Governed Data Discovery:
Deploying Self-Service Analytics to Business Teams with Certified Dossiers

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@vijayanand180
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Agenda

- Modes of BI deployment
- MicroStrategy Desktop, Workstation and Web for Self-Service (Data Discovery)
- Unmanaged Self-Service vs Governed Data Discovery
- MicroStrategy Governance Cycle: How to implement governed self-service with MicroStrategy
- Complementing Technologies
- Product Demonstrations
Top-down approach to deploying analytics is centralized to IT

IT teams need to build a centralized semantic layer prior to deploying analytics to business teams.

Benefits

- Delivers Analytics through a Unified Architecture
- Offers Comprehensive Capabilities to Every User
- Supports Scalable Deployments Easily
- Eliminates Redundancies with Reusability
- Integrates with Other Systems Seamlessly
- Offers High Performance to Every User
Top-down approach to deploying analytics is centralized to IT
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Bottom-up approach to deploy analytics starts with de-centralized business teams.

Start Small with Individuals
Agility & Ease of Use without IT Dependency
Support Easy & Instant Data Access
Effortless Analytics with No Training Needed
Audience Poll

Business Users

Vs.

IT Users
The role of business users in BI today has greatly evolved.

Business users are going beyond being consumers and actively creating sophisticated analytics without IT involvement.

Types of BI Users

- Consumers
- Analysts
- Developers
- Administrators

The Old BI World

Today’s BI World
MicroStrategy 10.9™ Delivers More for Each Type of User
New and upgraded products make it easier and faster for users to do more with their Analytics

CO
More Consumers
- Anyone can find answers and use analytics
- Any employee, partner, or customer can consume information to be more data driven, more efficient, and more effective

AN
More Analysts
- Any User can be an Analyst
- Anyone can build and publish analytics, find answers faster, and leverage big data and relational databases

AD
Faster for Administrators
- Deploy a MicroStrategy environment to AWS in minutes
- Automate and schedule platform release upgrades

DE
Faster for Developers
- Offering the broadest number of APIs, MicroStrategy is the most open platform that works with larger technology ecosystems and offers easy ways to extend its capabilities
New Technologies have increased Analytics Adoption and drives various degrees of self-service.
More users have adopted Analytics as new and improved consumption methods are developed.
End users want complete self-service, starting with data access

Self-service encompasses the ability to access, blend, enrich, visualize, analyze, and share data

<table>
<thead>
<tr>
<th>MapReduce &amp; NoSQL</th>
<th>cloudera</th>
<th>Hortonworks</th>
<th>MongoDB</th>
<th>MapR Technologies</th>
<th>Hadoop</th>
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<td>Microsoft SQL Server</td>
<td>Oracle Netezza</td>
<td>IBM DB2</td>
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<td>Multi-Dimensional &amp; Other BI Tools</td>
<td>SAP Business Objects</td>
<td>Hyperion</td>
<td>Oracle Business Intelligence</td>
<td>Cognos TM1</td>
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<td>Cloud Applications</td>
<td>salesforce</td>
<td>Google Cloud</td>
<td>Google Analytics</td>
<td>Eloqua</td>
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<td>Excel</td>
<td>CSV</td>
<td>Access</td>
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<td>Social Media</td>
<td>Facebook</td>
<td>Twitter</td>
<td>Google Drive</td>
<td>Dropbox</td>
<td></td>
</tr>
</tbody>
</table>
Adoption of self-service analytics increases productivity

- More **Productive**
  - More content per creator
  - 5-10x More Content

- More **Producers**
  - More users can create content
  - 5-10x More Content Creators

- More **Collaborative**
  - Peer-to-peer sharing
  - 5-10x More Sharing

>100x More content creation and consumption
A Model for Supporting Enterprise and Departmental App Development In Concert with Agile Data Discovery

Agile Data Discovery  
e.g. Assignments, Hypothesis testing

Departmental Applications  
e.g. Projects, Mgmt Reports, Campaigns

Enterprise Applications  
e.g. P&L, Costs, Sales, Salary, Leads

Business Users  
Citizen Data Scientists

Analyst(s)  
Developer(s)

