

The background of the image is a dark purple gradient. On the right side, there are large, overlapping, semi-transparent shapes in shades of orange, pink, and blue, creating a dynamic, abstract design. The AWS re:Invent logo is positioned on the left side of the image.

AWS re:Invent

NOV. 27 – DEC. 1, 2023 | LAS VEGAS, NV

DOP215-S

SPONSORED BY CORTEX

What developers want from internal developer portals

Ganesh Datta

Co-Founder, CTO
Cortex



© 2023, Amazon Web Services, Inc. or its affiliates. All rights reserved.



What Devs Want from IDPs

How to engage every developer in your Internal Developer Portal program

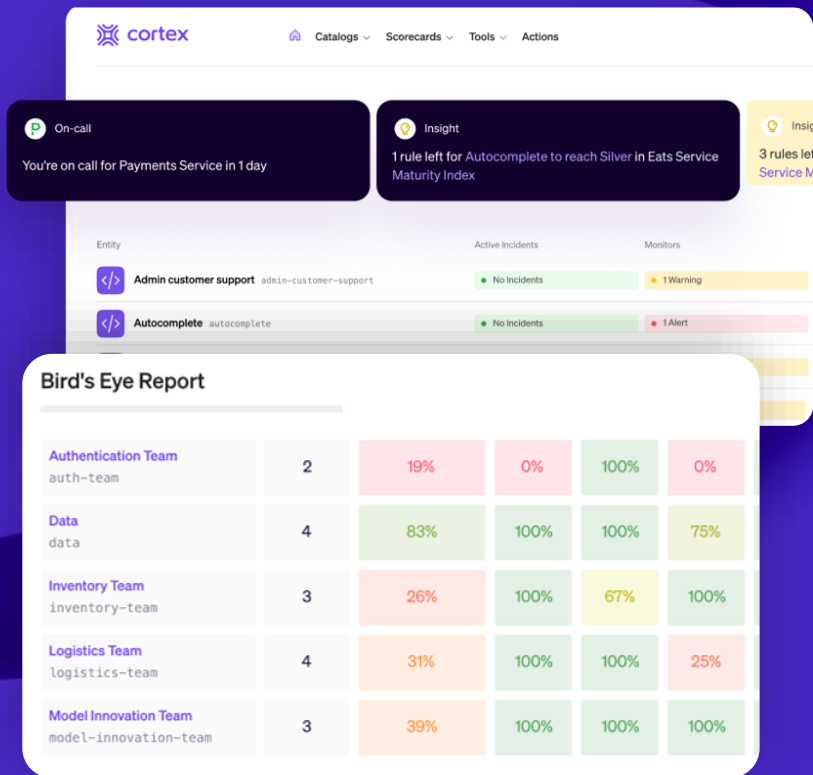


At a Glance

Cortex is an Internal Developer Portal designed to help developers take ownership over the state and quality of their software, in the most efficient way possible. Unblock engineers. Unlock productivity.

Backed by the best
SEQUOIA  ivp

Building for the best



Today's Agenda




-  Changes in the tech landscape
-  How Internal Developer Portals help
-  What devs need to improve their work

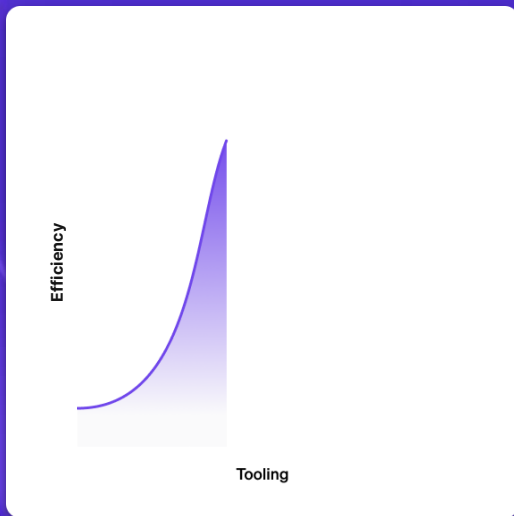


Ganesh Datta

Co-Founder, CTO

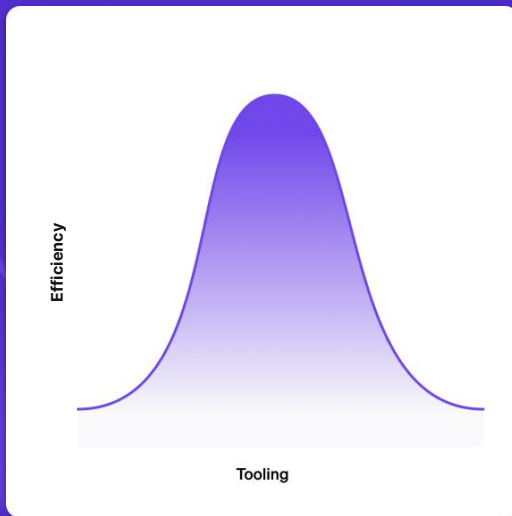
The last 5+ years of tech modernization made us more efficient

-  Microservices & Kubernetes enable parallel work
-  Cloud hosting made storage and compute cheaper
-  Devs have more tools than ever to help them ship faster



The last 5+ years of tech modernization made us more efficient—to *a point*.

