Mechanics to write efficient and long running workflows

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Workflows

- Long running workflows

- Short duration workflows

- Common characteristics
  - Retry mechanisms
  - Saving and retrieving state

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Agenda

1 Problem

2 How Dapr helps

3 Live Example

4 Conclusion

Problems

Storage Account

{ "vm": "vm-1 ………

{ "vm": "vm-2 ………

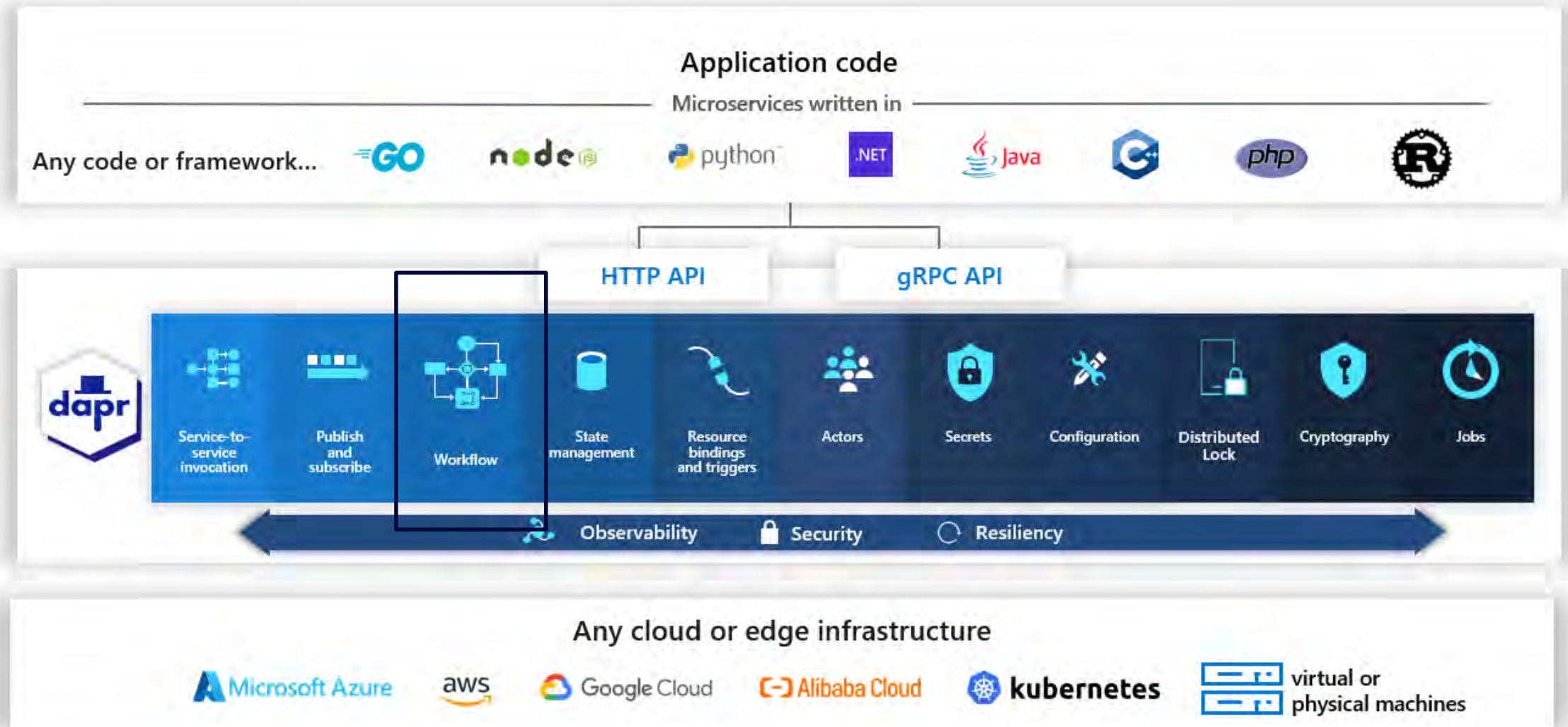{ "vm": "vm-3 ………

{ "vm": "vm-4 ………

{ "vm": "vm-5 ………

Checkpointing engine complexities

- Schema
- Transactions
- Database
- Observability
- Versioning

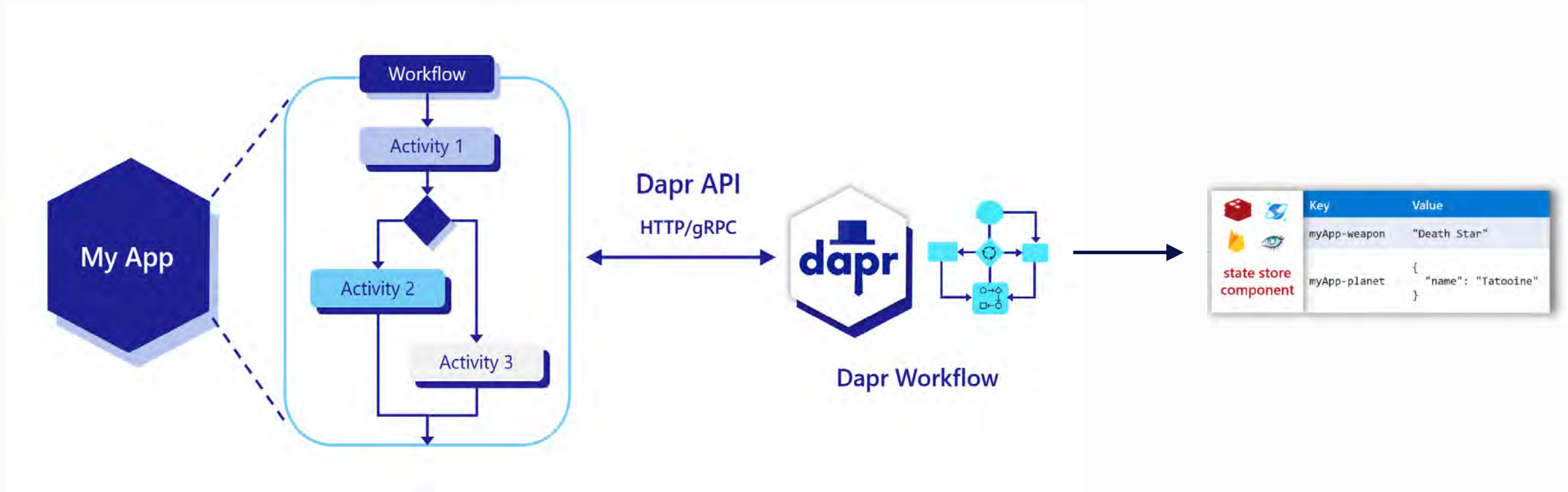# What do we need ?

