WHITEPAPER

Enabling Enterprise Mobility

via API-led connectivity

Mobile on the Rise

There's no question that mobile applications are dominating both B2B and consumer experiences, and there's no denying the shift toward mobile taking place in the enterprise. Mobile is fast evolving into the primary channel for marketing promotions, customer community development, customer service, and support, supply chain management, manufacturing operations, and of course, digital commerce. Having an enterprise mobile strategy – once optional – has now become business critical.

This paper reviews the primary drivers for mobile initiatives, the challenges faced by CIOs trying to initiate or support a mobile strategy, and the transformation stories of three market leaders who enabled mobility via API-led connectivity.

Primary drivers for mobile initiatives

> "The primary goal of mobile app initiatives is to either generate revenue (64%) or to improve the mobile experience of existing apps (58%)."
>
> - Mobile App Backlog Is Directly Damaging Revenue in the Enterprise. Rep. OutSystems, Oct. 2014.

Companies are building mobile applications with three main objectives:

- **Enable Employee Productivity**

  Businesses are building mobile applications to enable greater employee productivity. When employees can access important sales, customer, product, or operations data via mobile business applications, they spend more time working and making decisions on the go, and less time catching up in the office.

- **Increase Partner Collaboration**

  Businesses are also creating mobile applications to simplify and streamline interactions with partners and suppliers. Mobile applications offer instantaneous communication, making it easy for all stakeholders in the supply chain to stay looped into exactly how, where and when to turn their cog in the machine.

- **Improve Customer Experiences**

  Consumer apps have created an expectation for incredible mobile experiences, even for business apps, and businesses need to deliver it seamlessly and securely. Mobile customer apps increase brand preference by enabling customers to shop, compare, buy, and access services at any time.

CIOs are charged with enabling mobile initiatives across different lines of business in order to remain competitive and innovative. The need for mobile is urgent, but significant IT challenges stand between the CIO and a robust mobile strategy.

Challenges faced by CIOs

Speed

Deliver the 100th app like the 1st

Mobile IT strategies don't just need to support four or five mobile applications – they have to work for a number of different business groups that are asking for multiple applications each. As each group changes strategies and systems, IT must also be able to quickly and seamlessly make updates to mobile applications. The lines of business can't wait six months to a year for an application to be developed or updated if they want to remain competitive – they're demanding multiple mobile applications for employees, partners, and customers at the speed of the business. Enterprises need to run fast on their first mobile initiative, and just as fast on the next 100 projects.

Deliver great applications, quickly

Success for a mobile IT strategy is very tightly tied to the speed at which mobile applications can be created and updated. Speedy mobile deployments come from two things – fast front-end development and fast back-end data access.

Front-end speed

On the front-end, the mobile application developer is focused on speed, design, and user experience. Mobile developers and architects are focused on deploying functional mobile applications with easy-to-use interfaces for immersive and responsive experiences. They are not necessarily aware that a lack of fast and secure access to data from various back-end sources in the enterprise will in fact hamper the project timeline and the ultimate robustness of the app.

> **Front-end developer**
> The mobile application developer is focused on speed and design, and doesn't fuss over and is not fully aware of back-end connectivity.

Back-end speed

The challenge of speed primarily lies in secure access to back-end data. Speed on the front-end doesn't matter if an application's intended content is locked away in systems across the enterprise. Although a few mobile projects might be possible on an ad hoc basis, custom code and point-to-point integration not only slow app development, they create a brittle infrastructure and increase security risks. Architects and back-end API developers need to enable secure, self-served access to data from different enterprise systems to multiple mobile applications – in a scalable way.

> **Back-end developer**
> The backend developer is an IT and back-end application specialist focused on governance and control, as well as authentication of users to get approved access to the appropriate data.

Governance and control

Management without compromise

Businesses need to deliver robust applications quickly, but they also need to ensure they do so securely. Exposing an enterprise's assets is risky business, and the greater the number of applications, users, and systems, the greater the risk of assets being compromised. Moreover, systems that aren't built to handle the volume of data requests as might be expected from mobile applications are prone to failure, downtime, and ultimately a bad user experience. To ensure a stable and reliable environment, APIs need to be designed with an understanding of the back-end systems and then built to deliver on those requirements.

This creates a conflict between the mobile application developer's need to access data quickly, and the back-end developer's need to ensure that access to enterprise data is well secured, governed, and managed.

The Opportunity – API-led Connectivity

Revolutionizing mobile through API-led integration

The solution to solving these challenges is API-led connectivity. The fundamental building blocks of this architecture are purpose driven development of APIs in order to meet application requirements, while establishing policies and managing access to backend data.

API-led connectivity enables:

- **Ubiquitous Connectivity** – Connect mobile applications to any source of data in the enterprise quickly and scalably.
- **Fast Deployments, Fast Changes** – Self-service API access and composition enables developers to move fast, as often as they need.
- **Scalable IT Architecture** – Expose back-end data to app developers by loosely coupling systems and without creating brittle point-to-point integrations

Why API-Led Connectivity

In order to support front-end speed while having robust back-end governance, enterprises need to provide mobile developers with self-service access to data across the organization. APIs help unlock data and assets by providing a layer of abstraction and control between mission-critical back-end systems and the front-end services being exposed to mobile developers.

APIs enable the speed and flexibility necessary to quickly expose all sorts of data to mobile applications. Composable APIs allow developers to quickly create new APIs from existing building blocks, ensuring fast access to everything in the enterprise. With APIs sitting between front-end applications and back-end systems, any changes made to the back-end won't affect connections to mobile applications.