- ☰ Microservices & Kubernetes enable parallel work
 - Software volume makes it impossible to track ownership
- 📁 Cloud hosting made storage and compute cheaper
 - We're now paying for forgotten software
- ☑️ Devs have more tools than ever to help them ship faster
 - Devs are also bottlenecked by process and noise



Today's tools help with velocity and quality but rarely at the same time.

APM and DevOps platforms

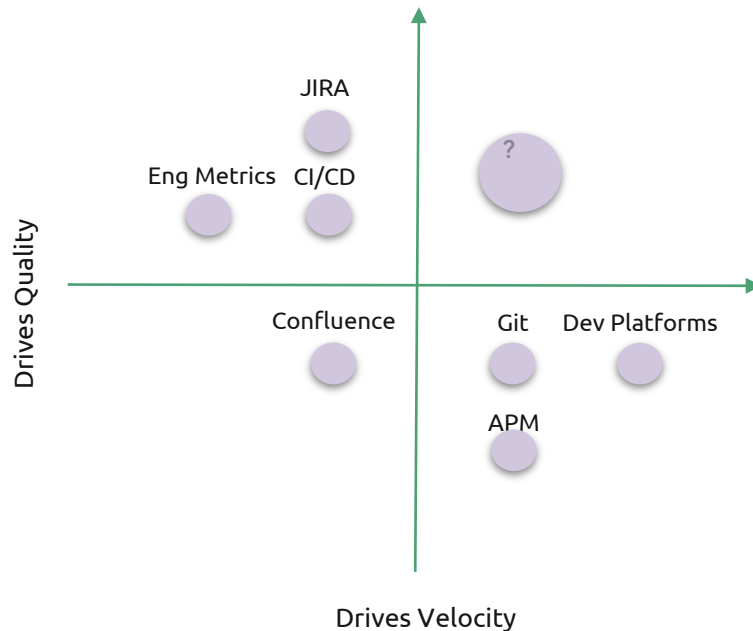
- Focus on performance but no context related to components, dependencies, or owners

Engineering Intelligence/Metrics

- Evaluates productivity of individuals but does nothing to drive progress as a team

Git, Jira, Confluence

- Creates pathways to speedy deployment but doesn't track standards alignment



We still need something to enforce standards using data from across the stack.

APM and DevOps platforms

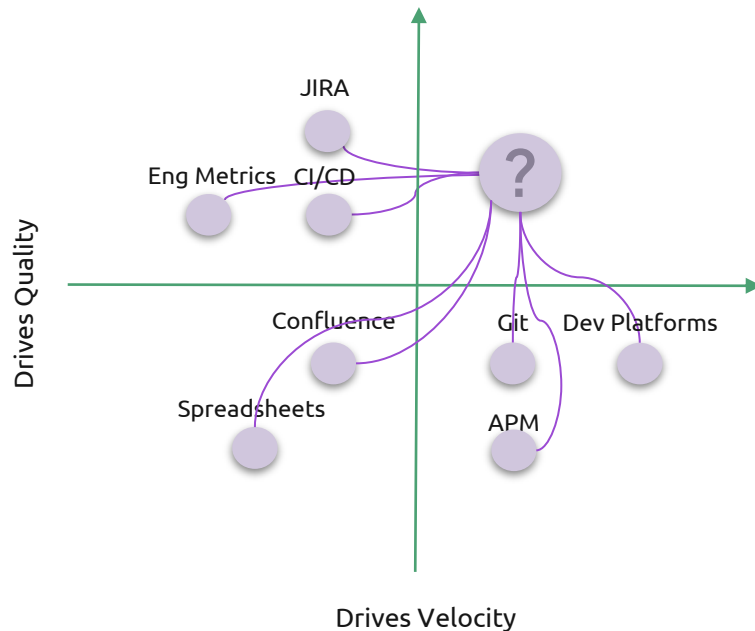
- Focus on performance but no context related to components, dependencies, or owners

Engineering Intelligence/Metrics

- Evaluates productivity of individuals but does nothing to drive progress as a team

