

TECHNICAL BRIEF

Comparing Keyfactor EJBCA and Venafi Zero Touch PKI

Introduction

The increasing reliance on digital certificates for secure communication and authentication has made Public Key Infrastructure (PKI) management a critical aspect of modern IT operations. With organizations looking for efficient and cost-effective PKI solutions, comparing Venafi's Zero Touch PKI and traditional Keyfactor EJBCA provides valuable insights. That being said, modern PKI relies on more than cost and efficiency. PKI speed, agility and ease of management have become top priorities in the new world of rapidly changing business models, cloud native apps and continuous development strategies.

This analysis highlights the advantages and benefits of Zero Touch PKI, a cloud-based PKI-as-a-Service solution, over the traditional, on-premises Keyfactor EJBCA in terms of deployment, management, scalability, cost savings and support for modern DevOps workflows. Below are advantages and benefits Zero Touch PKI offers compared to traditional, on-premises PKI like Keyfactor EJBCA:

1. **Simplify deployment and management:** A SaaS-based solution eliminates the need for deployment and maintenance hours invested by dedicated staff, numerous servers, special hardware and expensive security monitoring inherent in aging on-premises PKI tools. The resulting hands-free approach delivers a lower total cost of ownership and faster time-to-value for the cloud-based Zero Touch PKI.
2. **Easily evolve beyond EJBCA:** A SaaS-based solution offers enhanced flexibility and security with a highly available, cloud-hosted architecture. In this sense, Zero Touch PKI serves as a holistic replacement for Keyfactor EJBCA. Key advantages encompass support for SCEP, REST API, ACME, CRL, OCSP, modern key types (RSA, ECDSA), an intuitive web interface/GUI, Auto Enrollment Proxy (AEP), revocation capabilities and compatibility with various MDM solutions, including Intune, Workspace ONE, MaaS360 and MobileIron.
3. **Flexibly scale worldwide:** A SaaS-based solution easily scales with your business needs, supporting new use cases or spikes in demand for certificates. Zero Touch PKI operates from multiple data centers in North America, Europe and APAC, ensuring high availability and redundancy.
4. **Integrate across the enterprise:** PKI needs to work seamlessly with certificate management solutions across business units and geographies. Zero Touch PKI integrates directly with the Venafi Control Plane, providing an end-to-end automation solution for your business's machine identities.
5. **Enhance PKI security:** Modern SaaS solutions have been architected and operated with modern security capabilities used to operate publicly trusted CAs. Zero Touch PKI includes 24x7 security monitoring and dedicated hardware security module (HSM) operations to protect your private PKI and comply with industry regulations and standards.
6. **Ensure high availability and redundancy:** Managing on-premises PKI can be error prone and less than ideal. Zero Touch PKI features multi-data center redundancy and a modern microservice architecture for the highest availability, ensuring continuous operation and minimizing downtime.

7. **Tap expert support and monitoring:** PKI administrators are often on their own when it comes to system support and monitoring. Zero Touch PKI comes with 24x7 technical support, service and physical security monitoring, ensuring smooth operations and prompt assistance when needed.
8. **Sustain virtually 100% uptime for DevOps in critical infrastructure:** In DevOps environments with high certificate volume and request frequency, ensuring uptime is necessary to support critical infrastructure. Zero Touch PKI's cloud-based, multi-data center architecture inherently provides continuous uptime and redundancy without additional infrastructure costs.

NOTE: Zero Touch PKI has an SLA of 99.9% but has consistently maintained 100% over extended periods of time. In contrast, Keyfactor EJBCA requires redundant servers and increased maintenance expenses to achieve the same level of availability and uptime, making Zero Touch PKI a more efficient and cost-effective solution for mission-critical operations.

Cost Breakdown

To provide a cost comparison, let's examine the estimated expenses for setting up a Keyfactor EJBCA infrastructure with three servers (one for the Root CA and two for Issuing CAs), an HSM, staffing expertise and maintenance:

Initial Costs for On-Premises PKI

- **Servers:** The cost of a server can vary depending on the hardware specifications. A mid-range server could cost around \$3,000 to \$5,000. For three servers, the cost would be approximately \$9,000 to \$15,000. (Note: if you need high availability, you will need double the number of servers specified above)
- **HSM:** The price of a FIPS 140-2 compliant Hardware Security Module can vary depending on the model, capacity, and features. An entry-level HSM can start at around \$15,000, with more advanced models costing \$30,000 or more.

