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The Forrester Wave™: Privileged Identity Management, Q4 2018

The 11 Providers That Matter Most And How They Stack Up

by Andras Cser
November 14, 2018

Why Read This Report

In our 35-criterion evaluation of privileged identity management (PIM) providers, we identified the 11 most significant ones — BeyondTrust, Bomgar, CA Technologies, Centrify, CyberArk, ManageEngine, Micro Focus, One Identity, Senhasegura, Thycotic, and WALLIX — and researched, analyzed, and scored them. This report shows how each provider measures up and helps security professionals make the right choice.

Key Takeaways

CyberArk, BeyondTrust, Centrify, And Thycotic Lead The Pack

Forrester's research uncovered a market in which CyberArk, BeyondTrust, Centrify, and Thycotic are Leaders; One Identity and CA Technologies are Strong Performers; Senhasegura, Bomgar, ManageEngine, and Micro Focus are Contenders; and WALLIX is a Challenger.

Security Pros Want Integrated PIM Suites With Broad Endpoint Support

The PIM market is growing because more security professionals see PIM as a way to address their top security challenges. This market growth is in large part due to security pros increasingly trusting PIM suite solution providers to act as strategic partners, advising them on top PIM decisions.

Behavior Analytics, Cloud, And DevOps Support Are Key Differentiators

As password vaulting and session management technology mature and become less effective at thwarting threats, improved privileged behavior and threat analytics will dictate which providers will lead the pack. Vendors that provide cloud and container secret management and continuous improvement and delivery platform integration position themselves to deliver effective privilege threat mitigation and DevOps secret management to their customers.

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by Andras Cser
with Stephanie Balaouras, Kate Pesa, and Peggy Dostie
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PIM Controls Human And Machine Access To The Crown Jewels

Interviewees told Forrester that PIM is crucial in the security posture of an organization: Based on anecdotal evidence such as inquiries with clients and vendor briefings, Forrester estimates that at least 80% of data breaches have a connection to compromised privileged credentials, such as passwords, tokens, keys, and certificates. Privileged credentials:

› **Play a vital role in hackers' ability to compromise critical systems.** For lateral movement (a key component of the kill chain), nothing is simpler than snooping Unix root and Windows administrator credentials and then using these to expand hacking to other systems. Getting hold of a Kerberos golden ticket is a carte blanche to gaining highly privileged access to all components of an Active Directory domain. Improper management of privileged administrative credentials makes the firm's IT resources vulnerable to hacking.

› **Control application-to-application interactions.** When a customer identity and access management (CIAM) portal needs to make a connection to a customer relationship management system, it requires highly privileged credentials to do so. Before PIM solutions, application developers hard coded these credentials into configuration files of the CIAM portal — often unencrypted. These privileged credentials are usually not inventoried, changed, or controlled, meaning that hackers can use them to gain easy access to business-critical applications.

› **Safeguard structured and unstructured data.** Every database or data lake has a privileged account (often protected by a simple, never-changed password), which opens unlimited access to it. Database administrators use this account to perform maintenance (e.g., backup, restore, and schema management) on the database. When malicious actors gain access to privileged database credentials, they can not only steal all the data but can also modify or destroy it. This can lead to user name and password losses, stolen intellectual property, and, ultimately, significant losses of brand and goodwill. Robotic process automation (RPA) and intelligent agents also need sensitive credentials to access databases to act and perform tasks on behalf of employees and customers.[1]

› **Are core building blocks of cloud and containerized environments.** In the cloud, starting an AWS EC2 or Azure instance is impossible without using the right administrator keys. Container platforms (e.g., Docker and Kubernetes) and continuous improvement/continuous delivery (CICD) applications such as Ansible, Chef, and Puppet also need secrets for: 1) creating workloads and 2) configuring the newly created workloads to interact with databases, workloads, and other sensitive infrastructure components.