Git, Jira, Confluence

- Creates pathways to speedy deployment but doesn't track standards alignment





How IDPs Help

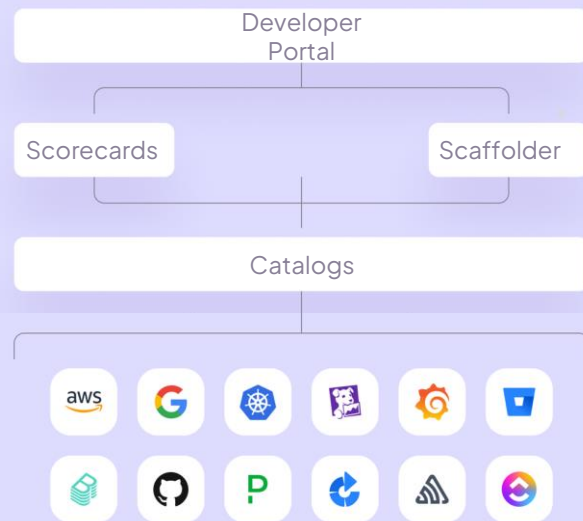
IDPs ensure standards are met across the SDLC

At minimum, internal developer portals must provide:

01 **System of Record:** Unify data under common language

02 **Assessment:** Evaluate against core standards

03 **Self-Service:** Deploy services in line with standards



What Devs Want from IDPs

Our Research

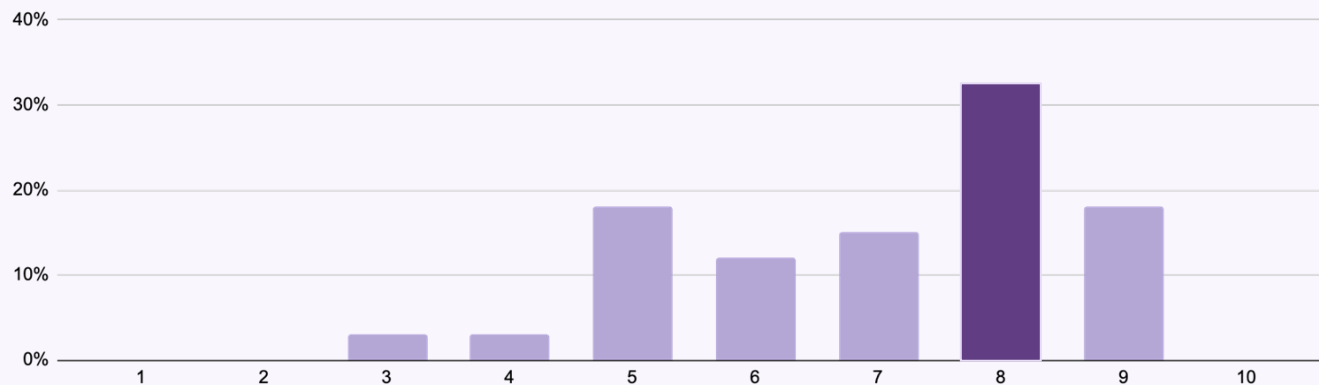
We surveyed 50 vetted software developers and engineers that have used or are evaluating IDPs about what they want from this technology. We also asked about top pains and focus areas.

3 key takeaways:

1. Basic inability to find information is still a top pain
2. Prioritization is a major problem
3. Templates are the #1 requested feature

1. Finding information is *still* a top pain

Q: How difficult is it to find information about services and resources?

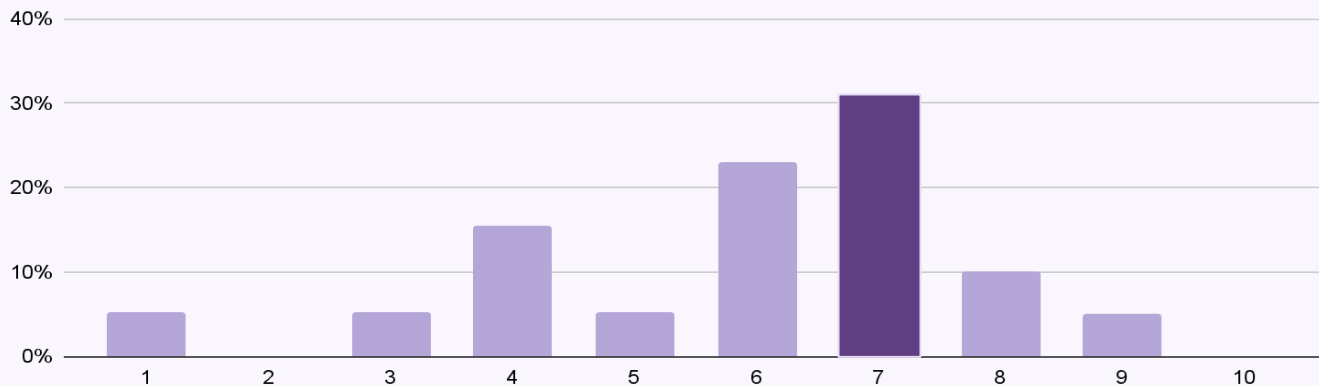


"I can't keep track of infra for different environments. Knowing what microservices are available to me in my role would have prevented me from developing things that were already available."

- Cale, Principal Software Engineer

2a. The need for prioritization is peaking

Q: How difficult is task prioritization for you?

