

IT1962 - Using Splunk and its premium solution to accelerate DevOps lifecycle



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Agenda

Introduction

DevOps solution using Splunk – ARTS

Problem & Solution

Demo

BETA labs

DevOps solution using Splunk ITSI – InfraWatch Project

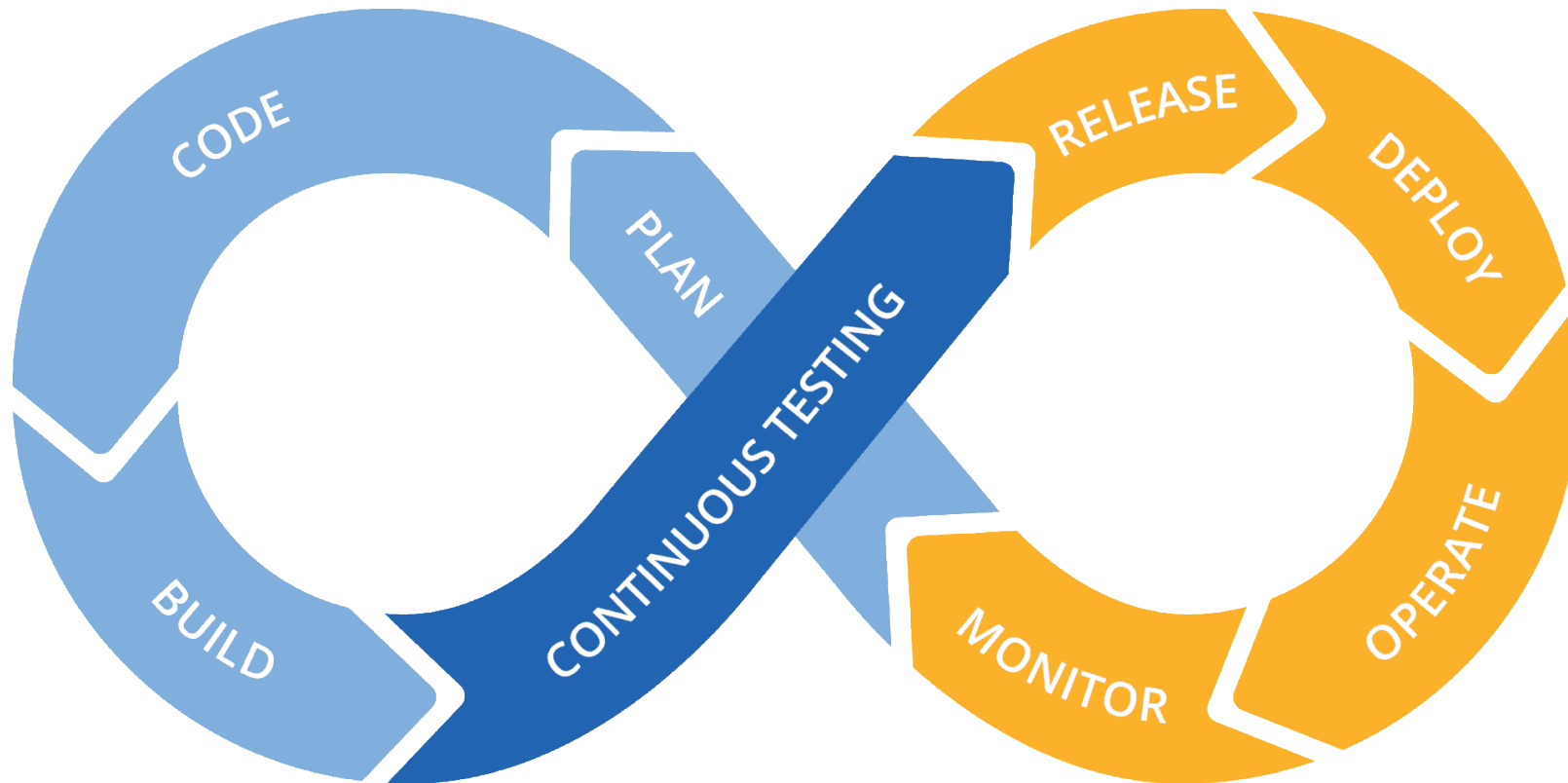
Introduction

Best practices

Q & A

Introduction

DevOps Lifecycle at Splunk



Introduction

Our Solutions for Acceleration

Splunk ARTS

Automation Result Triage System



Automation Result Triage
system

InfraWatch Project

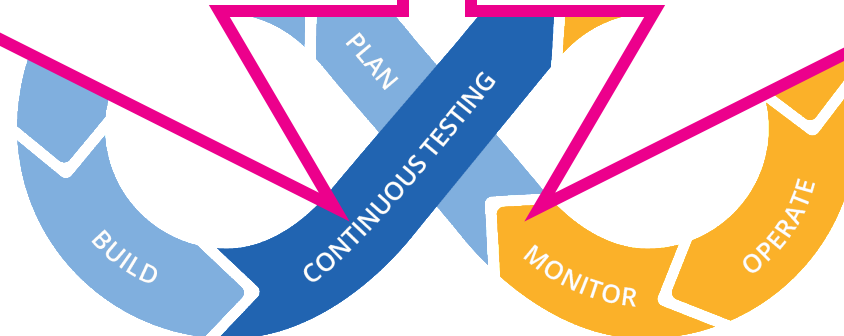
Monitoring System for CI/CD Infrastructure