PIM Evaluation Overview

To assess the state of the PIM market and see how the vendors stack up against each other, Forrester evaluated the strengths and weaknesses of top PIM vendors. After examining past research, user need assessments, and vendor and expert interviews, we developed a comprehensive set of evaluation criteria. We evaluated vendors against 35 criteria, which we grouped into three high-level buckets:

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› **Current offering.** We assessed the functionality of: 1) the privileged password safe/vault; 2) users, roles, and help desk integration; 3) privileged session management; 4) privileged threat and behavior analytics; 5) privilege delegation and escalation management on endpoints; 6) cloud and DevOps support; 7) reporting; 8) scalability; 9) navigation and level of integration of the PIM solution components; 10) static and contextual documentation and help; and 11) PIM-as-a-service solution maturity.

› **Strategy.** We looked at the vendor's future plans for developing: 1) the password safe; 2) privileged session management; 3) privilege escalation; 4) privileged threat analytics; 5) container support; 6) IaaS cloud platform support; 7) customer satisfaction; 8) the vendor's RFP response; 9) the vendor's PoC and demonstration; 10) the breadth and depth of partnerships; 11) PIM development staffing; 12) PIM sales staffing; 13) technical support staffing; and 14) simplicity and flexibility of PIM pricing.

› **Market presence.** We evaluated vendors in the areas of: 1) total vendor revenues; 2) SaaS PIM revenue; 3) on-premises PIM revenue; 4) on-premises PIM revenue growth; 5) PIM direct installed base; 6) PIM indirect installed base; and 7) geographical presence in North America, Latin America, EMEA, and Asia Pacific.

Evaluated Vendors And Inclusion Criteria

Forrester included 11 vendors in the assessment: BeyondTrust, Bomgar, CA Technologies, Centrify, CyberArk, ManageEngine, Micro Focus, One Identity, Senhasegura, Thycotic, and WALLIX. Each of these vendors has (see Figure 1):

› **A thought-leading, productized portfolio of products and services.** We included PIM vendors that demonstrated native security thought leadership and native security solution strategy execution by regularly updating and improving their productized product portfolio.

› **Total annual PIM revenues of at least $3 million with at least 8% growth.** We included vendors that have at least $3 million in combined revenues from the PIM solution and at least 8% year-over-year growth in revenues.

› **At least 50 paying customer organizations for PIM in production.** We included vendors that have an install base of at least 50 paying PIM customer organizations in production.

› **An unaided mindshare with Forrester's end user customers.** The vendors we evaluated are frequently mentioned in Forrester end user client inquiries, vendor selection RFPs, shortlists, consulting projects, and case studies.

› **An unaided mindshare with vendors.** The vendors we evaluated are frequently mentioned by other vendors during Forrester briefings as viable and formidable competitors.

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FIGURE 1 Evaluated Vendors And Product Information

| Vendor	Product evaluated
BeyondTrust	PowerBroker Privileged Access Management Platform
Bomgar	Privileged Identity 5.5.3.1; Privileged Access 18.2
CA Technologies	CA Privileged Access Manager 3.2; CA PAM Server Control 14.0; CA Threat Analytics for PAM 2.2
Centrify	Centrify Identity Platform
CyberArk	Core Privileged Access Security 10.4; Endpoint Privilege Manager 10.4; Application Identity Manager 10.1; CyberArk Conjur 4.9; CyberArk Privilege Cloud
ManageEngine	ManageEngine Password Manager Pro version 9701
Micro Focus	Privilege Account Manager 3.5; Directory & Resource Administrator 9.2; Exchange Administrator 9.2; Group Policy Administrator 6.9; Change Guardian 5.1
One Identity	Safeguard for Privileged Passwords 2.2; Safeguard for Privileged Session & Privileged Analytics 5.6; PASU (Authentication Services) 4.1.6; PASU (Privilege Manager) 6.0; Active Roles 7.2; Privilege Manager for Windows 4.2
Senhasegura	Senhasegura, v2.5.10.5
Thycotic	Secret Server 10.4; Secret Server Cloud 10.4; Privilege Manager 10.4; Privilege Behavioral Analytics 2.0.2
WALLIX	WALLIX Bastion 6.0

Vendor Profiles

This evaluation of the PIM market is intended to be a starting point only. We encourage clients to view detailed product evaluations and adapt criteria weightings to fit their individual needs through the Forrester Wave™ Excel-based vendor comparison tool (see Figure 2 and see Figure 3). Click the link at the beginning of this report on Forrester.com to download the tool.

