AWS re:Invent

ENT233-S

Atlassian's journey to cloud-native architecture

Sri Viswanath
CTO
Atlassian

Mike Tria
Head of Platform
Atlassian

AWS re:Invent

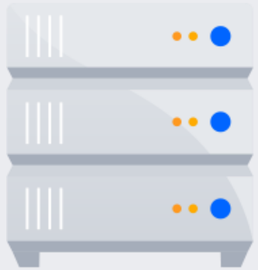
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aws

ATLASSIAN MISSION

Unleash the potential of every team





2015

Every Jira and Confluence Cloud customer has their own dedicated, individual virtual machine and database — they are single-tenanted

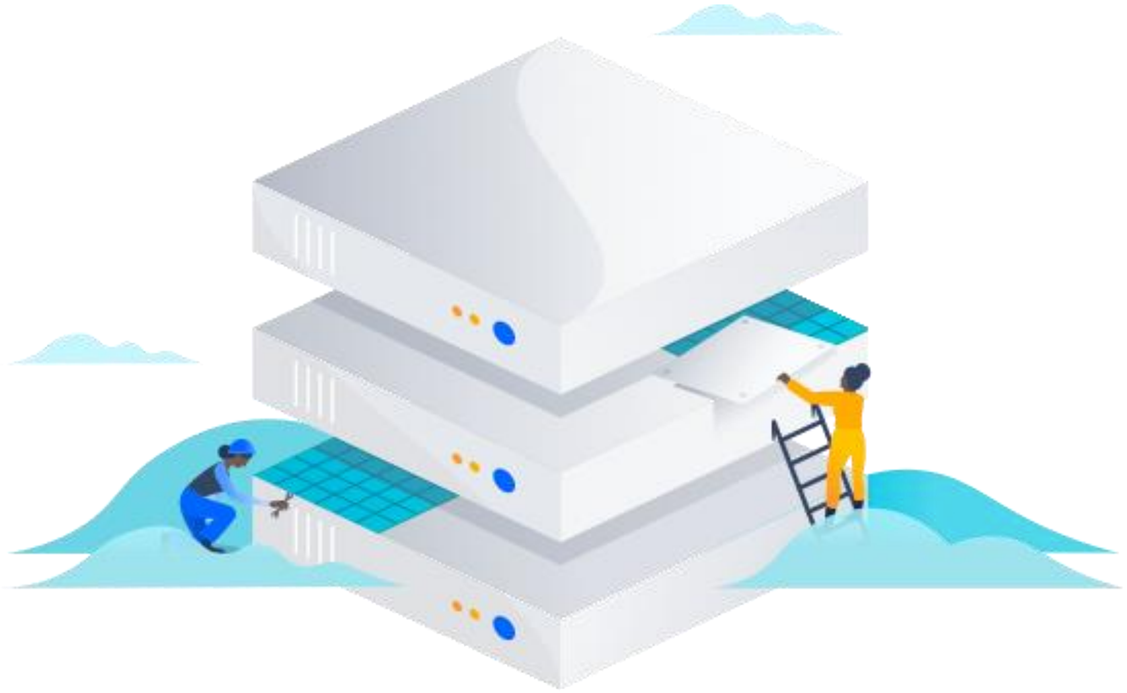


Desired End State

Jira and Confluence Cloud are stateless applications running on AWS + shared microservices

JANUARY 2016 – KICK-STARTED PROJECT VERTIGO

Atlassian’s largest infrastructure project to date.



ON PREMISES & CLOUD OPTIONS



Cloud



Server



Data Center

WE FORKED

Forked the org and the codebase.



