

RFC XXX: Pivoting Sourcegraph's SaaS product from shared multitenancy to single tenancy

Author: Ryan Phillips Quinn Keast

Collaborators: Rafal Leszczynski Rafal Gajdulewicz

Date: Mar 15, 2022

Status: WIP

Decider: (Who owns the decision?)

Input providers: Murat Sutunc Diego Comas Jennifer Mitchell

Approvers (please review by EOD Mar 18, 2022): Anna Mikhova Bill Creager Christina Forney Nick Snyder

Approvals:

Background

Over the last year, Sourcegraph's Cloud SaaS team has been working on building out Sourcegraph.com as a shared multitenant product to validate some key hypotheses: that Sourcegraph provides value to smaller teams, and that customers will trust us with their private code in a cloud-based environment. To achieve this, a Cloud department was formed in the Product & Engineering Organization to focus exclusively on rapidly validating these two goals.

In Q4 FY22, we won our first paying customers and took Cloud from zero to one, ultimately signing 4 customers in Q4 with a company-wide OKR to sign 20 paying customers by the end of Q1FY23. With early validation around these two objectives, the Cloud organization moved to define our 3-5 year goals and high-level business goals.

Problem

Building on top of Sourcegraph.com through a shared multitenant architecture was the fastest way to learn quickly through a series of smaller iterations that reduced the risk of bringing private code to a cloud environment.

However, as we looked ahead to our long-term vision and business goals for Cloud, we saw several challenges tied to the shared multitenancy architecture:

- **Feature parity with Sourcegraph Self-hosted is 12-18 months away.** Several of our products, like Batch Changes and Code Insights, were built for Self-hosted instances. For customers to get access to these products through our SaaS product in the existing shared multitenant architecture, these products need to be adapted and / or rebuilt. This effort is estimated to take X quarters to carry out, and the Code Graph organization does not plan to work on this in the coming year.

- **High effort to scale in support of our long-term goals.** Our vision is for Cloud to be the easiest way for companies of any size to deploy Sourcegraph. While the fixed and variable costs associated with shared multitenancy are low ([Source](#)), it's a higher effort to achieve enterprise-ready features like tenant isolation, implement per-tenant features, and handle per-tenant scaling.
- **User value provided specifically by shared multitenancy is unclear.** While it provides an immediate alternative to Self-hosting that isn't otherwise available today, the core value of Sourcegraph.com to users is the ability to search across OSS software. This ability, on its own, isn't implicitly tied to the shared multitenancy architecture.
- **Inadvertent reinforcement of "Cloud" and "Self-hosted" as separate products.** While our vision is to maintain a single Sourcegraph product regardless of which environment it's deployed in, we're culturally and conceptually diverging further with different deployment methods, features, codebases, and tooling for Cloud and Self-hosted products.

Individually, each of these challenges is solvable. Together, they represent a sizable effort and increased risk on our path to our long-term business goals. With open beta around the corner, we are at an inflection point for Cloud's architecture.

Proposal

We propose pivoting our SaaS product from a shared multitenant architecture to a single tenant architecture. After significant diligence, we believe that this new architecture will be less effort to scale in support of our long-term goals. The benefits include...

- **It will bring the full-featured power of Sourcegraph to all SaaS customers, faster.** A single tenant architecture means one version of Sourcegraph for both Self-hosted and Cloud deployments. Instead of having to adapt and / or rebuild features like Code Insights and Batch Changes to also support the shared tenancy architecture in Cloud today, these features will essentially be ready to go for SaaS. We can then redirect our investment towards building licensing and enforcement that will work across Self-hosted and Cloud deployments.
- **It will simplify our approach to providing Sourcegraph as a SaaS to companies of all sizes.** Today, Sourcegraph offers two hosted offerings: Cloud SaaS for SMBs and Managed Instances for small and large enterprises. This pivot will align these two offerings, streamlining deployment options for customers and simplifying best practices for internal operations such as support, CE guidance, and more.
- **It will help direct us back on a path where Sourcegraph is one product regardless of which environment it's deployed in.** This pivot will re-align the mental model around how customers live within a Sourcegraph instance where one instance = one customer. The influences of this simplify product and engineering decisions across the company, making it faster to develop for both offerings.

This proposal is based on previous explorations, recommendations, and ultimately what feels like consensus in the Cloud organization. A more detailed look at the architecture analysis can be found here: [Slide deck](#) & [Loom walkthrough](#).

What's next?

This pivot represents a big change to how we think about and build Sourcegraph. We face immediate, high-level questions about what we need to do to go from *here* to *there*, and how to make this transition while retaining our momentum and continuing to provide value to our customers over the next 3-6 months.

For moving forward, we propose:

1. **(We are here)** Reach alignment and approval for pivoting from a shared multitenancy to single tenancy architecture.
2. **(In progress)** Identify the right organizational and ownership structure for the Cloud organization to support this architectural pivot. Bill Creager and Anna Mikhova are driving this effort.
3. **(In progress)** Identify open questions, known unknowns, and impact on expected timelines and launch planning. We're beginning to collect these questions in this document:
[Scratch Pad] Pivoting Sourcegraph's SaaS product from shared multitenancy to single tenancy
4. Create a Product Document to create a single source of truth for collaborating around and driving this pivot, and identify DRIs across engineering, product, and design.

Definitions

1. **Single tenancy:** Each Sourcegraph customer has their own Sourcegraph instance, potentially using shared infrastructure.
2. **Shared multitenancy:** A single Sourcegraph instance (in our case, Sourcegraph.com) supports multiple separate customers within the same space.