

## **The best platform for enterprise apps**

MicroStrategy Mobile App Platform

---

**Copyright Information**

All Contents Copyright © 2014 MicroStrategy Incorporated. All Rights Reserved.

**Trademark Information**

The following are either trademarks or registered trademarks of MicroStrategy Incorporated in the United States and certain other countries: MicroStrategy, MicroStrategy 6, MicroStrategy 7, MicroStrategy 7i, MicroStrategy 7i Evaluation Edition, MicroStrategy 7i Olap Services, MicroStrategy 8, MicroStrategy 9, MicroStrategy Distribution Services, MicroStrategy MultiSource Option, MicroStrategy Command Manager, MicroStrategy Enterprise Manager, MicroStrategy Object Manager, MicroStrategy Reporting Suite, MicroStrategy Power User, MicroStrategy Analyst, MicroStrategy Consumer, MicroStrategy Email Delivery, MicroStrategy BI Author, MicroStrategy BI Modeler, MicroStrategy Evaluation Edition, MicroStrategy Administrator, MicroStrategy Agent, MicroStrategy Architect, MicroStrategy BI Developer Kit, MicroStrategy Broadcast Server, MicroStrategy Broadcaster, MicroStrategy Broadcaster Server, MicroStrategy Business Intelligence Platform, MicroStrategy Consulting, MicroStrategy CRM Applications, MicroStrategy Customer Analyzer, MicroStrategy Desktop, MicroStrategy Desktop Analyst, MicroStrategy Desktop Designer, MicroStrategy eCRM 7, MicroStrategy Education, MicroStrategy eTrainer, MicroStrategy Executive, MicroStrategy Infocenter, MicroStrategy Intelligence Server, MicroStrategy Intelligence Server Universal Edition, MicroStrategy MDX Adapter, MicroStrategy Narrowcast Server, MicroStrategy Objects, MicroStrategy OLAP Provider, MicroStrategy SDK, MicroStrategy Support, MicroStrategy Telecaster, MicroStrategy Transactor, MicroStrategy Web, MicroStrategy Web Business Analyzer, MicroStrategy World, Application Development and Sophisticated Analysis, Best In Business Intelligence, Centralized Application Management, Information Like Water, Intelligence Through Every Phone, Intelligence To Every Decision Maker, Intelligent E-Business, Personalized Intelligence Portal, Query Tone, Rapid Application Development, MicroStrategy Intelligent Cubes, The Foundation For Intelligent E-Business, The Integrated Business Intelligence Platform Built For The Enterprise, The Platform For Intelligent E-Business, The Scalable Business Intelligence Platform Built For The Internet, Office Intelligence, MicroStrategy Office, MicroStrategy Report Services, MicroStrategy Web MMT, MicroStrategy Web Services, Pixel Perfect, Pixel-Perfect, MicroStrategy Mobile, MicroStrategy Integrity Manager and MicroStrategy Data Mining Services are all registered trademarks or trademarks of MicroStrategy Incorporated.

All other company and product names may be trademarks of the respective companies with which they are associated. Specifications subject to change without notice. MicroStrategy is not responsible for errors or omissions. MicroStrategy makes no warranties or commitments concerning the availability of future products or versions that may be planned or under development.

**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, 6,400,265, 6,567,796, 6,587,547, 6,606,596, 6,658,093, 6,658,432, 6,661,340, 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, 8,296,287, 8,321,411, 8,452,755, 8,521,733, and 8,522,192. Other patent applications are pending.