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FIGURE 2 Forrester Wave™: Privileged Identity Management, Q4 2018

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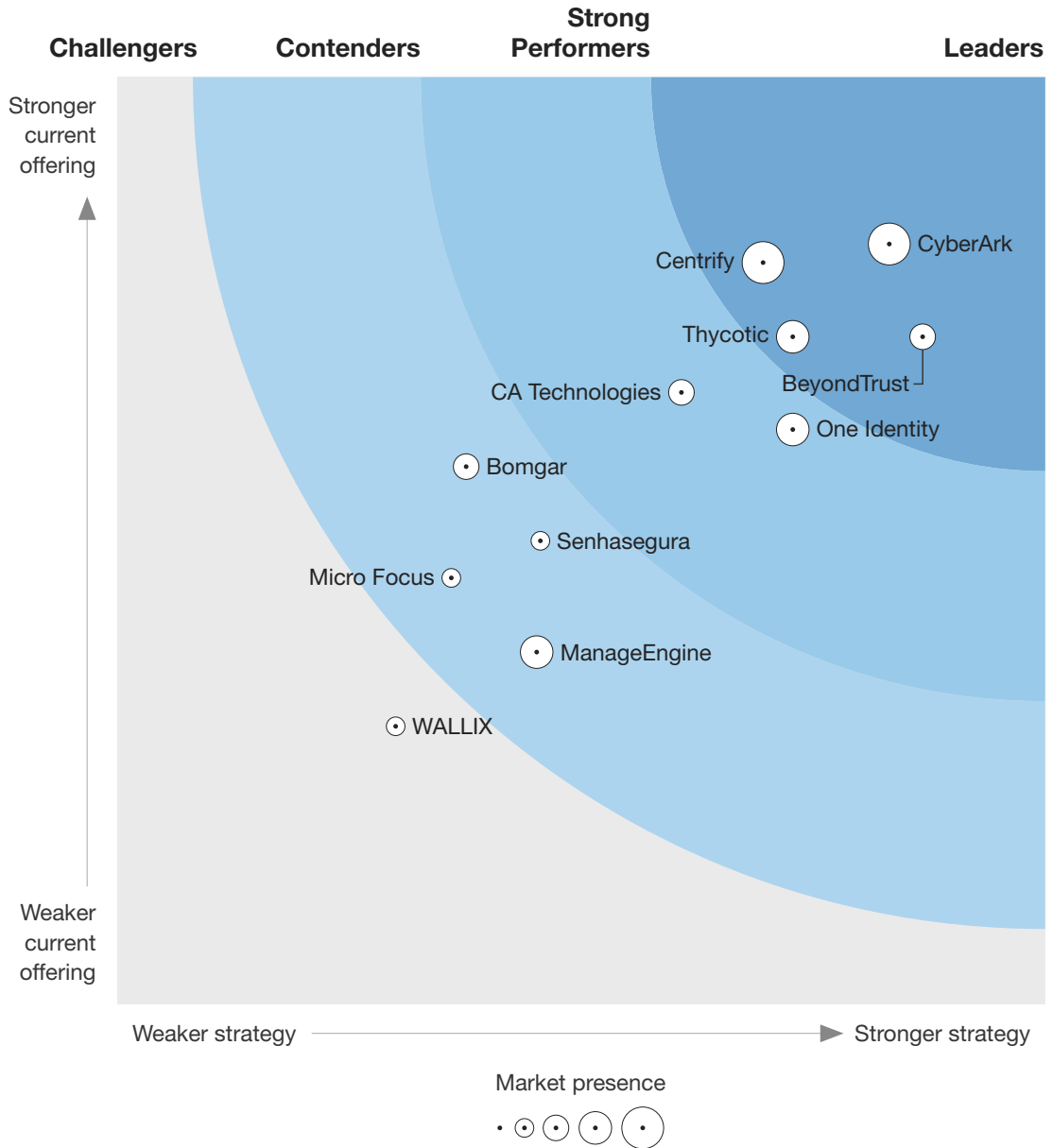
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FIGURE 3 Forrester Wave™: Privileged Identity Management Scorecard, Q4 2018