OUR MOST POPULAR PRODUCTS

Jira

- Jira Software
- Jira Service Desk
- Jira Core
- Jira Align

Confluence

Bitbucket

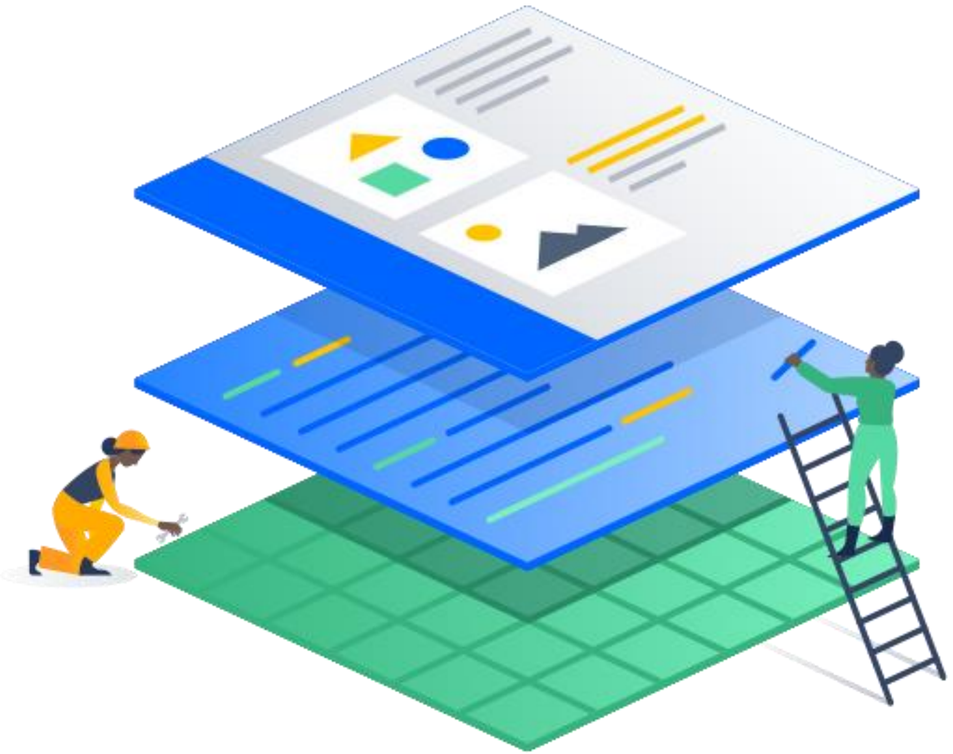
Trello

Statuspage

Opsgenie

CREATED THE PLATFORM ORG

Started creating microservices thoughtfully.



ATLASSIAN VALUES



Open company, no bullshit



Play, as a team



Build with heart and balance



Be the change you seek



Don’t #@!% the customer

EMPLOYEES



Play, as a team



Build with heart and balance

CUSTOMERS

100,000+

Jira and Confluence customer instances migrated over 10 months.

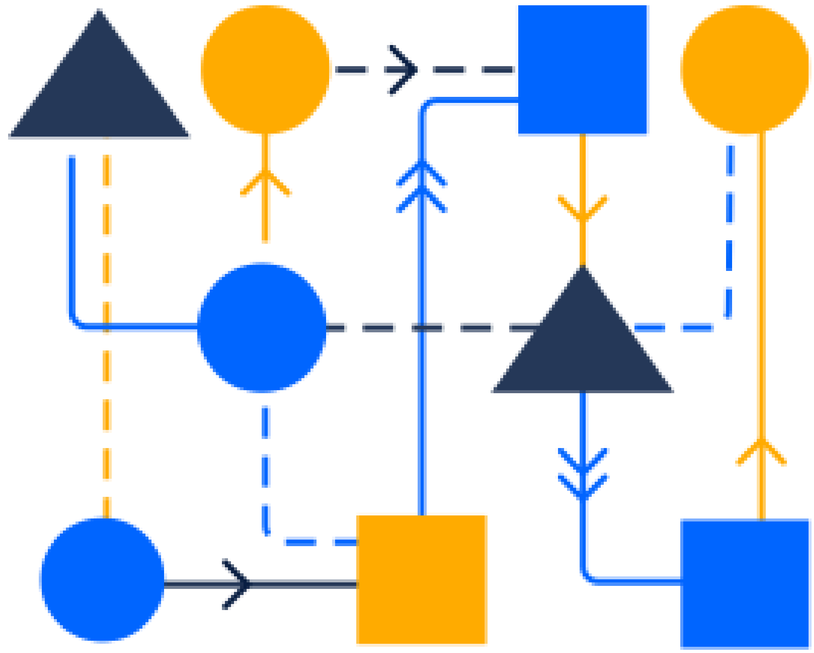


The Results



12 MONTHS OF MASSIVE SURGERY

Built new infrastructure, retrofitted existing code, shipped each week.



