

Saviynt & MIM: Adding Intelligence to your Identity Management Program

MIM Extension Webinar Series

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Identity-Driven Security from OCG



Delivering **long-term, value-added** services for Identity and Access Management, Identity Governance, Device Management, Security, and more.

Why OCG?

- ➔ 15+ year track record deploying identity and hybrid-identity solutions
- ➔ 700+ enterprise projects delivered around the world, and over 7 million Office 365 seats deployed
- ➔ Microsoft Identity Partner of the Year 2013-2014-2015, finalist 2016
- ➔ Deep connections with Microsoft Cloud engineering team

Planning & Assessment

Envisioning workshops
Readiness assessments
Security reviews
AD health-checks
Training courses

Deployment Services

Pilots for Azure AD, AD FS, Intune, RMS, and more
Office 365 integration/migration
FIM/MIM integration
Azure Marketplace Application Integration
SMS integration

Managed Services

Help desk support
System Center integration
24x7 monitoring, alerting & logging
Maintenance
3rd party application management
Training courses

Established
2010

Team of
170+

LA_(HQ)

Strong
heritage in
IGA &
Security

Vision

Be the foremost Cloud Identity Governance 2.0 provider

Enable organizations with **access governance and intelligence 2.0** solutions to adopt Compliance, Cloud First and Digitalization initiatives and secure critical data, infrastructure and applications

What is Identity Governance & Administration?

User Account Provisioning

- Identity Lifecycle Management
- User Provisioning
- Password Management
- Centralized Identity Repository - 'One identity to rule them all'

Security - 1995

Access Governance

- Certifications
- Role Management
- Policy / Process
- Access Request
- Compliance reporting

Compliance - 2002



Compliance does not equal Security!



**Whose has Access?
What do they have access to?
What does that Access secure?
Why was the Access granted?
Who approved the Access?
When was the Access granted?
Was the access re-certified?**

**Is the Access necessary?
What is the Business impact? Risk?
How is it being used?
Can it help improve Business process?**

Digital, Cloud First and *Compliance* mandates are introducing a paradigm shift in IT



Massive Exposure

as assets are opened for external access



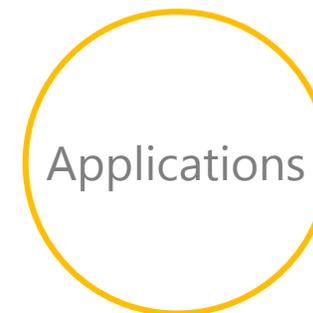
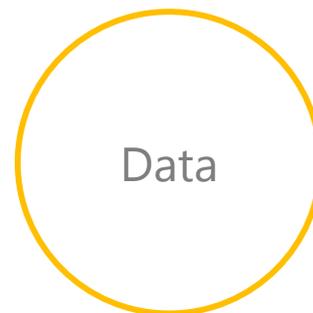
Excessive Privileges

due to increased autonomy



High Overhead

in being up-to-date or incur risk penalties



IGA isn't enough....

User Account Provisioning

- Identity Lifecycle Management
- User Provisioning
- Password Management
- Centralized Identity Repository - 'One identity to rule them all'

Security - 1995

Identity & Access Governance

- Certifications
- Role Management
- Policy / Process
- Access Request
- Compliance reporting

Compliance - 2002

Identity Analytics (IGA 2.0)

- Anomalous behavior detection
- Peer group analysis
- Preventative Security
- Dynamic Risk Scoring
- Continuous monitoring

Risk Aware - 2015

Identity is the new Perimeter

Visibility across Data, Infrastructure & Applications
on cloud and enterprise and across different user communities...

Governance is the new Imperative

Compliant identity across multiple regulations...

Intelligence in the new Prevention

Need to move from Compliance to Intelligent + Real-time Security in a
transient environment...

IDM - IGA1.0 -> IGA 2.0

Legacy Identity Management Connectors

AD / Exchange REST APIs RACF
ACF2 LDAP SPML / SCIM UNIX RDBMS
DB Tables Any App

Identity Governance and Intelligence

Intelligent Access Request Management
Risk-based Access Certification
Provisioning & Connectors

Usage / Risk Analytics
Integrated Access Recommendations
Continuous Controls Monitoring

Password Management
Privilege Access Governance
Reporting & Dashboard

Segregation of Duty (SOD) Management
Role / Rule Engineering & Governance
ABAC / Event-based Policy Management

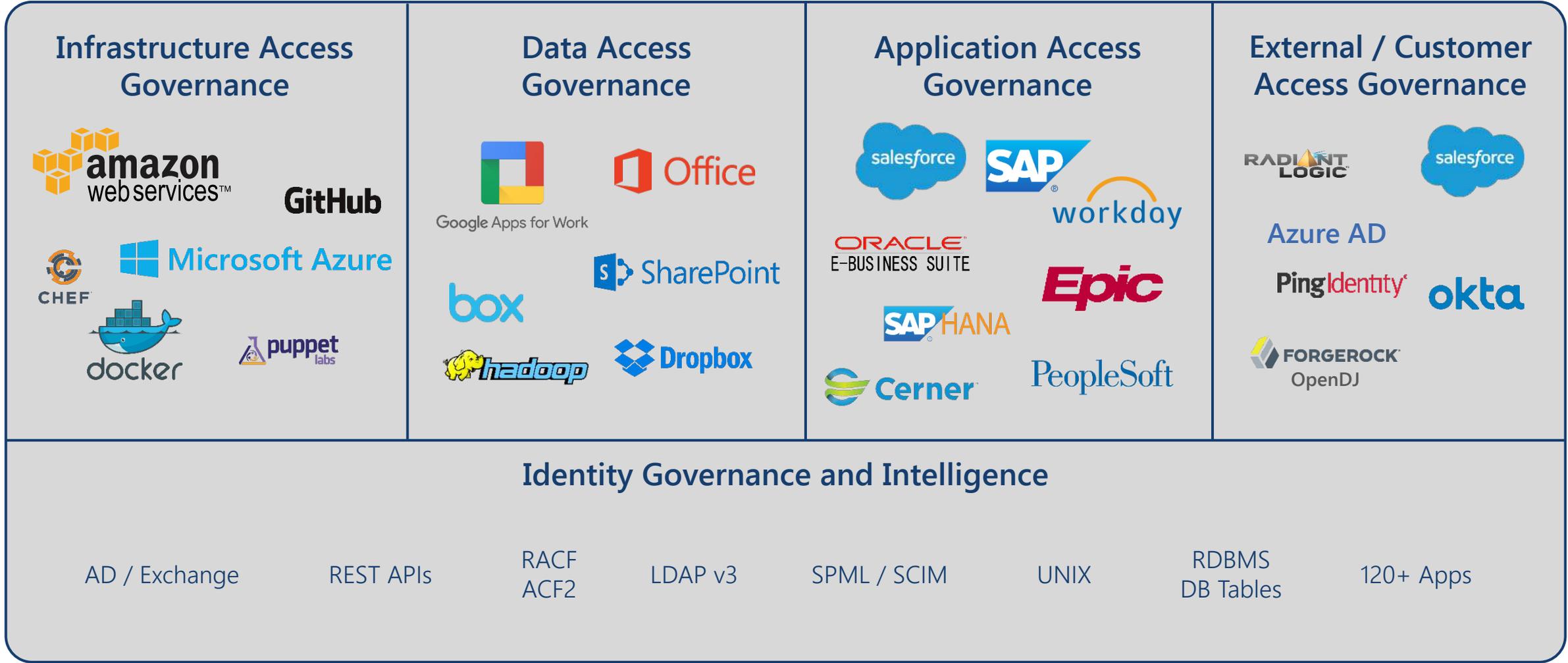
Identity Analytics and Intelligence

Usage / Outlier Analytics
Integrated Access Recommendations
Risk & Controls Library

Fine-grained Segregation of Duty (SOD) Management
Fine-grained Role & Rule Engineering & Governance
Identity Governance Metrics & Reporting

Application Onboarding Workbench
Access Clean-up
IGA Integration Interfaces

Secure data, applications and infrastructure with a single product



Identity addresses 3 primary needs to secure critical assets

Top governance problems solved by Saviynt

VISIBILITY

- Who has access to what?
- Who are my riskiest users / workloads?
- What are the privileged entitlements / sensitive data?
- What are they doing with that access?

GOVERNANCE

- How can I ensure appropriate access at all times, including emergency access?
- Can I enforce Segregation of Duty (SOD) rules, access policies?
- How do I revoke access in timely manner?

SECURITY

- How can I secure in 'real-time' access to sensitive data or critical workloads?
- Can I stay ahead of new threats? Identify suspicious users?
- How do I apply compliance mandates consistently?

