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Journey to multi-tenant architectures

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Agenda

- Why a multi-tenant model?
- Multi-tenant architecture challenges
- Multi-tenant reference architecture
- Takeaways
- Next Steps

Why a multi-tenant model?



Growth

Drive existing and new segment growth



Agility

Improve pace of innovation, time to value, flexibility



Cost Optimization

Reduce serving costs, improve operational efficiencies as business scales



Business Value

Deliver recurring revenue with greater predictability

Multi-tenant architecture challenges

Agility

Identity and onboarding

Data partitioning

Metrics and analytics

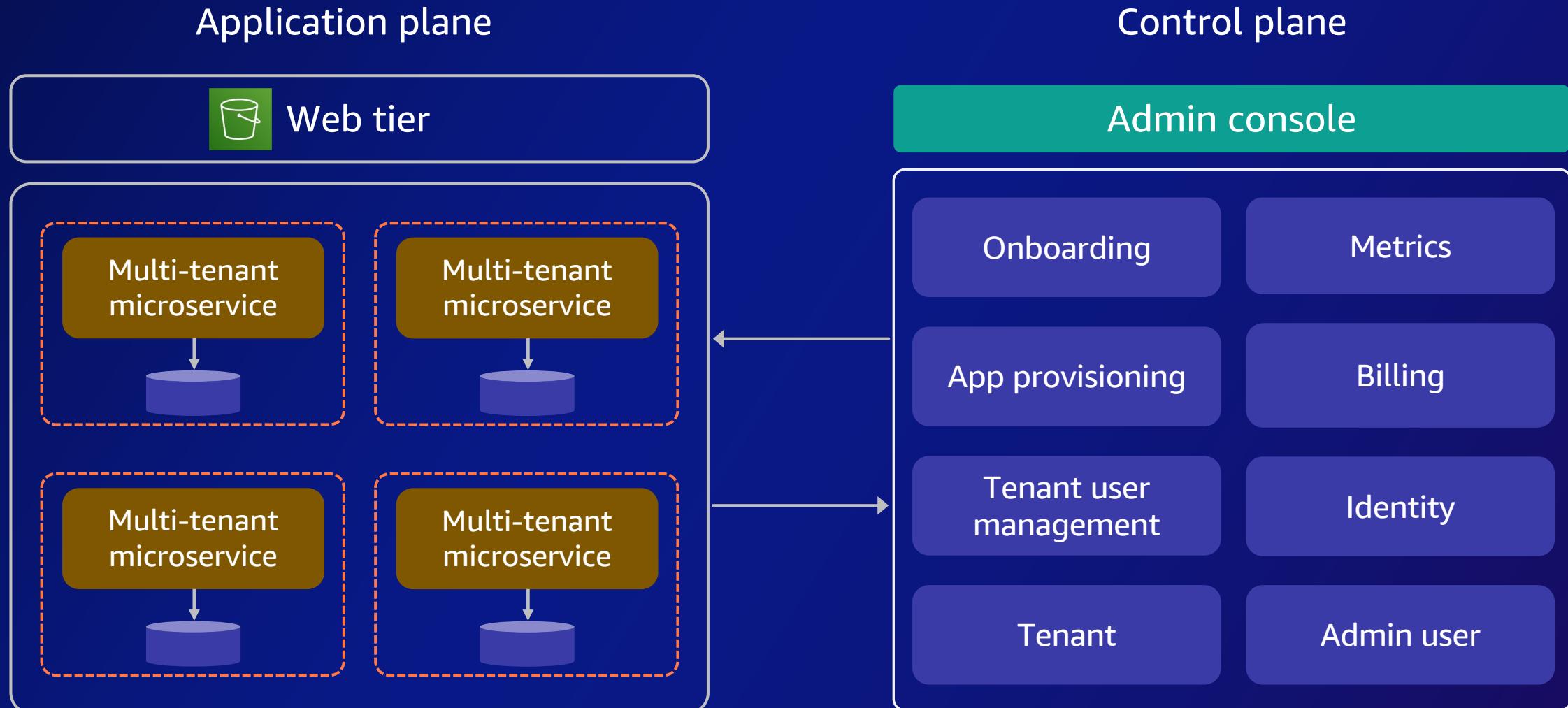
Tenant isolation

Tiering strategy

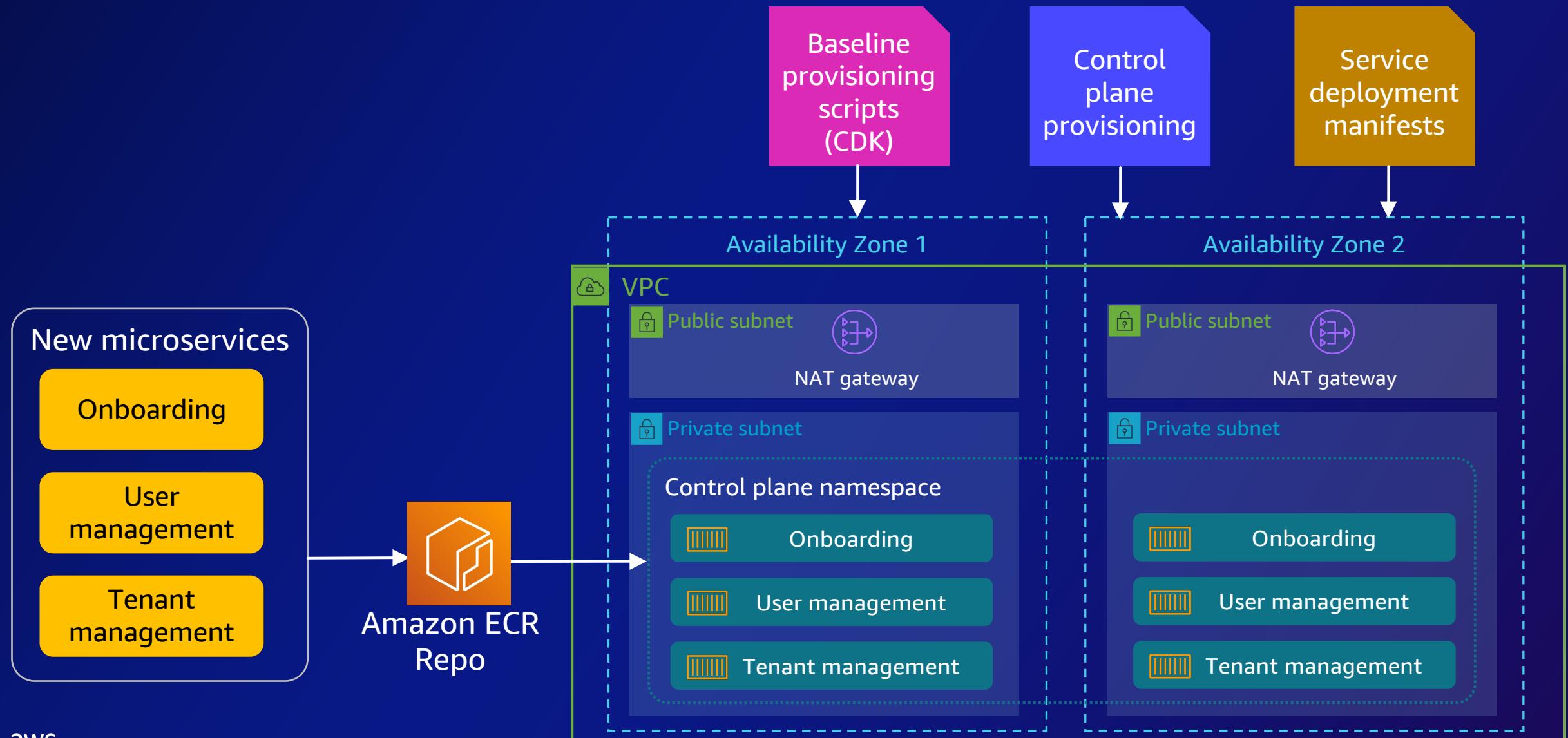
Noisy neighbor

Cost per tenant

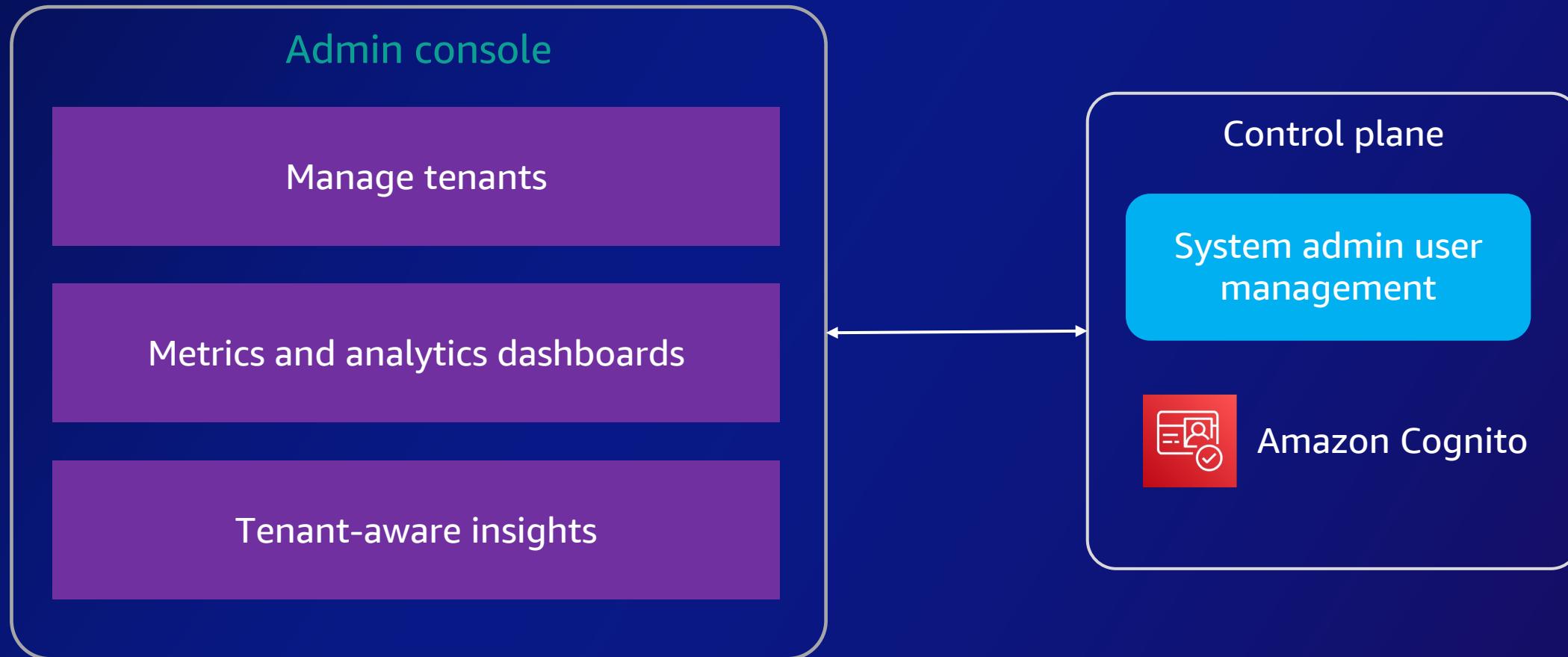
Target multi-tenant architecture



