CASE STUDY REPORT

Plaza Premium Group Reimagines Its Architecture To Escape Tech Bankruptcy

When Technical Debt Reaches a Breaking Point, Starting Over Becomes Strategic

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Summary

Plaza Premium Group (PPG) was at a critical inflection point: a state of near technology bankruptcy. Years of accumulated technical debt had left its legacy systems brittle, inflexible, and unable to support the company's growth ambitions. Rather than patching outdated infrastructure, PPG made the bold decision to write off its legacy systems and rebuild its technology stack from the ground up. This clean-slate approach enabled the company to adopt modern, scalable platforms that deliver greater agility, performance, and operational efficiency. The transformation has positioned PPG to accelerate innovation and compete more effectively in a rapidly evolving digital landscape.

Situation: Technical Debt Was Crippling Growth And Innovation

Plaza Premium Group, a global leader in airport hospitality with over 250 lounges at more than 70 international airports, grew into a multifaceted provider of travel services, expanding its portfolio to include airport hotels, meet-and-greet assistance, baggage handling, and fast-track services. However, PPG's technology hadn't kept pace; the firm ran its core on-premises systems and applications on decade-old infrastructure hosted on Windows Server 2016 with .NET technology and was still using MySQL 5.65 at the time of decommissioning. Years of accumulated technical debt had pushed the company to the brink of technology bankruptcy.

PPG's legacy systems created operational inefficiencies, slowed innovation, and made it impossible to scale. Standardizing service quality across international locations became increasingly difficult; launching new services or onboarding new airports took months. Regulatory variations across airports added further complexity, and the outdated tech stack couldn't keep up. PPG's legacy infrastructure had become a liability. Its transformation was hindered by:

- **Rigid, monolithic architecture.** Built on Windows servers, the legacy core system lacked flexibility. It restricted pricing and distribution agility, delayed product launches, and eroded trust across the airport ecosystem. The outdated operational portal became a bottleneck, undermining service delivery and organizational morale.

market timelines. Inconsistent real-time data prevented seamless cross-channel selling and created operational inefficiencies.

- **Siloed data and limited insight.** Legacy systems trapped customer and operational data in silos, making it difficult to personalize services or gain actionable insights. Integrating data across touchpoints — from websites and partner portals to point of sale and transport services — was a constant struggle.
- **Poor partner experiences.** The platform couldn't onboard demand or supply partners, limiting ecosystem growth. It wasn't designed as a SaaS product, preventing PPG from offering its solutions externally — a missed opportunity for revenue diversification.
- **Painful deployment cycles.** Rolling out updates or launching in new environments required 4-hour downtimes, disrupting operations and degrading customer experiences. The lack of automated deployment tools stifled agility and innovation.

Approach: Rebuild From Tech Bankruptcy Through Cocreation

With legacy systems pushing operations to a breaking point, PPG made the bold decision to rebuild its technology foundation and reimagine how it delivered airport hospitality — an approach that came with a high price tag. To justify the expense, PPG identified key cost-saving opportunities, such as reducing infrastructure spending and streamlining operations through automation. Its transformation was guided by two core principles: Embed cocreation into every phase of innovation to ensure that solutions meet real-world needs and modernize the architecture to enable agility and scalability.

Build The Case For Change

PPG recognized that a transformation of this scale would require significant time, effort, and investment. To move forward with confidence, the team needed to clearly define the business case, starting with the biggest architectural constraints and identifying cost-saving opportunities that could help fund the journey. By surfacing these challenges and quantifying the potential savings, PPG was able to build a compelling case for modernization that balanced cost, risk, and long-term value. Among its key insights were that:

- **Technical debt was the primary barrier to competitiveness.** The outdated architecture, with its legacy technology and monolithic structure, was primarily designed to scale vertically. This fundamentally limited the business's agility and speed in launching new initiatives. The system's rigidity made it difficult to adapt to changing market demands and integrate new technologies, effectively handcuffing the business. This lack of architectural flexibility lengthened development cycles and increased time-to-market for new products and services.
- **Inefficient infrastructure inflated costs.** Scaling the legacy systems required unorthodox methods often involving the overprovisioning of resources. This resulted in inefficient resource utilization and significantly inflated infrastructure spending. The inability to scale efficiently increased costs, limiting the overall cost-effectiveness of the IT infrastructure.

the risk of errors, prolonged release cycles, made it difficult to maintain system stability, and hindered the ability to scale infrastructure quickly and efficiently to meet fluctuating demand.

