Lightweight Purpose Justification Service for Embedded Accountability

PEPR 2021

Arnav Jagasia + Yeong Wei Wee
Privacy and Civil Liberties, Palantir Technologies

Palantir

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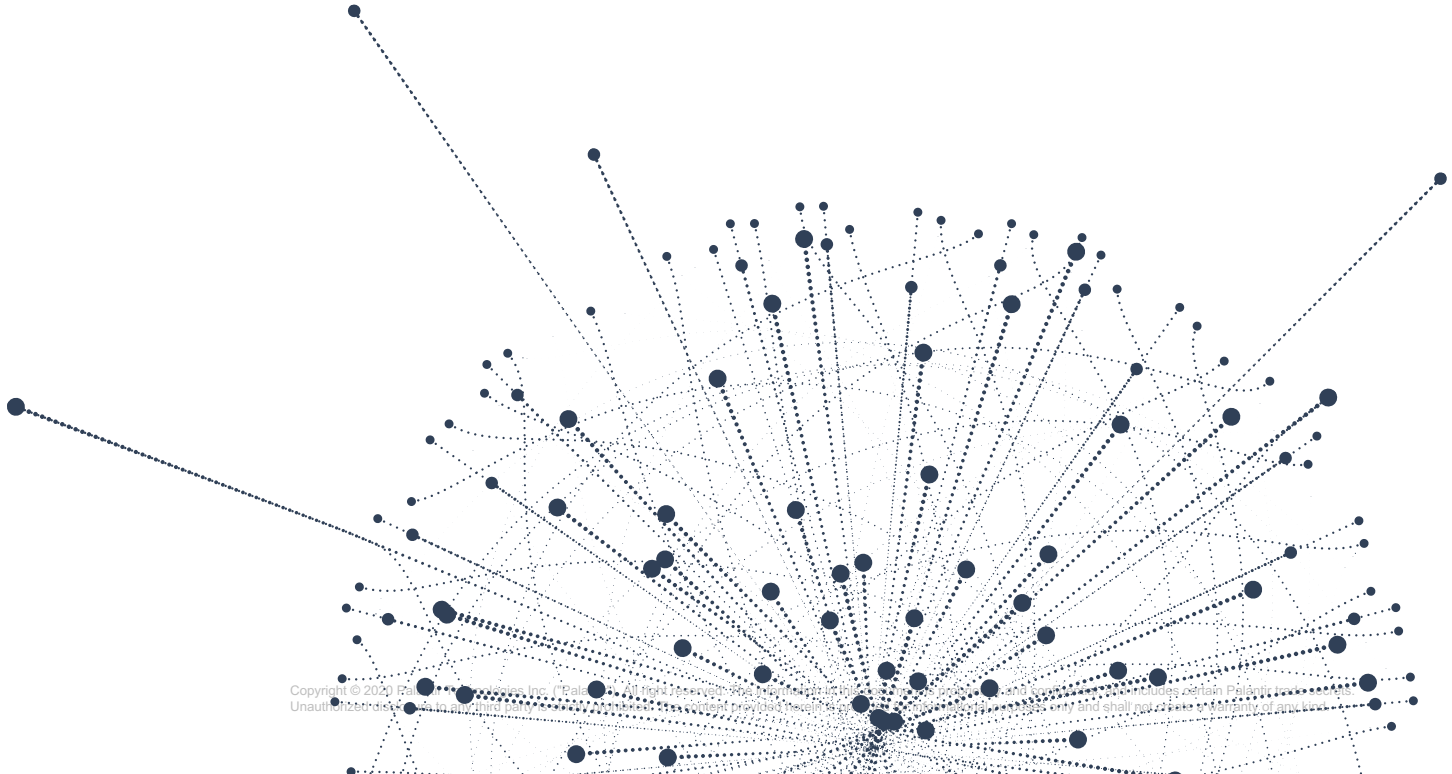
What we do

The goal of the Privacy and Civil Liberties (PCL) team is to design, build, and deploy privacy-protective technologies, and to foster a culture of responsibility around their development and use.



Purpose Limitation in Practice -
Lightweight Purpose Justification Service for Embedded Accountability

Purpose Limitation

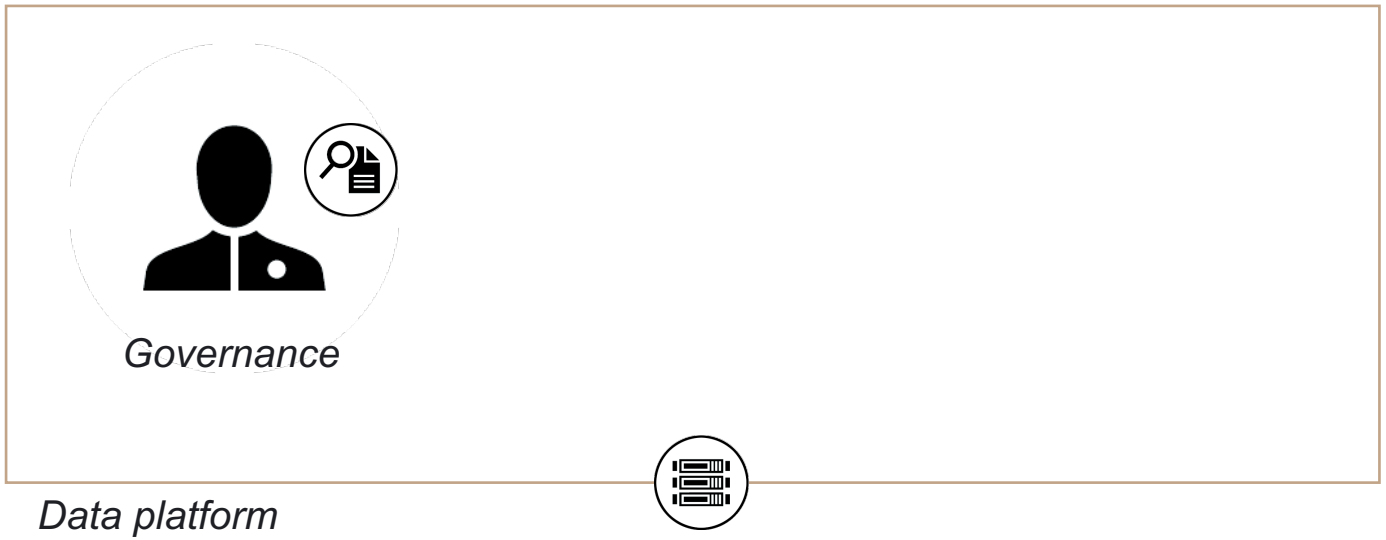
→ Data must be collected for specified, explicit and legitimate purposes only

Purpose Limitation

- Data must be collected for specified, explicit and legitimate purposes only
- Data must not be further processed in a way that is incompatible with those purposes

Challenges for Governance

- Legal Reviews
- Privacy Impact Assessments
- Access Controls
- Audit Log Analysis



