

FaaS
TODAY
TOMORROW

softserve

WHO AM I

Maksym Vasyshchev

Architect at SoftServe

.NET, Cloud, Web



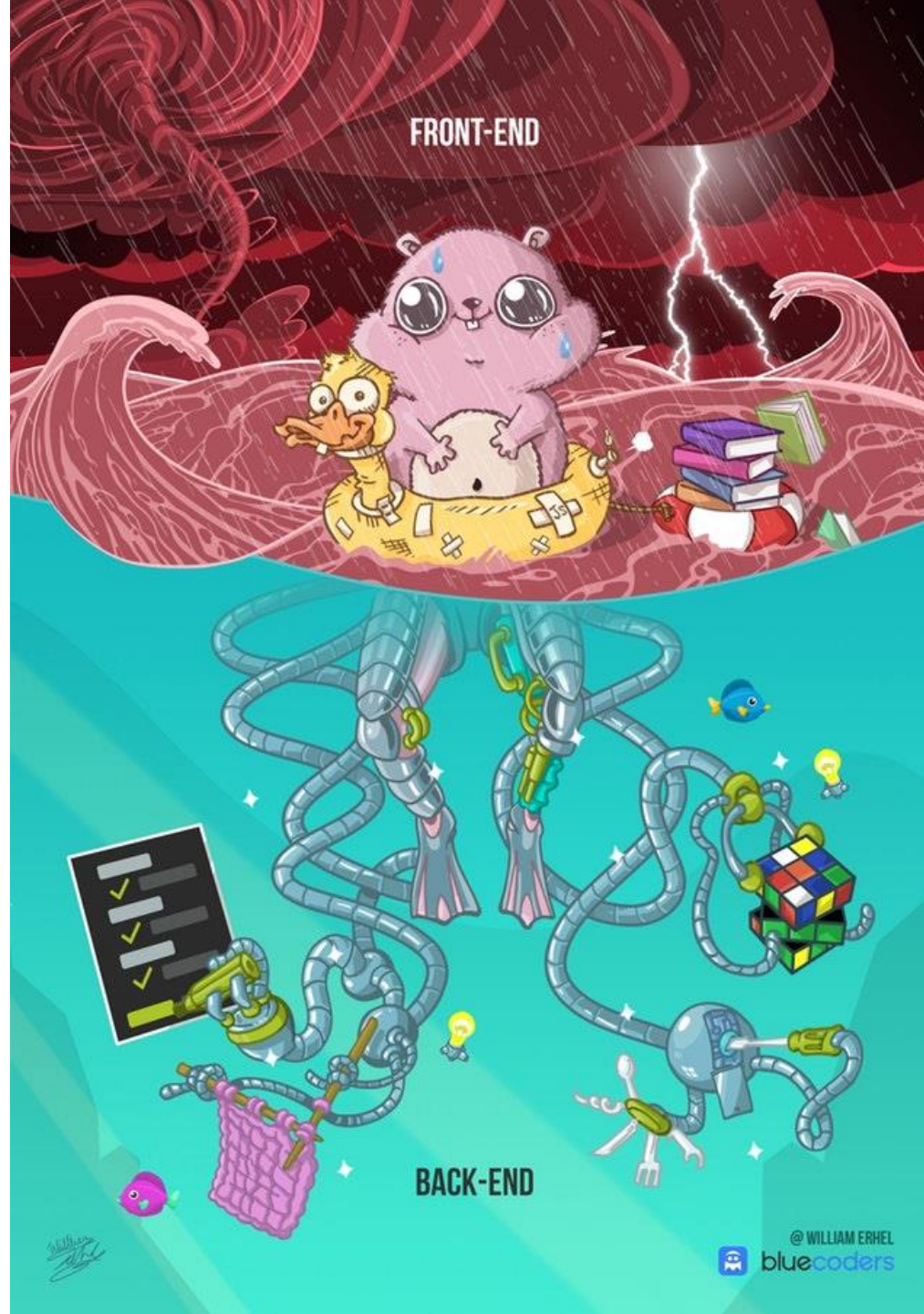
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NOW