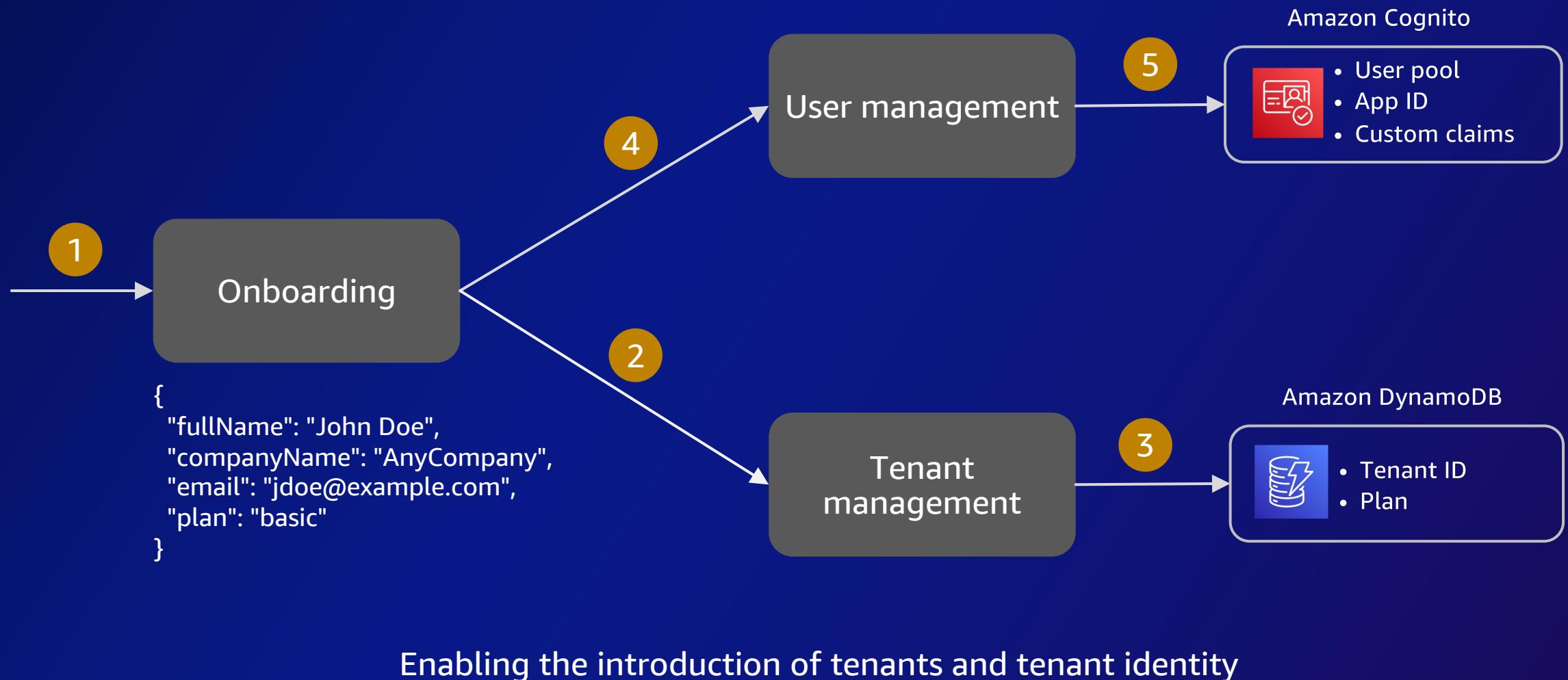
Provisioning the baseline environment



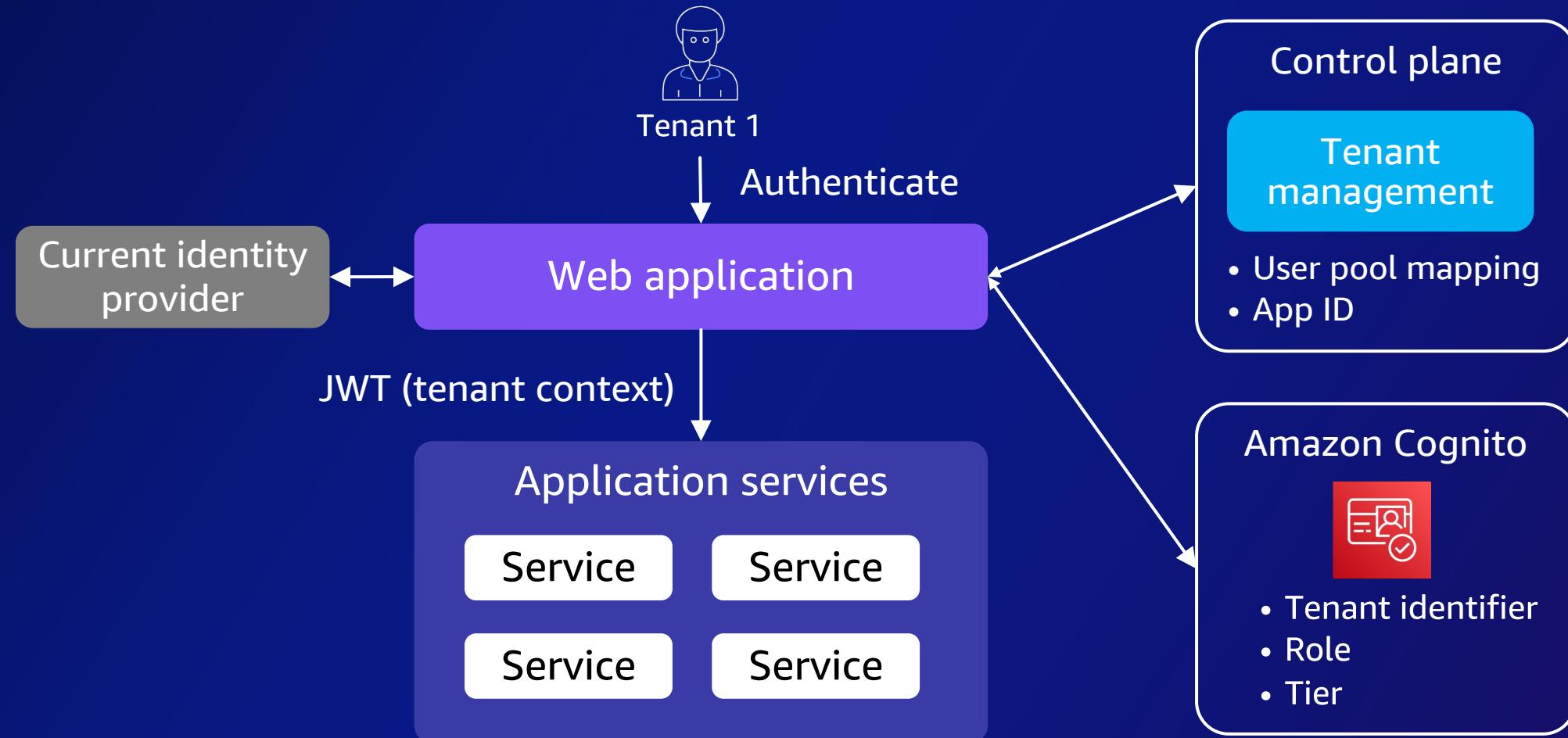
Creating a system admin console



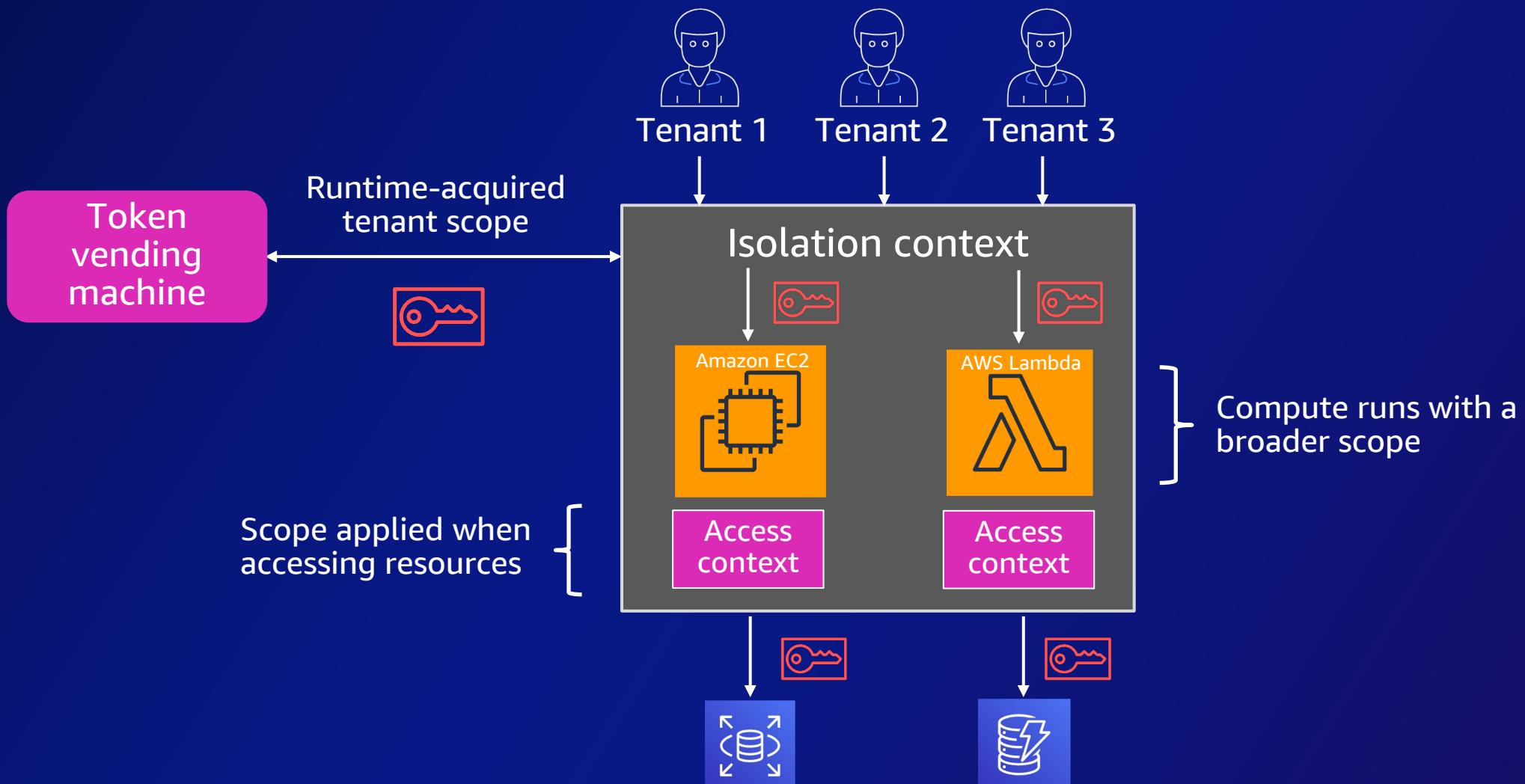
Reference architecture - Onboarding



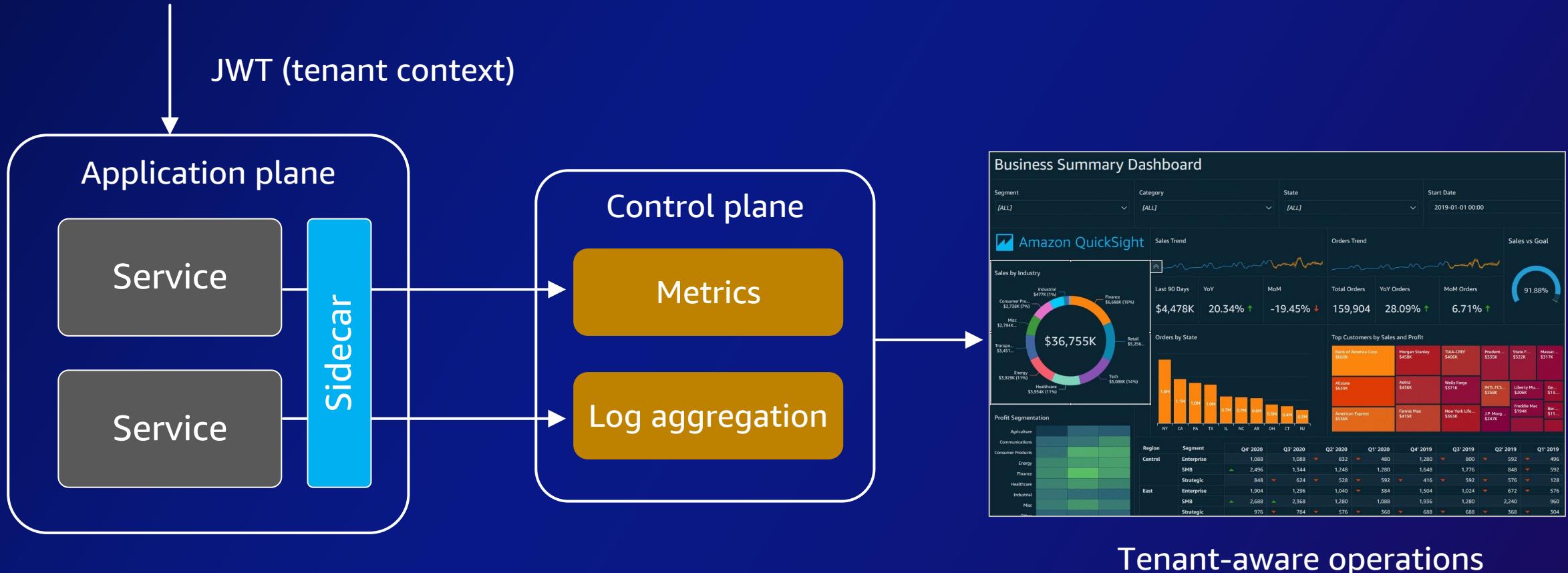
Porting identity and injecting tenant context



