MicroStrategy

WHITE PAPER

Checklist to implement governed self-service

Best practices to deploy secure, governed self-service analytics to business users with MicroStrategy

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Checklist to implement governed self-service

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Governed self-service

Recent years have seen a surge in demand for easy-to-use, agile tools that provide more data analysis capabilities to business users for faster, more accurate decision-making. Both IT personnel and business users agree that business intelligence (BI) solutions should involve more users and facilitate information sharing and collaboration between teams, in order to increase content creation and consumption.

The rise in demand for fast, accessible, and intuitive data analysis, which is permeating organizations throughout every department, is unavoidable. With the advent of self-service analytics, organizations will inevitably see an increased demand for flexible BI functionality or agility, including self-service access to and analysis of data from external and disparate sources.

Although traditional BI implementations are successfully able to ensure trusted data through a framework for governance, because of its modeled architecture these implementations lack the ability to be agile or offer self-service capabilities. Agile solutions on the other hand can flexible means to access and analyze data, but tend to generate analytical silos that leads to a compromising on one version of the truth.

> ***"MicroStrategy has really helped us develop that single version of the truth, one set of numbers for the organization."***
>
> *— Richard Hanks Director of BI and Analytics Sonic Automotive*

The golden ticket to maintaining a single version of the truth is to implement managed data governance. Governed self-service, which is implemented through a strong, yet flexible IT infrastructure and centralized data management, ensures consistently reliable data quality that users can trust. The implementation of the MicroStrategy Self-service Governance Cycle, later described in this document, will help IT administrators achieve this goal.

Need for governed self-service

The need for self-service analytics stems from the inherent limitations of traditional BI solutions. While Traditional BI implementations are able to preserve the single version of the truth through architected and modeled data infrastructure, it poses two key hurdles: (1) reporting backlogs and (2) restricted agility. In an attempt to circumvent these limitations, business users are seeking self-service data discovery tools, outside of the enterprise environment. These tools allow them to analyze information more quickly and easily, without requiring the involvement of IT.

Business users are adopting these standalone self-service tools at an unprecedented rate, driven by a desire to achieve their short-term goals. Despite the immediate benefits to business users, deploying self-service analytical tools without governance can introduce long-lasting problems for the organization as a whole, affecting both IT and business users. Most self-service solutions, being standalone tools, represent a business-intelligence dead end because they are not designed to scale gracefully. They do not guarantee data governance and trustworthiness necessary for mission-critical analytical applications, and lack enterprise features like production reporting, security and access controls, and native mobile app support. As a result, these visual data discovery tools generally remain confined to teams or departments.

IT organization concerns

For IT organizations, the biggest challenge that arises when BI applications are built from standalone agile solutions is the creation of spreadmarts or analytical silos. There is no easy way to verify or validate data in these environments, which is especially threatening in cases where data silos sprout from external and untrusted sources. This issue is further exacerbated when the silos in question end up containing conflicting information, which has become a fairly common occurrence. The subsequent (dashboard) application chaos can quickly become exceedingly hard to manage and consolidate. ***See figure 1***