Splunk IT Service
Intelligence™



VictorOps



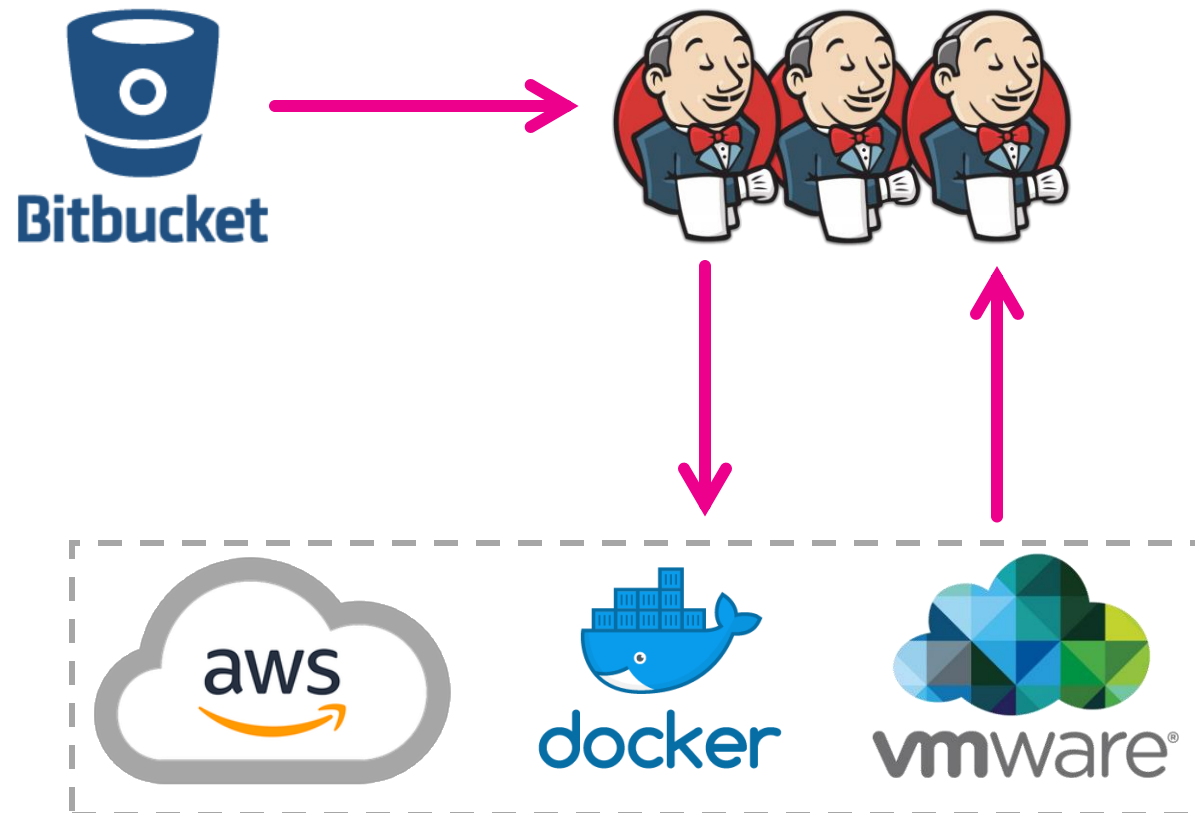


ARTS

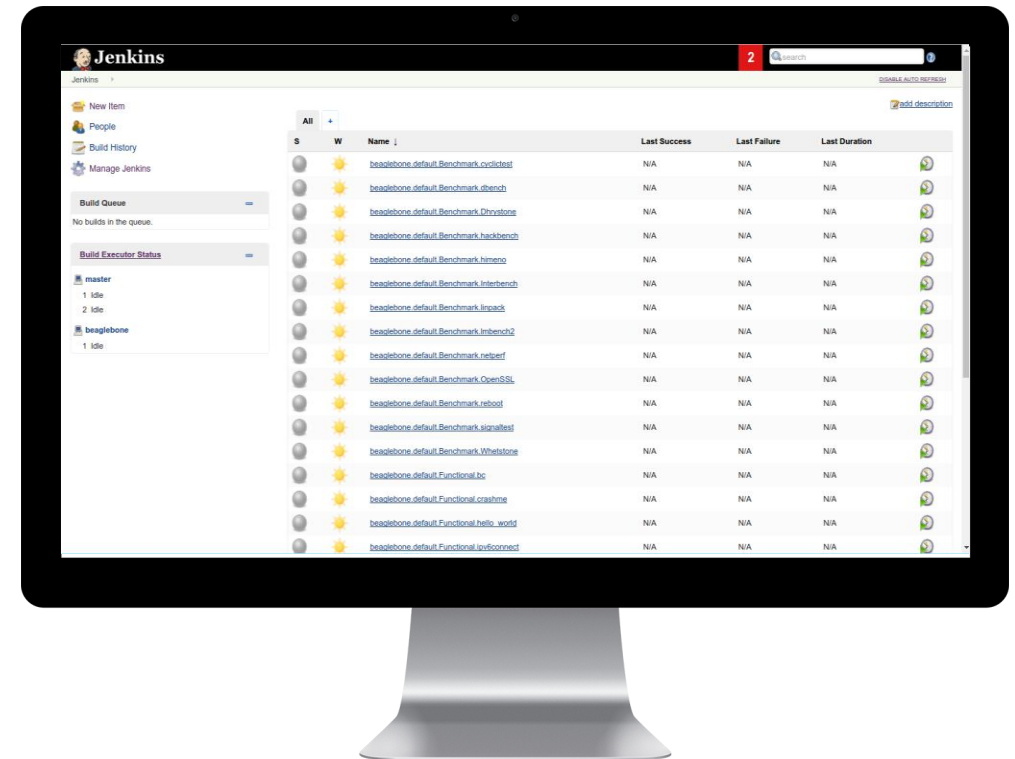
Automation Result Triage System

Problem

1

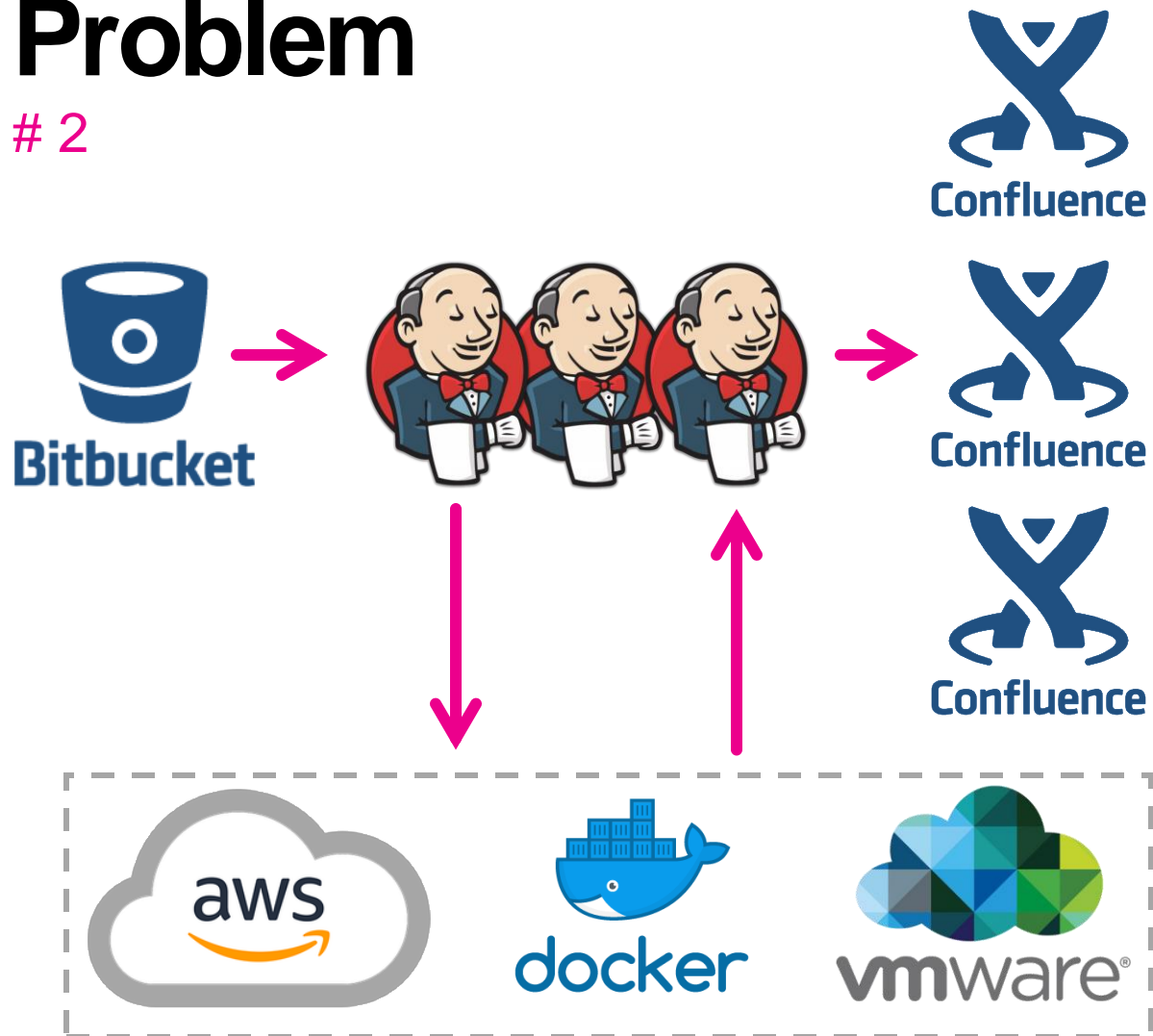


Too much Jenkins data



Problem

2



Too much Triage data

Ember Test Cases Triage
Created by Scott Lu, last modified by ...

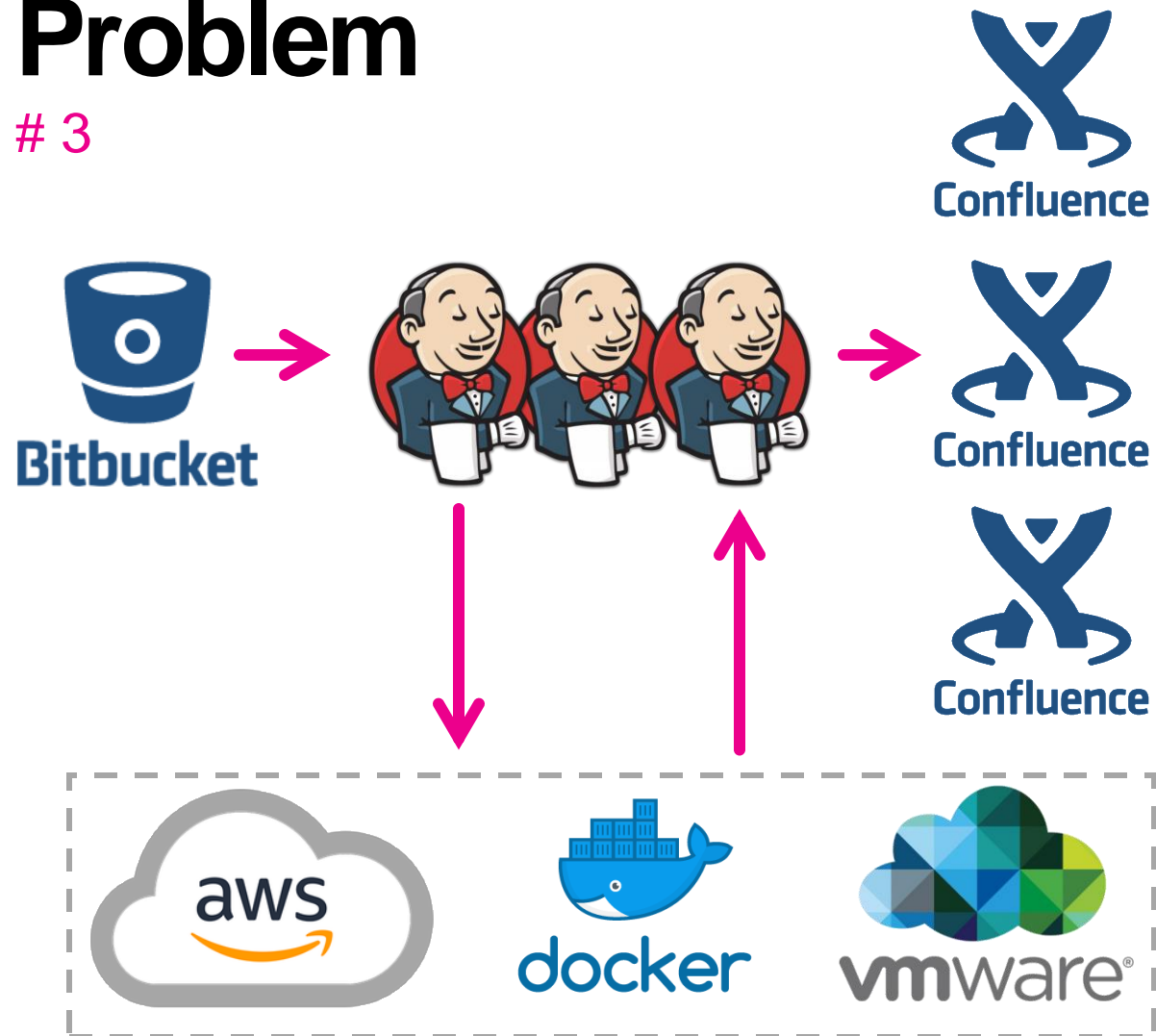
This page is used to keep track of the failures and status of the test cases in `epic/client-qa-regression-tests` branch for each features.

Based on the results of Bulk, ... total of 124 failures, 38 failures caused by known bugs)

Job Name	All	Failed (Aug.3rd)	Failed (Aug.11th)	Failed with JIRA	Status	Owner	Comments
client_clustering_webdriver_master	80	8	7				
client_clustering_webdriver_searchhead	21	1	1				Fixed two timing test script issues: pull-request-875 merged
client_clustering_webdriver_slave	30	3	3				
client_forwarder_mgmt_webdriver	175	10	10	4			pull-request-874 merged 6 of the failures are due to pre-created serverclasses have 0 mapped (should be 1), cannot be reproduced locally 3 tests fixed: pull-request-911 merged Passed locally: <code>test_unsupported_different_restartsplunkd</code> , <code>test_unsupported_different_stateonclient</code> , <code>test_unsupported_no_unsup</code>