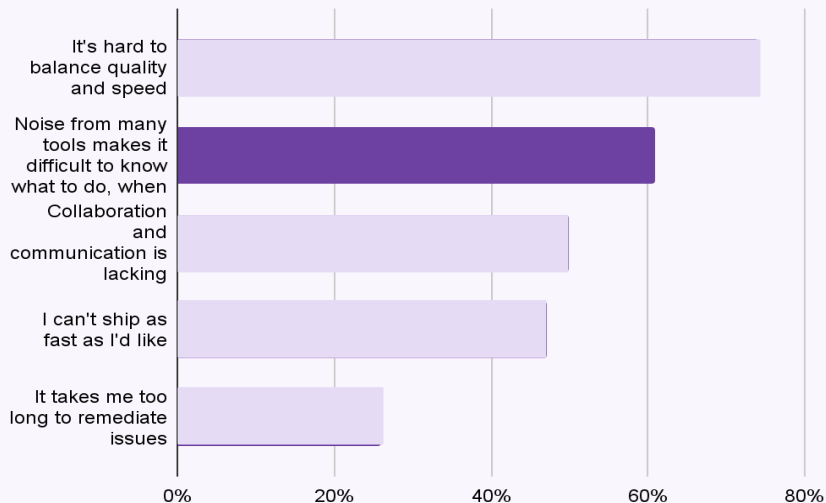


“Prioritization remains subjective, if there was a way to automate severity assignment, that'd be helpful.”

- Ashleigh, QA Engineer

2b. Noise from other tools is a top distraction

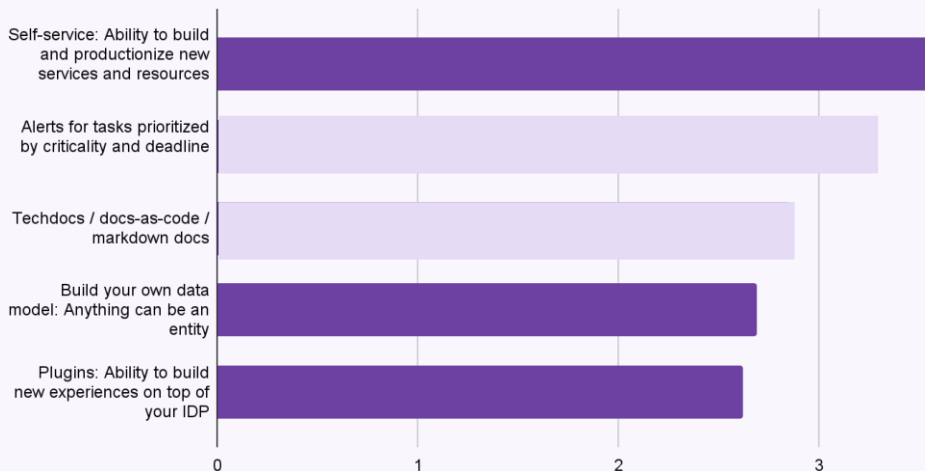
Q: What challenges do you face in your current role?



61% say noise from tools makes it difficult to know what to do, when

3. Devs want templates above all else

Q: Rank order the following sample of features of IDPs by how much you personally value them:



“An IDP should provide comprehensive and up-to-date docs, code samples and templates as starting points for common tasks.”

– Jabaz, Senior Software Developer

Improving DevEx with Cortex

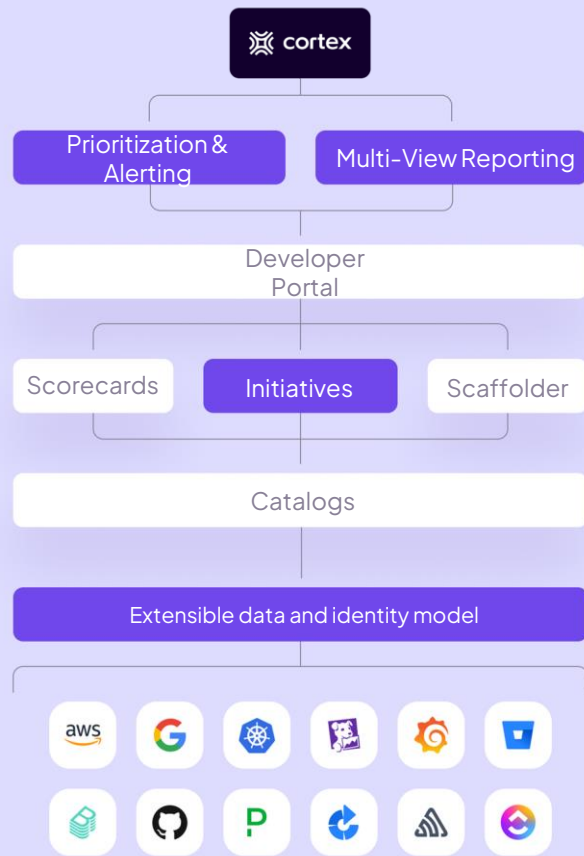


Cortex drives active progress against initiatives

01 **System of Record:** Unify data under common language
With the most flexible and extensible model

