LocalStack

Case Study

How a major South American bank accelerated cloud migration with LocalStack

The challenge: Scaling developer workflows for cloud transformation

One core platform initiative involved several hundred engineers building microservices in a monorepo with multiple data stores and AWS-integrated components (databases, messaging/eventing, and other dependencies)

As the organization planned to scale from **hundreds to thousands of developers,** platform leadership needed to formalize local AWS emulation as a consistent capability: improve support and coverage, streamline CI pipelines, and provide a predictable developer experience across teams.

Risks if not addressed

- Difficulty scaling consistent development practices to thousands of engineers
- Continued CI pipeline flakiness and slower feedback cycles
- Increased likelihood of misconfigurations and security vulnerabilities from ad hoc local setups
- Potential headwinds to achieving the organization's cloud migration target
- Ballooning AWS spend

What mattered in the decision

To support standardization at scale, the organization prioritized a solution that could:

- **Standardize local AWS emulation** with predictable behavior across teams
- Integrate cleanly with existing **Docker-based workflows** and CI pipelines
- Support a **phased rollout** from an initial pilot to broader adoption
- Provide enterprise-grade foundations (support, coverage, and repeatable workflow patterns)

Customer Snapshot

Industry
Financial services (banking)

Engineering scale
10K+ engineers globally

Teams involved
Platform Engineering / Core Engineering (cross-team enablement) + application teams

Cloud footprint
AWS-first, with additional multi-cloud presence

Strategic goal / initiative
Full infrastructure cloud migration target by 2028

Org priority
Standardization + federation after years of decentralized tooling and resource sprawl

The solution: Enterprise-scale local AWS emulation platform

LocalStack provided a standardized platform for **local AWS service emulation,** integrated into Docker-driven developer workflows and CI.

This formalized existing usage while improving consistency and enabling teams to emulate AWS services locally as part of day-to-day development and testing.

Primary capabilities and services supported

- Data stores: **DynamoDB** and **RDS** emulation
- Messaging/eventing: **SQS** and **Kafka** adjacency testing
- Containers: **ECS/EKS** testing
- Serverless: **Lambda** (including layers)
- Storage: **S3** testing
- Multi-service orchestration for full-stack microservice development

Implementation: Rolled out by use case

The organization planned a phased approach:

- A **time-boxed proof of concept** with ~100 engineers on the initial platform initiative
- Purchase for **2,000 engineers** upon successful POC completion
- Long-term goal to expand to **15,000+ cloud engineers** after validation

Key integrations included:

- Docker Compose + LocalStack for microservice virtualization in a monorepo
- Pre-seeded environments for faster “warm” dev stacks (e.g., database/environment warm-up)
- GitHub Actions CI integration for consistent testing workflows
- Secure access patterns (e.g., SSO-enabled environments) and approved internal distribution methods

Results and benefits

The organization outlined expected and early observed outcomes from formalizing local AWS emulation:

- **Developer velocity and pipeline performance:** Improved feedback cycles by reducing reliance on real AWS environments for iterative development and service interaction.
- **Standardization across engineering:** More uniform workflows across teams using Docker + LocalStack, reducing ad hoc setup risk and improving consistency.
- **Quality and reliability:** Increased test accuracy by virtualizing full-stack components locally and using isolated test environments with no production exposure.
- **Cloud migration enablement:** Earlier validation in developer loops supports broader cloud transformation goals and reduces friction from limits, cost, or shared environments.

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Request a Demo Session

If your teams need to validate cloud infrastructure patterns at high volume—without waiting on live AWS feedback loops—LocalStack can help you standardize fast, repeatable validation that scales with your delivery pipeline.

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