



# From Fragmentation to Force Multiplier

A Strategic Transformation Plan for NovaRetail's E-commerce Platform

# The Opportunity: A 3-Year Plan to Unlock Agility and Growth

## The Challenge

Our 12 independent platforms create inconsistent customer experiences, slow feature deployment (3-6 months), and high operational costs. We cannot recognize customers across borders and are competitively disadvantaged by batch processing.

## The Investment

A 3-year investment of \$4-6M, executed in phases to deliver incremental value and mitigate risk.

## The Solution

A unified, cloud-first microservices platform. This will enable a single view of the customer, real-time order processing, and rapid innovation across all markets.

## The Payoff

Transform our technology into a competitive advantage, leading to an 85% reduction in time-to-market, a 30% reduction in infrastructure costs, and an estimated 18-month payback period.



# Our Current Architecture is an Unseen Tax on the Business



## A Tax on Our Customers

- Inconsistent experience across 12 different platforms.
- Customers must re-register in each country.
- Impossible to implement global loyalty programs.
- Delayed order fulfillment (12-24 hours).



## A Tax on Our Developers

- Productivity is crippled by technical debt across four different stacks (.NET, Java, PHP, Node.js).
- Time-to-market for simple features is 3-6 months.
- Manual deployment processes lead to a change failure rate of ~20%.