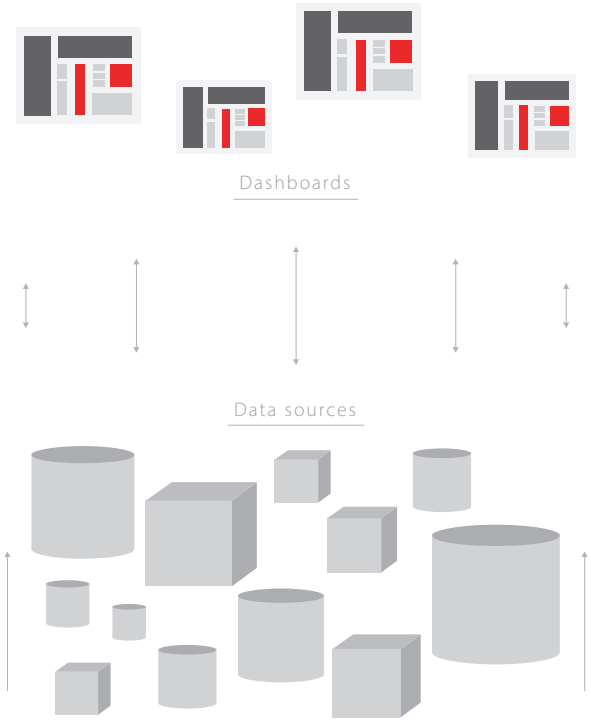

***Figure 1**: Infrastructure with insular data silos*

Business users concerns

Business users who rely on data silos often sidestep centralized architected data. This eventually results in departments having to maintain self-managed data marts, which is both time consuming and cumbersome. As a result, both IT staff and business teams spend time and resources extracting and refreshing data to ensure that it is up-to-date. This creates redundancies in processes and diverts business user group's resources away from their primary activities.

Data silos also only offer subject-oriented views to business users. The existence of individual data silos keeps business users from carrying out cross-functional analysis, ultimately preventing them from deriving incredibly valuable holistic insights on the organization. In addition, isolated data marts and system-of-record data can produce reports with conflicting KPIs, which casts a shadow of doubt over all the numbers and further reduces the value of insights. This can quickly escalate inefficiencies and decrease morale.

Long term strategic concerns

In this day and age, where every organization relies on data driven decisions to increase competitive effectiveness, it is not sustainable to have split data infrastructures. Although there might be short-term victories, organizations need to focus on long-term analytical maturity by encouraging a consolidated and governed agile environment for both IT and business departments.

The ideal approach

In an ideal self-service scenario, business users would rely exclusively on corporate sanctioned BI tools and only access and use centralized or system-of-record data. There would be fewer backlogs of report requests, which means business users would be less inclined to generate self-managed data silos for short term victories. This would guarantee a governed self-service environment where IT administrators would be able to manage, control, and provide validated data for access and collaboration, with provisions for transparency and accountability across the environment.

The creation of a centralized enterprise-wide data model, which supports governance and offers self-service capabilities to business users, is a gradual process. The data silos business users resort to must be incrementally certified and migrated and infused into an enterprise-wide infrastructure. This can be achieved through the implementation of the MicroStrategy Self-service Governance Cycle. ***See figure 2***

> ***"By 2015, enterprise buyers of BI platforms will predominantly purchase platforms that support both strong and broad business-user-accessible data discovery capabilities and IT-driven enterprise features for data reuse, governance, security and scalability."***
>
> *— Gartner Analysts*