	Forrester's weighting	BeyondTrust	Bomgar	CA Technologies	Centrify	CyberArk	ManageEngine
Current offering	50%	3.60	2.90	3.30	4.00	4.10	1.90
Privileged password safe/vault	10%	5.00	3.00	3.00	5.00	5.00	1.00
Users, roles, and help desk integration	10%	3.00	3.00	5.00	3.00	5.00	3.00
Privileged session management	10%	5.00	1.00	3.00	5.00	5.00	1.00
Privileged threat/behavior analytics	10%	5.00	1.00	3.00	3.00	5.00	1.00
Privilege delegation and escalation	10%	3.00	3.00	5.00	5.00	5.00	1.00
Cloud and DevOps support	10%	1.00	5.00	3.00	5.00	5.00	1.00
Reporting	10%	5.00	3.00	3.00	5.00	3.00	3.00
Scalability	10%	5.00	5.00	5.00	3.00	3.00	1.00
Navigation and integrated environment	10%	3.00	3.00	1.00	1.00	1.00	5.00
Static and contextual documentation	5%	1.00	1.00	3.00	5.00	5.00	3.00
SaaS solution maturity	5%	1.00	3.00	1.00	5.00	3.00	1.00

All scores are based on a scale of 0 (weak) to 5 (strong).

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FIGURE 3 Forrester Wave™: Privileged Identity Management Scorecard, Q4 2018 (Cont.)

Strategy	Forrester's weighting	BeyondTrust	Bomgar	CA Technologies	Centrify	CyberArk	ManageEngine
Strategy	50%	4.34	1.88	3.04	3.48	4.16	2.26
Password safe plans	8%	3.00	1.00	1.00	1.00	3.00	5.00
Privileged session monitoring plans	8%	5.00	1.00	3.00	3.00	5.00	1.00
Privilege escalation plans	5%	5.00	1.00	3.00	3.00	5.00	1.00
Privileged threat analytics plans	5%	3.00	1.00	1.00	5.00	3.00	1.00
Container support plans	5%	5.00	1.00	3.00	3.00	5.00	3.00
IaaS support plans	5%	5.00	1.00	1.00	1.00	5.00	1.00
Customer satisfaction	7%	5.00	1.00	1.00	3.00	5.00	1.00
Vendor's RFP response	5%	5.00	5.00	5.00	1.00	3.00	5.00
Vendor's PoC and demonstration	5%	5.00	5.00	5.00	3.00	5.00	3.00
Services and partners	10%	3.00	1.00	1.00	5.00	5.00	5.00
Development staffing	10%	5.00	1.00	3.00	5.00	5.00	1.00
Sales staffing	10%	3.00	1.00	5.00	5.00	5.00	1.00
Support staffing	10%	5.00	3.00	5.00	3.00	3.00	1.00
Pricing terms and flexibility	7%	5.00	5.00	5.00	5.00	1.00	3.00

All scores are based on a scale of 0 (weak) to 5 (strong).

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FIGURE 3 Forrester Wave™: Privileged Identity Management Scorecard, Q4 2018 (Cont.)

	Forrester's weighting	BeyondTrust	Bomgar	CA Technologies	Centrify	CyberArk	ManageEngine
Market presence	0%	2.90	2.08	2.52	4.46	4.78	3.98
Total vendor revenue	5%	3.00	1.00	5.00	3.00	5.00	5.00
SaaS PIM revenue	10%	1.00	1.00	5.00	5.00	5.00	1.00
On-premises PIM revenue	10%	5.00	1.00	5.00	5.00	5.00	1.00
On-premises PIM revenue growth	7%	1.00	5.00	5.00	1.00	3.00	3.00
PIM direct installed base	30%	3.00	3.00	1.00	5.00	5.00	5.00
PIM indirect installed base	30%	3.00	1.00	1.00	5.00	5.00	5.00
North America presence	2%	5.00	5.00	1.00	5.00	3.00	1.00
Latin America presence	2%	3.00	5.00	5.00	3.00	3.00	5.00
Europe, the Middle East, and Africa (EMEA) presence	2%	1.00	3.00	5.00	1.00	5.00	5.00
Asia Pacific presence	2%	5.00	1.00	5.00	3.00	5.00	5.00

All scores are based on a scale of 0 (weak) to 5 (strong).

