

Putting more Ops in DevOps!

How to bring DevOps into Operations

Presented by Sean Balady
Sr. Manager ProdOps, BlackLine

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Why Me and Why am I here!

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General Background

- **BlackLine - Est. 2001**
 - **Founded by Therese Tucker**
 - Companies come to BlackLine because their traditional manual accounting processes are not sustainable. We help them move to modern accounting by unifying their data and processes, automating repetitive work, and driving accountability through visibility. More than 3,000 companies – including Coca-Cola, Nike, and Domino's—trust BlackLine to close faster with complete and accurate results.
- **Sean Balady - Est. 1981**
 - From a Service Desk employee to Sr. Manager of Production Operations
 - Experience from doing manual rack/stack and repetitive tasks within a NOC and SysAdmin team
 - And if your product is all about automation, how can you not employee DevOps in your shop

Let's set the Baseline!

"Innovation and progress are achieved only by those who venture beyond standard operating procedure."
— D. Michael Abrashoff, It's Your Ship: Management Techniques from the Best Damn Ship in the Navy

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Define DevOps in Operations world

- DevOps needs to be more Operations
 - DevOps is more geared toward application development
 - Operations centric view to automate daily work
- What about everything and everyone else
 - KTLO (Keep the Lights On), Day 2 Operations, Support Teams, Sales/Demo teams
- DevOps Defined – My Perspective
 - Leverage Tooling & Automation
 - Measure Everything
 - Reduce Silos between teams
 - Accept Failures
 - Implement Gradual Change

Starting at the NOC (Network Operations Center)

- Began this journey late 2016
- What was the team doing:
 - No metrics or tracking of work
 - Crushed under ticket shuffling and bad communication
 - Tools were not tuned or built correctly
- My Objective: Executive management charged me with reviving the NOC and helping to build them into effective members of the department formally known as Technology Operations (now Cloud Engineering & Operations).

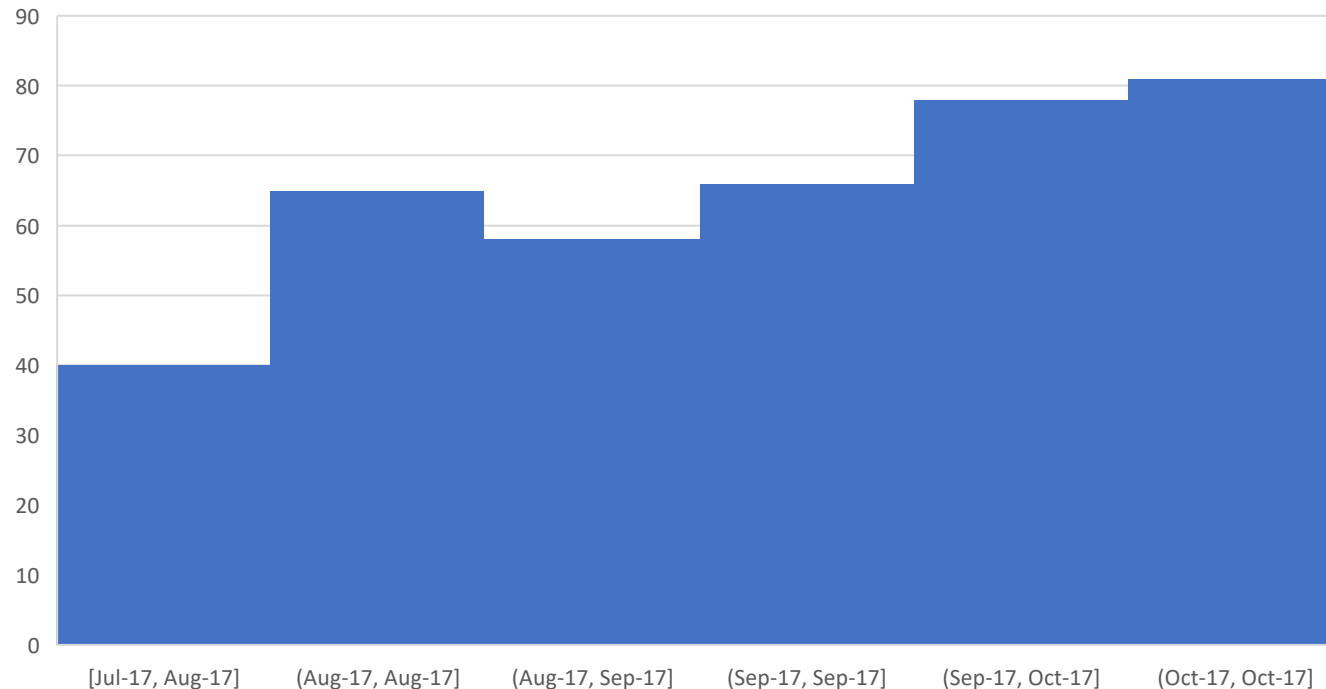
What we did?