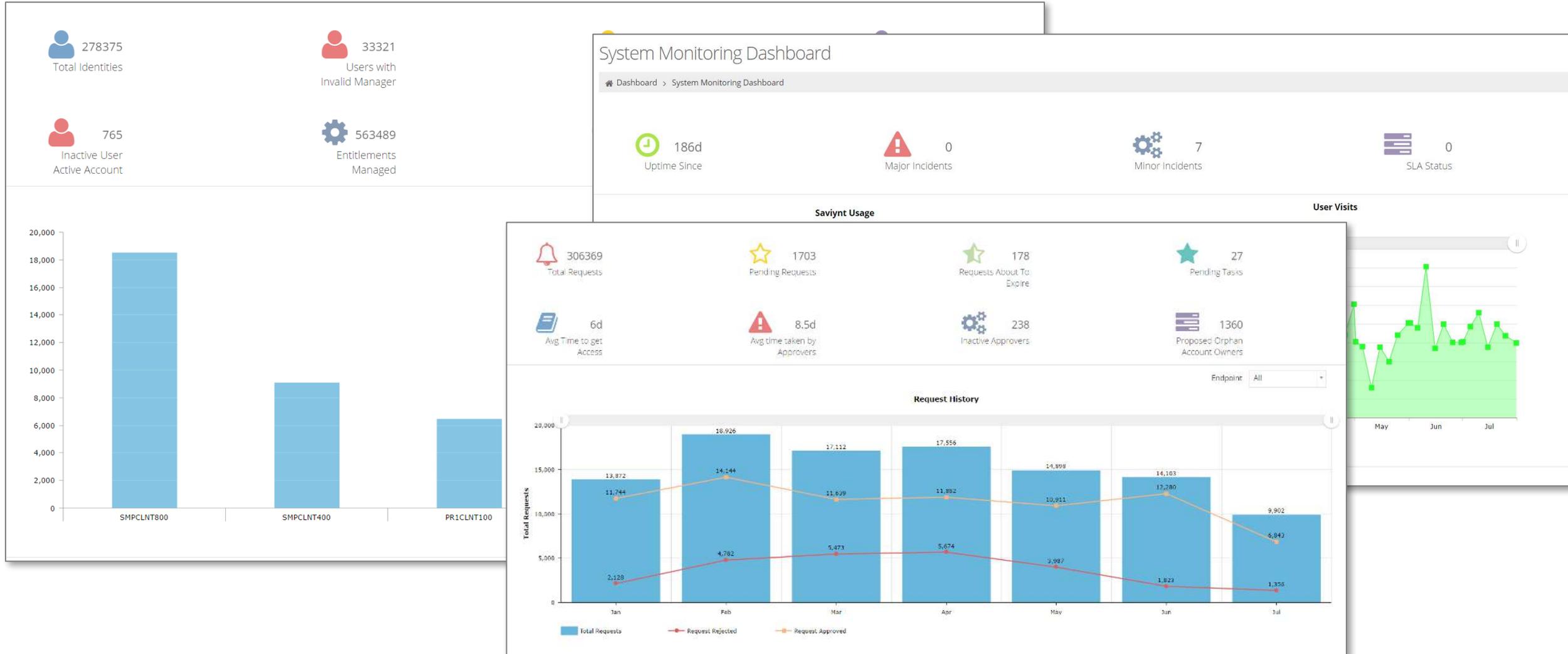


Identity 2.0

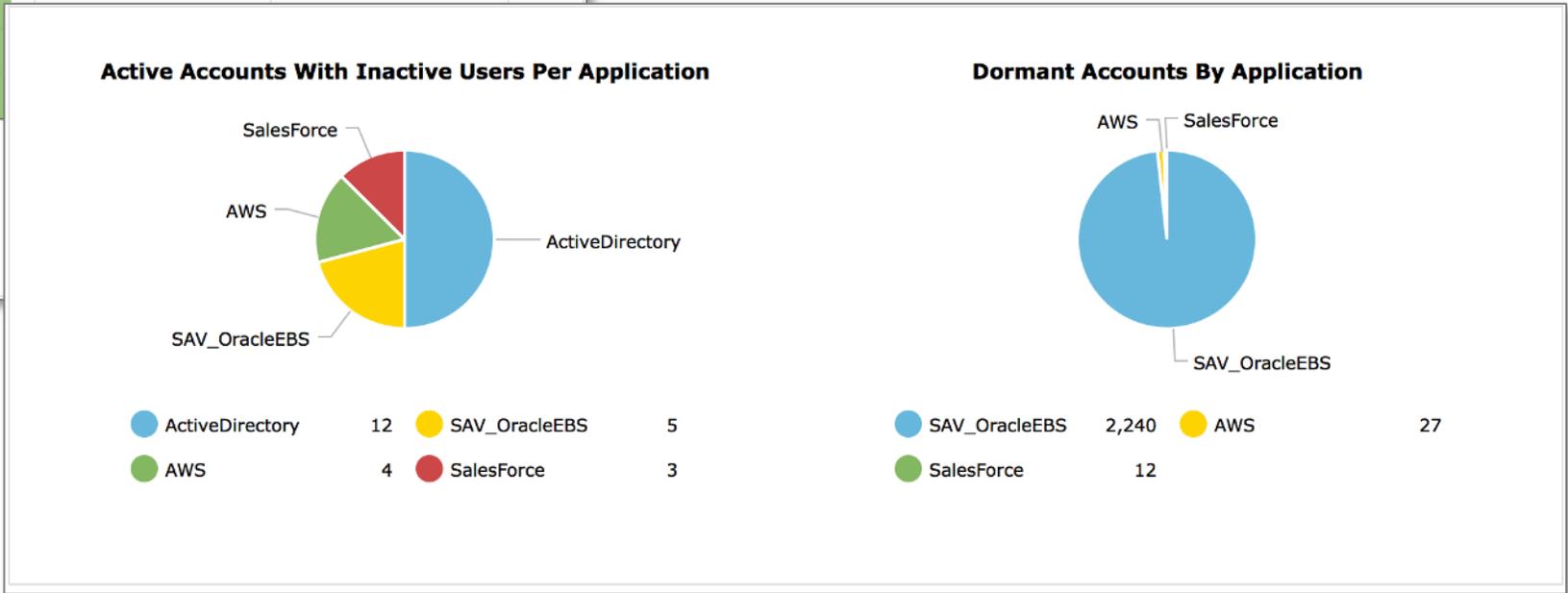
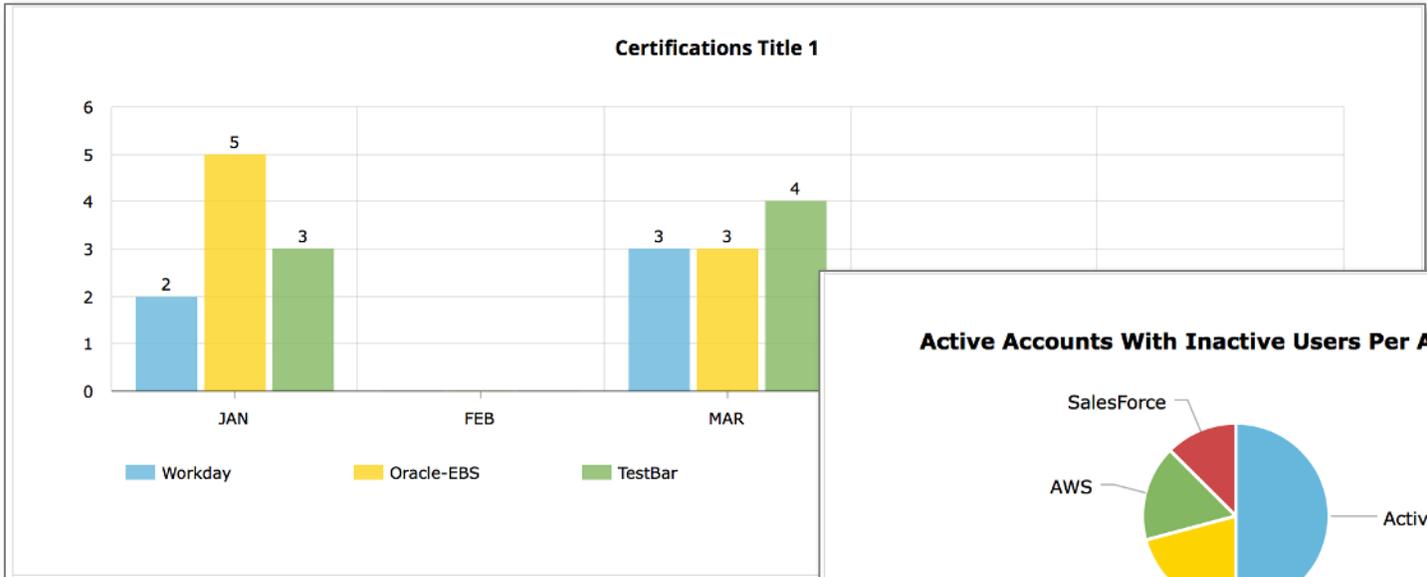
IGA 2.0 success lies in understanding its *USER, UX and their imperatives*



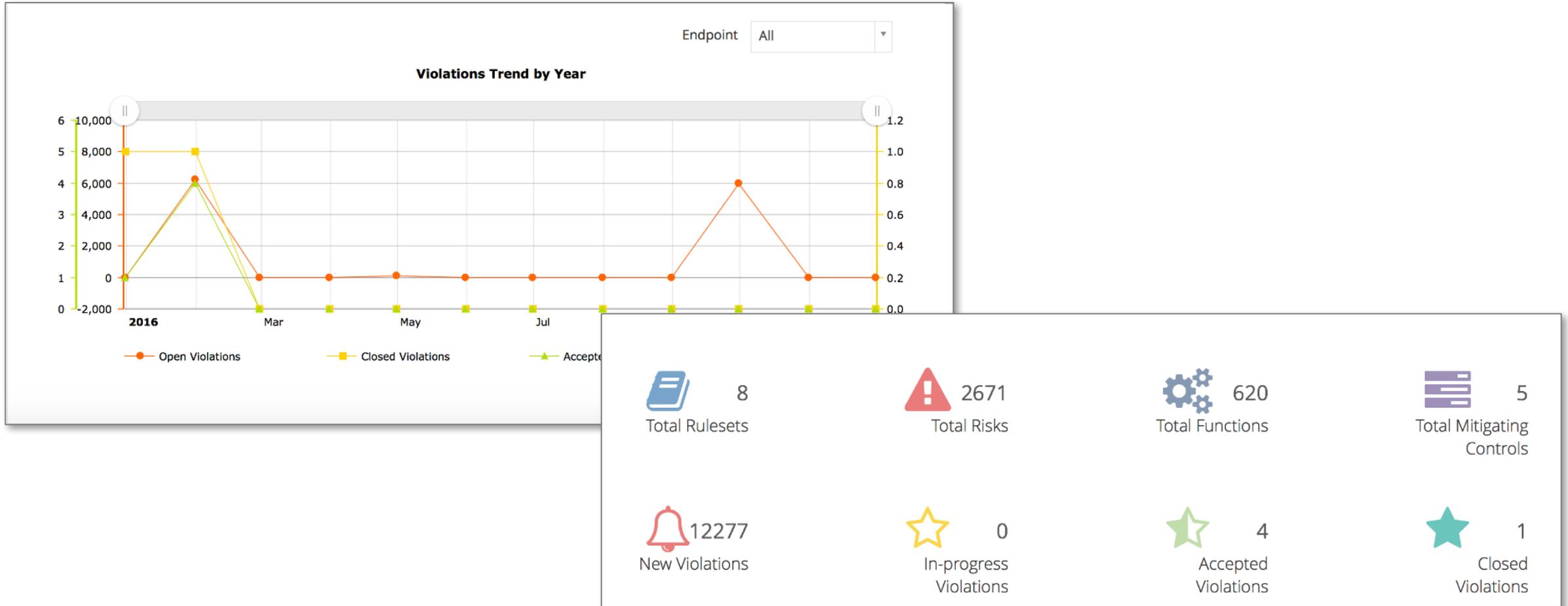
Built to demonstrate continuous business value with out-of-box KPIs, drill down dashboards



Built to demonstrate continuous business value with out-of-box KPIs, drill down dashboards



Built to demonstrate continuous business value with out-of-box KPIs, drill down dashboards



Manage and govern privilege access / just-in-time administration

1

- Self-service, time-bound (checkout / check-in)
- Multi-level approval workflow for privileged access / role across multiple applications

2

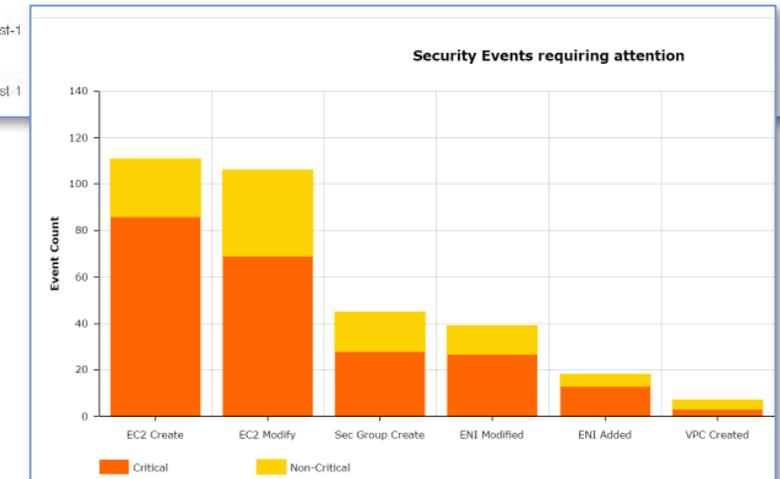
- Activity monitoring of privileged access and correlation of temporary access keys to actual identity

3

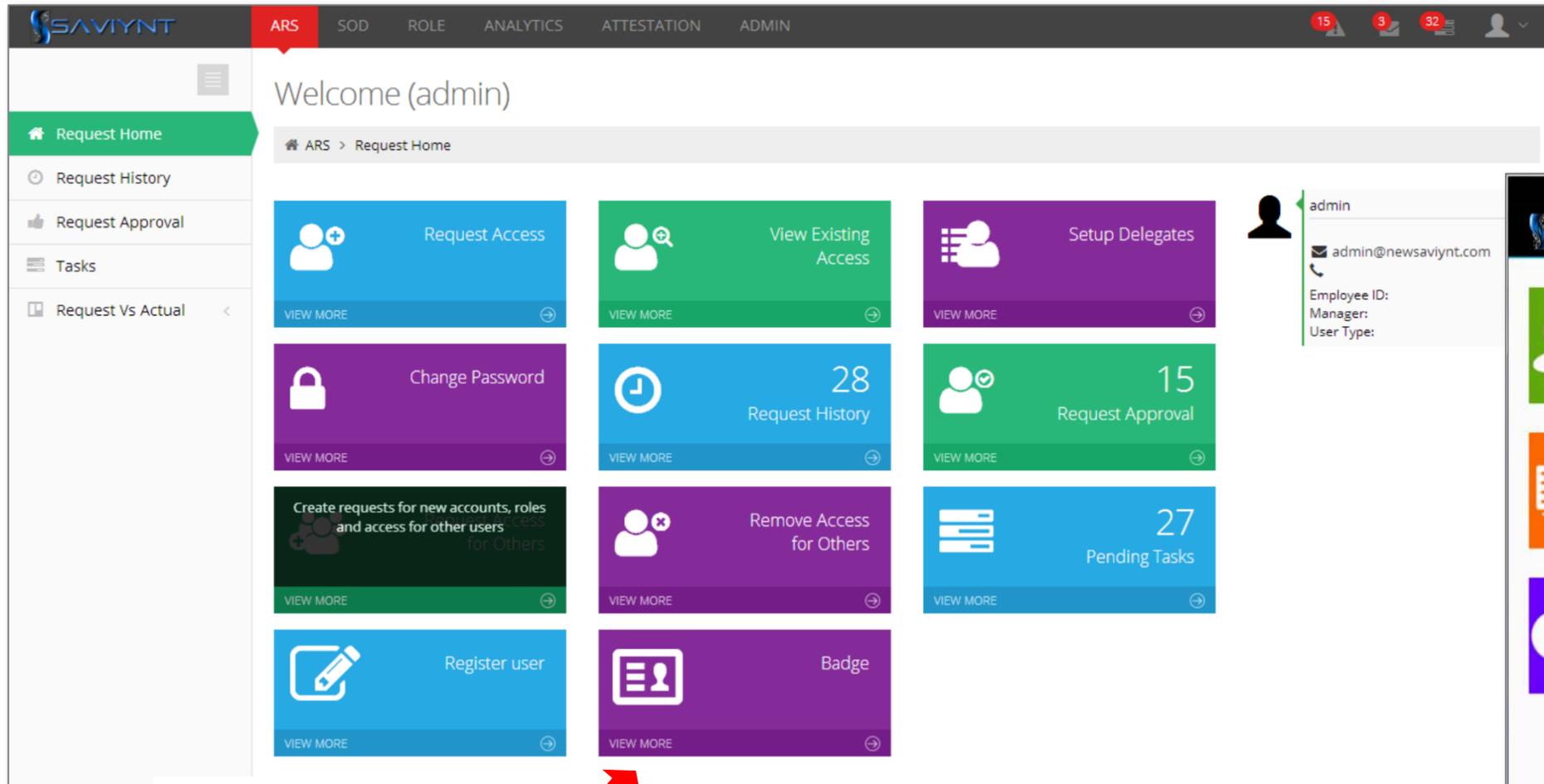
- Launch automatic certification of privileged activity
- Perform behavioral analytics to identify suspicious privileged activity

IAM "DevCrossAccAccess"

Time ^	awsRegion	eventName	userIdentity.type	userIdentity.userName	requestParameters.userName
September 8th 2016, 04:14:05.000	us-east-1	GetIamProfile	AssumedRole	-	DevCrossAccAccess
September 8th 2016, 04:14:05.000	us-east-1	ListAccessKeys	AssumedRole	-	DevCrossAccAccess
September 8th 2016, 04:14:05.000	us-east-1				
September 8th 2016, 04:44:46.000	us-east-1				



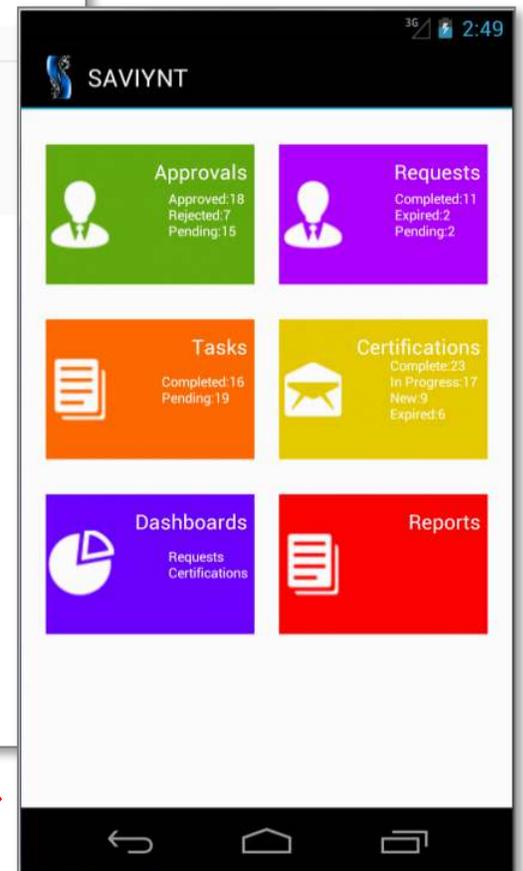
Intuitive web and mobile UI ensures acceptance by the most demanding business users



← Persistent notification bar

- Simple grid layout for easy navigation
- Supports personalization

Mobile app available on iOS and Android →



Access recommendations as decision tools for requesters, approvers and certifiers

The image displays two screenshots of the Saviynt ARS (Access Recommendation System) interface, illustrating the process of requesting access and the system's recommendations.