Apply Cocreation Principles To Redesign Airport Passenger Services Operations

As part of its broader technology overhaul, PPG put cocreation at the heart of its modernization strategy. Rather than treating transformation as a purely technical exercise, the company engaged employees, partners, and travelers to shape the design and functionality of its new digital platform. This collaborative approach ensured that the new architecture was scalable, efficient, and deeply aligned with operational realities and customer expectations. Key initiatives included:

- **Collaborative product design.** PPG brought together cross-functional teams including frontline staff, technology partners, and customers to co-design digital solutions that would run on the new platform. Insights from travelers helped define features like faster check-ins, personalized amenities, and seamless mobile interactions. These inputs directly informed the architecture's modular design, ensuring flexibility and responsiveness at the service layer.

- **Technology-driven optimization.** PPG collaborated with Tata Consultancy Services (TCS) on the design and development of its new architecture and products. PPG continued to support its existing platform to ensure uninterrupted operations until the new system was ready. During this transition, PPG partnered with cloud providers like Amazon Web Services (AWS) and service partners like TCS to build integrated platforms that automated routine tasks and enhanced operational efficiency. Together, they developed features such as real-time inventory tracking, AI-powered customer analytics, and mobile self-service tools. These innovations streamlined workflows and allowed staff to focus on delivering exceptional customer experiences.

- **Continuous feedback for platform evolution.** To ensure that the platform remained relevant**,** PPG established feedback loops with both employees and customers. It used agile practices and collaborative innovation sessions to refine airport passenger service offerings such as meet and greet, fast lane, and wheelchair and buggy services. This iterative approach allowed PPG to stay responsive to traveler needs while maintaining high service standards.

Reimagine The Architecture To Modernize At Scale

With a clear business case and stakeholder alignment in place, PPG moved swiftly to reimagine its architecture and deliver a future-ready platform in partnership with TCS. The shift from a fragmented, on-premises three-tier architecture to a centralized, cloud-native platform marked a critical milestone on PPG's modernization journey (see Figures 1 and 2). Previously, each airport operated on an isolated deployment, requiring separate onboarding for users and partners — a model that slowed expansion, increased complexity, and limited scalability. The new architecture was designed to eliminate these inefficiencies and enable rapid, secure, and seamless global operations.

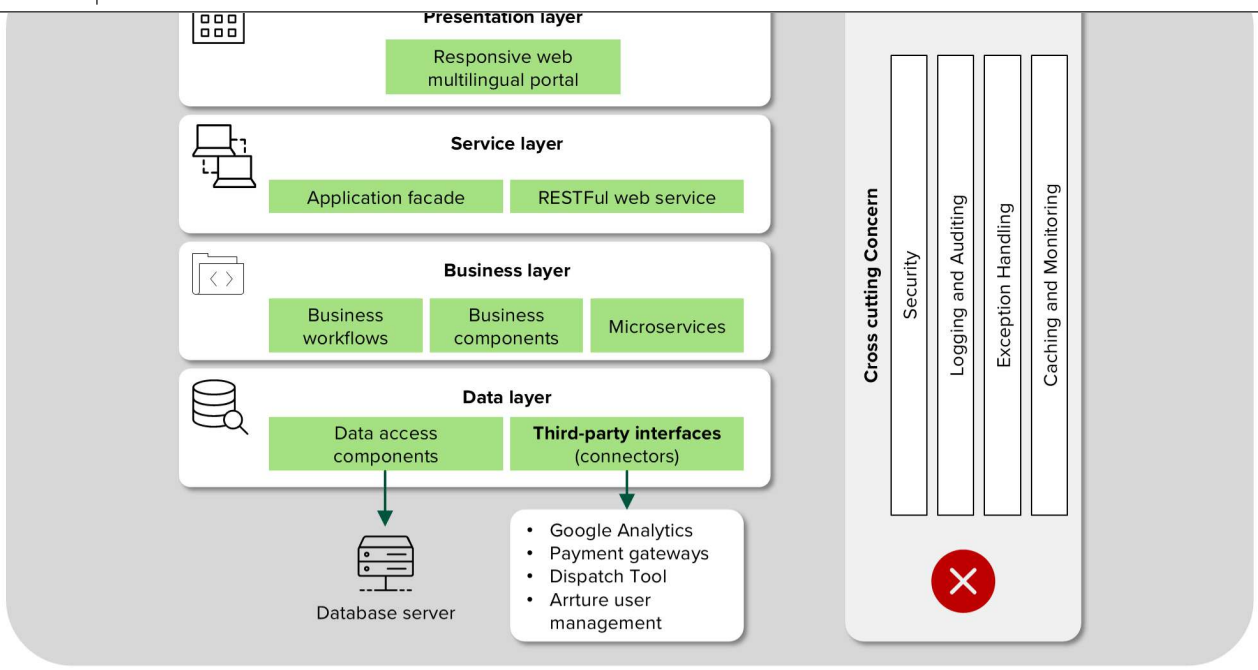
- **Cloud-native architecture and microservices.** Hosted on AWS, the new oneTECO platform was built for portability, resilience, and scalability. Business functions were restructured into microservices, enabling modular deployment and independent scaling. Kubernetes ensured high availability across AWS zones, while AWS CloudFront accelerated global performance by caching and delivering static assets closer to the users.

