



Unlimited access
to your world



Reach higher levels of security with Nedap's AEOS security system supported by AET's solutions

End-to-End security with BlueX eID Management

Until now, the latest best practices protecting IT systems from digital threats have not been used for physical access control systems. Consequently, physical access control systems and security devices are vulnerable to cyber-attacks when they are connected to networks. These control systems and devices require innovative security solutions to protect organisations from eavesdropping or malicious attacks.

End-to-End security system by Nedap

Nedap and AET Europe have worked together to overcome security by vulnerabilities by developing AEOS end-to-end security. In contrast to other manufacturers, Nedap offers a complete end-to-end security solution where both DESFire keys and digital certificates are stored in the Secure Access Module (SAM) inside door controllers. This is unique in the market, it ensures that all elements of the access control systems can be trusted, and that communication between all elements of the system is secured.

Trustworthy communication

AET supported Nedap in applying the latest principles of encryption and strong authentication from the IT industry to physical access control. The goal was to enable trustworthy and authenticated data communication between card, card reader and door controllers beside secure storage of DESFire keys and instant recovery from compromised card keys. Another goal was to ensure a trusted communication channel between door controller and the AEOS server. The chance of compromised card keys is very small as they are stored inside the SAM. If this happens in an unlikely event, they can be updated instantly due to AET's solution BlueX.

Credential life cycle solution of BlueX

BlueX eID Management, the credential life cycle solution of AET, gives each door controller a unique identity. Digital certificates within systems and security devices

provide strong identity and improve the foundation of trust that is needed to interact and exchange (sensitive) data in a secure way. Within the AEOS system, BlueX is responsible for issuing trusted identities to the different security components like the AEOS server (sub)systems and door controllers.

Secure Access Module

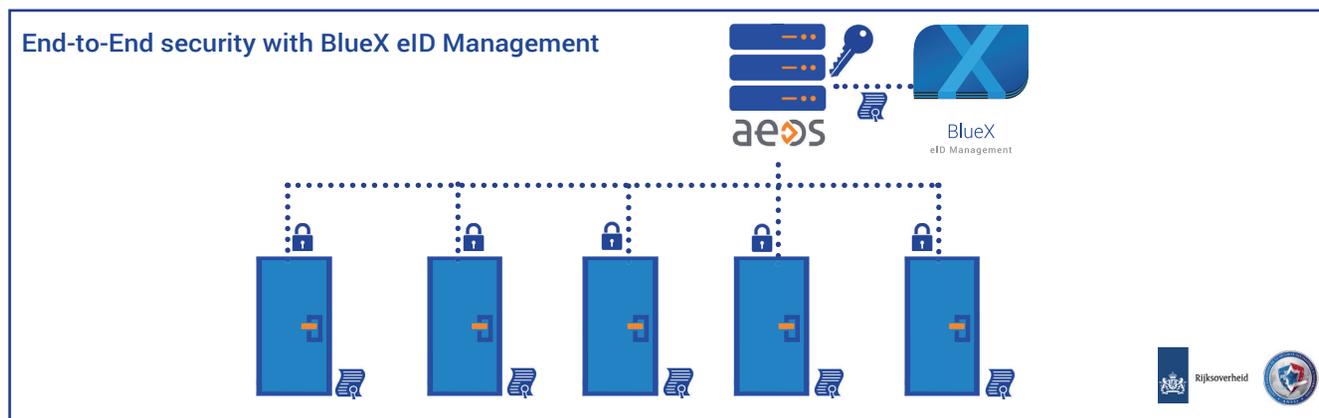
The SAM is based on JAVA smart card, which is widely used in various IT systems to store card keys and perform cryptographic operations in a secure way. On these JAVA cards, applets (small applications) can be stored to execute operations on the cards. In this case, the SAM has the SafeSign Identity Client (IC) applet which takes care of the unique X.509 certificate and private key and a Nedap applet, which manages the DESFire key. The EAL5 and FIPS certified SAMs can be managed by BlueX such that a system's security is guaranteed. With AET's solution, BlueX, the initial personalisation of the SAM is done in a secure room, but thereafter it is possible to (re)generate keys and digital certificates on the SAM chip even while it is located within a door controller.

The distribution of the DESFire keys to the SAM in the controller is done centrally by BlueX via AEOS over a secure TLS channel. In this way, the owner of the AEOS system maintains control of his security system during all stages of the lifecycle of the SAM within the door controller.

BlueX supports security governance

BlueX supports organisations in the implementation of policies for compliance with information security governance, and in managing enterprise roles and responsibilities in the area of digital or electronic identity. Flexible and highly adjustable, BlueX manages the entire life cycle or ecosystem of identity repositories, including employee cards, (mobile) devices and all kinds of (security)devices with an IP address.

All AET solutions are based on robust industry standards that support the issuance of unlimited number of security devices. The goal is to establish a chain of trust.



In the joint solution of AET Europe and Nedap is BlueX eID Management responsible for issuing trusted identities to the different security components like server (sub)systems and door controllers. The distribution of the DESFire keys to the SAM in the controller is done centrally by BlueX via AEOS over a secure TLS channel.

The foundation of this process is the provisioning of the SAM with an RSA key pair and an X.509 certificate. The DESFire keys are not added to the SAM during the initial personalisation in the secure room. This means that SAMs can be physically distributed and installed without critical DESFire keys being present on them. Only when the SAM has been safely installed will DESFire keys be placed on its chip.



Higher level of security

The joint solution of AET and Nedap enables companies to meet the highest security standards and raise their protection levels against both physical and digital threats. The principles of IT security are implemented in the AEOS system by the use of encryption protocols, smart cards, PKI and certificates.

The integration of physical and logical security domains allows organisations to secure their assets and critical infrastructure in an improved way. The use of digital certificates ensures that door controllers cannot be replaced by compromised units, and that it is impossible to connect alien devices to the network and send commands to door controllers. Moving forward, the ability to remotely update the keys and digital certificates on SAM chips enable critical infrastructures to adapt to changing security requirements and to incorporate new industry standards.

Benefits beside security

The used technology is standardised, cost-effective and reliable. All updates (rekeying) are done digitally through the systems of AEOS and BlueX, which eliminates the expense and time of manual rekeying. The distribution of sensitive key data to door controllers is now safer than before as intervention by security staff is no longer necessary. It is known that people often are the weakest link in security.

European certification standards

The AET and Nedap end-to-end security solution meet the Dutch government requirements for physical access to public buildings with Rijkspas. In France, it has gained CSPN certification from ANSSI, the French information security agency. CSPN is a high-security level for applications and systems required by critical infrastructures in France.

Currently, AEOS is the only access control system that meets the highest certification in Europe. These international certifications give companies the assurance that the security system of AEOS has undergone robust testing and will contribute towards a secure corporate workplace.



About Nedap

We have been making life easier for people for almost a century. It was 1929 when Nedap sprang into action, and today we have 750 people working with us across the world. Our experience in access control stretches back 35 years, and led to us developing AEOS, the first software-based security management system. At our headquarters in the Netherlands, we focus first on people and the challenges they face. Then we apply the latest technologies to solve their problems in new ways with products that are relevant, elegant and very user-friendly. When it comes to access control, AEOS has set the bar for the industry. Its wide-ranging functionality, unique architecture, and the ease with which it allows authorisations to be managed, really set it apart.