Left Screenshot: Request Access for Angela Ward (AW3061)

- Step 1 of 4:** Select System
- Recommended Application:** A table showing recommended applications for the user. The table is highlighted with a red box.

Recommended Application
EBS
KTPS

Showing 1 to 2 of 2 entries

Table of Applications:

Application	Description	Actions
ADITResource		MODIFY EXISTING A
AIX		MODIFY EXISTING A
DB2		MODIFY EXISTING A
MSSQLServer		MODIFY EXISTING A
ODB		MODIFY EXISTING A
RACF		MODIFY EXISTING A
Siebel Prod		MODIFY EXISTING A

Right Screenshot: Request Access for Eddie Aldaco (10ALDAED)

- Step 2 of 4:** Select Access
- Application # 1 OF 1:** Infrastructure: GTPCLNT100, Endpoint: GTPCLNT100, Account Name: 10ALDAED
- Top five recommended Entitlements:** A table showing recommended entitlements for the user. The table is highlighted with a red box.

Available SAP Role	Description	Action	Selected SAP Role *
GWOP12380_CUST_PROCESSOR	Customs_Processor (Composite-FTO_2090) (Responsible for customs processing for imports and exports work involves customs declarations)	ADD	No data available in table
GWOP12380_CUST_PROCESSOR	Customs_Processor (Composite-FTO_2090) (Responsible for customs processing for imports and exports work involves customs declarations)	ADD	
GWOP12310_CUST_PROCESSOR	Customs_Processor (Composite-FTO_2210) (Responsible for customs processing for imports and exports work involves customs declarations)	ADD	
GWOP12310_CUST_PROCESSOR	Customs_Processor (Composite-FTO_2300) (Responsible for customs processing for imports and exports work involves customs declarations)	ADD	
GWOP12370_CUST_PROCESSOR	Customs_Processor (Composite-FTO_2100) (Responsible for customs processing for imports and exports work involves customs declarations)	ADD	

Showing 1 to 3 of 242 entries

Red Text Annotations:

- Application and Entitlement recommendations auto-generated as dynamic roles based off peers' existing access and recent requests
- Default recommendation configuration excludes access < 70% common across peers, high-risk / SOX sensitive apps and entitlements

Inline preventive policy and SOD violation analysis

Request Access for Bruce Langlois (275105)

ARS > Request Home > Request Access Step 3 of 4

1 Select System 2 Select Access 3 Provide Justification

CTF

Account Name: 275105 Endpoint: CTF

username: 275105

Access	Type	Action	Business Justification
Access:11isepartionproject (07-28-10)	TYPE	ADD REQUEST	as mentioned by my manager
Access:admin	TYPE	ADD REQUEST	
Access:Architecture	TYPE	ADD REQUEST	

Comments

Request Access for Branimir Zagorski (bgzagb01)

ARS > Request Home > Show Request Detail

New Account Request

Account Name: bgzagb01 Endpoint: PR1CLNT100 TimeZone: EET

User Group: BULGARIA E-Mail: melwin.louis@saviynt.com User Type: EMP

Manager: bgatas02 Requested By: Sofia Atanasova (bgatas02)

ACCESS	ENTITLEMENT TYPE	REQUEST TYPE	APPROVAL TYPE	START DATE
ASSIGNEE - Maarten Spreuwerberg (Nispren1), Carine Bonte (Bebornc1)	SAFROLE	REQUEST ACCESS		02-16-2015 23:32
ASSIGNEE - Dennis Esmaier (Dassmed1), Ferenc Farkas (Nifark1), Maarten Spreuwerberg (Nispren1), Jeroen Eijk (Niejeg1)	SAFROLE	REQUEST ACCESS		02-16-2015 23:32
ASSIGNEE - Ron Housten (Nhoust2), Martin Leeuwen (Nleuum1), Maarten Spreuwerberg (Nispren1)	SAFROLE	REQUEST ACCESS		02-16-2015 23:32
ASSIGNEE - Ron Housten (Nhoust2), Martin Leeuwen (Nleuum1), Maarten Spreuwerberg (Nispren1)	SAFROLE	REQUEST ACCESS		02-16-2015 23:32
ASSIGNEE - Ron Housten (Nhoust2), Martin Leeuwen (Nleuum1), Maarten Spreuwerberg (Nispren1)	SAFROLE	REQUEST ACCESS		02-16-2015 23:32
ASSIGNEE - Ron Housten (Nhoust2), Martin Leeuwen (Nleuum1), Maarten Spreuwerberg (Nispren1)	SAFROLE	REQUEST ACCESS		02-16-2015 23:32

SOD Warning: This role is causing SOD

Comments

Existing Comments

[02/16/15:Sofia Atanasova(bgatas02)] Violation of segregation of duties is based on posting and paying invoices - both needed for the current position - Exception Handling and Payment Specialist.

Add Comments

Total 4 Segregation of Duty Violation Found

- IMGlobaV5 - Process Outgoing Payments vs Process Vendor Invoices (Allowing an associate to process vendor payments and process vendor invoices may result in fictitious and fraudulent invoices, decreased cash flow, conflicts of interest, kickbacks, and a circumvention of management payments policy. For example, an associate could potentially conduct fraudulent activities by creating a fictitious vendor invoice and then initiating payment for it.)
- IMGlobaV5 - Process Outgoing Payments vs Release Blocked Invoices (Allowing an associate to process outgoing payments and release blocked invoices increases the risk of processing fraudulent payments and payments to unauthorized vendors.)

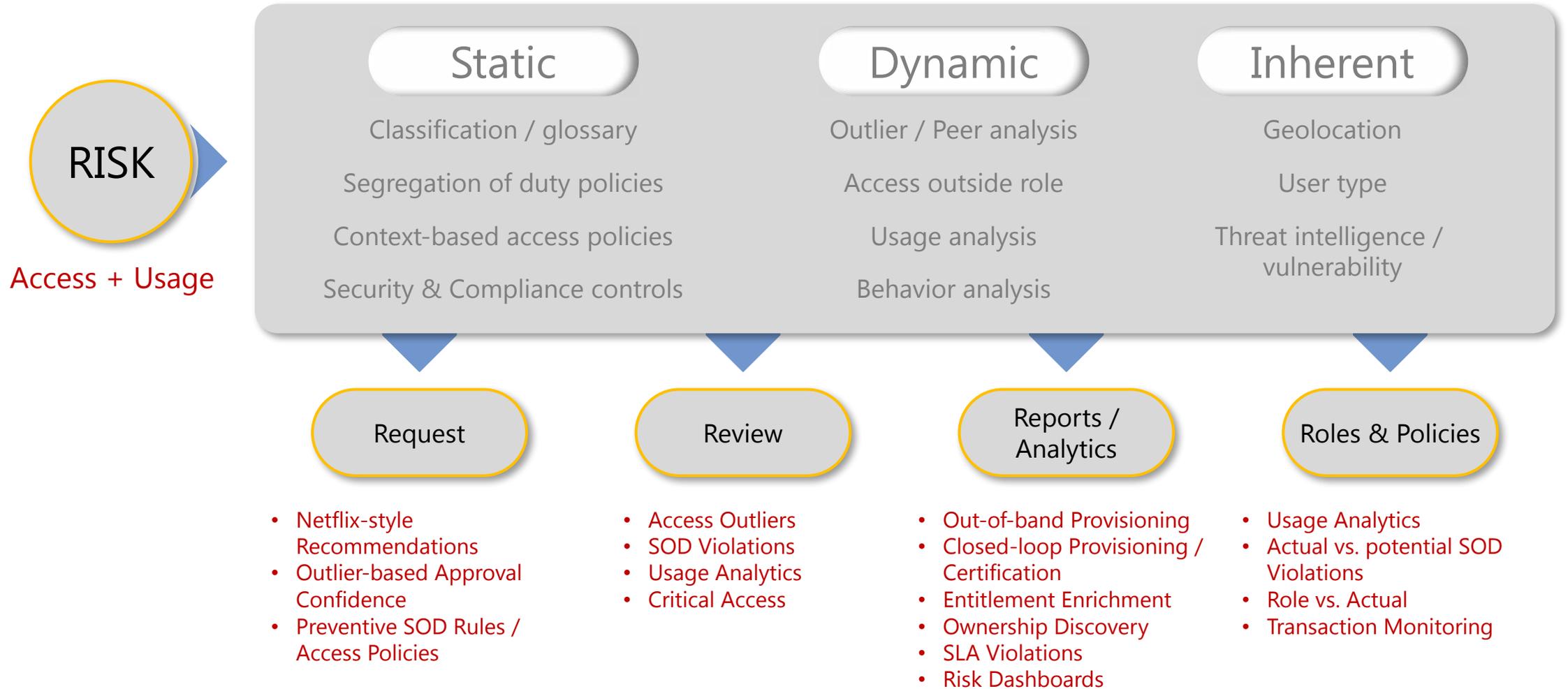
Process Outgoing Payments Process Outgoing Payments Release Blocked Invoices Release Blocked Invoices

ROLE - /BEV2/9100044 (EFCP1C4500_AP_CLEAR_PRODC, EFPF1C4500_AP_PAYMENT_PRODC, EFPF1C4500_AP_INV_PRODC, /BEV2/9100044) ROLE - EFM1D4440_MAINT_BLOCKED_INV01 (/BBS/RB_RECLAS, /EACA/GL_DOCNR) TCODE - F-54, F-53, F-58 TCODE - MRBR

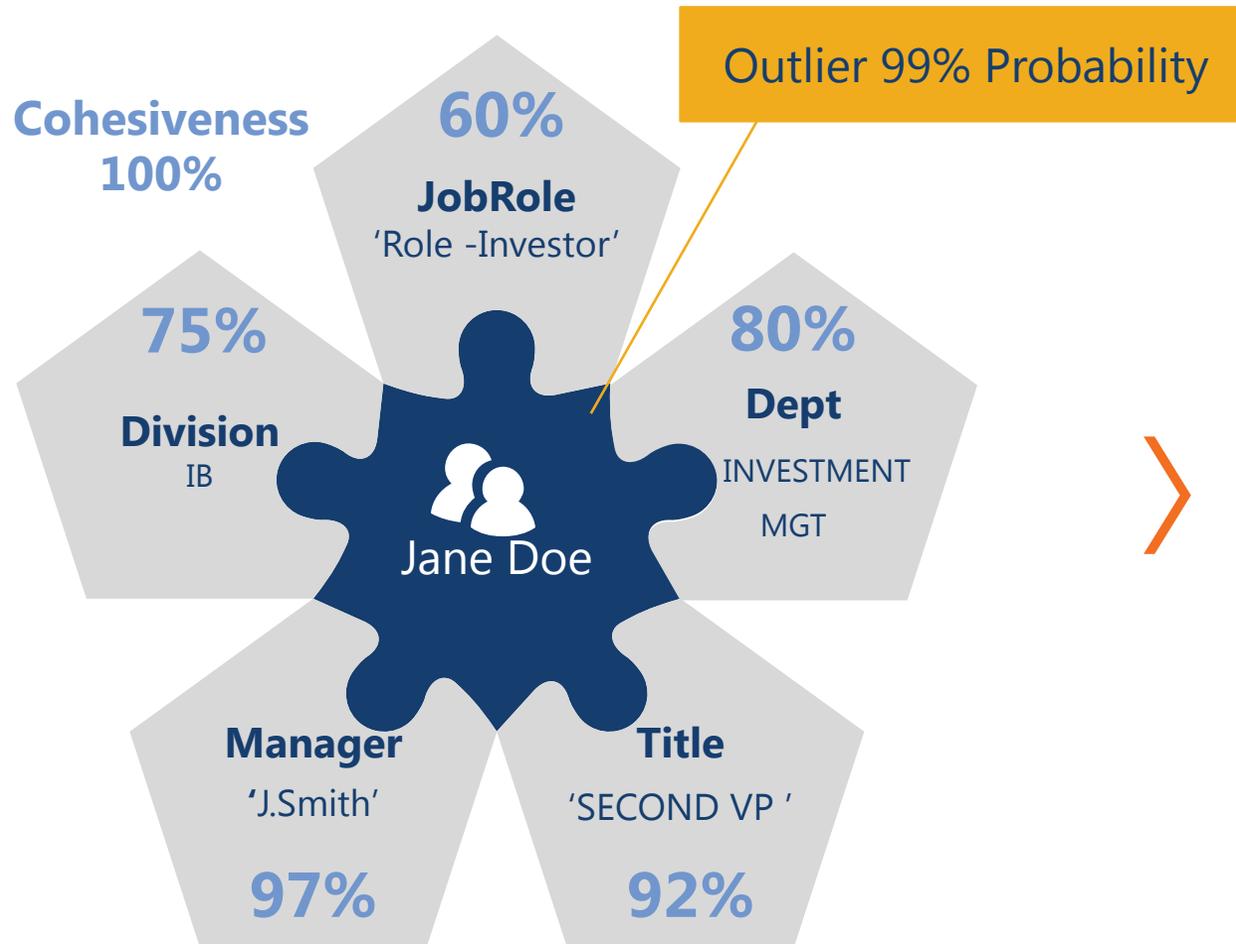
ROLE - /BEV2/9100047 (EFPF1C4500_AP_PAYMENT_PRODC, EFPF1C4500_CLEAR_INV_PRODC, EFPF1C4500_CLEAR_INV_PRODC, /BEV2/9100047) ROLE - /BBS/RB_RECLAS (/BBS/RB_RECLAS, EFB1C4500_BLOCKED_INV_PRODC) TCODE - F-54, F-53, F-58 TCODE - MRBR