02 **Assessment:** Evaluate against core standards
With the ability to run targeted or continuous checks

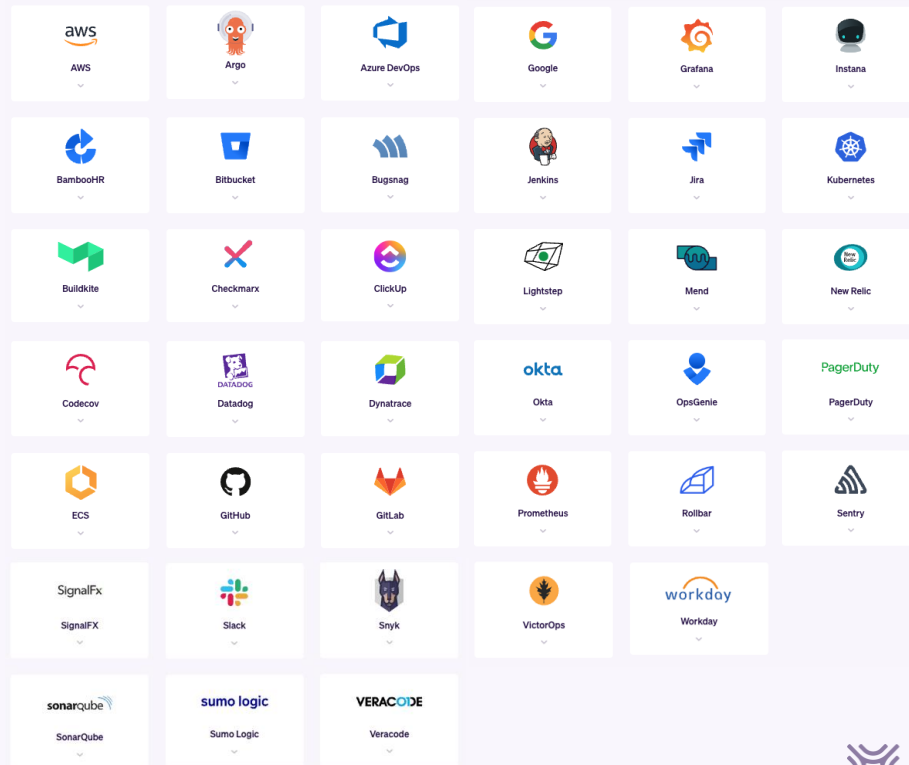
03 **Self-Service:** Deploy services in line with standards
With personalization for greater adoption



1. Build System of Record

50+ Deep Integrations

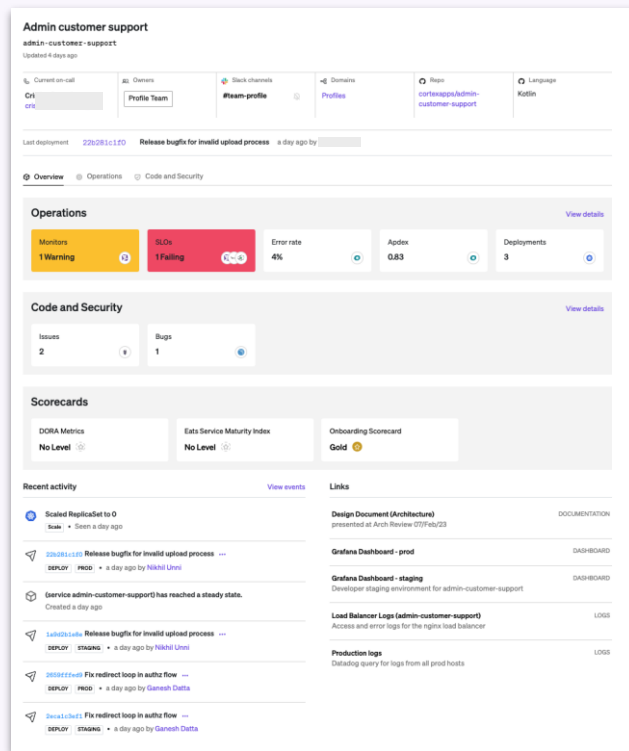
Pull defined entities & relationships from across your stack. Use logical defaults—extend where needed.