- Quick recovery from failures
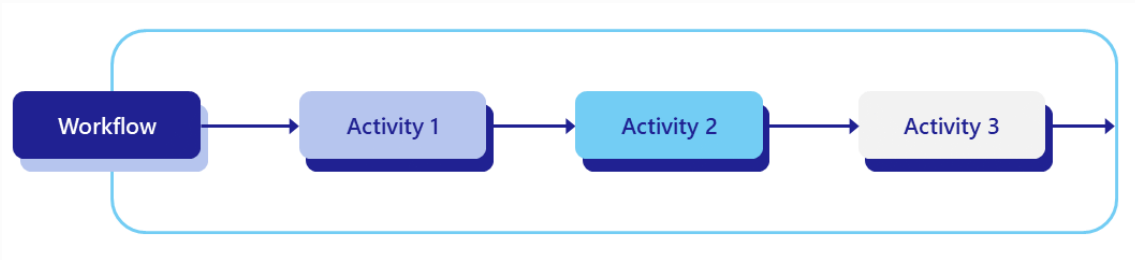- Checkpointing abstraction
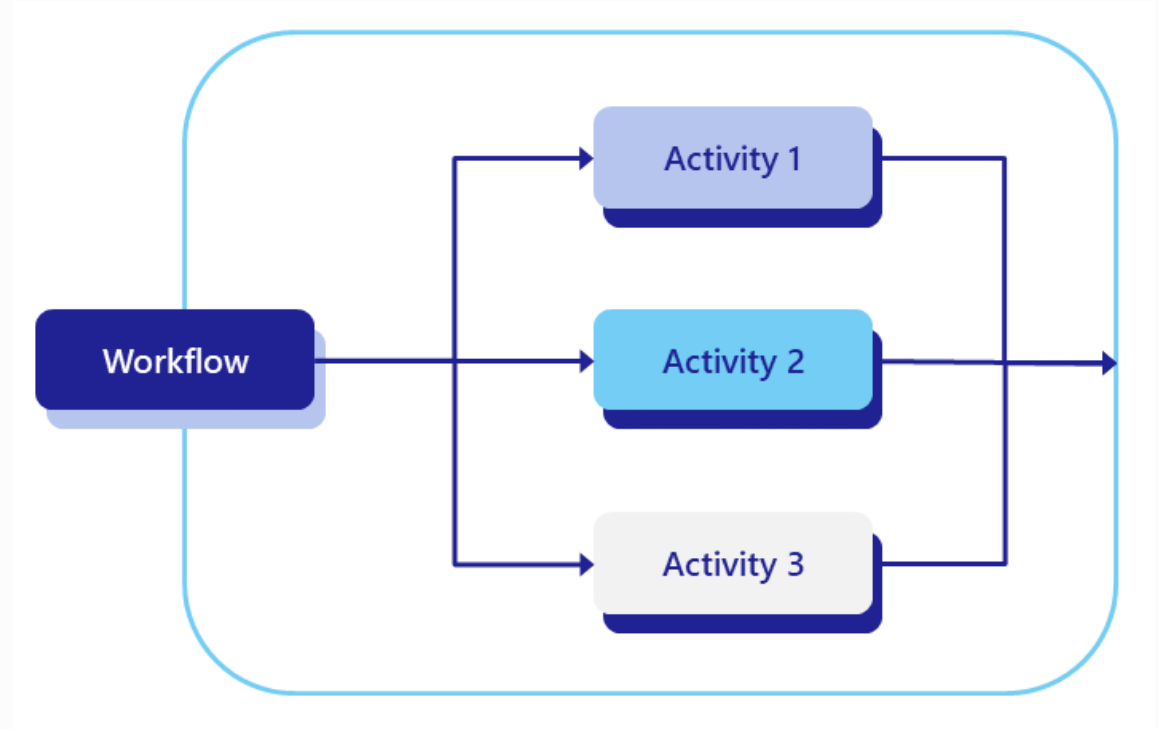
Distributed Application Runtime (Dapr)

Application code

Microservices written in

Any code or framework... GO node python .NET Java C++ php R

HTTP API   gRPC API

dapr Service-to-service invocation | Publish and subscribe | Workflow | State management | Resource bindings and triggers | Actors | Secrets | Configuration | Distributed Lock | Cryptography | Jobs

Observability   Security   Resiliency

Any cloud or edge infrastructure

Microsoft Azure   aws   Google Cloud   Alibaba Cloud   kubernetes   virtual or physical machines

