

The best platform for enterprise mobile apps.

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Patent Information

This product is patented. One or more of the following patents may apply to the product sold herein: U.S. Patent Nos. 6,154,766, 6,173,310, 6,260,050, 6,263,051, 6,269,393, 6,279,033, 6,567,796, 6,587,547, 6,606,596, 6,658,093, 6,658,432, 6,662,195, 6,671,715, 6,691,100, 6,694,316, 6,697,808, 6,704,723, 6,741,980, 6,765,997, 6,768,788, 6,772,137, 6,788,768, 6,798,867, 6,801,910, 6,820,073, 6,829,334, 6,836,537, 6,850,603, 6,859,798, 6,873,693, 6,885,734, 6,940,953, 6,964,012, 6,977,992, 6,996,568, 6,996,569, 7,003,512, 7,010,518, 7,016,480, 7,020,251, 7,039,165, 7,082,422, 7,113,993, 7,127,403, 7,174,349, 7,181,417, 7,194,457, 7,197,461, 7,228,303, 7,260,577, 7,266,181, 7,272,212, 7,302,639, 7,324,942, 7,330,847, 7,340,040, 7,356,758, 7,356,840, 7,415,438, 7,428,302, 7,430,562, 7,440,898, 7,486,780, 7,509,671, 7,516,181, 7,559,048, 7,574,376, 7,617,201, 7,725,811, 7,801,967, 7,836,178, 7,861,161, 7,861,253, 7,881,443, 7,925,616, 7,945,584, 7,970,782, 8,005,870, 8,051,168, 8,051,369, 8,094,788, 8,130,918 and 8,296,287. Other patent applications are pending.

MicroStrategy Mobile performed strongly in the 2014 Gartner Mobile App Development Platform (MADP) Magic Quadrant. This white paper highlights what differentiates the MicroStrategy approach to building and maintaining mobile apps. MicroStrategy Mobile is the easiest, fastest, and most affordable way to create exceptional mobile apps for the enterprise.

MicroStrategy Mobile as a mobile app platform.

Since 2009, MicroStrategy has heavily invested in mobile platform technology to empower our customers to take advantage of what our company's founder Michael Saylor saw as the "Mobile Wave." As a result of that foresight, MicroStrategy Mobile is now a leading platform for mobile applications.

MicroStrategy Mobile has capabilities that extend well beyond simple business intelligence on a mobile device. Our customers have built apps that people would never consider to be traditional business intelligence: retail store operations apps, client-facing wealth management apps, sales rep enablement apps, conference apps, and field service apps, to name a few.

Why is this? Because MicroStrategy Mobile has the power to bring analytics, transactions, business workflows, and multimedia to life in custom apps built for tablets and smartphones. It is the easiest, fastest, and most affordable way to create exceptional mobile apps for the enterprise. The market has eagerly responded to our mobile platform. With its inclusion in the 2013 and 2014 Gartner MADP Magic Quadrant, MicroStrategy Mobile is now recognized independently for the value of its solution across two different analyst-defined markets. The market agrees that enterprise analytics and enterprise mobile apps form an essential combination, and we plan to continue to invest heavily to improve and expand our mobile app platform.

The three kinds of mobile app development.

The mobile wave continues to accelerate the need for organizations to mobilize business workflows, making the ease and rapidity of app development, deployment, maintenance, and monitoring a huge priority.

Due to the underlying work required to develop, deploy, maintain, and monitor mobile apps, and the fragmentation of the mobile

operating system landscape, three main ways to build mobile apps have evolved:

- Native code development
- Platform code development
- Platform code-free development

Native code development.

Native code (i.e. Apple iOS, Google Android) development require developers to start from scratch every time an app is built. This approach can be extremely time-consuming and can require considerable manpower and advanced development expertise, resulting in greater expense and reduced scalability.

Platform code development.

Platform code development—as offered by jQuery Mobile, IBM MobileFirst, and SAP Unwired—occurs in an integrated development environment (IDE). These environments use specialized code, usually Java or HTML5, to create a new branch of code for each operating system and device onto which the app is being deployed.

Platform code developers usually take a hybrid approach when developing apps for different operating systems and screen sizes: They begin developing apps in a cross-platform IDE, then continue coding in the native language to add platform-specific capabilities.

This translates into a huge expenditure of resources and effort to modify and maintain different branches of code for different platforms. And developers have not been freed from the need to program for specific operating systems and devices.

Platform code-free development.

MicroStrategy recognized the flaws inherent in native and platform code development—and their damaging effects on organizations—and built a code-free development environment to support a new kind of mobile app platform. This facilitates scalable and rapid app creation by enabling users to extend enterprise grids, graphs, reports,

and dashboards to their mobile devices—without requiring any additional coding or development expertise.

Pre-populated with an array of features designed to help both new and experienced users rapidly design and deploy mobile apps, MicroStrategy Mobile makes app development intuitive and scalable.