## TABLE OF CONTENTS

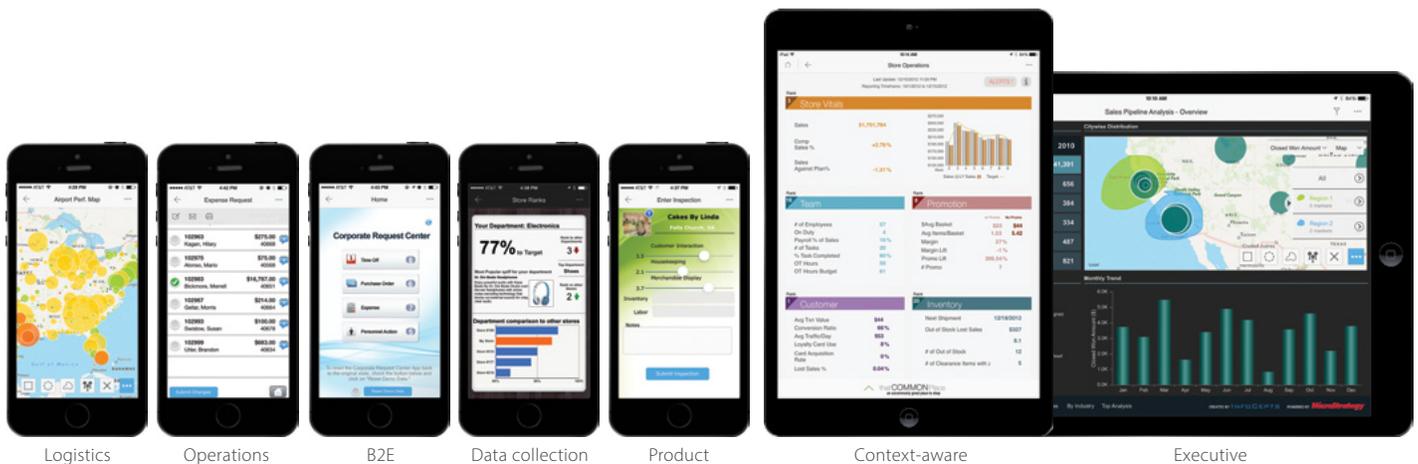
---

MicroStrategy Mobile as a mobile app platform	Page 2
The three kinds of mobile app development	Page 2
Native code development	Page 3
Platform code development	Page 3
Platform code-free development	Page 3
App lifecycle	Page 3
Advantages of the MicroStrategy approach to mobile app development	Page 4
Develop apps 100x faster in a code-free environment	Page 4
Deploy native apps across multiple operating systems with a single design	Page 4
Highly automated efficient maintenance	Page 5
Monitor activity to optimize user experience	Page 5
Military-grade security	Page 5
Deliver GBs of data overnight via Newsstand integration	Page 6
Lightning fast performance, online or offline	Page 6
Robust analytical capabilities	Page 6
Optimized query and access to any data source	Page 6
Conclusion	Page 6

## The best platform for enterprise apps

MicroStrategy Mobile App Platform

The MicroStrategy Mobile App Platform debuted strongly in the 2013 Gartner Mobile App Development Platform (MADP) Magic Quadrant, published August 7, 2013. This white paper highlights how Microstrategy has a completely differentiated approach to building and maintaining mobile apps. Microstrategy Mobile is the fastest, most elegant, cost effective, and powerful 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 and founder Michael Saylor saw as the “Mobile Wave.” As a result of that foresight, the MicroStrategy Mobile product is currently considered one of the leading solutions for mobile applications.

The MicroStrategy Mobile product is particularly powerful and flexible. It extends into solutions well beyond “BI on a mobile device.” As such, we have seen customers use our Mobile product to build apps that people would never consider to be classic BI: retail store operations apps, client-facing wealth management apps, sales rep enablement apps, conference apps, golf tournament apps, education content apps, and field service apps, to name a few.

Why is this? The MicroStrategy Mobile Platform brings to life analytics, transactions, workflows, and multimedia in platform-built custom apps for tablets and smartphones. It is the fastest, most elegant, cost effective, and powerful way to create exceptional mobile apps for the enterprise. As an excellent indication of the market’s acknowledgment

of our mobile platform, it was selected by Gartner to be included in their Mobile App Development Platform Magic Quadrant.

MicroStrategy Mobile is effectively one product that delivers both best in class mobile business intelligence and a powerful mobile app platform. With Gartner’s report, MicroStrategy Mobile is now recognized independently for its solution value across two different analyst-defined markets. We are extremely pleased that our MicroStrategy Mobile product has debuted so strongly in this Gartner-defined Magic Quadrant. MicroStrategy Mobile customers have been building apps using our platform for the past 24+ months and this independent validation showcases the strength of our solution in this market. MicroStrategy has ambitious plans to continue investing in mobile.

