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# Developing at the Speed of Splunk

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# Introductions

## Itay Neeman

Director of Engineering, Data Platform

- Focus on backend features, e.g.:
  - KV Store
  - HTTP Event Collector
  - Distributed Management Console
- Focus on Developer Enablement, e.g.:
  - SDKs
  - Tools
- At Splunk for 4+ years

## Kurt Chase

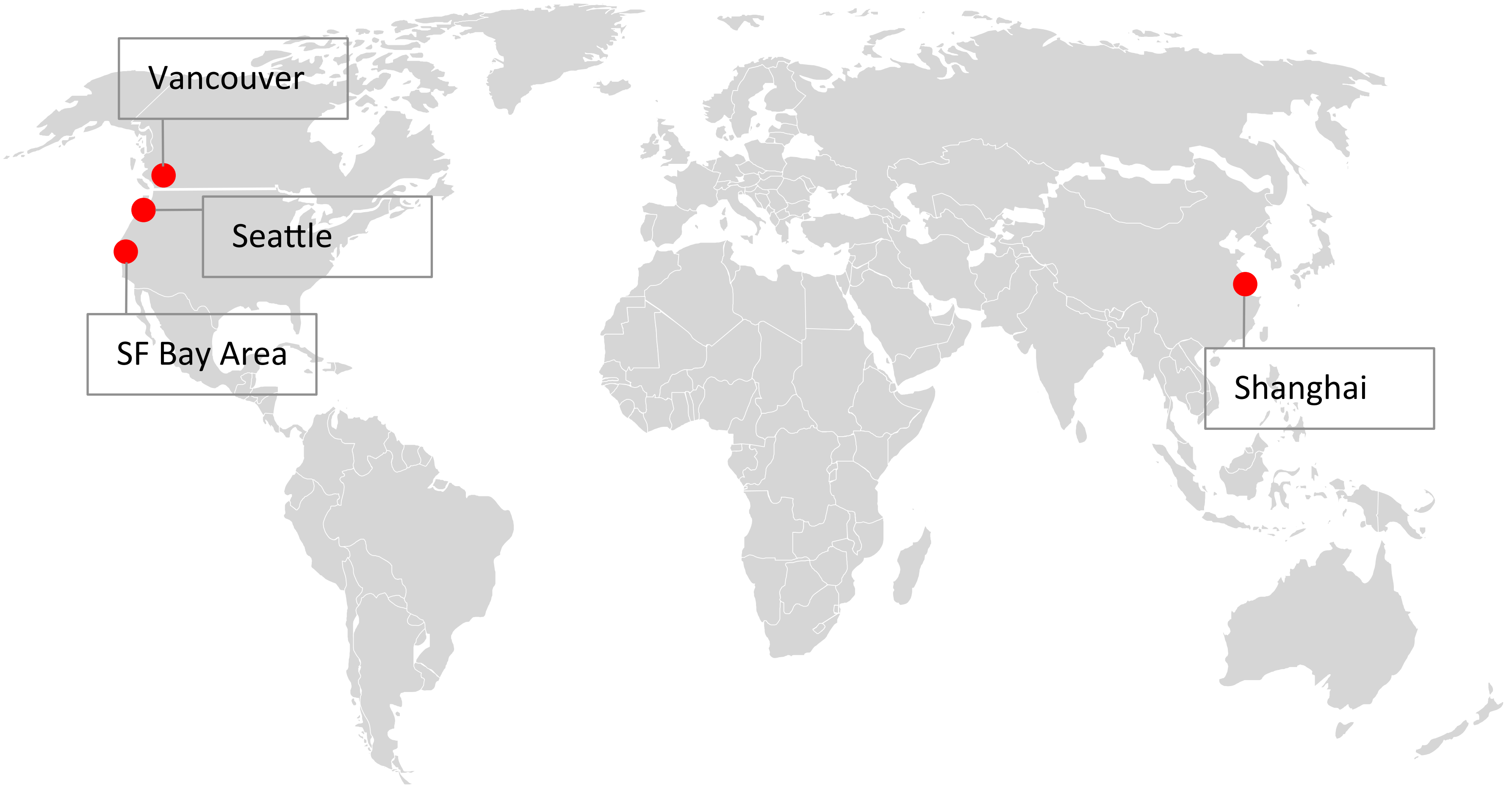
Director of Release Engineering

- Global Release Engineering and Management:
  - Infrastructure
  - Builds
  - Tools
  - And much more!
- At Splunk for 1 year

# Agenda

- Overview of Product Development @ Splunk
- A “day” in the life of a feature
- How we use Splunk to help build Splunk
- Discussion/Q&A