- Run-time preventive SOD and policy validation
- Risk-based enterprise workflow ensures dynamic routing of approvals based on request risk

Saviynt enables adoption of multi-dimensional RISK model and data driven analytics



Peer analysis to detect access Outliers or Inliers to form **Access Recommendations**



Request

- Netflix-style access recommendations
- Outlier-based approval confidence

Review

- Review 5-10% entitlements, get >70% revokes

Sample Risk Based Access Requests

Asset Risk / User Risk	Approve / Request	Outlier + SOD review Dynamic
Critical	Manager approval + Resource / Role Owner required	+ Security Team
High	Manager approval + Resource / Role Owner (for critical and high risk entitlement / role)	+ Security Team
Medium (Baseline)	Auto approved with manager override options	+ Security Team + Resource Owner
Low	Auto approved with manager override options	

Sample Risk Based Access Reviews

Asset Risk / User Risk	Full Access Review	Outlier Certification (Dynamic + Inherent) ~ 5% entitlements to be reviewed
Critical	Annual	Monthly risk based reviews
High	Annual	Quarterly
Medium (Baseline)	As needed	Semi annual
Low	As needed	Yearly

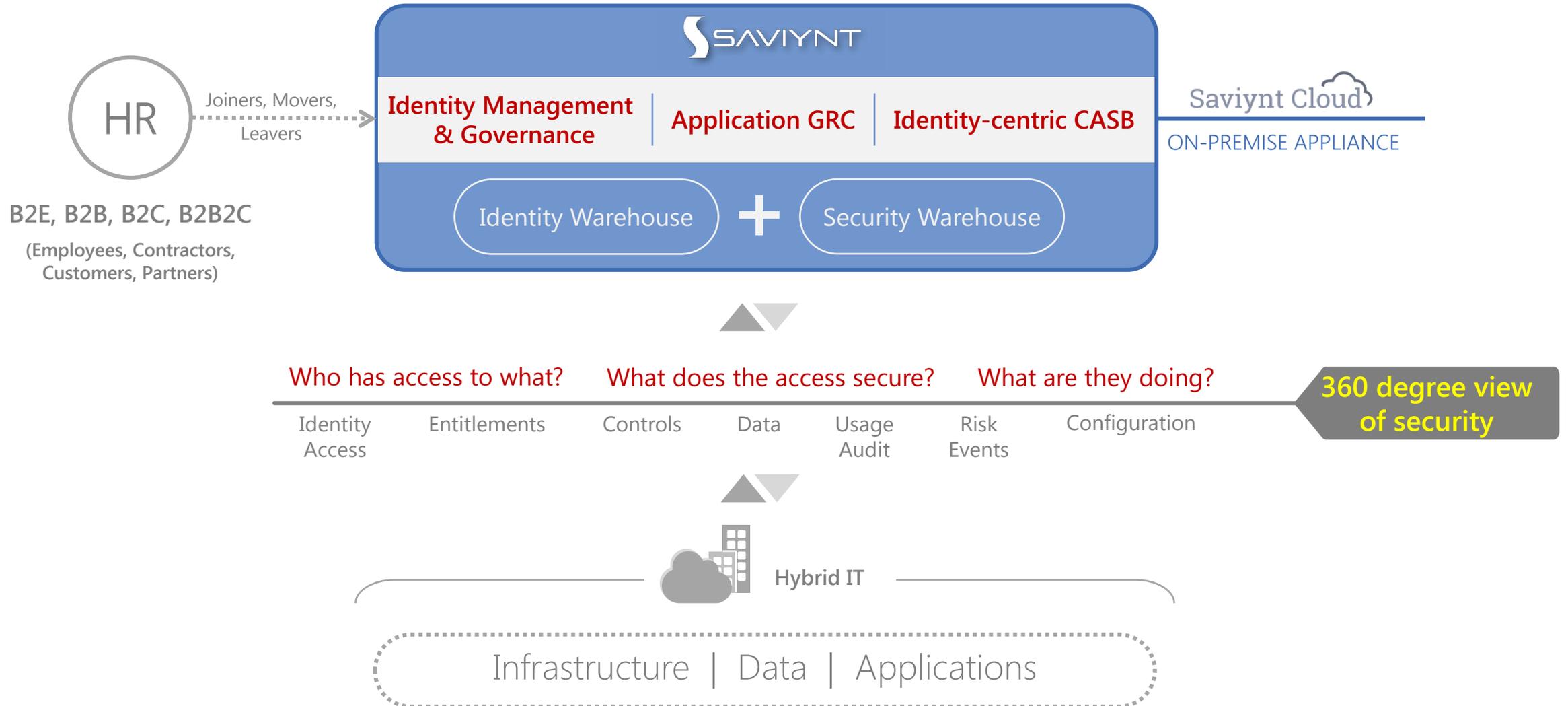
Sample risk-based role management process

Role Risk Category	Access Request (min. approval levels)	Access Certification (min. review levels)	Role Content Certification (min. review levels)
Critical	<ol style="list-style-type: none"> 1. Manager 2. Resource owner / IT security / compliance office 3. ISO 	<ol style="list-style-type: none"> 1. Manager 2. Resource owner / IT security / compliance office 	<ol style="list-style-type: none"> 1. Role owner approval 2. Resource owner approval 3. Role governance committee approval 4. Performed semi-annually
High	<ol style="list-style-type: none"> 1. Manager 2. Resource owner / IT security / compliance office 	<ol style="list-style-type: none"> 1. Manager 2. Resource owner / IT security / compliance office 	<ol style="list-style-type: none"> 1. Role owner approval 2. Resource owner approval 3. Role governance committee approval 4. Performed semi-annually
Medium	<ol style="list-style-type: none"> 1. Manager 	<ol style="list-style-type: none"> 1. Manager / Resource Owner 	<ol style="list-style-type: none"> 1. Role owner approval 2. Resource owner approval 3. Role governance committee approval (optional) 4. Perform annually
Low	Auto approval if role constraints are met	Auto approval if role constraints are met	<ol style="list-style-type: none"> 1. Role owner approval 2. Perform annually

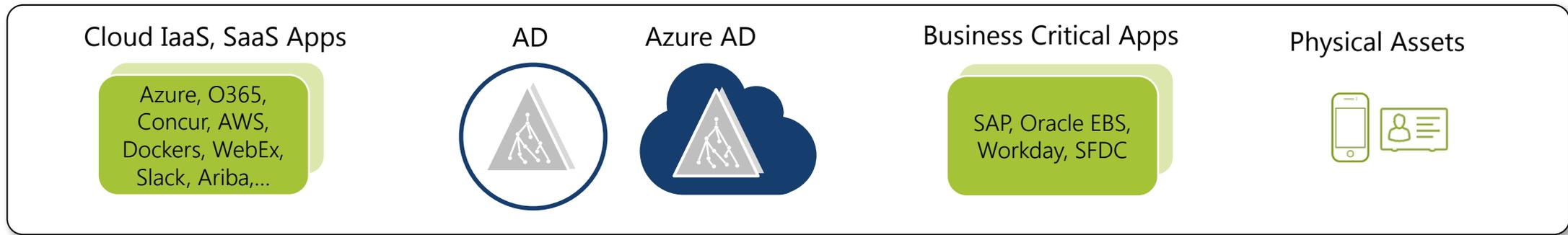
Outlying Entitlement Risk Category	Access Request	Access Certification
High	<ol style="list-style-type: none"> 1. Manager 2. Resource owner / IT security / compliance office 	<ol style="list-style-type: none"> 1. Manager 2. Resource owner / IT security / compliance office
Medium	<ol style="list-style-type: none"> 1. Manager 	<ol style="list-style-type: none"> 1. Manager

Note: any entitlement assigned outside of access role is default considered as medium risk or higher, although BUs could choose to have low risk

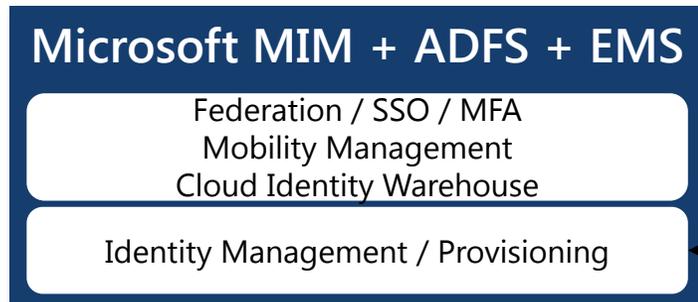
IGA 2.0 is a **single pane** for holistic security built from the ground-up on most **comprehensive & actionable security controls** and **usage / risk analytics**



(Saviynt + Microsoft) provides comprehensive enterprise IAM and cloud access governance for critical applications



IDaaS + IDM



IGA-aaS



OOTB Integration

Application

Saviynt + MIM for Critical Applications

Data

IaaS

Why Application Access Governance?

1 Most are mission critical...

Strict access control especially for privileged access is a must to secure mission critical data and transactions

Heavy compliance mandates dictate deployment and continuous monitoring of GRC and security controls

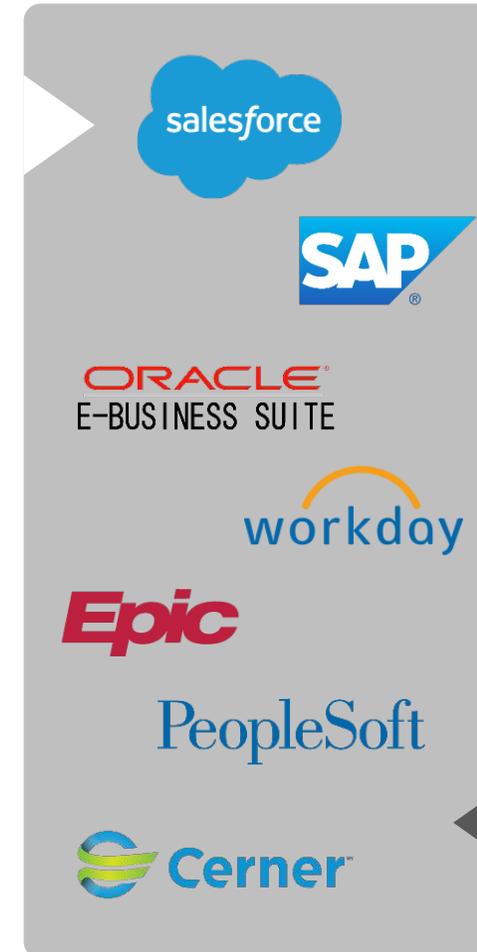
2 Authorization is complex, hierarchical & unique

Each application has potentially multiple modules with varied architecture, unique and complex access hierarchy implementation

Segregation of duty (SOD) enforcement / fraud management is complex, needs automation and deep integration with application's access hierarchy

3 Typically managed in a silo...

Enterprise applications have a standalone security solution, leading to inconsistencies and redundancy in policy enforcement



APPLICATION ACCESS GOVERNANCE

- Application SOD Management & Remediation
- Mitigating Controls Management
- Usage Analytics
- Role / Privilege Design & Governance
- Emergency Access Management
- Security Controls