Problem

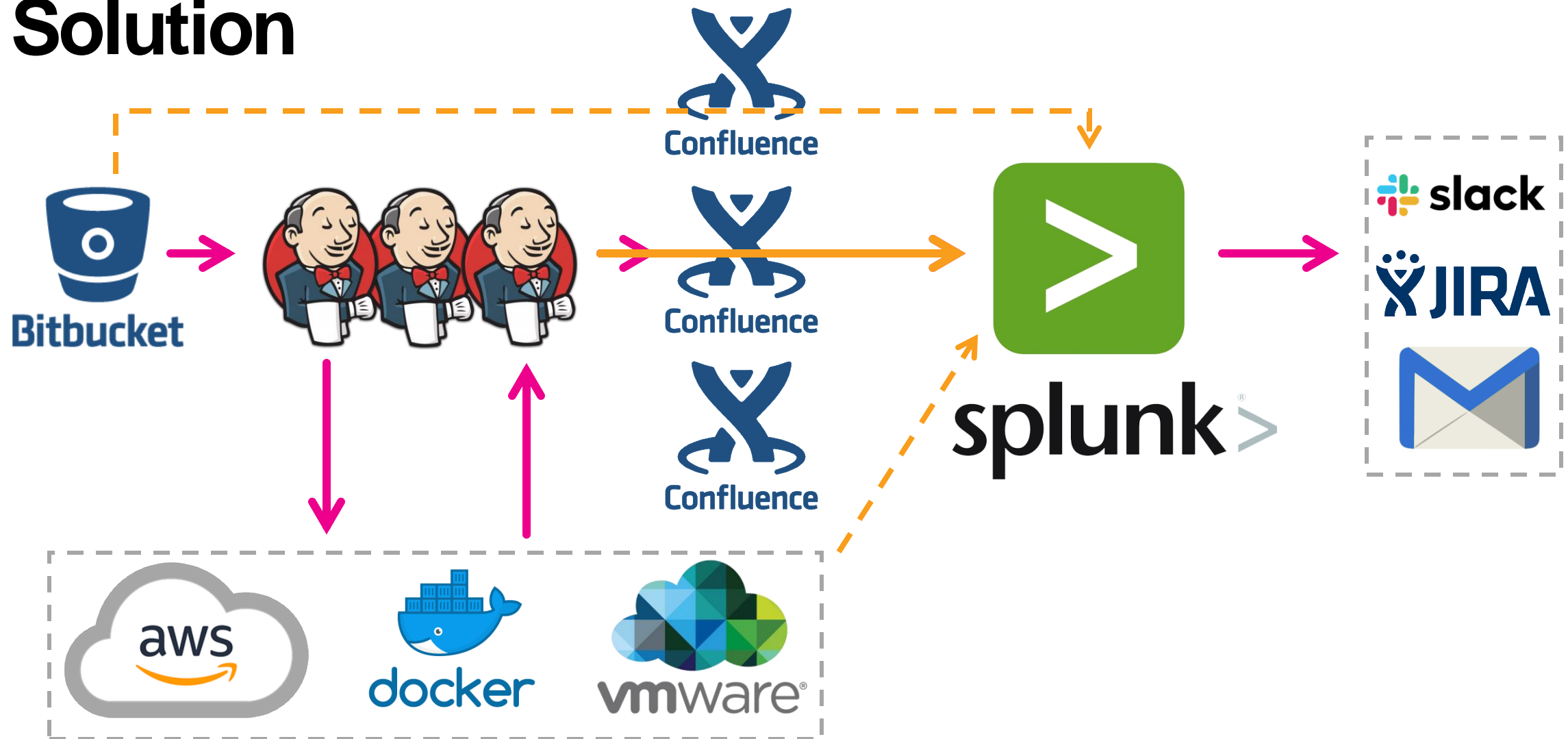
3



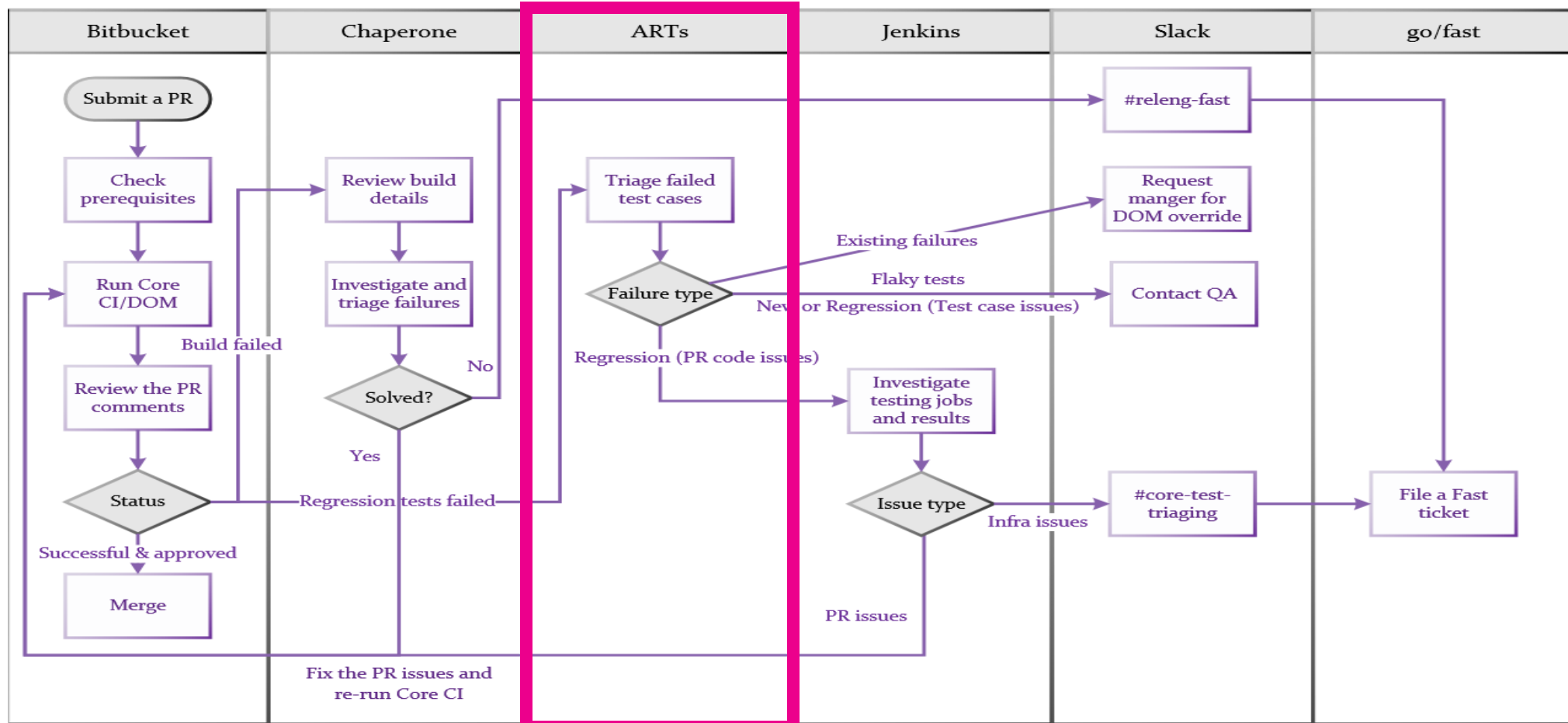
???