Challenges for Users

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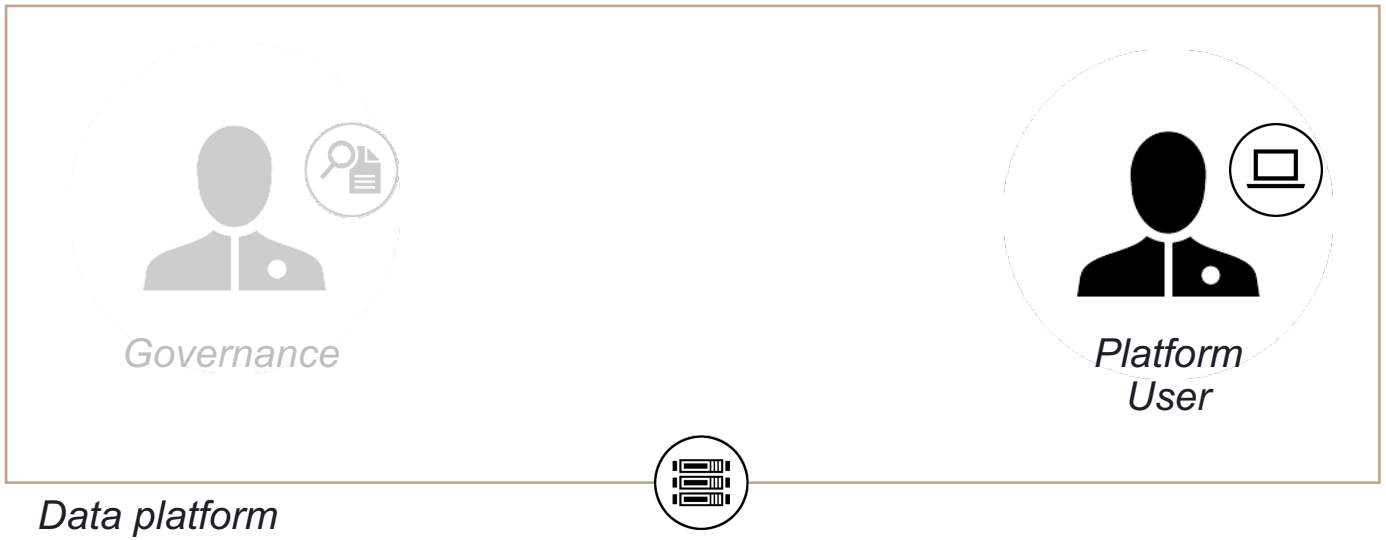
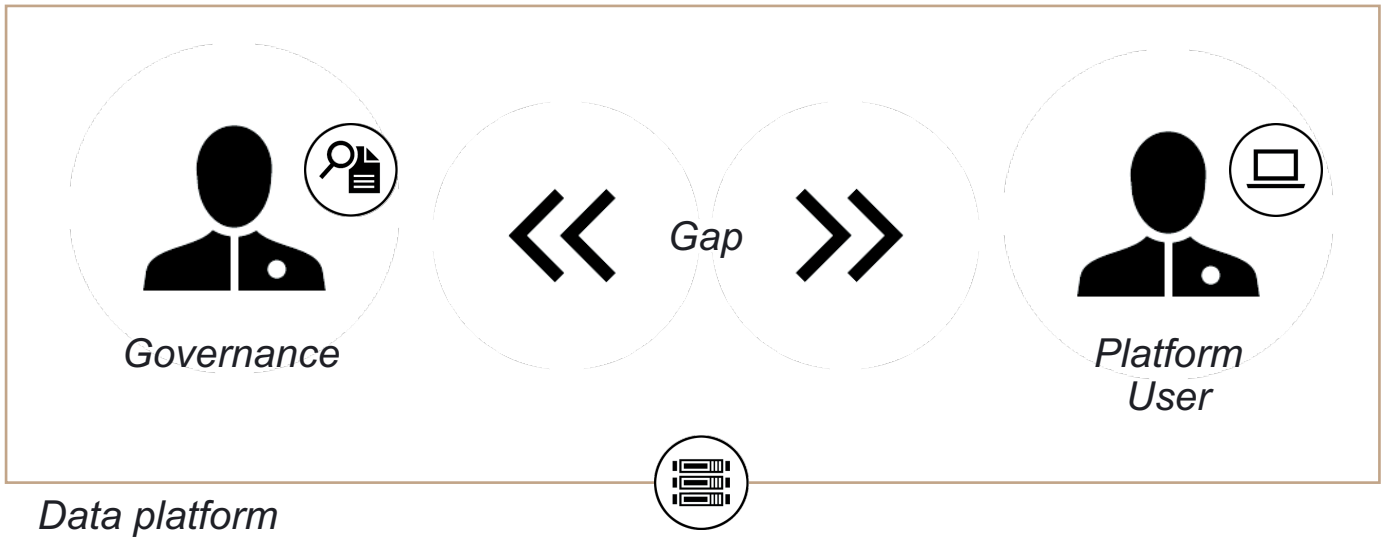


- Tooling for purpose limitation in daily routine
- Interfaces that “bake in” organizational policy
- Active reminders and nudges

Gap in practice

- Legal Reviews
- Privacy Impact Assessments
- Access Controls
- Audit Log Analysis



- Tooling for purpose limitation in daily routine
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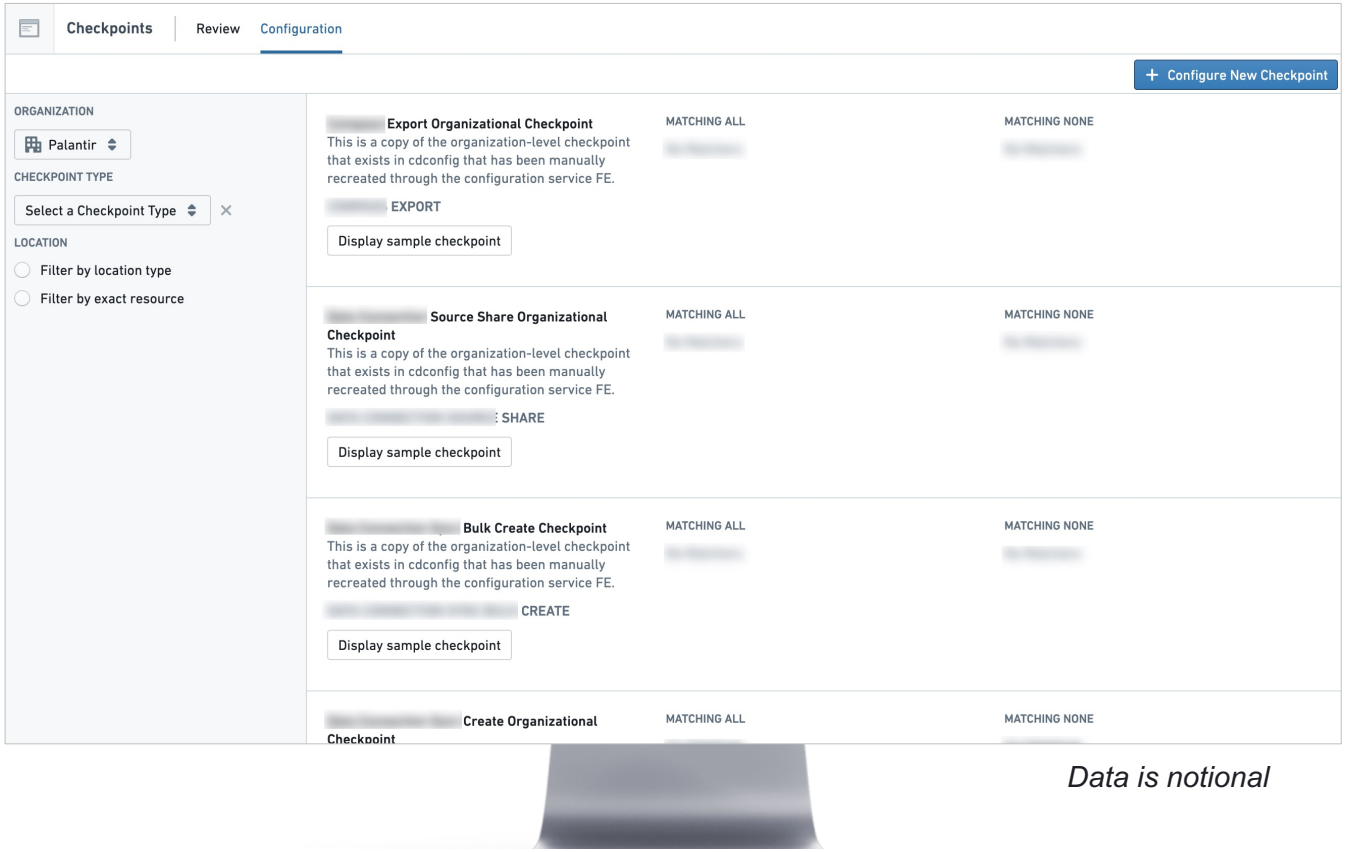
Embedding Accountability

Governance configuration

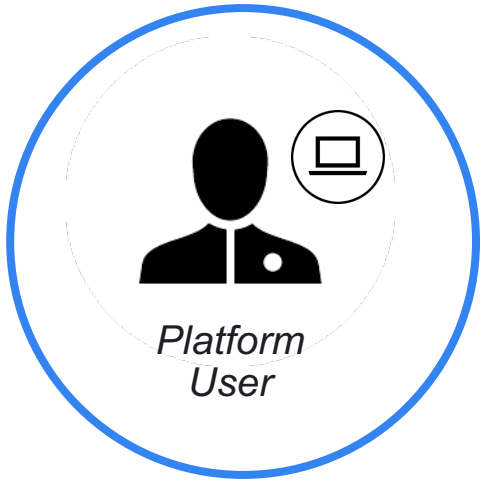
- → Select the platform actions to checkpoint
- → Configure language and justification requirements for the actions

