Why Serverless can work for enterprises?

I'm..

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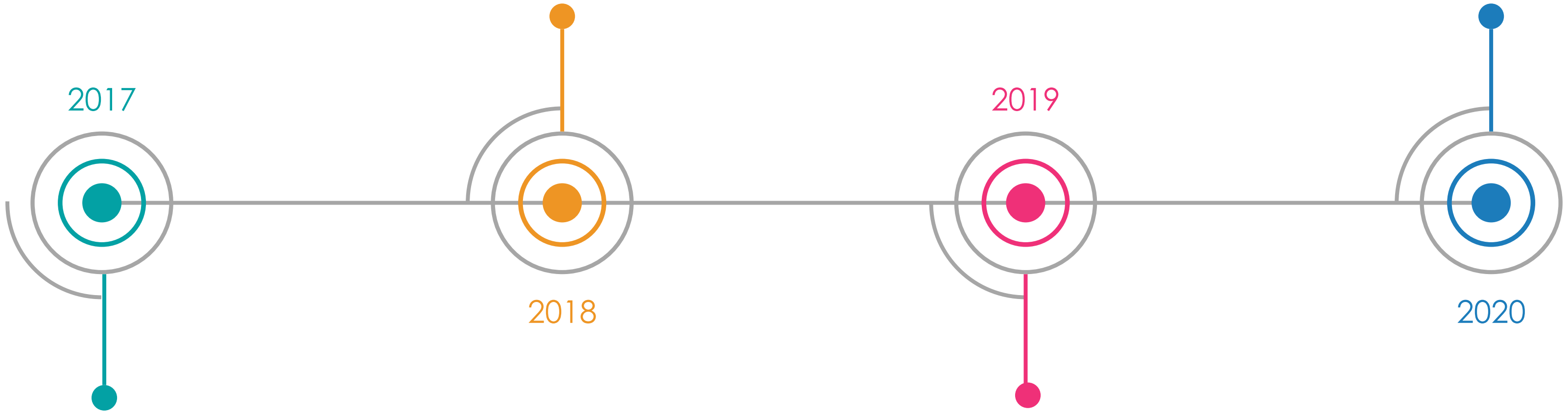
Agenda

- T-Mobile’s Serverless Journey
- Challenges
- Business Case
- Toolset & Serverless Adoption
- Use Cases
- Adoption Plan (that worked for us!)

Serverless Journey...



- Proof of concepts
- Microsites
- Policy & Compliance Manager
- Jazz – Open source

- Thousands of Functions
- Millions of Invocations per day
- Jazz - Production Ready!

- Platform Strategy - Serverless First
- Billions of events per month
- Multiple apps in production
- Jazz Adoption

- 3X growth in serverless workloads
- Tier-1 Applications
- Spike in $, #requests & #resources

Challenges

Our serverless adoption journey was not easy.

Because many developers think serverless...

- is new & immature
- has limitations
- requires a lot of architectural changes
- ecosystem is always changing
- might actually become expensive

Business Case

Why should we really use serverless?

Business Case

Cost

Security

Agility

Business Case

Cost Control

- Reduce costs for suitable workloads
- Visibility into incurred costs

Security, Governance & Compliance

- Secure from day 1
- Complete visibility into what's being built
- Implement guardrails through the platform

Reduce dependencies that hamper **agility**

- 100% Automation
- Ease of Use
- Improved Developer Experience
- Training

Business Case

What Developers want?

- Agility
- Faster Time to Market
- Ease of Use

What Management wants?

- Governance
- Visibility
- Compliance
- Standardization
- Guardrails
- Process Control

Toolset

Jazz

We built **Jazz**,
a **Serverless Development Platform**
that enables developers to build
secure, compliant serverless apps
that are operationally ready from day one!

https://github.com/tmobile/jazz

Breaking it down

- Accelerate Serverless Adoption
- Built around two themes –
  - Ease of use
  - Build compliant applications in the cloud
- Enterprise processes are 100% automated
- Self-Service enabled to reduce dependencies
- Bridge gaps between actual serverless promise and the reality
- Keep developers & management happy

Features

- CI/CD
- Standards & Security Controls baked in
- Multi Tenancy
- 1-Click Environments
- Best practices through code templates (application marketplace)
- Governance & Compliance
- Log collection, aggregation & analytics
- Monitoring – Metrics, Dashboards & Alerts
- Enterprise Integrations through extensions
- Abstract Complexity with Cloud Provider solutions