Solution

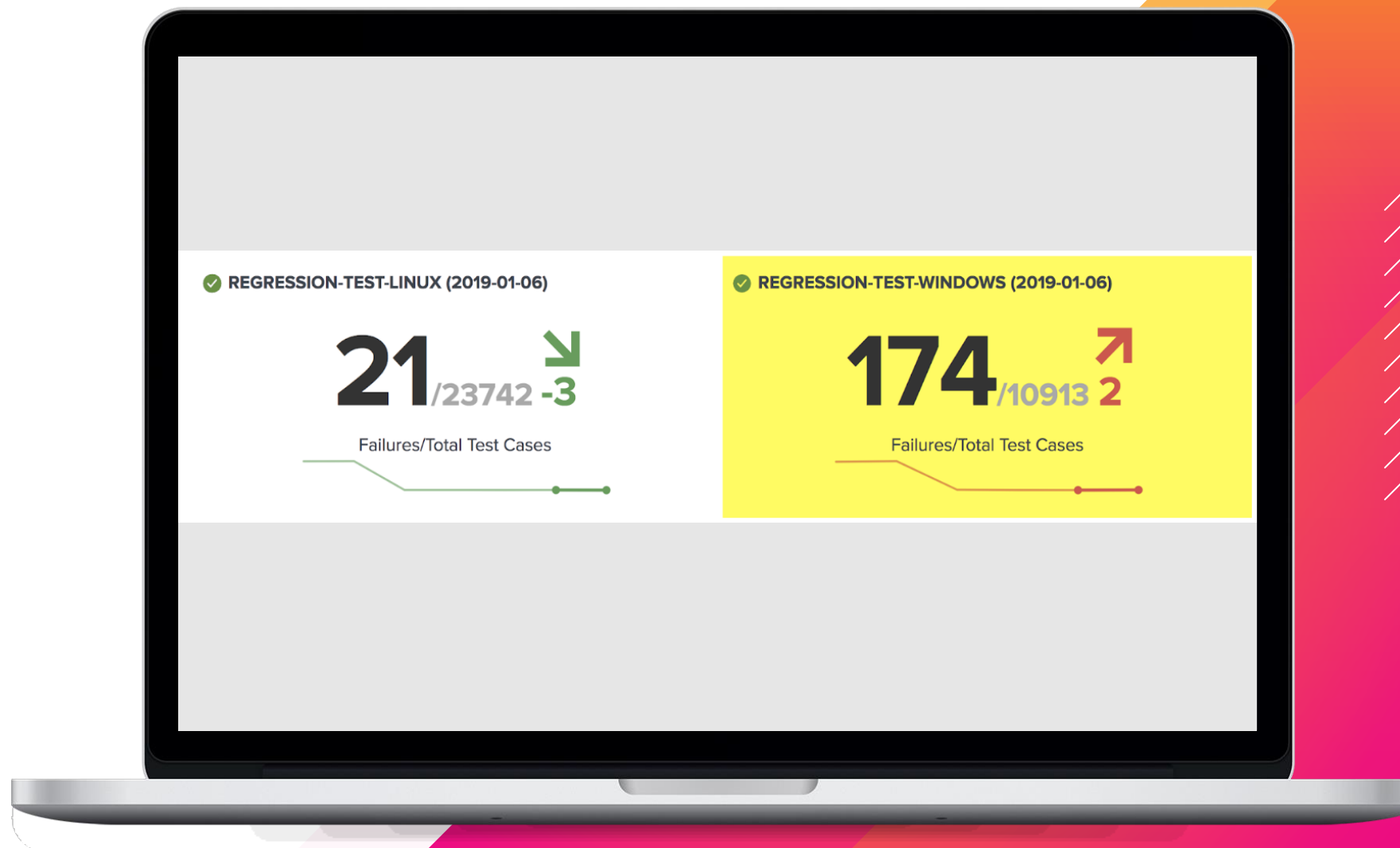


Our CI Workflow



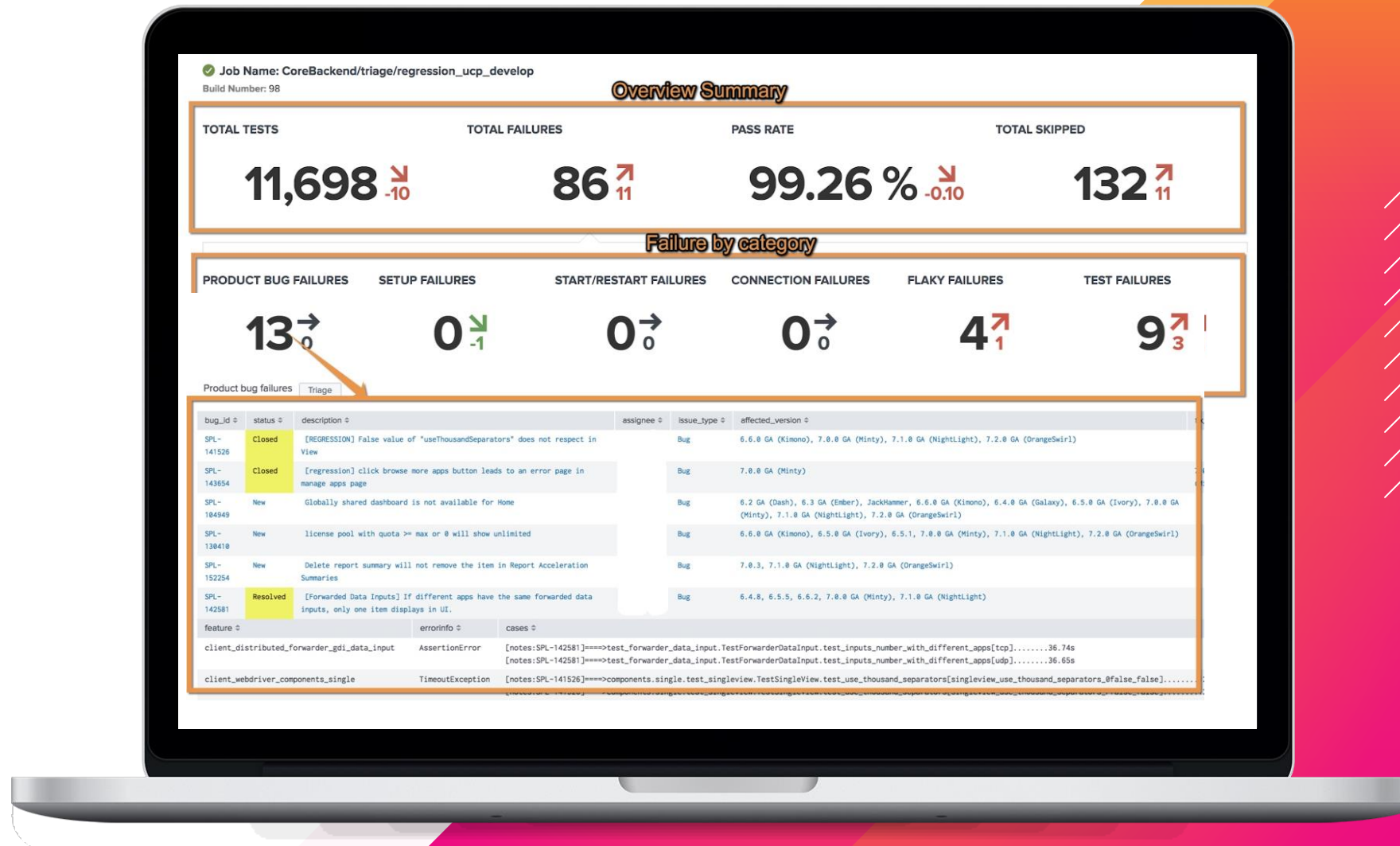
ARTS basic

Overview page



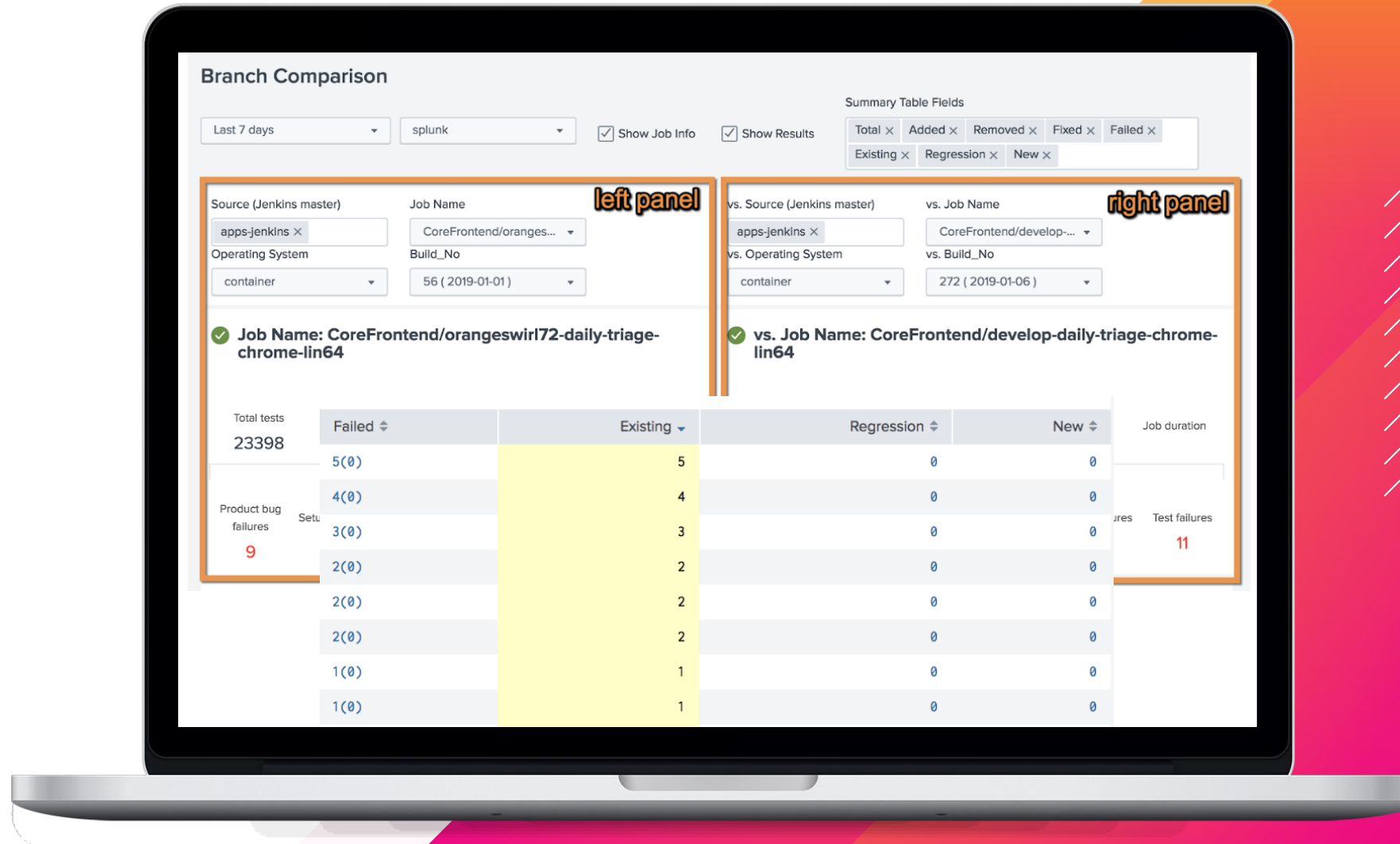
ARTS basic

Trend page



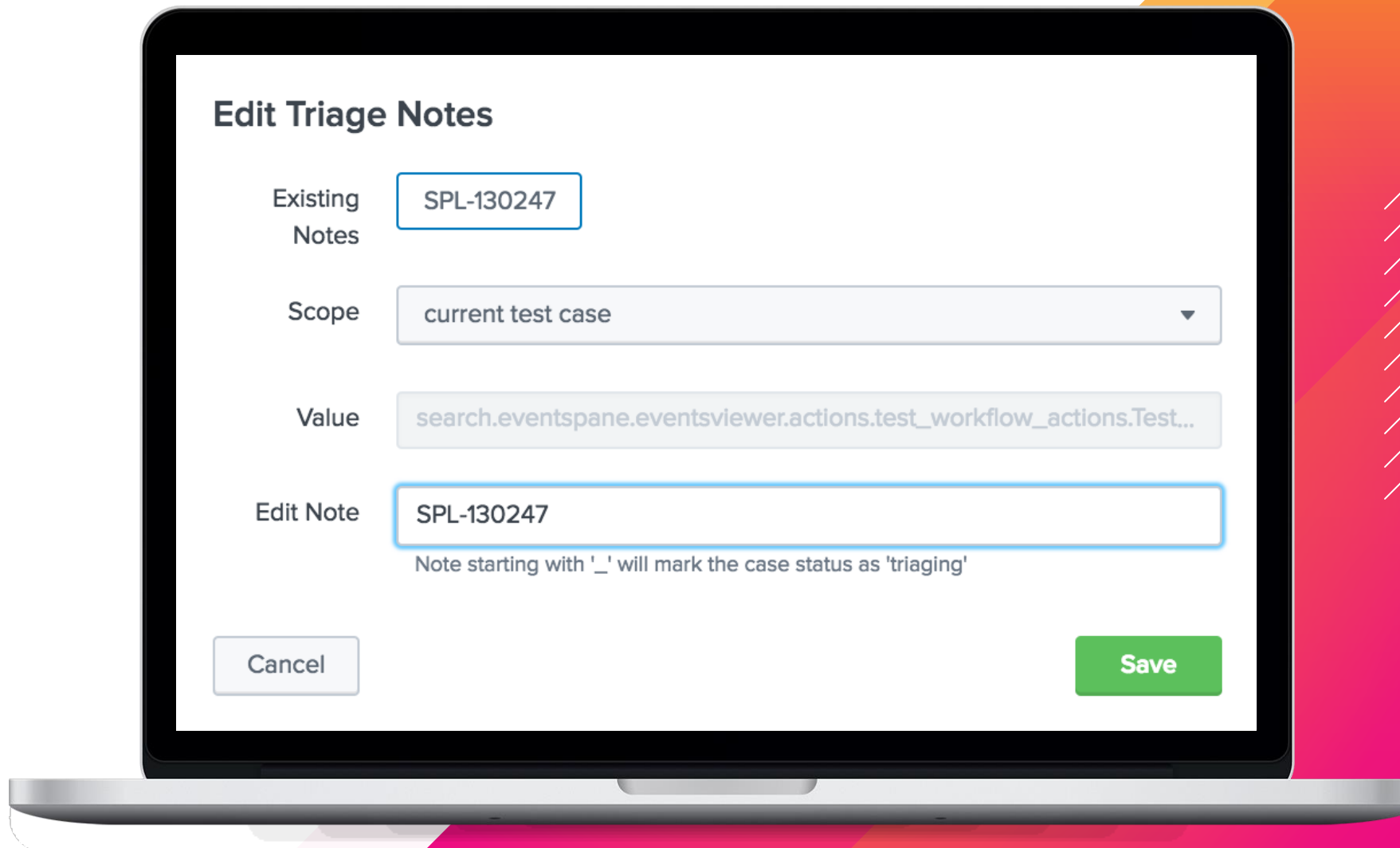