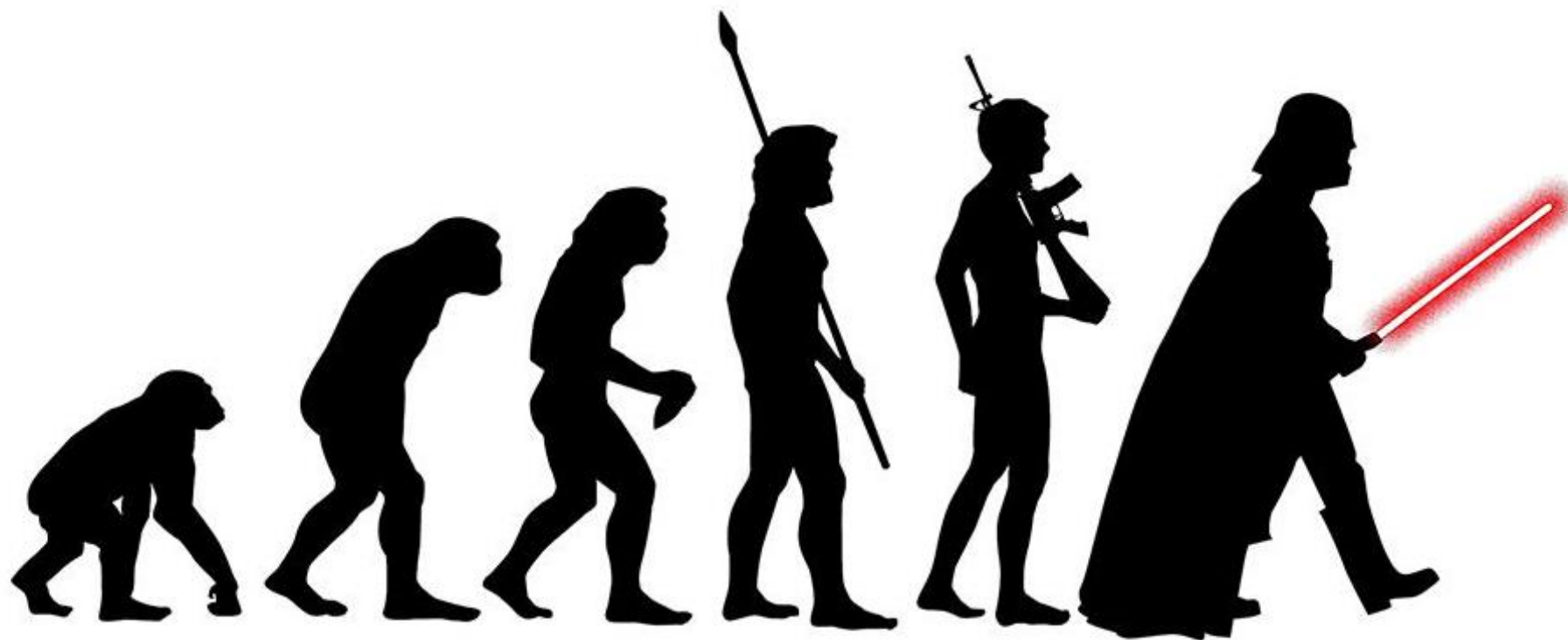


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THEN



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Mainframes

Servers