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FIGURE 3 Forrester Wave™: Privileged Identity Management Scorecard, Q4 2018 (Cont.)

	Forrester's weighting	Micro Focus	One Identity	Senhasegura	Thycotic	WALLIX
Current offering	50%	2.30	3.10	2.50	3.60	1.50
Privileged password safe/vault	10%	1.00	1.00	3.00	5.00	1.00
Users, roles, and help desk integration	10%	1.00	1.00	3.00	5.00	1.00
Privileged session management	10%	3.00	5.00	3.00	1.00	1.00
Privileged threat/behavior analytics	10%	1.00	5.00	3.00	5.00	1.00
Privilege delegation and escalation	10%	5.00	3.00	1.00	3.00	1.00
Cloud and DevOps support	10%	3.00	1.00	3.00	5.00	1.00
Reporting	10%	1.00	5.00	1.00	5.00	1.00
Scalability	10%	1.00	5.00	1.00	3.00	1.00
Navigation and integrated environment	10%	5.00	3.00	5.00	1.00	5.00
Static and contextual documentation	5%	3.00	3.00	1.00	1.00	1.00
SaaS solution maturity	5%	1.00	1.00	3.00	5.00	3.00

All scores are based on a scale of 0 (weak) to 5 (strong).

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FIGURE 3 Forrester Wave™: Privileged Identity Management Scorecard, Q4 2018 (Cont.)

Strategy	Forrester's weighting	Micro Focus	One Identity	Senhasegura	Thycotic	WALLIX
Strategy	50%	1.80	3.64	2.28	3.64	1.50
Password safe plans	8%	3.00	3.00	3.00	3.00	1.00
Privileged session monitoring plans	8%	1.00	3.00	3.00	3.00	1.00
Privilege escalation plans	5%	3.00	1.00	3.00	5.00	1.00
Privileged threat analytics plans	5%	1.00	5.00	1.00	3.00	1.00
Container support plans	5%	1.00	3.00	1.00	3.00	1.00
IaaS support plans	5%	1.00	3.00	1.00	5.00	3.00
Customer satisfaction	7%	1.00	3.00	5.00	5.00	1.00
Vendor's RFP response	5%	1.00	1.00	1.00	5.00	3.00
Vendor's PoC and demonstration	5%	1.00	3.00	3.00	3.00	3.00
Services and partners	10%	1.00	3.00	1.00	5.00	3.00
Development staffing	10%	3.00	5.00	1.00	3.00	1.00
Sales staffing	10%	3.00	5.00	1.00	3.00	1.00
Support staffing	10%	1.00	5.00	3.00	3.00	1.00
Pricing terms and flexibility	7%	3.00	5.00	5.00	3.00	1.00

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FIGURE 3 Forrester Wave™: Privileged Identity Management Scorecard, Q4 2018 (Cont.)

	Forrester's weighting	Micro Focus	One Identity	Senhasegura	Thycotic	WALLIX
Market presence	0%	1.64	3.30	1.36	3.58	1.96
Total vendor revenue	5%	5.00	3.00	1.00	1.00	1.00
SaaS PIM revenue	10%	1.00	1.00	1.00	3.00	1.00
On-premises PIM revenue	10%	3.00	3.00	1.00	3.00	1.00
On-premises PIM revenue growth	7%	1.00	1.00	5.00	3.00	5.00
PIM direct installed base	30%	1.00	3.00	1.00	5.00	1.00
PIM indirect installed base	30%	1.00	5.00	1.00	3.00	3.00
North America presence	2%	3.00	3.00	1.00	5.00	1.00
Latin America presence	2%	5.00	3.00	5.00	3.00	1.00
Europe, the Middle East, and Africa (EMEA) presence	2%	3.00	5.00	1.00	3.00	5.00
Asia Pacific presence	2%	5.00	3.00	1.00	5.00	1.00

All scores are based on a scale of 0 (weak) to 5 (strong).