ARTS basic

Branch compare page



ARTS basic

Triage notes



Edit Triage Notes

Existing Notes

Scope

Value

Edit Note

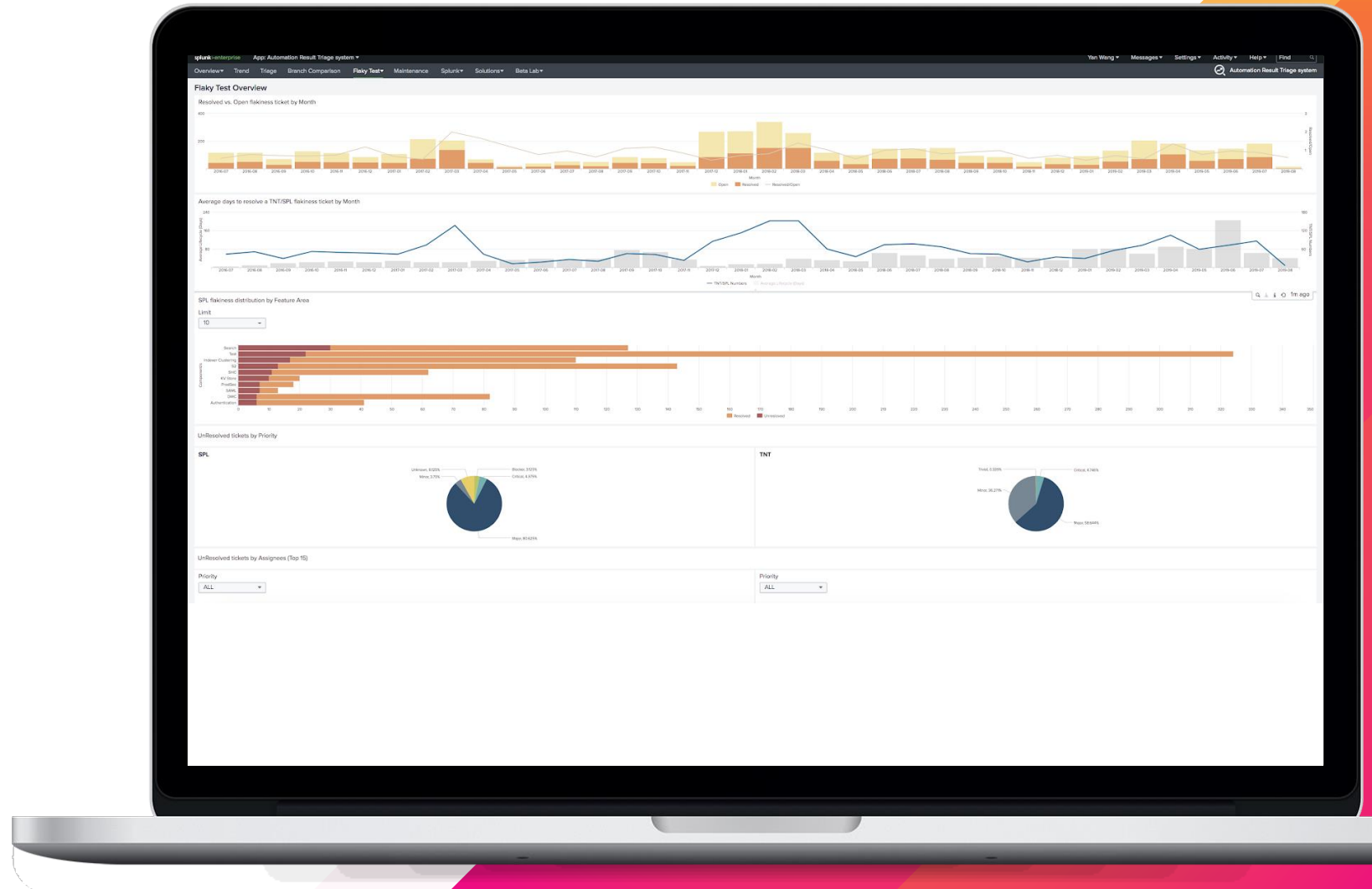
Note starting with '_' will mark the case status as 'triaging'