### The three kinds of mobile app development

In the coming years, the sheer number of mobile apps that organizations will need to create is enormous, making 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

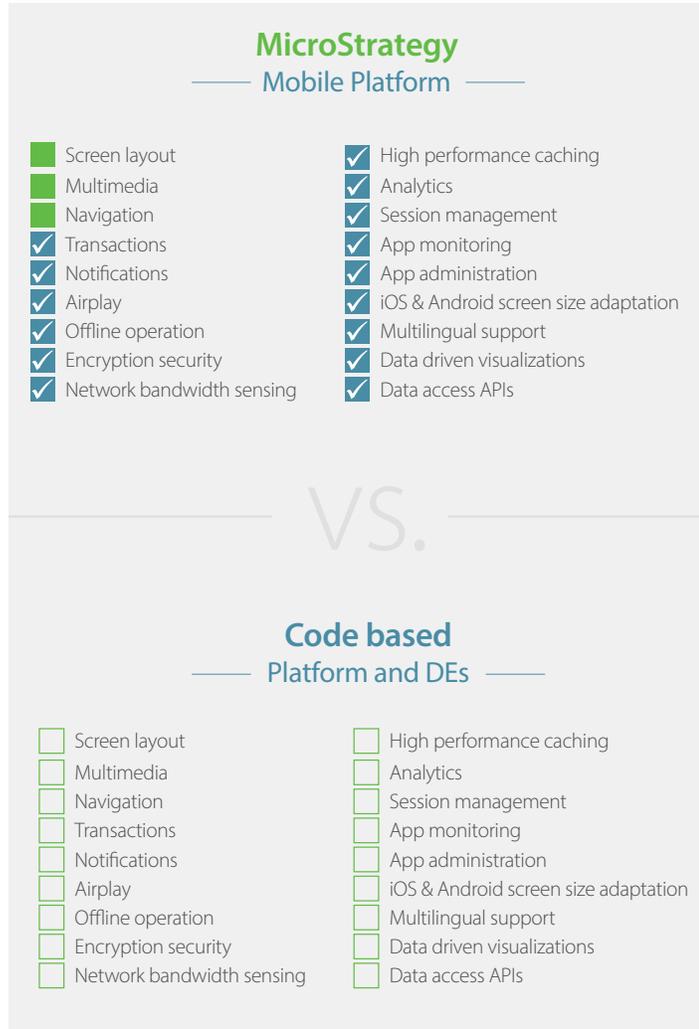


Figure 1. Start your mobile app with over 100 man-years of development already completed.

### Native code development

Native code (i.e. Apple, Google) development mandates that developers need to start from scratch every time an app is built. This approach can be extremely time-consuming and often requires a great deal of

manpower and advanced development expertise, which equates to greater expense and less scalability.

### Platform code development

Platform code development—as offered in jQuery, IBM Worklight, and SAP Unwired — occurs in an Integrated Development Environment (IDE) environment. 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 with respect to developing apps for different operating systems and screen aspect ratios. First, they develop apps in a cross-platform IDE. Second, they continue coding in the native language to add platform-specific capabilities.

This translates into a huge expenditure of resources to modify the code for specific platforms, not to mention the astronomical effort required to maintain all of the different branches of code.

The downsides of platform code development are that app developers must still be able to program, yet the code generated is no longer fully-native to the device. The drawbacks to this methodology are further exaggerated when developing apps for multiple operating systems.

### Platform code-free development

Due to the difficulties inherent in both native code and platform code development, the MicroStrategy Mobile App Platform was designed as a code-free development environment. This facilitates scalable and rapid app creation by enabling any user to extend the company’s grids, graphs, enterprise reports, and dynamic dashboards to his or her mobile device — without requiring any additional coding or development expertise.

Pre-populated with an array of features designed to help new and experienced users rapidly design and deploy app after app, MicroStrategy Mobile App Platform makes app development intuitive and scalable. See Figure 1. to view a summary of MicroStrategy Mobile Platform features.

### App lifecycle

Ultimately, every business app deployed to executives will have two results:

- Praise
- Requests for additional content and functionality

The second requirement necessitates a platform that handles frequent changes well and instantly pushes new content to your users. In addition, the avenues of updating your content need to be friction-less. Updating content in a native code or platform code development environment is an onerous task, as developers need to manually update the information for every operating system and device. Even in some platform code-free environments, this process can still be very difficult.