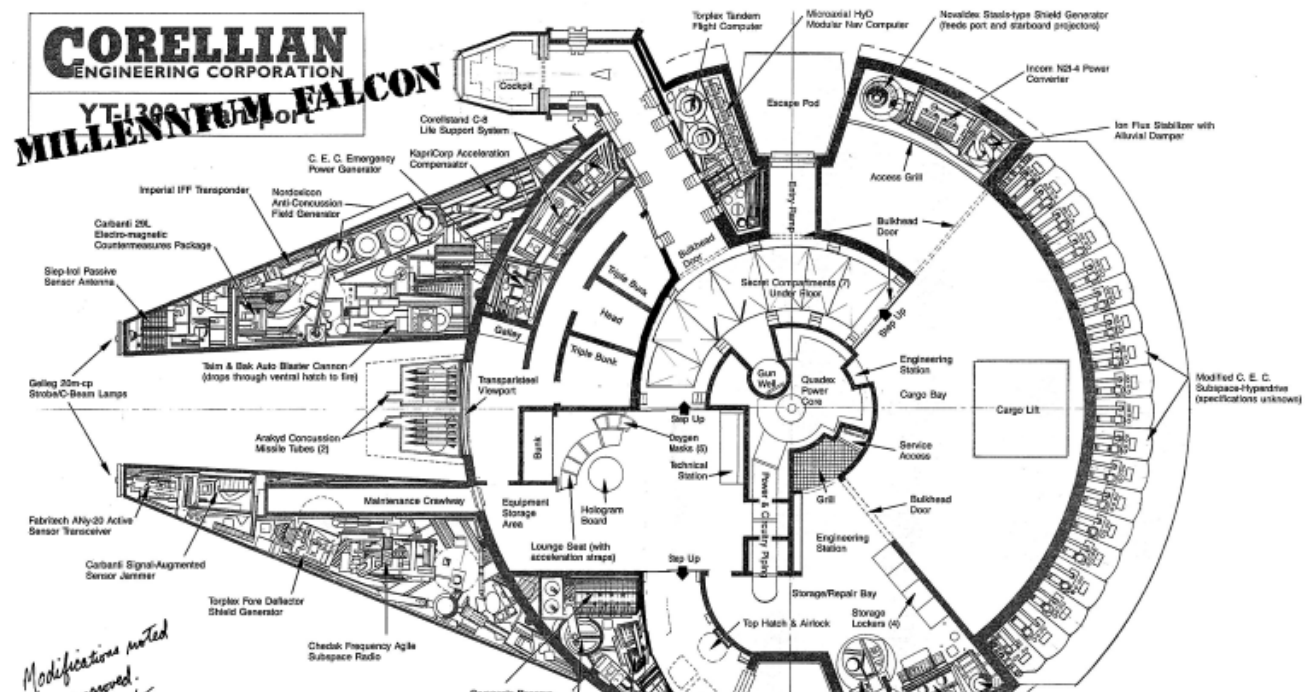
VMs

Containers

Serverless

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REFERENCE ARCHITECTURES

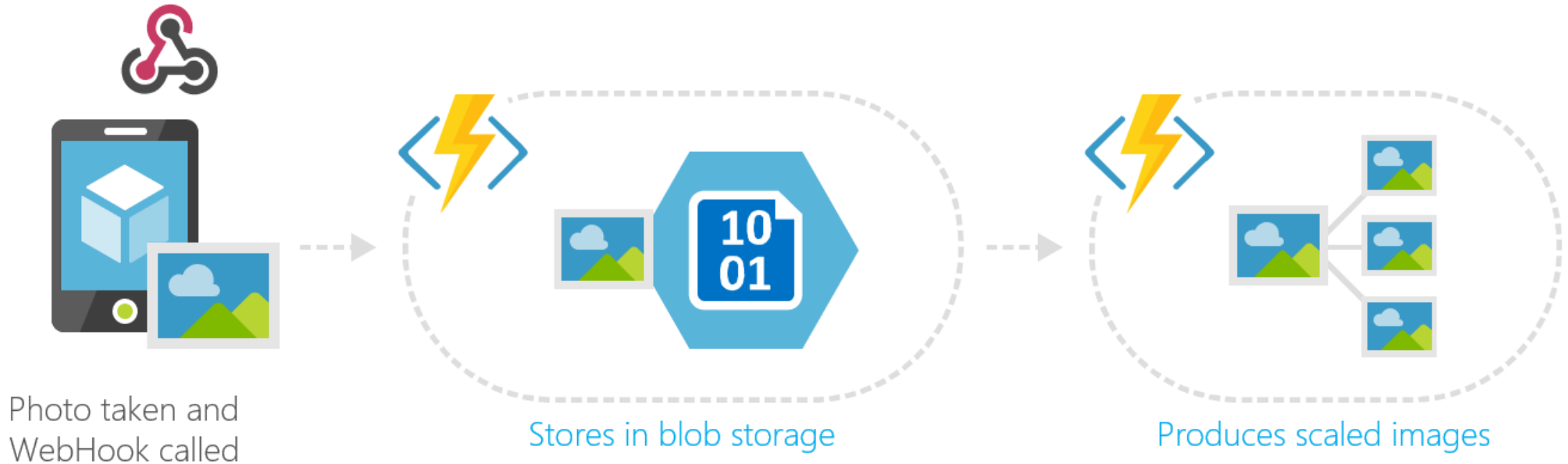