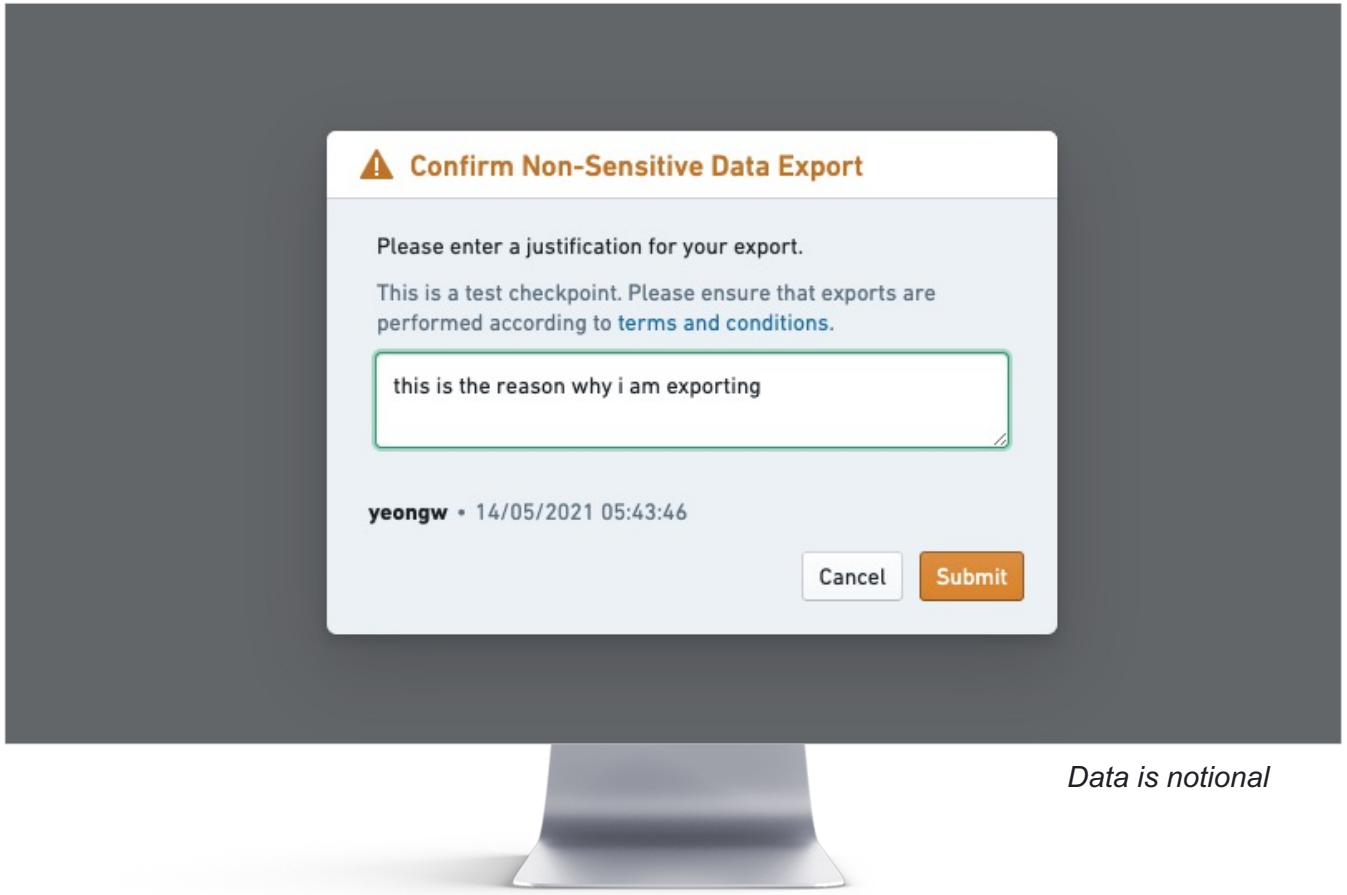


Data is notional

User checkpointing

- When performing sensitive action, served with checkpoint
- Requires acknowledgement and justification
- Reminder of policy and purposes
- Reminder that justifications and actions are auditable





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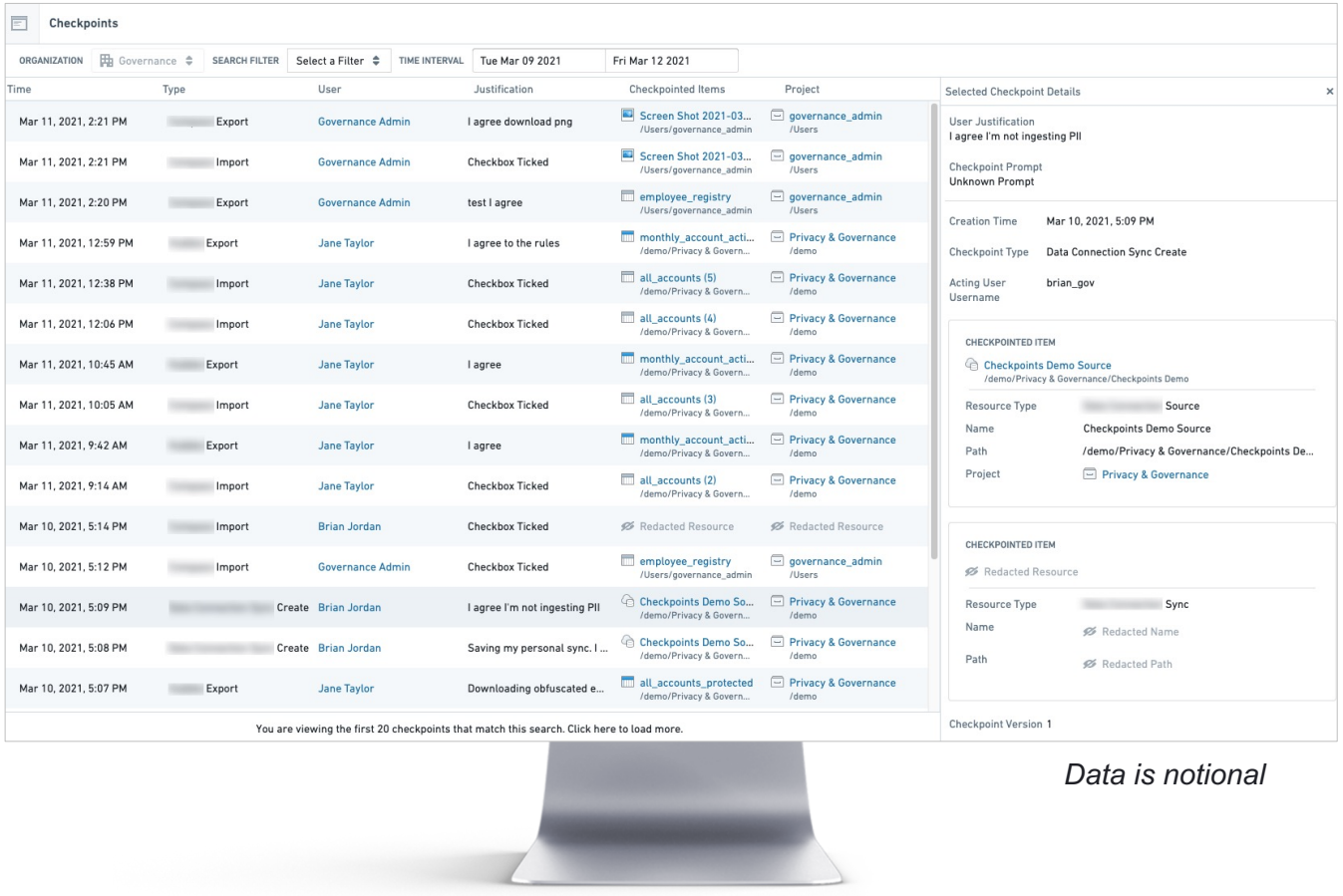
Governance review

- Real-time review of history of user actions and corresponding context
- Determine from justifications and metadata whether purposes appropriate