- Daily work included
 - Manual Patching Monthly
 - FTP account creation, Backups/Restores and DNS safelisting for Clients
 - Get many false alerts for services down
 - More likely, we got a ticket or someone yelling
 - Phone calls, basic ticket routing to other department members
- This was all manual work
- Honestly, the team didn't add much value to the department or company.

Let's get started - No Money, no time, no new people

- Measure where you are, so you know where to start
- Jira
 - Created new tickets types: Unplanned vs. Planned work
- Excel
 - Bulk exports of team's tickets and work
- That's it, really, that's all the tools we had to start with, and guess what we saw?

Requests, lots and lots of Requests

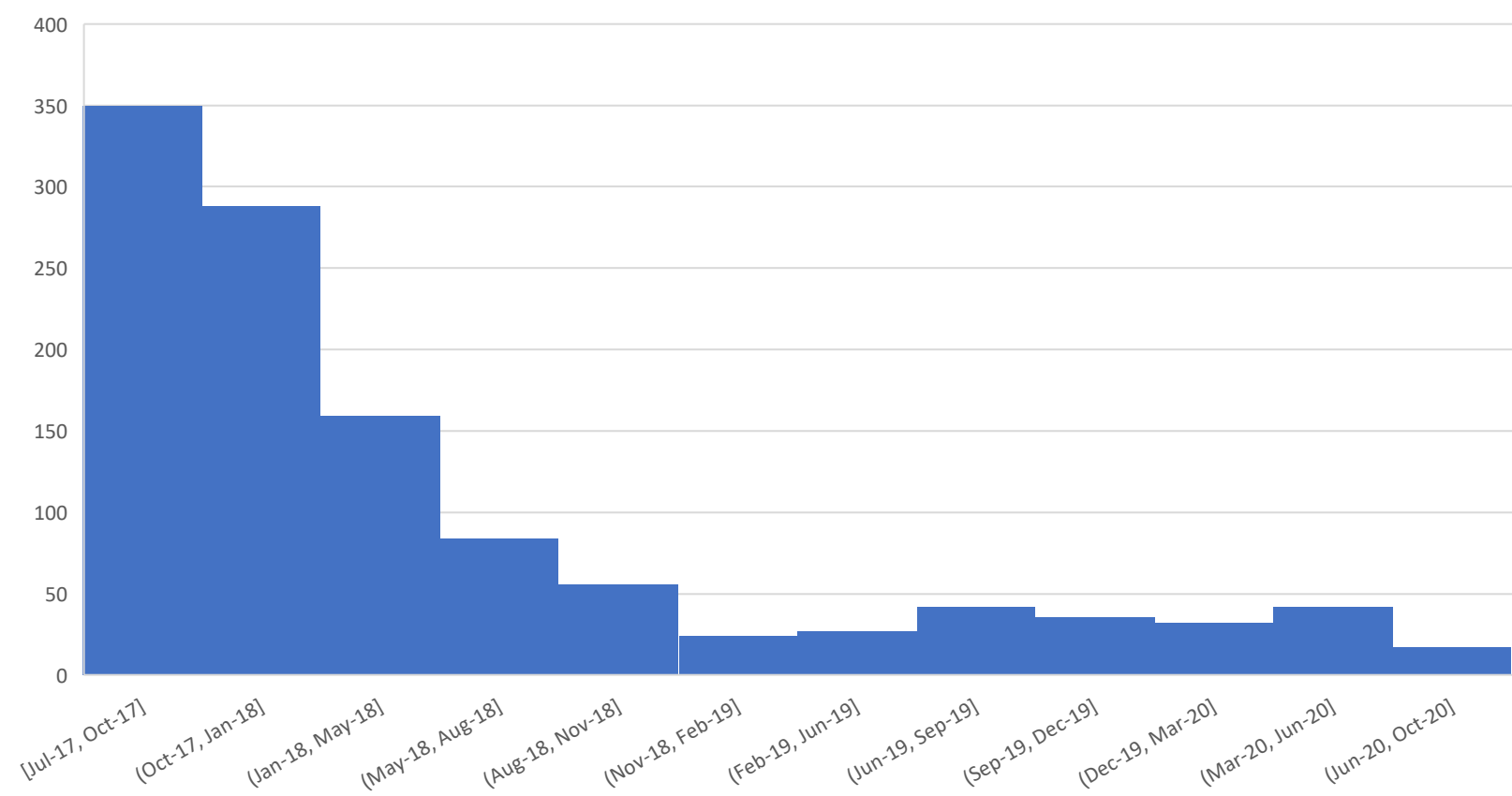


- Type of Request:
 - FTP Account Creation
 - IP Safe listing
 - Backups and Restores
- Creators:
 - Support
 - Engineering
 - Product Management
- Now you have a baseline and measurements