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REFERENCE ARCHITECTURES

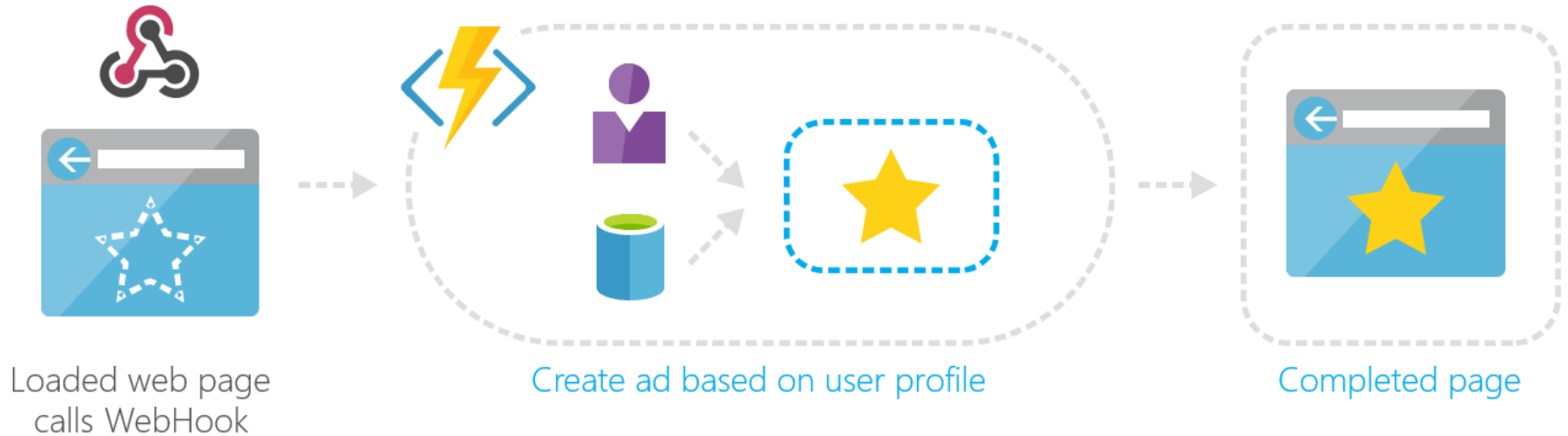
- Web and Mobile back ends
- Real-time data processing
- Scheduled services
- Cloud maintenance

