



Encryption and digital signature with VS-NfD approval

Convenient, approved, secure: Cryptovision GreenShield software protects emails and files from unauthorized access and verifies the sender beyond doubt. Cryptovision GreenShield supports authorities and industry in complying with regulations for the protection of information when it requires secrecy. The German Federal Office for Information Security (BSI) has approved cryptovision GreenShield for the transmission and processing of classified information up to classification level VS-NfD.

Management summary

Today, companies and public authorities are exposed to numerous cyber attacks. Those who want to ensure that information and operations are protected from unauthorized knowledge must secure digital communications. This is especially true for government agencies and their industry partners, who are subject to their respective confidentiality regulations. Cryptovision GreenShield has implemented end-to-end encryption on the S/MIME standard in a user-friendly and straightforward manner.

As an add-in for Microsoft Outlook (Windows), HCL Notes (Windows), Windows Explorer (Windows) and Nautilus (Ubuntu), cryptovision GreenShield integrates seamlessly with the user's email program or operating system and is extremely easy to use. An integrated PKCS#11 module and PKI client simplify key management and recovery mechanisms. Cryptovision GreenShield offers central configuration and supports all major smartcards and tokens.

Cryptovision GreenShield works asynchronously. This allows the user to continue working during the signature, encryption, and verification processes without any delay. This saves time and increases user acceptance of secure email communication.

Cryptovision GreenShield is available for both Microsoft Outlook and HCL (IBM) Notes. The special feature here is that both email programs can be used simultaneously on the same system – for example during a migration.

The development of cryptovision GreenShield is based on decades of experience: since its foundation in 1999, Cryptovision (now a part of Atos) has been exclusively involved in user-friendly, cryptography-based security applications. Among other things, the company has developed the proven email security solution cv act s/mail. Atos has incorporated this expertise into its successor solution cryptovision GreenShield.

Why email and file encryption?

On its way from the sender to the recipient, an email can be read by numerous people, such as the sender's own administrators, IT staff or employees of the Internet provider. Companies and government agencies that send data by email must therefore protect themselves from uninvited readers.

Files can also fall into the wrong hands if they are sent as mail attachments or stored in the file system. Confidential data should only ever be stored on external media (e.g., a USB stick) with special security. Companies and public authorities are therefore well advised to protect their data in an appropriate manner.



Basics



Approval for VS-NfD, NATO, and EU

For the processing and/or transmission of classified information, it is mandatory to check the security functions of the software used. In Germany, the Federal Office for Information Security (BSI) conducts the audit in accordance with the Classified Information Directive (VSA). On an international level, the respective Security Accreditation Authority (SAA) and National Communications Security Authority (NCSA) are responsible for this task. Cryptovision GreenShield is approved (BSI-VSA- 10600) for VS-NfD, NATO- and EU-restricted.



Ease of use

Since cryptovision GreenShield integrates seamlessly into the work environment, users only have to adapt to minimal changes in their work with emails and files. All operations are designed to be simple and intuitive. The user can continue working without delay during the signature, encryption, and verification process.



Notes support

Cryptovision GreenShield Mail is the only VS-NfD approved email encryption solution for HCL Notes (formerly known as IBM Notes). Since cryptovision GreenShield can be used with Outlook and Notes on the same device and with the same keys, a smooth migration is easily possible.



Standardized cryptography

Cryptovision GreenShield uses standardized crypto methods. Proven standard formats such as S/MIME, X.509, and OpenPGP are supported.



Chiasmus replacement

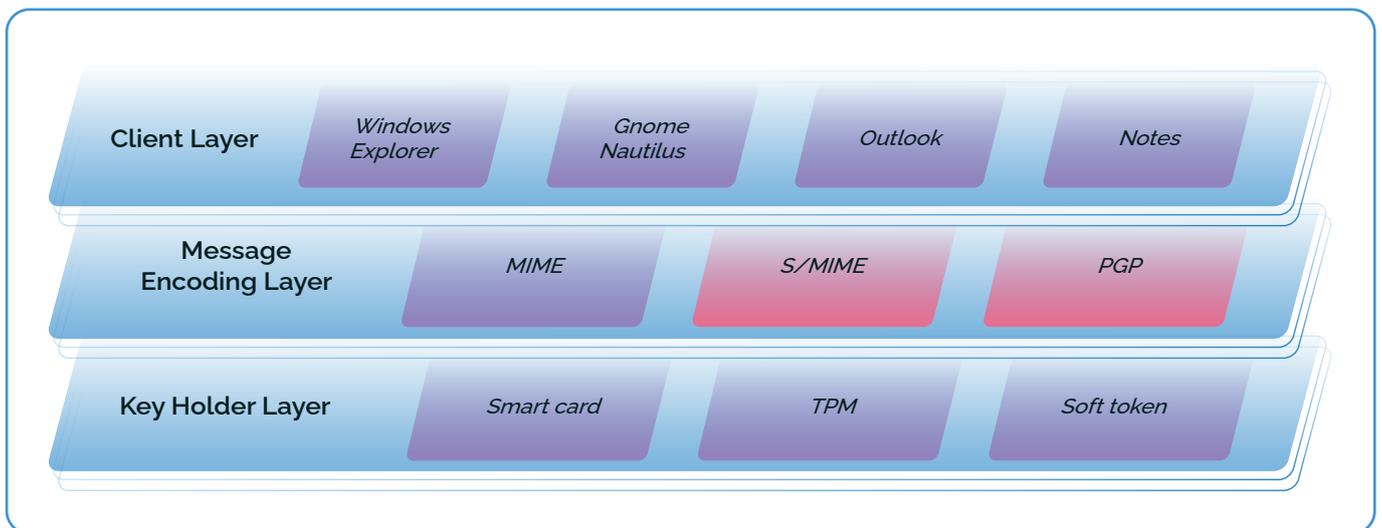
Until now, the file encryption program Chiasmus developed by the BSI has been used to store VS-NfD-classified data. However, the VS-NfD approval of this software expires at the end of June 2022. Cryptovision GreenShield is ideally suited to replace Chiasmus. Unlike Chiasmus, cryptovision GreenShield supports asymmetric crypto methods and can encrypt emails.