Then we hired a developer

- This is where we learned of CloudBees Jenkins and building jobs
- And jobs started to be created
 - Create FTP Account
 - Change FTP User/Password
 - Display FTP Account for Client
 - Add/Remove IP to Safelist
 - Create Backup and Restore
- Introducing InfoSec!!
 - Access Controls where setup within Jenkins jobs
 - Segregation of Duties
- Now let's look at the full picture from July 2017 to today

Magic in Automation!



Benefits of Automation

- Support was able to resolve tickets faster
 - No need for client tickets in Jira
 - Support resolved tickets over the phone
 - Support started to learn CloudBees Jenkins
 - And strangely enough, Support ask for more jobs
- Other teams started to take notice
 - Another team contacted us for improvements
 - Started to evolve the team
 - Reduced Silos between Operations and Non-application teams

The Snowball Effect

“Success is like a snowball. It takes momentum to build and the more you roll it in the right direction the bigger it gets”

— Steve Ferrante



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But we didn't stop there!

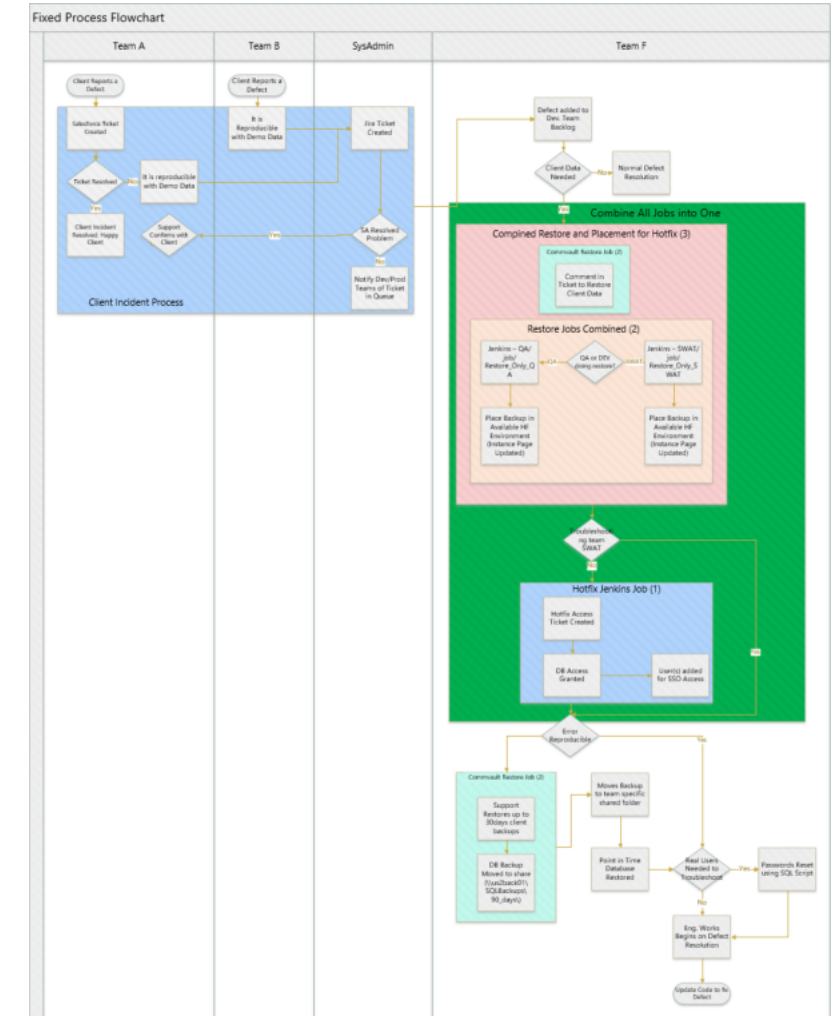
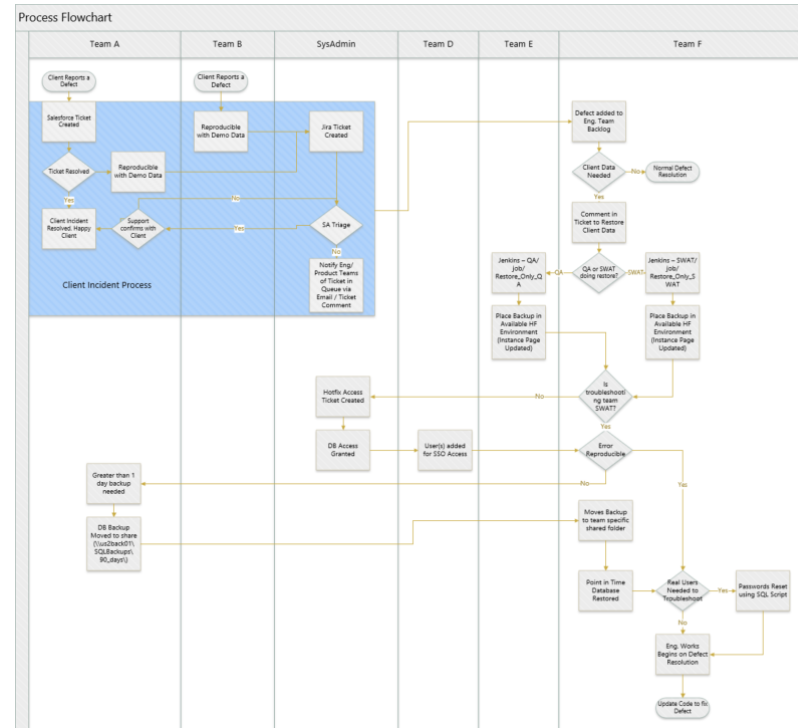
- Team changes from a NOC to Systems Administration team
 - Started getting elevated rights
 - Hired another developer!
- Going back to the drawing board for more work!
 - Created a pipeline of jobs for application troubleshooting
 - Patching took forever
 - Project stalling and delaying other teams
- New Tools start to appear
 - SCOM, SCCM, New Relic
 - CloudBees taught of Pipeline Development in Jenkins

