Are your users struggling with stove-pipe Business Intelligence applications? Do you need a BI application that is fully integrated with the rest of your departmental or enterprise-wide applications? Do you need to build BI applications customized for your user base?

The MicroStrategy SDK empowers organizations to implement highly customized, functional, and powerful Web reporting BI applications, enabling business users to leverage BI and gain insight in unique, engaging ways.

**Customize and Integrate Your Business Intelligence Applications With Your Enterprise IT Ecosystem**

As companies look to deploy their business intelligence (BI) applications across their enterprise, information technology (IT) departments face numerous challenges. Foremost among the challenges are:

- Deploying BI applications that are fully integrated with the rest of the enterprise-wide business applications
- Ensuring that the BI applications give users a familiar look-and-feel that conforms to the corporate standards
- Adhering to the organization’s security, hardware, and software standards

IT departments that successfully overcome these challenges select a robust BI platform that, in addition to providing the full range of application functionality demanded by the user community, is easy to customize and integrate into the enterprise application standards. This leads to faster adoption of the business intelligence applications by the end user community, thereby ensuring a timely return on the IT investment.

The MicroStrategy SDK is a comprehensive Software Development Kit that enables easy customization of the MicroStrategy BI platform and integration with enterprise business applications. Through documentation of the application programming interfaces (API), sample code, and utilities, the MicroStrategy SDK empowers developers to implement highly customized and powerful BI applications, meeting all of your organization’s BI requirements.

The MicroStrategy SDK is used to accomplish a range of customizations and integration scenarios that include:

- Modifying the MicroStrategy Web interface for look-and-feel as well as navigational ease
- Adding new user functionality to MicroStrategy-based applications
- Integrating MicroStrategy with third-party applications such as portals or data visualization products
- Leveraging the flexibility of a sophisticated service-oriented architecture (SOA) to embed BI functionality in other applications using Web Services

MicroStrategy enables you to present relevant BI information to business users in useful and engaging ways, such as in this workflow application that can be accessed on or offline.
Built for Developers by Developers to Ensure Seamless Platform Extension and Reusability

The MicroStrategy BI platform contains the most complete and comprehensive API in the BI industry, developed with full adherence to industry standards such as J2EE, .NET, XML, JSR168, WSRP, SOAP, Adobe Flex, and COM. The open API allows developers to access and extend upon the functionality in the MicroStrategy BI platform. Several thousand API methods and properties span the full spectrum of BI functionality, allowing developers to customize applications or integrate with other applications.

The MicroStrategy platform's API is so broad, complete, and extensive that all MicroStrategy products were built using it. The broad categories of capabilities provided by this API include:

- Report presentation
- User navigation, functionality, workflow, and management
- Security and administration
- System monitoring, configuration, and tuning

Layered, Intuitive Architecture

The MicroStrategy platform architecture is built on distinct layers of Java objects that separate the underlying communication, application, presentation, and layout logic. This architecture leverages a surface layer that is optimized for performance and reusability, easily integrating with a wide variety of third-party technologies.

Experience the Full Range of Capabilities and Benefits...

Easily extend, integrate, and reuse the capabilities of the MicroStrategy Platform to enhance productivity, collaboration, sound decision making, and ultimately, the bottom line.
Build Custom Applications with Minimal Programming Skills

With MicroStrategy SDK, developers can perform most customizations with little to no programming, as most of the common customization scenarios are externalized into configuration files. The Web Customization Editor provided with the MicroStrategy SDK displays these files in an intuitive, user-friendly interface, allowing developers to easily organize, streamline, and simplify customizations. As a result, customizations are easier to build, maintain, and upgrade, resulting in quicker deployments, as well as lower development and support costs over time.

Migrate, Deploy, and Upgrade Customizations with Ease

MicroStrategy WebTM provides an architectural framework for plugging in your customization changes as a piece of software (called a plug-in) into the application. Thanks to the separation of the customization code from default code, plug-ins can be used to extend MicroStrategy Web functionality without recompiling or accessing source code. The Web Customization Editor leverages the plug-in architecture by creating plug-ins that can be easily managed and deployed in MicroStrategy Web. Since plug-ins are independent, the architecture is designed to accommodate future additions of plug-ins without affecting the source code. The Web Customization Upgrade Utility facilitates upgrades by comparing existing customizations with the new version of MicroStrategy Web, making it easy to maintain, extend, or roll back customizations.