BACK ENDS



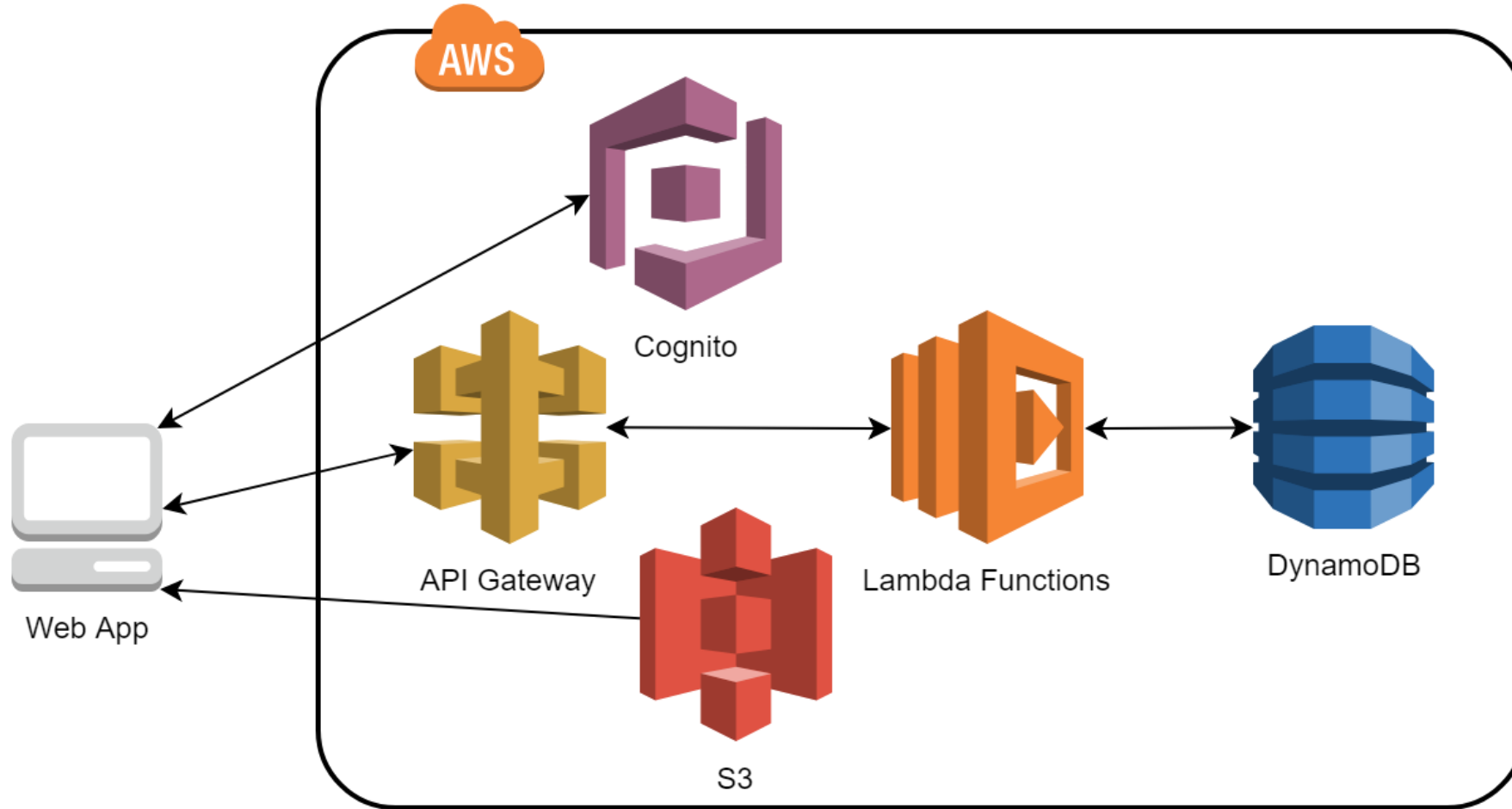
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BACK ENDS