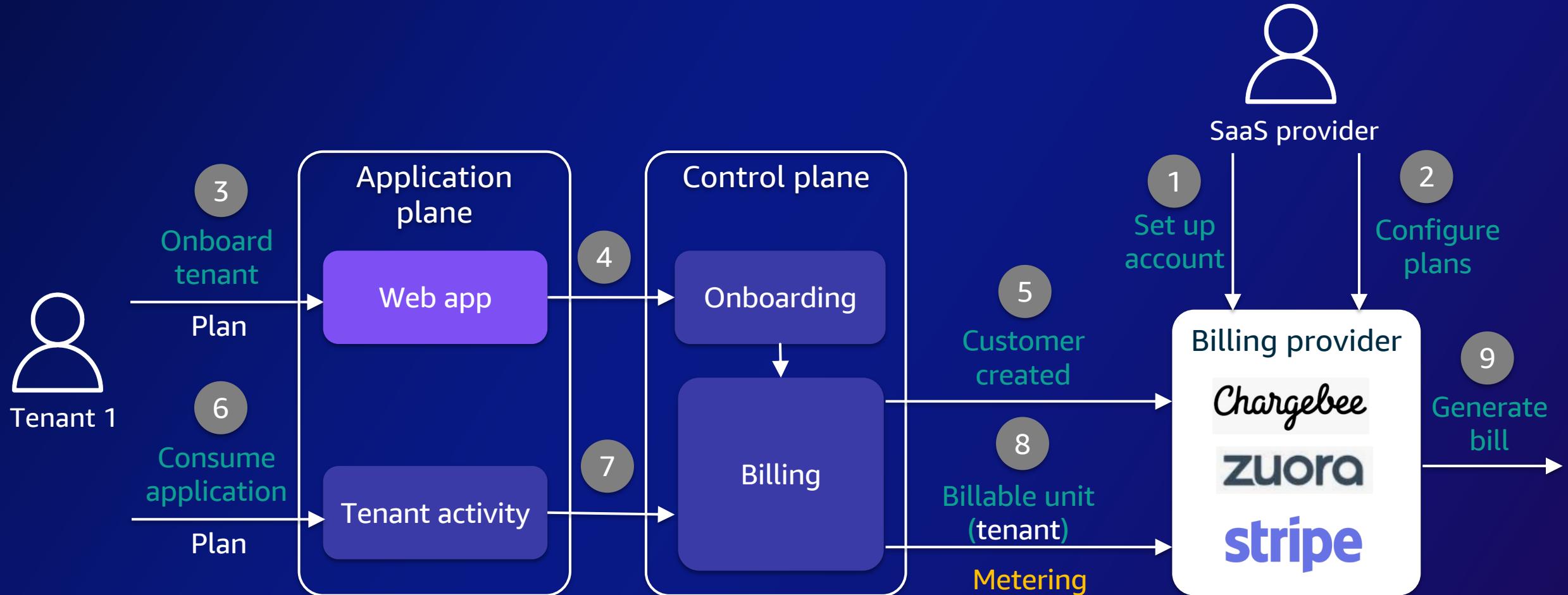
Adding isolation support



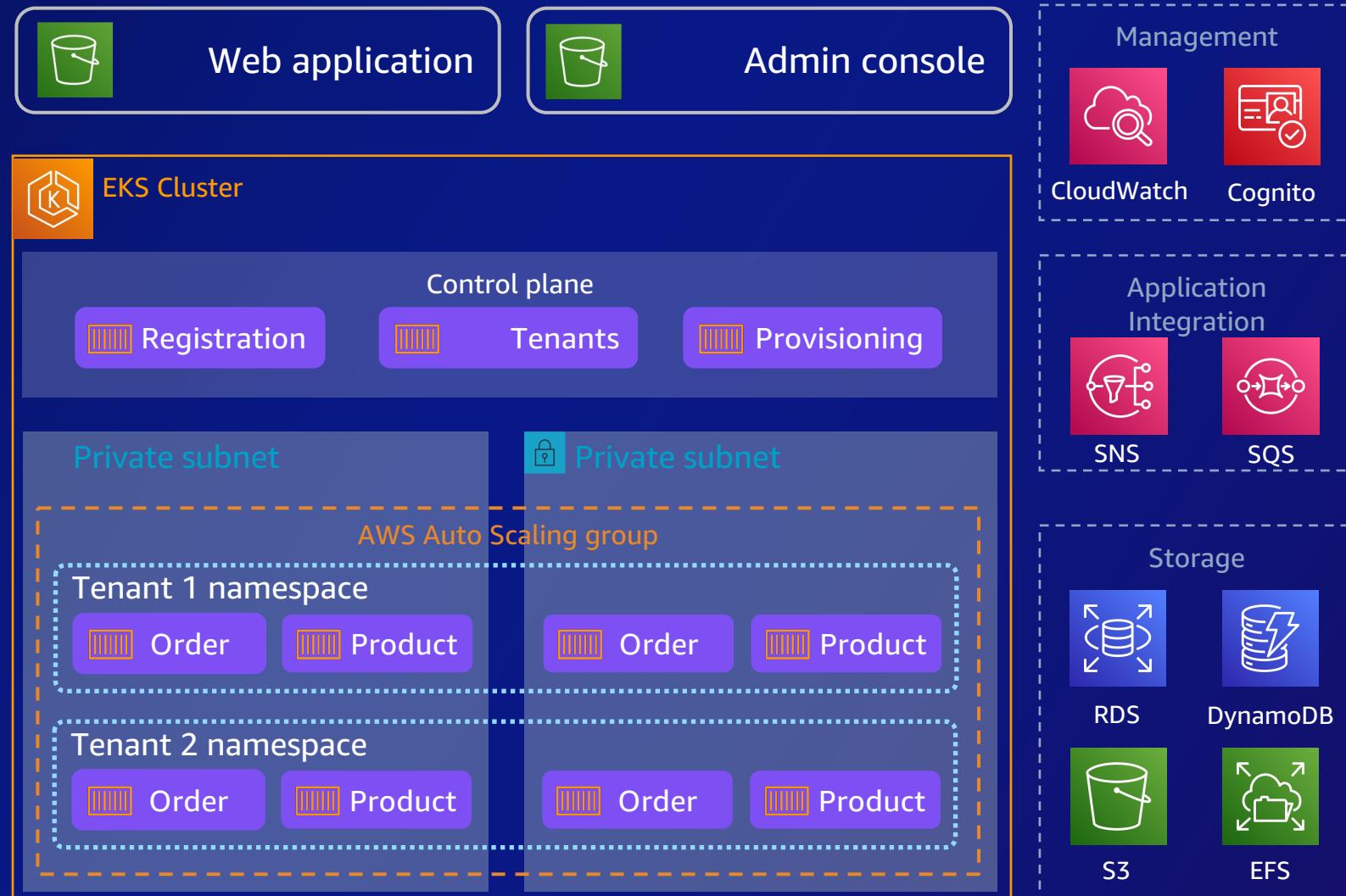
Enabling multi-tenant operations



Supporting billing integration



Multi-tenant SaaS target application architecture



Multi-tenant SaaS on AWS improves time to value



30-50%

Reduced time to develop
a minimum viable
product



69-77%

Reduced time to launch
in new markets



Up to 96%

Reduced time to scale
customer usage



83%

Reduced time to deploy
for engineering

Source: Forrester Total Economic Impact™ Study Commissioned By AWS November 2020: The Partner Opportunity For Building SaaS On Amazon Web Services

Customer success stories

Lendingkart embarked on SaaS journey and adopted a structured approach to product development, considering key points such pricing models and product journeys

- Accelerated time-to-market with expert guidance
- Adopted structured, customer-first approach
- Ensured reliability and uptime of SaaS platform
- Supported global business expansion
- Onboarded new Lendingkart 2gthr customers in 2 weeks



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Embed Tranforms the Business of Fun with multi-tenant SaaS model to manage and monitor multiple databases for numerous customers easily & effectively

- Reduced time taken to sync up and digest data from 3 hrs to under 20 min
- Near real-time access to end of day reports
- Cut operating costs by 75-percent
- 10 times savings on infrastructural spend with a scalable setup



Sixth Force Solutions Delivers Cloud Version of Enterprise Architect Software to Meet Customer Demand for Rapid Tool Deployment

- Increases revenue by 150% in 1.5 years
- Creates 60+ versions of cloud-hosted and SaaS solutions in less than 1 year
- Helps employees collaborate reliably across the globe
- Reduces deployment time from months to weeks



Takeaways

- Think incrementally – get to SaaS as fast as you can
- Start with the control plane
- Make automated onboarding and tenant-aware operations a priority
- Expect to refactor aspects of your legacy solution
- Embrace full stack silo as a starting point

Mindtickle's multi-product multi-tenant journey

Agenda

- Mindtickle overview
- Multi-product strategy
- Platform reusability
- Takeaways

Who is Mindtickle?

**Mindtickle is the leader
in Revenue Readiness.**

350+ Customers



Voted G2's Top 50 Enterprise Products for 2022

- #2 Enterprise Products
- #4, Highest Satisfaction Products
- #5 Products for Sales
- #11 Software Products