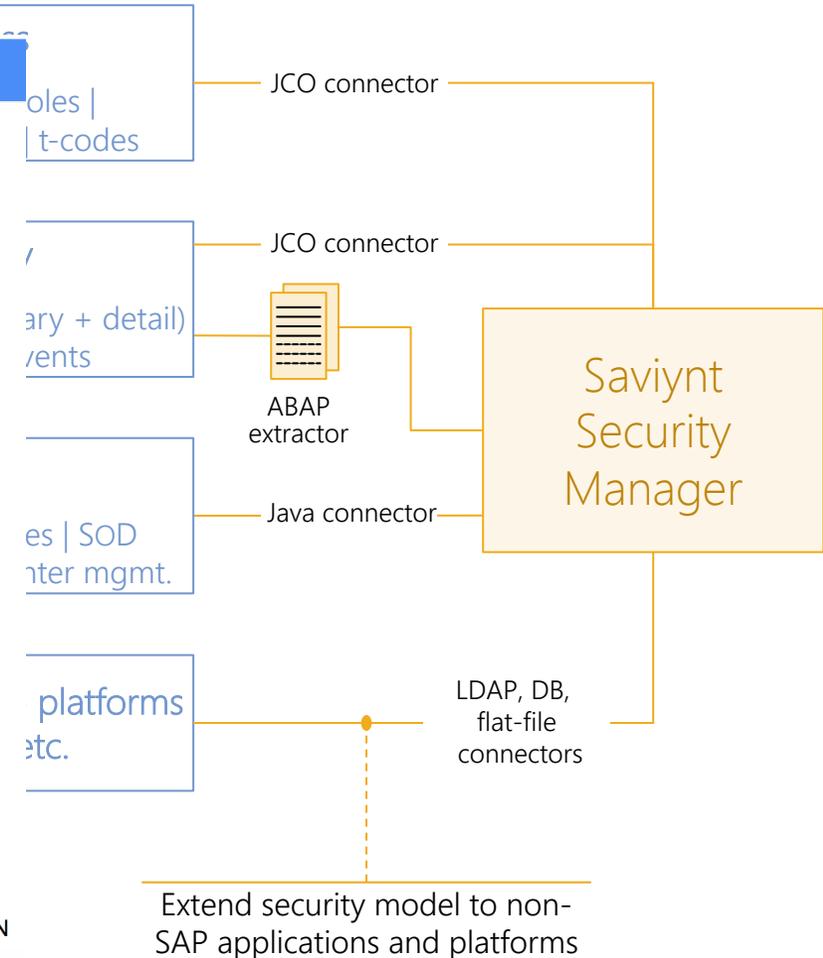
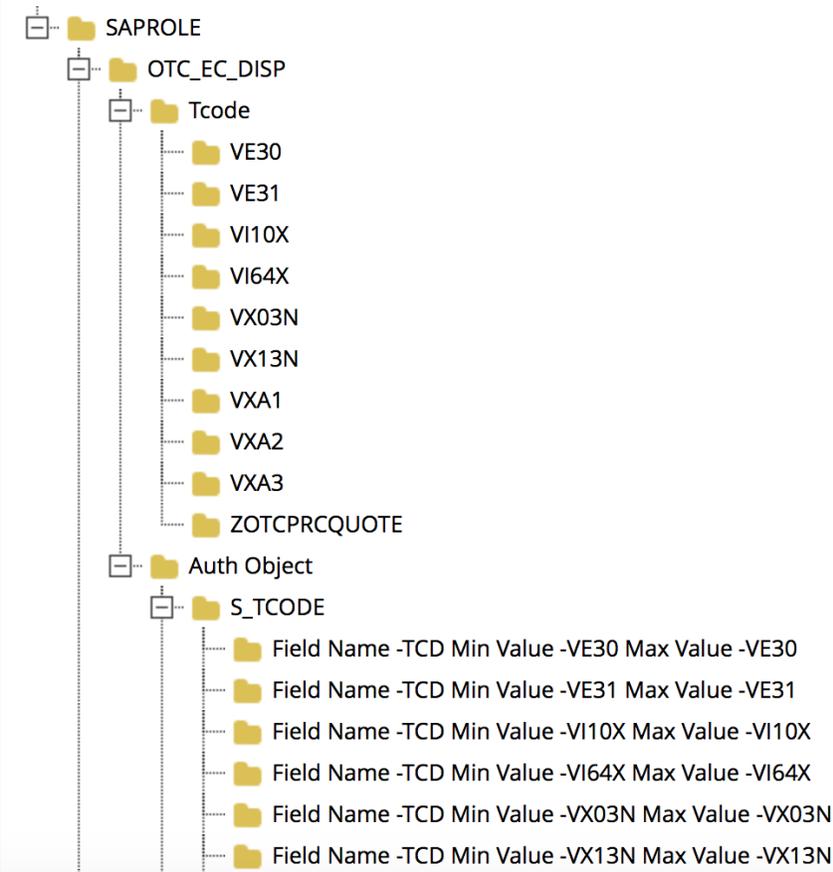
Saviynt for SAP

SAP Security

- Continuous controls monitoring with 100+ SAP controls
- SoD analysis, remediation and workbench for management
- Privilege access risk analysis / monitoring
- Actionable usage analysis and analytics
- Risk-based access certification based
- Firefighter / emergency access review
- License management
- Custom transactions and program review
- Vulnerability & Security Configuration Management
- Role engineering based on statistical algorithms, includes simulation and version control

SAP

Entitlements Hierarchy



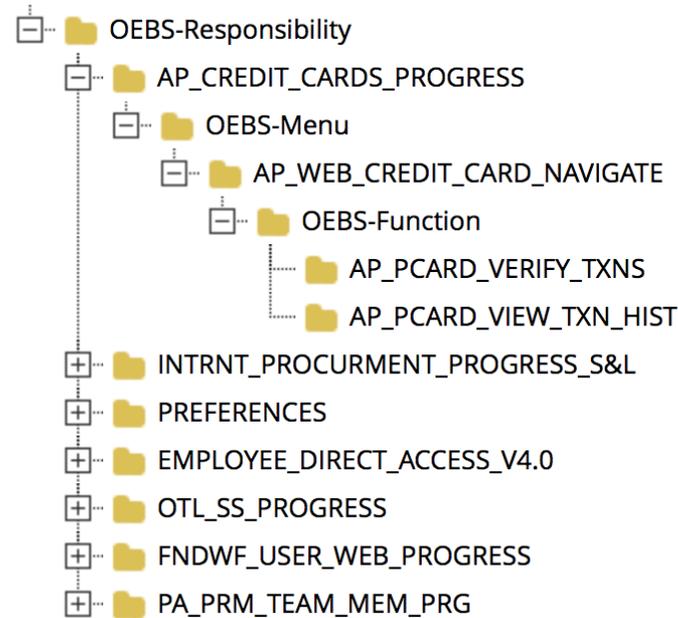
Saviynt for Oracle E-Business Suite

Oracle EBS Security

- Fine grained access control with the ability to import the entire stack of access
- 150+ out of the box security controls and remediation workbench
- **Functional Application Role Engineering** based on advanced statistical algorithms
- Saviynt engineered roles are **SoD free** and have **no entitlement redundancy**
- **Responsibility consolidation** checking the underlying functions
- Custom responsibility / functions review
- Role life-cycle management with version control and ability to roll back

Oracle EBS

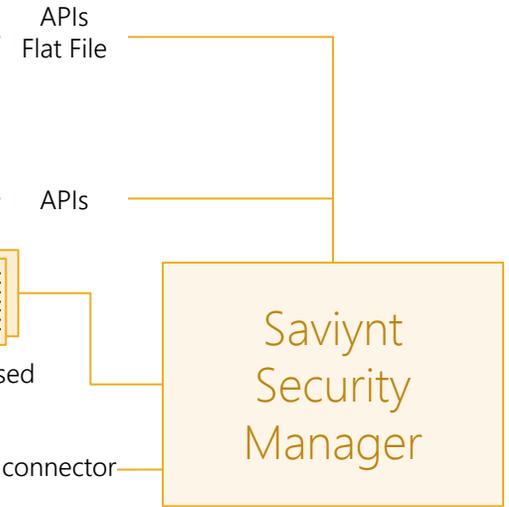
Entitlements Hierarchy



ESS
Responsibilities | Functions

Activity
Usage logs | events

Control
Rules | Relations



Saviynt Security Manager

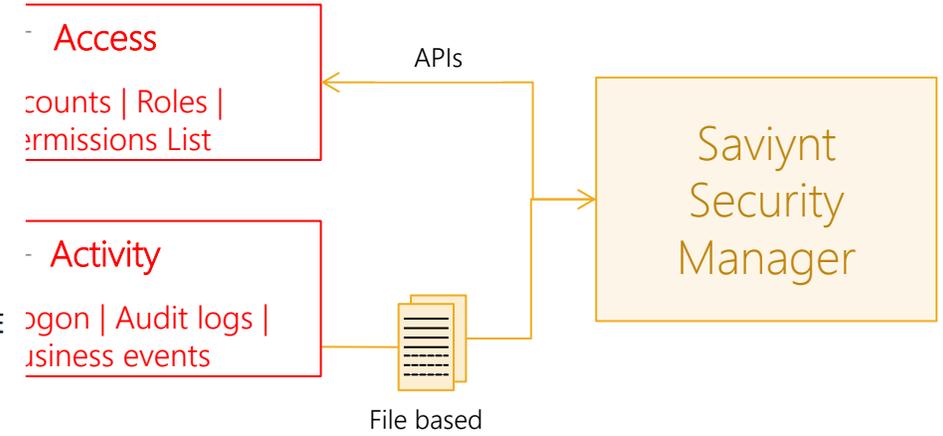
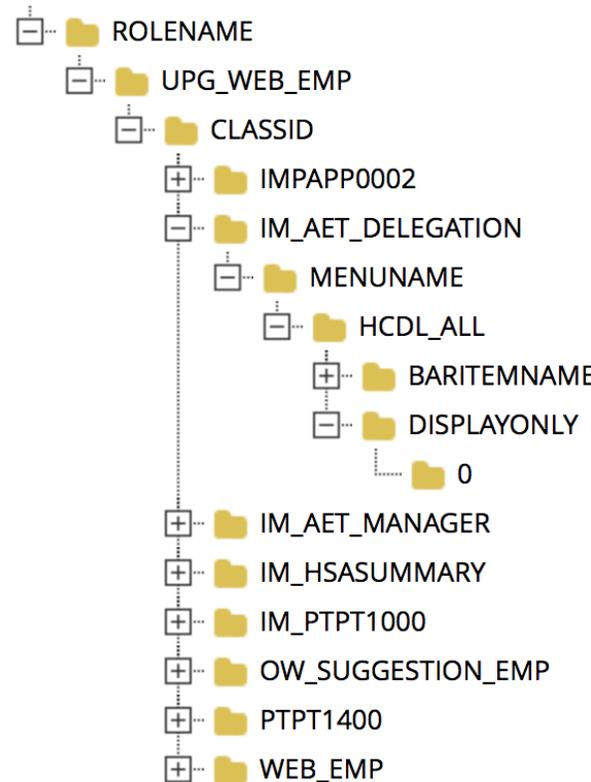
Saviynt for PeopleSoft

PeopleSoft Security

- Fine grained access control with the ability to import the entire stack of access
- 50+ out of the box security controls and remediation workbench
- Functional / Application Role Engineering based on advanced statistical algorithms
- Saviynt engineered roles are SoD free and have no entitlement redundancy
- Role consolidation checking the underlying permissions
- Role life-cycle management with version control and ability to roll back

Peoplesoft

Entitlements Hierarchy



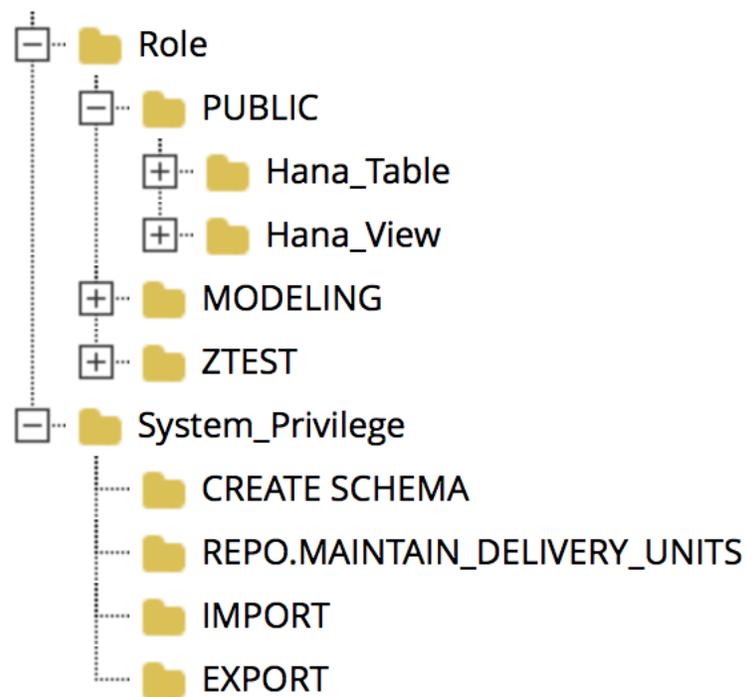
Saviynt for Big Data platforms

SAP HANA Security

- **Access Abstraction layer** to translate business rules in to complex database object models
- Automatic creation of optimal **roles and privileges** based on business rules
- Automated **provisioning** of controls for HANA
- **User management** with built-in security and compliance control checks
- **Real-time audit / alert** of access and any violations including out-of-band provisioning, SoD conflict, etc.

HANA

Entitlements Hierarchy



Activity

Roles |
ical, package,
pplication,
age logs

ouse
ehouse |
d reports

tional)
ules | SOD
ghter mgmt.

JDBC connector

JDBC

Java connector

Saviynt
Security
Manager

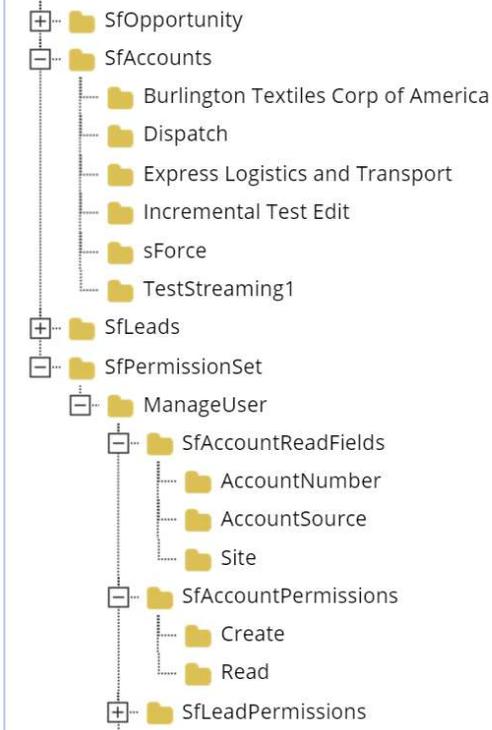
Saviynt for Salesforce.com

Salesforce Security

- Fine grained access control with the ability to import the entire stack of access – profiles, permission sets, objects, object fields, etc.
- Out of the box security controls and remediation workbench
- **Application Role Engineering** based on advanced statistical algorithms
- Saviynt engineered roles are **SoD free** and have **no entitlement redundancy**
- **Profile / Role consolidation** checking the underlying functions
- Custom profile review
- Role life-cycle management with version control and ability to roll back

Salesforce

Entitlements Hierarchy



Access

Profiles | Permission Sets | Object Fields | Records

Activity

Usage logs | Business events

APIs



File based

Saviynt Security Manager

Application

Saviynt + MIM for Cloud Applications

Data

IaaS

Why IaaS Access Governance?