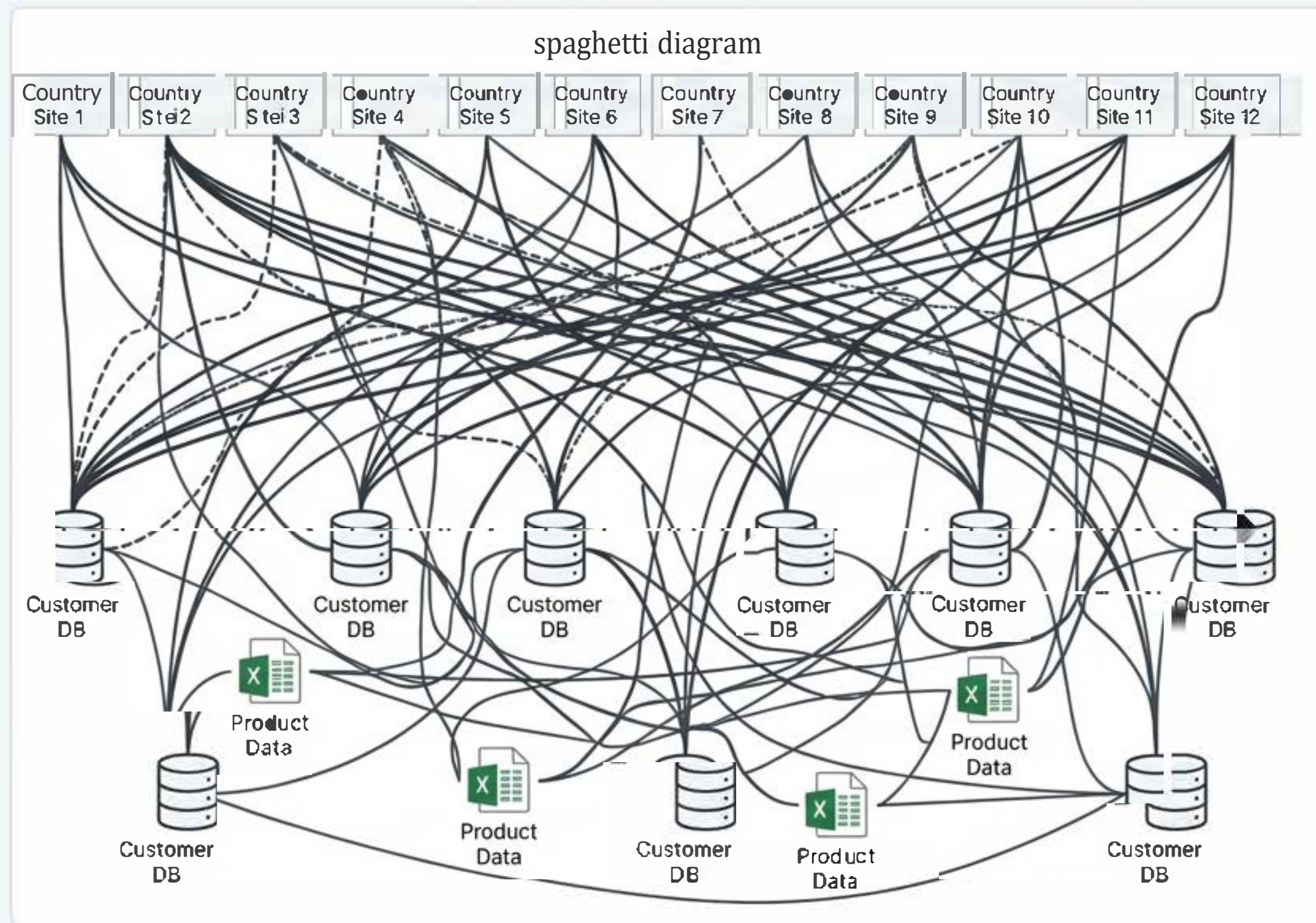


## A Tax on Our Operations

- High costs from maintaining fragmented on-prem and cloud infrastructure.
- Cascading failures due to tightly coupled, point-to-point integrations.
- Manual data management (Excel for products) leads to high error rates and lost revenue.



# We Operate 12 Separate Businesses, Not One Unified Platform



12

Independent E-commerce Platforms

8

Separate Customer Databases

4

Disparate Technology Stacks

0

Shared Components or Services

**Result: High complexity, operational inefficiency, and significant GDPR compliance risk.**

# Three Critical Risks Threaten Our Competitive Position

**RISK: 9.5/10**

**No Unified  
Customer Identity**

## Impact

We cannot track the customer journey, leading to wasted marketing spend and a poor user experience. We face significant GDPR compliance risk as we cannot fulfill data deletion requests reliably.

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**RISK: 9.0/10**

**24-Hour Batch Order  
Processing**

## Impact

We cannot offer modern fulfillment (e.g., same-day delivery), inventory is inaccurate leading to overselling, and we are losing customers to real-time competitors.