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BACK ENDS

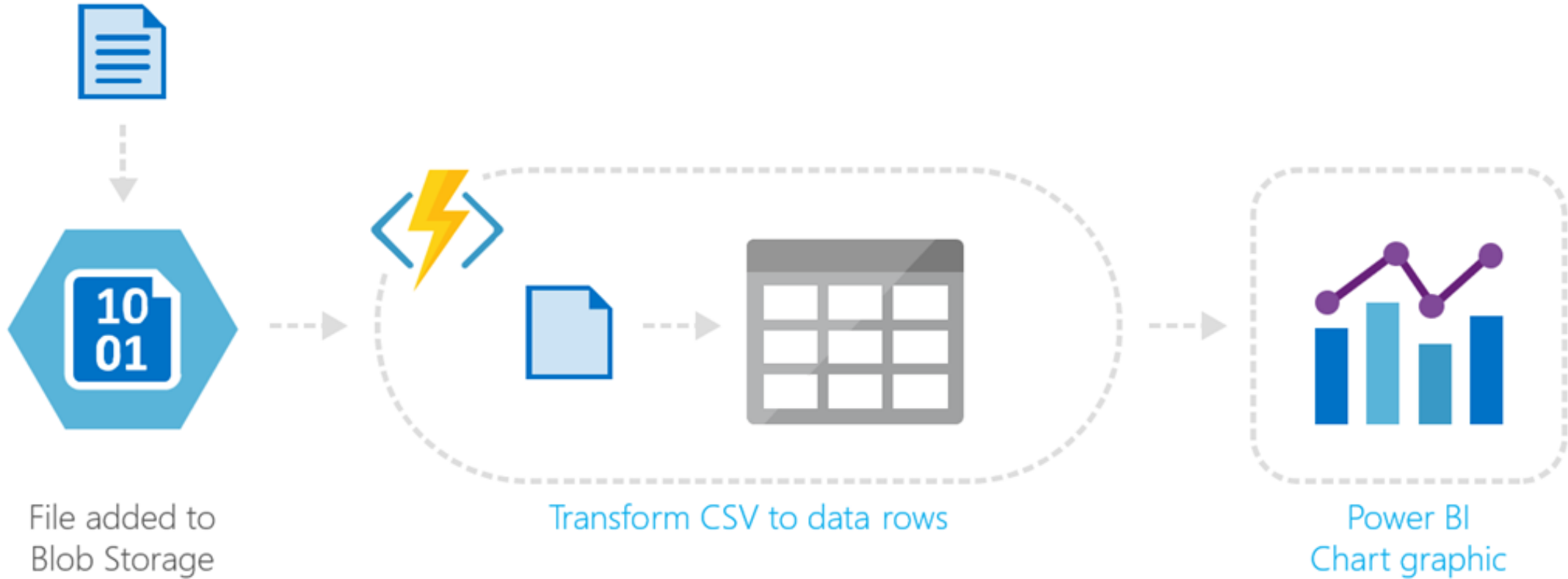


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BACK ENDS - DRAWBACKS

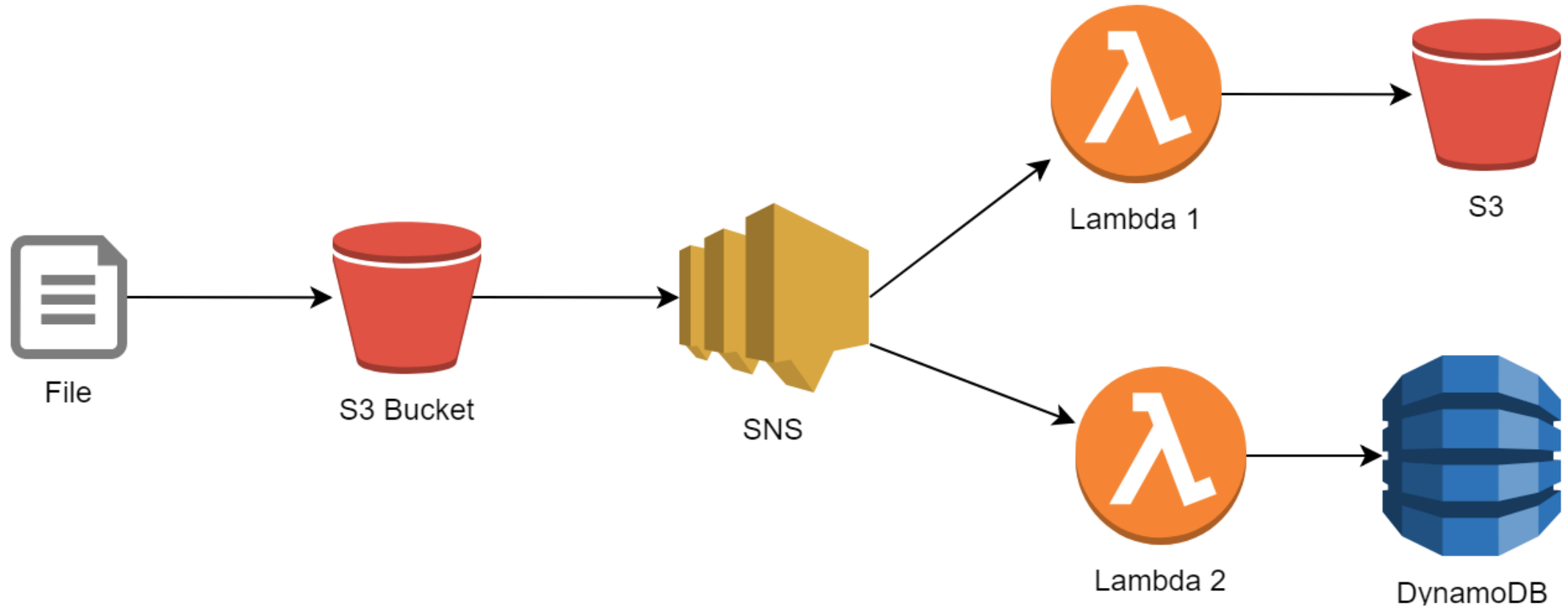
- Requires better distributed monitoring
- More moving parts
- Less need in operations (no servers to manage)
 - Faster development cycle

