

Exploratory Data Analysis on SR

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Introduction

iSRV is a Cisco internal portal which facilitates querying customer Service Request (SR) ticket info across multiple dimensions and metrics (URL: <https://gtcbl.cisco.com/#/views/iSRV>Welcome?:iid=1>). The portal makes multiple reports available that can be sliced and diced under 6 standard groups namely SR, Bug, Customer, RMA, Licensing and Usability. The filters available at each report are BE, Sub-BE, Product Family, Customer Region, Severity, etc.

The primary goal of this exercise is to explore SR data into various dimensions and metrics and find out current state of SR tickets, trends, patterns and any useful and actionable insights. The analysis would help familiarize with the data, identify any data quality issues and prototyping future projects based on need.

Synopsis

For the analysis SR data from iSRV is extracted for the max period of 2018-03 till 2019-03 (recent 25 months) for EN PINs. The EN PINs considered are Switching, Routing, Wireless, SPA, NSCG, IOT. The DNAC PIN has very low volume of tickets so, the PIN is ignored for the analytics. Each of the PIN data contains 126 fields and contains only SR tickets that were closed. There were in total 1.19M (million) unique SR tickets for the period. After filtering for partial month data for 2019-03 (10k) and tickets created prior to 2017 (7k) there were 1.18M unique SR tickets.

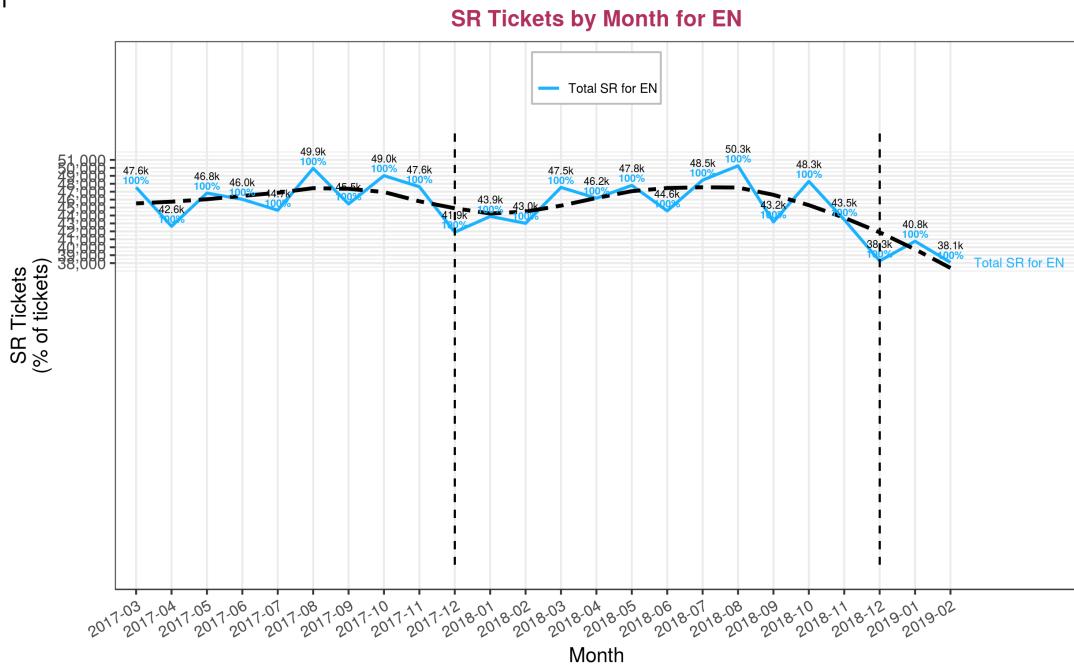
Data Analysis

SR Tickets across EN Trend

Observations:

1. Year over Year (YoY) SR volume for EN is down by 5% from 2018 Feb.
2. SR volumes are about 10% higher and at peak in Aug and Oct months.
3. SR volumes are lower in Dec and Feb months.

A.1

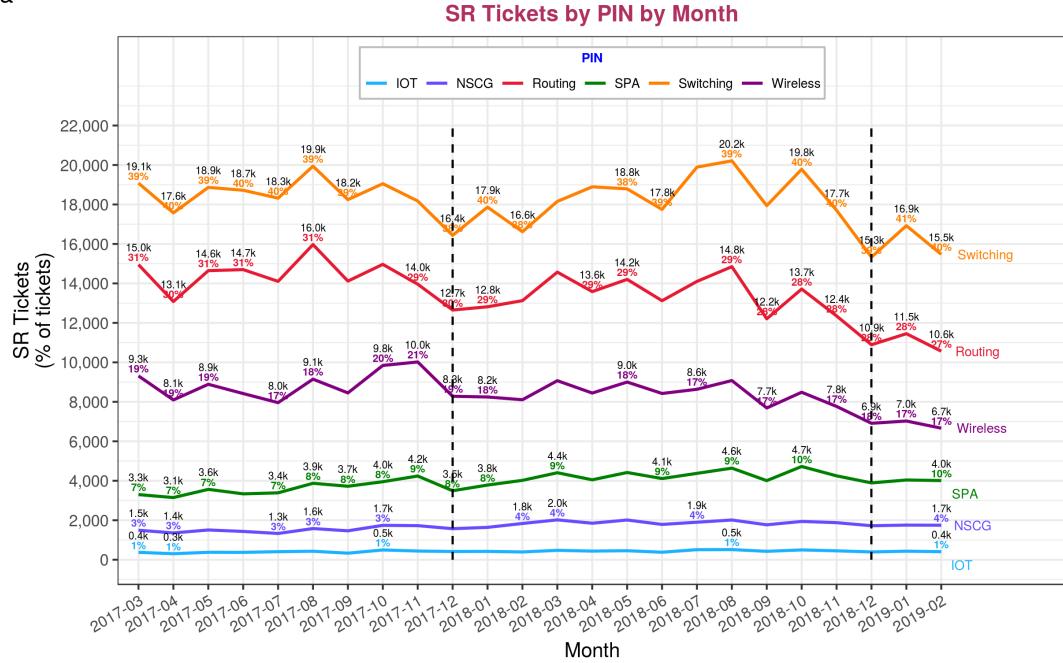


SR Tickets by PIN Trend

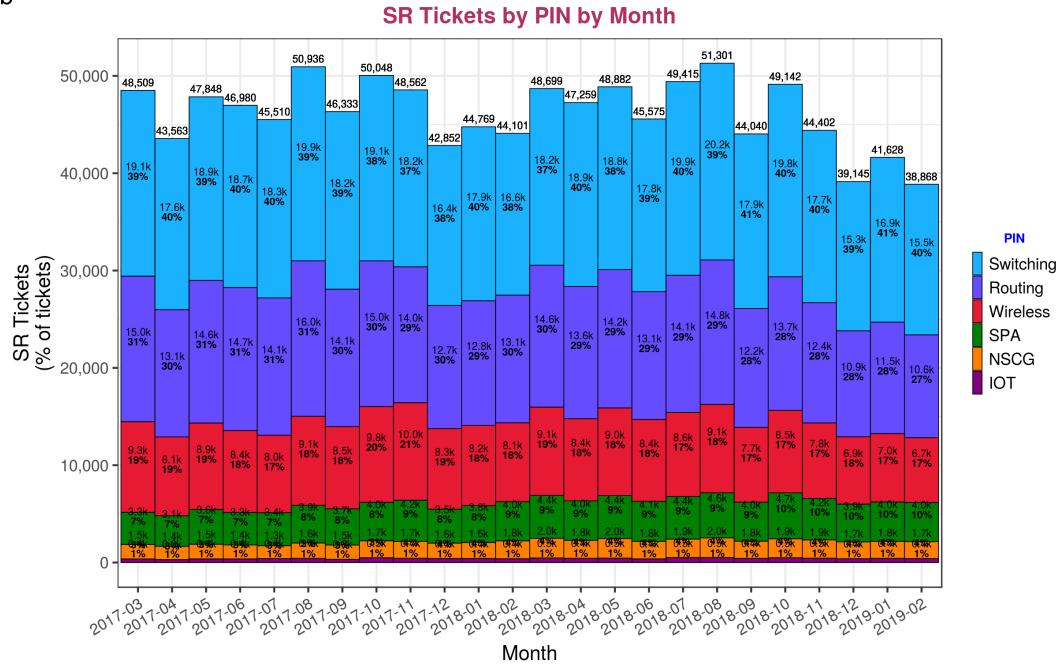
Observations:

1. The top SR EN PINs are Switching at 40%, Routing at 27% and Wireless at 17% in 2019 Feb.
2. YoY SR volume has reduced for Switching by 7%, Routing by 18% and Wireless by 16%.

A.1a



A.1b



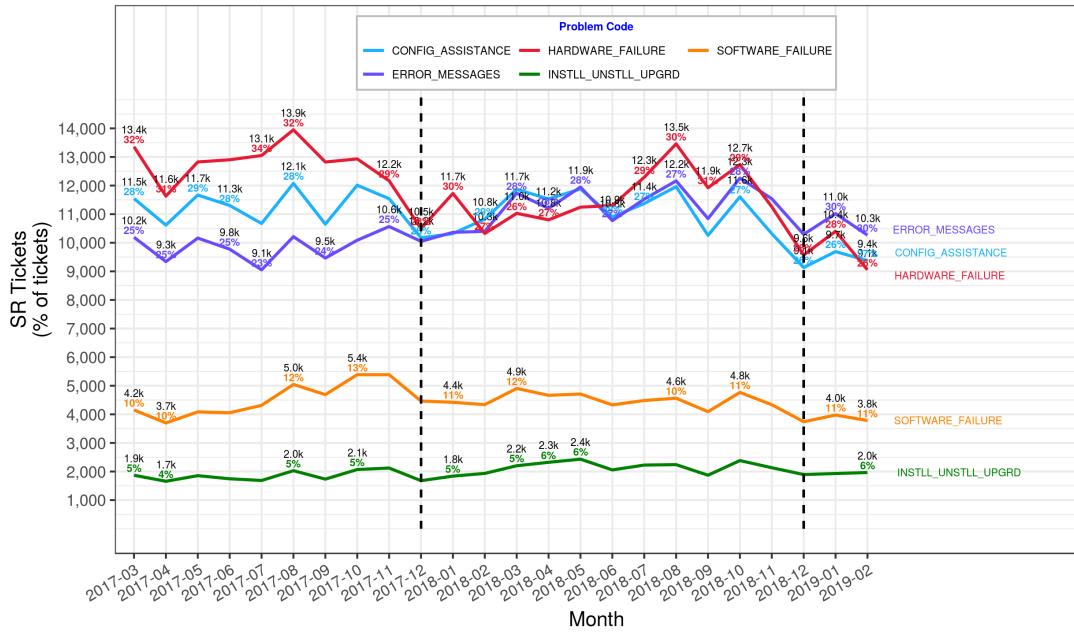
Problem Code Trend

Observations:

- YoY Hardware failure issues have reduced by 12%, Config Assistance reduced by 16% and Software Failure by 10% from Feb 2018.