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**RISK: 8.5/10**

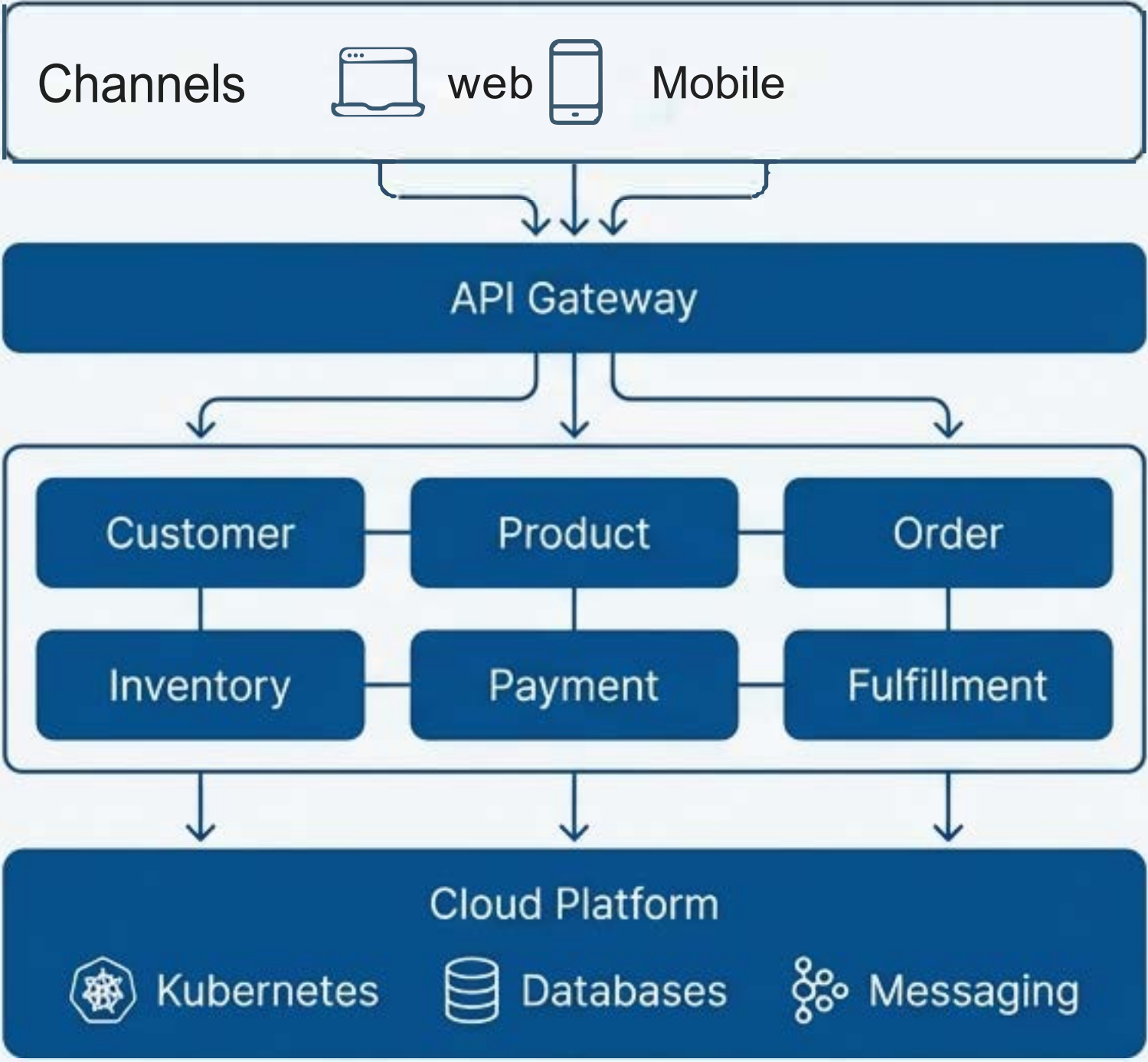
**Manual Product Data  
Management**

## Impact

High error rates in pricing and availability lead directly to lost revenue and customer frustration. Time-to-market for new products is weeks instead of hours.



# Our North Star: A Unified OmniCommerce Platform



## Core Vision

- ✓ **Unified Customer Experience**  
Recognize customers and provide consistent service in every market.
- ✓ **Real-Time Operations**  
Process orders in minutes, not hours, with live inventory.
- ✓ **Composable Platform**  
Rapidly deploy new features and enter new markets in weeks, not months.
- ✓ **Cloud-Native Foundation**  
Built for scalability, resilience (99.9% SLA), and efficiency.

# Built on Proven Principles for Agility and Scale



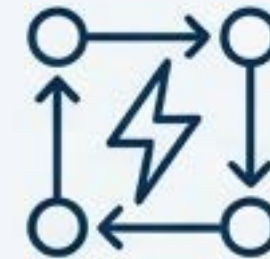
## Domain-Driven Design

Organize services around business domains (Customer, Order), not tech layers.



## API-First Development

All services expose well-defined APIs for any channel to consume.



## Event-Driven Integration

Use asynchronous messaging to eliminate bottlenecks and enable real-time flow.



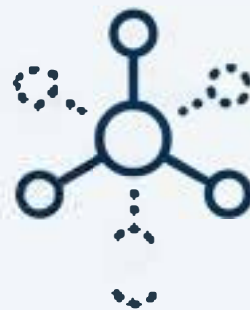
## Cloud-Native by Default

Leverage managed cloud services for scalability and resilience.



## Single Source of Truth

Each business domain owns its data, ensuring consistency.



## Autonomy with Governance

Enable country teams to innovate within standardized guardrails.