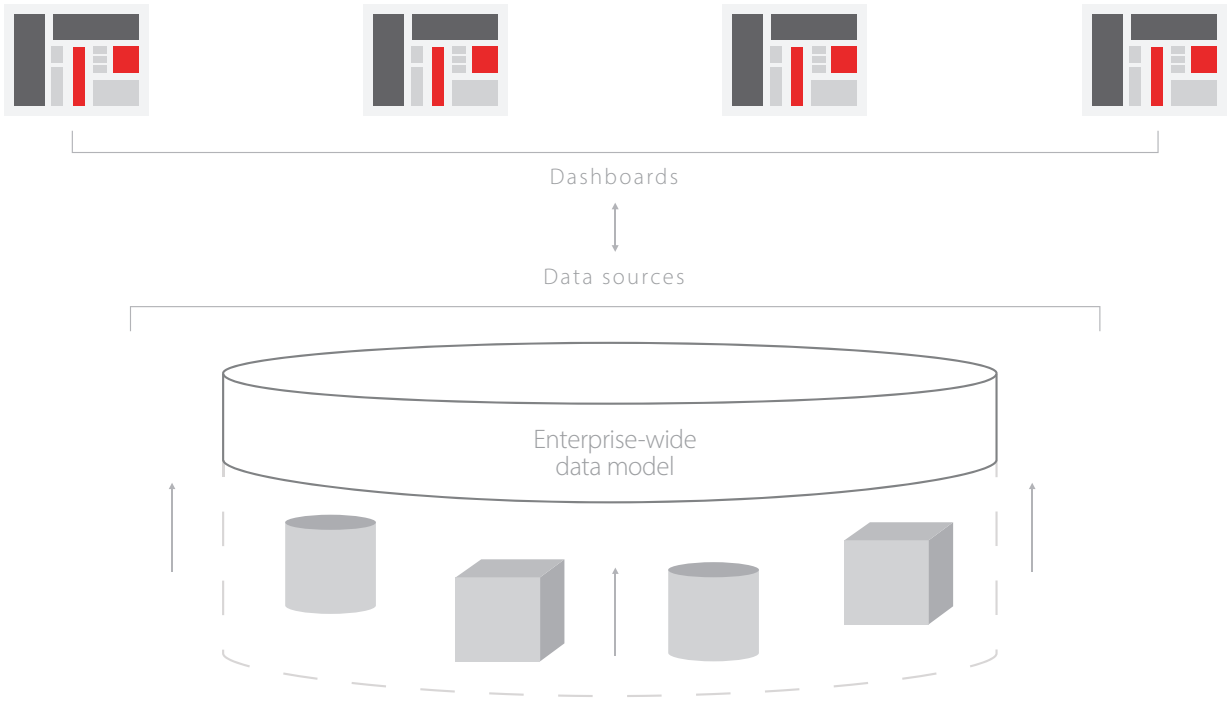

***Figure 2**: The ideal self-service approach*

The outcome of this progressive method eliminates application chaos caused by spreadmarts across the organization, increases the adoption of corporate-wide BI tools, and limits users to accessing secure and centralized system-of-record data. As the centralized data model incrementally grows, it will gradually support more business use cases and drive business user adoption. The centralized data model will also facilitate a working relationship between IT organizations and business users by reducing redundancy and increasing overall trust confidence in reports and dashboards.

Implementing governed self-service with MicroStrategy

MicroStrategy offers self-service capabilities to business users through intuitive workflows that allow them to be self-reliant. Without IT intervention, users are able to connect to a variety of data sources, from spreadsheets to big data options, and easily create dashboards using drag-and-drop functionality. All of this can be done without architecting or modeling data.

The MicroStrategy Self-service Governance Cycle will promote the adoption of these self-service capabilities and will equip IT teams with the knowledge to build and manage a governed and certified environment.

MicroStrategy Self-service Governance Cycle

This four-stage process highlights the areas of focus for IT departments to effectively implement enterprise-wide, governed self-service within a MicroStrategy environment. *See figure 3*

I. Configure

To initiate the process of implementing governed self-service, IT administrators need to prepare the BI self-service infrastructure with the necessary tools. Whether initiating a new governed self-service BI implemetation or converting an exisiting setup, the following considerations will help in using the necessary tools to expose self-service capabilities in a MicroStrategy environment.

> ***"Visual Insight is a very intuitive, easy to use interface where people can just go and start playing with it."***
>
> *— Cini Sathyavan, Director of Data Analytics at eHarmony*

- Provide self-service privileges to business users and control ability access data sources and create ad-hoc dashboards.

  Data Import *is the self-service feature that allows users to connect to variety of data sources. Business users can connect to personal spreadsheets or combine and enrich data from existing enterprise databases. Gaphical query tools allow users to be able to connect to data on their own, with minimal support or training.*

  Visual Insight *is the capability that allows users to create visualizations and to build dashboards through drag-and-drop features and template wizards. It offers a library of analytical tools and interactive features that support ad-hoc analysis and dashboard development.*

- MicroStrategy allows you to configure, at a very granular level, which users or user groups can have privileges to connect to external data sources, through the use of appropriate Access Control Lists (ACLs). This process requires understanding end user requirements and usage scenarios; and in doing so, administration and control over extraneous data access can be imposed on users to allow or prevent users from connecting to external data. There are other relevant settings within MicroStrategy that allows administrators to control and manage the environment.

  Refer Note 2 in the Appendix for technical details on governing settings to be considered to govern data access.

- Configure MicroStrategy to suit organizational needs based on hardware resources and data management criteria.