Demo

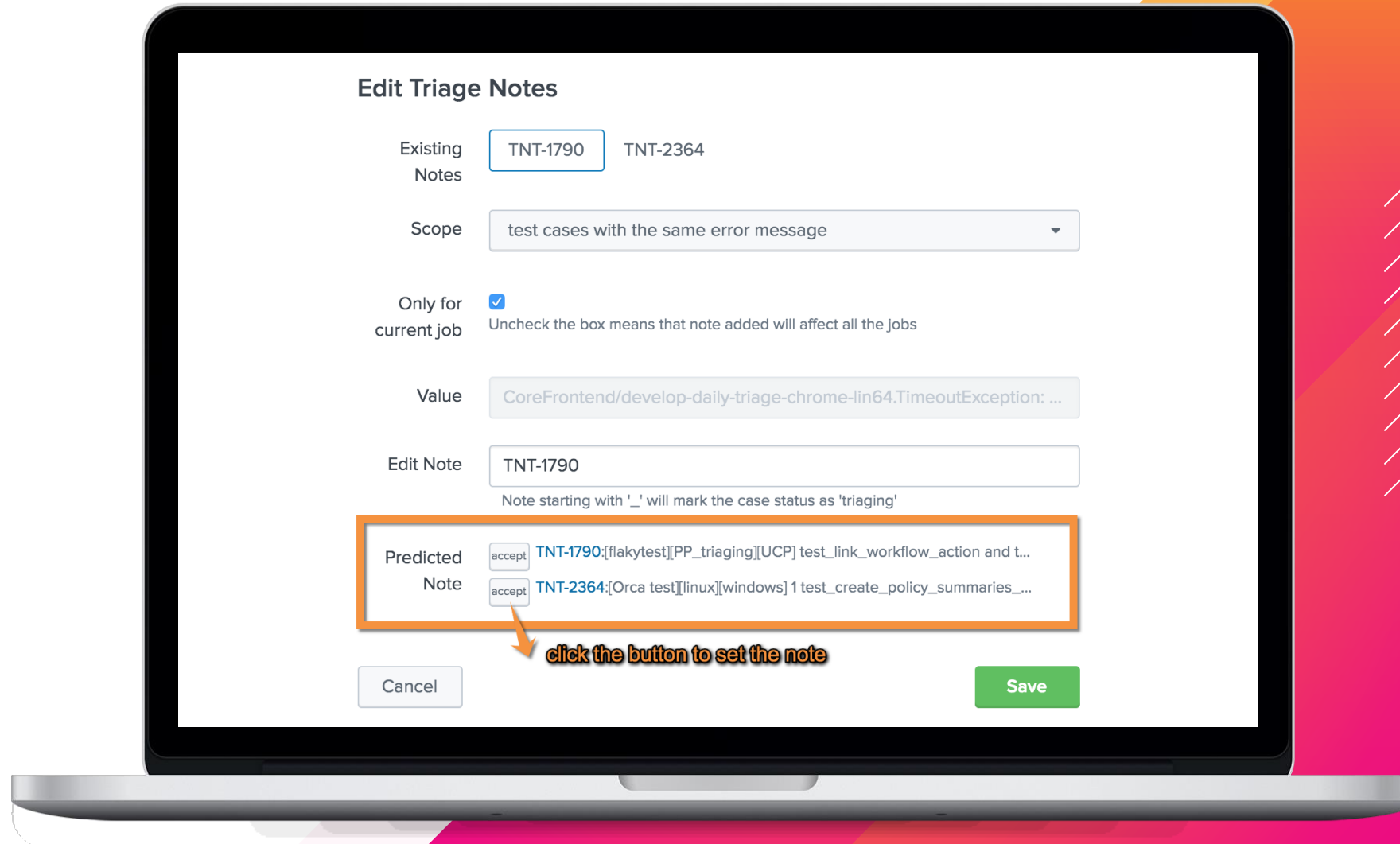
BETA

Flakiness detection



BETA

Predictive Triage



Benefit

Fully automated

Faster response time

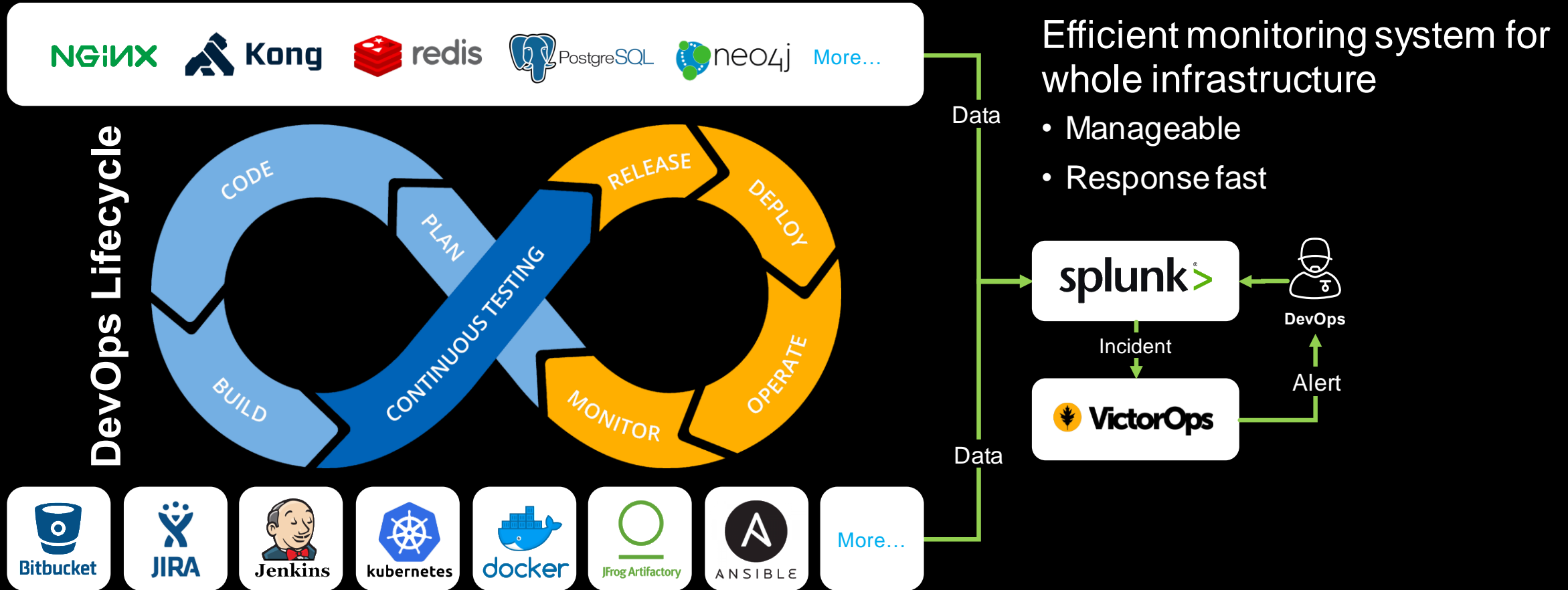
Connected experience



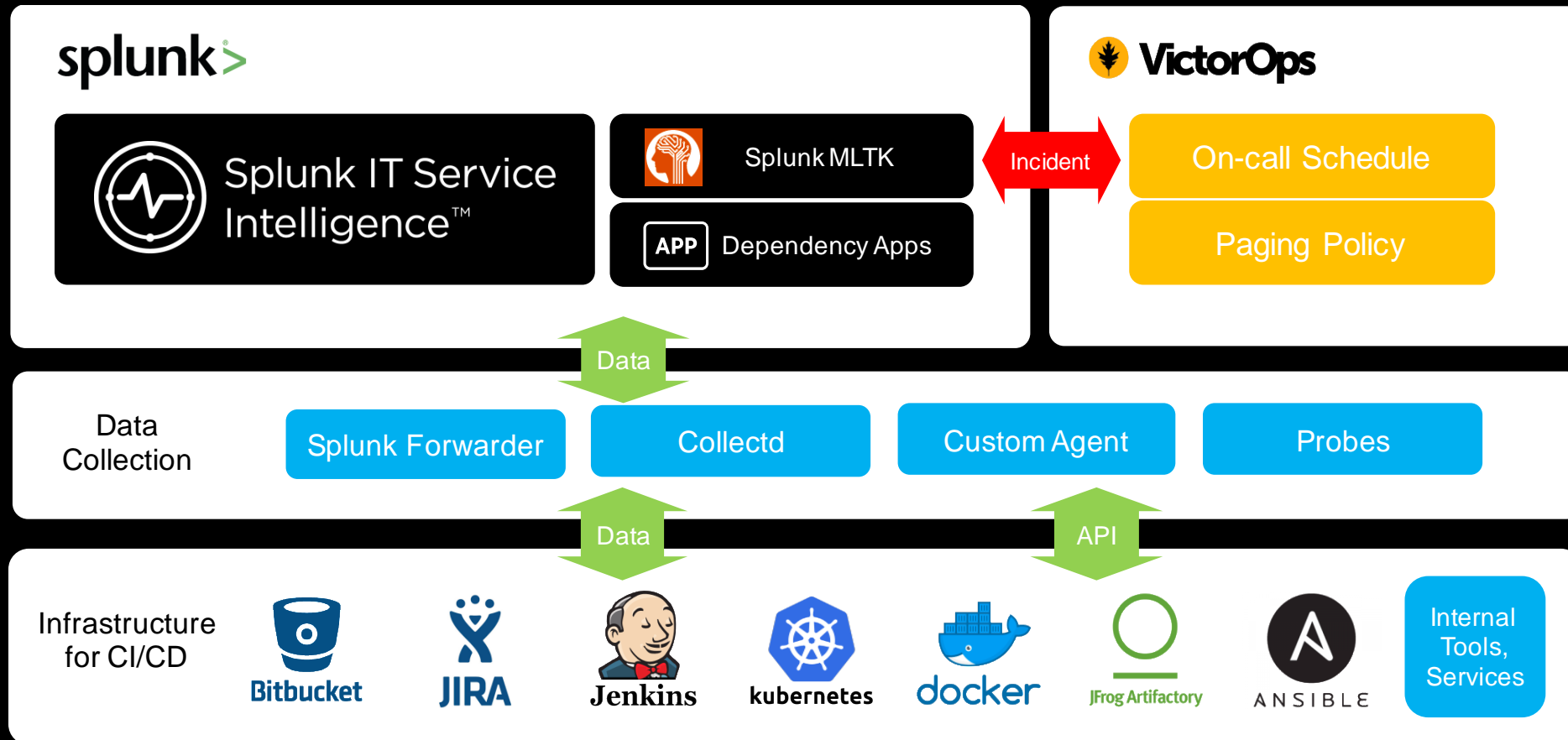
InfraWatch Project

Monitoring the CI/CD Infrastructure Based on
Splunk ITSI & VictorOps

Why InfraWatch Project?