Annual Recurring Costs for On-Premises PKI

- **Staffing expertise:** The salary for a PKI administrator or engineer can vary depending on the region, experience and responsibilities. On average, the salary for a PKI administrator could range from \$80,000 to \$120,000 per year. In some cases, more than one administrator may be required to ensure proper coverage and expertise.
- **Maintenance and support:** Maintenance costs for servers, HSMs and other infrastructure components can range from 15% to 25% of the initial hardware cost per year. Additionally, costs for software updates, patches and support contracts can add up. These expenses could range from \$5,000 to \$10,000 per year or more.

Total Costs for On-Premises PKI

Based on these rough estimates, the total initial cost for setting up the Keyfactor EJBCA infrastructure would be:

- **Servers:** \$9,000 to \$15,000
- **HSM:** \$15,000 to \$30,000

Total initial cost: \$24,000 to \$45,000

Annual recurring costs:

- **Staffing expertise:** \$80,000 to \$120,000 per year
- **Maintenance and support:** \$5,000 to \$10,000 per year

Total annual recurring cost: \$85,000 to \$130,000 per year

The figures mentioned above are rough estimates and can vary depending on specific requirements, regional costs and infrastructure complexity. Additional costs for software licenses, training and other expenses may not be included. To get an accurate comparison with Venafi's Zero Touch PKI solution, a more detailed analysis of costs and requirements for your organization is essential.

Considering the high availability requirement for DevOps and critical infrastructure, the costs for the Keyfactor EJBCA infrastructure would increase as redundant servers are needed:

- **Additional servers:** To ensure redundancy and high availability, you would need to add more servers to the setup. This could double the initial cost of the servers, raising the total initial cost for servers to around \$18,000 to \$30,000.
- **Increased maintenance and support costs:** More servers would also increase the maintenance and support costs proportionally. The annual recurring costs for maintenance and support could now range from \$10,000 to \$20,000 or more.

Given the high availability requirement, the updated cost estimates for setting up the Keyfactor EJBCA infrastructure would be:

- **Total initial cost:** \$33,000 to \$60,000 (including redundant servers and HSM)
- **Total annual recurring cost:** \$90,000 to \$140,000 per year (including staffing expertise and increased maintenance and support costs for redundant servers)

By comparison, Venafi Zero Touch PKI inherently offers high availability and redundancy, ensuring continuous uptime for your DevOps workflows. There's also no need for additional infrastructure investments, highlighting the potential cost savings and reduced complexity offered by Zero Touch PKI.

Please note that these figures are rough estimates and can vary depending on the specific requirements, regional costs and the complexity of your infrastructure. Additionally, the cost for software licenses, training and other expenses may not be included in these estimates. It's essential to conduct a more detailed analysis of the costs and requirements for your organization to get an accurate comparison with Venafi's Zero Touch PKI solution.

Conclusion

Venafi Zero Touch PKI offers a modern, cloud-based alternative to traditional Keyfactor EJBCA, providing significant advantages in terms of simplified deployment, scalability and high availability. By eliminating the need for dedicated on-premises infrastructure and invested staff hours, Zero Touch PKI can lead to substantial cost savings compared to a Keyfactor EJBCA implementation. Furthermore, Zero Touch PKI's multi-data center architecture inherently provides high availability and redundancy, ensuring continuous uptime for critical DevOps workflows without additional investments. By adopting Zero Touch PKI, organizations can benefit from a more efficient, secure and cost-effective approach to managing their Public Key Infrastructure needs.

Venafi is the cybersecurity market leader in identity management for machines. From the ground to the cloud, Venafi solutions automate the lifecycle of identities for all types of machines—from physical devices to software applications, APIs and containers. With more than 30 patents, Venafi delivers innovative solutions for the most demanding, security-conscious organizations in the world. **To learn more, visit venafi.com**