MicroStrategy 10
Product Brief—Modern Analytics Platform

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December 2016
This product brief is associated with a report titled “Ten Characteristics of a Modern Analytics Platform” that was published in December 2016.

Summary

The MicroStrategy BI platform has evolved organically for more than 20 years. It is full of features and functions that often don’t get the attention or recognition they deserve. Newer BI providers have visual appeal that garners attention, but most lack the enterprise architecture and thoughtful integration that makes MicroStrategy a consistent choice for BI professionals and their business users.

Our industry has pivoted away from IT-governed BI deployments to self-service analytics, forcing MicroStrategy to rethink its approach to the design and deployment of BI. With version 10, the company has solidified its self-service credentials by adding strong visual discovery and data preparation features. Today, it is well positioned to balance the dual (and dueling) imperatives of self-service and governance, agility and architecture, and speed and standards.

Introduction

MicroStrategy 10 is perhaps the most comprehensive business intelligence (BI) product on the market. It has been steadily enhancing its flagship BI product since 1994. Rather than add features and functions through acquisitions—as most large software vendors do—MicroStrategy has remained true to its mission of creating a single, integrated analytics environment built organically through internal development. MicroStrategy’s architecture map shows the breadth of its platform at a glance. (See figure 1.)

For Any User, All Modes of BI, Against Any Data

MicroStrategy 10 is designed to support any mode of BI: from production reports, dashboards, and scorecards to ad hoc reporting, OLAP, and prediction. More recently, it added support for free-form visual discovery and data preparation.

The product also supports any type of business user (data consumer, data explorer, data analyst, and data scientist) on any type of platform (Web, Hadoop, cloud, mobile, desktop) running against any type of data or database (relational, Hadoop, Spark, NoSQL, Hive, JSON, Spark, search, cloud storage, Excel) and any type of application (ERP/CRM, other BI, cloud, social media) often with native, high-performance connectors.

MicroStrategy also offers a rich development environment for developers to build pixel-perfect reports and dashboards, extend the MicroStrategy platform with new capabilities (such as visualizations, connectors, or analytics functions), or embed it within other applications to create new hybrid, custom applications.
Mobile Excellence. MicroStrategy is one of the few BI vendors that delivers native mobile BI applications for iOS and Android with device-specific gestures and functionality that resonate more deeply with customers than typical HTML5 mobile interfaces. (See figure 2.) Moreover, MicroStrategy offers a separate mobile development platform for building mobile productivity applications with built-in workflows that blend analytics, transactions, and multimedia.

Data Architecture
Scalability has always been a hallmark of MicroStrategy. With its multi-pass SQL engine, native database connectors, and push-down optimizations, the tool dynamically generates dimensional, interactive queries against the largest databases in the world.

Administrators can further tune queries using settings that distribute processing across different layers in the MicroStrategy architecture (e.g., database, report, project, application) and leverage its scalable in-memory cache that runs in a clustered server
environment to ensure sub-second response times for frequently run queries. When companies can’t put all their data into a single repository, administrators can use MicroStrategy’s multi-source option to federate queries across databases.

Cloud. MicroStrategy is one of the first BI vendors to have embraced the cloud, creating a fully hosted and managed service offering with built-in service level agreements that customers can scale up or down based on demand and pay for with a monthly subscription. MicroStrategy Cloud is now available on Amazon Web Services.

Multiple BI Modes
When MicroStrategy first launched, it was designed to support dimensional, ad hoc analysis (i.e., OLAP) against relational data warehouses designed with a snowflake schema. Since then, MicroStrategy has built on its relational online analytical processing (ROLAP) heritage by adding production reports and dashboards that can be dynamically tailored to individuals based on their roles and permissions.

Users can view and interact with reports and dashboards via the Web, tablets, phones, and desktop applications (such as Microsoft Office and email) and dynamically interact with data using prompts, filters, drills, pivots, sorts, charts, and more. Users can also subscribe to reports and configure alerts when data values reach predefined thresholds. Mobile users can input data via forms that update operational databases. (See figure 3.)

Visual Discovery. Although MicroStrategy came of age when the IT department was entirely responsible for creating, managing, and supporting all data and analytical assets, it has not ignored the self-service revolution. Its Web and Desktop products enable business users to analyze, visualize, and share the results.

