appviewX®

A multifaceted, EJBCA-integrated certificate management solution.

Introduction: Certificates in a connected world

With the advent of digital transformation, connected devices and networks have become the norm. However, with the benefit of perpetually connected systems comes the omnipresent concern of digital security. Every entity on a network possesses an identity unique to itself, which permits it to be recognized before information can be relayed through it. Digital certificates form the cornerstone of this identity, verifying the authenticity of network components, encrypting communication channels, and securing them from malicious threats. SSL/TLS certificates are prime constituent elements of a network's Public Key Infrastructure (PKI), and have to be continuously monitored, renewed, and managed to ensure that they remain in excellent working order. After all, a single weak certificate is the only opening a hacker would need to compromise an entire network environment.

To that end, enterprises leverage the services of Certificate Authorities or CAs – bodies that issue a variety of authentic digital certificates. Any medium to large organization is bound to have thousands of certificates issued by multiple CAs in their inventory, with varying expiration dates and statuses. Therein lies the single biggest challenge faced by businesses today – a lack of proper organization and visibility into their overall PKI, which is further hampered by uncoordinated, and often error-prone management.

AppViewX-PrimeKey Joint Solution

The integrated solution was specifically engineered to resolve a critical underlying issue: a state of disconnect between CAs and certificate management tools. The joint solution mates EJBCA Enterprise's significant expertise as a Certificate Authority, Validation Authority, and Registration Authority, to AppViewX CERT+ and its comprehensive certificate management suite.

Now, users will have significant visibility into the entire certificate lifecycle, with EJBCA Enterprise issuing and validating certificates, and AppViewX running the gamut of lifecycle management: from generating keys and enrolling certificates, and discovering, renewing, or revoking them, to provisioning them at servers and end-points.

PrimeKey

Joint Solution: Benefits

- Scanning multi-cloud environments to locate EJBCA-issued certificates, adding them to the central inventory, and mapping them to the applications and devices they're deployed on.

- Implementing end-to-end PKI security for networks to weed out vulnerabilities, security threats, and harmful bugs.

- Issuing, provisioning, monitoring, renewing, and revoking certificates from a single platform.

- Enabling AppViewX CERT+ to act as a Registration Authority with the necessary compliance policies in effect.

- Achieving secure key automation, and provisioning them to end-points.

Step 1: AppViewX contacts EJBCA
using requisite credentials

**AppViewX
CERT+ Platform**

Certificate
Management GUI

Web Services API

EJBCA Enterprise

CA Database

Step 2: AppViewX fetches custom attributes
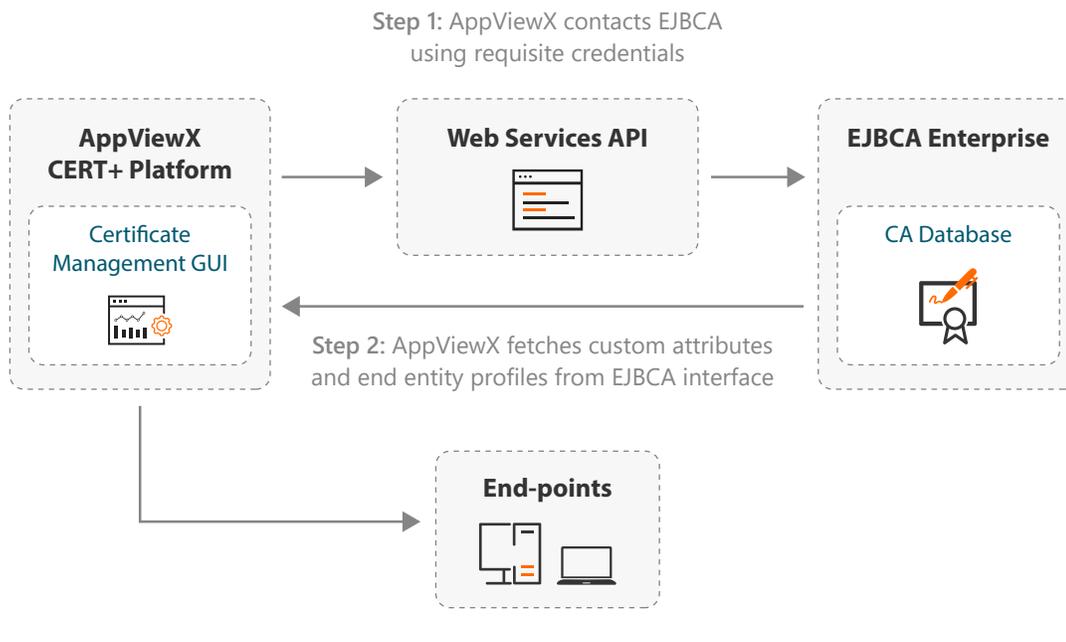and end entity profiles from EJBCA interface