Architecture

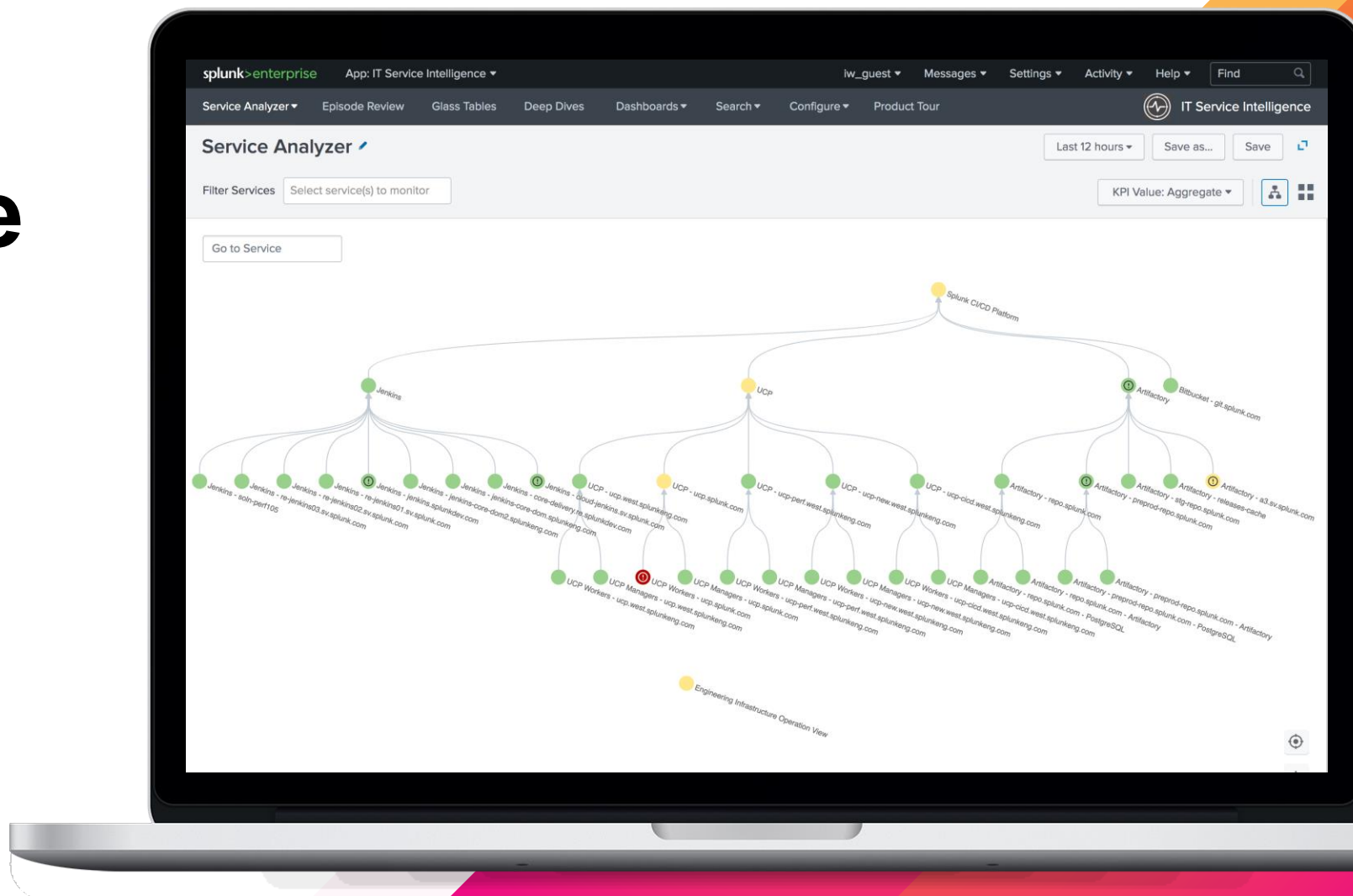


Infrastructure Under Monitoring

In Splunk ITSI

Overview in Splunk ITSI

- Hierarchy of infrastructure
- Health status of services



Data Collection

Splunk forwarder

- Log files

Collectd

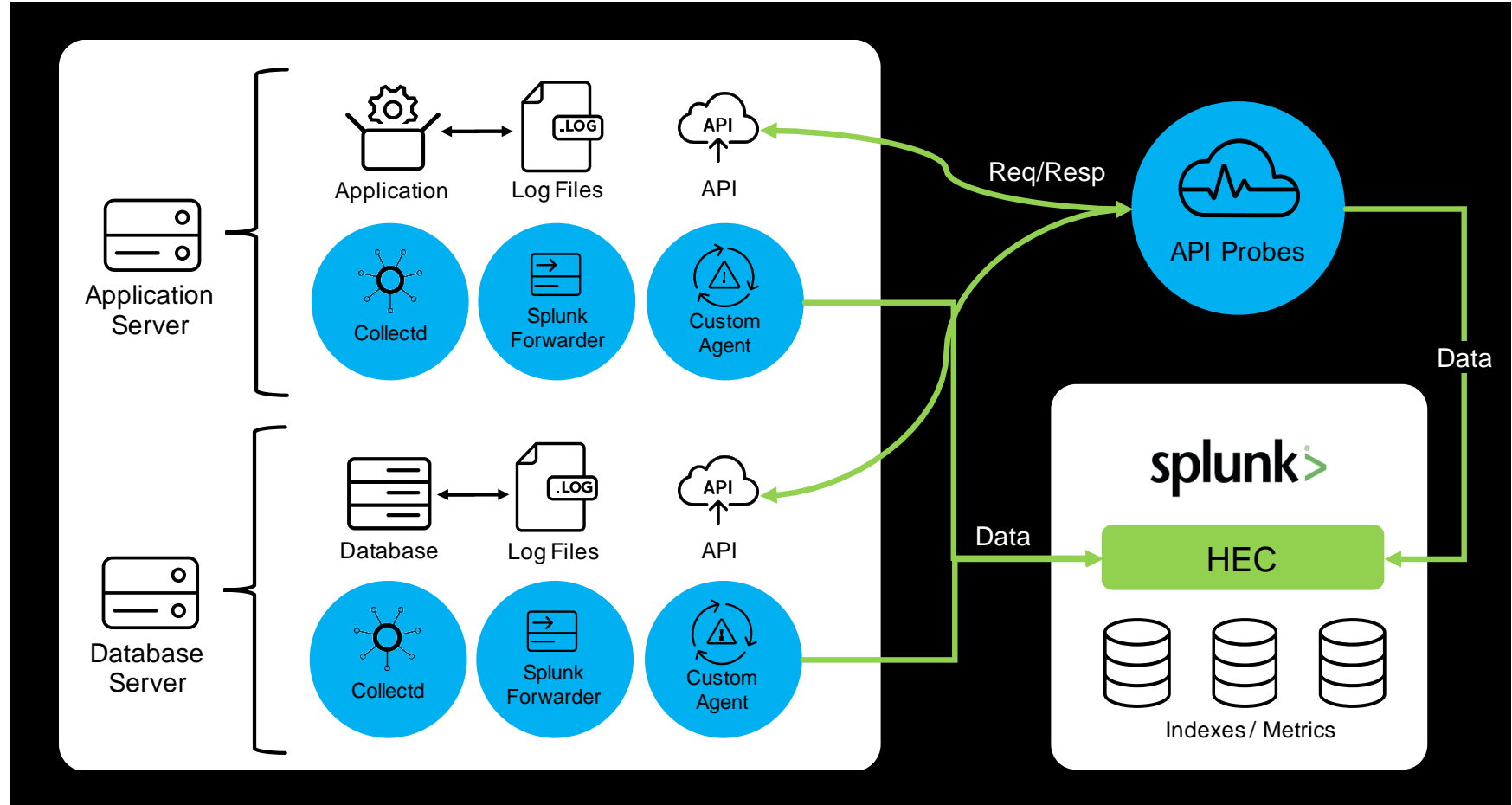
- Metrics

Custom agent

- Custom data

Custom API probe

- Health check

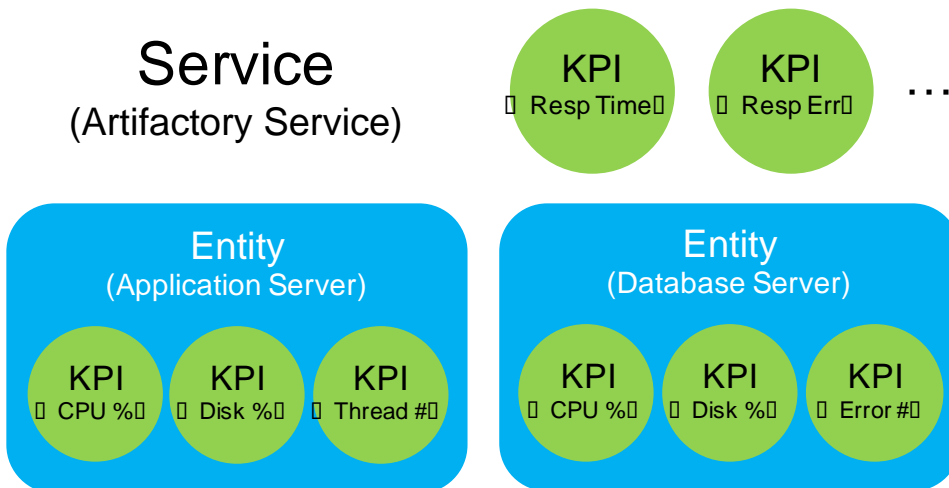


Service Model Setup

In Splunk ITSI

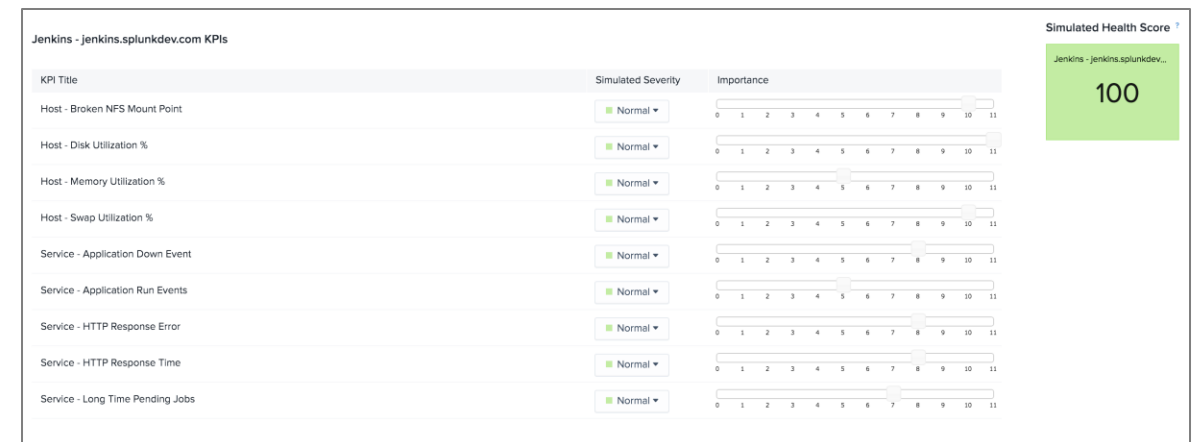
Model used by Splunk ITSI for service status insight

- Service
 - Entity
 - KPI



Health score of service

- 100 in maximum which stands for 100% healthy
- $KPI_1 * weight_1 + KPI_2 * weight_2 + \dots$