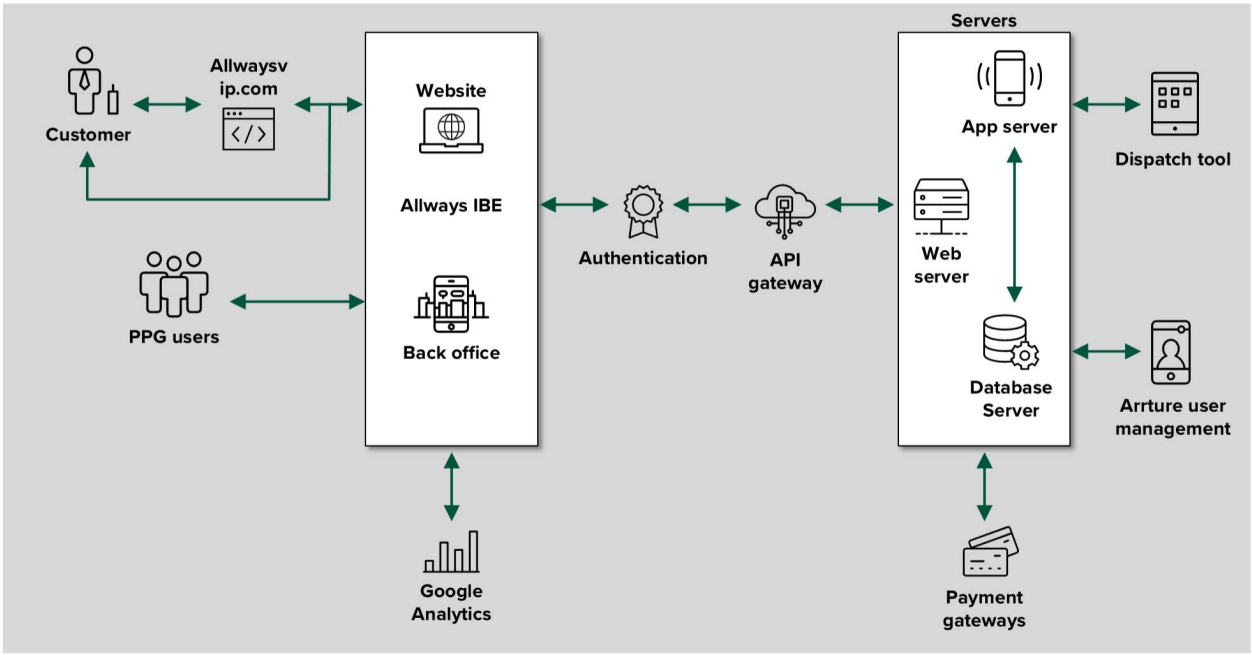
- **Optimized data management.** To support real-time responsiveness, the platform integrated Amazon ElastiCache for low-latency data retrieval and adopted a master-replica database configuration to offload read operations. Amazon Message Queue enabled smooth, asynchronous communication between services, ensuring consistent performance and seamless integration across systems.

- **Robust security, observability, and accelerated development.** Robust security is provided by a Fortinet firewall that manages all inbound and outbound traffic to protect the platform from threats. AWS CloudWatch enables centralized monitoring and alerting; container-level tracking helps ensure efficient resource usage and system health. PPG completed the development and deployment of oneTECO in just 12 months — delivering a scalable, secure, and future-ready platform at speed.

