Enabling Hybrid Cloud Infrastructure with Argo Workflows

ArgoCon
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Agenda

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Key Players & Problems

- Application Developers
- IT Providers
- Platform Engineers

Solution

- Control Plane Platform
- Architecture
- Why Argo Workflow?

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Key Players & Problems

Application Developers, IT Providers, Platform Engineers

Application Developers

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Developers builds applications that

- Generate revenue
- Run the business

Developers need resources to run their apps

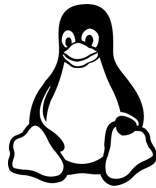
- Expect fast results through self-serve experience

Confusing and costly

- 20+ tools to provision and manage infrastructure
- Pay market rates for public cloud, instead of lower bulk costs

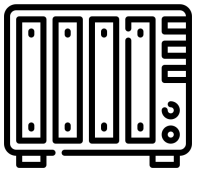
IT Providers

IT Providers operate infrastructure resources and services



Challenging to perform operations at scale

- Difficult to provide developers 1:1 support for manually configured resources
- Security vulnerabilities



Platform Engineers

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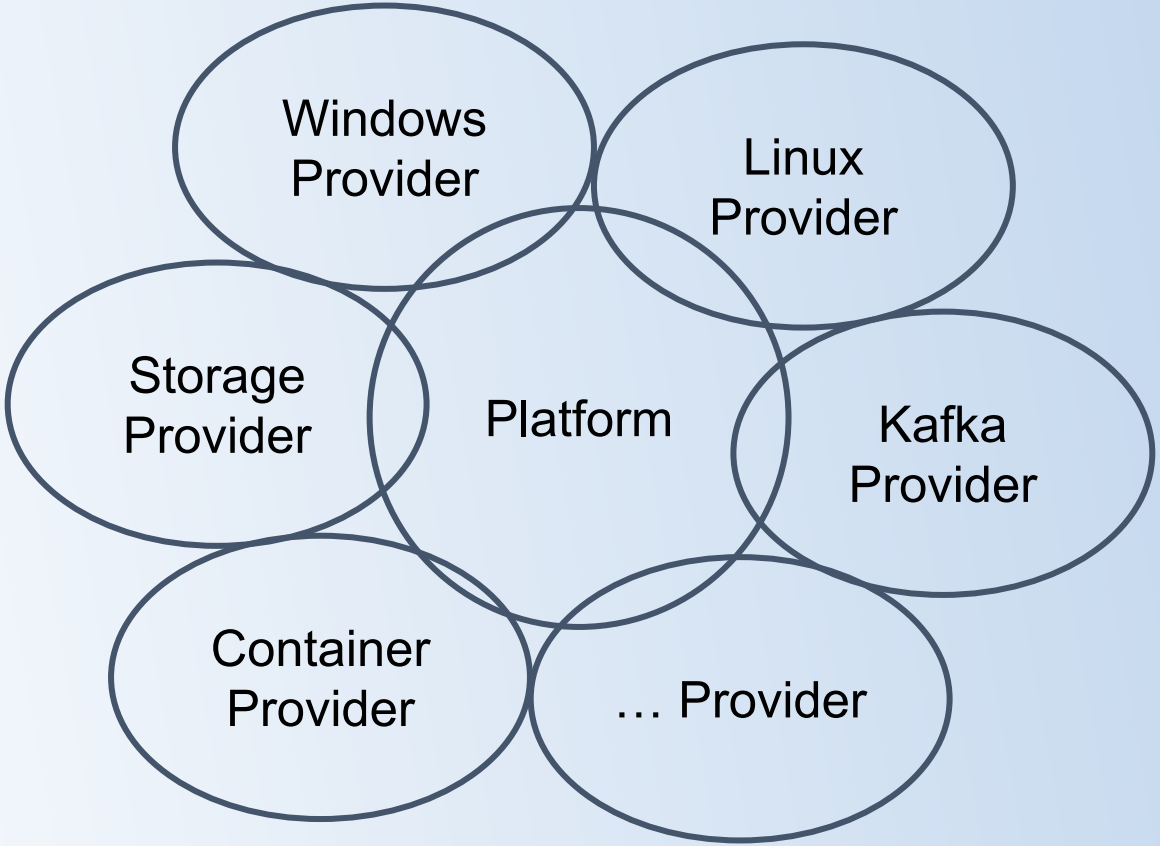
Platform Engineers solve IT problems with software

- Expensive to build and support 20+ infrastructure tools

Support responsibilities are shared and unclear


Windows Provider
Linux Provider
Storage Provider
Platform
Kafka Provider
Container Provider
… Provider

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Solution

Argo Workflows to the rescue

Control Plane Platform

Each IT Provider has a control plane for their resource

- Easy to find relevant tool
- Self-serve for devs

IT Provider automates infrastructure management

- Shell script, Ansible job by API

Platform run the automations on Argo Workflows

- Infrastructure as Code

+ Deploy

Virtual Pet Store

Search...

	Name	Status	Species	Actions
☐	Bark Twain	ACTIVE	Dog	...
☐	Gill Gates	ACTIVE	Fish	...
☐	Purrlock Holmes	ACTIVE	Cat	...