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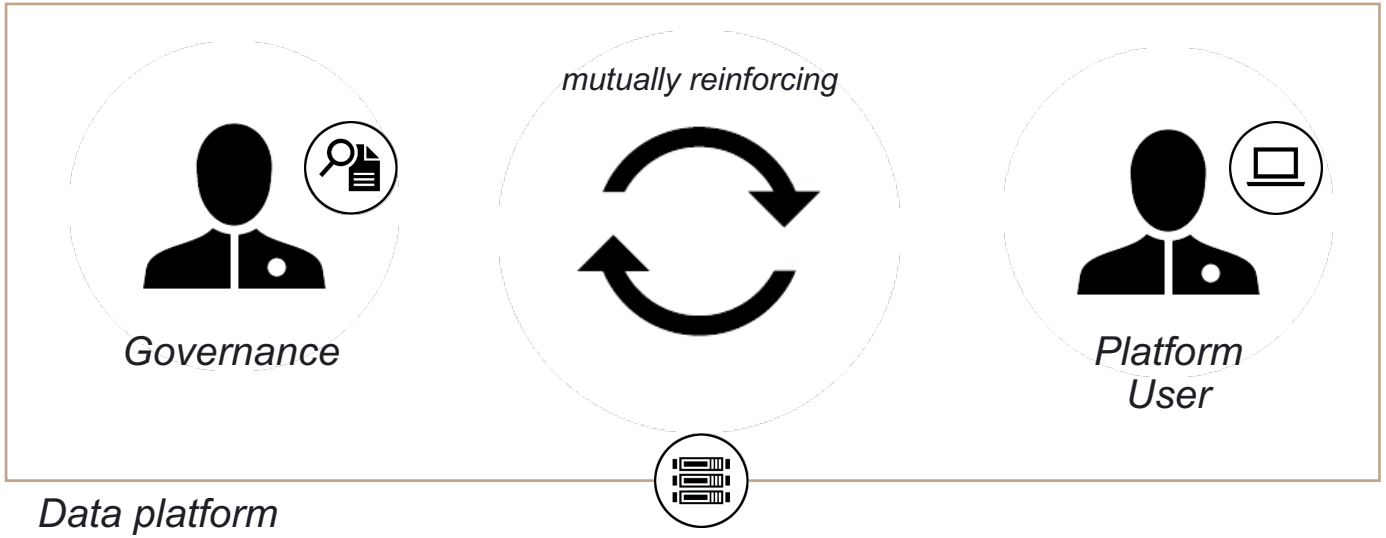
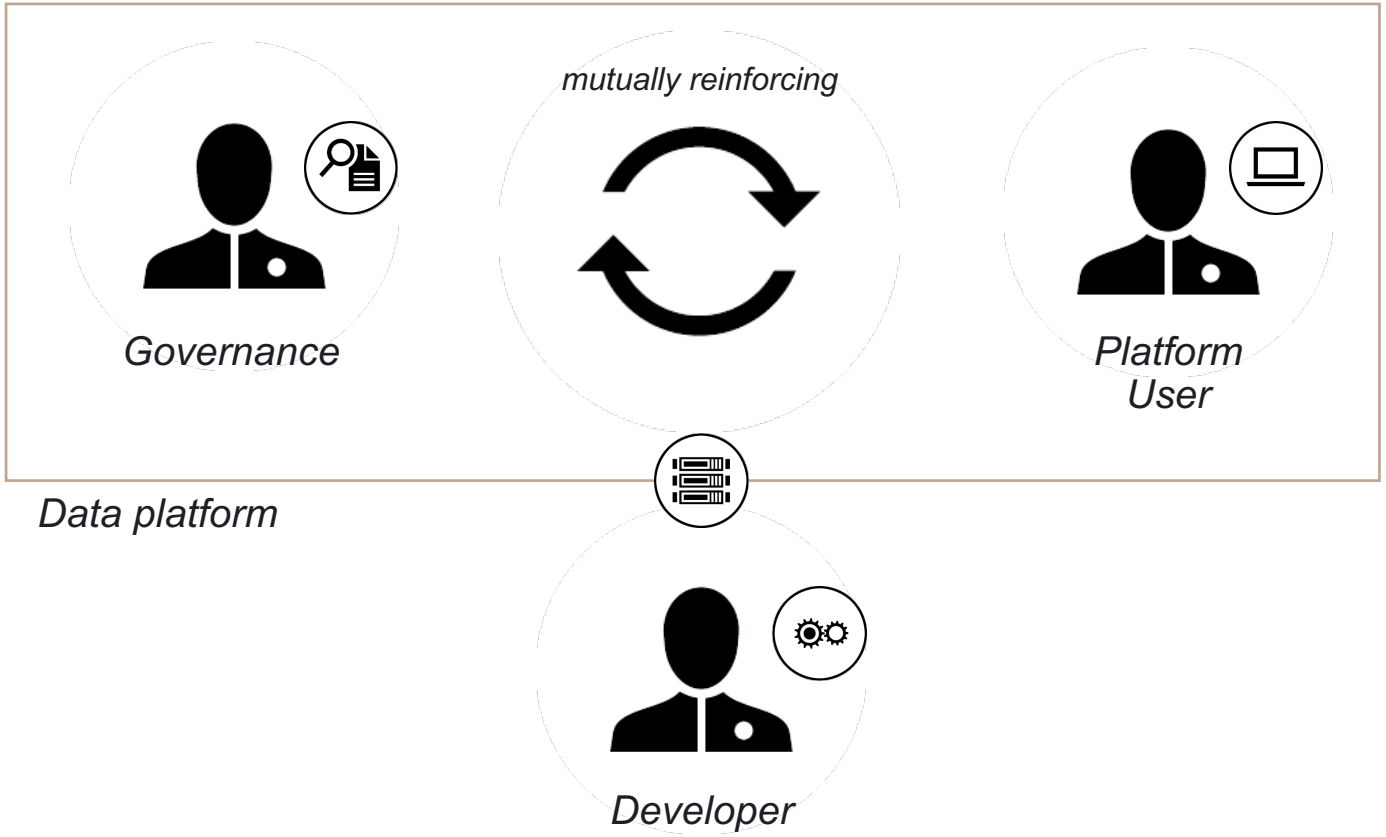
Embedded accountability



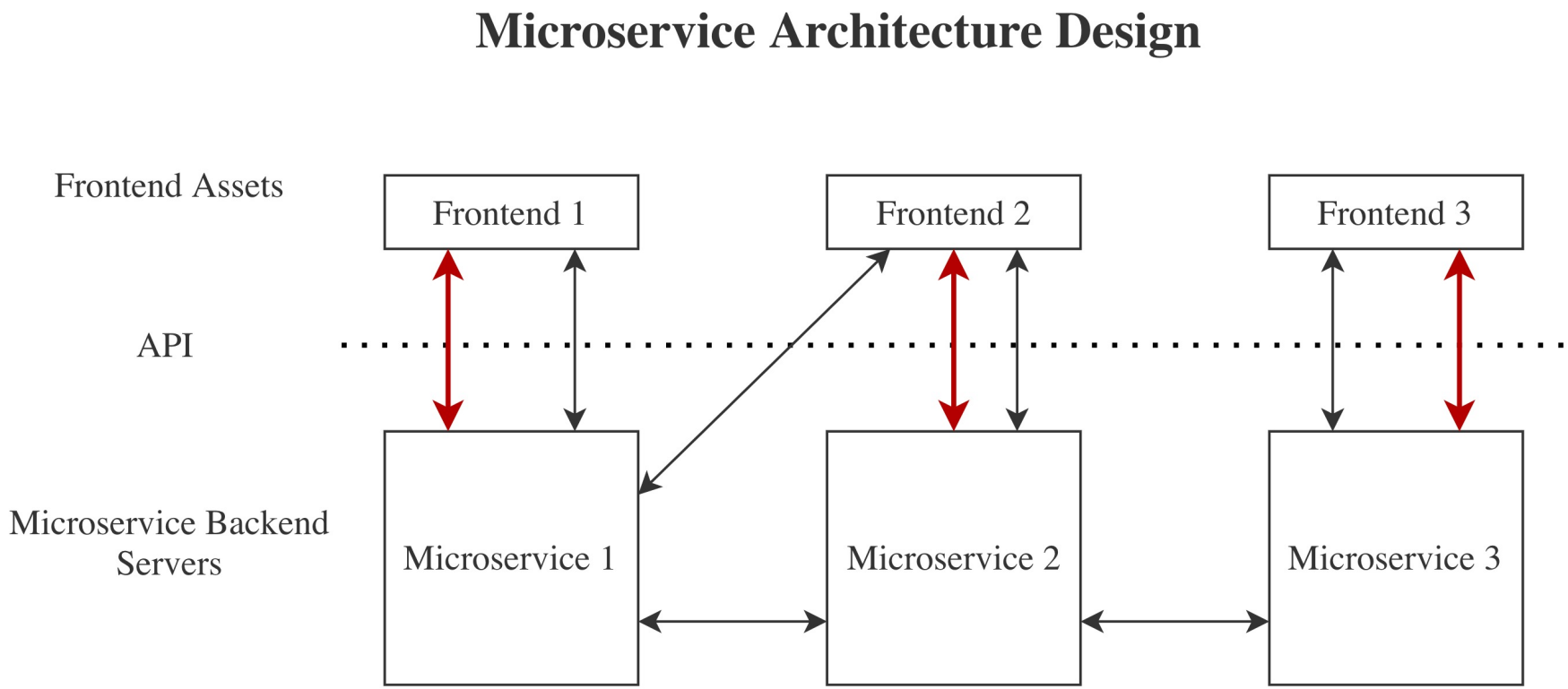
Embedded accountability



Technical Facets of the Purpose Justification Framework

Background: Microservice Environment

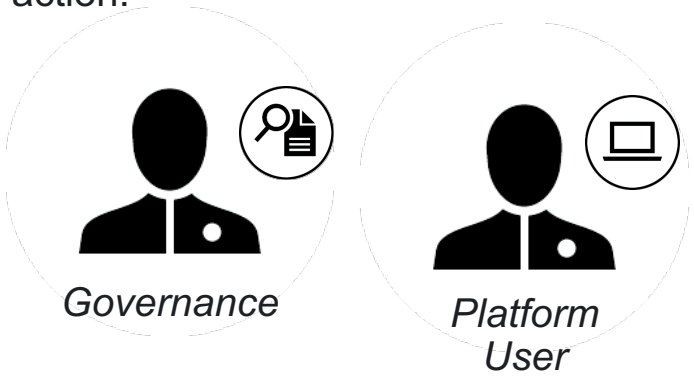
→ Enforcing purpose limitation in a platform backed by microservices can be quite challenging.



Purpose Justification Framework Overview

→ The purpose justification framework has a few key goals:

1. **Governance users** can configure justification checkpoints for actions they deem sensitive.
2. When a **platform user** performs a sensitive action, the user sees the configured checkpoint and submits a user justification.
3. **Governance users** can review the sensitive actions users have taken along with the justification and the context for the sensitive action.