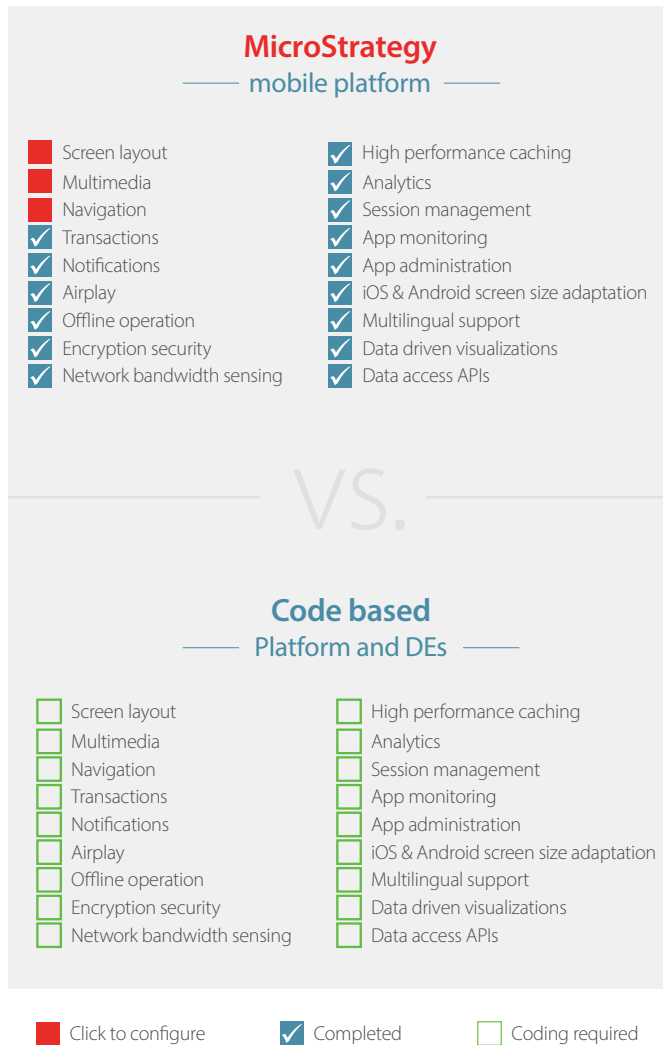


Figure 1. Start your mobile app with over 100 man-years of development already completed.

App lifecycle.

Today's mobile business users expect frequent if not live updates, necessitating a platform that facilitates quick app changes and instant pushes of new content. Developers in a native or platform code development environment face the burdensome task of

manually updating information for every operating system and device. Even in some platform code-free environments, this process is painful and slow.

Ideally, an app developer would want to configure the app changes and then deploy those changes instantly to all supported platforms. Many companies employing platform code-free development fall into a common trap to address this desire: the use of rigid and restrictive templates that limit the quality of mobile apps to that of the lowest common denominator. In a diverse bring-your-own-device world, this can easily mean falling behind the curve on mobile app capabilities. For example, if the oldest device and operating system supported is a three-year-old BlackBerry, every app deployed—including those to a brand new iPhone—will have the functionality and look-and-feel of an app deployed to an out-of-date BlackBerry. This is regrettable as the newer devices' enhanced functionality, better resolution, and any other product advances will be completely wasted.

Furthermore, rigid templates do not make visually appealing or effective apps, as they constrain the number of displays supported, do not match company workflows, and lack a look-and-feel that matches corporate culture. When it comes to the issues of reusability and ease of app design, MicroStrategy Mobile has one huge competitive advantage over all other companies: metadata.

The key to efficient app development, and a lower total cost of ownership, is the metadata abstraction layer, which allows for extensive object re-use. Metadata is at the very core of MicroStrategy Mobile. Essentially, it is information about your information and describes every object that is surfaced in-app. So, whenever a developer changes an object, the metadata changes, which is instantly reflected on users' mobile devices and in the object definition. Since these objects are reusable, the changes will be surfaced in any app or document in which the object is used.

With this ability to automatically update content, MicroStrategy Mobile avoids the rigid template trap and allows users complete flexibility of design. This ensures that apps are developed and updated rapidly, that their look-and-feel matches corporate brand, and that native device abilities are fully leveraged.



Figure 2. Key advantages of MicroStrategy's approach to mobile app development.

Advantages of the MicroStrategy approach to mobile app development.

As summarized in Figure 2, the MicroStrategy Mobile app platform has many advantages over any other app development approach, including:

Develop apps 100x faster in a code-free environment.

Code-free development allows developers to configure analytical and information-driven apps in an intuitive drag-and-drop, WYSIWYG interface. See Figure 3 for more detail. This enables developers to build applications over 100 times faster than they could with other vendors using native coding. As a result, MicroStrategy customers deploy and adopt apps more rapidly and receive quicker returns on their software investment. Advanced developers can further customize apps and enhance native interactivity with the help of MicroStrategy Mobile's software development kits (SDKs).

Deploy native apps across multiple operating systems with a single design.

Object-oriented development enables developers to create native apps for multiple devices by building a single app. Other vendors require unique applications and coding for each device in order to create native apps.