Rename My Pet
Feed Pet

< 1 >

> Control Plane Instance

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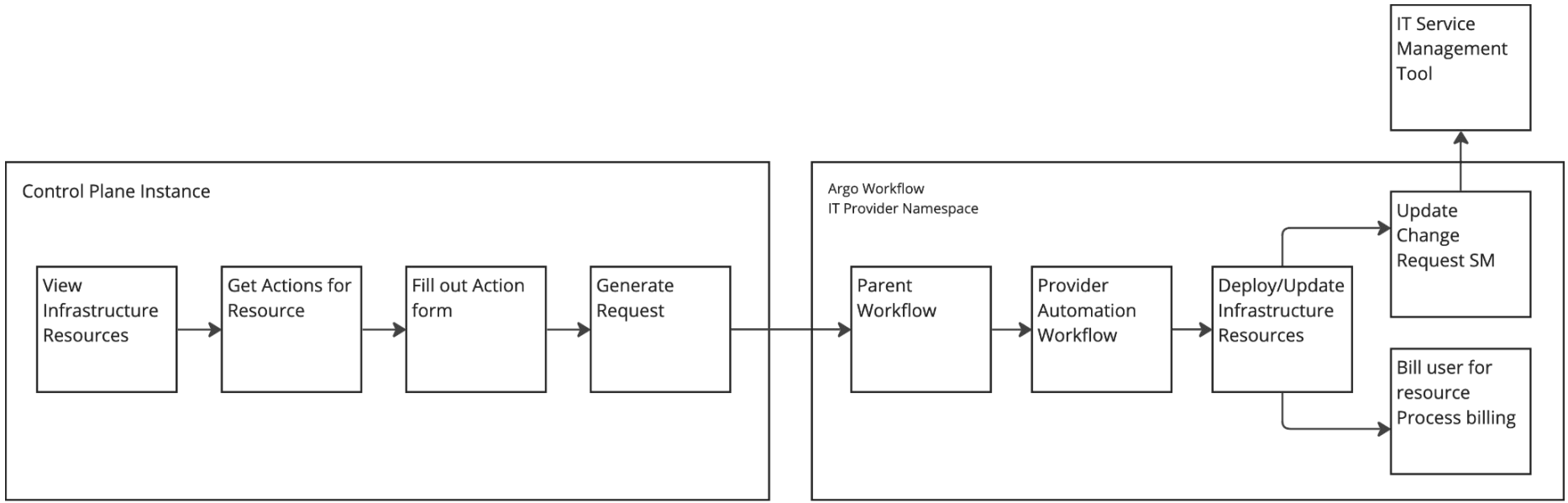
Architecture



Workflow of Workflows

Parent Workflow

Cluster Template

Provider Automation Workflow

Namespace Template

Entire automation runs in IT Provider namespace

Why Argo Workflows

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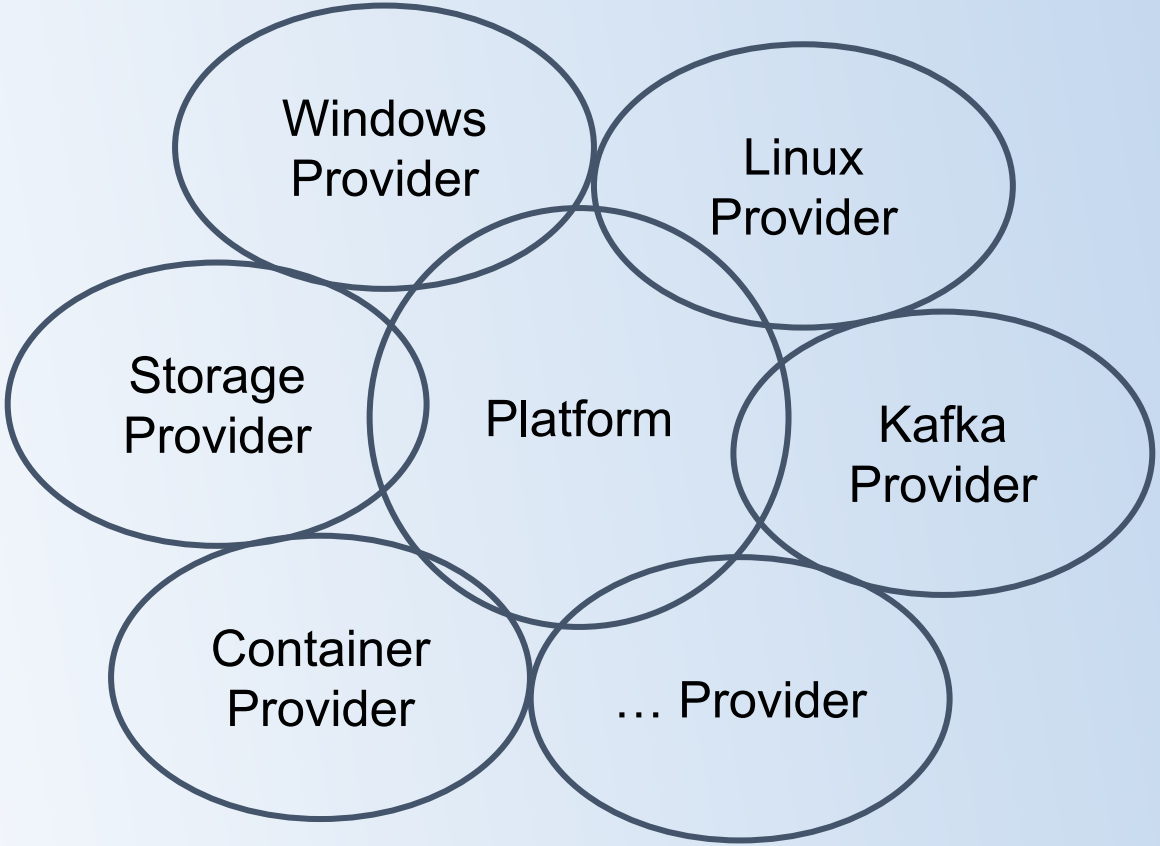
Cloud agnostic, not proprietary, developer experience

