Embedding API:
How to embed interactive dossiers into third-party applications
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Key Technology Investment Areas
Agile enterprise analytics that span all ecosystems and users

**Agility for business**
- Simple UX
- Smart data discovery
- Easy Cloud deployment
- Predictive Analytics
- Collaboration
- Consume IT-built analytic applications

**Enterprise scale and governance**
- Build enterprise apps using RSDs
- Optimized for real time and Big Data
- Data modeling and governance with project schema
- Simplified deployment and upgrade
- Hybrid cloud and on-premise

**Open to the ecosystem**
- Integrate with best of breed for advanced analytics
- Embrace Hadoop ecosystem
- Enable 3rd party use of MicroStrategy data
- Enable new scenarios - real-time and big data
- Connectivity to a variety of data assets
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Embedded Analytics
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Gartner’s definition of embedded analytics

“Embedded analytics is the use of reporting and analytic capabilities in transactional business applications. These capabilities can reside outside the application, reusing the analytic infrastructure built by many enterprises, but must be easily accessible from inside the application, without forcing users to switch between systems. The integration of a business intelligence (BI) platform with the application architecture will enable users to choose where in the business process the analytics should be embedded.”

- Gartner

So far, MicroStrategy Web has been our flag ship technology foundation for everything embedded:

- Single Sign-On (External Security Module)
- Embedding MicroStrategy Objects (Folders, Grids, Graphs, Report Services Documents, etc.)
- Portal Integration Kit (SharePoint, WebSphere Portal, SAP NetWeaver, Liferay, DotNetNuke [DDN CMS], etc.)
- Embedding data (MicroStrategy Tasks / Web Services / JSON / XML)

10.9 introduced additional options with a different, more modern, technology stack leveraging industry standards
Three Key Target Scenarios to Support Embedded Analytics

**Embed** MicroStrategy content into custom applications and workflows
- Embed MicroStrategy content into a web page or application
- Embed data from MicroStrategy into an application
- Leverage MicroStrategy capabilities (SSO, Folders, …) in an application
- White label MicroStrategy functionalities

**Integrate** MicroStrategy platform into a custom product offering
- Automated deployment and upgrade of a MicroStrategy environment
- Programmatic user and security management
- Updating MicroStrategy cube data from 3rd party applications/workflows
- Programmatic object management

**Extend** MicroStrategy capabilities with 3rd party functionality (and vice versa)
- Connect new sources to MicroStrategy
- Add new visualizations to MicroStrategy
- Add new workflows to MicroStrategy
- Push new data and metadata to MicroStrategy
- Pull data from MicroStrategy and process in other systems (e.g. Machine Learning)
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Embedding Overview

Embedding MicroStrategy content into existing applications enables enterprises to leverage the scalability, security, governance, and openness of the MicroStrategy platform.

Since MicroStrategy 7, the MicroStrategy platform has offered a number of integration capabilities including stand-alone tools and associated APIs. Today, the most used tools for embedding MicroStrategy are:

- Java API
- MicroStrategy Web Task API
- MicroStrategy Web content embedded using an iFrame and the URL API
MicroStrategy Content inside a 3rd Party Application: iFrames
Embedding MicroStrategy content is easy

Using iFrames
• iFrames have been the pillar for embedding content from Microstrategy Web
• URL API allows for parameter passing
• SSO is typically achieved using an External Security Module

What can you do with the URL API:
• Pass prompt answers
• Show a specific panel
• Manage Events (“page changed”, “element selected”)
• Session Management (SSO), pass authentication token

Easily Embed Dossiers into Portals, Websites, and Blogs
Embed dossiers in webpages, using single sign on for seamless access

• Embed Static and Interactive Dossiers into applications, portals and webpages

• Implement Single Sign-On so that users can seamlessly access the dossier, without getting prompted to log in

Seamlessly embed interactive dossiers in white labeled applications
Demo: Embedding in Portals

Washington, DC

[Map of Washington, DC with various data points and layers]
Embedding Content with iFrames: pros and cons

Embedding content with iFrame: should I be worried?

**Pros**

- Sandboxed
- Avoid JavaScript conflict
  - `Array.prototype.push = '('°□°)' ︵ ＿ ＿ ︿ ︿ ︿'`;
- Higher level of security
- Better privacy for end-users

**Cons**

- Do not inherit parent CSS Rules
  - `iframe body { font-family: "Comic Sans"; } /* LOL */`
- Hyperlinks navigate iframe, not parent
- Don’t resize to fit content
- No native parent-iframe communication
  - Requires the use of `window.postMessage()`
- Require work to seamless integration

*More on iFrame fun: [http://benv.ca/seamless-talk/](http://benv.ca/seamless-talk/)*
Embedding SDK

MicroStrategy Content inside a 3rd party application

Embedding API

• Easy-to-use JavaScript API to embed Dossiers in third party applications
• Allow third party application codes to interact with MicroStrategy content
• Sample shows how to implement SSO or guest authentication

What can you do with the APIs:

• Navigation (list of chapters, navigate to a page)
• Filtering (get filter elements, apply filter)
• Manage Events (“page changed”, “element selected”)
• Session Management (SSO), pass authentication token

```
<div id="dossierPlaceholder"></div>
<script type="text/javascript">
  var placeholderDiv = document.getElementById("dossierPlaceholder");
</script>
```
As Erin boarded her plane from Austin to Washington, DC, she couldn’t help but wonder... 

In this day and age, Airbnb helps you find the best accommodation that suits your needs. In...

For all of us at Airbnb, helping people anywhere isn’t only about vacationers. We understand...

Ms. Jain is a Senior Product Marketing Manager at MicroStrategy. Her...
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MicroStrategy 10 is Built as an Open Architecture
A comprehensive set of APIs allows you to integrate, embed, and extend the functionality of your existing investments

MicroStrategy Community for documentation, samples, etc.: https://developer.microstrategy.com/
Next Steps

- Workshop tomorrow @4:45pm “REST APIs: How to rebrand dossiers and embed them”
- Spend time with your teams and educate them on all the embedded analytics capabilities of the latest MicroStrategy Platform
- Provide feedback to the product team through enhancement requests, Idea Exchange on the community, etc.

MicroStrategy API Documentation for custom authentication and every other API-related topic: https://developer.microstrategy.com/
Thank You