End-points

Figure 1.1 : AppViewX-EJBCA Enterprise Joint Solution

The solution, while accomplishing its goal of simplifying enterprise-grade PKI management, also serves a business-critical secondary purpose of secure key orchestration. AppViewX's certificate discovery engine is far-reaching and pervasive, enabling the security and validation of every end-point on the system. It also runs checks against exposure towards weak ciphers, outdated protocols, and protocol vulnerabilities.

The other half of the solution, EJBCA Enterprise, is designed for robustness and security and follows best practice Common Criteria EAL4+ security evaluation standards. EJBCA is also a multi-tenant and multi-purpose PKI solution which is highly scalable and enables the management of several parallel PKI hierarchies within the same deployment. This means, among other things, that heterogeneous PKI environments can efficiently draw benefits from consolidating or migrating the old PKIs into EJBCA Enterprise.

Solution Highlights:

Certificate Lifecycle Management:

Once the AppViewX platform is linked to EJBCA via an API-based connector, it becomes capable of accessing and executing all of EJBCA's certificate issuance capabilities. In theory, the link gives AppViewX clearance to retrieve the end entities and custom attributes pre-configured in the EJBCA environment. Hence, CERT+ acts as a Registration Authority with the requisite compliance policies, enabling users to handle the EJBCA PKI and the external PKIs from within the AppViewX platform. This eliminates the hassle of having to switch between CA interfaces to carry out issuance-related operations.

The following functions will be available to users, once the integration is online:

- Discovery of CA certificates (multiple CAs)
- Discovery of certificates issued by EJBCA
- Certificate Renewals
- Certificate Revocations
- Certificate Provisioning
- Certificate Retrieval

Import of existing EJBCA certificates

AppViewX's discovery engine scans multi-cloud deployment environments to locate EJBCA-issued certificates. These certificates are automatically mapped to the end-points they're tied to, and are presented in a AppViewX's signature Holistic View, featuring the CA, the certificate issued, and the end device that is leveraging the certificate. As part of the scanning process, all orphaned, stale, or unused certificates are reported.

AppViewX leverages EJBCA's embedded protocols like SCEP, EST, and ACME for auto-enrollment with AppViewX as a Registration Authority.

What's next?

To learn more about implementing the solution in your organization, please contact your AppViewX representative or reach out to us on www.appviewx.com.

About PrimeKey EJBCA Enterprise

EJBCA Enterprise is an open source and multipurpose PKI software that supports multiple CAs and levels of CAs to enable you to build a complete infrastructure (or several) for multiple use cases within one instance of the software. EJBCA Enterprise is also flexible, scalable and secure, and is installed at numerous Enterprise, IoT, ETSI/eIDAS, WebTrust audited and ePassport reference customers. The software includes comprehensive Certificate Authority, Registration Authority and Validation Authority (OCSP and CRL) functionality. EJBCA Enterprise can be deployed as software, hardware appliance, in the cloud or a combination of these deployment options.

About PrimeKey

PrimeKey is one of the world's leading companies for PKI and digital signing solutions. With our products: EJBCA Enterprise, SignServer Enterprise, PKI Appliance, SignServer Appliance, and the Primekey SEE, we deliver the capability to implement an enterprise grade PKI system ready to support solutions such as IoT, IIoT, e-ID, e-Passports, authentication, digital signatures, code signing, digital identities, and validation; all solutions where digital certificates would be a main enabler.

PrimeKey is headquartered in Stockholm, Sweden with offices in San Mateo, USA; and Aachen, Germany. Together with our global network of technology and resell partners we are proud to count many of the industry leading companies and institutions within IT, Telecom, Banking, Industrial, Public CAs, and different branches of Government as our long-time customers.
To know more, visit : www.primekey.com

About AppViewX

AppViewX is revolutionizing the way DevSecOps and NetOps teams deliver services to enterprise IT. The AppViewX platform is a modular, low-code software application that enables the automation and orchestration of enterprise network infrastructure and certificate management using an intuitive, context-aware visual workflow. It is built to rapidly enable users to implement cryptto-agility, enforce compliance, eliminate errors, and reduce cost. AppViewX is headquartered in New York City with additional offices in the US, UK, and India.
To know more, visit **www.appviewx.com** or **info@appviewx.com**