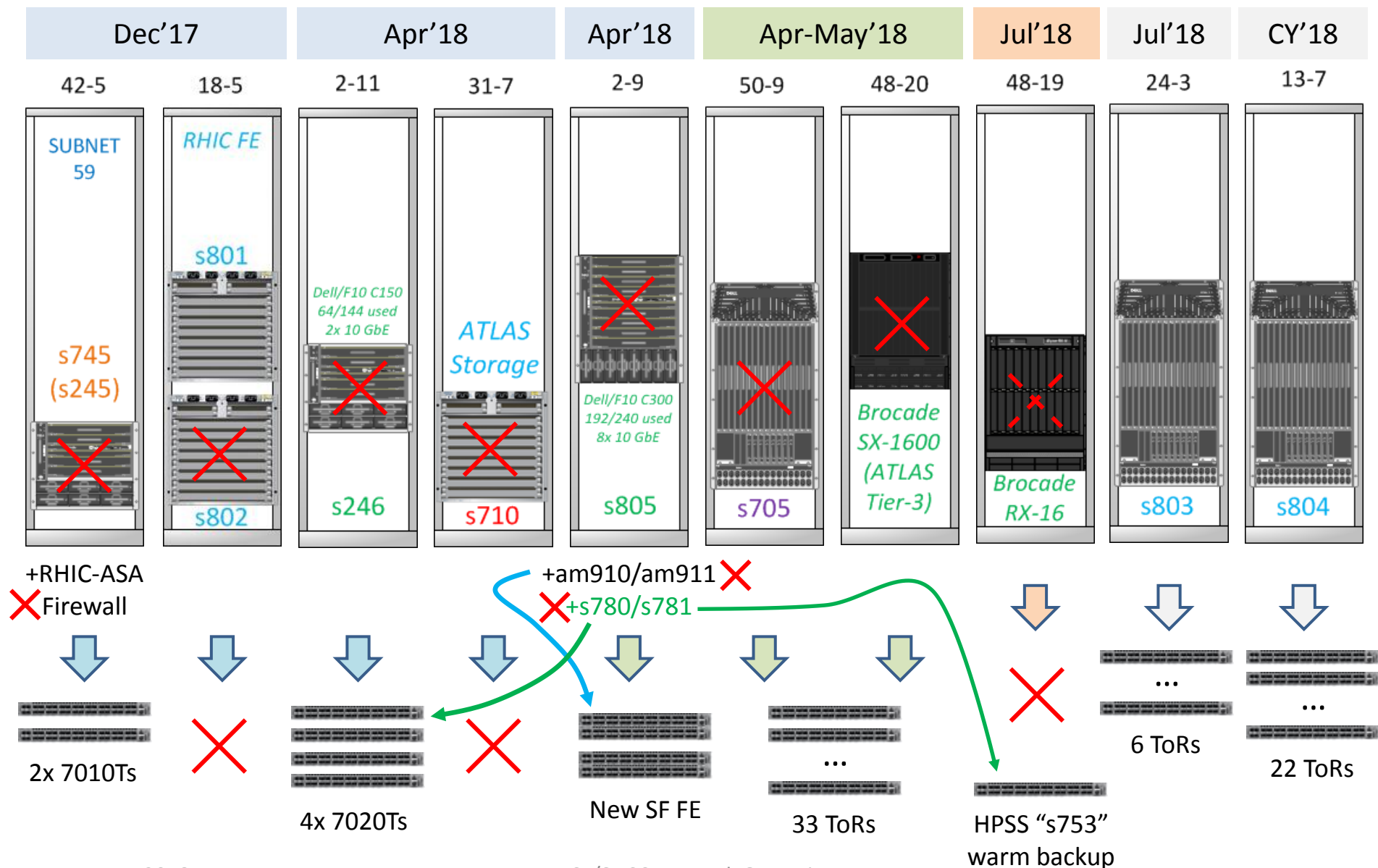
Recent Developments (1)

- Conversion of compute node racks to spine-and-leaf infrastructure in CDCE
  - Dell/Force10 Exascale s705 (row 50S) and Brocade SX-1600 (row 48N) legacy switch systems are gone
  - Several rack spaces got liberated in row 48N as result already plus at least 3 rack spaces formerly occupied by network equipment are to be returned to ATLAS Farm in June 2018
  - Cleaning of the legacy copper infrastructure (cables, cable bridges and cable trays) still continues in rows 50S, 51S. 47N
- Fiber infrastructure deployment in CDCE rows 41-43, 46 to accommodate the following new systems to be deployed in June 2018:
  - STAR GPFS (racks 42-[4, 5] and 43-2): ready for deployment of the new STAR GPFS
  - Home directory NFS appliance and Shared RHEV NFS appliance (row 41-[3-4])
- New equipment to be plugged to Facility networks next week:
  - Belle II compute node rack in row 48S (local BoR switch)
  - 3x racks of LQCD cluster to be added to the IC and its EDR IB fabric and Ethernet networks
- Decision is made to retire the legacy BNL Cloud installation (racks 49-[15-19]) and its out-of-support legacy Brocade RX-16 network core (rack 48-19) in July 2018.
  - This would finish the liberation of row 49N off the legacy equipment with prospects for the future use of this space for network and HPSS central infrastructure racks in FY19-21

Legacy Network Equipment Replacement Timeline

Dec'17		Apr'18		Apr'18	Apr-May'18		Jul'18	Jul'18	CY'18
42-5	18-5	2-11	31-7	2-9	50-9	48-20	48-19	24-3	13-7

SUBNET 59

RHIC FE

s801

s745 (s245)

Dell/F10 C150 64/144 used 2x 10 GbE

ATLAS Storage

Dell/F10 C300 192/240 used 8x 10 GbE

Brocade SX-1600 (ATLAS Tier-3)

Brocade RX-16

s246

s710

s805

s705

s803

s804

s802

+RHIC-ASA ✖ Firewall

+am910/am911 ✖
✖ +s780/s781

2x 7010Ts

4x 7020Ts

New SF FE

33 ToRs

HPSS "s753" warm backup

6 ToRs

22 ToRs

Recent Developments (2)

- SciCore (Arista 7508E) switch pair gets liberated from the direct attached clients – most of them are getting moved to the Storage Block (Arista 7508R) switch pair
  - New real hardware based CVMFS system was moved on May 10, 2018
  - CephFS cluster moved on May 18, 2018
  - Belle II dCache central infrastructure and Belle II conditions DB can move are proposed to be moved out of the SciCore to Storage Block / Merged RACF FE in Aug 2018 (only a short interruption needed)
  - HPSS infrastructure components are expected to begin moving out of the SciCore in FY19 as the system evolves

- Procurement of 28x Arista 7020T ToR switches plus associated copper and fiber material for complete replacement of legacy s803/s804 switches is delayed for about 2 weeks
  - The first intervention for the 1 GbE attached compute node rack in the RCF room (STAR row 21, "small experiments" row 25): s803 replacement with ToRs (to coincide with new home directory NFS cut-in) – now expected in mid-July 2018
  - The second intervention for the 1 GbE attached compute node rack in the main BGL room (STAR and PHENIX in rows 1, 2, 12, 14: s804 replacement with ToRs) – still considered feasible to perform before the end of CY18 (ideally, before the end of FY18) – possibly coinciding with an HPSS intervention

Questions & Comments

RACF/SDCC Network Operations