  - In environments that are configured on a single server with a single MicroStrategy Project, it is recommended to restrict ad-hoc data import and dashboard creation to a segregated folder within the MicroStrategy environment (projects). The benefits are that this setup requires fewer hardware resources. It is also easier to setup and manage MicroStrategy objects (i.e. reports and dashboards), and is simpler to replicate production objects (in cases where ad-hoc usage requires data blending with certified reports). Governing settings can be tuned to manage and allot resources to improve flexibility to end users.

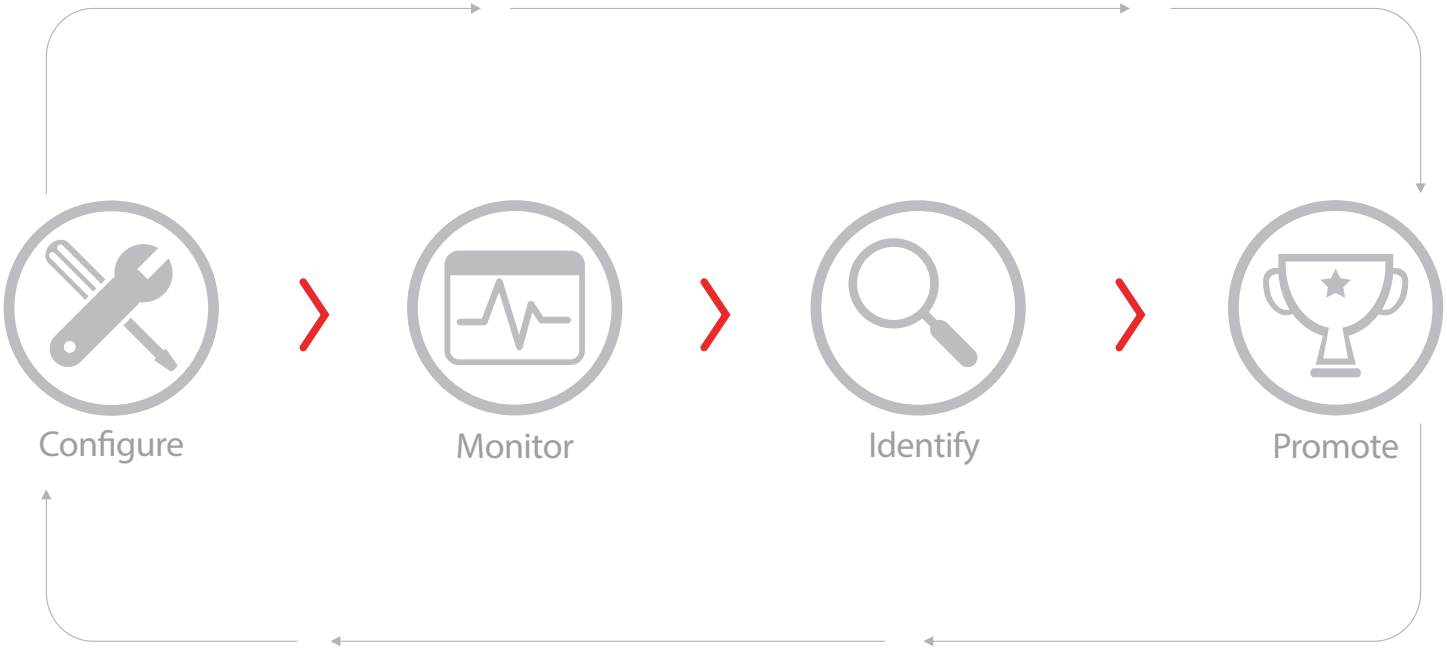

Figure 3: *MicroStrategy Self-service Governance Cycle*

- In environments that have access to multiple MicroStrategy Projects, it is possible to dedicate a separate MicroStrategy environment for ad-hoc analysis. In cases where additional memory and CPU is needed, it is recommended to consider server clustering as an option.

II. Monitor

IT administrators should be able to transparently monitor user activity. MicroStrategy offers tools that will allow administrators to observe and track ad-hoc usage to ultimately understand end-user requirements and usage scenarios. MicroStrategy Enterprise Manager provides the ability to monitor usage patterns at intricate levels. This is especially helpful in BI environments that can get complex with with multiple servers, with hundreds of users creating multiple ad-hoc dashboards.