Leaders

› **CyberArk.** The vendor acquired Conjur to boost its containerization and DevOps support and, more recently, Vaultive to improve session recording and management capabilities. The solution has strong password safe, session management, and privileged threat analytics, as well as the broadest DevOps support of any vendor evaluated in this Forrester Wave. However, the vendor's PIM environment is complex, with many integration points between organically grown and acquired solutions, which requires that administrators manage PIM policies in at least three places.[2] Based on Forrester's client interviews with customer references for and outside of this Forrester Wave assessment, implementation costs of CyberArk can be 50% to 80% higher than that of other vendors for similarly sized and similarly complex projects. The vendor plans: to 1) use Vaultive more extensively to secure access to business cloud apps; 2) secure app credentials with secretless broker; and 3) support cross-region active/active vaults.

› **BeyondTrust.** This review reflects BeyondTrust's capabilities prior to June 30, 2018, before Bomgar announced its acquisition of BeyondTrust. The vendor has recently started building its DevOps strategy. The solution has strong privileged session recording and analytics capabilities, a redesigned and easy-to-use user interface, strong reporting, and selectable algorithms in

BeyondInsight. However, it is behind in user role management (entitlements in roles are not configurable), cloud platform (IaaS) support, productized support for DevOps, and containerization. It also lacks a productized SaaS PIM offering. The vendor plans to: 1) introduce a scalable microservice architecture; 2) release PowerBroker DevOps to support containers and a SaaS-based PIM offering; and 3) integrate with third-party adaptive risk engines to better understand data isolation and correlate with other system data to provide dynamic policy adjustment.

› **Centrify.** After the cutoff date, Centrify has spun out its IDaaS business as a separate company to allow full focus on PIM. The solution offers a relatively mature SaaS and customer-managed PIM offering, privileged session management capabilities, robust endpoint privileges delegation support, and extensive privilege analytics. Its support for cloud and DevOps is also strong. However, the vendor lacks out-of-the-box help-desk integration with Remedy as well as configuring productized third-party 2FA authentication to the safe and is behind in offering one integrated and intuitive environment to its customers.[3] Currently, there are numerous places to manage policies and reports, and they are quite unintuitive. The vendor plans to: 1) expand its risk scoring in privilege analytics; 2) offer PIM services to secure the DevOps ecosystem; and 3) expand Brokered Authentication for cloud resources against any directory.[4]

› **Thycotic.** Thycotic is increasingly expanding its legacy SMB customer base with enterprise customers. The solution offers extensive endpoint discovery capabilities in the password safe, strong CICD integration (Jenkins), and session heat maps in behavioral analytics. However, it lacks a Unix/Linux sudo replacement and does not support LDAP as a directory service for the safe.[5] Its password checkout workflow definition is behind other vendors and offers no rules-based command line filtering on the proxy and client-side session management. Because of the Arellia (Windows endpoint privilege management) acquired solution and a conscious design decision to keep policy management separate, policy management is in multiple different locations. The vendor plans to: 1) improve its privileged account life-cycle management; 2) develop a DevOps vault; and 3) offer further IaaS and PaaS integrations.

Strong Performers

› **One Identity.** One Identity acquired Balabit to enhance its privileged session monitoring (PSM) and analytics capabilities. The solution has strong high-availability configuration and session management features, uses machine learning models for behavioral analytics on privileged sessions, and sports a recently redesigned user interface. However, it's behind in the areas of discovering computers and other endpoints, Remedy help-desk integration, DevOps, and cloud support and lacks a true SaaS delivery option.[6] Forrester expects the vendor to: 1) increase the breadth of its supported managed endpoint types; 2) implement remote audit logging for sudo; and 3) unify its recording and auditing capabilities to allow customers to use a single audit interface for privileged access management (PAM).