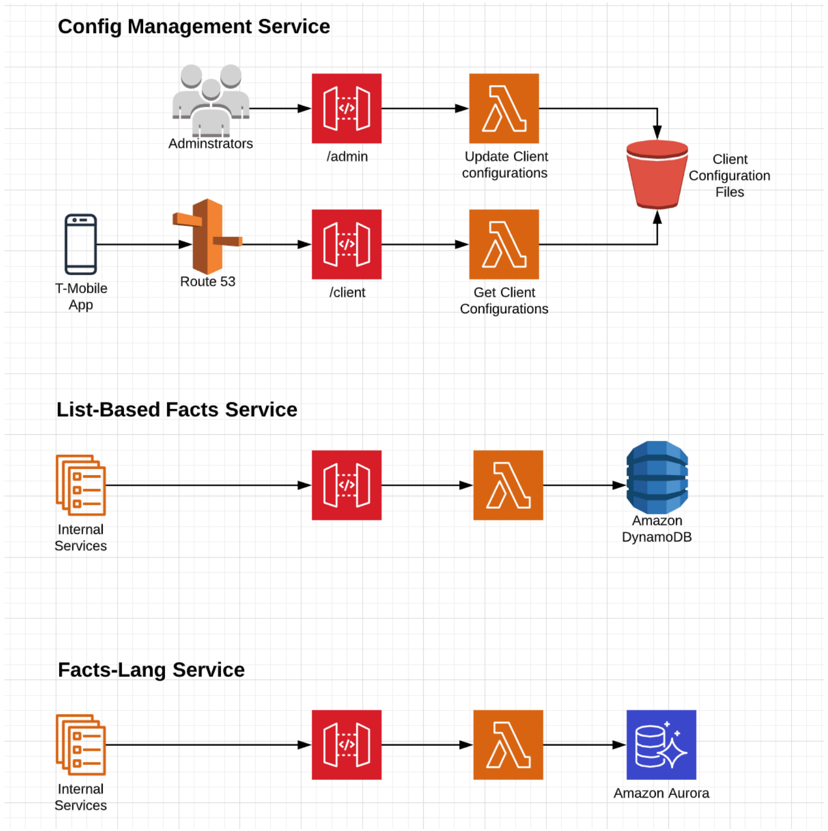
How did Jazz help with adoption

- Improved time to market
- Faster access to the cloud
- Lower environment creation is as easy a simple ”git commit”
- Best practices are being shared
- Developers are talking to each other

Top 5 Usecases

- Single purpose APIs
- Static Websites
- Event driven applications/functions
- Scheduled functions
- Data transfer/manipulation/processing jobs

Usecases



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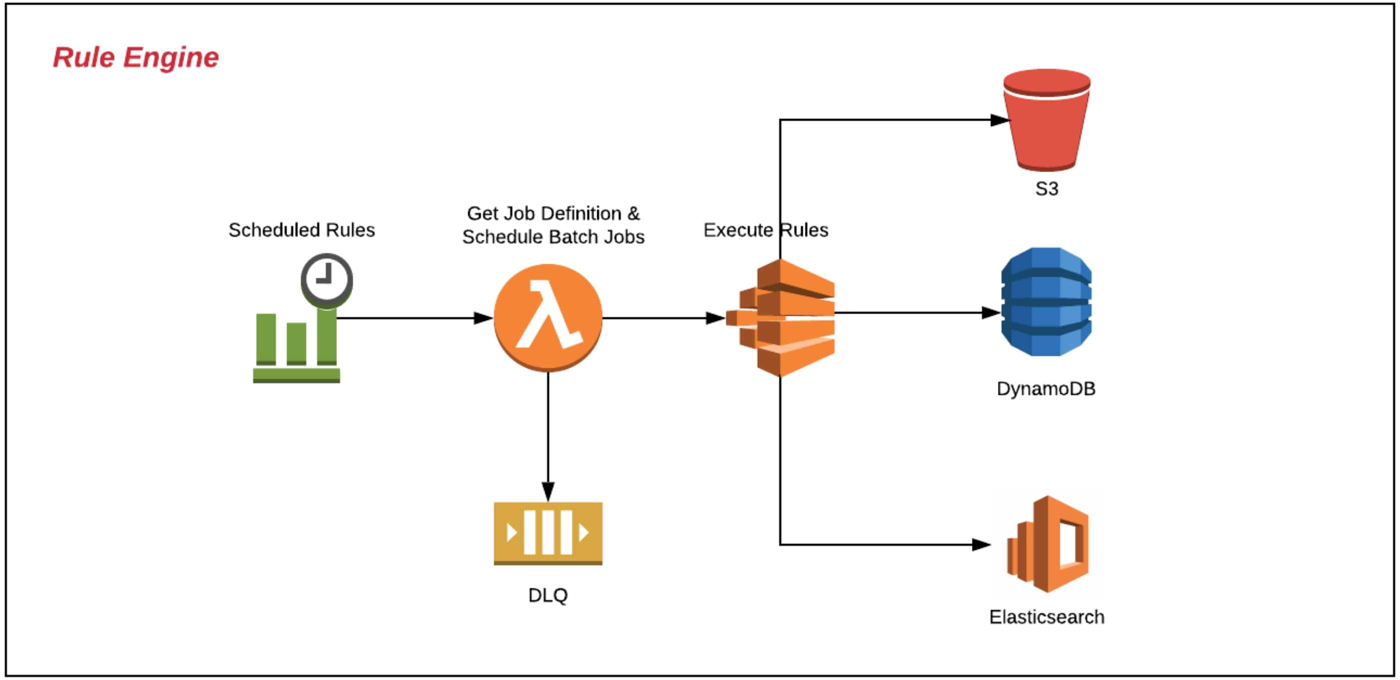
Usecases