1. Build System of Record

Auto-Sync Catalogs

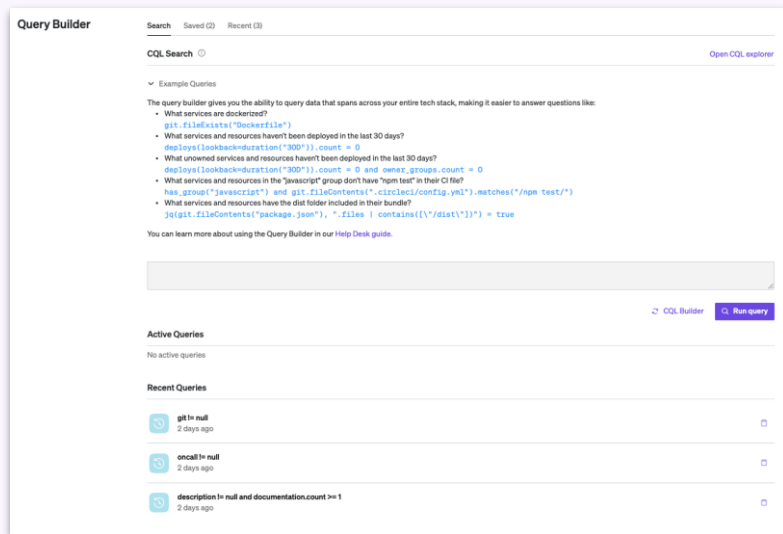
Show devs what's available, who owns it and what's changed with up-to-date ownership, docs, and dependencies.



1. Build System of Record

Cortex Query Builder

Ask nuanced questions about ownership, version, metrics, state, and more.



2. Prioritize Action

Developer Homepage

View info from across your stack like on-call info and PR status, as well as priority actions. Get alerts for time-sensitive tasks.

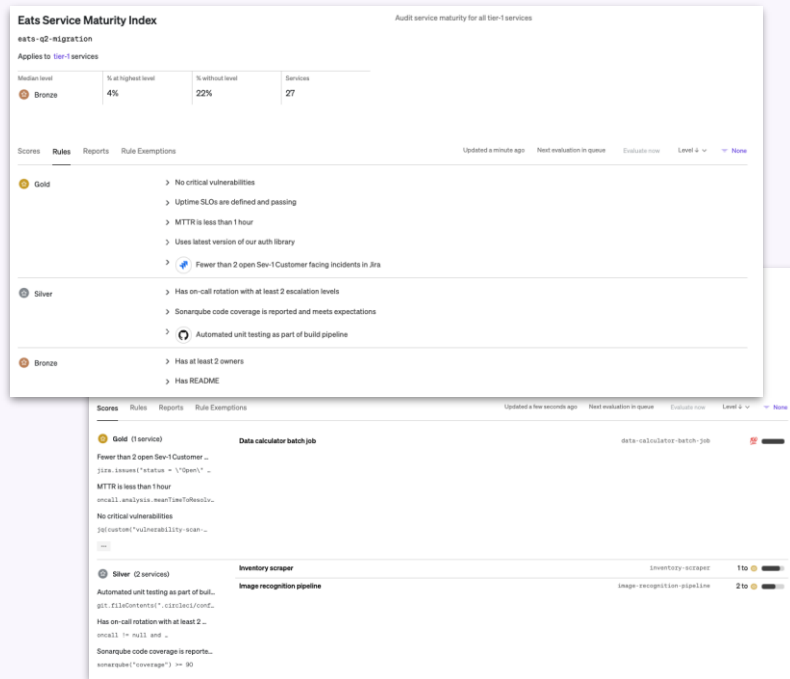
The screenshot displays the Cortex Developer Homepage dashboard. At the top, there are three status boxes: 'On-call' (green) indicating 'You're on call for Payments Service in 1 hours', 'Insight' (yellow) showing '1 rule left for Autocomplete to reach Silver in Eats Service Maturity Index', and another 'Insight' (yellow) showing '3 rules left for Query analyzer to reach Silver in Eats Service Maturity Index'. Below these are navigation tabs: 'My catalog' (10 entities), 'My open PRs' (2 pull requests), 'Assigned reviews' (4 pull requests), 'Issues' (4 assigned issues), and 'Action items' (80 action items). The main content area is a table of actions, sorted by priority. The table includes columns for entity name, action description, link to details, due date, and status icon.