Center of Excellence  
Data Architect(s)  
Administrator(s)

A Platform for Enterprise Analytics and Mobility
A Model for Supporting Enterprise and Departmental App Development In Concert with Agile Data Discovery

Agile Data Discovery
- Most built directly against available local data and enterprise assets
- Some built on top of published corporate data/cubes
- Re-wired from local data to system-of-record corporate data

Departmental Applications
- Promoted to departmental libraries

Enterprise Applications
- Operationalized and optimized for the enterprise
- Most built on top of published corporate data/cubes
- All built on, and optimized against, published corporate data and cubes

A Platform for Enterprise Analytics and Mobility
How mature is your organization in implementing self-service analytics?

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Biz Self Service</td>
<td>Governance Issues</td>
<td>Biz Self Service</td>
<td>No Issues</td>
</tr>
<tr>
<td>IT Self Service</td>
<td>Governance Issues</td>
<td>IT Self Service</td>
<td>No Issues</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IT driven &amp; no Self Service</td>
<td>Currently have no analytics tools</td>
</tr>
</tbody>
</table>

*MicroStrategy Poll Conducted with ~200 users*
How mature is your organization in implementing self-service analytics?

IT User Poll

- **Biz Self Service - Governance Issues**: 22.4%
- **Biz Self Service - No Issues**: 6.1%
- **IT Self Service - Governance Issues**: 28.6%
- **IT Self Service - No Issues**: 6.1%
- **IT driven & no Self Service**: 32.7%
- **Currently have no analytics tools**: 4.1%

*MicroStrategy Poll Conducted with ~200 users*
How mature is your organization in implementing self-service analytics?

Business User Poll

- **Biz Self Service - Governance Issues**: 25.0%
- **Biz Self Service - No Issues**: 6.7%
- **IT Self Service - Governance Issues**: 25.0%
- **IT Self Service - No Issues**: 8.3%
- **IT driven & no Self Service**: 21.7%
- **Currently have no analytics tools**: 13.3%

*MicroStrategy Poll Conducted with ~200 users*
How mature is your organization in implementing self-service analytics?

### IT User Poll

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### Business User Poll

- **Biz Self Service - Governance Issues**: 25.0%
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- **IT Self Service - No Issues**: 8.3%
- **IT driven & no Self Service**: 21.7%
- **Currently have no analytics tools**: 13.3%

*MicroStrategy Poll Conducted with ~200 users*
MicroStrategy Web and Desktop offers analysts or business users direct access to analytics
End users can access 80+ data sources on their own and create dossiers without IT

- Easy-to-use visual data discovery
- Connects to most data sources
- In-built data preparation, data blending options & advanced analytics
- Installs on MAC and PC for single user offline analysis
- Integrates with D3 visualizations and R
- Connects to MicroStrategy Server for governed data discovery
New MicroStrategy Workstation Turbocharges Administration and Content Development

Workstation delivers a unified tool for administrators to build and manage analytics projects

- Powerful Client for PC and Mac
- Modern User and Group Management
- Create and schedule data mashups
MicroStrategy Supports both top-down and bottom-up approaches to deliver analytics

- Personal or Departmental
- Cloud
- Databases
- Big Data

IT Centric Data Modeling for Centralized Deployments

MicroStrategy Architect

MicroStrategy Data Import

Analysts

Self-Service Data Access for Decentralized Deployments
Connect To Your Data and Information Systems
From RDBMS, Big Data, OLAP, and ERP to CRM, Local files, Cloud Data, and Social Media

• Create in-memory cubes or live connections to the data
• Blend, wrangle, and visualize the information on your Mac or PC
Cleanse and Prepare Data Without Leaving MicroStrategy Desktop or Web

Hundreds of built-in functions to profile and clean data

Streamlined workflows to parse and prepare data

Automatically parse and prepare data with every refresh

Multi-table in-memory support from different sources

Create custom groups on the fly and without coding

Prepare many sources quickly without exporting to Excel
Build Powerful Dossiers and Visualizations with MicroStrategy Desktop or Web