Purpose Justification Framework Overview

→ We designed a lightweight purpose justification service with a few simple API endpoints to meet these goals.

1. **Governance users** can configure justification checkpoints for actions they deem sensitive.
2. When a **platform user** performs a sensitive action, the user sees the configured checkpoint and submits a user justification.
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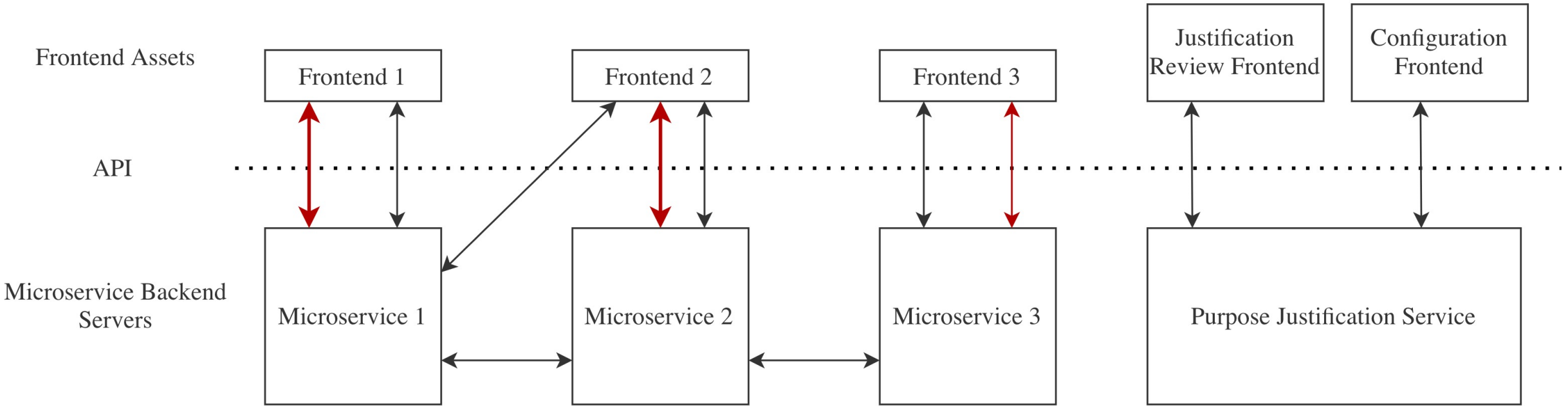
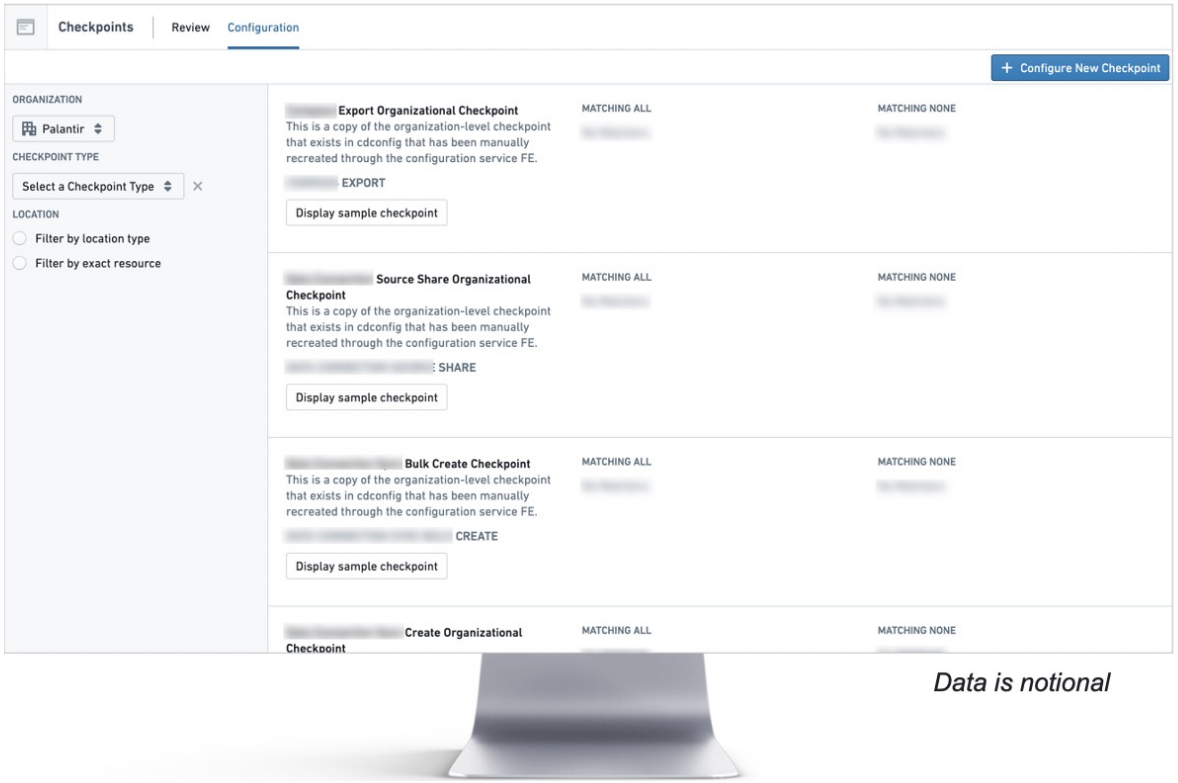
```
createConfiguration

getConfiguration
putJustification

getJustifications
```

Frontend Governance Workflows



Frontend Governance Workflows: Configuration



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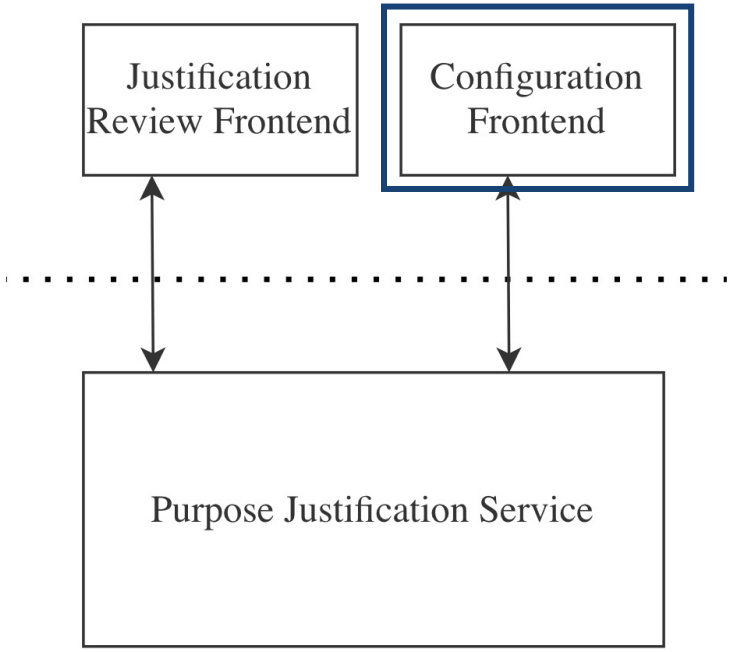
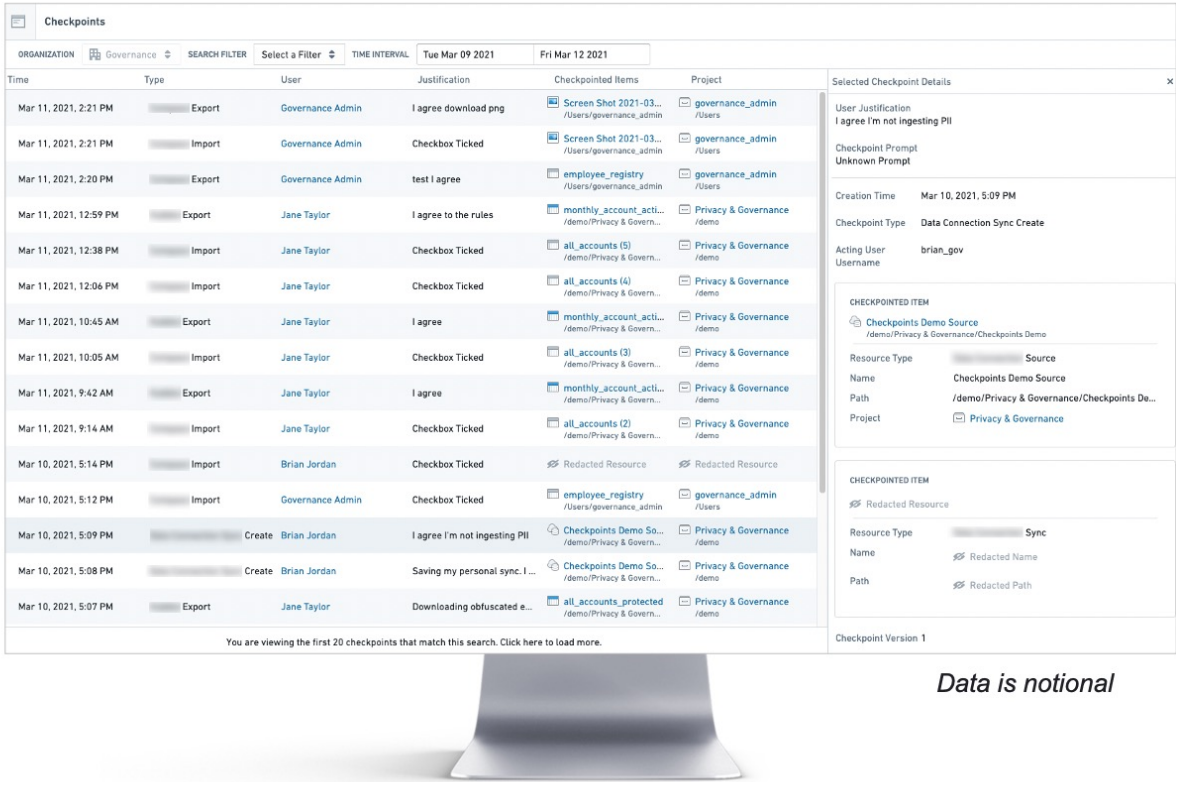


