

AXIOMATICS DATA ACCESS FILTER FOR MULTIPLE DATABASES

ATTRIBUTE BASED ACCESS CONTROL FOR DATABASES

Address your most complex data access challenges for privacy, IP and secure sharing at the database layer – beyond the perimeter to protect the data within - with the Axiomatics Data Access Filter for Multiple Databases. This dynamic authorization solution from Axiomatics extends the power of Attribute Based Access Control to protect data in your databases all the way down to individual table cells.

BENEFITS

- Single point of access control management for database layer
- Enforces authorization in a non-intrusive way; application changes not required
- Minimizes risk exposure for data in transit
- Consistently enforces authorization across multiple channels/applications
- Ensures policies and control rules are in place by users accessing and extracting source data
- Next generation database security from Axiomatics integrates data access control with corporate Identity & Access Management (IAM).
- The product is vendor agnostic, and works across different vendors' databases

INEFFICIENT USE OF DATA IMPEDES PRODUCTIVITY AND REVENUE GROWTH

Studies show that data usability directly impacts productivity and revenue. Usability, in this context, means making information easily available to users without jeopardizing data integrity and confidentiality as mandated by business rules and regulations. Yet, in spite of obvious benefits, many organizations fail in their attempts to improve their use of data. Why?

The answer is both security and compliance. Sensitive data must be protected against unauthorized access. Exposing your information systems to new types of cloud services, new mobile or remote users and new BI tools without taking adequate security precautions, leads to information leakage, fraud risks, privacy breaches, intellectual property exposure, or regulatory compliance violations.

DATA-CENTRIC SECURITY UNLOCKS REVENUE STREAMS AND INCREASES PRODUCTIVITY

Centrally established security configuration ensures that every query to sensitive data is controlled. Policies consider who the user is, what data the user is requesting, when and how it is done and in what context.

Queries that would return data sets which in any way violate policies are altered dynamically to redact or mask sensitive information. Data never leaves the database unless the user has adequate authorization. Furthermore, using data unmasking you can also pre-process data for authorized users, for instance to decrypt cell-values which are stored encrypted in the database.

Once data security is assured, users can access data via new types of channels and services to securely share information. New and more efficient business processes can then be implemented to increase productivity.

EASY-TO-USE CONFIGURATION API AND USER INTERFACE

The Axiomatics Data Access Filter for Multiple Databases features the graphical policy editor from the flagship Axiomatics Policy Server. The administrative user experience has been enhanced, based on customer feedback, to include a new API and upgraded GUI to configure the backend filter service.

For example, you might want to automate the process around SQL Filter Service (SFS) configuration. The SFS Configuration API is a REST API and is documented using the OpenAPI specification. In addition, Attribute Based Access Control is available for the SFS Configuration GUI and SFS Configuration API.

FEATURES

- **Provides context-aware authorization** to data with Attribute Based Access Control policies
- **Real-time, dynamic filtering** of data denies access to data that a user is unauthorized to access
- **Real-time, dynamic data masking¹** masks individual cell values such as credit card or social security numbers
- **Real-time unmasking of data** transforms data if user is authorized, for instance to decrypt an encrypted field
- **Changes in business rules are made once** and applied centrally rather than on each database or application
- Axiomatics Data Access Filter MD supports multiple database types:
 - Oracle
 - IBM DB2
 - Microsoft SQL Server
 - Teradata
- **Enhanced Graphical User Interface** ensures ease of management for SFS administrators
- A new API enables **programmatic management of SFS configurations**

BEYOND DYNAMIC DATA MASKING AND DATABASE ACTIVITY MONITORING

This example illustrates the effects of policy controlled data access filtering and data masking. The HR database holds information about employees.

Name	Salary	Dept
Velma Lapointe	123 456	A
Antonio Wagstaff	134 567	B
Susie Wooley	187 344	D
Sheri Albanese	146 743	B
Ronald Fulton	169 438	A
Jennifer Washburn	174 345	D

A corporate policy mandates that department managers can view data about employees in their own department only. Data access filtering leaves the manager of department D with this data set:

Name	Salary	Dept
Susie Wooley	187 344	D
Jennifer Washburn	174 345	D

The policy is changed to state that the salary information is sensitive and needs to be hidden. According to the new policy, managers can see all employee records but only the salaries of people within their own departments. With data masking applied to the salary column, department managers see all employee records but only salary data for their direct reports.

Note that the policy change requires no change in the HR application or database.

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DOCUMENTED USE CASE

The white paper Increasing the Value of Information with Fine Grained Security for Data Marts on the Axiomatics web site describes a use case in detail. The authors handle clinical research data. The information is both privacy-sensitive and IP-sensitive and can only be made available under very specific conditions.

For more detail on this use case, visit the Axiomatics Resources page on our website:

<https://www.axiomatics.com/resources>

[1] Gartner Gartner's Hype Cycle for Application Security 2017 Report, by Ayal Tirosh, 28 July 2017.

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