Flexibility

- Not repeat work we've already done from other IT tools

Clarity when troubleshooting

- Independent steps
- Separated namespaces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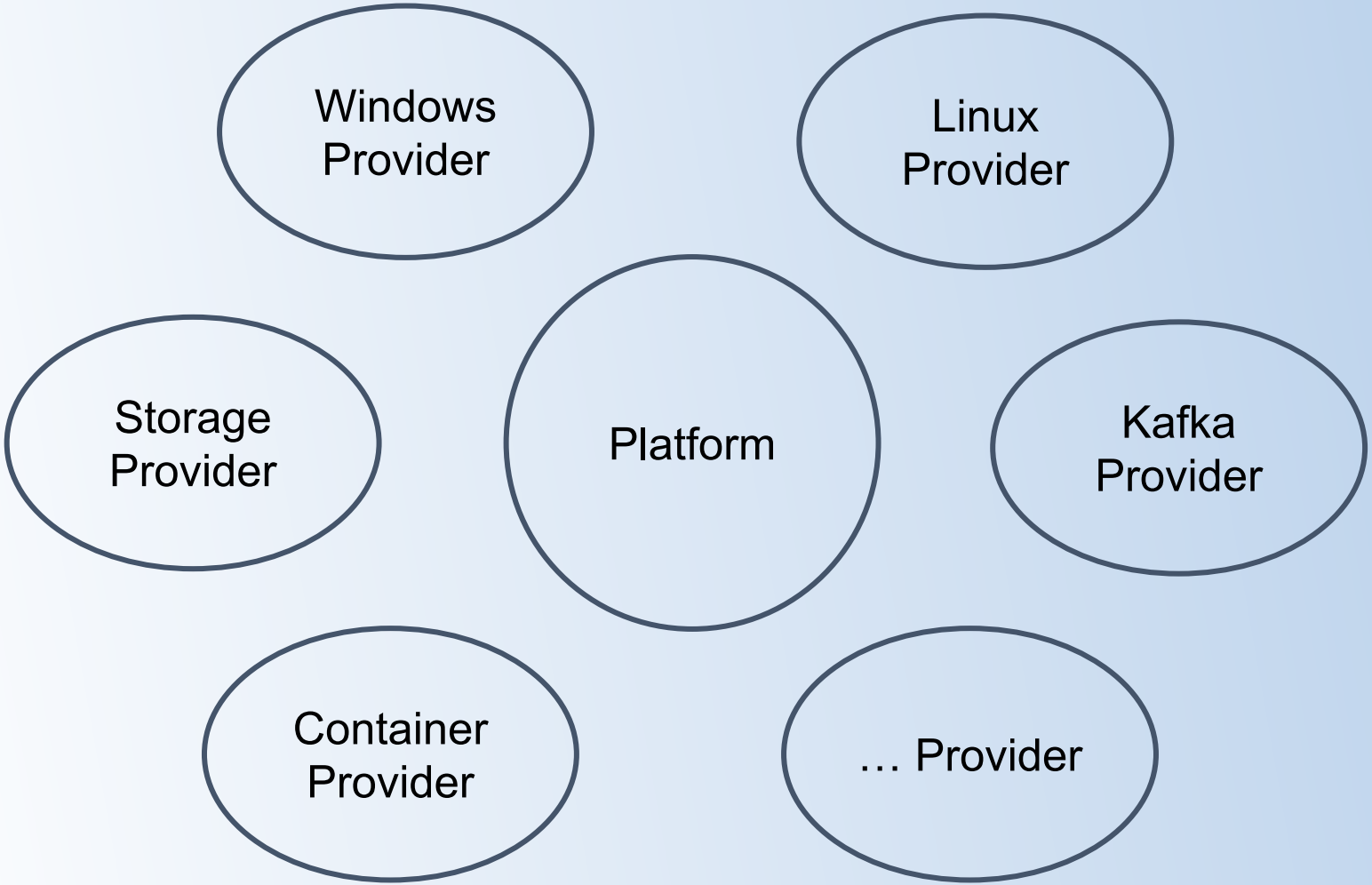
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Feedback and Follow Up

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