Frontend Governance Workflows: Review



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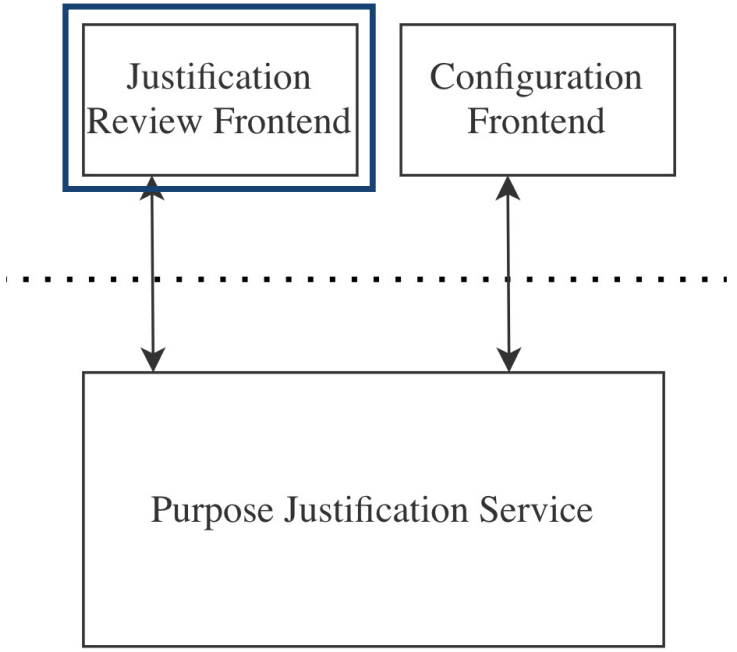
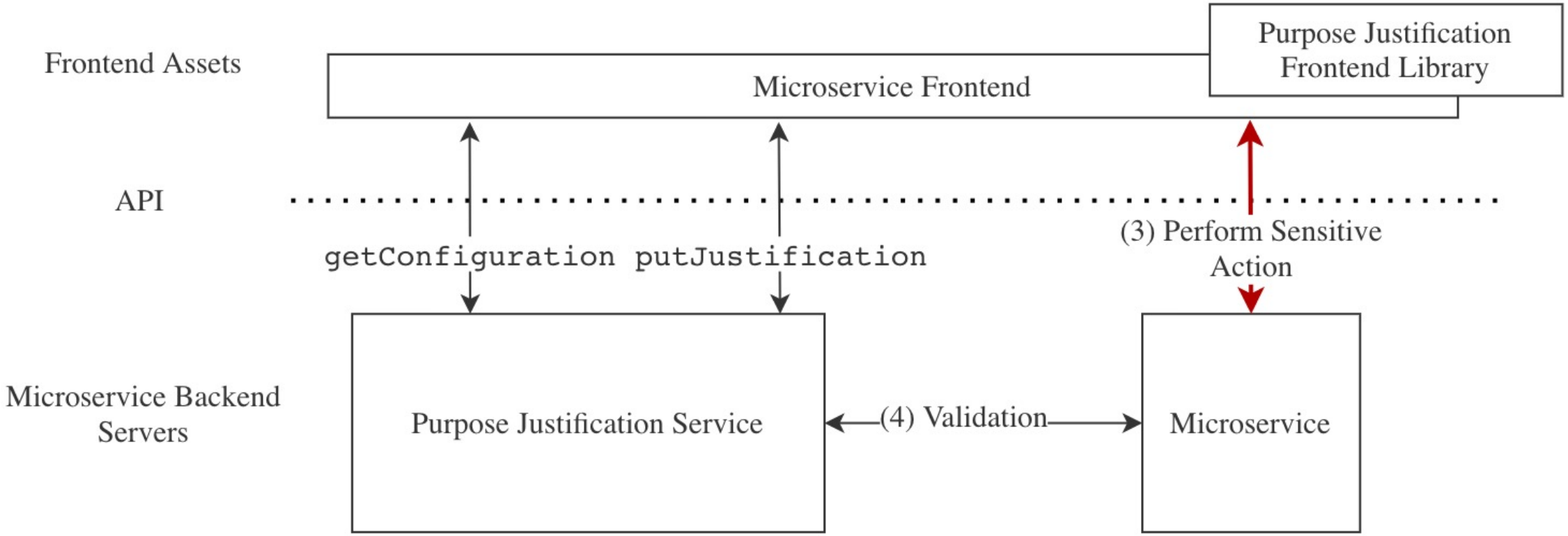


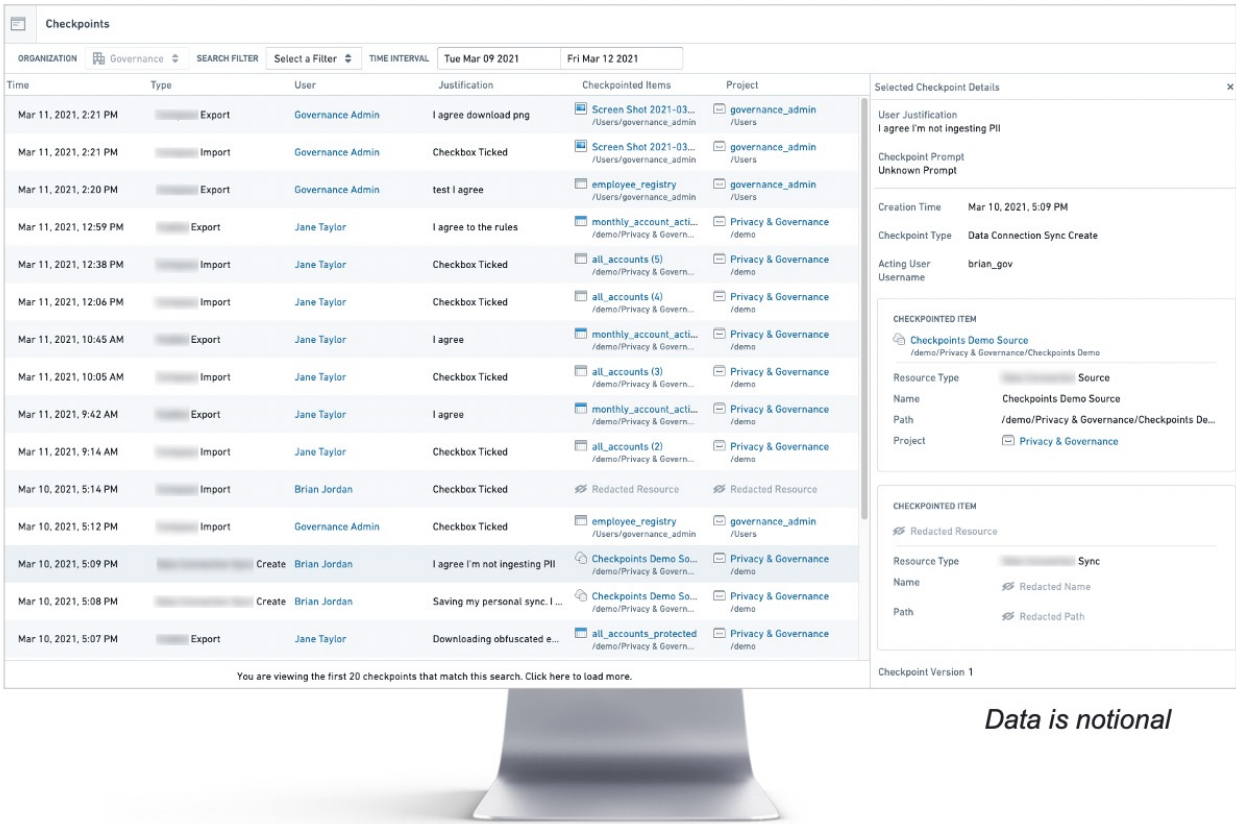
Modeling Purpose Justifications

- We propose an object model for such a “sensitive action” that as a few key parts:
  - **Action Type** - an intuitive name for the action that was performed (“File Import”, “Dataset Export”, “De-obfuscate”, etc.)
  - **Acting User** - the user who performed the action
  - **Related Items** - data that is associated with the sensitive action (ex: the dataset that was exported, the files a user uploaded, etc.)
  - **Prompt** - the prompt the user was presented with when the user was asked for a justification
  - **User Justification** - the justification that the user provided