1 High risk due to privileged access...

Compromise of a single AWS / Azure Account can lead to breach of entire datacenter on Cloud

DevOps users can have privileged access to IaaS services / workloads / policies and CI/CD tools in their VPCs

2 Complex services and entities to manage...

Access control extends beyond users to entities such as VPCs, subnets, instances, DBs, data objects, etc. Policies are usually defined as JSON objects

Multiple points of failure such as incorrect workload tags, misconfigured instances, open ports / open access, non-rotated certificates, etc.

Need to keep pace with IaaS innovation e.g. Amazon released 200+ capabilities and services for AWS in 2015 alone

3 Scale and intelligence is a must...

Visibility of a single AWS account needs integration with at least 5 log sources including CloudWatch, CloudTrail, VPC flow logs, AWS Config, several DevOps tools, etc.

Large volumes of user access, configuration and activity data need smarter tools such as intelligence and analytics to identify riskiest users and access

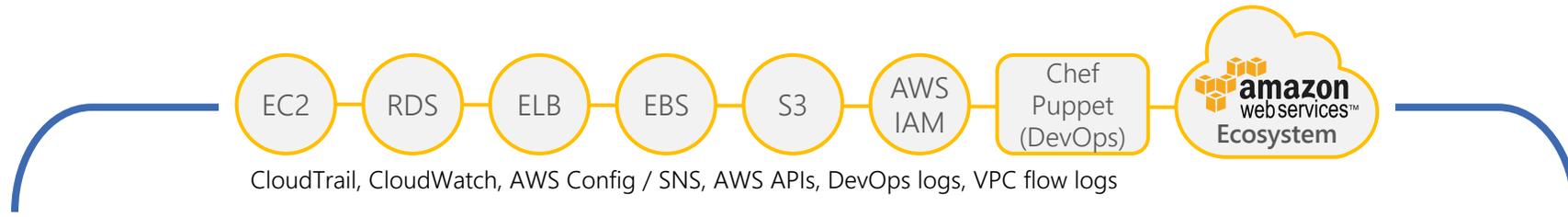


INFRASTRUCTURE ACCESS GOVERNANCE

- 200+ Risk Controls Library
- Near Real-time Preventive Workload Security
- DevSecOps & Secure CI/CD
- Entity Life-cycle Management
- Privilege Access Governance
- User Behavior Analytics

Saviynt IaaS Access Governance

Secure IaaS platforms such as AWS, Azure and DevOps



Discover

Insecure Misconfigured

- API-based Connectors for IaaS & DevOps Tools
- IAM Users, Access Policies, Configuration Objects
- Unstructured Data
- Audit & Usage Logs



Analyze

- 200+ Risk Signatures
- Risk Intelligence
- Peer Group Analytics
- Access Policy / Configuration Analysis
- Data Classification



Protect

- Near Real-time Preventive Security
- Review / Approve Access
- Infrastructure Access Policies (RBAC / ABAC)
- Privilege Access Management / Governance
- Segregation of Duty rules



Manage

- Access Request / Review
- Access Provisioning
- Continuous Controls Monitoring
- Reporting Dashboards
- User Behavior Analytics

...with flexibility of data sparse vs. data full connector integration

Azure

The screenshot displays the Azure portal interface. On the left, a resource tree shows the following structure:

- AzureSubscription
 - 6-months
 - AzureResourceGroup
 - SaviyntSharepoint_ResourceGroup
 - VirtualMachine
 - SaviyntDC** (highlighted)
 - SaviyntSharepoint_Dev
 - DevSQL_PRISM
 - AzureVirtualNetworkGateway
 - SaviyntVPNGateway
 - SaviyntBackupVPNGateway
 - AzureVPNConnection
 - SaviyntVPNGateway
 - AzureNetworkInterface
 - SaviyntDC_Interface
 - SaviyntSharepoint_Dev_Interface
 - AzureSQLServer
 - SaviyntPRISM_QA

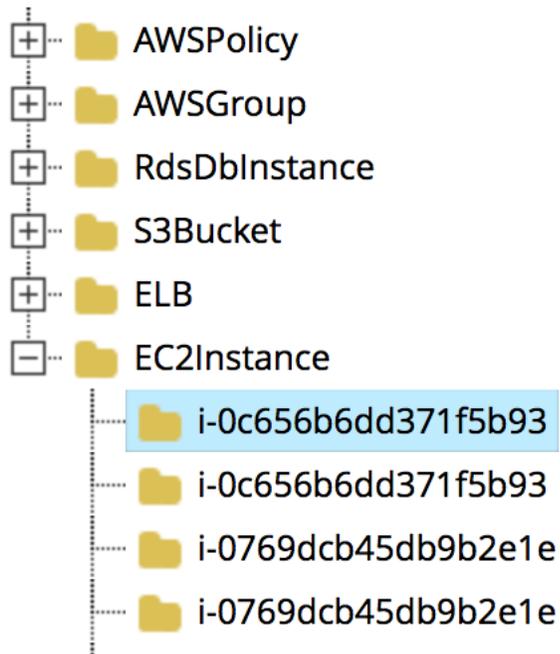
On the right, the 'Privilege' pane is open for the selected resource. It shows the role assignment for 'VirtualMachine :: Roles::Assigned':

Privilege	
VirtualMachine :: Roles::Assigned	<input checked="" type="checkbox"/> Owner <input type="checkbox"/> Reader <input type="checkbox"/> Contributor <input type="checkbox"/> Security Manager <input type="checkbox"/> Automation Operator <input type="checkbox"/> Backup Contributor <input type="checkbox"/> Backup Reader <input type="checkbox"/> Backup Editor <input type="checkbox"/> Web Plan Contributor <input type="checkbox"/> Website Contributor
	<input type="checkbox"/> Owner <input type="checkbox"/> Reader <input checked="" type="checkbox"/> Contributor <input type="checkbox"/> Security Manager

...with flexibility of data sparse vs. data full connector integration

AWS

Entitlements Hierarchy



Privilege

EC2Instance :: AllowAction	ec2:*
EC2Instance :: AllowCondition	
EC2Instance :: DenyAction	
EC2Instance :: DenyCondition	

Integrated with security warehouse to store audit and usage logs

AWS

```
{
  "eventVersion": "1.02",
  "userIdentity": {
    "type": "AssumedRole",
    "principalId": "AROAJHYEU2R5SDRXOELEM:admin@saviyntcloud.net",
    "arn": "arn:aws:sts:661222050851:assumed-role/SaviyntCiti-SaviyntSuperAdministrator-6UNP1H2JPILG/admin@saviyntcloud.net",
    "accountId": "661222050851",
    "accessKeyId": "ASIAIQT6JFCE7T3UXIZA",
    "sessionContext": {
      "attributes": {
        "mfaAuthenticated": "false",
        "creationDate": "2016-06-13T18:54:18Z"
      },
      "sessionIssuer": {
        "type": "Role",
        "principalId": "AROAJHYEU2R5SDRXOELEM",
        "arn": "arn:aws:iam:661222050851:role/SaviyntCiti-SaviyntSuperAdministrator-6UNP1H2JPILG",
        "accountId": "661222050851",
        "userName": "SaviyntCiti-SaviyntSuperAdministrator-6UNP1H2JPILG"
      }
    }
  },
  "eventTime": "2016-06-13T18:55:52Z",
  "eventSource": "iam.amazonaws.com",
  "eventName": "DeleteUser",
  "awsRegion": "us-east-1",
  "sourceIPAddress": "107.21.87.59",
  "userAgent": "console.amazonaws.com",
  "requestParameters": {
    "userName": "dev-admin-fed"
  },
  "responseElements": null,
  "requestID": "737caf5e-3198-11e6-a86a-21f93c79d401",
  "eventID": "fa1c1e2d-8185-498d-b2cc-2a1e804087a0",
  "eventType": "AwsApiCall",
  "recipientAccountId": "661222050851"
}
```

Why Data Access Governance?

1 Access model is discretionary...

A user with read-only access can share a sensitive document with any internal or external user

Access escalation or privilege modification performed by Privileged User can go unnoticed

2 Files can be exchanged without 'sharing'...

A user can create 'share link' for a document and distribute it out-of-band leaving no trace and open to anonymous access

3 Data encryption is not enough...

It protects only against external rogue access or if service provider is compromised. Authorized users with appropriate access still get access to encrypted data

Gateway-based encryption strategies might not work well with mobile access




Google Apps for Work



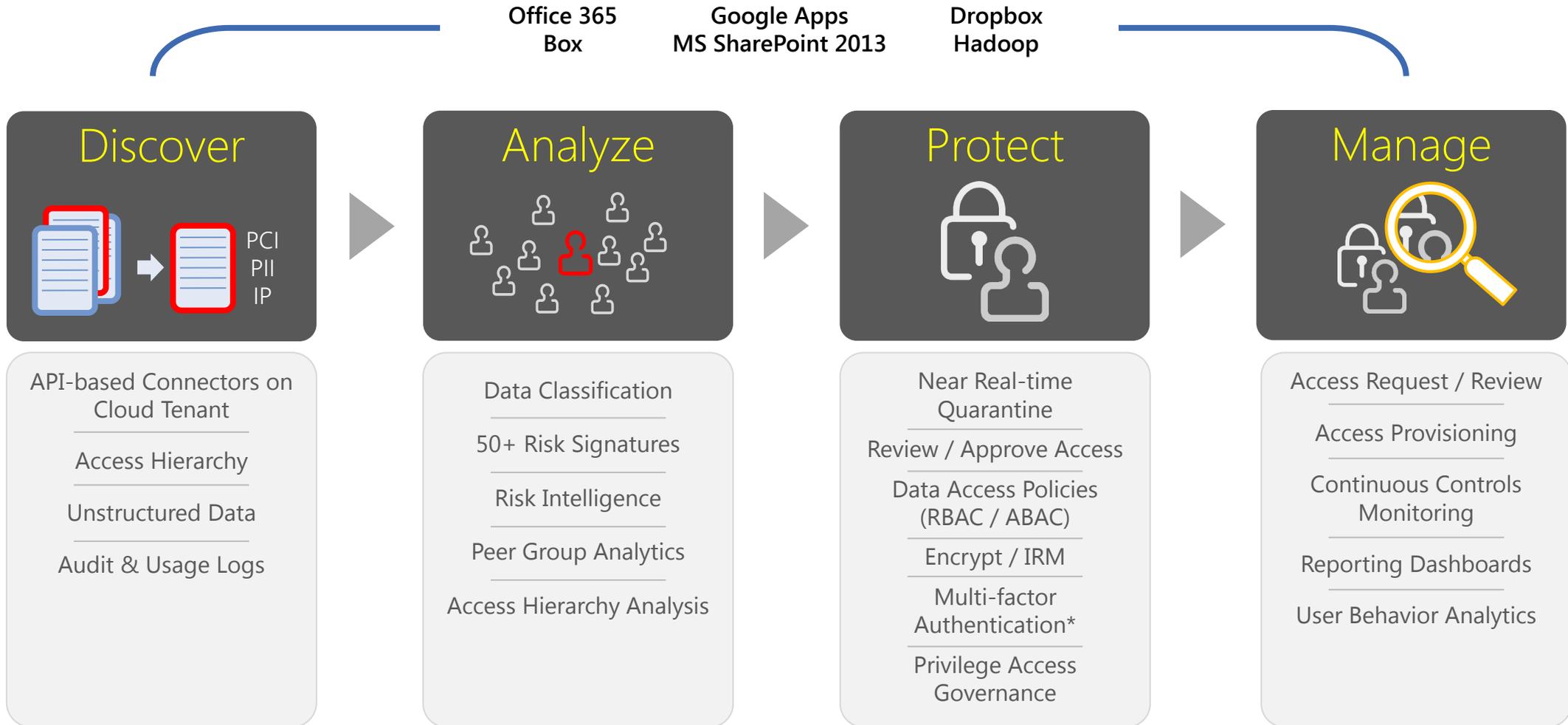


DATA ACCESS GOVERNANCE

- Data Classification
- Near Real-time Data Prevention
- Access Analytics
- Data Access Policies
- Privilege Access Governance
- Access Life-cycle Management
- User Behavior Analytics
- On-tenant API-based Security Plug-in

Saviynt Data Access Governance

Secure unstructured data in Cloud, Big Data and Enterprise platforms



* Via partners e.g. okta, Oracle, Ping, RSA,...

...with flexibility of data sparse vs. data full connector integration

Office 365

The screenshot displays the Office 365 interface. On the left, a file tree is visible under the 'SharePoint List' folder. The tree includes several subfolders, with '/Demo1/Shared Documents' highlighted in blue. Below the tree, there are icons for 'SharePoint Group', 'SharePoint File', 'SharePoint Folder', and 'SharePoint Site'.