A.2

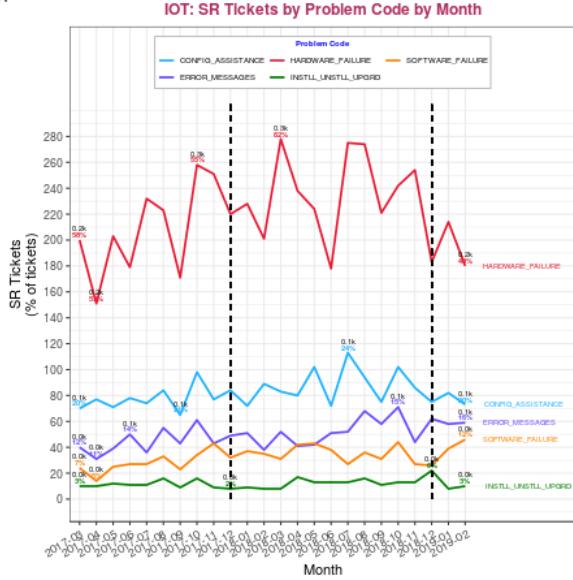
SR Tickets by Problem Code by Month



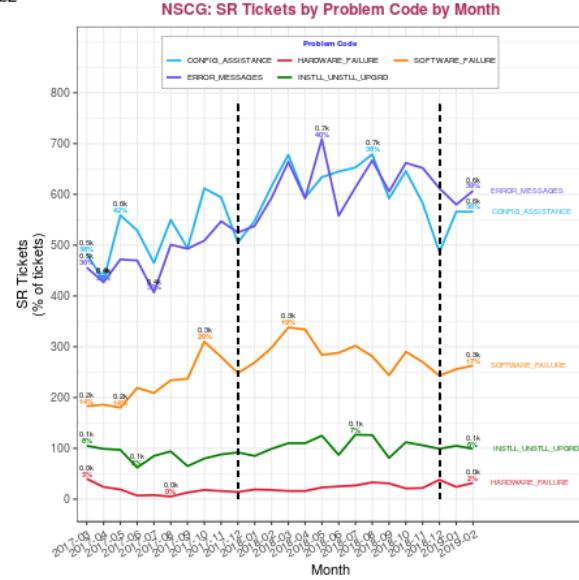
Problem Code by PIN

Observations:

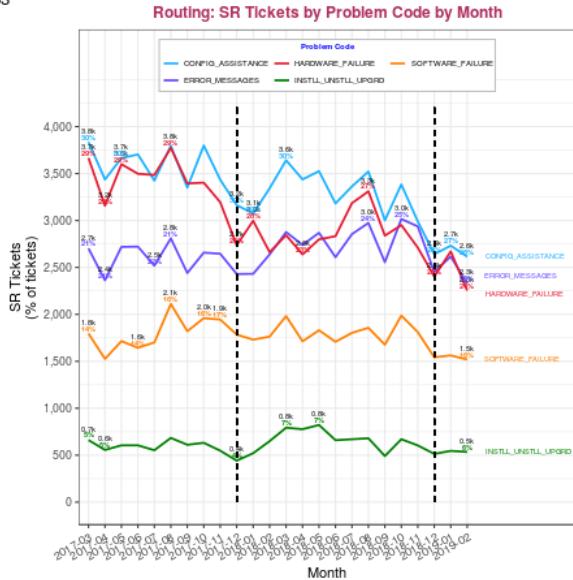
A.2b1



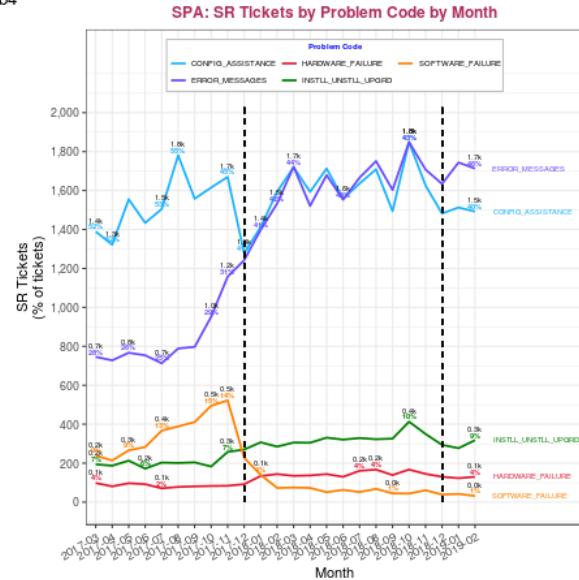
A.2b2



A.2b3

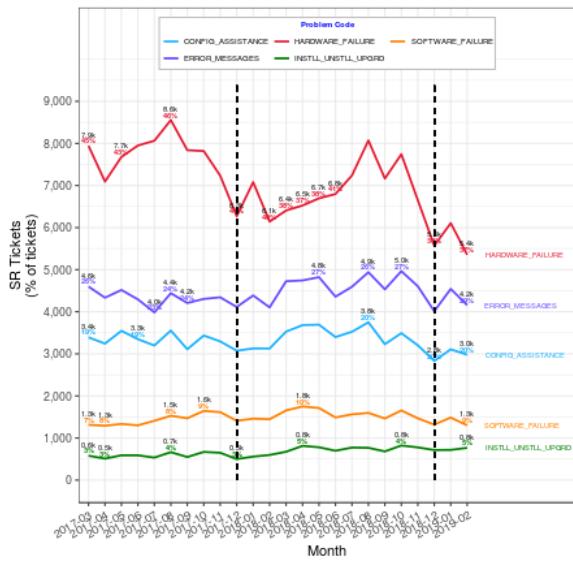


A.2b4



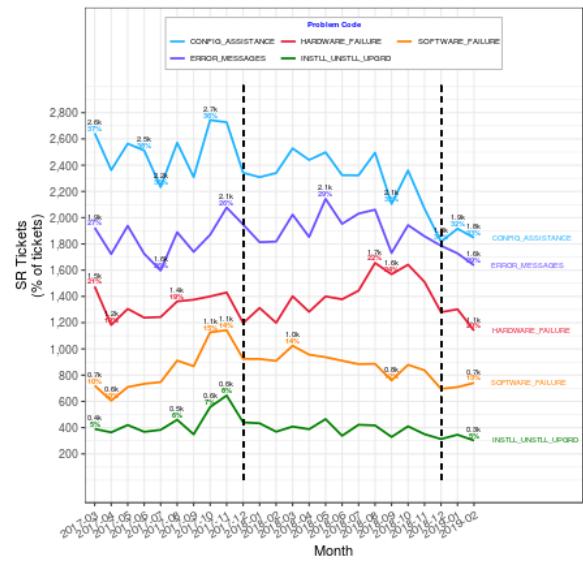
A.2b5

Switching: SR Tickets by Problem Code by Month



A.2b6

Wireless: SR Tickets by Problem Code by Month



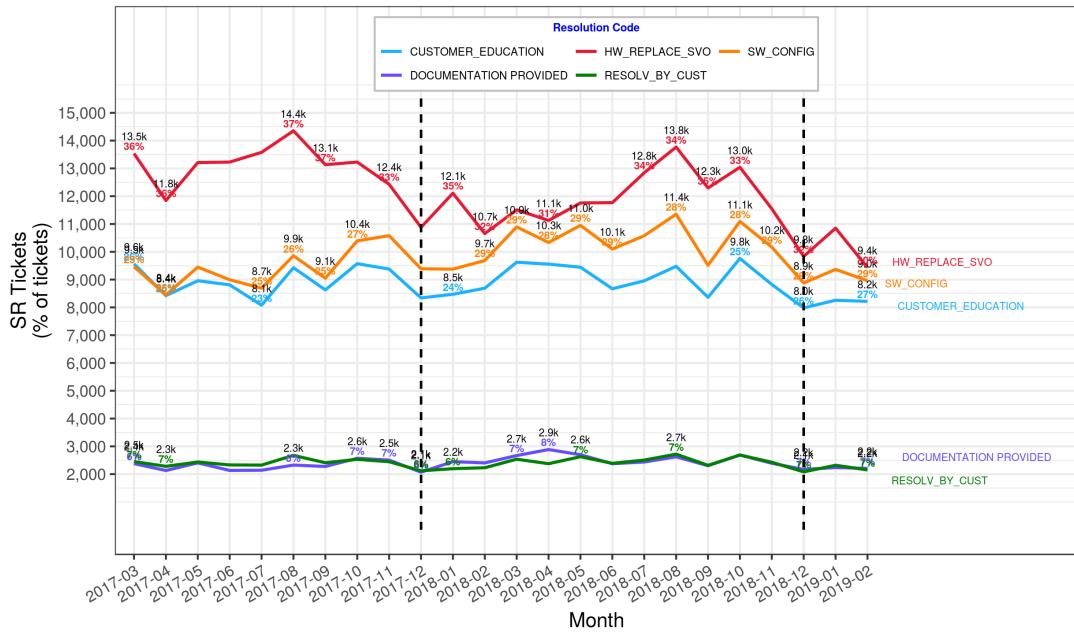
Resolution Code Trend

Observations:

- YoY Hardware Replacement tickets have reduced by 10% in 2018 compared to 2017 and SW Config and Customer Education tickets have reduced by 5%.
- YoY Documentation Provided and Resolve by Customer were inline. failure issues have reduced by 12%, Config Assistance reduced by 16% and Software Failure by 10% from Feb 2018.