Ideally, an app developer would want to configure the app and then deploy it instantly to all supported platforms, without having to make any code modifications. As such, many companies employing platform code-free development fall into a common trap: the use of rigid templates.

While outwardly it seems like a good idea to use rigid templates to facilitate development, the reality is that these apps are forcibly boiled down to the lowest common denominator. For example, if the oldest device and operating system supported is a three-year old BlackBerry, every app that is deployed to a brand new iPhone will still have the functionality, look-and-feel of an app deployed on an out-of-date BlackBerry. This is regrettable as the newer device's enhanced functionality, better resolution, and any other product advances will be completely bypassed.

Furthermore, rigid templates simply do not make visually appealing or effective apps. Rigid templates are inherently limiting as they constrain the number of displays, do not match company workflows, and their look-and-feel do not match corporate culture. To resolve the issues of reusability and ease of app design, MicroStrategy Mobile has one huge competitive advantage over all other companies: metadata.

The key to the lowest total cost of ownership and app development efficiency is the metadata abstraction layer, which allows for extensive object re-use. The metadata is the hub of the Mobile App Platform. The

metadata is information retained about your information and describes every object that is surfaced in-app.

Most importantly, anytime a developer makes a change to an object, this changes the metadata, 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, the Mobile App Platform is able to circumvent the rigid template trap and allows users complete flexibility of design. This ensures that apps are developed and updated rapidly, that the device's native abilities are fully utilized, and that the app's look-and-feel matches the company brand.

### Advantages of the MicroStrategy approach to mobile app development

The MicroStrategy Mobile App Platform has many advantages, as summarized in Figure 2., over any other app development approach, including:

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

Code-free development allows developers to assemble 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 to quickly receive returns on their software investment. Advanced developers can also utilize native Software Development Kits (SDKs) to further customize apps and enhance native interactivity.

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

MicroStrategy's object-oriented development enables developers to

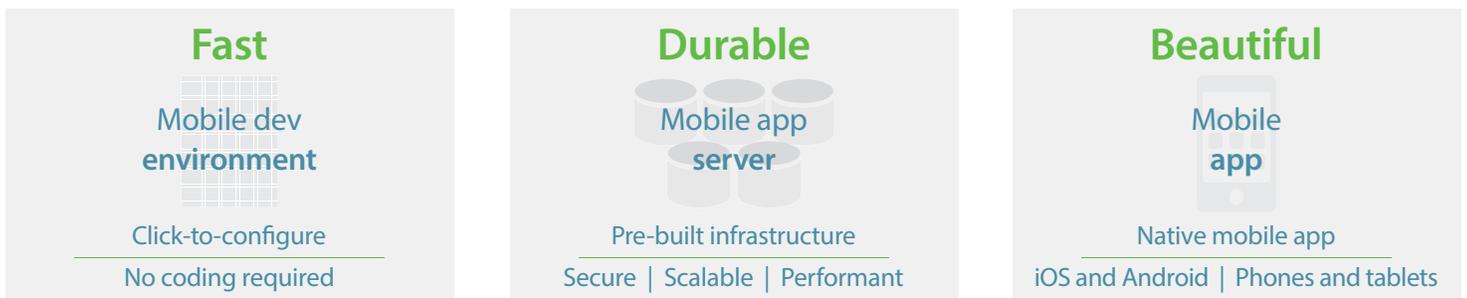


Figure 2. Key advantages of MicroStrategy's approach to mobile app development.

create native applications for multiple devices from a single app. Other vendors require unique applications and coding for each device in order to create native apps. Since this process can be extremely time-consuming and expensive, many platforms use web-based or hybrid applications to deploy a single app across multiple devices. While efficient to develop, web-based and hybrid applications provide much weaker end-user interactivity.

MicroStrategy's unique approach uses a single, unified metadata, which funnels into a device-specific mobile app container to create a native application. The container comes coded for each device and enables the client to interact with the individual devices' features and functionality, such as camera and GPS.

As a result, MicroStrategy native applications seamlessly integrate device-specific capabilities to create a rich and intuitive user experience far better than that of hybrid or web-based applications. In addition to an unmatched, fully immersive user experience, MicroStrategy delivers the highest levels of performance, scalability, and ease of design and administration.