Refer Note 3 in the Appendix for technical details on Enterprise Manager.

III. Identity

As business users explore self-service capabilities to generate new content, the MicroStrategy Self-service Governance Cycle will ensure that the ad-hoc content is restricted to specifically designated environments. IT staff will need to continuously monitor the activity to understand these usage scenarios. This will help identify applications that are best suited for certification. The methodologies to prioritize certification

of these applications can be based on 1) usage scenarios and 2) data source or content.

From a usage standpoint, factors such as number of report consumers, ROI benefits, and cross-functional advantages can tip the scales in favor of certain use cases, as IT administrators begin to prioritize the applications for certification.

Prioritization will also need to be based on the data source and content for these use cases.

- There are several instances where data that is important to business users, already exists within the centralized system-of-record repository. End-users frequently resort to extraneous sources for the same data only because it is not exposed or easily accessible in the architected environment. This can be easily prevented if these data sources that are important to end-users are identified and exposed as needed. This may be achieved by:
  - Publishing (in-memory) cubes that can be readily accessed as a data source by business users
  - Maintaining a directory or folder structure that makes it easy streamlined for business users to search for data.
- In other scenarios, where data does not exist in the environment, but conforms to existing BI structure, it might be easy and straightforward to architect and include into the system-of-record.
- In cases where data is unavailable, organizations will need to structure Best Practices and other Corporate Guidelines for compliance to eventually make the data available within the certified environment. While waiting on this process, simple guidelines such as tagging the dashboards that are built using external data sources as "Ad-hoc Reports" will help short term targets.

IV. Promote

There are two aspects in this stage that require IT assistance in this stage. 1) Promote or merge the necessary data into the certified environment to prevent business users from resorting to external sources and 2) Enhance ad-hoc visualizations with enterprise functionality to create pixel-perfect dashboards with professional formatting and advanced analytical capability.

MicroStrategy offers multiple options to consolidate data sources and content that is important to business use cases, into the certified system-of-record environment. Depending on prioritization, IT administrators can use the Data Blending feature, an easy-to-implement option that does not require data architecture, or architect the data into the warehouse. In most cases, Multisource Data Warehousing will suffice, but in cases requiring cross-functional reporting, it is recommended to architect the data into a single data warehouse.

In cases where business users are relying on data visualizations through Visual Insight, IT staff can enhance the experience with enterprise