REAL TIME FILES PROCESSING



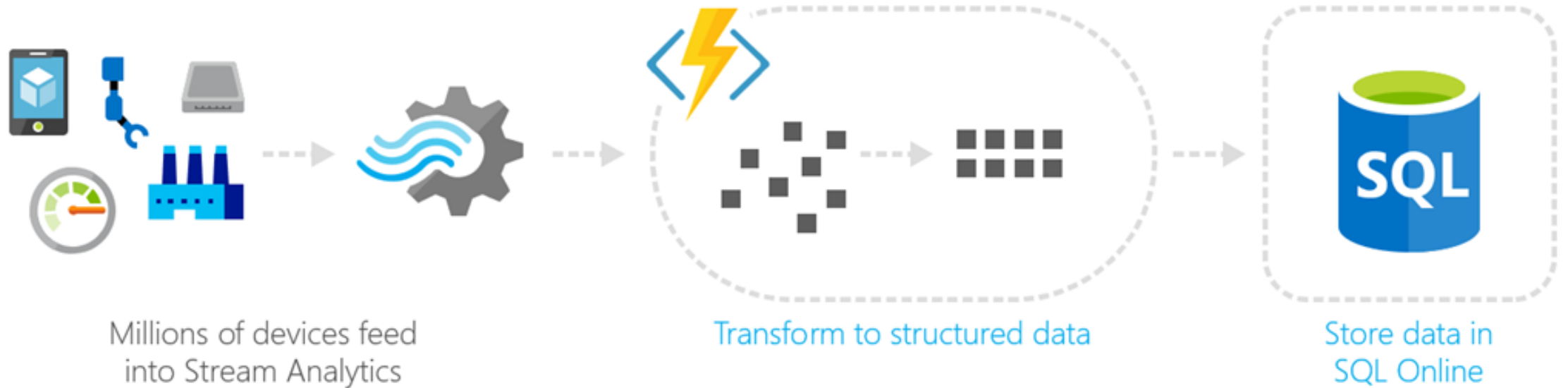
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REAL TIME FILES PROCESSING