Additional functions

Cryptovision GreenShield enables – besides digital signature, encryption, decryption and signature verification – also a comfortable key management, which allows not only the usage, but also the import or creation of keys and digital certificates. Furthermore, cryptovision GreenShield supports the use of group mailboxes, proxy schemes, as well as recovery key concepts (for example, in case a key is lost) and many other convenience applications.

Product architecture



Cryptovision GreenShield is an add-in for Microsoft Outlook, HCL Notes, Windows and Ubuntu.

Advantages at a glance

- VS-NfD approval for Outlook, Notes, Windows, and Ubuntu
- User-friendly and high-performance software
- Reliable maintenance and care concept
- Support services for smooth project and operational support
- Central certificate management
- S/MIME and OpenPGP support

Supported operating systems

- Microsoft Windows 10/11
- Microsoft Windows Server 2016/2019
- Ubuntu Linux 20.04 LTS
- VDI

Supported email clients

- Microsoft Outlook 2016
- Microsoft Outlook 2019
- Microsoft Outlook 365
- IBM Notes 9.1
- HCL-Notes 11

Dealing with digital certificates

Certificates from an administrative PKI or a comparable PKI (BSI-TR-03145/BSI-TR-03145-VS-NfD), in accordance with the Secure Operating Procedures, are required for the use of cryptovision GreenShield in approved operations. The use of OpenPGP keyrings is also possible (in coordination with the BSI).

Authorities can use their existing smartcards or certificates or obtain them quite simply from an administrative PKI. Companies involved with the handling of classified information can choose between different providers of certificates for VS communication. Once certificates are available, cryptovision GreenShield uses them automatically, the user is not confronted with tedious configurations.

Supplements

Atos offers reliable and convenient supplements for key and certificate management. This allows various internal and external certification authorities to be connected centrally and workflow systems to be integrated. The result is a fully automated user selfservice and central management of all key and certificate requests.

Reference project

The German armed forces (Bundeswehr) operate one of the largest Notes installations in the military environment and also use Microsoft Outlook. However, the parallel encryption functions of Notes and Outlook are not sufficient for the Bundeswehr, as they neither provide the required security approvals nor the necessary range of functions.

Therefore, in 2004, the Bundeswehr decided to use cryptovision GreenShield's predecessor product, cv act s/mail, for the encryption of emails. Since then, cv act s/mail has been continuously developed further and was the first solution of its kind to receive BSI approvals for the processing of information classified „Classified - For Official Use Only" (VS-NfD), NATO Restricted and EU Restricted.

Since 2019, the Bundeswehr is also using cryptovision GreenShield Mail, the latest email encryption solution from Atos

Customers

Numerous German authorities and companies with high protection requirements use cryptovision GreenShield to protect emails and files at the highest security level with encryption and digital signature.

About Atos

Atos is a global leader in digital transformation with 109,000 employees and annual revenue of c. € 11 billion. European number one in cybersecurity, cloud and high performance computing, the Group provides tailored end-to-end solutions for all industries in 71 countries. A pioneer in decarbonization services and products, Atos is committed to a secure and decarbonized digital for its clients. Atos is a SE (Societas Europaea), listed on Euronext Paris and included in the CAC 40 ESG and Next 20 Paris Stock indexes.

The [purpose of Atos](#) is to help design the future of the information space. Its expertise and services support the development of knowledge, education and research in a multicultural approach and contribute to the development of scientific and technological excellence. Across the world, the Group enables its customers and employees, and members of societies at large to live, work and develop sustainably, in a safe and secure information space.

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Let's start a discussion together



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