Identity & Access Governance Utilizing Business Analytics

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Established in 1999, leading vendor in Identity and Access Governance & Identity Management

Offices in US and Europe

First vendor to provide enterprise IAG+IAM solution on Microsoft’s BI platform

3 x Global Microsoft Award Winner ‘Identity & Security’

Sample clients are FHLB-OF, First Republic Bank of San Francisco, New York State Insurance Fund, Abbott, BMW Group, Chevron, Nustar, Lundbeck, DekaBank, Bayer Group
Suggested Take-aways

- IAM or IAG – what to recommend?
- A step-by-step approach to achieve IAG
- How standard tools from the BI & BA world can assist in the Identity space
IAM vs. IAG
IAM Characteristics

Excellent when...

- The business case is efficiency
- Scope is limited to a few systems
- Policies are well defined
Danisco Customer Case Study

Key Pains

- Lack of common global process for identity management
- Different processes structure in each system
- Manual handling of identities
- Reduced enterprise productivity
- Requirement to comply with guidelines for best practice identity management

Solution

- Approval workflows
- Self service processes
- SoD
- Integration to SAP and Notes
- Role-based access control
- Compliance reporting and audit trail
- Automated provisioning and de-provisioning

Benefits

- Administrative savings with automation and self service
- Automation and optimization of identity management processes
- Uphold regulatory compliance policies
- Audit trail and reporting as an integrated part of the solution
IAM historical challenges

- All Audited systems are not necessarily relevant for efficiency business-case
- Data quality has to be high
- It must be possible to integrate
- It takes time to discuss with system owners
  - Automated Write integration
  - New Management console
Identity and Access Governance
IAG - Characteristics

- Newest approach e.g. Gartner Group
- Fastest and most cost-effective route to compliance results (not automation)
  - In-process support for improving data quality
  - Organizational ‘freedom’ - yet compliance
  - Reduced technical integration obstacles
- Provides insights into which systems to automate with IAM
- Handling of excessive amounts of data that would make ‘traditional’ relational data models break down
Case study: Bayer Group – From IAM to IAG/Deep Access Intelligence

- Global company-wide IAM solution rolled out to more than 140 companies in 62 countries
- Enhancement of IAM solution with IAG features to achieve compliance, deep access intelligence, and complete control over IDs, accounts, and entitlements.
- Large volume of data collected centrally across systems
  - OLAP for high scalability, high performance, management dashboards, and deep access intelligence
    - 36 million entitlements
    - 1.4 million accounts
    - +100,000 managed active identities and users
- Standard SSIS (SQL Server Integration Services) fits well into Bayer’s infrastructure
- Strong foundation for forensic analysis and advanced compliance reporting
- Unfolding of complicated structures to achieve deep access intelligence
- Attestation surveys run on actual data in the data warehouse
IAG provides Deep Access Intelligence

Typical IAM Scope

- Request
  - Workflows
- HR

IAG Scope

- Confirm deprovisioning
- Current & valid approvals
- Actual state reports
- DWH

Permission A
Permission B
Permission C
Permission D

AD Accounts
AD Groups
SharePoint Groups
SharePoint Site

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IAG challenges

- System owners still have to do manual provisioning work
- Workflow is not enforced using an IT system
Summary: IAM Versus IAG (1)

• Only a subset of systems automated

• Includes all audited systems
• Includes manually provisioned systems
• Overview of actual data
• Deep Access Intelligence.....
Summary: IAM Versus IAG (2)

- IAG is **not** a replacement for IAM
- IAG and IAM complement each other
- IAG provides detailed overview and control across all systems - with or without IAM
- Many organizations can benefit from starting with IAG
**Summary IAM to IAG**

<table>
<thead>
<tr>
<th>IAM</th>
<th>IAG</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Automation:</strong></td>
<td><strong>Compliance &amp; overview:</strong></td>
</tr>
<tr>
<td>• Automated workflows/processes for on-boarding, organizational transfer, off-boarding with or without human interaction and approvals</td>
<td>• Overview of access in all systems with deep access intelligence</td>
</tr>
<tr>
<td>• Provision/write integration based on rules &amp; roles with inputs from authoritative source</td>
<td>• Utilizes data analytics and dashboards</td>
</tr>
<tr>
<td>• Self service access requests with approvals</td>
<td>• Applies detective policies</td>
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<tr>
<td>• Enforcement of preventive policies</td>
<td>• Attestation on actual data (Post provisioning)</td>
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<td>• Manual provisioning (in combination with automated provisioning)</td>
<td>• Self service access requests with approvals</td>
</tr>
<tr>
<td>• Compliance cost is reduced</td>
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Introducing a 'Step by Step' Approach Utilizing BI and Analytics
IAG Implementation method w. continuous cycles

- Data Collectivity
- Store & normalize
- IAG data scrubbing
- Account ownership
- IAG Data Enrichment
- Validate against policies
- Generate reports/Dashboards
- Mitigate findings
- Attestation survey
- Generate mitigation actions
- Closed loop

- BI
- BA
- BI
- BI
- BA

Closed loop

Self Service Access Request Process
Access According to Role/Rule

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Business Analytics example 1
- Suggest and Confirm Account Ownership

- Account to identity matching rules
  - Exact match
  - Custom match
  - Fuzzy match (Probability threshold for confirmation)

- Account ownership survey
  - Confirm suggested ownership
Market Basket Analysis:

- Determines rules that associate sets of products that are bought together, and characteristics of the buyer that predict the purchase.
- Utilizes Association Rules algorithms
- The paradigm shifts to “what are the characteristics of our employees and contractors that predict which sets of permissions?”

<table>
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<tr>
<th>Market Basket</th>
<th>Rules &amp; Roles Mining</th>
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<tr>
<td>Buyer (one purchase per buyer)</td>
<td>Identity</td>
</tr>
<tr>
<td>Dimensional data: Age, Zip code, etc.</td>
<td>Dimensional data: Location, Company Code, etc</td>
</tr>
<tr>
<td>Products purchased</td>
<td>Permissions assigned</td>
</tr>
</tbody>
</table>
Role candidate:

Permissions predicting each other are highlighted which forms the basis for creating roles = ‘buckets of permissions’

Rule candidate:

Permissions are predicted by identity attributes: Users with certain attributes (or a combination of such) are predicted to have a good correlation with e.g. a certain AD group > a rule should be created

‘Probability (confidence)’ and ‘Importance’ indicates the quality of the prediction
Summary: BI/Analytics/DWH utilized in IAG scenarios

- Use of Fuzzy Logic to determine ownership on accounts and resources
- Analytics performed on a data warehouse to derive rules and roles
- Data cleansing using algorithms
- Handling of excessive amounts of data that would make traditional relational data models break down
  - Dashboards on top of vast amounts of data
  - Unfolding utilizing massive BI calculation power
  - Multiple historical versions of data using BI/Warehouse technology
  - Slowly moving dimensions enables monitoring of changes
Wrap up

- For a successful result - understand your key needs and current situation
  - First things first!

- Use a pragmatic step by step approach utilizing BA & BI techniques to achieve compliance, continuous improvements and monitoring

- Consider the power of introducing deep access intelligence

- Consider data quality improvements as a part of the process
Resources

- Webinar; ‘A pragmatic approach to Compliance’
- Pragmatic Role Mining, White Paper

Please contact mbs@omada.net for resources & more info or visit www.omada.net
Thank You!

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