MicroStrategy Developer Library: The One-Stop Shop for All of Your Customization and Integration Needs

The MicroStrategy Developer Library (MSDL) contains a detailed reference of the platform architecture, API references, sample code, and how-to’s for all of your customization and integration needs. Its online version, the MicroStrategy Developer Zone (MSDZ), provides up-to-date documentation even in between platform releases.
Develop Highly-Customized BI Applications
System Integrators, Value Added Resellers, and OEMs rely on MicroStrategy’s capabilities, including its functionality, workflows, report presentation, user management, security, administration, system configuration, and monitoring. MicroStrategy’s open API and tools such as the Web Customization Editor allow these types of organizations and many others to build highly-customized and functional BI applications for their customers.

Perform Look-and-Feel Customizations
The look-and-feel of your organization’s applications, including corporate logos and colors, custom icons, and other formats can quickly be incorporated and deployed across the application without requiring a recompilation or restarting the application. This results in the fastest time-to-value with a minimal use of valuable resources.

Write-back to the Data Source
With write-back functionality, users modify or record data values in external systems, including database warehouses, XML files, discussion groups, and blogs. This feature gives users the flexibility to update forecasts, add annotations, or revise goals for performance reporting, amongst other usage scenarios. Write-back controls such as text boxes, buttons, and lists can be used to input the information and users can easily submit the information back to the Web server for processing.

Extend MicroStrategy Out-of-the-Box Functionality
Developers can incorporate more advanced extensions and customizations into MicroStrategy Web thanks to its access to the entire set of services and utilities required for building a robust, feature-filled, BI-enabled application.
**Integrate BI with Your Enterprise Portal and Identify Management Applications**

MicroStrategy Web easily integrates into other Web-based applications. This example illustrates MicroStrategy business intelligence reports within an enterprise portal. This application provides comprehensive insight via regional KPI analysis, portlet-to-portlet interactivity, external search, corporate news, collaborative tasks, related documents, and threaded discussions.

**Embed MicroStrategy Web in Other Web Applications or a Portal**

The full functionality of MicroStrategy Web can be embedded into any Web application or portal, combining third-party content, security, and collaboration together with MicroStrategy’s business intelligence. The easiest way to integrate MicroStrategy Web in a portal environment is to use one of the out-of-the-box portlets that MicroStrategy provides for four enterprise server products: Microsoft Office SharePoint, IBM WebSphere, Oracle WebLogic, and SAP NetWeaver. In addition, MicroStrategy SDK allows you to integrate with other portal servers and custom applications.

The integration with portal technologies stems from MicroStrategy’s conformance to industry standards such as JSR-168 and WSRP. This integration ensures that fully interactive, OLAP-enabled portlets are available 24x7, allowing users to analyze data, change the report view to grid or graph, and add or remove subtotals.

**Incorporate Single Sign-On Capabilities into BI Applications**

In order to satisfy the scrutiny resulting from internal security processes as well as external legislation, corporations are unifying their user models and implementing single sign-on solutions, biometrics, two-factor authentication, and other custom security technologies to manage access to sensitive information. MicroStrategy Web has built-in single sign-on support for four portal server applications: Microsoft Office SharePoint Portal Server, IBM WebSphere Portal Server, Oracle WebLogic Portal Server, and SAP Enterprise Portal Server. MicroStrategy SDK allows developers to implement single sign-on when MicroStrategy Web is used with identity management systems or other portal server products by creating a custom External Security Module that performs the necessary work. The MicroStrategy SDK includes documentation and samples showing how to integrate MicroStrategy with any Identity Management application.
Deliver BI to Any Application, Through Any Protocol
The MicroStrategy SDK provides integrated support for data-as-a-service technology, with its focus on presenting information from diverse sources in a unified and collaborative way via a Web browser. Newer content aggregation techniques frequently rely on Web services and SOA and they incorporate new technologies, such as Adobe Flex and AJAX. With its built-in support for all of these techniques and technologies, MicroStrategy SDK allows you to present your BI data and functionality in many powerful and compelling visual presentations, including:

- Rich Internet Applications (RIAs) that are Web-based, yet have the features and functionality of traditional desktop applications
- Mashups that combine data from multiple sources into a single integrated Web application. Mashups access third-party data and process that data to enhance user value
- Composite applications that combine multiple existing functions into a new application, often leveraging enterprise-ready sources of information, such as existing modules or enterprise Web services

Create Advanced Visualizations and Other Applications
The MicroStrategy Visualization SDK is tightly integrated with Adobe Flex Builder, allowing developers to build any type of visualization or RIA and include it in their applications, or plug any Flash widget into the MicroStrategy platform. Thanks to this Visualization API, Adobe Flex developers can extend existing widgets and visualizations, or build completely new widgets, visualizations, applications, interactivity, and workflows to suit any business need.