## Security by Design

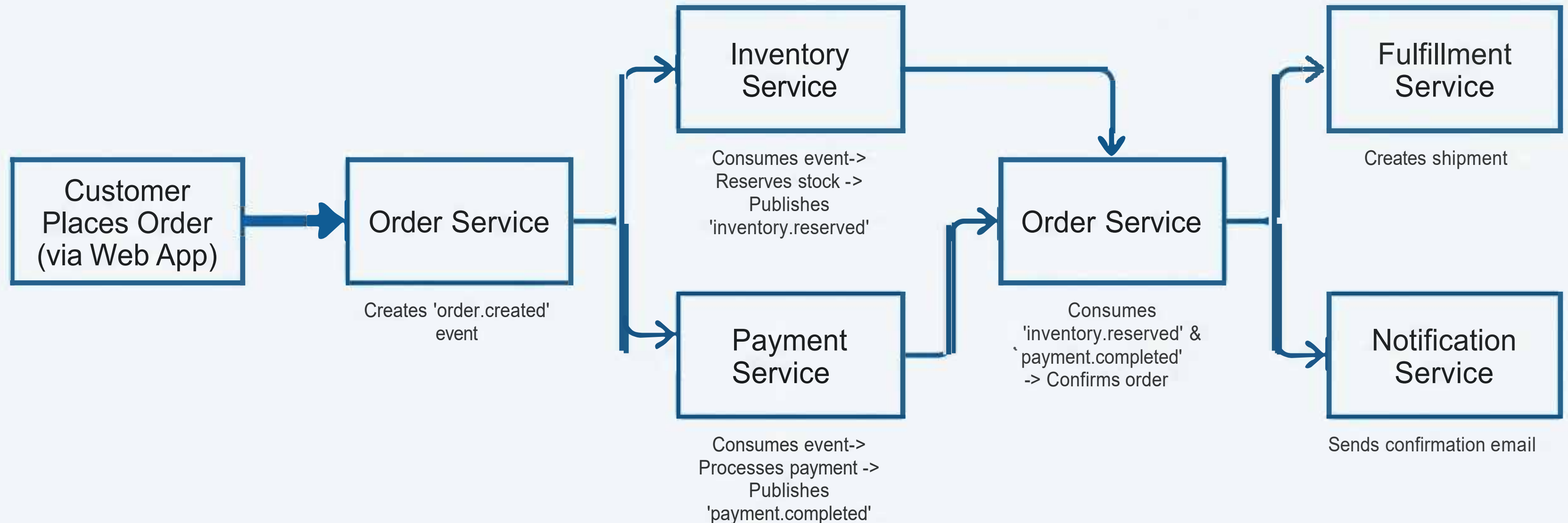
Implement a zero-trust architecture, authenticating at every boundary.



## Observability First

Build in comprehensive logging, metrics, and tracing from day one.

# The Future of an Order: From Batch Delays to Real-Time Flow



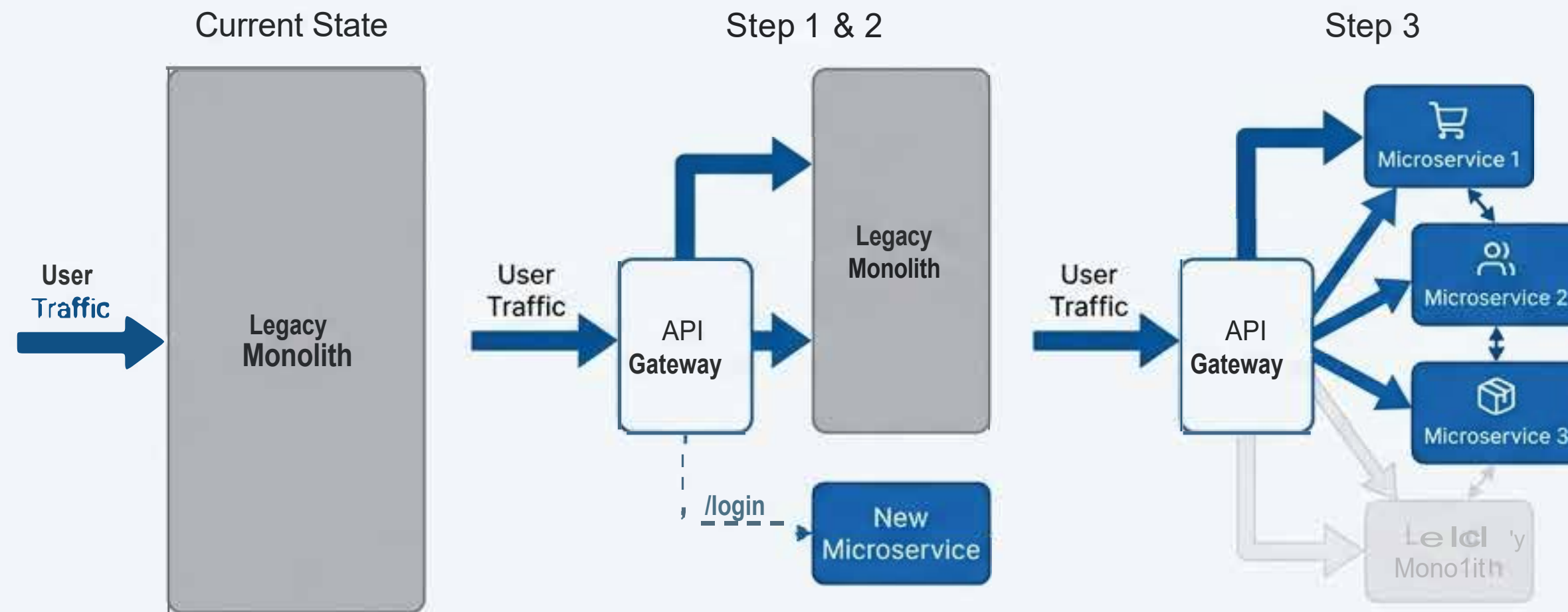
This eliminates batch processing, enabling near real-time fulfillment and accurate inventory across all channels.