A.3

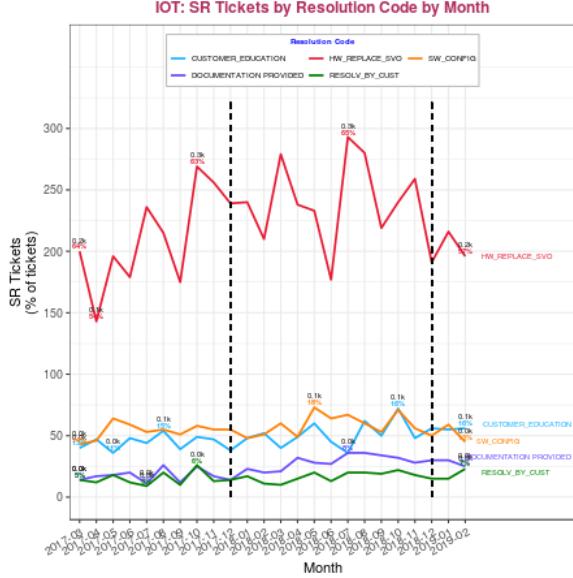
SR Tickets by Resolution Code by Month



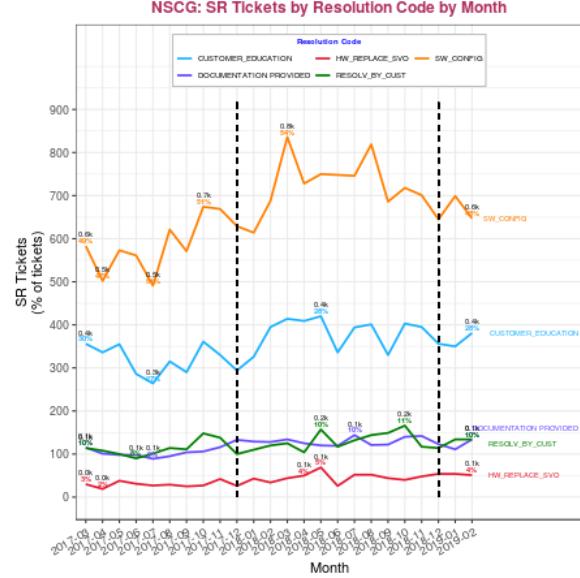
Resolution Code by PIN

Observations:

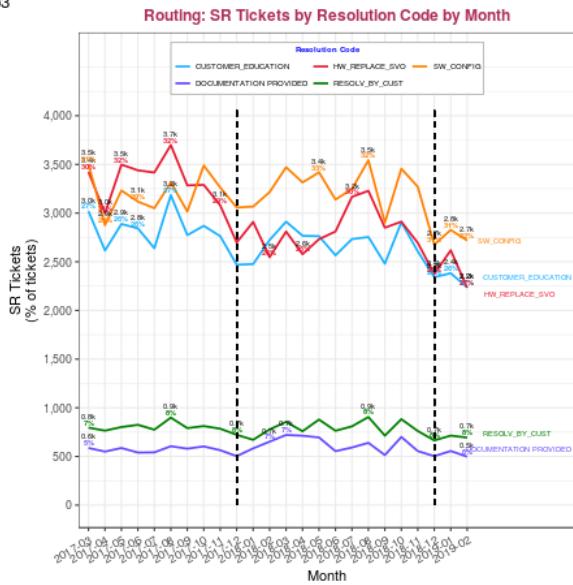
A.3b1



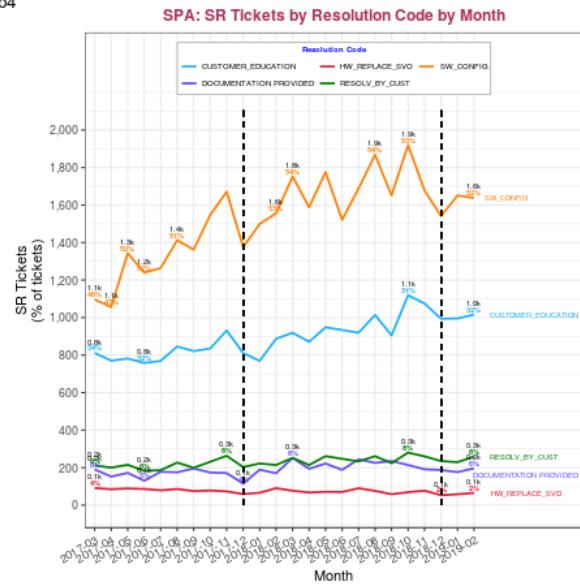
A.3b2



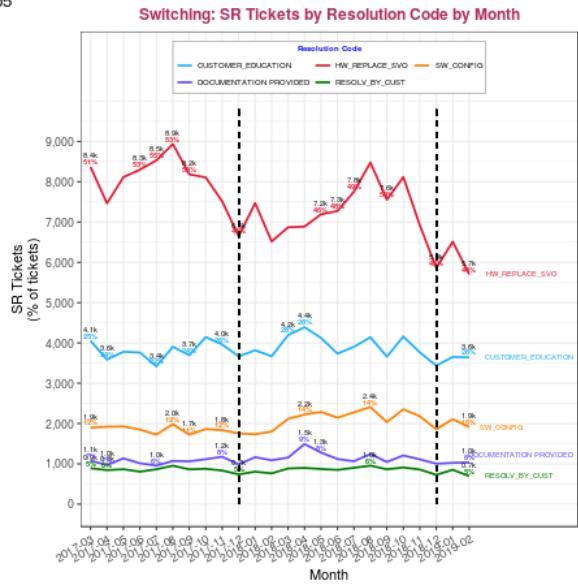
A.3b3



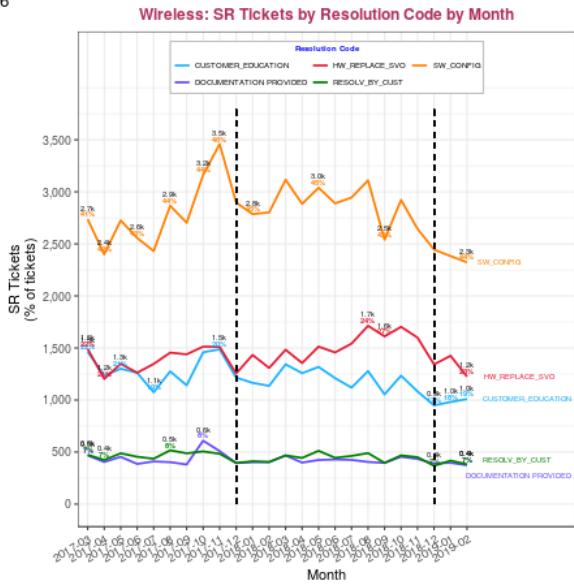
A.3b4



A.3b5



A.3b6



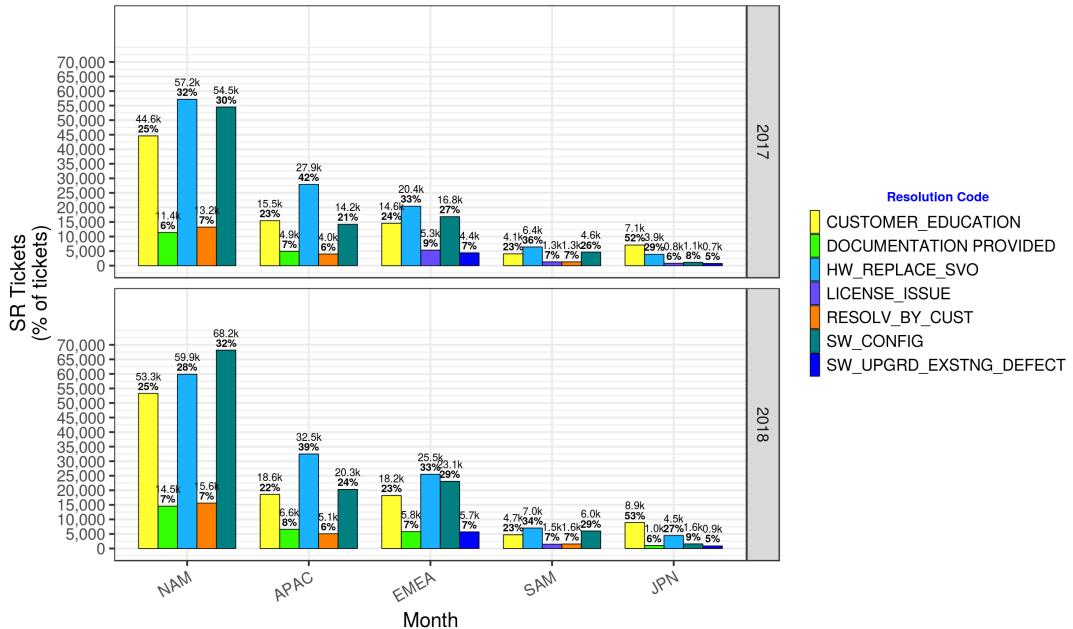
Resolution Code by Theater

Observations:

1. The top 3 Resolution code for NAM, APAC, EMEA theater are Software Config, Hardware Replacement and Customer Education.
2. Software Config issues increased by 2% and Hardware Replacement issues reduced by 4% for NAM and APAC.
3. EMEA had 9% Licensing issues in 2017 that are not there in 2018.
4. EMEA had 7% Software Upgrade Existing Defect in 2017 and 2018 that is not noticed on other theaters.

C.4

SR Tickets by Resolution Code by Theater



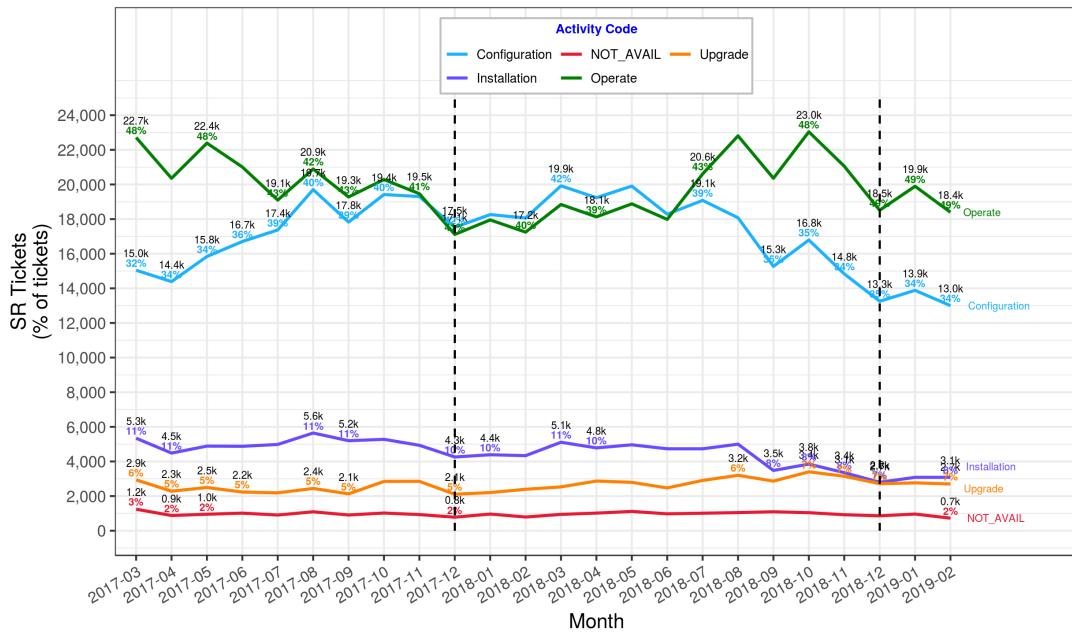
Customer Activity Trend

Observations:

1. About 50% of SR issues are Operate issues. YoY Operate issues have increased 7%.
2. YoY Configuration and Installation issues are reduced by 28%.