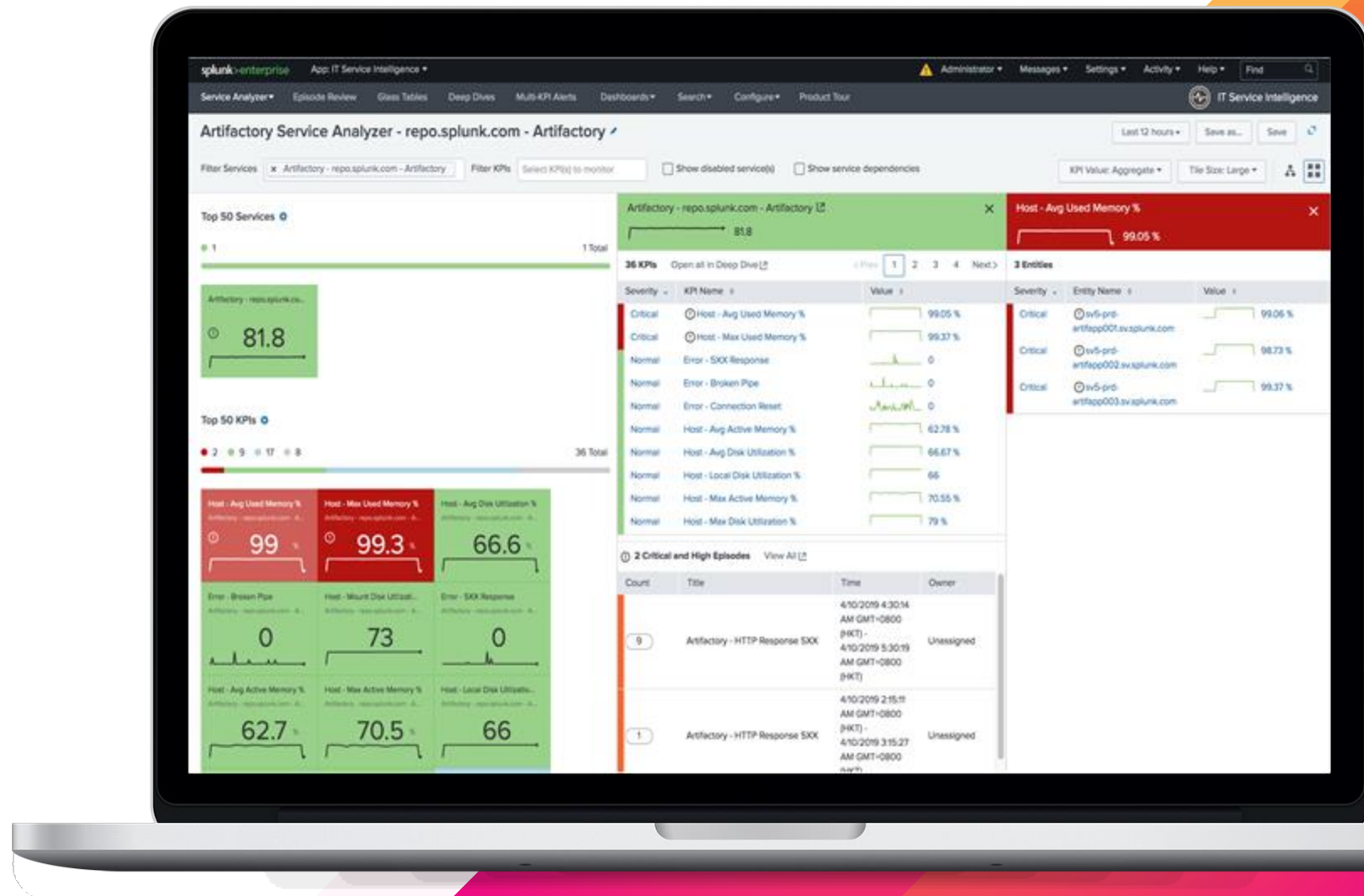


Monitor Model Setup

In Splunk ITSI

Service Analyzer

- Visualize the data model
 - Service, Entity and KPI



Efficient Visualization

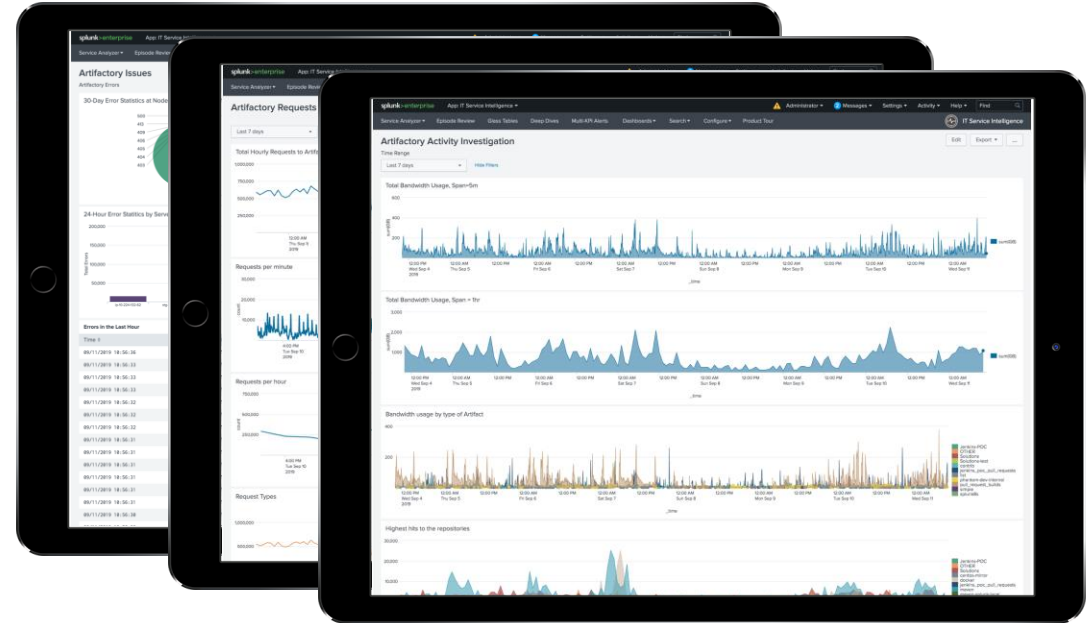
Example for Artifactory in Splunk ITSI

Glass Table

- Custom overview with KPI and non-KPI metrics



Dashboards approachable via drill down from glass table

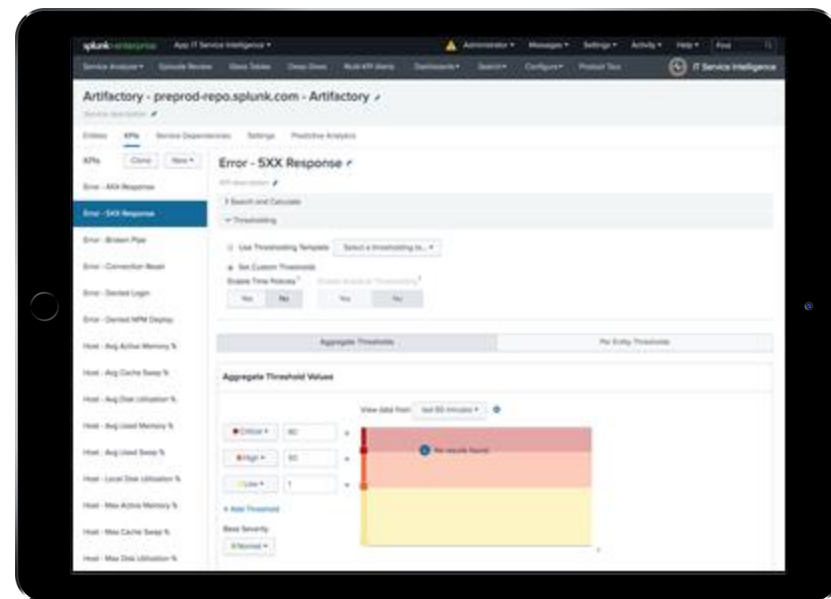


Incident Alert Setup

In Splunk ITSI

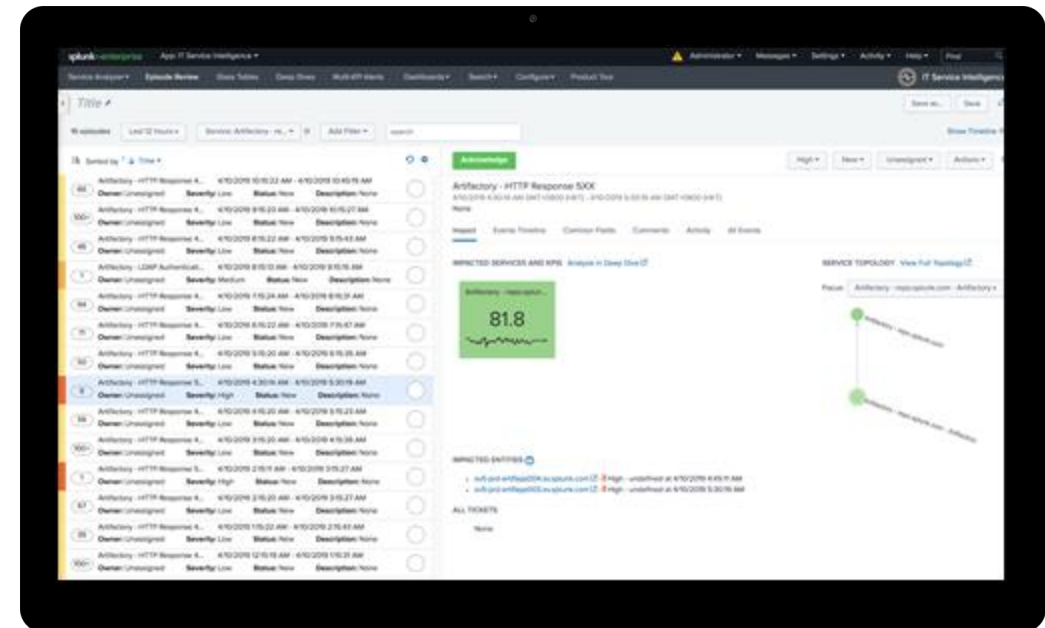
Source of incident

- Ad-hoc SPL query
- KPI



Aggregation Policy

- Aggregate by time, title, etc.
- Trigger necessary alerts in severity levels
- Send alerts to VictorOps



Incident Alert Management

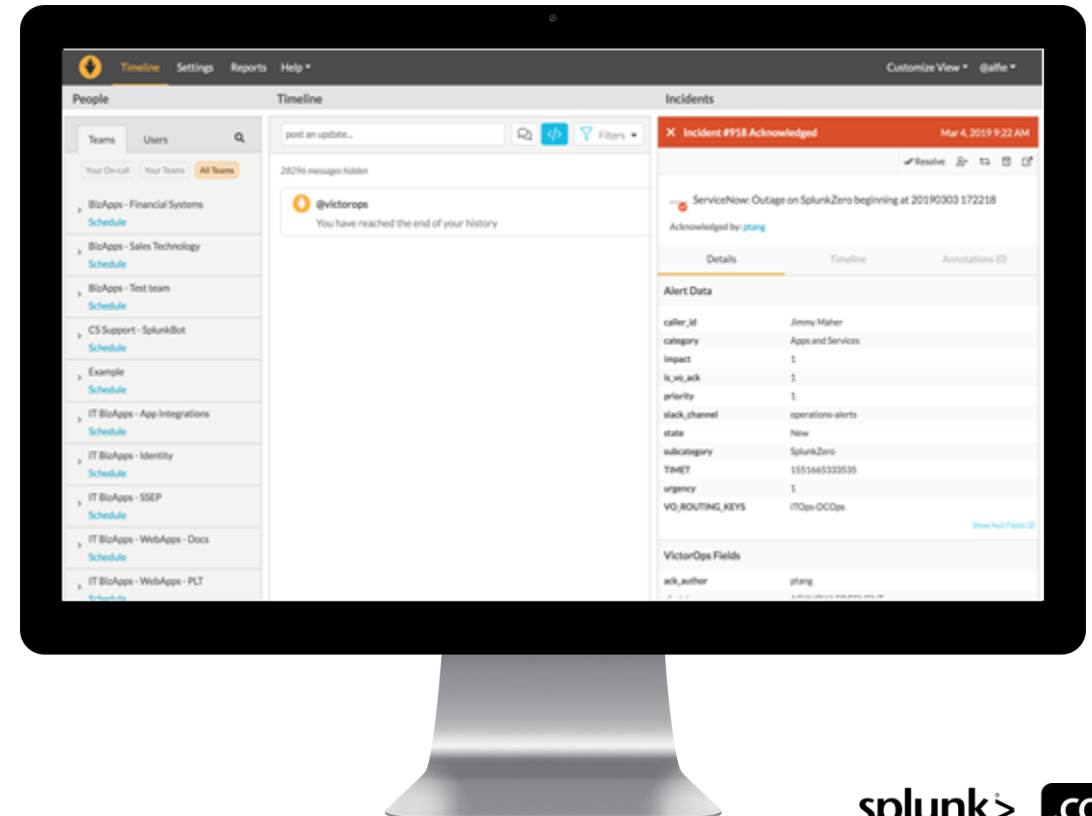
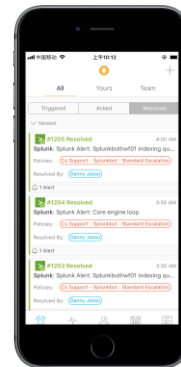
Engineers response alerts in VictorOps

- For incident management via browser or mobile app



Splunk IT Service
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INCIDENT



VictorOps Highlights

Incident handling

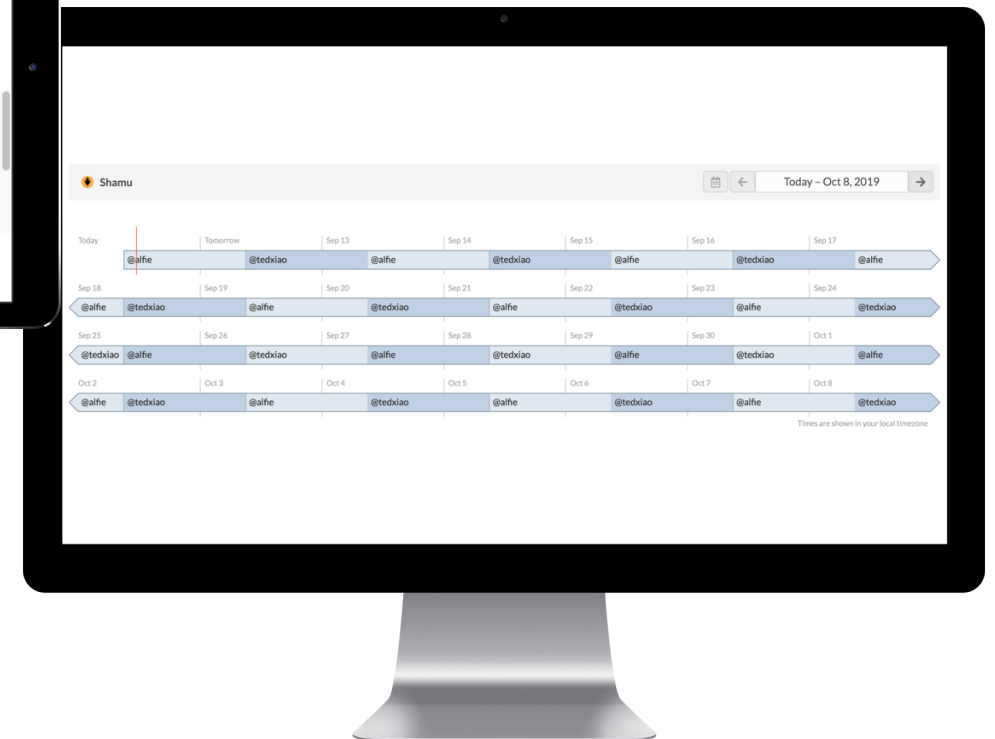
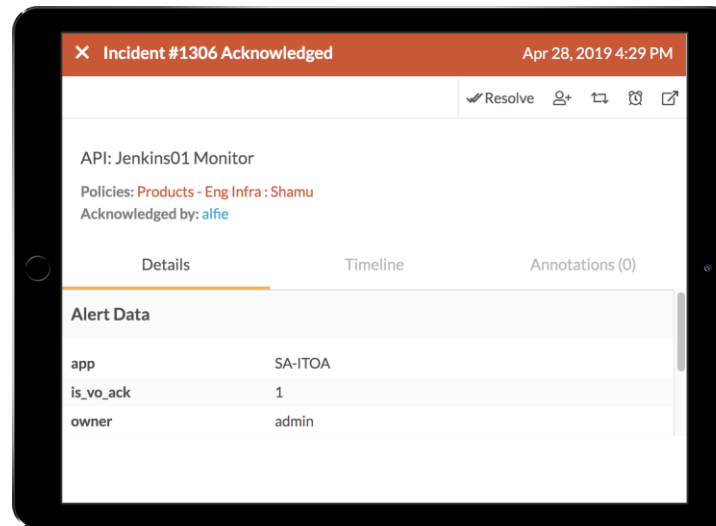
- Acknowledge / snooze / resolve an incident
- Route to other engineers

On-call schedule

- For example, follow-the-sun model

Escalation policy

- For example, notifying tier 2 engineer if an alert is not acknowledged by tier 1 in 10 minutes



Benefits

Centralize monitoring/alerting for the whole infrastructure

Setup monitoring for broader applications/services/tools in two steps

- Step #1, Collect data into Splunk
- Step #2, Define Service/Entity/KPI model in Splunk ITSI

Shorten MTTR efficiently

- Get insight on the whole infrastructure in time
- Collaborate efficiently on solving incidents



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Q&A

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