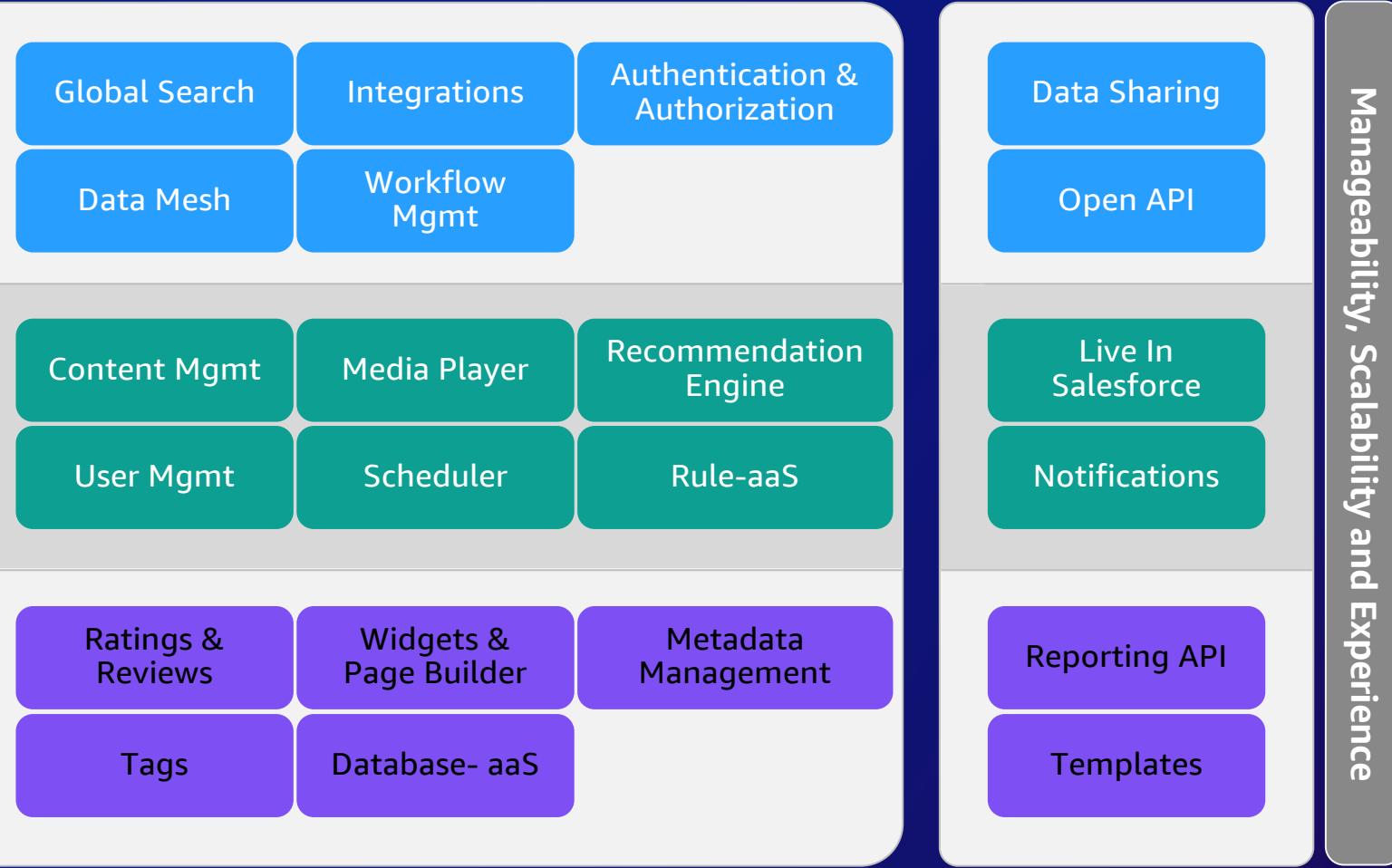
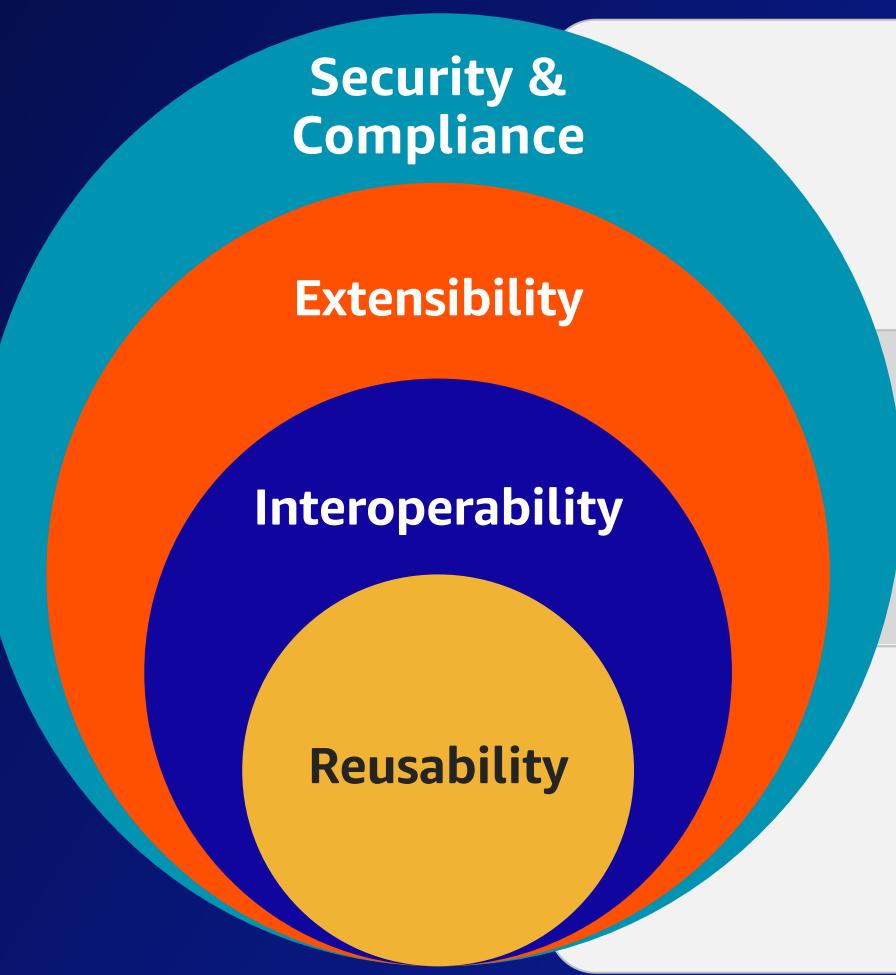
Best-in-class Revenue Readiness Tech Stack

- ✓ For Sales
- ✓ For Channel Partners
- ✓ For SDR/BDR/XDR/Pre-Sales
- ✓ For Customer Success/Support
- ✓ For Sales Support, Consultants





Platform tenets for multi-product approach





How we leverage AWS to achieve our core principles

Simplify to Scale

- Containerized Microservices
- Amazon ElastiCache
- Amazon RDS PostgreSQL



Customer Centric Approach

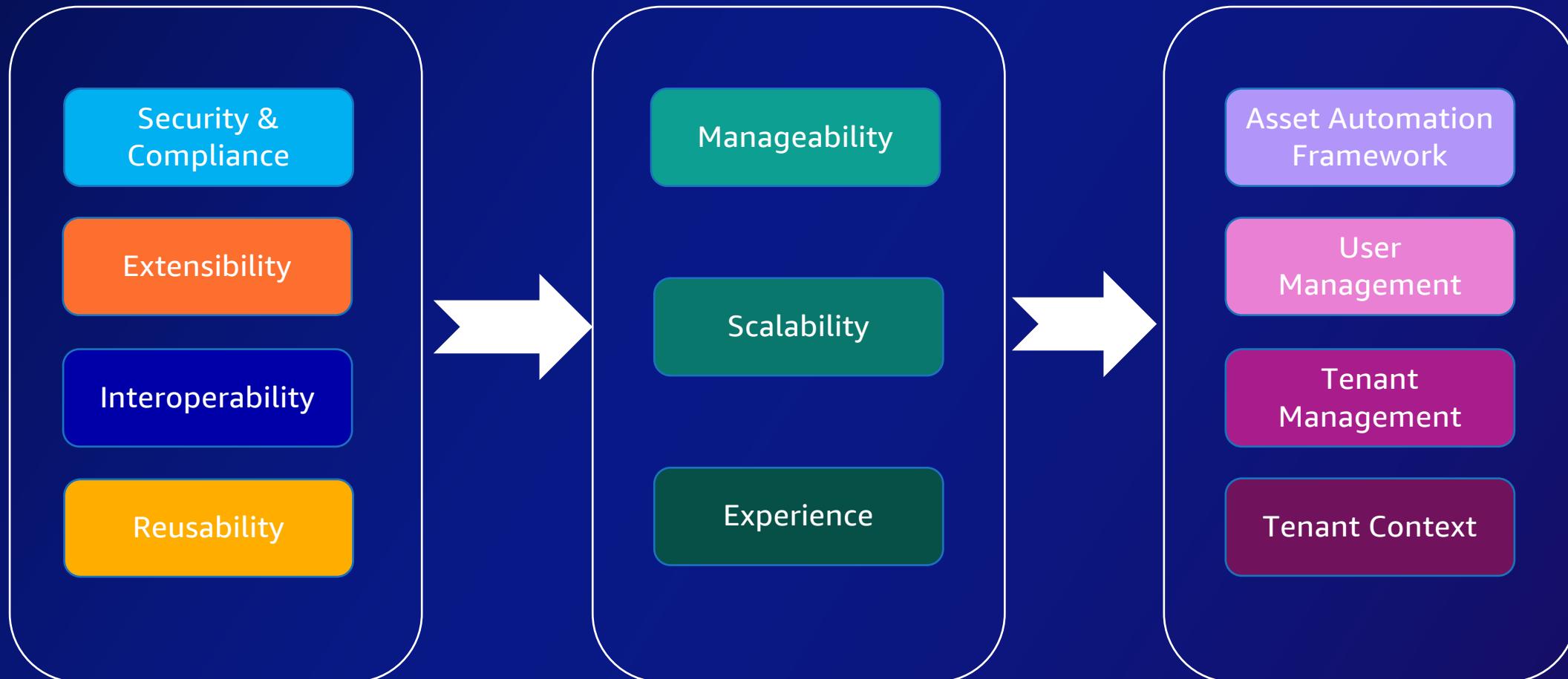
- Amazon CloudFront & Amazon S3 for Content Delivery
- Highly available multi-AZ deployments