**Sophisticated Analytics**
Build metrics, derived attributes, and leverage over 350 native statistical functions

**Predictive Analytics**
Add R integration for predictive analytics and data mining

**Interactivity and Discovery**
Apply filters, panels and page-by for rapid exploration

**Graph and Visualize Data**
Choose from a library of stunning graphs and visualizations

**Custom Visualizations**
Advanced visualizations with D3 integration

**Geospatial Analysis and Mapping**
Integration with ESRI and Google Maps
Multiple business users can co-create a data model without IT.
Business teams can directly access system of record data
Business teams can promote business data models into system of record systems.
Business and IT can collaboratively work to gradually build a system of record system that meets business needs.
Certify and Promote Content for Governed Data Discovery

Users with the certifier role can certify a dossier, and publish to the Server for governance.
### Office Royale Sales

#### Sales Rep Ranking

<table>
<thead>
<tr>
<th>Owner</th>
<th>Rank</th>
<th>Total ($)</th>
<th>Total Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gun Booth</td>
<td>1</td>
<td>$1,443,526</td>
<td>0.00%</td>
</tr>
<tr>
<td>Kendall Lea</td>
<td>2</td>
<td>$2,988,635</td>
<td>671.10%</td>
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<tr>
<td>Sacha Ayle</td>
<td>3</td>
<td>$5,687,011</td>
<td>68.29%</td>
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<tr>
<td>Cullen Thornton</td>
<td>4</td>
<td>$4,670,000</td>
<td>-24.86%</td>
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<tr>
<td>Prasolli Stevenson</td>
<td>5</td>
<td>$4,948,319</td>
<td>-6.12%</td>
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<tr>
<td>Otto Gentry</td>
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<td>$4,769,526</td>
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<td>Eden Allson</td>
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<td>$4,050,631</td>
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<tr>
<td>Noah Adams</td>
<td>8</td>
<td>$4,087,900</td>
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<td>Amaya Cortez</td>
<td>9</td>
<td>$3,685,365</td>
<td>30.79%</td>
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<tr>
<td>Dey发行人</td>
<td>10</td>
<td>$3,948,635</td>
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<tr>
<td>Reaver Donaldson</td>
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<td>$3,381,361</td>
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<tr>
<td>Saga Baker</td>
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<tr>
<td>Ali Freeman</td>
<td>15</td>
<td>$3,015,365</td>
<td>307.14%</td>
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<tr>
<td>Tashya Hunt</td>
<td>16</td>
<td>$2,770,882</td>
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<td>Veda Haley</td>
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<td>$2,316,329</td>
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<td>Rafael Rodriguez</td>
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<td>$2,102,193</td>
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<td>Saha Cemot</td>
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<td>$1,953,893</td>
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<td>Dean Crosby</td>
<td>21</td>
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<tr>
<td>Charisale Cohen</td>
<td>22</td>
<td>$1,770,000</td>
<td>-17.81%</td>
</tr>
</tbody>
</table>

#### Revenue Streams

<table>
<thead>
<tr>
<th>Category</th>
<th>Total ($)</th>
<th>LY Total</th>
<th>Total %</th>
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<tbody>
<tr>
<td>Product ($)</td>
<td>$2,165,500</td>
<td>$9,488,322</td>
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<tr>
<td>Parts ($)</td>
<td>$140,000</td>
<td>$2,030,000</td>
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<tr>
<td>Support ($)</td>
<td>$600,000</td>
<td>$1,147,375</td>
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<tr>
<td>Maintenance ($)</td>
<td>$12,853,822</td>
<td>$15,187,596</td>
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</tr>
</tbody>
</table>
Product Demo
Self-service for all users
Governed Self Service
User roles and varying priorities with data discovery

Business guy.
Needs answers fast.