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> › **CA Technologies.** The solution is one of the most scalable PIM tools in the market. The vendor offers robust user and role management capabilities, very strong privilege delegation and escalation on Unix endpoints, and is one of the few vendors to offer its own PIM governance solution. However, it's behind in the areas of multitenancy, the level of policy management and auditing integration between its components, offers no generic outbound API for integration, and lacks modern, configurable dashboards.[7] The vendor plans to: 1) offer PIM-as-a-service; 2) support microservices both in terms of product architecture and supporting (container) architectures; and 3) converge privileged account and session management and privileged escalation and delegation management solutions into one consolidated suite with a single admin UI and reporting.

Contenders

> › **Senhasegura.** The solution offers an integrated, well-rounded user interface. The vendor offers very strong capabilities for supporting Kubernetes containers. Managing users in the solution is very robust. Role definition and management is one of the most granular for administrators. However, it lacks privileged threat analytics capabilities, has privilege escalation and delegation functionality only for Windows (i.e., no Unix sudo replacement), and offers only part of its functionality translated to English.[8] The vendor plans to: 1) create a privileged task manager security gateway for supporting RPA; 2) improve its database audit features; and 3) apply cognitive user behavior analytics to protect against privileged threats.

> › **Bomgar.** This review reflects Bomgar's capabilities on or before June 30, 2018. Thus, it includes the capabilities it acquired via its acquisition of Lieberman but not those it acquired via its acquisitions of Avecto and BeyondTrust. The vendor offers great support for adding users to the solution's user stores, has strong support for cloud and DevOps platforms, and offers a highly scalable environment. However, it's behind in role definitions and management, privileged session management, privileged threat/behavior analytics, reporting, and context-sensitive help and documentation. With its BeyondTrust acquisition, Bomgar acquired a PIM solution set it already had after the Lieberman and Avecto acquisitions, which leads Forrester to view the BeyondTrust acquisition as an expensive and potentially competitive one and a move to be able to compete better against CyberArk. The vendor plans to: 1) launch an on-appliance vault for privileged access (session management); 2) further integrate the recently acquired Avecto endpoint security with existing Bomgar solutions; and 3) launch PIM and security management SaaS offerings.[9]

> › **ManageEngine.** The solution has a simple, well-defined user interface in a tightly integrated environment but no analytics. If offers out-of-the-box integration with ServiceNow help desk and canned GDPR and other compliance reports. However, it completely lacks privileged threat analytics, privilege delegation and escalation capabilities, and offers only minimal cloud and DevOps support. The vendor plans to: 1) launch a PIM-as-a-service offering; 2) use artificial intelligence and machine learning to generate risk scores for privileged access and access request activity; and 3) allow customers, partners, and third-party vendors to add support for more target systems, endpoints, and integration with IT infrastructure.

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›	**Micro Focus.** The solution provides granular privilege management using the vendor's proprietary ActiveView technology and security model. Privilege delegation and escalation capabilities are robust, and the environment is well integrated and easy to navigate. Viewing recorded privileged sessions is intuitive. However, it's behind other vendors in the areas of password safe functionality, managing users and roles, privileged threat analytics, and reporting.[10] The strength of the vendor's partner ecosystem is also behind other vendors. The vendor plans to: 1) add privileged account and access management for IoT; 2) create specialized solutions and enhancements for container environments, including Kubernetes; and 3) develop threat analytics based on machine learning.

Challengers

›	**WALLIX.** The European PIM vendor extends capabilities to password safe. The vendor offers a nice, integrated, and intuitive environment and user interface in the PIM solution and provides it as a SaaS form-factor offering as well. The solution does not offer explicit, productized support for cloud platforms or containerization and relies on partners to support 2FA for authentication to the safe beyond RADIUS, offers no endpoint agents (it's completely proxy-based by design), and lacks its own product for privileged threat analytics. The vendor plans to: 1) offer third-party identity vaults integration; 2) improve mapping between target accounts and primary user accounts to help achieve regulatory compliance; and 3) develop a new user interface for the Bastion host.

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Supplemental Material

Online Resource

The online version of Figure 2 is an Excel-based vendor comparison tool that provides detailed product evaluations and customizable rankings. Click the link at the beginning of this report on Forrester.com to download the tool.