Quality First Approach

- Industry-standard regulatory compliance
- Amazon EKS



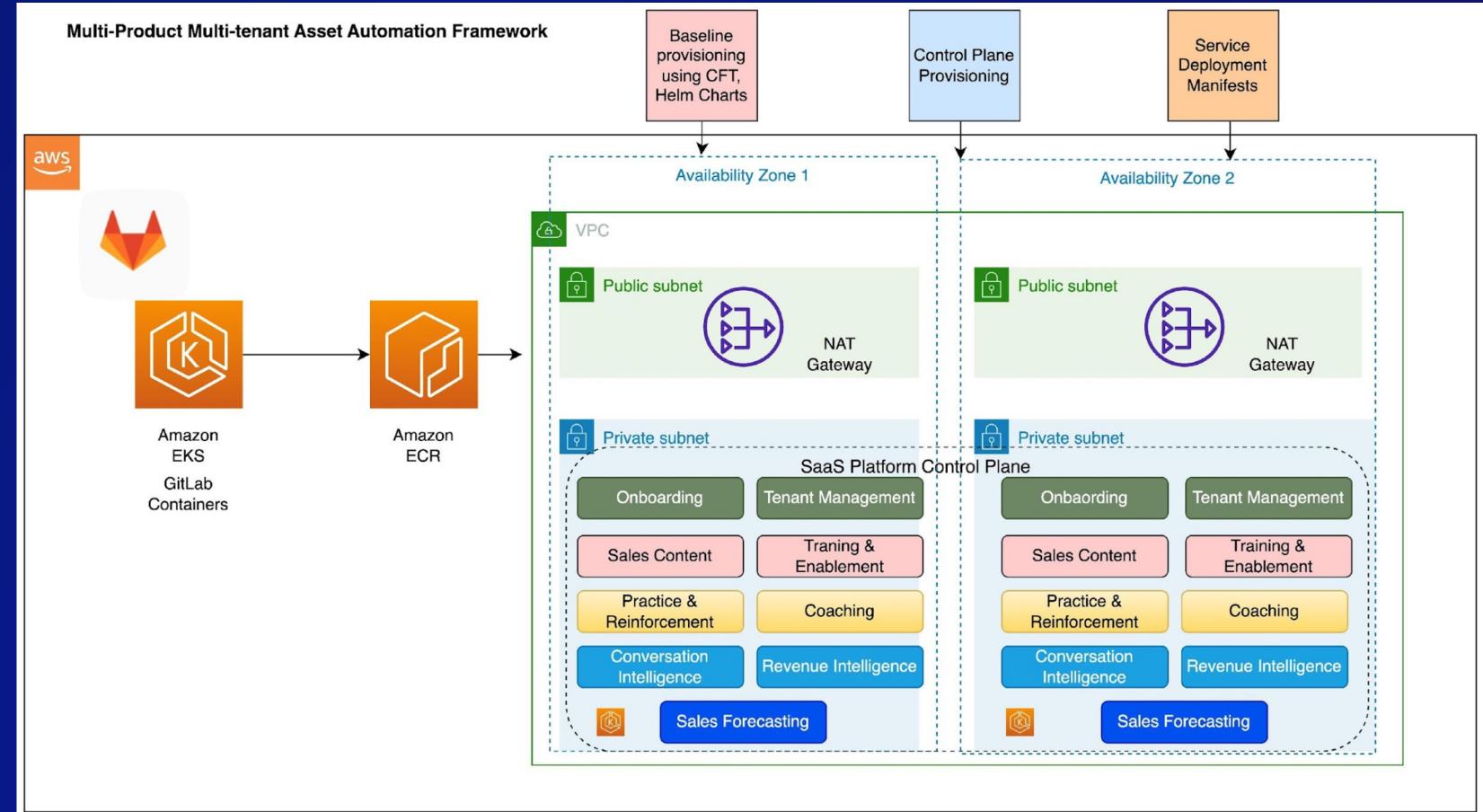
Multi-tenant considerations





Asset automation framework for multi-product multi-tenant platform

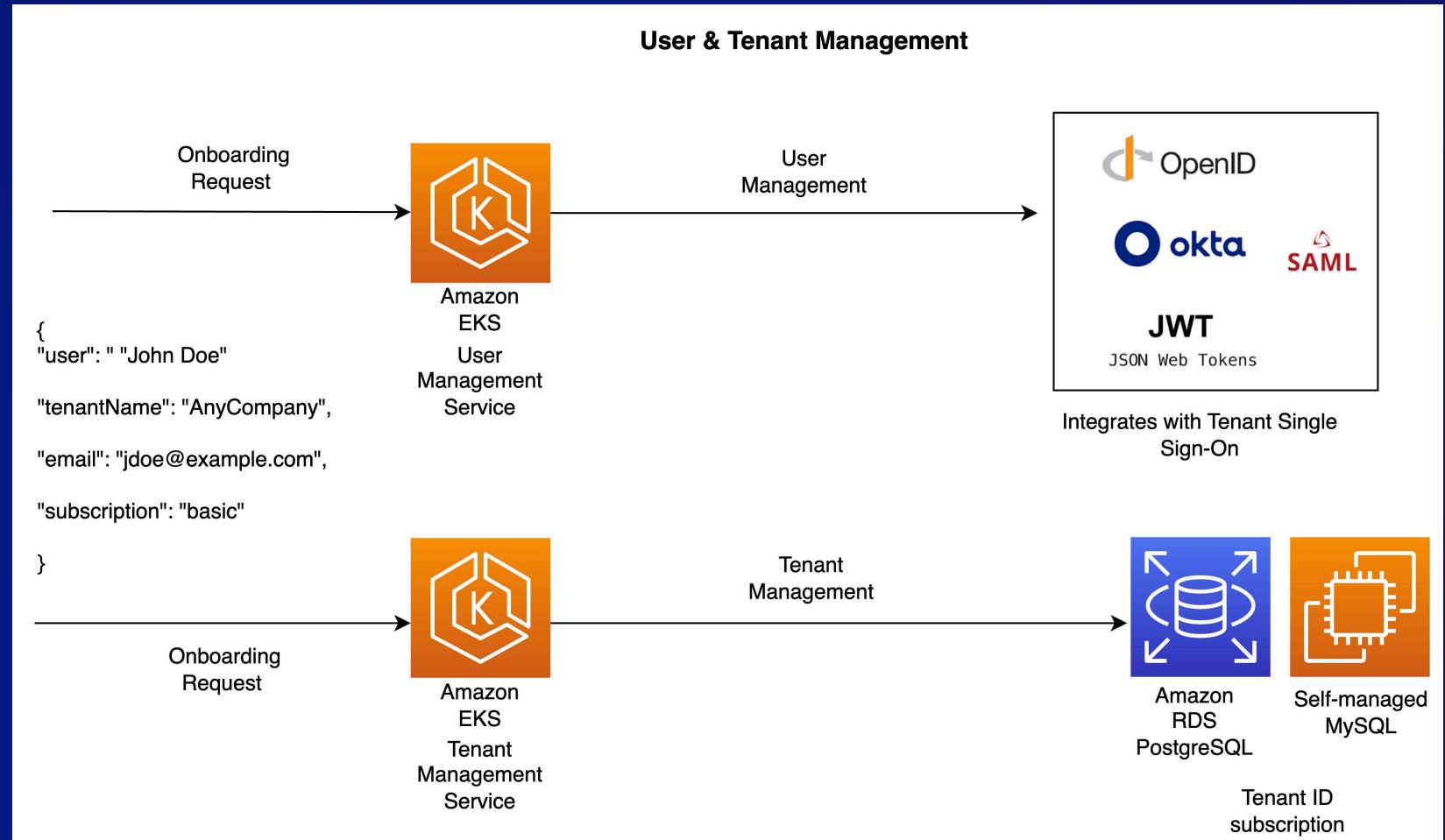
- Multiple GitLab Amazon Elastic Kubernetes Service (EKS) Containers for CI/CD Pipelines
- Multiple Product & Management Amazon EKS Containers provisioned in Control Plane
- Tenant isolation by Cluster separation
- Re-usable pipelines & platform





User & tenant management

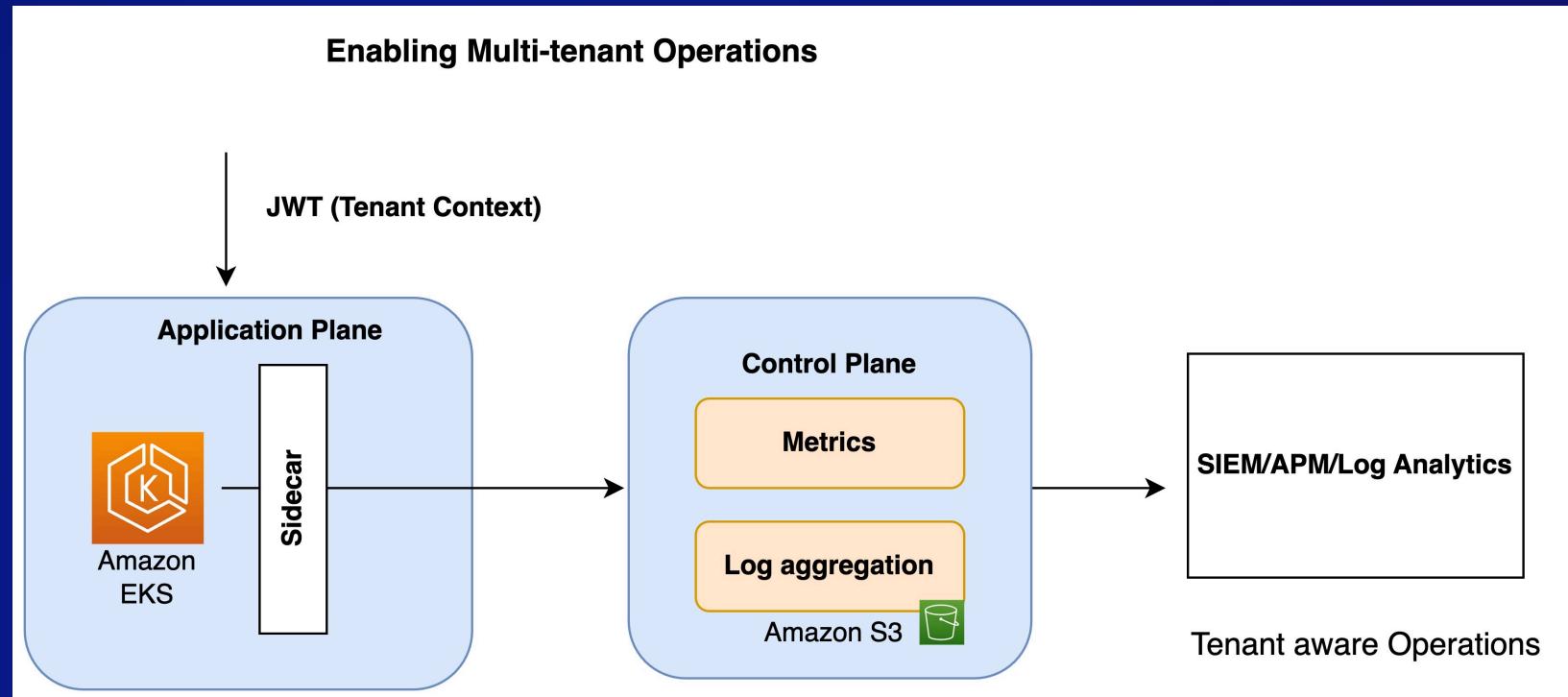
- Provision to integrate with Tenant Identity Provider(IDP) for User Authentication
- User Role management in Mindtickle SaaS Platform
- Tenant Metadata received as part of on-boarding stored in Database
- Tenant data is used for creating Tenant Context for runtime isolation





Multi-tenant operations

- JWT (JSON Web Token) is used for Tenant Context injection
- Micro-services use sidecar to log various events & activities along with tenant context
- Control Plane Utility aggregates logs (Amazon S3) & metrics and generates insights





Key outcomes

- Faster on-boarding of customers because of fully automated environment provisioning
- AWS Global Infrastructure helps us to go-global in a single day
- AWS services improved resiliency posture
- Cost optimization because of on-demand infrastructure provisioning and AWS Service auto-scaling
- Better TCO with economies of scale and good visibility



Takeaways

- There is no one-size-fits-all SaaS architecture
- Multi-product Multi-tenant SaaS design considerations
- Control plane services are essential to SaaS agility
- Tenant-aware identity is key to isolation
- DevSecOps model is key to agile product
- Take a fine-grained approach to decomposing your system
- Cost data will play a significant role in shaping your provisioning strategy
- Understand what your tenants are doing and why

skillbuilder.aws 

Your time is now

Build in-demand cloud skills your way



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Thank you!

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