How to Achieve API-led Connectivity

Anypoint Platform for Mobile

Anypoint Platform for Mobile enables businesses to quickly design, build, manage, and analyze APIs to connect mobile applications to data from many other popular enterprise platforms and services. MuleSoft's Anypoint Platform for Mobile offers enterprise grade architecture, connectivity to everything and anything, and APIs to govern access to data and resources.

Anypoint Platform for Mobile enables you to:

- Provide self-service access to back-end data through APIs
- Rapidly build and expose enterprise APIs for downstream developers
- Create reusable building blocks for developers, so they can quickly mock up and build mobile-ready APIs
- Maintain governance, control, and robustness of the enterprise infrastructure

Connectivity in Action

Case Study: Enable Employee Productivity

Large Food Company – a globally known brand – enables employees with mobile applications

A large food company was looking for a better way to enable their field sales teams. Field sales needed fast access to all their customers, inventory, and order information at their fingertips in order to sell better on the road. Moreover, the sales organization was spending far too much time on administrative and planning tasks.

The company turned to MuleSoft to help them take their mobile strategy to the next level. Working together, the large food company was able to provide a robust mobile solution for their sales teams that integrated information across 24 applications, including Salesforce and SAP.

With Anypoint Platform for Mobile, the food company's sales teams were able to:

- Spend more time at stores and decrease the amount of time spent on administrative tasks – instead of being behind the desk, employees were out in the field selling. As a result, they were able to visit a greater number of stores, increase revenue opportunities, and reduce overtime hours.
- Make more informed decisions thanks to instant access to customer data, allowing for better sales conversations.
- Eliminate the need and cost for laptops in the field – data and processes were all made accessible through a robust mobile application.
- Accumulate 67,000 additional selling hours per year across 1,600 sales reps.

Case Study: Increase Partner Collaboration

The current state

A Fortune 500 beverage company came to MuleSoft with a backlog of mobile applications requests, strong interest in SaaS adoption, and a business strategy for growth through acquisitions. These requirements had put significant stress on the business' IT organization, which needed to improve speed and agility in supporting business initiatives, while still delivering on cost reduction targets. Caught in the middle of industry trends that were greatly impacting their revenue and market share, the beverage company looked for ways to remain innovative, better understand their consumers, expand their global and regional brands, and improve their operational efficiency.

Back-end Issues

- Point-to-point integration and custom code across the ecosystem and directly within the application, with numerous middleware tools sprinkled throughout
- A complex and brittle web of tightly coupled interdependent systems made making modifications difficult. Any changes required significant investments of time and resources.
- Numerous legacy integration technologies and the emergence of SaaS and mobile applications exacerbated all these problems.

Solution

The beverage company has launched an API-led connectivity rollout to increase agility in delivering mobile applications rapidly and with high frequency. They introduced their first mobile application in just three weeks – something that would have taken months previously.

They set out to create a mobile application to automate and digitize wholesale ordering and streamline operations with partners. Through APIs created, managed, and monitored on MuleSoft's Anypoint Platform for APIs, the company was able to track all their external assets in the field, enabling them to know inventory stock situations and begin to address them on a timely basis.

Additionally, central IT is now getting requests for awesome mobile applications from departments across the whole organization – marketing, supply chain operations, to name a few.

Case Study: Improve Customer Experiences

One chance to make a great first impression

Over the past decade, a leading U.S convenience store chain – ranked as one of the largest private companies in the U.S. by Forbes – has been consistently praised for customer-centric innovation. Understanding the high demands of their customer base, the convenience store chain knew that a misstep in launching their first mobile application would negatively impact their growing brand.

As competitors like Starbucks and Dunkin Donuts started winning repeat business by tying customer loyalty programs to mobile applications, the convenience store identified an opportunity to innovate once again.

The company's President and CEO described their goals for mobile: "We want to integrate our app completely with the experience at the store level." Executing this vision, however, would require both business and IT to rethink their approach to connectivity. Prior to building the application, the team set out to identify how this application would enhance the in-store experience.

They landed on a few key capabilities. They wanted to allow customers to:

- Order and pay via the customer's mobile device
- Manage and redeem store rewards
- Check the prices of one product, gasoline, in real-time
- Check-in, view store hours, and get directions to nearby locations

To deliver a seamless customer experience, the mobile app needed to enable payment providers, loyalty vendors, and point-of-sale systems to all communicate securely with each other and with the store's back office systems and data. These communication points needed to be API-led and loosely coupled to provide flexibility should a vendor change. And with 81 disparate cloud and on-premises endpoints for application version 1.0 of the application, the chain's developers needed a solution that would make them hyper productive. Nothing they had in-house could connect these endpoints at the speed at which they were looking for.

By delivering this application with a vision for API-led connectivity on MuleSoft's Anypoint Platform, the convenience store chain now has the speed and agility it needs to accelerate it's pace of innovation.

Learn more about MuleSoft's Anypoint Platform for Mobile

- **Connect mobile to anything**

  With connectivity to all sources of key data including legacy systems, custom databases and SaaS, mobile developers can quickly populate and deploy mobile applications.

- **Fast to build, fast to change**

  MuleSoft allows app developers to consume APIs, quickly mock up and build new APIs, rapidly compose APIs from other API building blocks, and consistently access data through a self-serve model

- **Agility without loss of control**

  Every component of Anypoint Platform for Mobile has built-in enterprise grade capabilities to free IT from worrying about governance, registration, testing, policies, and SLAs.

Contact us to learn more about Anypoint Platform for Mobile and how MuleSoft can help you launch your enterprise mobility initiatives and help you transform your business.

MuleSoft's mission is to connect the world's applications, data and devices. MuleSoft makes connecting anything easy with Anypoint Platform™, the only complete integration platform for SaaS, SOA and APIs. Thousands of organizations in 60 countries, from emerging brands to Global 500 enterprises, use MuleSoft to innovate faster and gain competitive advantage.