VS

IT guy.
Concerned about security and governance.
User roles and varying priorities with data discovery
Challenges with self-service without governance

**Issues for IT**
- Spreadmart of analytical silos with conflicting information
- Adoption of the enterprise BI system is affected

**Issues for Business**
- Conflicting KPIs
- Redundant data analysis
- Business gets a subject-oriented view of information

**Strategic Issues**
- Long-term analytical maturity of business is affected
<table>
<thead>
<tr>
<th>Number of Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zero</td>
</tr>
<tr>
<td>One</td>
</tr>
<tr>
<td>2-4</td>
</tr>
<tr>
<td>5-7</td>
</tr>
<tr>
<td>8 or more</td>
</tr>
</tbody>
</table>
How Many Different Analytics Tools Do You Currently Use Across Your Organization?

- 8 or more: 6.6%
- 5-7: 18.0%
- 2-4: 68.9%
- One: 6.6%
- Zero: 0.0%

*MicroStrategy Poll Conducted with ~200 users*
Ideal approach for governed self-service

Singular Version of the Truth for everyone on any device

Marketing

Sales

Operations

Employee  Time  Geography

Employee  Time  Geography

Employee  Time  Geography

Unified Enterprise Data
Ideal approach for governed self-service
Ideal approach for governed self-service
Ideal approach for governed self-service
Ideal approach for governed self-service
Ideal approach for governed self-service
Ideal approach for governed self-service
Ideal approach for governed self-service
Ideal approach for governed self-service
Ideal approach for governed self-service
Ideal approach for governed self-service
How to implement governed self-service with MicroStrategy
<table>
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<tr>
<th>Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undecided</td>
</tr>
<tr>
<td>Business needs IT help</td>
</tr>
<tr>
<td>Entirely IT Owned</td>
</tr>
<tr>
<td>Entirely Business Owned</td>
</tr>
</tbody>
</table>
Who Should Be Responsible to Drive and Deliver Data Governance and Quality?

- Business needs IT help: 72.2%
- Entirely IT Owned: 9.3%
- Entirely Business Owned: 11.1%
- Undecided: 7.4%

*MicroStrategy Poll Conducted with ~200 users*
Implementing governed self-service goes beyond technology
While technology offers all the means to implement governance, best practices and dedicated teams are required to make this happen

People  Process  Product
MicroStrategy governance cycle for managed self-service

Leverage the suite of products to manage and deliver self-service to decentralized teams
MicroStrategy governance cycle

Prepare your analytics environment

---

**Deploy Appropriate Access to Self-Service Features**

Capabilities available with MicroStrategy Web, Workstation and Desktop Product

---

**Identify potential ad-hoc users and provide them access to Data Import**

ACL to allow/deny access to Data Import Functionality

---

**Govern Data Import memory of ad-hoc users**

Max size of file imported per user
Max memory usage per user

---

**Setup the project to suit your unique organizational needs**

Single Server and single project
Multiple servers multiple projects
MicroStrategy governance cycle
Desktop and workstation offers easy-to-use user management
MicroStrategy governance cycle
Prepare your analytics environment

- Fewer Resources
- Easier to Setup, Manage, Replicate
- Resource Contention

- Separate Infrastructure
- Additional Tools to Manage Object Transfer
- Increased Flexibility for Users
MicroStrategy governance cycle
Observe and track ad hoc usage

---

**Acquire Automated Monitoring Capabilities**

Enterprise Manager is available with MicroStrategy Server Product

---

**Setup Monitoring Infrastructure**

Setup Statistics Database
Create Enterprise Manager Reports

---

**Track Most Popular Ad-hoc Scenarios**

Cubes with maximum hits
Reports accessed most frequently
Most active Ad hoc users
Observe and track ad hoc usage: Sample Enterprise Manager Dashboard
MicroStrategy governance cycle
Observe and track ad hoc usage: Sample Enterprise Manager Dashboard
MicroStrategy governance cycle
Identify applications best suited for certification

Prioritize Applications based on Usage

- How beneficial is this Use Case?
- Are the Number of consumers significant?
- Overall purpose?
- Is there Cross functional Impact?