Dapr Workflow
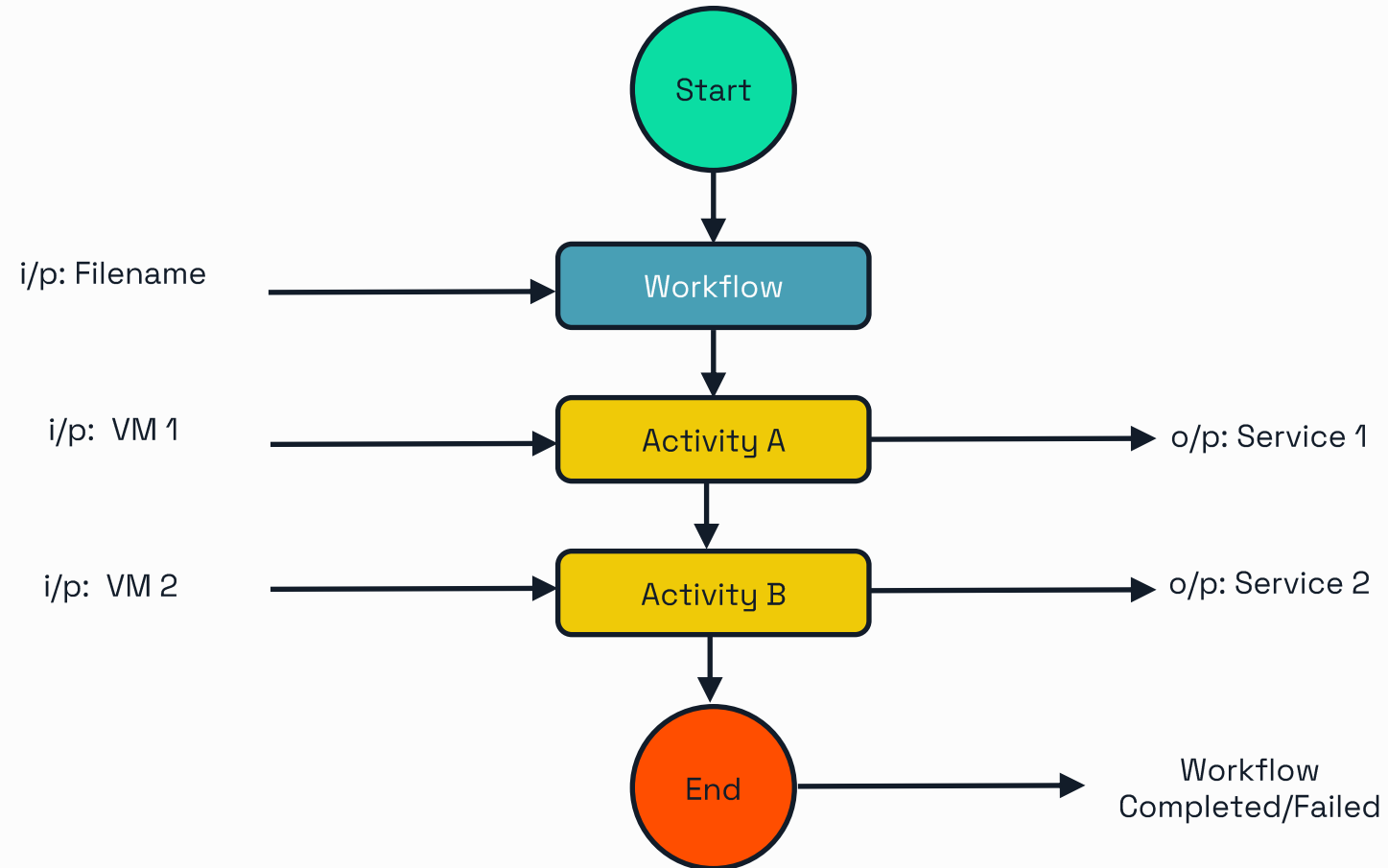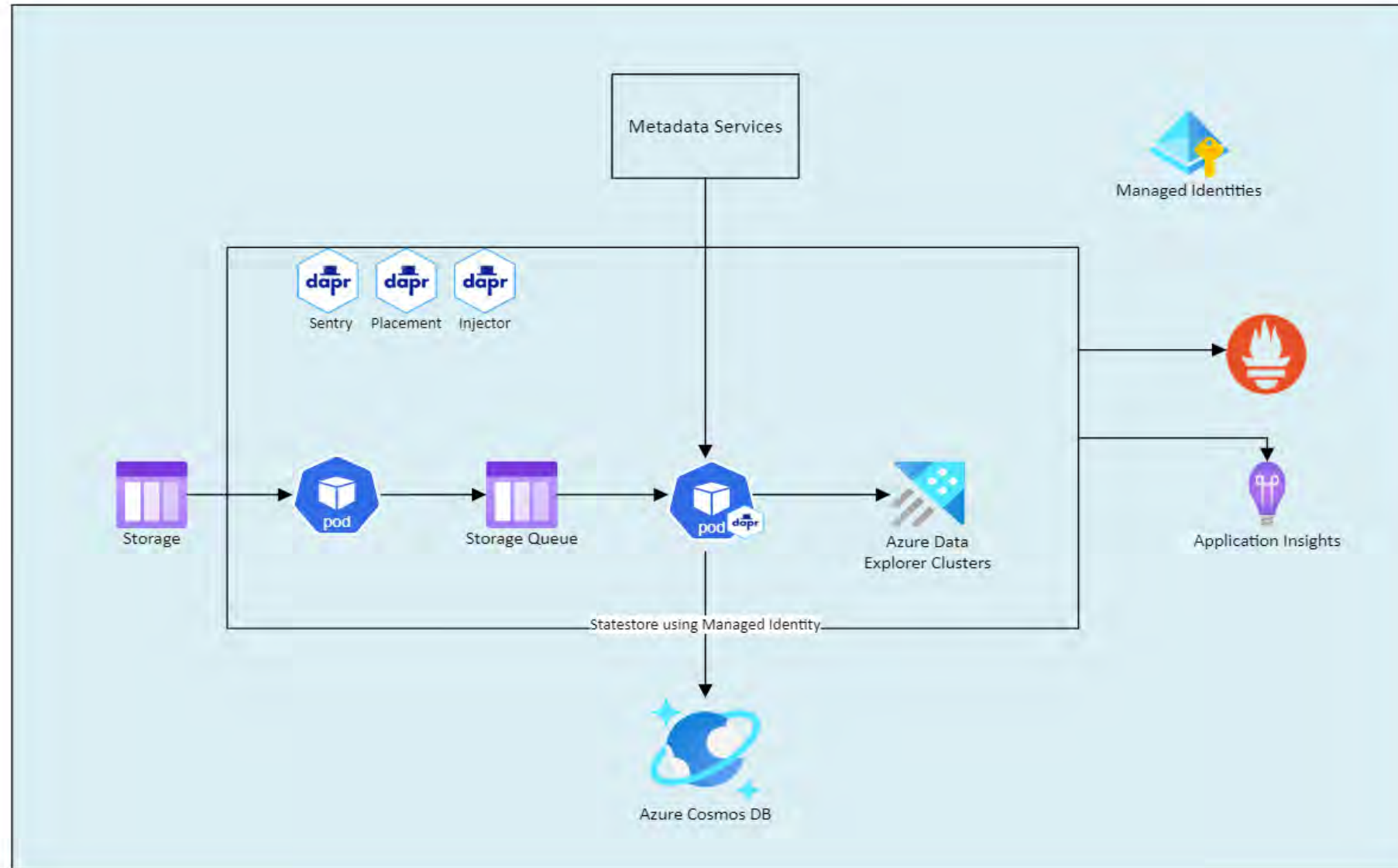
Dapr Workflow Patterns

Task Chaining

Fan Out / Fan In

Workflow Example

Azure Architecture

Conclusion

- Dapr helps build fault tolerant and durable workflows.

- Ability to run with your Kubernetes environment.

Thank you