Pacbot: Policy as Code bot



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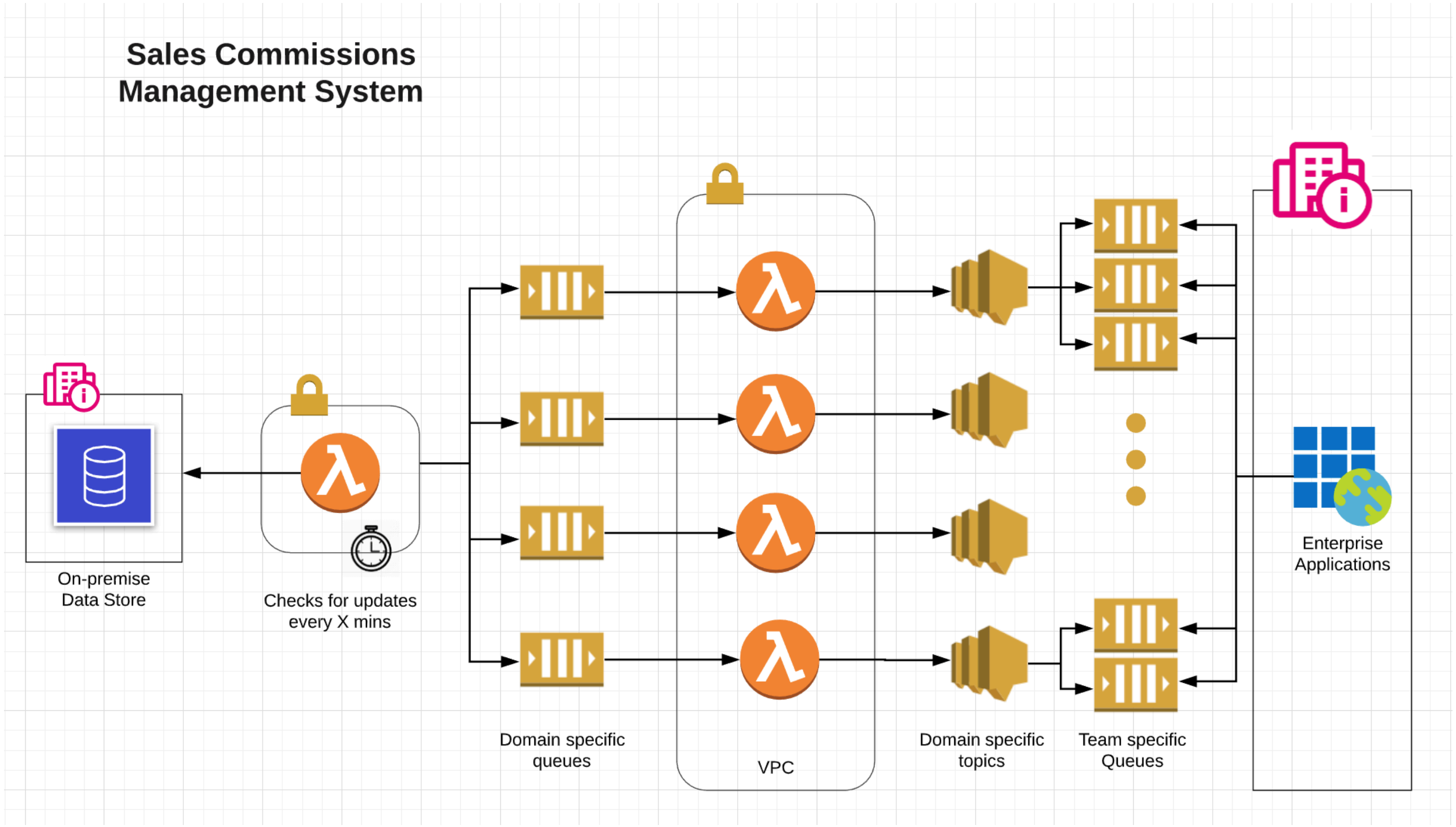
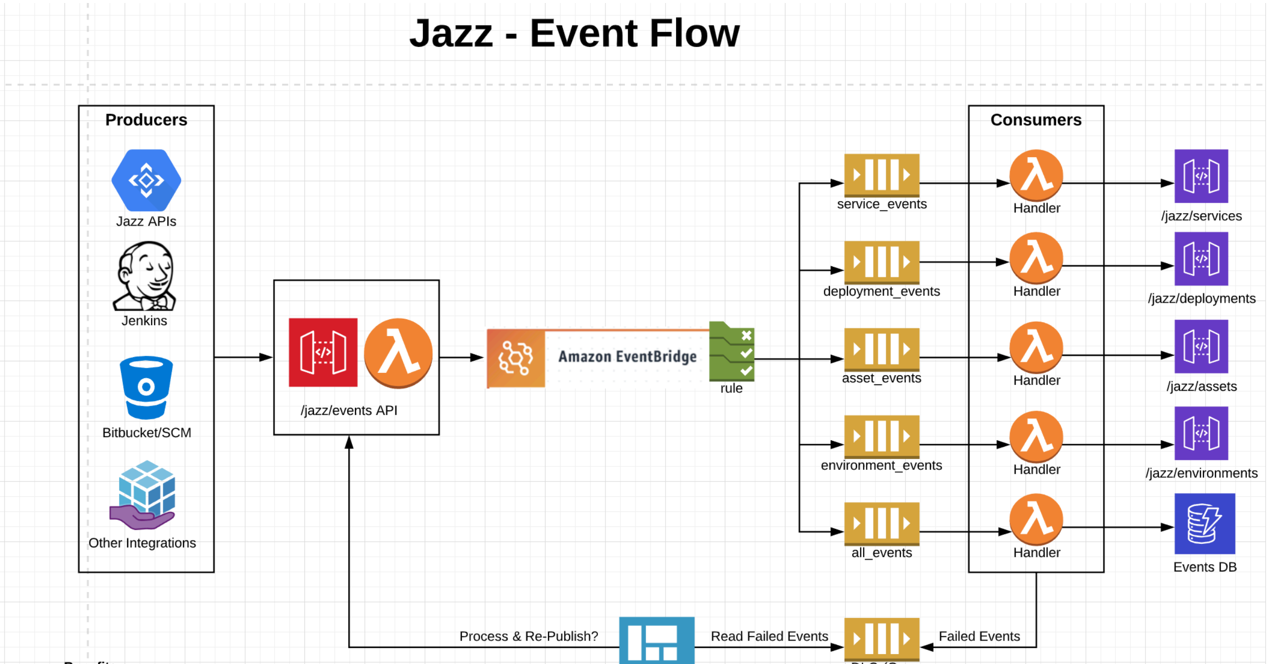
Usecases


Sales Commissions
Management System
On-premise
Data Store
Checks for updates
every X mins
Domain specific
queues
VPC
Domain specific
topics
Team specific
Queues
Enterprise
Applications

Usecases



Benefits:

- Less Code
- Less processing time
- Better Visibility
- Less cost
- Scalable
    - Easier to add more consumers
    - Easier to add new types of consumers (Step Functions)

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Challenges still remain..

- Difficult to change developer mindset
- Looking for Lift-n-Shift
- Constrained by lot of factors when making modern design choices
- Developers are not aware of Op-Ex savings
- Lack of training, not being up-to-date with technology
- Technical limitations with cloud offerings (might go away with time)

Plan that worked for us

- Identify use cases that are best suited and go after them
- Don't over engineer! Serverless might not be the perfect fit for all your applications
- Provide visibility into cost savings/estimates during the development phase
- Training (most of the time its about people not being aware) & make it a continuous exercise
- Have CoE teams: Dedicated folks who can experiment, learn, train others, identify tools to empower developers
- Create framework for developers so that they can experiment easily within controlled guard rails
- If you are developing abstractions, listen to your developers to solve their pain points and improve developer experience

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