Patching and Vulnerabilities

- In May 2018, InfoSec started to build a vulnerability tracking tool
- All things began to get monitored
 - Hardware, Software, Application Risk
 - Now we are being watched!
- Back to understanding the process
 - Automated email notifications
 - Moving from patching everything to early patching
 - Patching lower environments from once a month to once a week
 - Assets continue to grow, Vulnerabilities continued to drop
 - Patching dropped from 12 hours to 7 hours

The Eye Chart!

- Access, Restores, and Space
 - QA needed faster access
 - Reduced teams from 6 to 3
 - Reduced time to process from weeks to minutes
 - Automagically clean up space using a scheduled job
 - Audited logs for access tracking, automatically remove users after set amount of time



Database work and, not surprisingly Automation

- Manual Cutover and Update Database Environment
 - Took 4 – 8 hours to complete
 - Project moved from Q1 to Q4
 - Teams needing this completed, delayed
- Let's Automate this process
 - Introduce a new tool to the team, Chef
 - Took 4 months to develop
 - Total time ~45mins to complete cutover
 - Started in Q1, completed our scope end of Q2
 - And everyone rejoiced, then asked for it to go faster

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"It's all about the journey not the outcome." Carl Lewis



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Let's Tie it All Together

- **Leverage Tooling & Automation**
 - Started with just Jira and Excel, as the toolset grew, so did our knowledge and ability to automate
- **Measure Everything**
 - Without metrics, KPIs, how do you know where to start? Or if you were successful?
- **Reduce Silos between Teams**
 - You must learn your customers and their pain points, then you know how to solve your own
- **Accept Failures**
 - It's going to happen! It's normal, just don't break Production, always test, and then test again!
- **Implement Gradual Change**
 - Start small, easy projects and quick wins! Each task automated is a chance to learn to make bigger changes

The Team!

- Went from a NOC to Production Operations in 4 years
 - Currently 11 people on the team, 5 Developers and 6 Operational Engineers
 - Tools in the Tool Belt – CloudBees Jenkins, Test Rails, Artifactory, SCCM, SCOM, Scripts and Programs
- We continue to drive value and improvements within our Department and Company
- Thanks to the following people
 - The mentorship of Rick Arabian and Bill Topkis for helping with this journey providing guidance
 - The team of Production Operations, without them, I'd be rowing this ship alone and in circles
 - And finally, a special thanks to Sean Truong, taking a leap of faith to join my team and creating the first automated process (Hope SRE world is treating you well!!)
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The End of The Beginning

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