Generalized Architecture



Challenges in Security and Access Control



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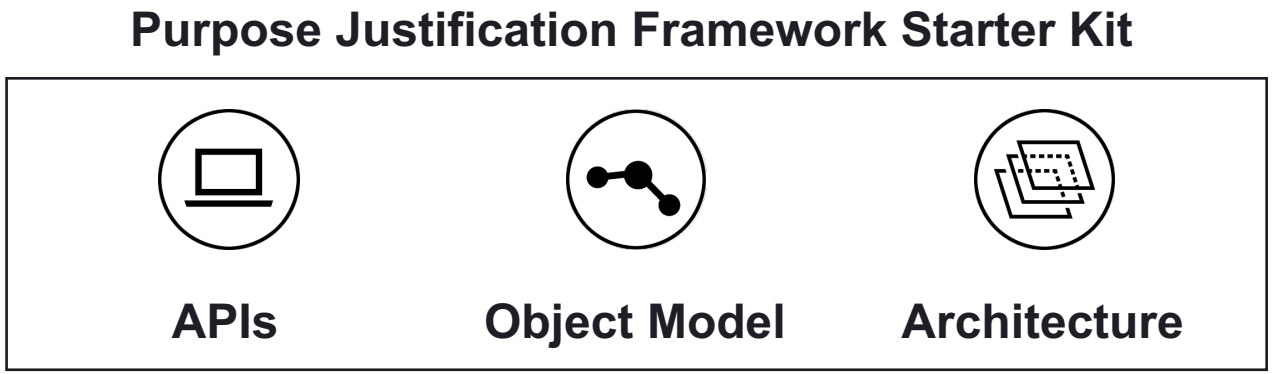
- Access controls can help solve some of these security challenges
  - Access to User Interface for Viewing Justifications
  - All-Encompassing Access in the Platform
  - Balancing New Risks to Employee Privacy

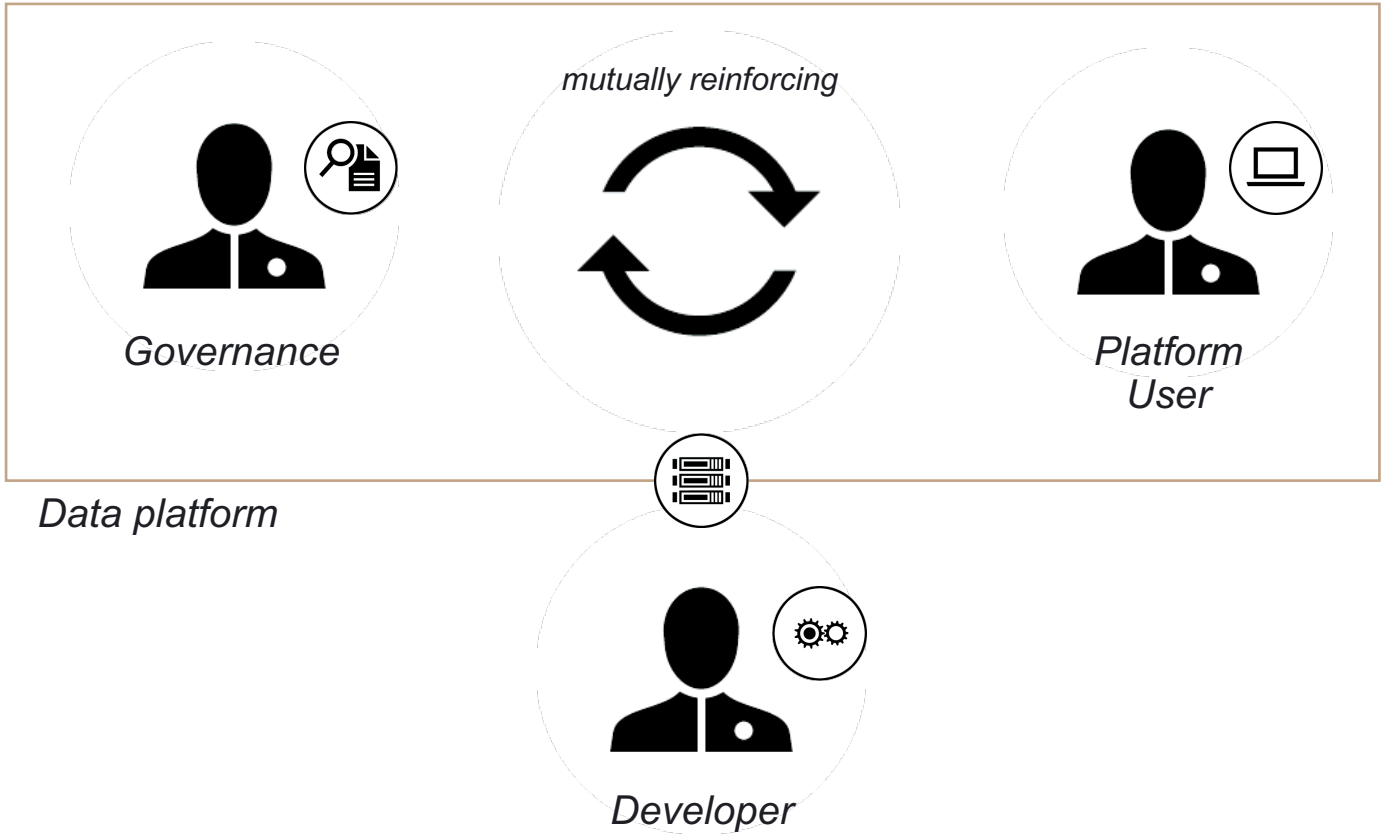
Technical Takeaways

- **Simple APIs** for configuring, displaying, and reviewing justification prompts and user-submitted justifications
- Purpose Justification **Object Model**
- **Generalized Architecture** for Purpose Justification Framework



Outcomes and feedback

- → Greater awareness and context of user activity
- → Flag gaps in existing accountability procedures
- → Improve processes and training over time



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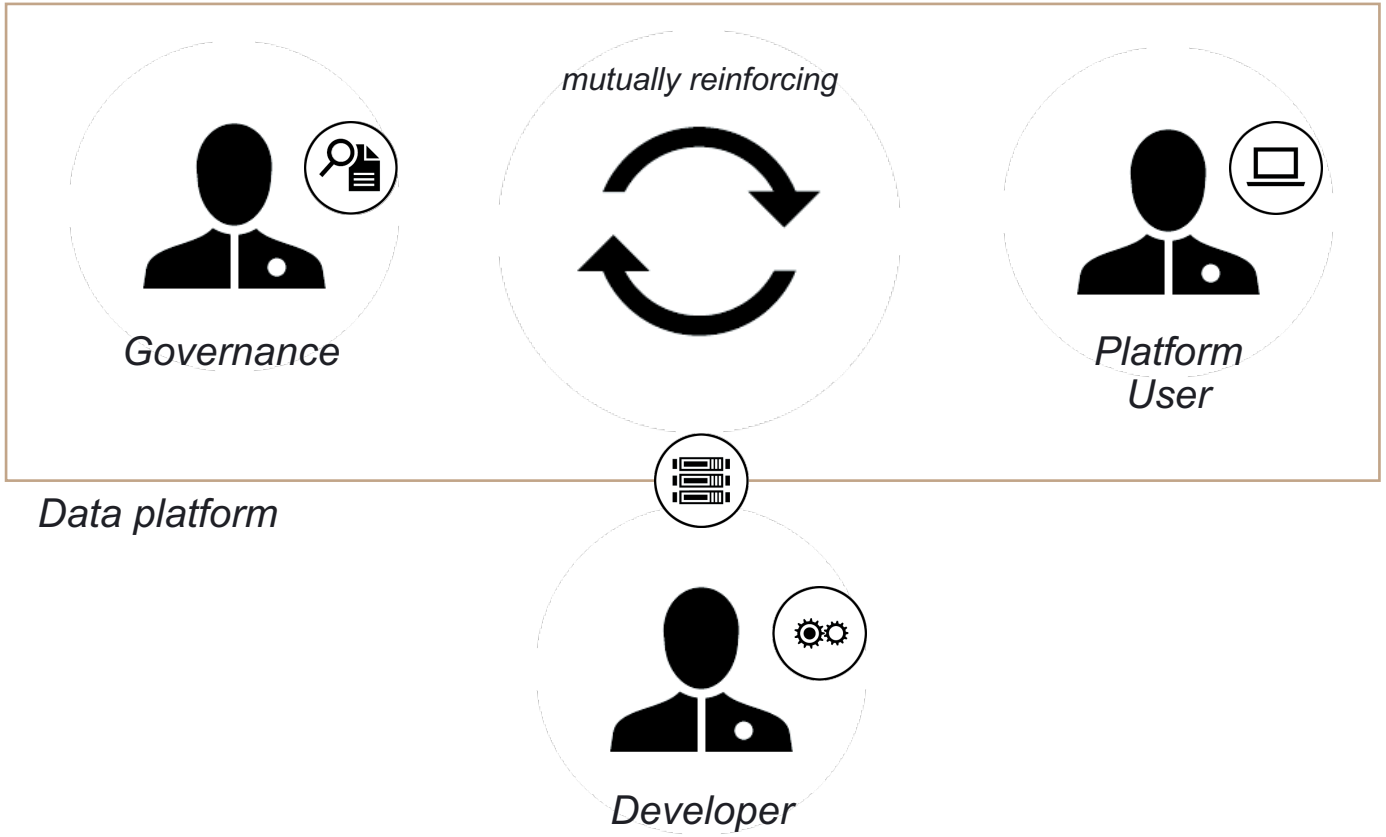