Prioritize Based on Data Source and Content

- Does Data Exist in Certified Environment?
- Does Data conform to existing BI structure?
- Create Best Practices for Data unavailable in Certified Environment?
MicroStrategy governance cycle
Consolidate data sources into certified environment

---

Incrementally add Self-Service Data to System of Record
- Data Blending – No Architecting required
- Multisource – Architecting Required
- Single DWH – Architecting is recommended (cross functional reporting)

---

Recreating dossiers - Data Discovery Visualizations to Pixel Perfect documents
- Added BI functionality, and enterprise reporting capability
- Mobile functionality
- Improve performance

---

Certifying dossiers – Adding watermarks to drive adoption of trusted data
- Offer Certifier capability via Web, Desktop or Workstation
Governed Data Discovery

Business Users do not have to wait and wants agility

Business users create their own analysis
Governed Data Discovery

Business Users do not have to wait and wants agility

Business users create their own analysis

IT Maintains Data Governance and gradually grow BI projects

MONITOR
Governed Data Discovery

Business Users do not have to wait and wants agility

Business users create their own analysis

Business Users Continue Using their Dashboards

IT Maintains Data Governance and gradually grow BI projects

MONITOR
Governed Data Discovery

Business Users do not have to wait and wants agility

Business users create their own analysis

Dashboards continually used till certified copies are ready

IT Maintains Data Governance and gradually grow BI projects

MONITOR

IDENTIFY
Governed Data Discovery

Business Users do not have to wait and want agility

Business users create their own analysis

Dashboards continually used until certified copies are ready

IT Maintains Data Governance and gradually grow BI projects

MONITOR

IDENTIFY

PROMOTE
Governed Data Discovery

Business Users do not have to wait and want agility

Business users create their own analysis
Dashboards continually used until certified copies are ready
Business starts using certified copies

IT Maintains Data Governance and gradually grow BI projects

MONITOR
IDENTIFY
PROMOTE

IT Maintains Data Governance and gradually grow BI projects
Governed Data Discovery

Business Users do not have to wait and wants agility

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Dashboards continually used until certified copies are ready
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MONITOR
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Governed Data Discovery

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Business users create their own analysis

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Business starts using certified copies

IT Maintains Data Governance and gradually grow BI projects

MONITOR

IDENTIFY

PROMOTE
MicroStrategy on MicroStrategy
How we do it
MicroStrategy on MicroStrategy
Architecture for the Aqueduct Enterprise Analytics Program

Clients
- Marketing
- Sales
- HR
- Technology
- Executive
- Everyone

Promotion to Governed Servers

Servers
- Intelligence
- Analytics
- Transaction
- Distribution
- Telemetry
- Collaboration

Unified Metadata Model

Drivers
- RDBMS
- OLAP
- Big data
- Local files
- Cloud data

Enterprise Assets
- Enterprise BI
- ERP
- Cloud Apps
- Statistical
- Charting
- Mapping
- Media

Self-Service Data Discovery
Complementing Technologies

Partners that help MicroStrategy customers deliver governed self-service
Technology Partners who deliver complementing capabilities to deliver governed data discovery

- **Business glossary** – Easy access to Business Definitions for dimensions and metrics within tables

- **Data lineage** – Provides information about origin or source, and all of the transformation made from original source to the point of consumption

- **Data catalog** – Intuitive mechanism to index all the tables across the various enterprise sources

- **Data Curation** – Gives end users an overview of business context and ownership of data
<table>
<thead>
<tr>
<th>Account Owner</th>
<th>Account Open Date</th>
<th>Check Number</th>
<th>Account Number</th>
<th>Account Balance</th>
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<td>34758749</td>
<td>4358.79</td>
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<td>Ben Jones</td>
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<td>236908745</td>
<td>930</td>
</tr>
</tbody>
</table>

Co librаGovernance

This visualization requires one or more attributes and one metric.
Technology Partners who deliver complementing capabilities to drive adoption
Guidelines for achieving governed self-service

1. Get corporate sponsorship
2. IT and Business need to talk - directly
3. Identify key team stakeholders
4. Don’t treat IT like it’s the dark side
5. Appoint data stewards
6. Centralized processes help decentralized teams
7. Don’t let short term wins get in the way of long term goals
Thank You

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