On the right, a 'Privilege' configuration panel is shown. It contains a table with the following entries:

Privilege	
SharePoint List :: Permissions	<input checked="" type="checkbox"/> Full Control
SharePoint List :: Group Permissions	<input checked="" type="checkbox"/> Contribute (NewGroup)
	<input checked="" type="checkbox"/> Design (NewGroup)
	<input checked="" type="checkbox"/> Limited Access (Roles Owners)
	<input checked="" type="checkbox"/> Read (NewGroup)
SharePoint List :: Unique OR Inherited	Inherited

Integrated with security warehouse to store audit and usage logs

Cross platform Data Governance

Edit Scan Rule

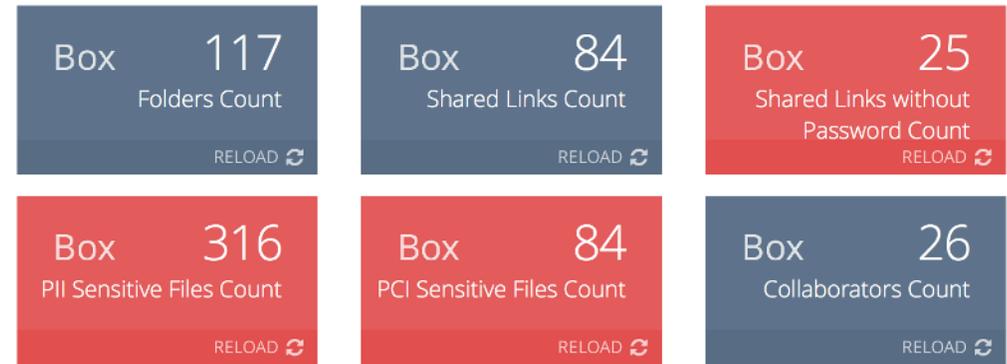
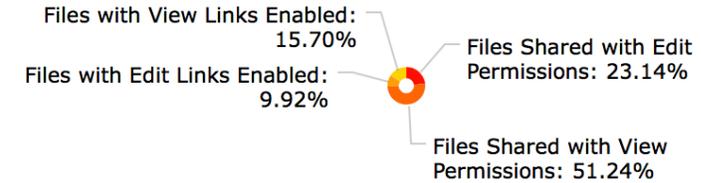
Entitlements

Entitlement

15 Records Per Page

Scan Rule	Entitlement Value	Endpoint	Match Count	Violation Probability
US SSN	PatientRecords.txt	Salesforce	9	HIGH
US SSN	AetnaRecords.txt	Salesforce	9	Box 647 Files Count
US SSN	PatientRecords.txt	Salesforce	9	
US SSN	AetnaRecords.txt	Salesforce	9	
US SSN	PatientRecords11.txt	Salesforce	9	Box 0 Shared Links without Expiry Count
US SSN	PatientRecords.txt	Salesforce	9	
US SSN	PatientRecords11.txt	Salesforce	9	HIGH
US SSN	AetnaRecords.txt	Salesforce	9	HIGH
US SSN	AetnaRecords.txt	Salesforce	9	HIGH

Office 365 External Sharing of Sensitive Files



Application

Customer Access Governance & Intelligence

Data

IaaS

Why IDM for External Entities?

1 Need to support Digitalization...

Involves empowering customers and partners with self-service tools and opening up traditionally closed IT processes

Plug-n-play micro services such as ID proofing, subscription management, granular delegated administration, ID linking, case management, etc.

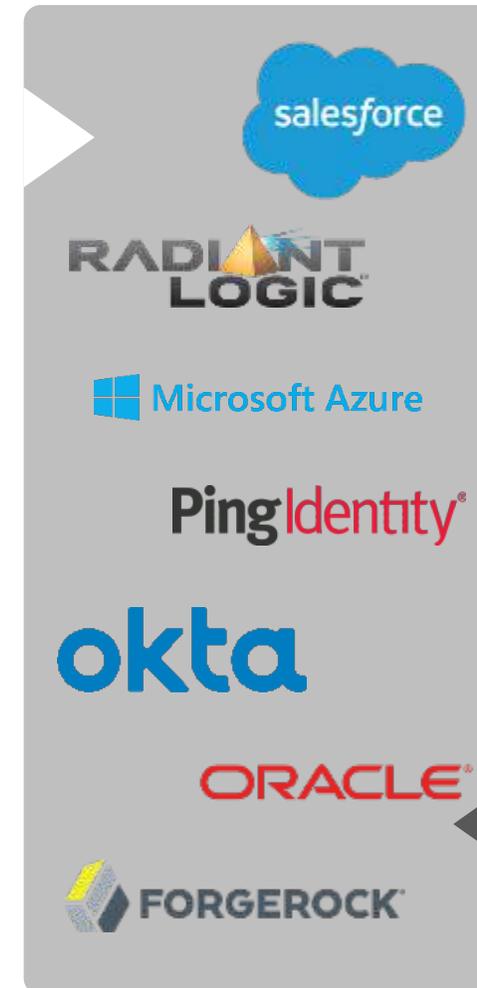
2 Security must scale to millions of entities...

Solution needs to provide / govern granular access control over portal services, attributes and fields

Such scale requires IDM solution to be data sparse and support fine-grained delegated administration and profile management

3 IDM integration needs to run deep...

Needs to support extensive APIs and flexible configuration to seamlessly integrate with rest of customer experience – Portal, CSRs, legacy identity stores, fine-grained authorization stores,...



SAVIYNT FOR EXTERNAL ENTITIES

- Scale to Millions of Entities with Data Sparse
- ID Proofing Support
- Granular Attribute-based Access Control
- Self-service / Delegated Administration
- Profile Management (MFA, federation preferences, etc.)
- LDAP Group Provisioning
- Privileged Access Management

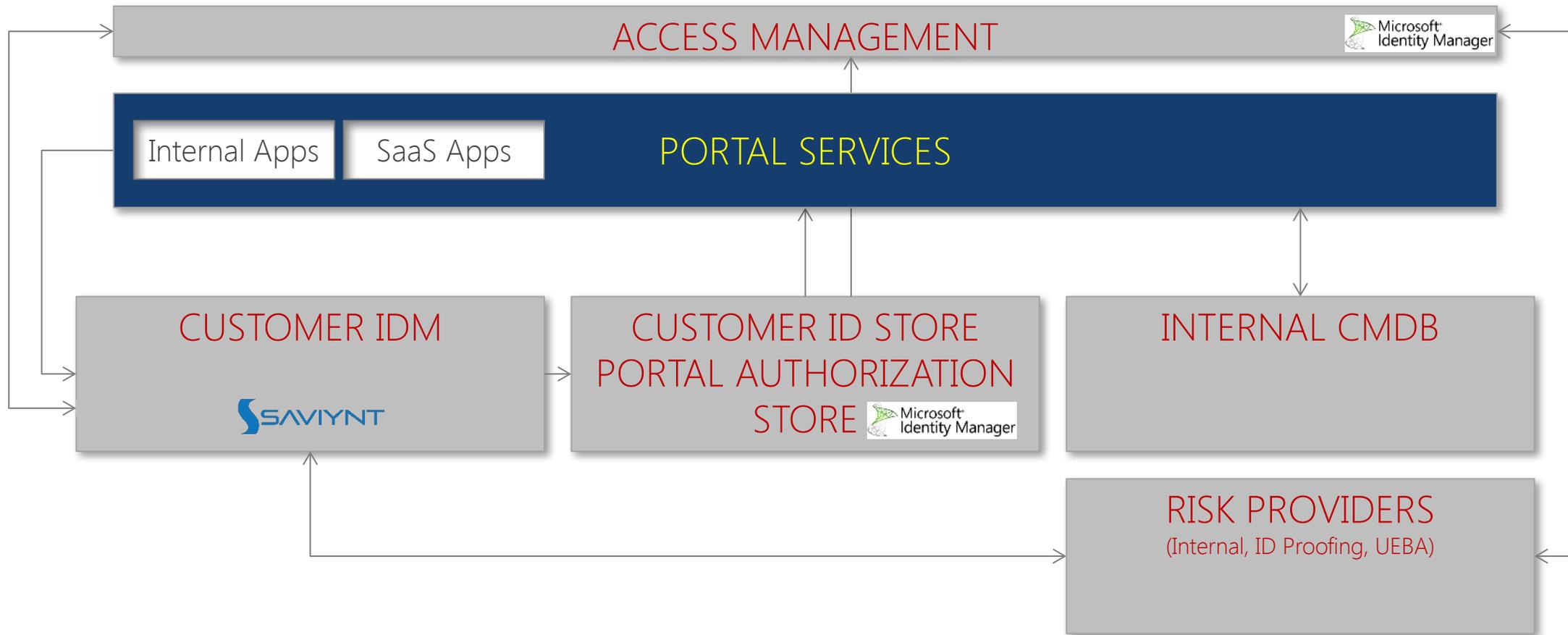
Path to creating a **trusted** customer by lowering / managing risk seamlessly



Key tenets of customer identity management and governance

<p>Registration</p>	<p>Trust model for customer onboarding Ability to perform tiered ID proofing based on type of resource being accessed</p>	<p>Privilege management</p>	<p>Support for federated authorization Externalize portal authorization model, typically based on LDAP, support SOA / services Provision across multiple legacy / SaaS identity stores Support for granular delegated administration (B2B / B2B2C)</p>
<p>Product subscription</p>	<p>Access control over portal resources Trigger step-up authorization while accessing portal products</p>	<p>Customer support</p>	<p>Single sign-on across portals Manage registration failures User password reset, OTP registration</p>
<p>Access management</p>	<p>Single sign-on across portals Support for social / multi-factor authentication Support for adaptive / risk-based authentication Self-help tools including forgotten user name and password</p>	<p>Product policy management</p>	<p>Manage access to portal resources Manage privileged access for portal authorization store, authentication / authorization policies Bulk changes to users' access</p>
<p>Scalability</p>	<p>Need to scale to millions of identities Delivered as a (micro-) service Traditional reconciliation based methods fail with millions of transactions, support instant provisioning and on-the-fly administration</p>	<p>Security Monitoring</p>	<p>Identify threats and risks in real-time Monitor user activity and behavior to detect malicious intent Force step-up or adaptive authentication</p>