# Our Bridge to the Future: A Low-Risk, Incremental Migration

Core Strategy: The Strangler Fig Pattern

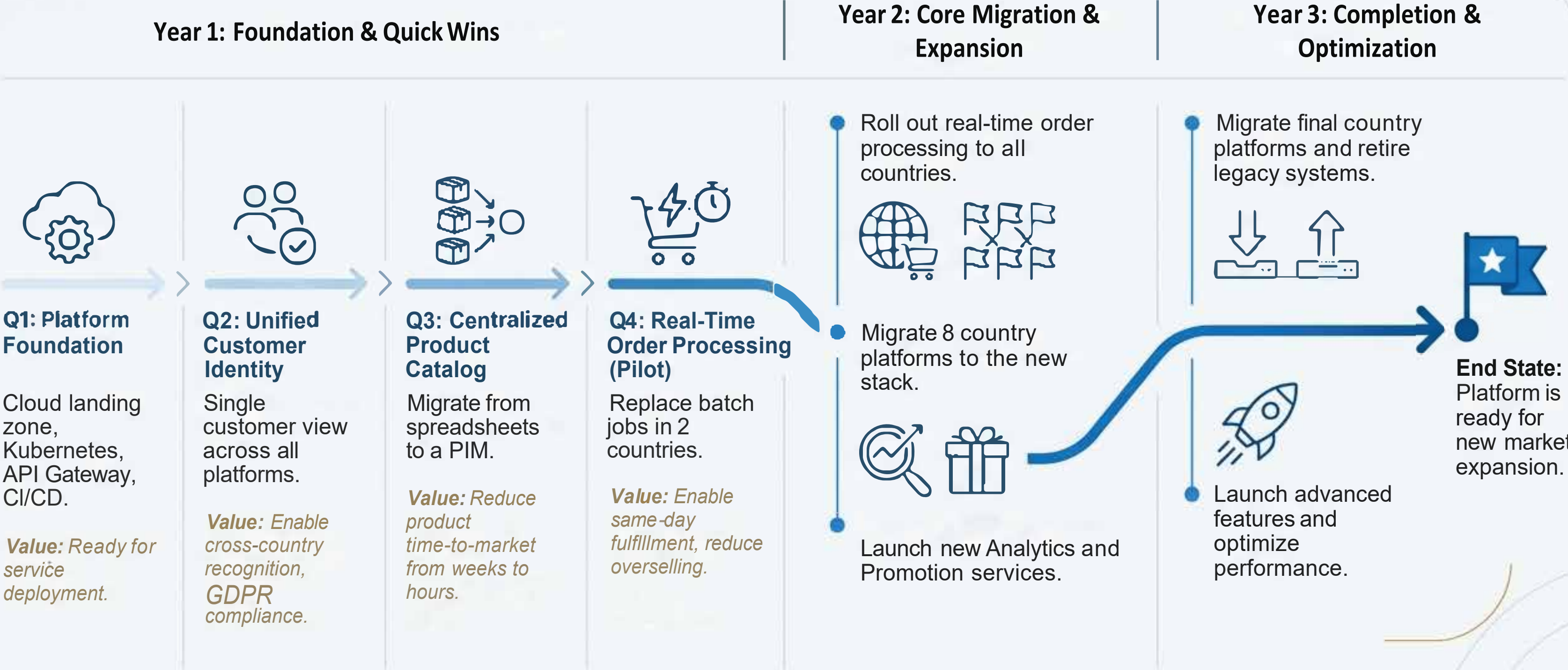
## How it Works



## Why This Approach?

- **Delivers Value Immediately:** Benefits start in Q2 of Year 1, not after 3 years.
- **Mitigates Risk:** We can pause or adjust based on learnings. No "big bang" cutover.
- **Ensures Business Continuity:** Legacy systems remain operational during the transition.
- **Proven at Scale:** The same pattern used by Amazon, Netflix, and Spotify.