FIGURE 1

PPG's Legacy Monolithic Architecture Built On .NET Technology On AWS Cloud

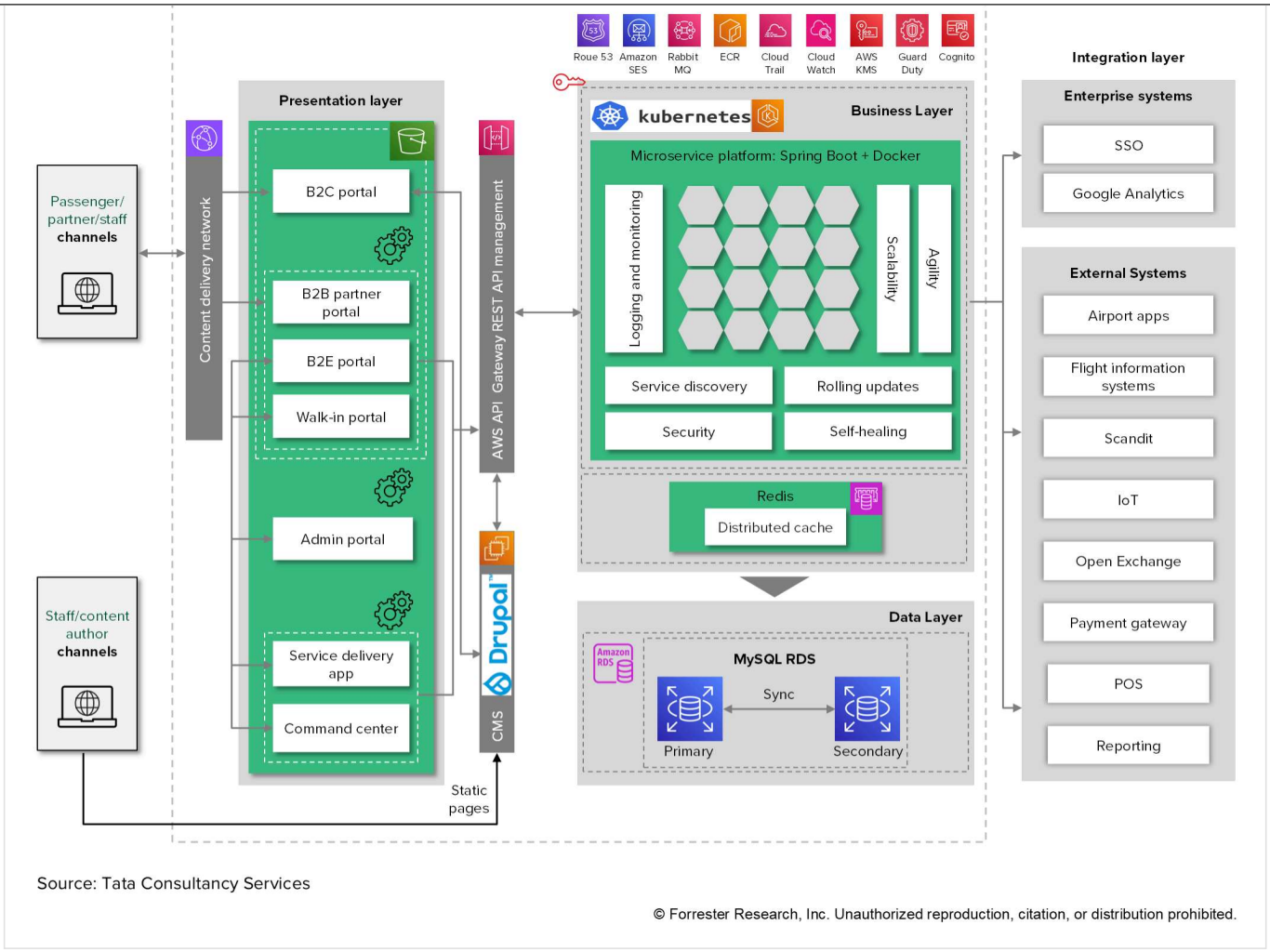




Source: Tata Consultancy Services

FIGURE 2

PPG's New Technical Architecture Enables Digital Commerce And Service Discovery



Source: Tata Consultancy Services

Results: Modern Architecture Drives Growth And Operational Agility

With the new architecture in place, PPG launched a flexible marketplace that allowed differentiated pricing and product configurations, enabling tailored offerings for customers and partners. This agility increased customer retention and accelerated time-to-market for new services and airport locations — all without visible downtime. The new platform aimed to support rapid expansion into new markets while delivering consistent value to stakeholders.

By leveraging cutting-edge digital technologies, PPG positioned itself to meet the evolving needs of passengers and partners, ensuring that it could deliver on its ambitious growth aspirations. This transformation delivered measurable impact in four key areas:

- **Accelerated revenue uplift.** The platform supported highly targeted promotions via dynamic promotion management, improving user engagement and boosting revenue by 8% to 10%. It also included built-in white-label features that allowed partners to instantly deploy fully branded e-commerce sites without any back-end customization, cutting time-to-launch from weeks to hours and supporting rapid go-to-market strategies.

commerce platforms, helping them expand into new markets quickly and efficiently.

- **Enhanced customer satisfaction.** The platform eliminated dependence on the development team for content updates through multilingual content management, saving an average of 4 hours per week while enhancing the user experience. It also features a structured customer hierarchy to streamline content distribution and access management, reducing manual tasks and improving efficiency by over 30%.

- **Stronger operational resilience.** The team implemented a blue/green deployment approach that reduced deployment windows from 4 hours to zero, saving 300 to 400 hours annually in deployment and post-deployment activities. It also used TCS's in-house automation tools during migration and deployment to cut resource utilization for nonfunctional testing by more than 60%; to date there have been no major incidents post-release.

Supplemental Material

Companies We Interviewed For This Report

We would like to thank the individuals from the following companies who generously gave their time during the research for this report.

Plaza Premium Group

Tata Consultancy Services