- Reminder and nudge of sensitive action
- Organizational policy at fingertips at action-time
- When unsure, have an escalation path to check

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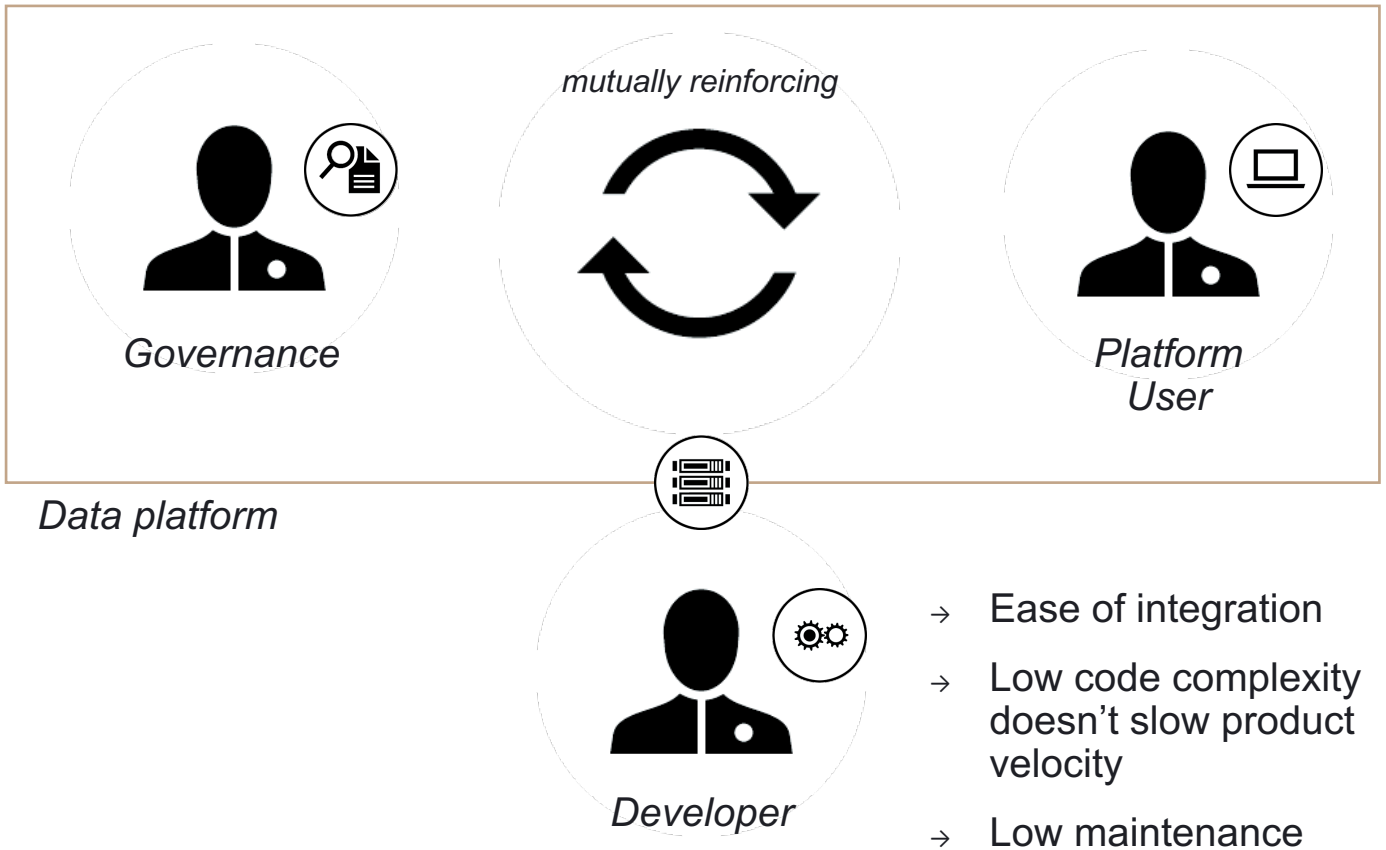

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- Ease of integration
- Low code complexity doesn't slow product velocity
- Low maintenance burden

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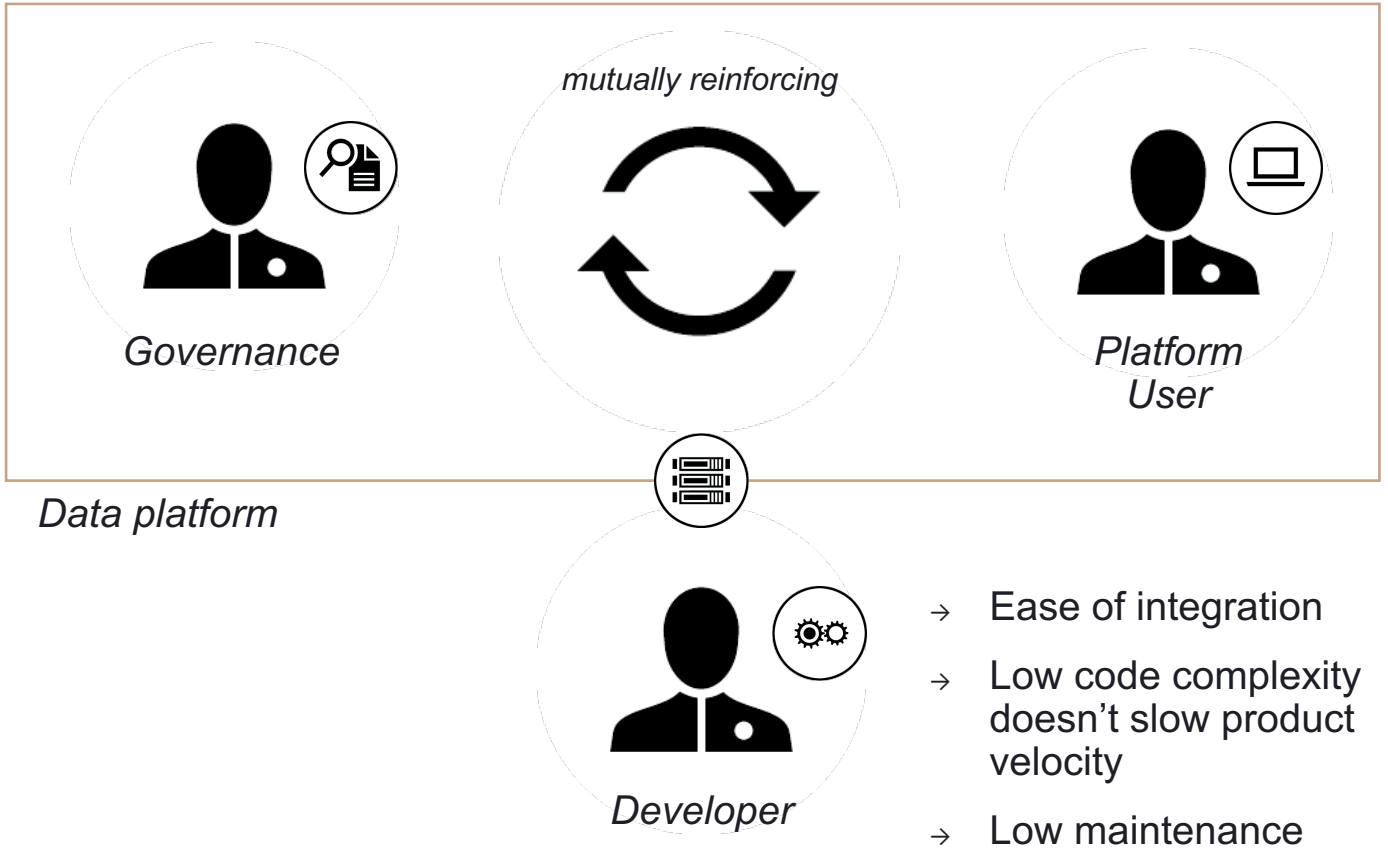

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