# A Phased 3-Year Roadmap to Value





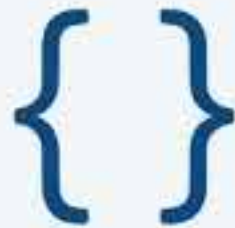
# Our Technology Blueprint: Standardization with Flexibility

## Cloud & Infrastructure



- **Primary Cloud:** Azure (for .NET integration, managed services)
- **Disaster Recovery:** AWS (Warm Standby, RTO < 4 hours)
- **Orchestration:** Kubernetes (Azure AKS / AWS EKS)
- **Infrastructure as Code:** Terraform

## Backend Languages



- **Primary:** .NET 10 (for new Azure-native services)
- **Alternative:** Java 17+ (Spring Boot) (leveraging existing team expertise)
- **Specialized:** Node.js (BFFs), Python (Data/ML)

## Data & Messaging



- **Transactional:** Azure PostgreSQL
- **Product Catalog:** Azure Cosmos DB
- **Event Streaming:** Azure Event Hubs / Kafka
- **Caching:** Azure Cache for Redis

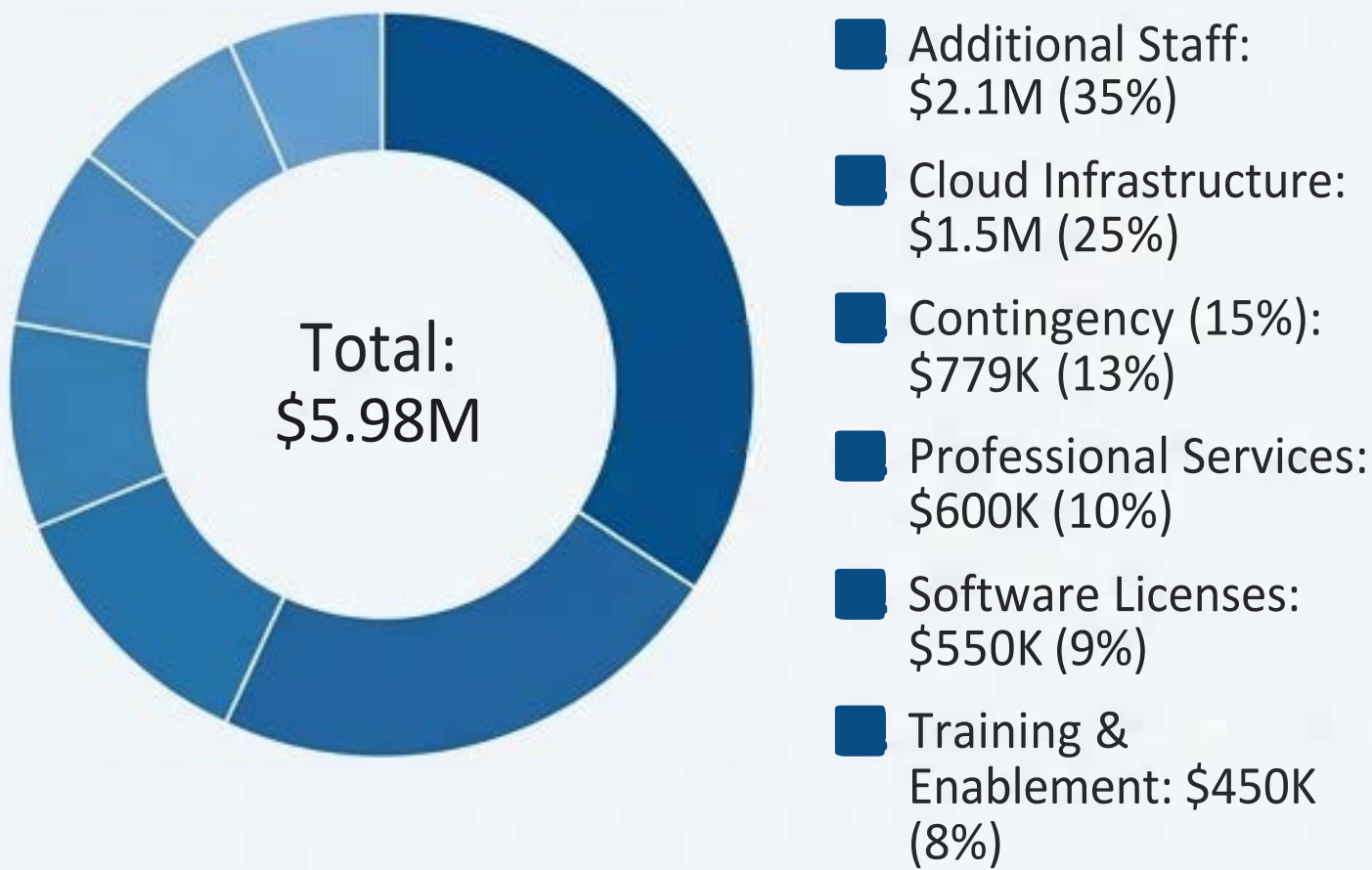
## API & Observability



- **Gateway:** Azure API Management
- **Service Mesh:** Istio
- **Standards:** OpenAPI 3.0, OpenTelemetry

# The Investment and The Return

## The Investment - \$5.98M Over 3 Years



## The Return - Estimated 18-Month Payback

~\$800K

### Infrastructure Cost Reduction

Annually from cloud optimization and decommissioning legacy hardware.

~\$1.2M

### Improved Developer Productivity

Annually in recaptured opportunity cost (50% productivity gain for 80 developers).

\$2M+

### Direct Revenue Increase

Annually from a projected 10% conversion rate lift and reduced cart abandonment.



# Measuring Our Transformation: From Lagging to Leading

Metric	Current State	Target State (Year 3)	
--- Business Impact ---			
Time to Market (New Features)	3-6 months	2-4 weeks	↗
New Market Launch	6 months	6weeks 95%+	↗
Customer Data Accuracy	~60% (fragmented)	(unified) +10%	↗
Conversion Rate	Baseline		↗