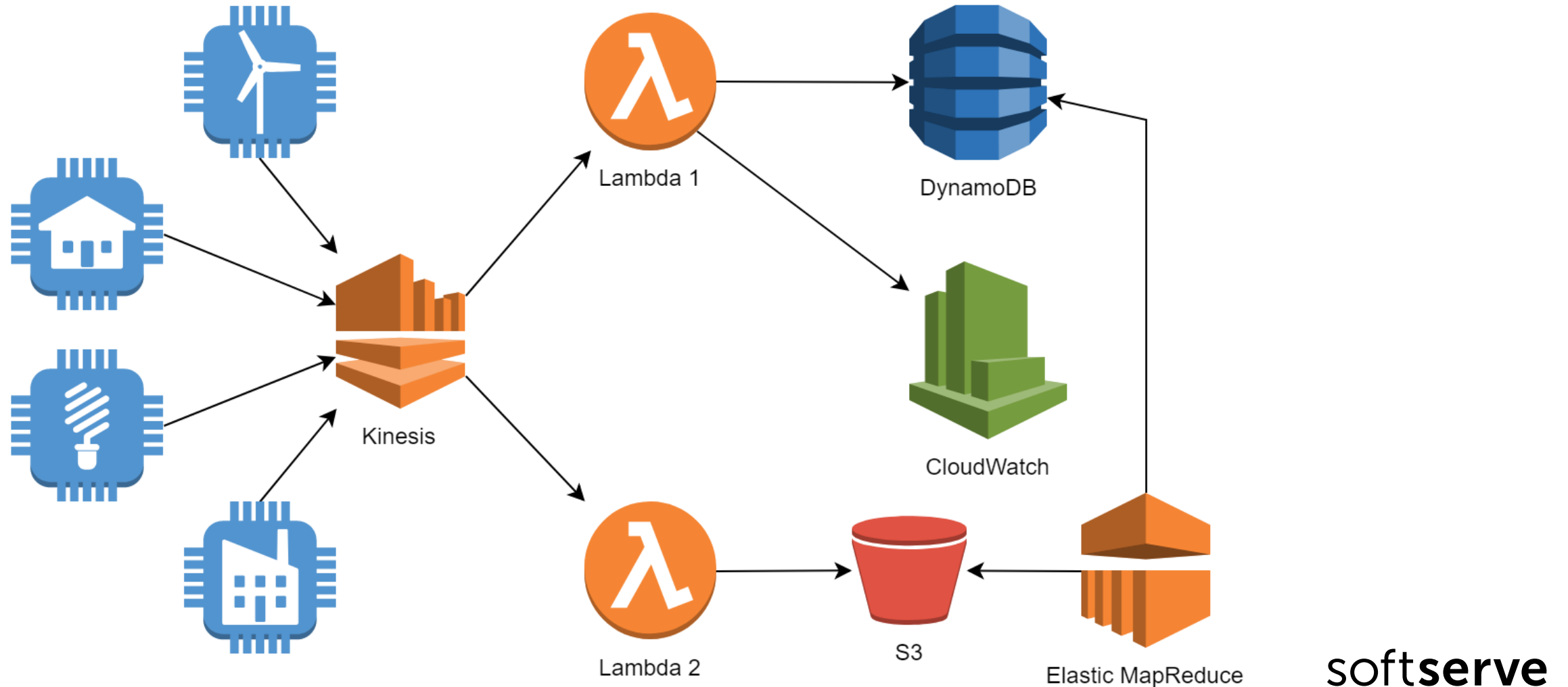
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REAL TIME STREAM PROCESSING



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REAL TIME STREAM PROCESSING



SCHEDULED SERVICES



Every 15 minutes



Find and clean invalid data



Clean table

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CLOUD MAINTENANCE



A man in a blue plaid shirt is walking away from a woman in a red dress. He is looking back over his shoulder at her. The woman is smiling and looking towards the camera. The background is a blurred city street with other people.

ANOTHER PATTERN

PATTERN

FUTURE



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TOOLING

- Deployment, bundling: Serverless Application Model; Serverless framework
- Releasing: Automatic traffic shifting
- Distributed Monitoring: Amazon X-Ray
- Remote debugging: Azure
- Manage functions (orchestration)
- Cost management

PLATFORM IMPROVEMENT

Addressing

- Execution duration
- Startup latency
- Function limits

PATTERNS

How to group FaaS functions?

How big could be function?

What are good ways to migrate from existing ecosystem?

What are signs to migrate back to servers?

How to aggregate logging?

GLOBALLY DISTRIBUTED



<https://aws.amazon.com/lambda/edge/>



<https://aws.amazon.com/greengrass/>

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Cloudflare Workers

Edge computing
for everyone



PORTABLE!



- AWS
- Azure
- Google Cloud Platform
- IBM OpenWhisk
- Kubeless
- Spotinst
- Fn
- Webtask

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SERVERLESS WITH SERVERS



<http://fnproject.io>

open-source container-native serverless platform that you can run anywhere -- any cloud or on-premise



<https://fission.io>

open-source serverless platform, Kubernetes-based



<http://openwhisk.incubator.apache.org>

Currently experimental.

IBM Cloud Functions are based on it

Could be installed on Docker or Kubernetes

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SERVERLESS WITH SERVERS



OPENFAAS

<https://github.com/openfaas/faas>

framework for building serverless functions with Docker and Kubernetes which has first class support for metrics

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QUESTIONS?

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