In addition, DHTML-based visualizations like AJAX controls, including maps and sophisticated charts, can also be easily integrated into and used from MicroStrategy Web.

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**Vegetable placement performance: Market Basket Analysis**

**Pick Correlation**

<table>
<thead>
<tr>
<th>Cauliflower</th>
<th>97</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profit</td>
<td>$7,523</td>
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<tr>
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<td>$36,625</td>
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<tr>
<td>Cost</td>
<td>$29,102</td>
</tr>
</tbody>
</table>

Advanced visualizations can be designed with any map or image as a base, displaying business intelligence data on any given zone.

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**Welcome Sam, Gore**

A Rich Internet Application (RIA) workflow can merge business intelligence data together with collaboration tools and other advanced visualizations.
Produce Mashup Applications with Embedded BI Content

Mashups combine content from multiple, independent resources into a single integrated application experience. These composite applications have become a popular way to rapidly assemble new applications and are built using many technologies such as Flex, Portals, Java, and AJAX. They access third-party data and process that data to enhance user value. The MicroStrategy Visualization Framework makes it easy to create mashups that include both MicroStrategy and non-MicroStrategy widgets, helping business users gain insight, collaborate, make well-informed decisions, and take action in a timely manner.

Image maps create visually compelling data presentations. This example uses colors to convey how each department in a store is operating relative to a dynamically selected target profit.

MicroStrategy's Google gadget can be integrated into an iGoogle portal, displaying a report on the sales performance of a variety of products.

A casino dashboard mashup combines data from multiple sources into a single, integrated application while portraying information in a useful way.
### Common Customizations and Extensions Performed on the MicroStrategy BI Platform

Over half of all MicroStrategy customers customize, extend, or integrate their MicroStrategy BI platform to some extent. The range of customization varies widely. Some customizations entail altering the MicroStrategy Web user interface to adhere to corporate guidelines. Other customizations add new user functionality directly to the MicroStrategy code set. Customers also embed MicroStrategy functionality deep within other applications they have developed or purchased.

### Customers Who Have Leveraged MicroStrategy SDK to Build Powerful Custom BI Applications

MicroStrategy 9 is breakthrough technology that supports the full range of business intelligence applications from a single, integrated platform. MicroStrategy 9 extends the performance, scalability, and efficiency of enterprise BI; enables the rapid deployment of departmental BI applications; and provides a seamless consolidation path from departmental BI to enterprise BI.

#### TRY MICROSTRATEGY SDK

Try the best business intelligence software for yourself. Call 1.888.537.8135 or visit us at www.microstrategy.com.

<table>
<thead>
<tr>
<th>Customization Ease</th>
<th>Common Customization Goals</th>
<th>Enabling MicroStrategy Feature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Out-of-the-box</td>
<td>• Embed MicroStrategy Web in other Web applications</td>
<td>Zero-footprint Frame Integration</td>
</tr>
<tr>
<td></td>
<td>• Embed MicroStrategy Web in a portal</td>
<td>Portal Integration and MicroStrategy Web</td>
</tr>
<tr>
<td></td>
<td>• Embed MicroStrategy content in RIA</td>
<td>Visualization Framework</td>
</tr>
<tr>
<td>Parameter-driven</td>
<td>• Modify the look-and-feel of the Web interface</td>
<td>Web Configuration Editor, Configuration files, CSS, and Layout Definition Files</td>
</tr>
<tr>
<td></td>
<td>• Define custom layouts and formats for BI data such as prompts and reports</td>
<td></td>
</tr>
<tr>
<td>Java Programming</td>
<td>• Provide advanced rendering of BI content and new application functionality</td>
<td>J2EE compliant architecture with specialized Java constructs – Transforms, Events, and Add-ons</td>
</tr>
<tr>
<td>Flex Programming</td>
<td>• Define advanced visualizations, workflow applications, and interactive dashboards</td>
<td>Visualization Framework</td>
</tr>
<tr>
<td>Sample Code and Tools</td>
<td>• Implement single sign-on solutions</td>
<td>External Security Module</td>
</tr>
<tr>
<td>Full Programmatic Control</td>
<td>• Access all MicroStrategy functionality from other applications</td>
<td>Office API and Intelligence Server (API)</td>
</tr>
</tbody>
</table>

This table lists the ease of customization for common customization scenarios and the enabling MicroStrategy feature.