A.4

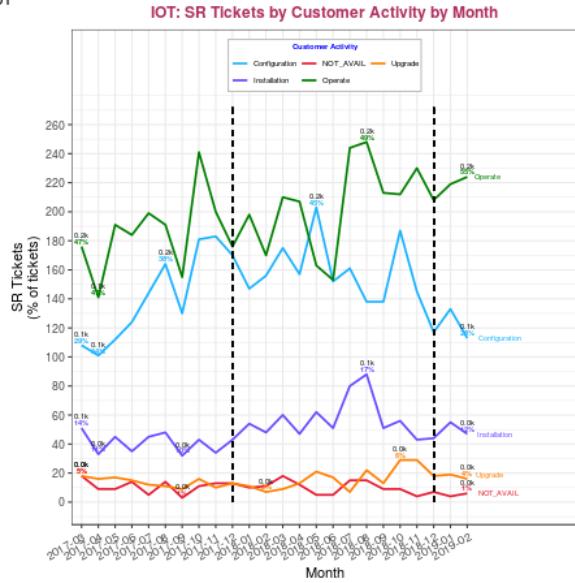
SR Tickets by Customer Activity by Month



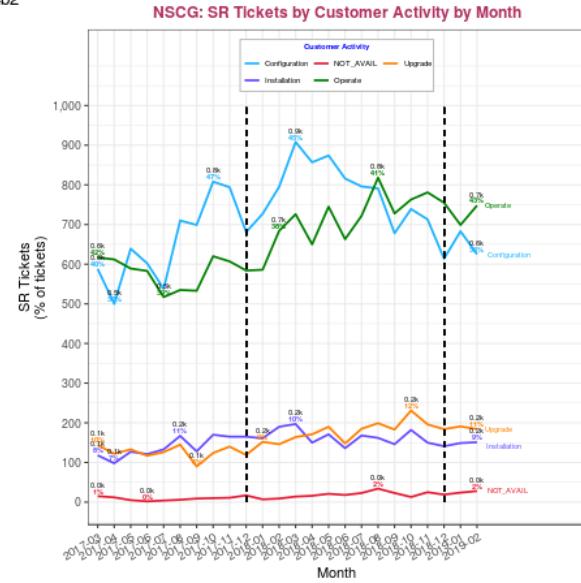
Customer Activity by PIN

Observations:

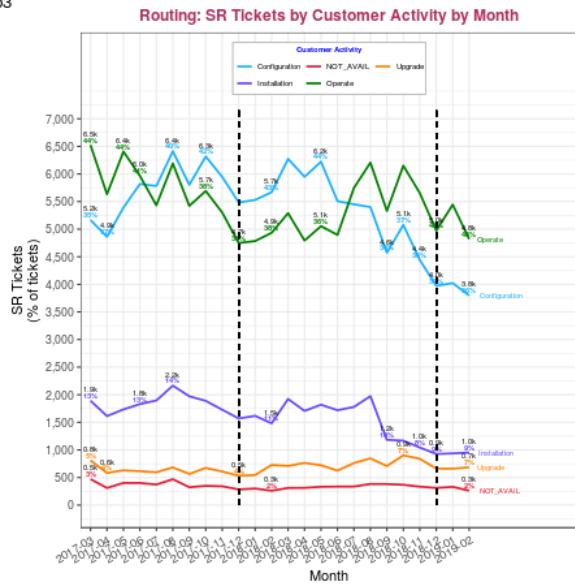
A.4b1



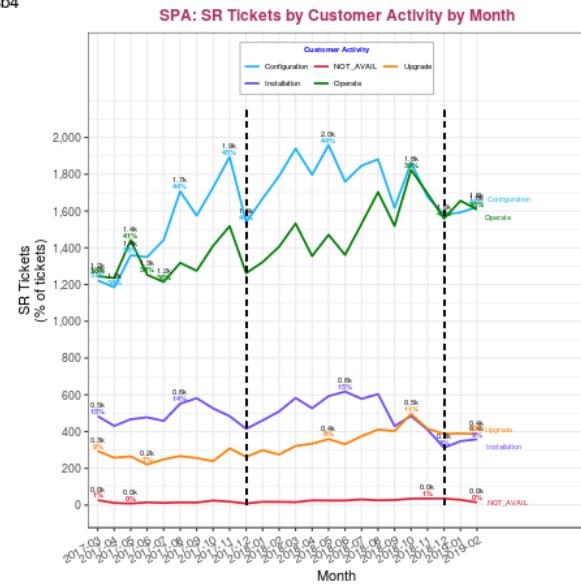
A.4b2



A.4b3

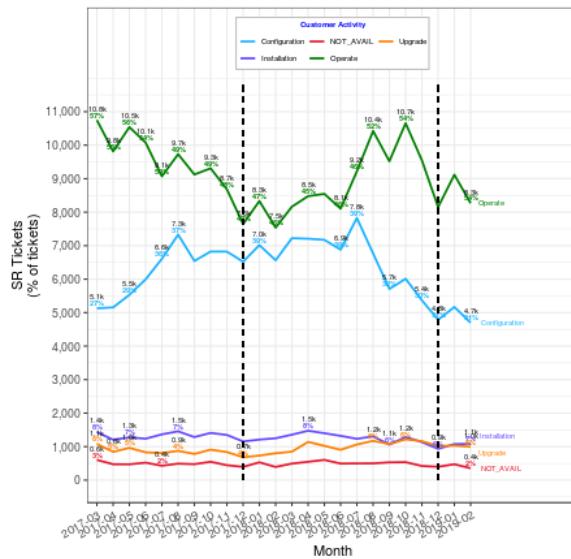


A.4b4



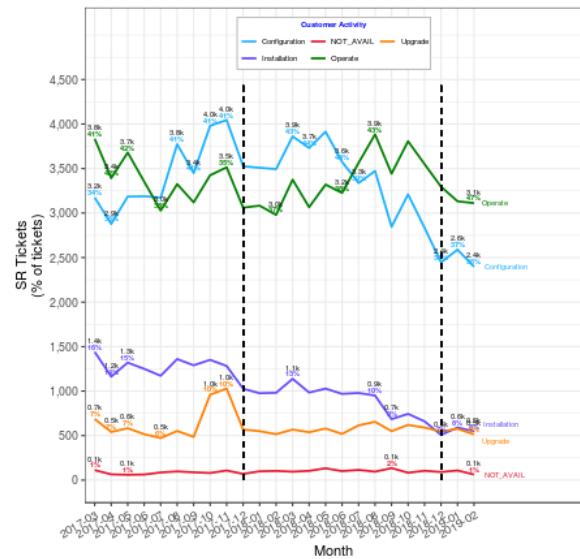
A.4b5

Switching: SR Tickets by Customer Activity by Month



A.4b6

Wireless: SR Tickets by Customer Activity by Month



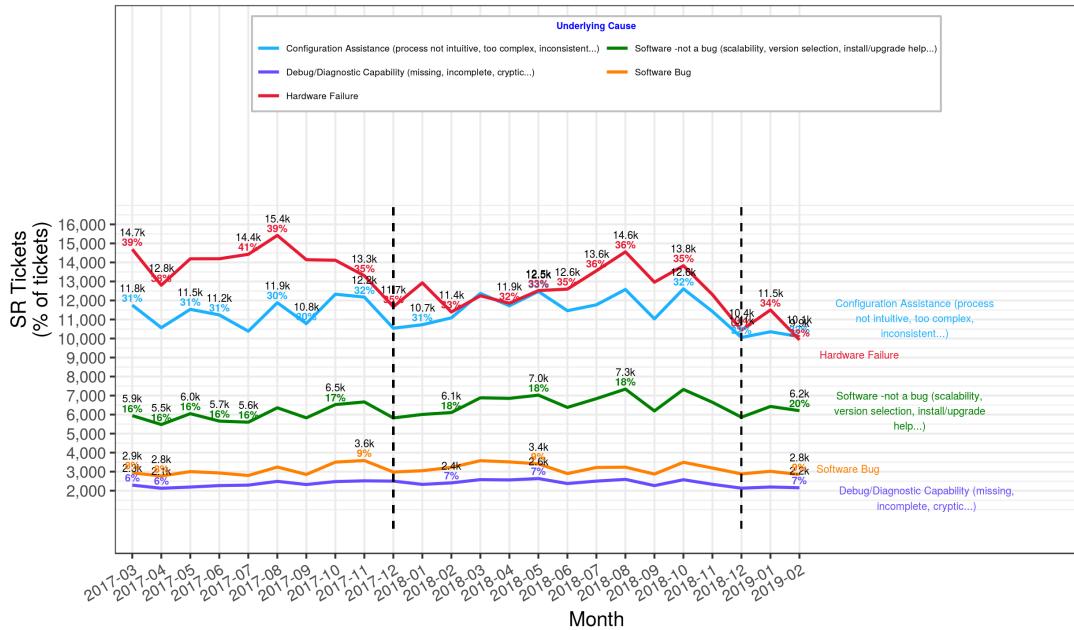
Underlying Cause Trend

Observations:

1. The top 2 Underlying Cause categories for the SR tickets are Hardware Failure and Configuration Assistance each contributing 32% of the tickets.

A.5

SR Tickets by Underlying Cause by Month

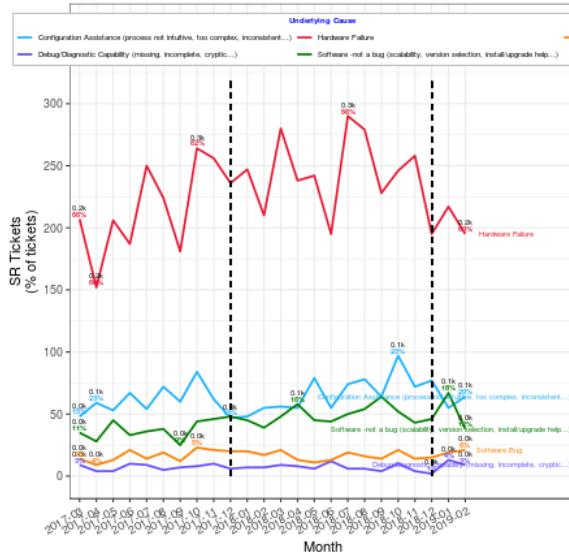


Underlying Cause by PIN

Observations:

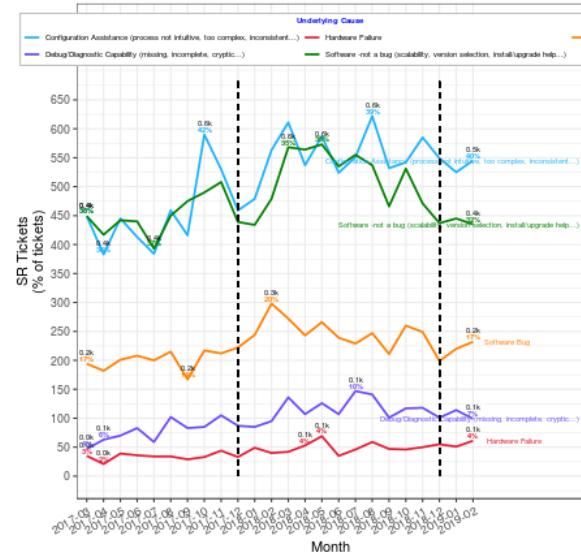
A.5b1

IOT: SR Tickets by Underlying Cause by Month



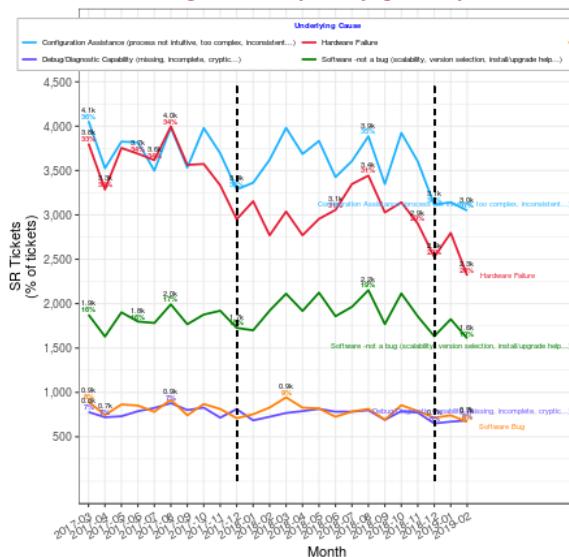
A.5b2

NSCG: SR Tickets by Underlying Cause by Month



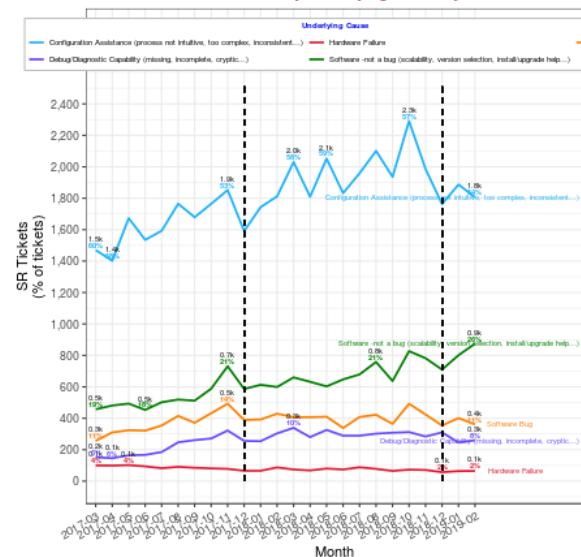
A.5b3

Routing: SR Tickets by Underlying Cause by Month

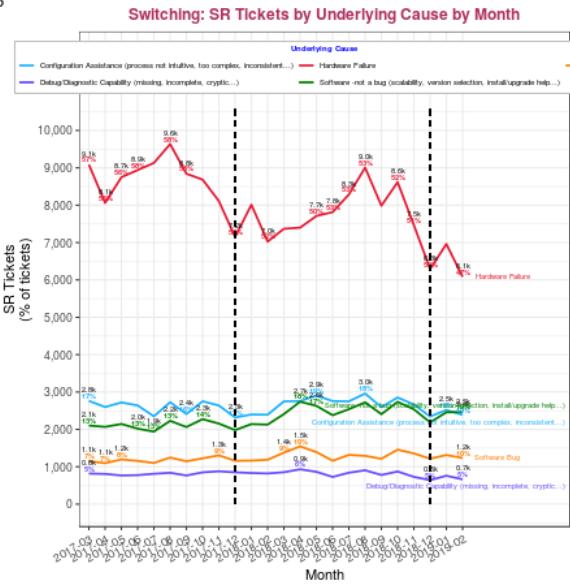


A.5b4

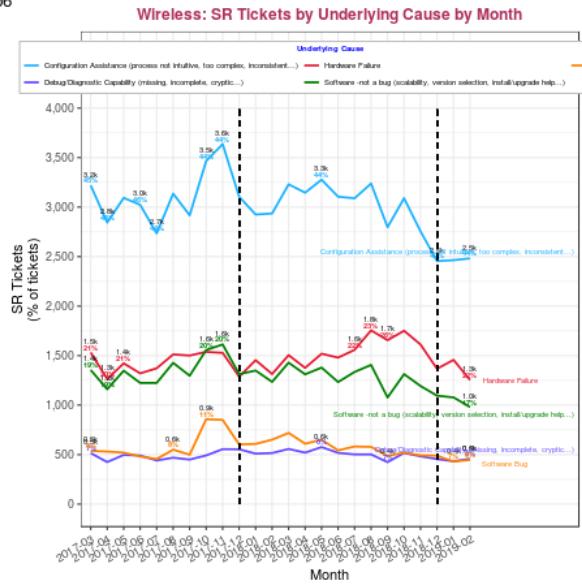
SPA: SR Tickets by Underlying Cause by Month



A.5b5



A.5b6



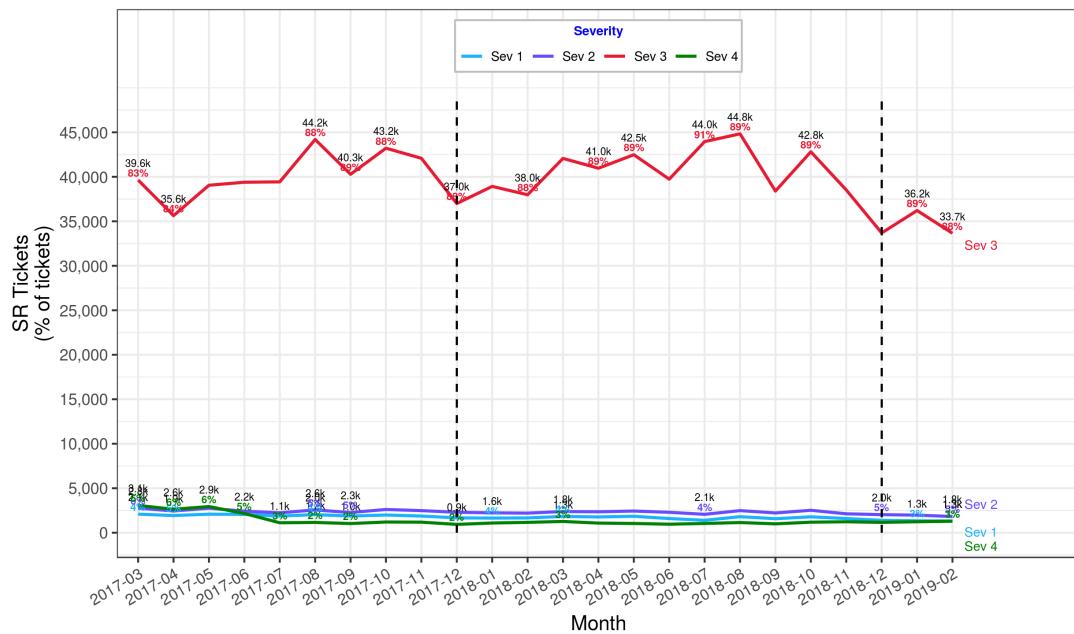
Severity Trend

Observations:

1. 88% of SR tickets are Sev 3 followed by 5% of Sev 2 and 3% of Sev 1.

A.8

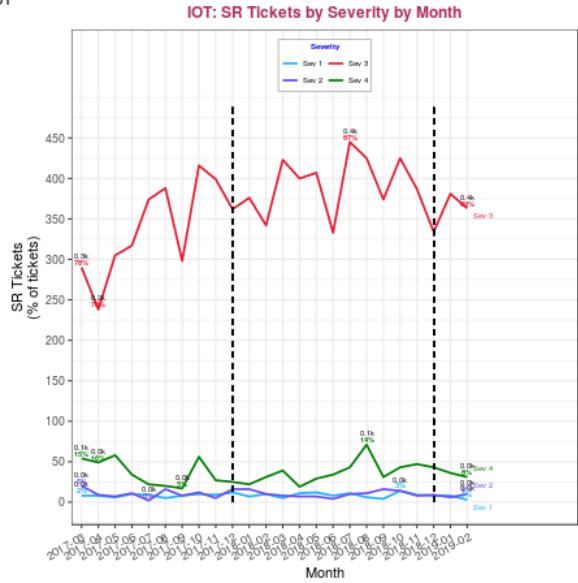
SR Tickets by Severity by Month



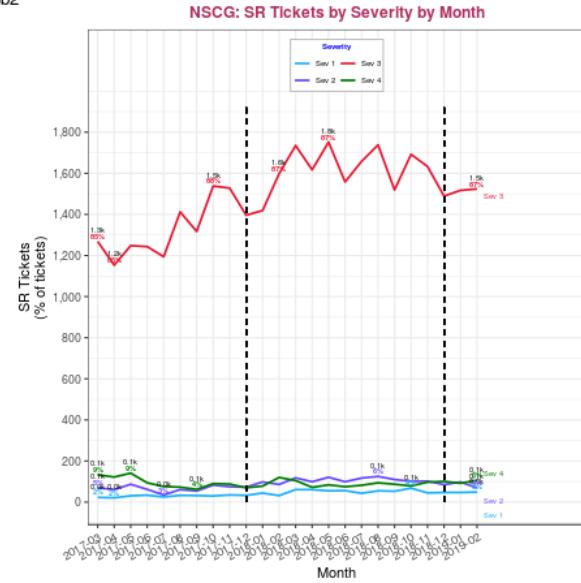
Severity by PIN

Observations:

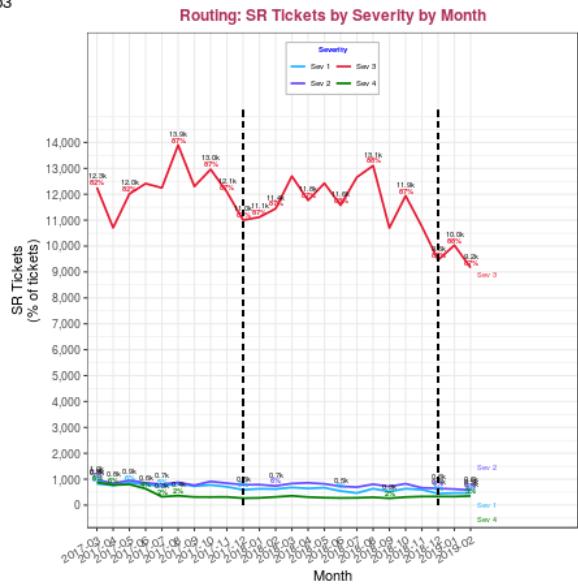
A.8b1



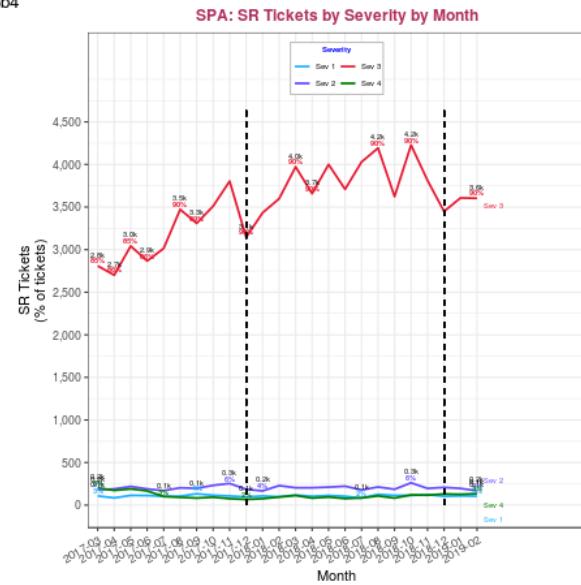
A.8b2



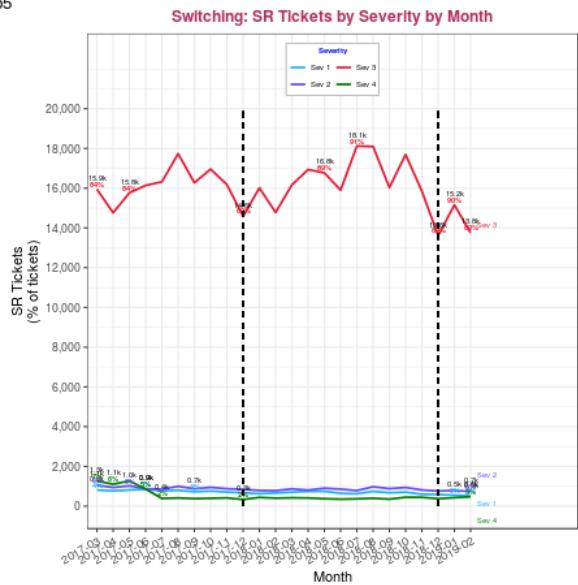
A.8b3



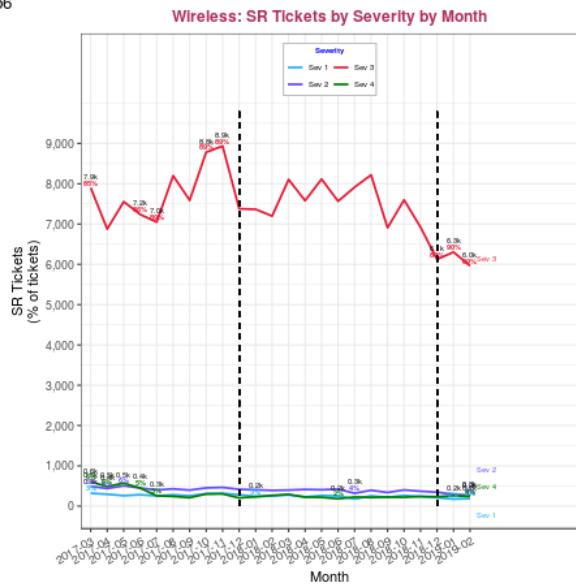
A.8b4



A.8b5



A.8b6



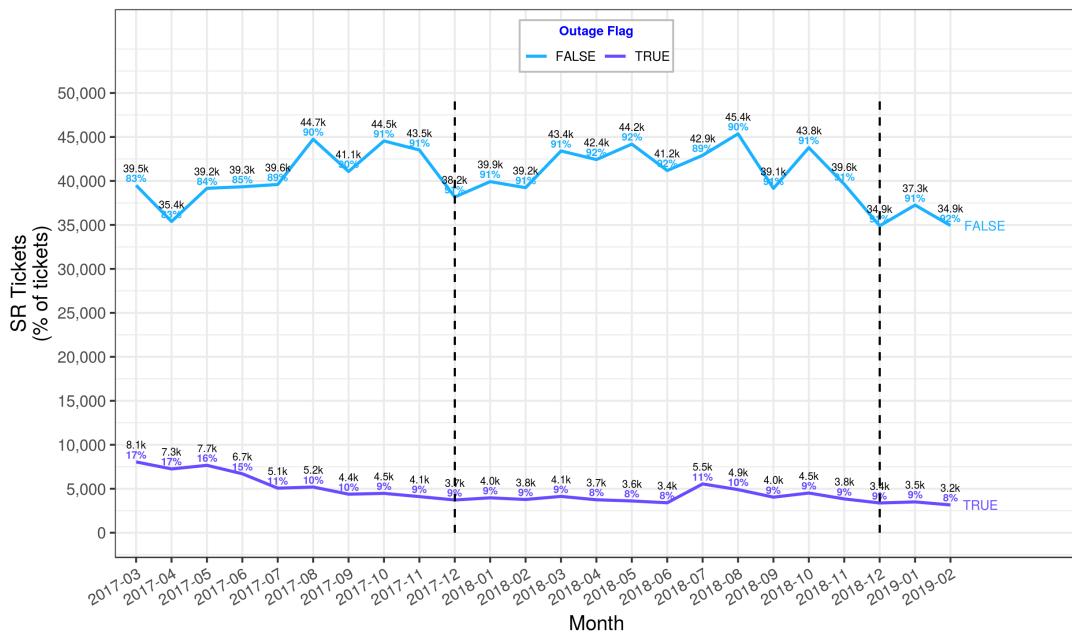
Outage Flag Trend

Observations:

- About 8% of the tickets caused Outage.

A.9

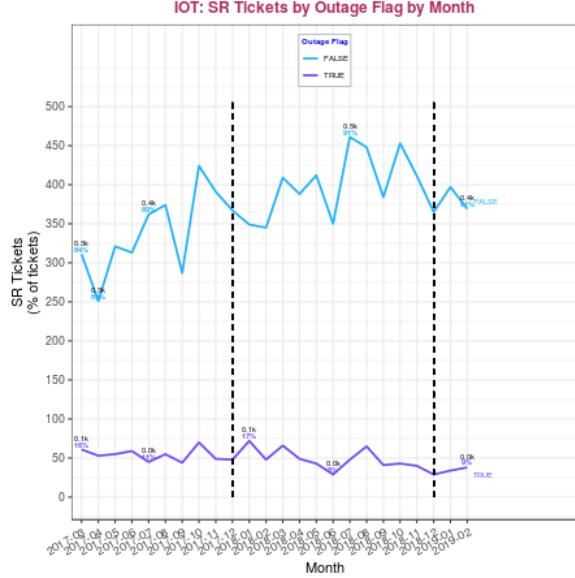
SR Tickets by Outage Flag by Month



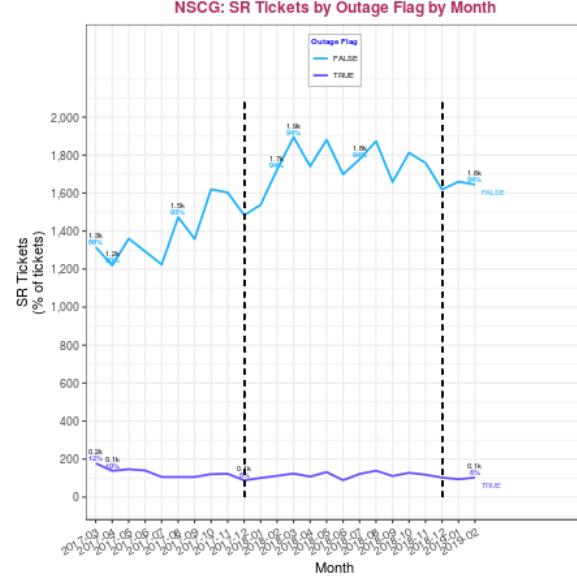
Outage Flag by PIN

Observations:

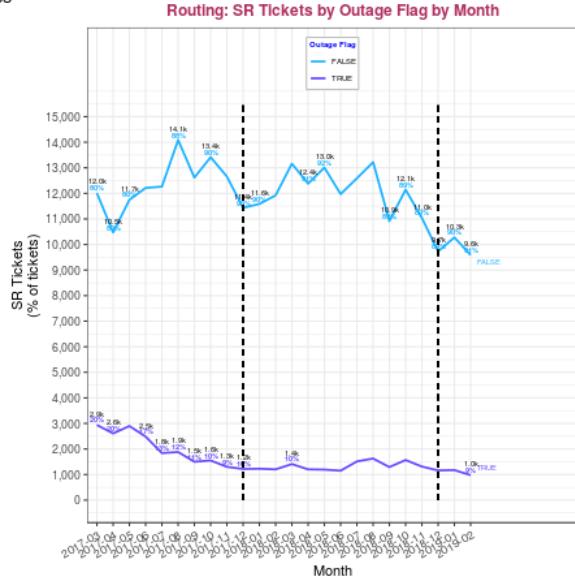
A.9b1



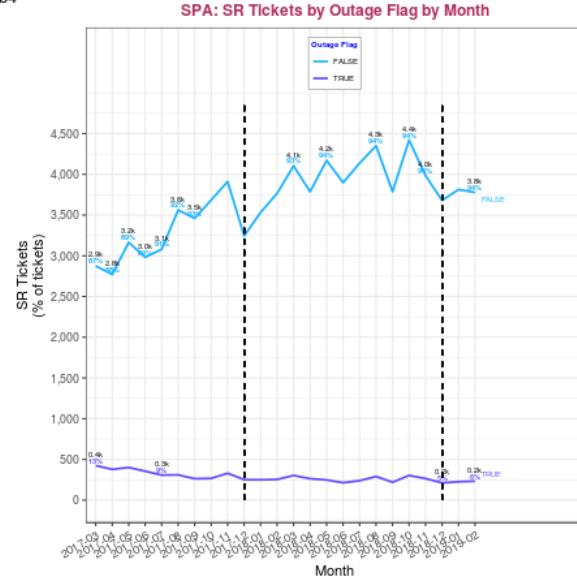
A.9b2



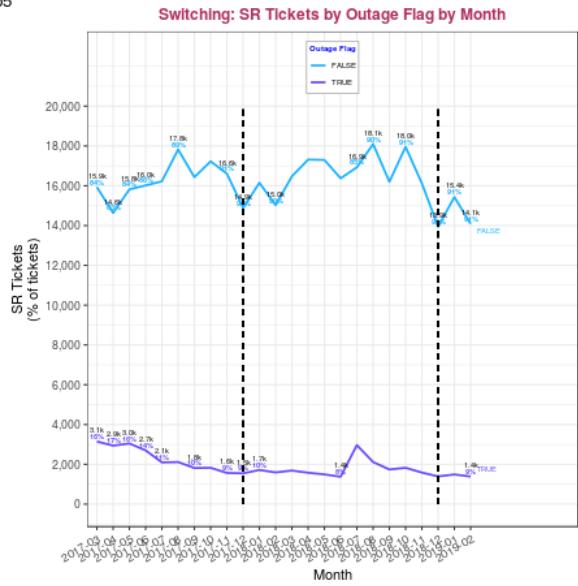
A.9b3



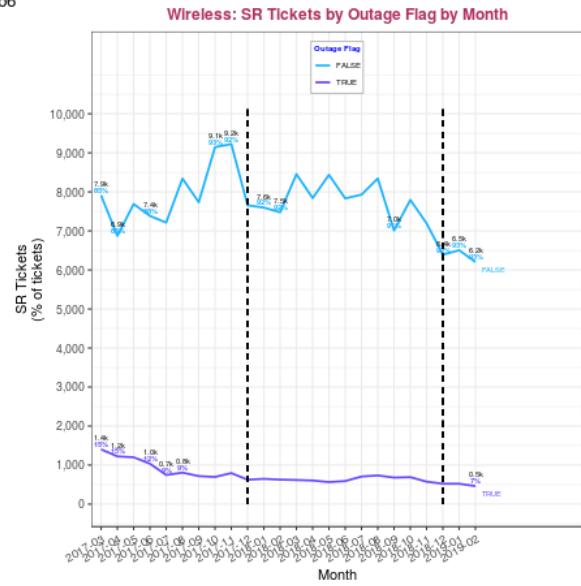
A.9b4



A.9b5



A.9b6



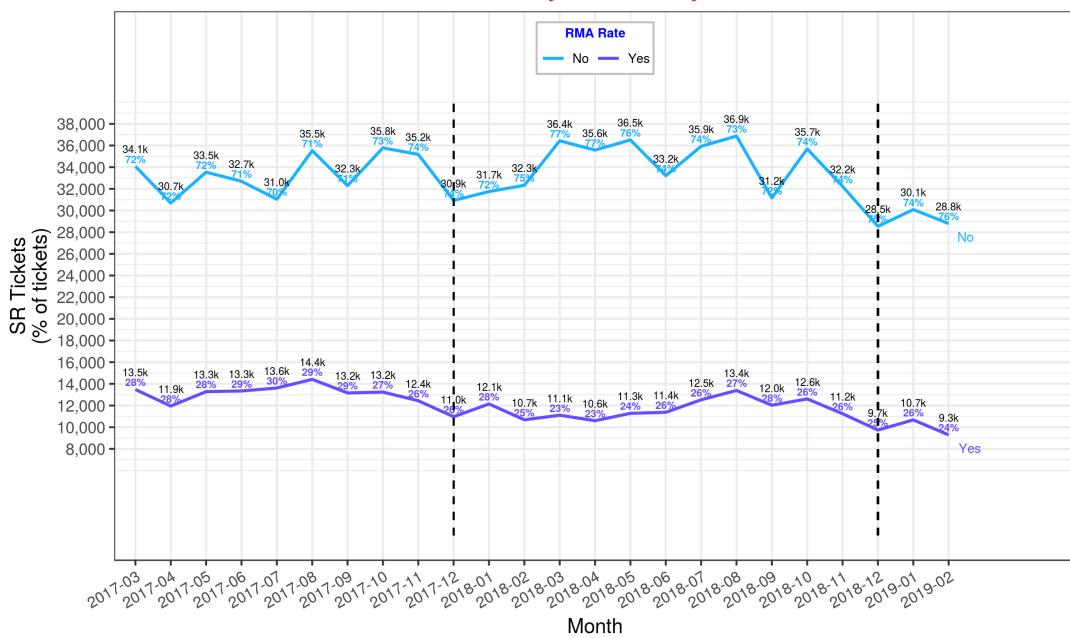
RMA Trend

Observations:

1. 24% of SRs are RMA.

H.1

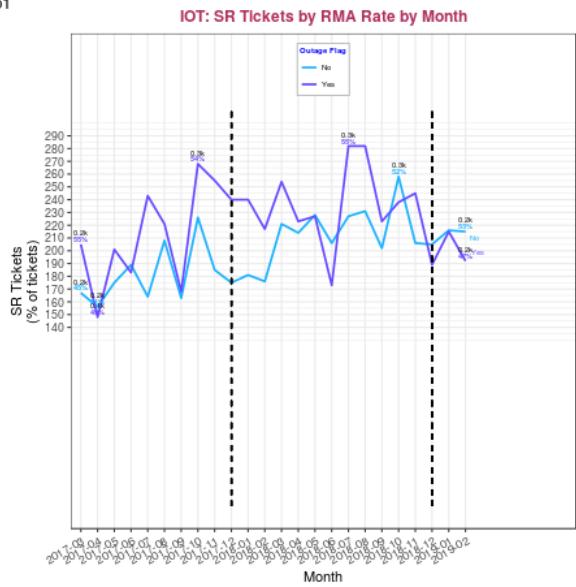
SR Tickets by RMA Rate by Month



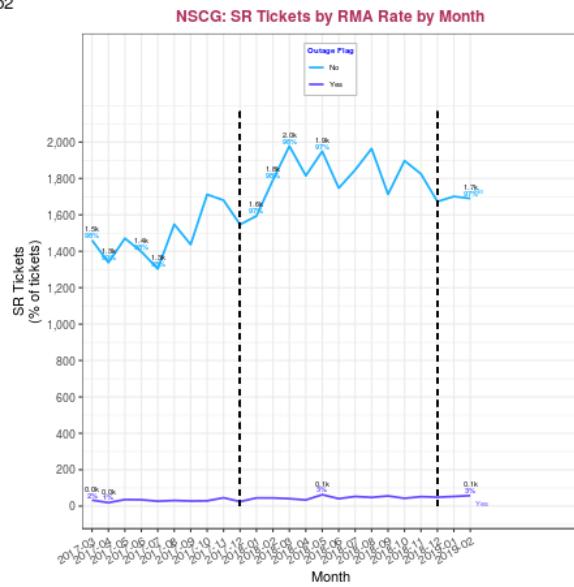
RMA by PIN

Observations:

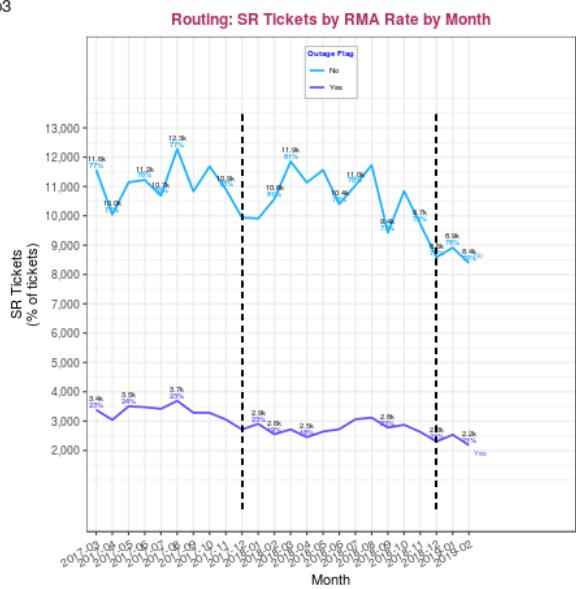
H.1b1



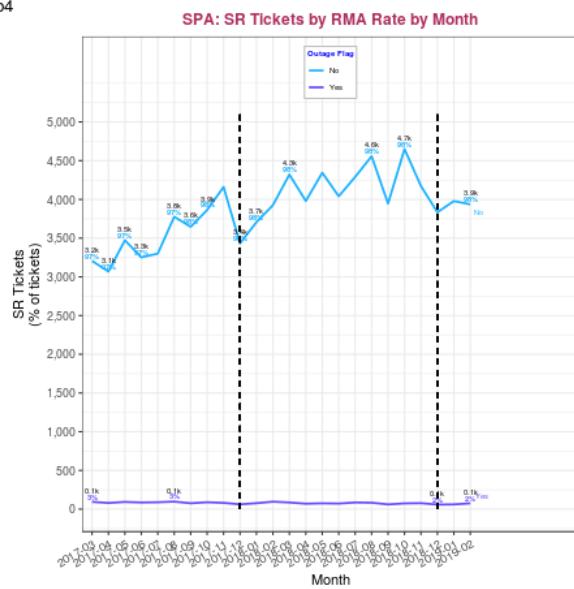
H.1b2



H.1b3

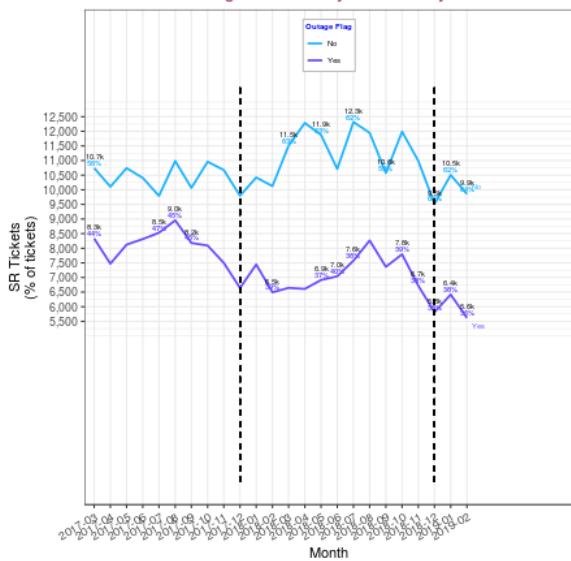


H.1b4



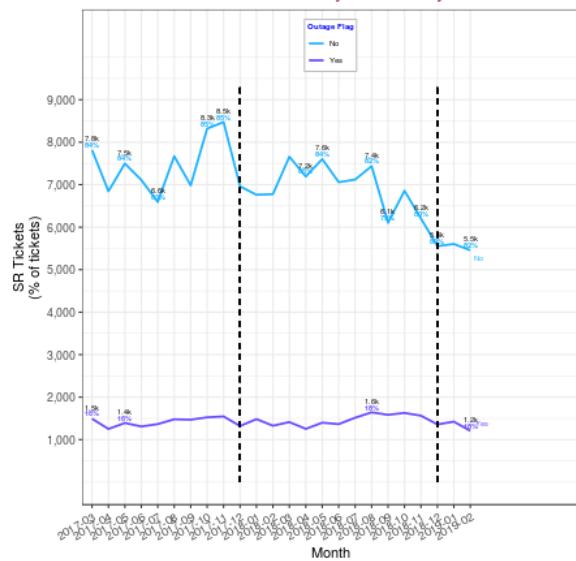
H.1b5

Switching: SR Tickets by RMA Rate by Month



H.1b6

Wireless: SR Tickets by RMA Rate by Month



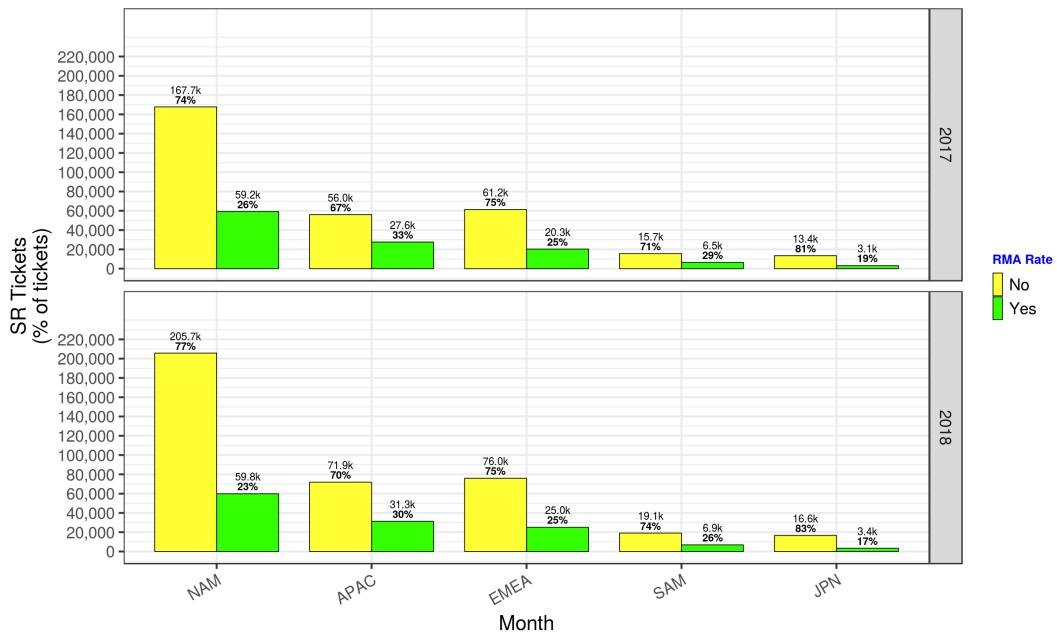
RMA by Theater

Observations:

1. RMA rate is highest in APAC at 30% followed by SAM at 26% and EMEA at 25%.
2. RMA rate is lowest in JPN.
3. RMA rate has decreased by couple of percent from prior year.