--- Technical Excellence ---			
System Availability	95% average	99.9% SLA	↗
Deployment Frequency	Monthly	Daily (multiple per day)	↗
Mean Time to Recovery (MTTR)	4+ hours	1 hour	↗
Change Failure Rate	~20%	<5%	↗

# Ensuring Long-Term Success Through Governance

## Architecture Review Board (ARB)

NovaRetail blue Inter SemiBold



### Purpose

To ensure consistency, quality, and adherence to standards for all new services.

### Composition

Principal Architect (Chair), Domain Architects, Security, Platform, and Engineering Leadership.

### Responsibility

Review new designs, maintain standards, and conduct quarterly health assessments.

## Service Ownership & Operating Model

NovaRetail blue Inter SemiBold



### "Two-Pizza Team" Model

Each microservice is owned end-to-end (build, deploy, operate) by a dedicated team.

### DevOps Culture

Teams have autonomy within architecture guardrails, supported by automated CI/CD pipelines.

### Clear Change Management

Differentiated processes for standard, normal, and high-risk changes.



# The Path Forward Begins Today

**This transformation will create a sustainable competitive advantage for NovaRetail, enabling rapid innovation and exceptional customer experiences across all markets.**

## Key Success Factors



**Sustained Executive Commitment**



**Focus on Incremental Value Delivery**



**Comprehensive Team Enablement**

## Immediate Next Steps



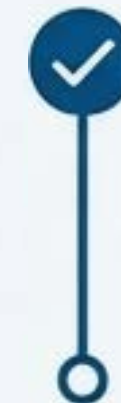
**Weeks 1-2:** Secure funding approval and finalize core team charter.



**Weeks 3-4:** Assemble platform engineering team and initiate developer training program.



**Weeks 5-8:** Begin cloud infrastructure setup (Q1 deliverable).



**Week 9:** Kick off development of the unified Customer Identity Service.