Entity	Action	Link	Due	Status
Admin customer support	MTTR is less than 1 hour	On-call rotation setup	Due 17 hours ago	Yellow circle
Autocomplete parser	Not using a deprecated version of Yarn if using Yarn	Yarn projects validation	Due in 15 days	Grey circle
Autocomplete	Not using a deprecated version of Yarn if using Yarn	Yarn projects validation	Due in 15 days	Grey circle
Query analyzer	Not using a deprecated version of Yarn if using Yarn	Yarn projects validation	Due in 15 days	Grey circle
Autocomplete parser	Yarn or NPM selection is consistent	Yarn projects validation	Due in 15 days	Orange circle
Autocomplete	Yarn or NPM selection is consistent	Yarn projects validation	Due in 15 days	Orange circle
Query analyzer	Yarn or NPM selection is consistent	Yarn projects validation	Due in 15 days	Orange circle
Autocomplete parser	Fewer than 5 severe vulnerabilities from Whitesource scan that are fixable through version upgrade	Vulnerability checks ...	Due in a month	Grey circle
Autocomplete	Fewer than 5 severe vulnerabilities from Whitesource scan that are fixable through version upgrade	Vulnerability checks ...	Due in a month	Grey circle
Query analyzer	Fewer than 5 severe vulnerabilities from Whitesource scan that are fixable through version upgrade	Vulnerability checks ...	Due in a month	Grey circle
Results crawler	All HDSH level security issues remediated	Vulnerability checks ...	Due in a month	Yellow circle
Results crawler	Automated vulnerability scan as part of CI	Vulnerability checks ...	Due in a month	Orange circle
Admin customer support	Fewer than 2 open Sev-1 Customer facing incidents in Jira	Eats Service Maturity Index		Yellow circle
Admin customer support	No critical vulnerabilities	Eats Service Maturity Index		Yellow circle
Admin customer support	Uptime SLOs are defined and passing	Eats Service Maturity Index		Yellow circle
Admin customer support	Sonarqube code coverage is reported and meets expectations	Eats Service Maturity Index		Grey circle

2. Prioritize Action

Any-Rubric Scorecards

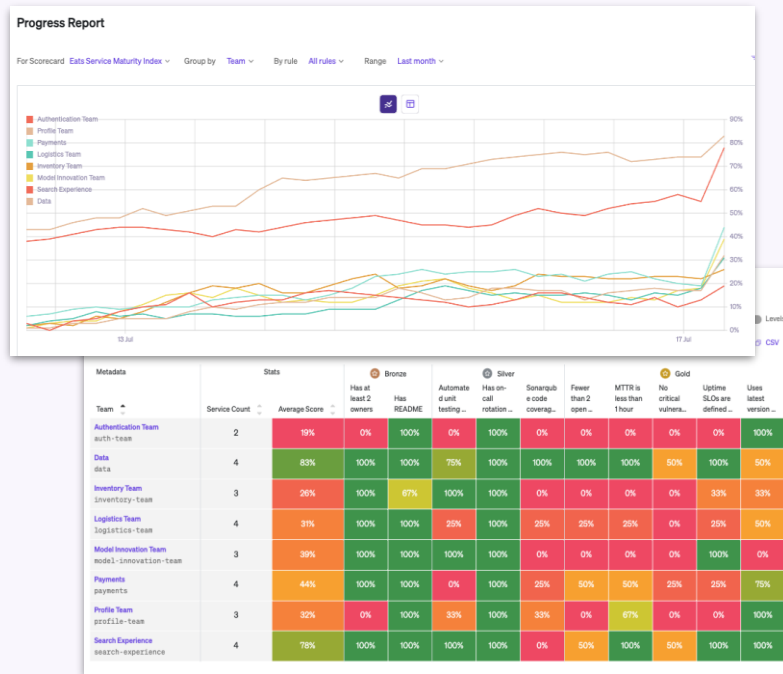
Spell out what's needed to migrate, deploy, hit compliance, meet best practice, and more. Choose any rubric, add any exemptions.



2. Prioritize Action

OOTB Reporting

Benchmark by team, product, or component to understand who's excelling and who needs more support or resources.




3. Enable Smarter Self-Service


Scaffolder

Create templates for building new components that reduce code and improve consistency

What would you like to scaffold?

 **Create a new service**

Use templates to bootstrap an entire project from scratch, by creating a new repository or opening a PR against a monorepo.

 **Add to an existing service**

Quickly add functionality to an existing service, like infrastructure, CI/CD scripts, and more.

Select a template

Find a template 🔍 Name ▾

Create React App Starter [🔗 Opens PR](#)

Bootstrap a React & Typescript Project

`react` `typescript`

Go Server

A Go project template

`go`

Python Flask Service

Minimalist python flask server

`python` `flask`

Spring Boot Starter

Starter package to spin up a new spring boot service

`backend` `kotlin`

3. Enable Smarter Self-Service

Actions

Configure no-code events that send custom payloads from Cortex to any API (internal, external, or webhook).

Deploy

Run Action

This action deploys to the specified environment

Applies to all services

ConfigurationHistory

POST <https://github.com/cortexapps>

Inputs

Environment*

Dropdown

Options: ["Prod", "Staging", "Dev"]

Default value: ["Dev"]

Allow multiple: true

env

Ref

Input

Default value: main

ref

Send release notification*

Toggle

When true, this will send the latest release notes to the specified email.