Conceptual customer IAM architecture



Detailed CIDM Services Architecture



IT Security
Audit / Compliance



Employees



Customers,
Partner Admins



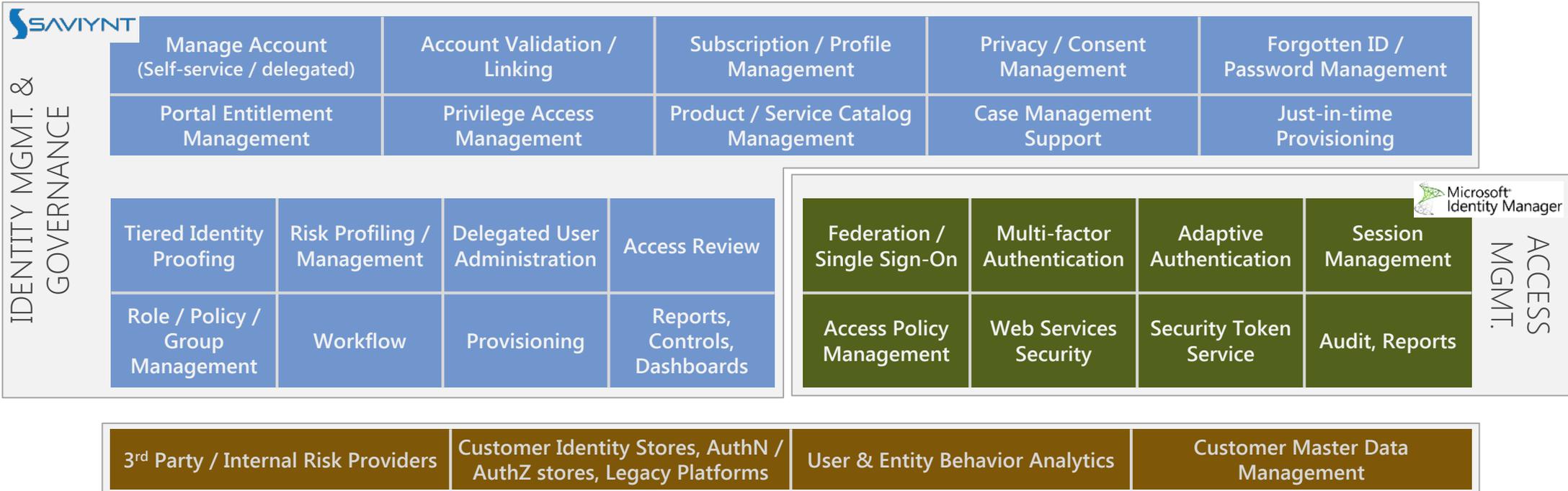
Customer
Support



Portal / App
Owners

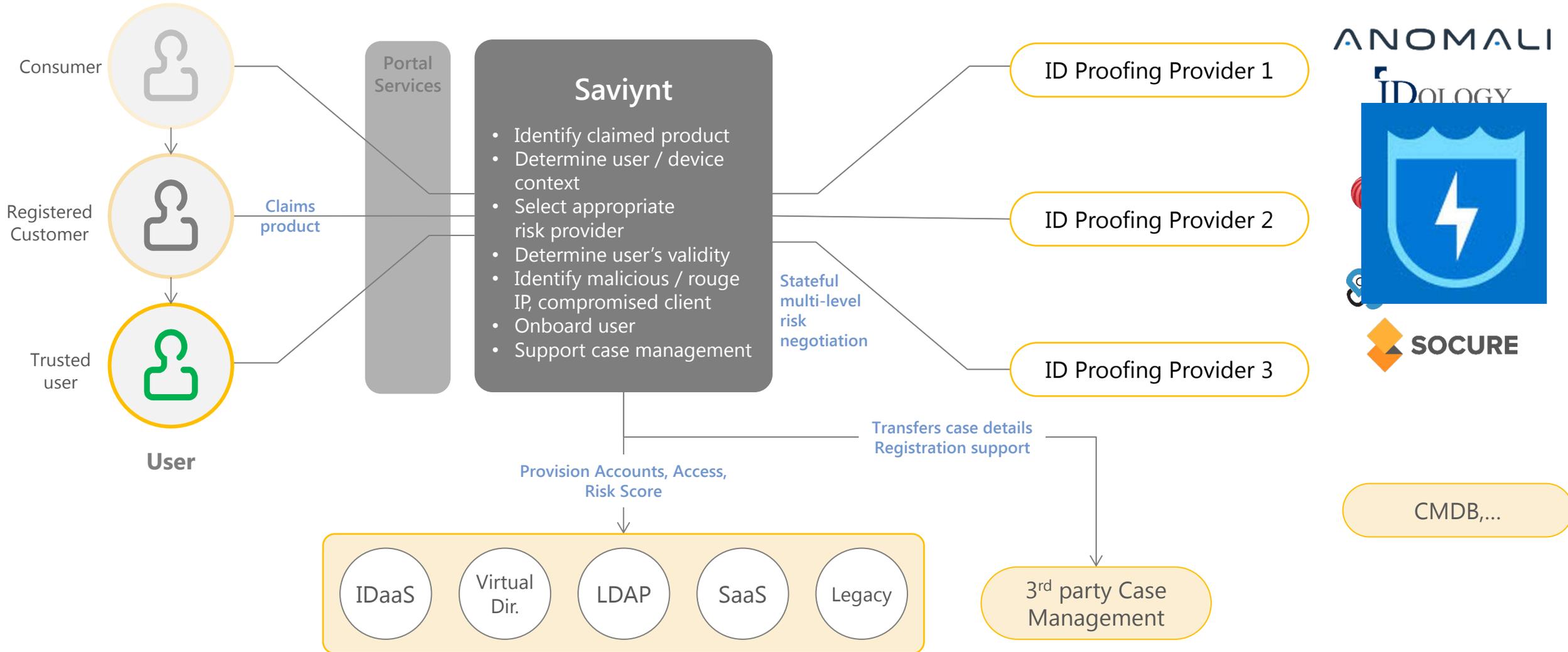
PORTAL SERVICES

API abstraction layer



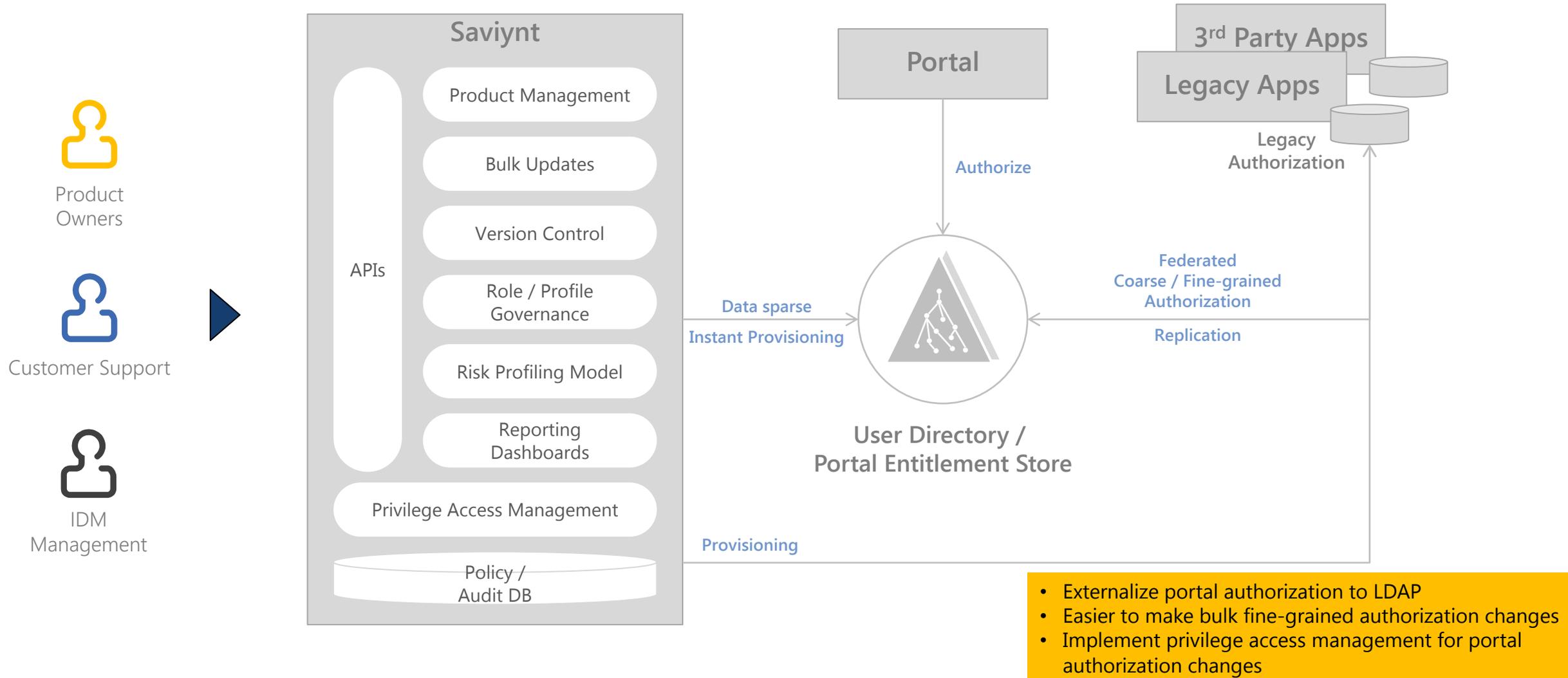
Customer identity lifecycle management

Registration with tiered ID proofing



Customer identity lifecycle management

Authorization and Privilege Management, Governance for Portal



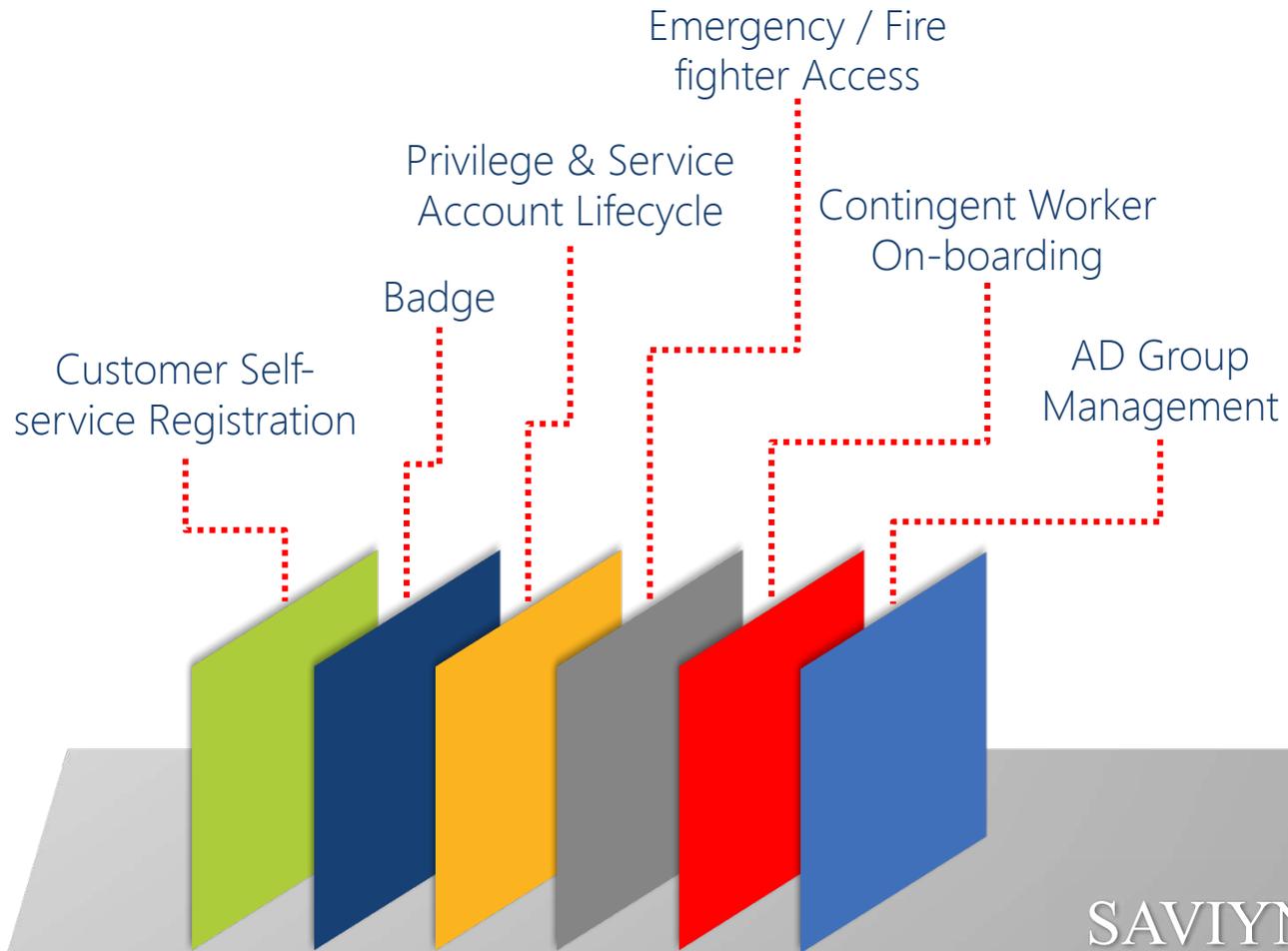
Application

Active Directory Group Management

Data

IaaS

Saviynt provides several pre-built Access Life-Cycle Management modules to automate IAG processes and **accelerate deployment by over 80%**



- Self-service request for AD security group / DL provisioning
- Delegated administration for AD security group / DL management
- Support for nested AD groups
- Rules for AD group naming convention, OUs, etc.
- Bulk assignment of users to AD groups
- Integrated with risk-level for determining workflow behavior, certification review frequency
- Enhanced catalog integration with AD group description, risk level, etc.
- Dynamic group ownership management with primary and secondary owners
- Automatic group membership based on roles / rules

SAVIYNT

Application

What do the Analysts say?

Cloud

IaaS

Gartner IGA MQ 2017 and Report on Critical Capabilities for IGA 2017

Identity Governance & Administration (IGA) MQ 2017

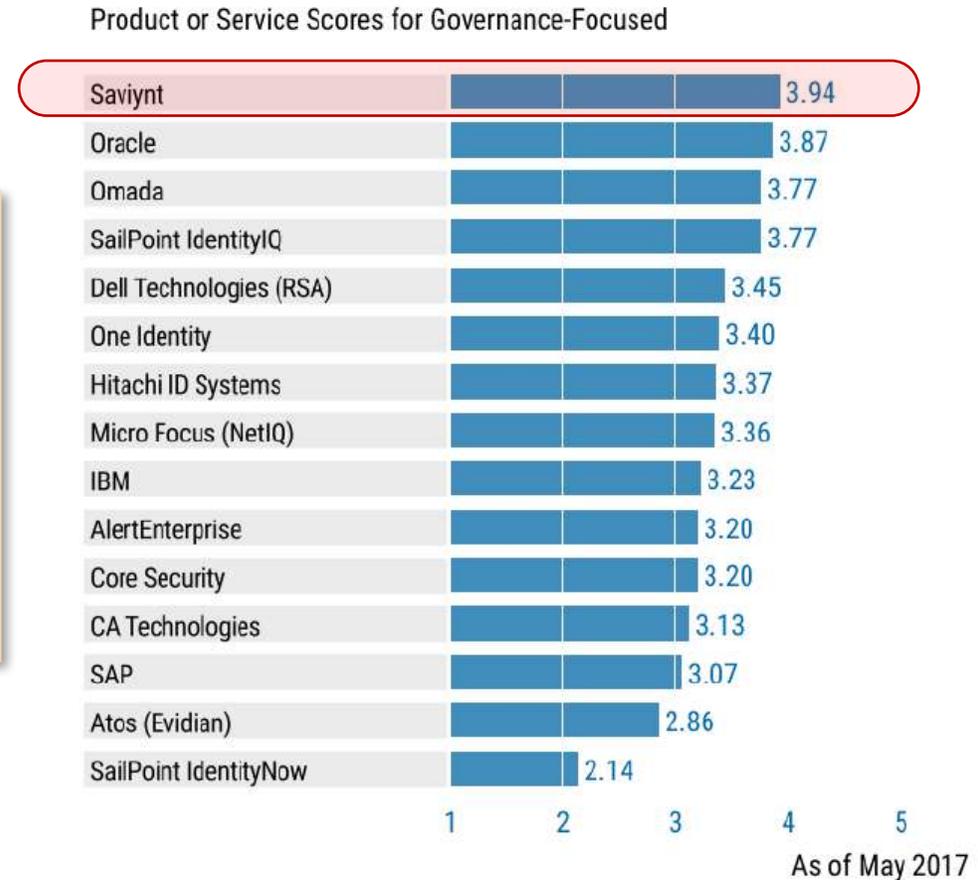


“Saviynt has the most fully featured IGA solution delivered as a service of any vendor reviewed in this Magic Quadrant.”

Gartner IGA Magic Quadrant 2017

Critical Capabilities for IGA 2017

Figure 3. Vendors' Product Scores for the Governance-Focused Use Case



Source: Gartner (May 2017)

Gartner Market Guide for SOD Controls Monitoring 2015

Vendor	Key features					
	SOD Risk Analysis	Compliant Provisioning	Role Management	Emergency Access	Access Certification	Transaction Monitoring
AuditBot	■	■	■	■	■	■
CaoSys	■	■	■	■	■	■
ControlPanelGRC	■	■	■	■	■	■
CSI tools	■	■	■	■	■	■
ERP Maestro	■	■	■	■	■	■
Fastpath	■	■	■	■	■	■
Greenlight Technologies	■	■	■	■	■	■
Infor	■	■	■	■	■	■
Nasdaq Bwise	■	■	■	■	■	■
Oracle	■	■	■	■	■	■
Q Software	■	■	■	■	■	■
SAP	■	■	■	■	■	■
Saviynt	■	■	■	■	■	■
Security Weaver	■	■	■	■	■	■
wikima4	■	■	■	■	■	■
Xpandion	■	■	■	■	■	■

- Only partial functionality is delivered
- Complete functionality delivered
- Partially offered via partnership
- Complete functionality via partnership

Source: Gartner (April 2015)

“One of the **rare vendors that approaches IGA and Segregation of Duties controls monitoring** with a common suite of products. Whereas most SOD controls monitoring vendors tend to focus exclusively on financial applications, Saviynt has extended its coverage to include healthcare applications ...”

Healthcare update to Gartner IGA Magic Quadrant 2015

“Organizations looking for a centralized SOD controls monitoring approach with advanced role mining and user provisioning requirements across multiple ERP platforms and complex authorization systems including SaaS applications, should consider Saviynt.”

Market Guide for SOD Controls Monitoring 2015

Thank You