### Highly automated efficient maintenance

Since MicroStrategy object-definitions are stored in a single location, 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 the app. MicroStrategy administrators neither need to recode and recompile anything, nor redeploy the client. In addition, MicroStrategy script-based administration tools automate 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 by tracking page and manipulation level as well as time-motion studies. 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 application adoption, GPS location, app and OS version, and more.

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

### Military-grade security

MicroStrategy Mobile includes a wide array of tools to ensure users can access their mobile applications in a secure environment. MicroStrategy provides superior integration with existing security and personalizes app content based on user security roles. Data encryption on-device and in-flight, remote wipe-offs, and the ability to deploy MicroStrategy Mobile powered apps a Good Dynamics secure container creates a highly secure mobile app.

MicroStrategy meets Advanced Encryption Standards (AES) including 256 bit encryption for traffic and for app data and credentials, and also provides link encryption for VPN, HTTPS, WPA2 (128-bit encryption),

#### Pre-built widgets

##### Analytics and visualizations

Maps

Grids

Bar graphs

Network maps

Predictive analytics

Heat maps

##### Transactions

Mapping

Alerting

Approval management

Editable grids

Data entry

Payments

##### Multimedia

Browser content

Desktop publishing

PDFs

ePubs

Video

Presentations

#### Drag-n-drop canvas

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



#### Beautiful cross-platform apps

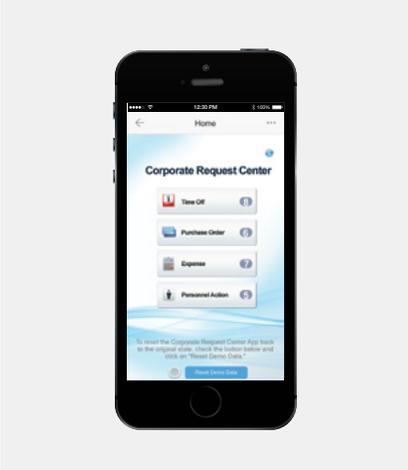


Figure 3. No special skills needed. Exceptional results delivered.

and SSL. Remote wipe and revocation of access help keep sensitive information secure if a device is lost or stolen. MicroStrategy provides tremendous flexibility to integrate with virtually any existing security infrastructure. MicroStrategy automatically integrates with existing security authentication such as LDAP, NT, and Tivoli SiteMinder. Single sign-on avoids redundant log-ins without compromising preexisting security. Additionally, users can securely access even the most sensitive data through integration with Airwatch and Good Technologies.

### **Deliver GBs of data overnight via Newsstand integration**

MicroStrategy Mobile uniquely integrates with Apple Newsstand to push the latest content to MicroStrategy 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 users with flexible alerting options. Fully-encrypted Newsstand content delivery ensures Newsstand content is as secure as other MicroStrategy data.

### **Lightning fast performance, online or offline**

MicroStrategy's sophisticated caching technology and SQL generation optimizations increase efficiency to deliver the industry's highest levels of performance. Advanced offline functionality, including read and write-back, enables superior performance even without connectivity. All performance features are provided out-of-the-box and require no coding.

### **Robust analytical capabilities**

MicroStrategy possesses the most powerful analytics and the most out-of-the-box data visualizations of any Mobile Application Development Platform. MicroStrategy's advanced data analytics allows users to easily mine and analyze business data. A vast library of widgets and data visualizations enables sophisticated visual data analysis. Out-of-the-box integration with Google Maps, and Apple Maps, and seamless integration with device GPS provide a powerful experience for performing spatial analysis. MicroStrategy dashboards allow users to actively monitor all of their most important data from a single app page.

### **Optimized query and access to any data source**

Seventy percent of mobile application development time is consumed by integrating with backend systems. MicroStrategy provides an extensive list of connectors that reduce this effort considerably. Templates, as provided in less flexible vendor tools, are more suitable for simple applications with minimum backend

integration requirement. MicroStrategy, on the other hand, is suitable for enterprise-grade solutions.

### **Conclusion**

The MicroStrategy Mobile App Platform enables users to create beautiful and impactful enterprise mobile apps in less time and at a fraction of the cost. The bottom line is: MicroStrategy Mobile apps get results.

Contact us at [info@microstrategy.com](mailto: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.