MicroStrategy Mobile offers a unique approach to app development centered on a single, unified metadata layer, which funnels into a device-specific mobile app container to create a native app. The container comes coded for each device and enables the client to interact with device-specific features like camera and GPS.

As a result, apps built with MicroStrategy Mobile seamlessly integrate device-specific capabilities to create a rich, intuitive user experience. This native experience far exceeds that of hybrid or web-based apps.

Efficient, highly automated maintenance.

Since MicroStrategy object definitions are stored in a centralized metadata repository, administrators only need to make changes to their app in a single location in order to propagate changes across multiple devices. Other native tools require custom coding for each operating system in order to modify an app. MicroStrategy administrators need not recode, recompile, or redeploy the client. And, with the help of script-based administration tools, MicroStrategy automates key processes to increase efficiency and avoid human error, while automated regression testing verifies data across app versions and deployments.

Monitor activity to optimize user experience.

MicroStrategy administrators can easily monitor client-side app usage with page and object manipulation analytics as well as time-motion data. They can also conduct real-time and historical data analysis via server-side usage monitoring. In addition to app usage, administrators can also monitor mobile app adoption, GPS location, app and OS version, and more.

MicroStrategy provides exceptional analytical capabilities to explore usage data. As a result, administrators and developers can find key insights about user behavior and enhance mobile apps accordingly for a better-optimized user experience.

Enterprise-grade security.

MicroStrategy Mobile provides a secure environment for users to access their mobile apps, and easily integrates with existing enterprise security infrastructure. Dynamic access controls ensure every user gets personalized content based on security roles.

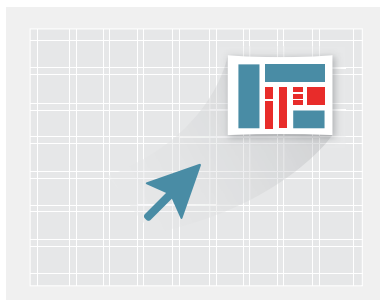
MicroStrategy meets the Advanced Encryption Standard (AES) with 256-bit encryption for traffic, app data, and credentials, and also

Pre-built widgets



Drag-n-drop canvas

1. Insert a widget
2. Set location, size, and color
3. Set properties
4. Save... Done



Beautiful cross-platform apps

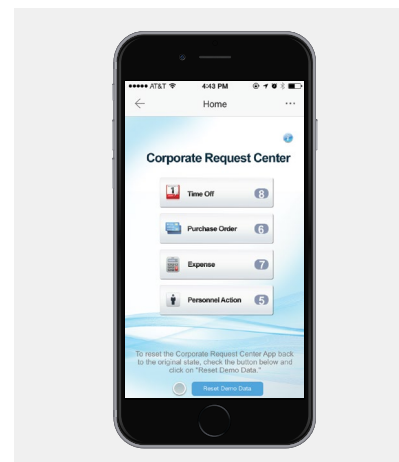


Figure 3. Click-to-configure, code-free development environment. No special skills needed. Exceptional results delivered.

provides link encryption for VPN, HTTPS, WPA2 (128-bit encryption), and SSL. Remote access revocation keep sensitive information secure in the event of a stolen or lost device. MicroStrategy integrates seamlessly with existing authentication tools such as LDAP, NT, and Tivoli SiteMinder. Single sign-on (SSO) increases convenience and adoption without compromising security. Additional layers of security protect the most sensitive data through integration with Airwatch and Good Technologies.

Deliver GBs of data overnight via APNS integration.

MicroStrategy Mobile uniquely integrates with Apple's Push Notification Services (APNS) to push the latest content to apps on a scheduled basis; users can read and interact with the new content as soon as they open the app with or without connectivity. Customized icon badges and push notifications provide flexible alerting options.

Lightning-fast performance, online or offline.

Sophisticated caching technology and SQL generation optimizations increase efficiency to deliver the industry's highest levels of performance, right out of the box. Advanced offline functionality, including read and write-back, enables superior performance even without connectivity.

Robust analytical capabilities.

MicroStrategy provides the most powerful, comprehensive mobile analytics and data visualization platform. Advanced analytics allow

business users to easily mine and analyze enterprise data. A vast library of widgets and data visualizations enables sophisticated visual data analysis. Leverage out-of-the-box integration with Google Maps, Apple Maps, and device GPS to provide a powerful experience for performing spatial and geographic analysis. MicroStrategy dashboards allow users to actively monitor all of their most important data from a single app.

Optimized access to any data source.

Seventy percent of mobile application development time is consumed by performing back-end integration. MicroStrategy dramatically reduces this effort by providing an extensive list of out-of-the-box connectors that optimize access to those systems or data sources.

Conclusion

MicroStrategy Mobile is the only enterprise-ready app development platform, enabling users to create beautiful and impactful enterprise mobile apps quickly and at a fraction of the cost of competitors. The bottom line: MicroStrategy Mobile apps get results.

Contact us at info@microstrategy.com to schedule a free Mobile QuickStrike engagement where we will build a prototype custom app for your business in a matter of days.