Data Sources Used In This Forrester Wave

Forrester used a combination of five data sources to assess the strengths and weaknesses of each solution. We evaluated the vendors participating in this Forrester Wave, in part, using materials that they provided to us by June 30, 2018.

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› **Hands-on lab evaluations.** Vendors spent one day with a team of analysts who performed a hands-on evaluation of the product using a scenario-based testing methodology. We evaluated each product using the same scenario(s), creating a level playing field by evaluating every product on the same criteria.

› **Vendor surveys.** Forrester surveyed vendors on their capabilities as they relate to the evaluation criteria. Once we analyzed the completed vendor surveys, we conducted vendor calls where necessary to gather details of vendor qualifications.

› **Product demos.** We asked vendors to conduct demonstrations of their products' functionality. We used findings from these product demos to validate details of each vendor's product capabilities.

› **Customer reference calls.** To validate product and vendor qualifications, Forrester also conducted reference calls with three of each vendor's current customers.

› **Unsupervised demonstration environment usage.** We asked vendors to provide us with uninterrupted and unsupervised access to the demonstration environments in which we could test the products' features and re-create the product demos at will.

The Forrester Wave Methodology

We conduct primary research to develop a list of vendors that meet our criteria for evaluation in this market. From that initial pool of vendors, we narrow our final list. We choose these vendors based on: 1) product fit; 2) customer success; and 3) Forrester client demand. We eliminate vendors that have limited customer references and products that don't fit the scope of our evaluation. Vendors marked as incomplete participants met our defined inclusion criteria but declined to participate or contributed only partially to the evaluation.

After examining past research, user need assessments, and vendor and expert interviews, we develop the initial evaluation criteria. To evaluate the vendors and their products against our set of criteria, we gather details of product qualifications through a combination of lab evaluations, questionnaires, demos, and/or discussions with client references. We send evaluations to the vendors for their review, and we adjust the evaluations to provide the most accurate view of vendor offerings and strategies.

We set default weightings to reflect our analysis of the needs of large user companies — and/or other scenarios as outlined in the Forrester Wave evaluation — and then score the vendors based on a clearly defined scale. We intend these default weightings to serve only as a starting point and encourage readers to adapt the weightings to fit their individual needs through the Excel-based tool. The final scores generate the graphical depiction of the market based on current offering, strategy, and market presence. Forrester intends to update vendor evaluations regularly as product capabilities and vendor strategies evolve. For more information on the methodology that every Forrester Wave follows, please visit The Forrester Wave™ Methodology Guide on our website.

FOR SECURITY & RISK PROFESSIONALS

The Forrester Wave™: Privileged Identity Management, Q4 2018
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Integrity Policy

We conduct all our research, including Forrester Wave evaluations, in accordance with the Integrity Policy posted on our website.

Endnotes

[1] See the Forrester report "IAM For Intelligent Agents" and see the Forrester report "The Forrester Wave™: Robotic Process Automation, Q2 2018."

[2] CyberArk provides a solution for complex requirements, and so this may be unavoidable.

[3] SPNEGO, OATH, FIDO, Smartcards, Derived Credentials, and RADIUS standards are supported for 2FA token integration.

[4] Centrify plans to add Windows agents to its current Unix/Linux agents portfolio.

[5] Thycotic supports Active Directory as a user store.

[6] One Identity is working on improving discovery, help desk integration, as well as DevOps and cloud support.

[7] With the exception of the Privileged Threat Analytics module.

[8] Senhasegura is working on adding Unix sudo replacement in the future and expanding the solution's English and Spanish translation.

[9] After the acquisition of BeyondTrust after the cutoff date, Bomgar plans to: 1) continue building upon BeyondTrust's password and session management technology and platform and 2) integrate the recently acquired Avecto endpoint security with the BeyondInsight platform.

[10] Since the cutoff date of June 30, 2018, Micro Focus added a revamped and updated REST-based user interface that improves much of the behind and lacking areas.

We work with business and technology leaders to develop customer-obsessed strategies that drive growth.

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