VERTIGO BENEFITS



Faster Dev Loop

From pushing updates once a week to 2–3 times a day



Ease of Scaling

Better equipped to scale, as well as bring new regions online



Reduced Downtime

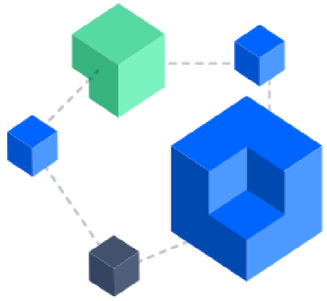
Better incident management, reduced rollback from hours to minutes



Better Latency & Speed

Snappier and more reliable system, massive drop-in customer complaints

MICROSERVICES JOURNEY UNDERWAY



Common Platform

We built out shared services that are used by many products



Happier Teams

Microservices teams have higher vital signs scores internally



You Build It, You Run It

We transformed the way teams were working by building them up

We Learned Many Lessons



LESSON 1

Have clear goals.

Microservices are not right for everyone, and now may not be the right time.



WHY IT MADE SENSE FOR ATLASSIAN



Suite of Products

We are running a suite of products that often share a lot of common functionality



Distributed Teams & Org Structure

We had the right team structure and distribution to be able to decompose



Project Vertigo

Proved microservices was a strategic solution to our scaling problem and we could co-exist with the monolith

LESSON 2

Invest in tooling and drive consistency.

A focus on scaling now will help you avoid chaos later.



ATLASSIAN'S TOOLS



Microscope

Tool for visualizing all the microservices across the company



Tech Stacks

Defined technologies, libraries, and design patterns for engineering



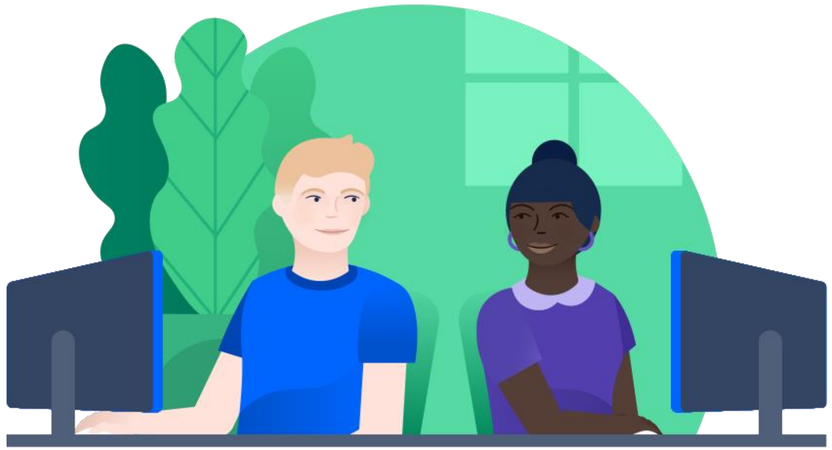
ServiceQuest

Atlassian's operational maturity model

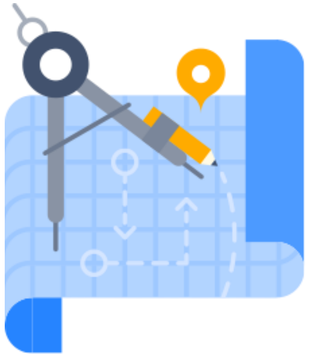
LESSON 3

It’s all about people, teams, and culture.

It’s more art than science.



PEOPLE TOPICS ARE HARDER



Create People Structures

It is difficult to map services back to the teams and organizational structures that will own and support them



Manage Expectations

It’s important to manage expectations with the rest of R&D, the executive team, customers, partners, etc.



Embrace the Culture Shift

You need better operational excellence, including a “you build it, you run it” mentality and a dedicated SRE team

LESSON 4

Balance speed ***AND*** trust.

Customer experience beats scaling quickly.

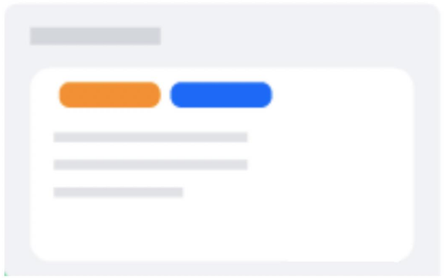


DO THE RIGHT THING, DO THINGS RIGHT



No Hacks or Workarounds

Build it right the first time; it will save you time and headaches in the long run



Manage the Last 10%

Stay committed until completion; the last mile is often the hardest



Create Checks and Balances

Engineers want to move fast; ensure that you have the cross-checks in place to maintain reliability



Atlassian's Cloud-Native Journey




SRI VISWANATH | CTO
MIKE TRIA | HEAD OF PLATFORM
BOOTH #1132



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