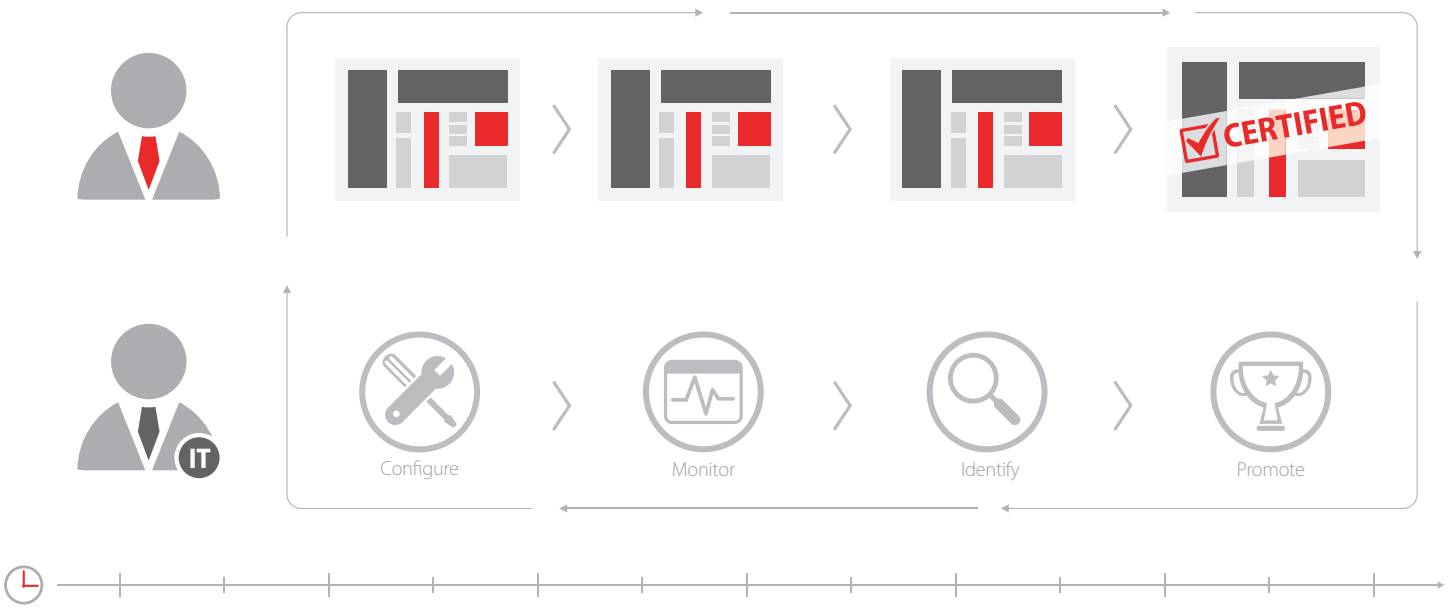

Figure 4: *MicroStrategy Self-Service Governance Cycle helps IT collaborate easily with Business users without any wait times*

dashboard features. This includes incorporating professional formatting and design and advanced BI functionalities like transactions and mobile capabilities. From a scalability stand-point, IT administrators can also help design dashboards for improved performance.

Deploying a governed self-service environment will always remain a gradual and cyclical process. The benefit to business users is that at no point along the Governance Cycle implementation, will they have to wait for IT staff to connect to data or conduct ad-hoc analysis. As new and external data is accessed by business users, these business use cases are quickly understood by IT and a gradual certification process will ensue. In due time, data that is useful for business people will be available in the centralized and certified environment and its adoption will eventually increase. ***See figure 4***

> ***"With the definition of the KPIs at SECO, we make sure users analysis are consistent, so the flexibility doesn't come with the cost of trust in the figures. You need flexible tools, fast answers, innovate ways of combining data and attractive ways of presenting the information. That is what MicroStrategy Visual Insight is all about."***
>
> *— Dr.Elmar Benelli,*
> *Head DWH Unemployment Statistics (SECO)*

Appendix

Note 1

Data Import and Visual Insight capabilities are available MicroStrategy Web product.

Note 2

Control on users who have Data Import permissions, can be exerted through relevant governing settings below and can impact and control usage.

File Size: Default governing for Maximum file size is set to 30MB. Increase value to import larger files.

Quota/user: Default value is set at 100 MB which means a user has an in-memory space of 100 MB on the server to upload files successfully. It recommended to set at 4 times the file size.

Server busy timeout: Default value is set to 10 seconds. Increased as needed to support larger data import requests. For a 1500 MB size file, it is typically increased to 1000 sec.

Request timeout: Default value is set to 40 seconds. Increased as needed to support larger data import requests. For a 1500 MB size file, it is typically increased to 4000 sec.

Note 3

Details on MicroStrategy Enterprise Manager:

Enterprise Manager capability is available on the MicroStrategy Server product.

The Enterprise Manager (EM) will allow administrators to observe usage patterns and understand business use cases.

For more detailed information on Enterprise Manager capabilities, refer to Technical Note Key 4752 on https://resource.microstrategy.com

Set up an Enterprise Manager Project and associated statistics database. It is recommended to host the EM warehouse and MicroStrategy metadata in separate databases. The Enterprise Manager project may or may not reside on the same database as the EM Warehouse.

Create Enterprise Manager Reports to track most popular ad-hoc scenarios. The out-of-the-box project contains pre-built reports to help administrators analyze user behavior; however, administrators may build additional custom EM reports to identify most frequently accessed reports, most active ad-hoc users, in-memory cubes with most hits, and more.

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