NetGuard Certificate Lifecycle Manager

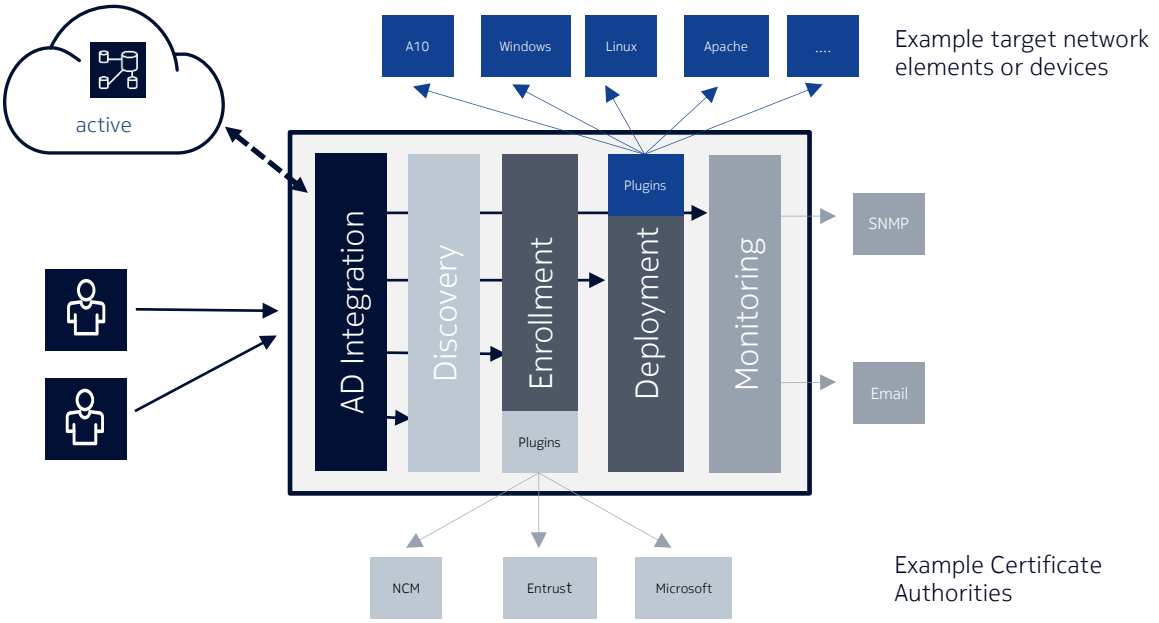
Automated Machine Identity Management

NetGuard Certificate Lifecycle Manager (NCLM) is a security management application which provides centralized, secure and cost-effective machine identity management of digital keys and certificates. NCLM helps security and IT operations teams manage and protect the hundreds-of-thousands of keys and certificates throughout an organization. NCLM improves network security posture by reducing risks arising from outdated or rogue digital identities, improves reliability by eliminating service outages due to expired certificates, while improving operational costs through enhanced automation.

Digital certificates are the most common method to secure and field proven technology for both user and machine to secure communication, authentication and authorization. Enterprises, Communication Services Providers, Cloud Service Provides, and IOT device manufactures are using certificates as fundamental building block of their security infrastructure. However, the increased reliance on keys and certificates also increases the risk of those businesses. Expired certificates can easily lead to costly IT outages and downtime. Weak and poorly configured certificates can be used to hijack connections, to eavesdrop network traffic, and to manipulate application data.

NCLM addresses these issues and gives security and IT teams full control over their certificate lifecycle management processes. It allows for seamless integration with various public CAs of providers like Entrust, Symantec, or Digicert and various Enterprise PKIs like Microsoft CA, Insta Certifier, or Nokia's NetGuard Certificate Manager. NCLM is agnostics to the certificate authority and provides unified management of every single certificate regardless of the issuing source.

NCLM uses is an open platform, supporting plugins (or connectors) which enable seamless integration with multivendor network elements and devices for centralized, single-step certificate deployment. Plug-ins can be rapidly developed by Nokia and users may also develop their own deployment plugins.



Key features and benefits

Features	Benefits
Certificate enrollment - Allows to enroll and renew a certificate on behalf of the target system	• Keypair management (generation and deletion) • Certificate enrollment and renewal from different certificate authorities via a plugin-based mechanism • Supported CAs: MS-CA, Entrust, NCM • Certificate browsing and filtering • Manual PKCS#12 import • Templates functionality to pre-populate certificate attributes or enrollment parameters

Certificate deployment - Allows to deploy and install certificates to a target system	• Configuration of deploy mechanism via a plugin-based mechanism • Automated or manual certificate and key installation and activation • Deployment templates to pre-populate deployment parameters
Certificate monitoring and validation – Enables control of certificate deployment and certificate correctness	• Status view of certificate enrollment and deployment • Certificate search and filtering capabilities • Customizable email notification about certificate expiry and revocation status • Granular reporting and alerting • Customizable certificate metadata for enhanced asset management • GUI-based log viewer • Workflow-based certificate enrollment and deployment • Certificate benchmarking against “golden standard”
Certificate discovery – Enables ability to scan network ranges for SSL/TSL enabled devices and discover certificate-based services	• Network scans based on IP addresses or IP ranges • Service scanning and identification • Automatic import into NCLM for further certificate management • Email notification and reporting
Active directory integration – Allows to manage PKI users and groups from Microsoft Active Directory	• Active Directory group-based access mapping to target system groups or target systems • Definition of granular access permissions (read-only, read- write, access to private key) based on user roles • Role-based access to enrollment and deployment plugin configuration • “Need to know principle”

Technical specifications

Architecture

- 3 Tier architecture: GUI – application – data base
- Active-passive cluster providing high availability with geo-redundant deployment option
- Secure communication between system components

Deployment modes

- Bare metal on COTS HP hardware
- Virtualized on KVM or VMware
- Integrated in to Cloudband and Openstack

Administration

- Web administration UI with role-based access control
- Support for dual control and separation of duties
- Restriction of access to specific data and operations
- Integrity-protected event logging and audit trail
- SNMP support for monitoring and statistics
- Email support for reporting and notification
- Restful API allowing a seamless integration into existing business applications and workflow systems

Security features:

- Workflow based certificate enrollment including approval rights
- Certificate policies and pre-population templates
- Code signing of deployment plugins
- Certificate monitoring against security baseline

Compliance

- EU Directive on Electronic Signatures (1999/93/EC)
- EU/ETSI qualified certificates
- ICAO Doc 9303, Part 12 - Public Key Infrastructure for Machine Readable Travel Documents

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