H.1b

SR Tickets by RMA Rate by Theater

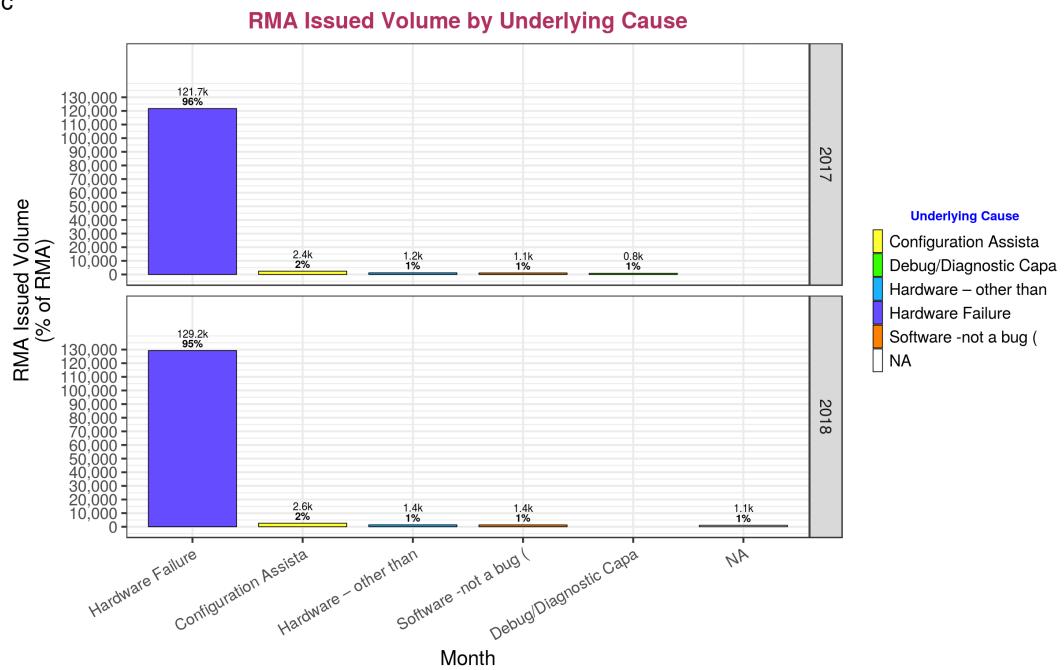


RMA by Underlying Cause

Observations:

1. 95% of RMAs are because of Hardware Failure.

H.1c



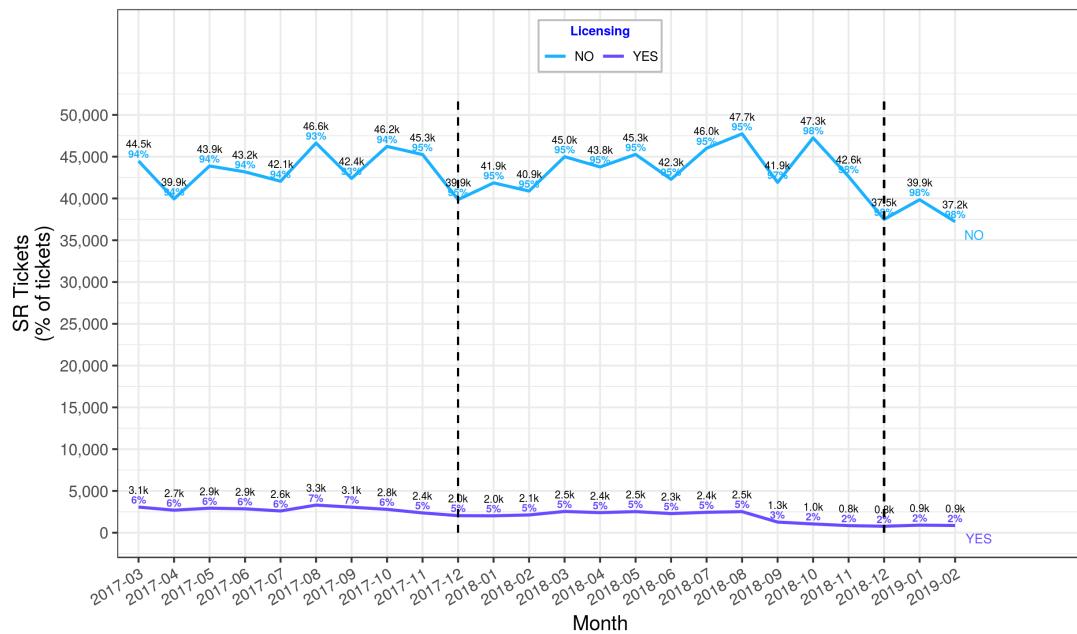
Licensing Trend

Observations:

- YoY Licensing issues reduced by 3% and the current rate is 2%.

L.1

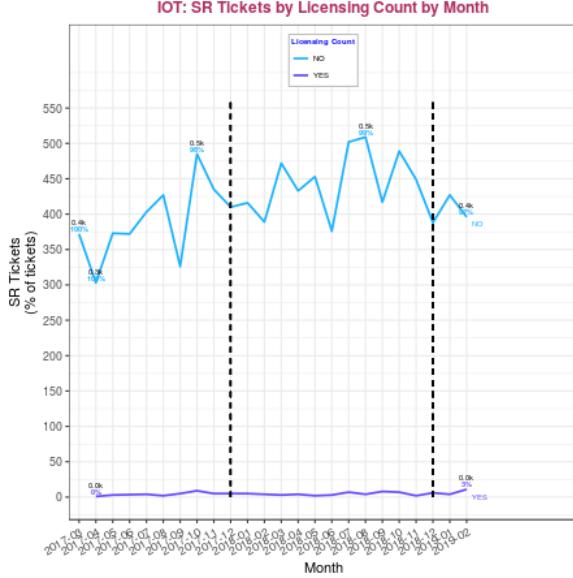
SR Tickets by Licensing Count by Month



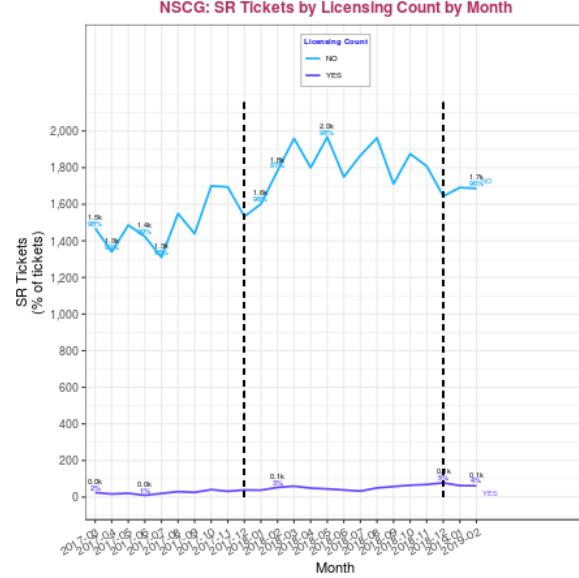
Licensing by PIN

Observations:

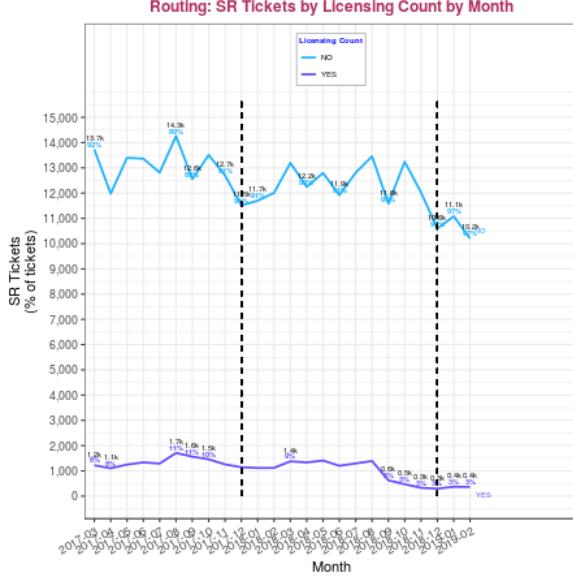
L.1b1



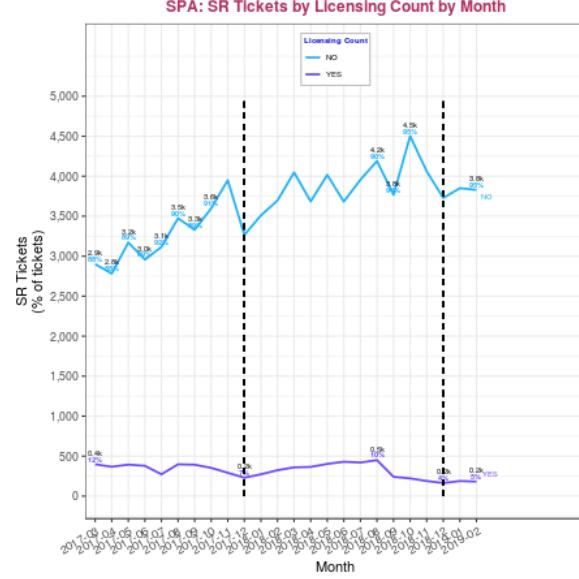
L.1b2



L.1b3

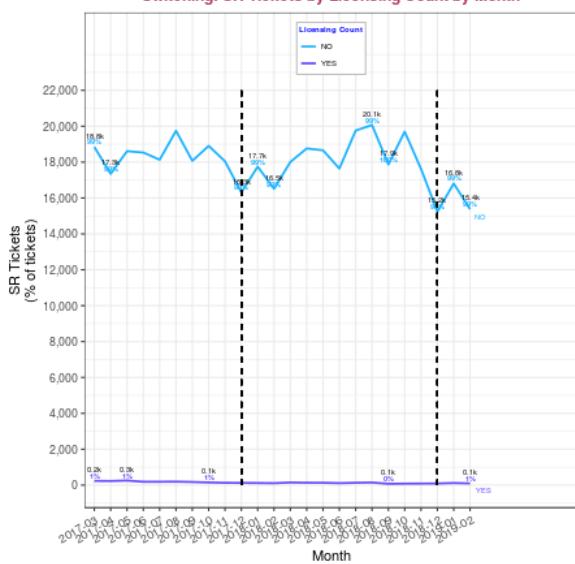


L.1b4



L.1b5

Switching: SR Tickets by Licensing Count by Month



L.1b6

Wireless: SR Tickets by Licensing Count by Month