# Products @ Splunk


Vancouver
Seattle
SF Bay Area
Shanghai

# Product Functions

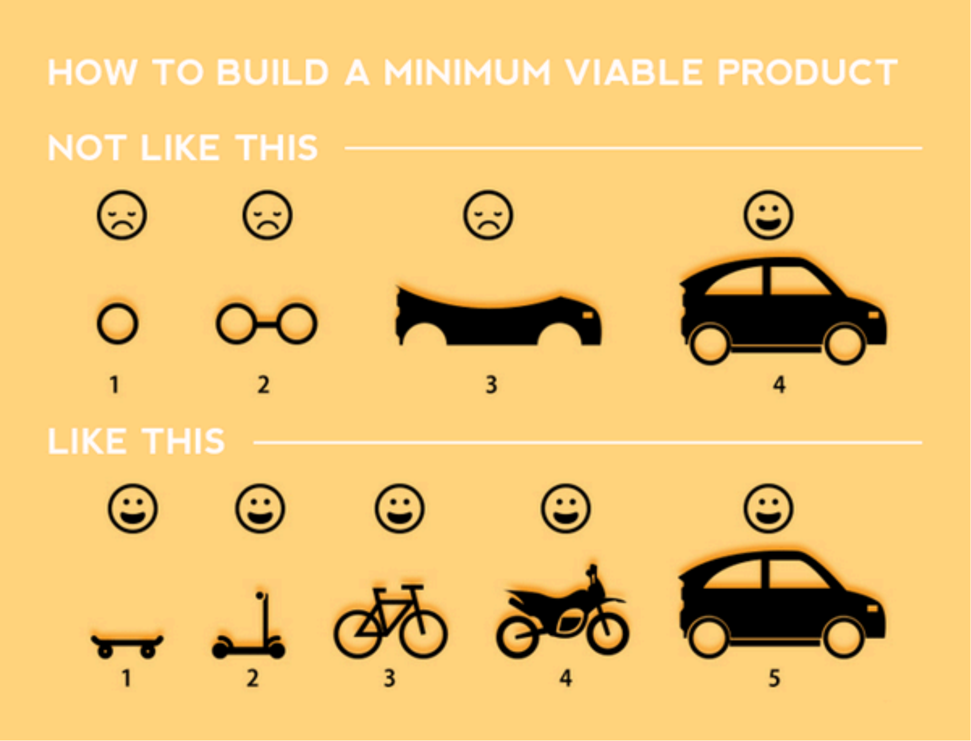
- Product Management (PM) – “What should we build?”
- Quality Assurance (QA) – “Does it work?”
- Development (Dev) – “How do we build it?”
- User Experience (UX) – “How to make it usable?”
- Program Management (PMO) – “Will it be built on time?”
- Release Management (RE) – “What infra do we need to build it?”
- Documentation (Docs) – “How do we communicate how to use it?”
- Product Security (ProdSec) – “Is it secure?”

# Multiple Products

- Splunk builds multiple products:
  - Splunk Enterprise
  - Hunk
  - Splunk Light
  - Enterprise Security
  - IT Service Intelligence
  - Splunk Mobile Access
  - Cloud
- Products drive and influence each other
  - ES and ITSI drove KV Store features in Enterprise
  - Cloud drove installation ease of ES and ITSI
- Common tooling and infrastructure across locations, products and teams

# Agile

- Fully functional scrum teams
- Sprints go for two weeks
- Continuously iterate on MVP



# Best of Breed Tools

JIRA

coverity

HipChat

BULLSEYE
TESTING TECHNOLOGY

loader.io BETA

Jenkins

ANSIBLE

Confluence

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# A “Day in the Life” of a Feature

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# How is the Salame Made?

# Glenn Has An Idea!

# Ideation and Discussion

- Free-form discussion
  - HipChat
  - Confluence
  - Meetings
- Culminates in a Products Requirement Document (PRD)
  - Get more detailed feedback from all stakeholders

# Planning and Design

- Formulate a plan
  - How many people do we need to make this happen?
  - How long is it going to take?
- Engineers start working on Engineering Requirements Document (ERD)
- QA start working on Test Plan
- Convert plan (stories, tasks, tests) to JIRA

# Execute and Iterate

- Team goes into execution mode:
  - Pick a task
  - Write code
  - Write tests
  - Validate
- Variety of tools:
  - Source Control and Code Review: Git/Stash
  - Continuous Integration: Jenkins and Bamboo
  - Testing: internal tools, PyTest, JUnit, ApacheBench, and many more

# Git and Stash

- Stash is our Git server – main home of our codebase
- Each task is a branch, correlated with JIRA (e.g. feature/SPL-12345)
- Before merging branch:
  - Get feedback through code review
  - Get feedback from Continuous Integration
  - Run any necessary manual validation
- Hooked into all our reporting systems

# Continuous Integration

- Use both Bamboo and Jenkins
- Run on as many platforms as we can (Windows/Solaris/OS X/Linux/etc)
- Various kinds of triggers:
  - Per-commit
  - Per-Pull Request
  - Manual
  - Nightly

# Feedback

- Once iteration nears completion, we want to get feedback
- We work with targeted customers:
  - Setup “advisory board”
  - Demo feature for them
  - Work on getting a test deployment where it makes sense
- Gather feedback and continue iterating
- … or bring back into future ideation

# Releasing

- Merge all the features together (from all the feature branches)
- We then make sure:
  - Everything is working together well
  - Performance is up to our expectations
- Package the release into its final forms (installers, tarballs, Cloud, etc)
- Release it to all of you!

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# Using Splunk to Build Splunk

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# Splunk @ Splunk

- Splunk is used extensively all throughout our process
- We use it to:
  - Report holistically on our release and JIRA
  - Track performance measurements across releases and packages
  - Do performance investigations
  - Track the health of our Continuous Integration results
  - Evaluate Product Security vulnerabilities and status

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# Splunk @ Splunk Demos

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# Summary

- You’ve seen how Splunk does engineering
- You’ve seen how we use Splunk to build a better Splunk for you
- You’ve seen some tools that you can use to help your product processes

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# THANK YOU

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