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FinTech Leader **Cuts Stock Waste by 40%** With IT Transformation

Case Study

Overview

Revamping the IT ecosystem

A leading provider of on-demand payment card production, personalization, and fulfillment services was looking to boost operational efficiencies and cost savings. It wanted to implement automated sortation and workflow changes aimed at reducing card stock waste and creating larger, more complete batches, which could result in fewer batch setups, decreased labor costs, and improved machine efficiency.

Zensar's brief:

- Rewrite the manufacturing application with the latest .NET technology stack, leveraging Amazon Web Services (AWS) benefits and advanced workflow.
- Migrate web-based applications within AWS environments, using a phased approach to ensure seamless transition and minimal disruption.
- Develop and conduct floor testing for on-prem production utilities used for card manufacturing and printing.

- Provide support for client migrations and critical change/rewrite requests using a sustainable resource model.

Beyond the brief:
Meaningful transformation requires a focus not just on technology, but on the people who use it. This insight informed our comprehensive solution approach, where we mapped out every stage of the user journey.

Challenges

Need for proven expertise

The client's team needed technical reinforcements and specialists to address these needs:

- Replacement of the obsolete technology stack with a robust and future-ready one.
- Reduction in cost-of-wait from shipment date to delivery date via preemptive address checks.
- Streamlined integrations between cloud-based applications, production floor applications, and the ERP system.
- Seamless integration of different technological layers, including DB, API, and UI.
- AWS expertise to optimize cloud environment setup, deployment, and code integration.
- Specialized .NET WPF skills for creating and maintaining on-prem production floor utilities.
- Insights to help navigate a design change from an entity-framework-based model to a DB-function-based model.
- Proven know-how in fixing DB schema mismatch with on-prem and cloud.

Solution

Modernizing manufacturing operations

Collaborating closely with the client's team, we worked on a solution design that supports scalability by enabling increased card volumes and seamless future multisite workflow. In addition, we aimed to reduce system maintenance efforts using cutting-edge tools and a cohesive application architecture, so that scare technical resources are allowed to focus on revenue-generating enhancements and client onboarding.

Discovery:

- Conducted reverse engineering to deconstruct and analyze the existing system.
- Performed code analysis to understand the structure and functionality of the system.
- Gained a comprehensive understanding of the system's components and interactions.
- Prepared an estimation at the EPIC level, outlining high-level estimates for major features and tasks.
- Baselined high-level requirements early for scope definitions.

Planning:

- Established the architectural design.
- Selected the appropriate technological stacks.
- Determined the resource requirements.

Preparation:

- Aligned resources, ensuring all necessary personnel and tools are ready.
- Established virtual machines (VMs) and software access.
- Conducted knowledge transition sessions to ensure all team members are up to speed.
- Groomed functionalities at a detailed level to prepare for development.
- Set up JIRA for project management and tracking.

Development and testing:

- Developed EPICs to organize large chunks of work into smaller, deliverable units, making it easier to plan, track progress, and communicate with stakeholders.
- Performed QA testing to ensure the quality and functionality of the developed features.
- Provided support for user acceptance testing (UAT) and end-to-end testing.

Migration:

- Executed client migration, including production deployment.
- Provided live client migration support to ensure a smooth transition.

Throughout the solution deployment exercise, we eliminated outdated hardware and software to cut risks associated with single points of failure and automated inventory management to provide near real-time updates, enhance billing and invoicing flexibility for clients, and generate detailed billing information.

Solution enablers

Drawing on our AWS competencies, we put together a powerful mix of services to deliver the solution:

- **Simple Storage Service (S3)** for industry-leading scalability, data availability, security, and performance
- **Lambda functions** for running code without provisioning or managing servers
- **Cognito** for simplifying user sign-up, sign-in, and access control
- **Simple Notification Service (SNS)** for message delivery from publishers (producers) to subscribers (consumers)
- **Simple Email Service (SES)** for high-volume email automation and ease of integration with applications
- **Identity and Access Management (IAM) Identity Center** for centrally managing user access to AWS accounts and applications
- **Simple Queue Service (SQS)** for sending, storing, and receiving messages between software components at any volume, without losing messages
- **Elastic Container Service (ECS)** for deploying, managing, and scaling containerized applications with enhanced efficiency
- **CloudWatch** for accessing data and insights for AWS resources, applications, and other cloud resources
- **API Gateway** for developers to create, publish, maintain, monitor, and secure APIs at any scale
- **CodePipeline** for automating the release process for applications and infrastructure
- **CodeBuild** for automating the process of compiling, testing, and packaging source code
- **Elastic Container Registry (ECR)** for storing, sharing, and deploying container images with ease
- **EventBridge** for enabling asynchronous communication between other AWS services and third-party SaaS applications

- **CodeCommit** for privately storing and managing assets (such as documents, source code, and binary files) in the cloud

Impact

Energized growth and operational excellence

- **~40% decrease** in card wastage with automated sortation and workflow changes
- **Heightened** efficiency and cost savings with fewer machine setups and decreased labor
- **Improved** scalability with seamless future multisite workflow enablement
- **Optimized** use of IT resources with lower system maintenance and technical debt
- **Enhanced** inventory management, billing, and invoicing by leveraging automation

Business outcomes: The solution enabled cost savings and increased efficiency through automation and optimized workflows, along with improved scalability and resource management for energized growth and operational excellence.

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