With MicroStrategy Desktop, users no longer need to wait for IT to create the BI environment and authorize data access. They can do it themselves and publish their output to MicroStrategy servers for others to consume (with permission). To promote self-service BI, MicroStrategy offers Desktop for free. Its goal is to convince both customers and the wider BI community that MicroStrategy offers more than just traditional reports and dashboards.

Figure 3. MicroStrategy Dashboard Environment
**Driven by Metadata**

More than any other vendor, MicroStrategy has been committed to delivering a truly integrated, metadata-driven BI environment that eases administration, safeguards data consistency, and prevents BI and data silos. It object-oriented metadata repository catalogs all enterprise data and BI assets as logical objects that can be reused in any project, application, or document.

The catalog consists of a logical data model and its attributes (e.g., hierarchies), components (e.g., metrics, sets, groups), documents (e.g., reports, dashboards, tables, forms, charts, filters), and applications that govern access to enterprise data. Administrators update objects in the catalog and the system automatically propagates the changes throughout the BI environment. At run time, the system dynamically assembles objects from the catalog to deliver the requested output or functionality.

MicroStrategy has a rich data modeling environment that enables BI architects to create a unified logical data model with multifaceted hierarchies and relationships. MicroStrategy 10 includes built-in data preparation capabilities that enable data analysts to clean, combine, and transform data to support their own analysis or potentially work with architects to enhance the logical model. MicroStrategy now offers templates and frameworks that accelerate the time to set up an integrated, enterprise BI environment.

**Extensibility**

Extensibility is also woven into the fabric of the MicroStrategy platform. MicroStrategy has long published a software development kit (SDK) that makes it possible to white-label the platform and embed it in other applications—or create an entirely new application with a custom look and feel, either on the Web or on mobile platforms.

Business users and developers can also extend the functionality of the core platform. For instance, they can integrate statistical functions built with R into MicroStrategy reports or documents and import analytical models from SAS, SPSS, or KXEN using the predictive model markup language (PMML). Users can select these analytics or one of the more than 350 built-in analytical functions to create complex logic and apply it to data, reports, and applications.

Developers can also download third-party visualizations (i.e., charts) from MicroStrategy’s Visualization Library and plug them into existing reports without coding. They can use MicroStrategy’s SDK to build custom visualizations and embed third-party libraries such as D3, Highcharts, and Google. They can also integrate maps and mapping functions from third-party geographic information systems (GIS) providers such as ESRI, Visual Crossing, and Google. They can also leverage multimedia content (e.g., video, audio, images, documents) via a multimedia widget that comes with the MicroStrategy platform.
**Rich Administration**

MicroStrategy is well known for its rich administrative utilities that make it easy to manage a large, enterprise BI environment and deploy it across multiple groups and regions.

Administrators have fine-grain control over the functionality that users and groups can access and what data they can see, down to the row and column level. It integrates with third-party authentication systems such as LDAP and Active Directory. Administrators can also set language controls so users can develop and use MicroStrategy software in the language of their choice. MicroStrategy also offers rich monitoring—so-called “BI on BI”—so administrators can track the usage of reports and other MicroStrategy output.

The platform also has unique administrative tools. Object Manager enables administrators to migrate projects from development to test to production. Command Manager lets administrators write scripts that automate repetitive tasks such as adding, moving, or removing users or groups, granting or revoking privileges, and triggering events to run scheduled reports. Finally, Integrity Manager compares the output of two versions of the same report to validate the impact of updates and other project activity on production reports.

Aligning with MicroStrategy’s recent push into security software, every MicroStrategy 10 customer receives MicroStrategy Usher, an enterprise security solution that uses smartphones equipped with biometric sensors and dynamically generated QR codes and passwords to replace traditional security measures.
Conclusion

MicroStrategy is a complete BI and analytics platform that satisfies the dual need for an IT-driven development and management platform and a visual, self-service environment that responds quickly and nimbly to business requirements for data and insights. It has been updated with visual discovery, self service, and data preparation features, making it a one-stop shop for any and all BI and analytics requirements.

About MicroStrategy Incorporated

Founded in 1989, MicroStrategy (Nasdaq: MSTR) is a leading worldwide provider of enterprise software platforms. The Company’s mission is to provide enterprise customers with a world-class software platform and expert services so they can deploy unique intelligence applications. To learn more, visit MicroStrategy online and follow us on Facebook and Twitter.