Default value: true

send_release_notes

Slack channel

Input

Placeholder: #team

Validation regex: /^[a-z0-9][a-z0-9._-]{1,80}\$/

channel

Additional release notes

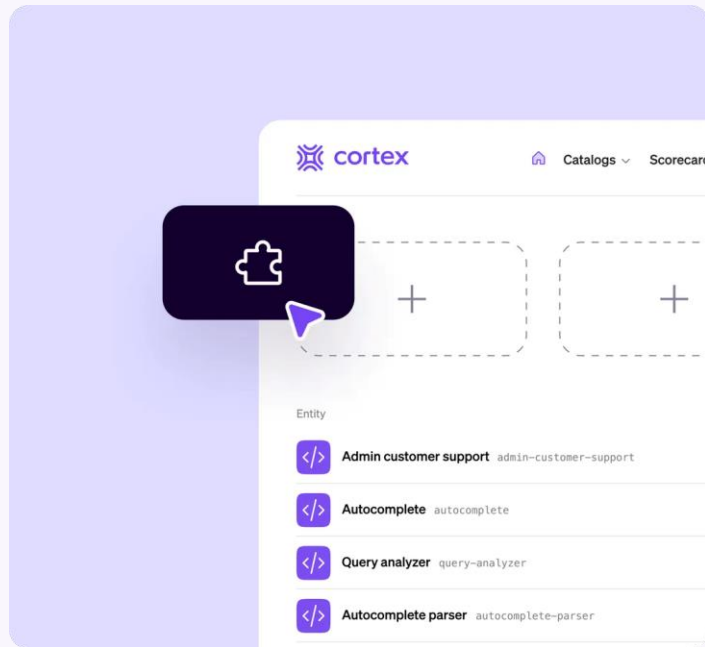
Textarea

additional_release_notes

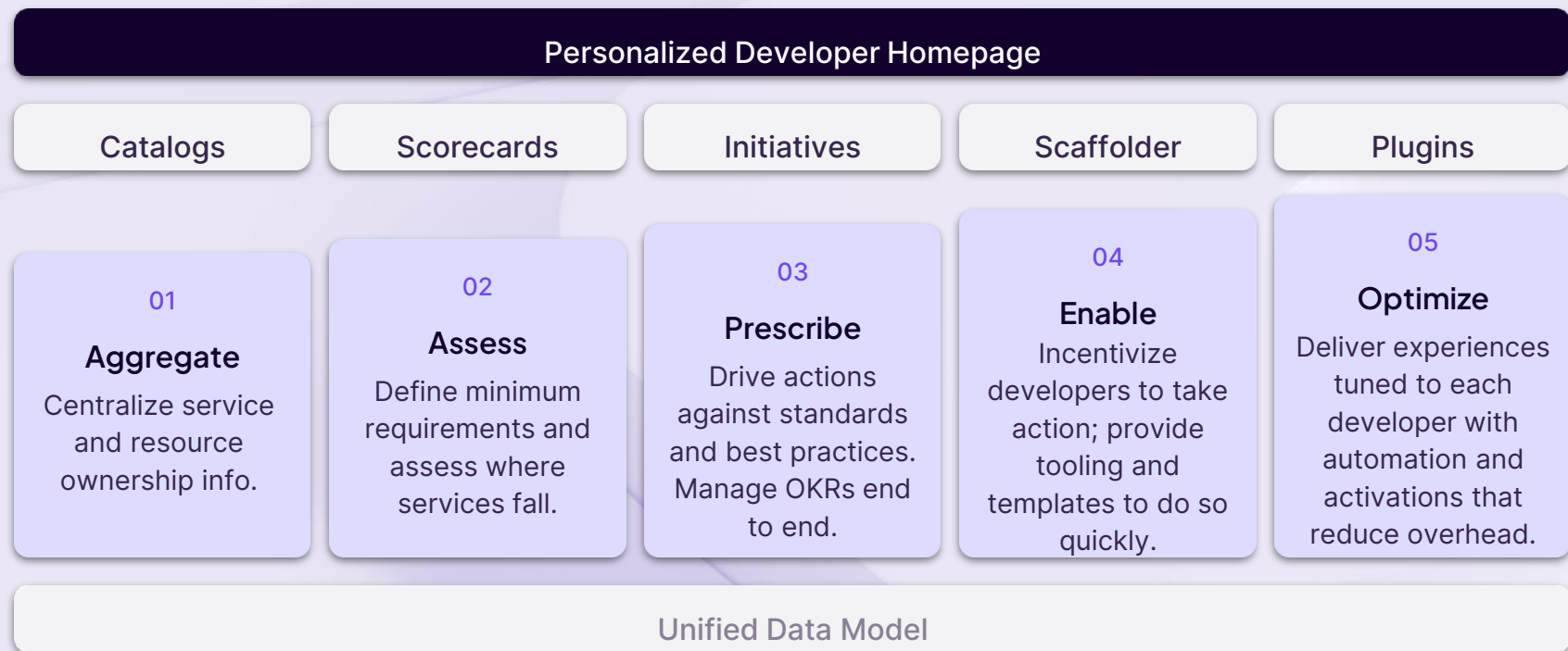
3. Enable Smarter Self-Service

Plug-Ins

Enable developers to build custom experiences on top of their current platform.



Cortex IDP Maturity Curve





Next Steps

Thank you!

Thank you!



Please complete the session
survey in the mobile app