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Product Brief

GreenShield

Encryption and digital signature with VS-NfD approval

Convenient, approved, secure: The software GreenShield protects emails and files from unauthorized access and verifies the sender beyond doubt. GreenShield supports authorities and industry in complying with regulations for the protection of information when secrecy is required. The German Federal Office for Information Security (BSI) has approved 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. Anyone who wants 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 the respective secrecy regulations. GreenShield has implemented end-to-end encryption based on the S/MIME standard in a user-friendly and straightforward manner. As an add-in for Microsoft Outlook, HCL Notes and Windows, GreenShield integrates seamlessly into the user's email program or operating system and is extremely easy to use. A integrated PKCS#11 module and a PKI client simplify key management and recovery mechanisms. GreenShield offers central configuration and supports all common smartcards and tokens.

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 e-mail communication.

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

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

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.

What protection makes sense?

Emails and files should be protected in two ways: by encryption and by a digital signature. Encryption prevents unauthorized persons from reading a message; the signature ensures the authenticity of the sender and that the content is binding.

Appropriate protection for digital data is expressly prescribed in numerous laws and regulations. Government agencies that process or store classified information must comply with the Classified Information Directive (VSA); in turn, the handling of classified information in commercial enterprises is governed by the Secret Protection Directive. The procedural requirements for both areas are complex.

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 it. GreenShield VS is approved (BSI-VSA-10467) for VS-NfD, NATO- and EU-restricted.

Standardized cryptography
GreenShield uses standardized crypto methods for encryption, key exchange and signatures. Proven standard formats such as S/MIME and X.509 are supported.

Ease of use
Since 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.

Chiasmus replacement
Until now, the file encryption program Chiasmus developed by the BSI has been used to store VS-NfD-classified information. However, the VS-NfD approval of this software expires at the end of 2021 and will not be renewed. GreenShield is ideally suited to replace Chiasmus. Unlike Chiasmus, GreenShield supports asymmetric crypto methods and can aencrypt emails.
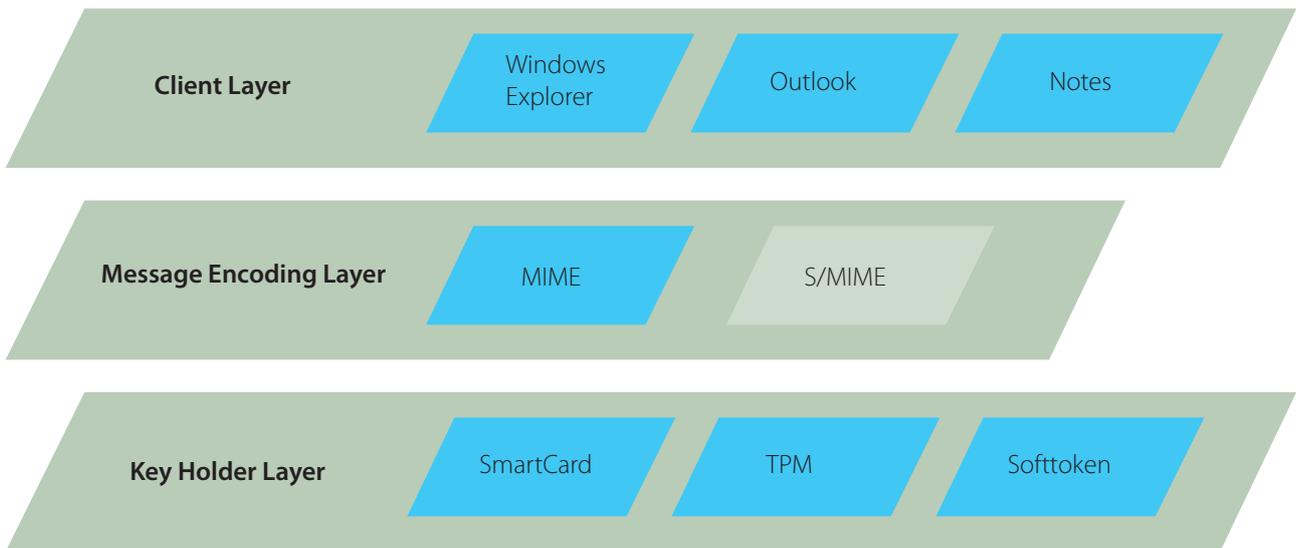
Notes support
GreenShield Mail is the only VS-NfD approved email encryption solution for HCL Notes (formerly known as IBM Notes). Since GreenShield can be used with Outlook and Notes on the same device and with the same keys, a smooth migration is easily possible.

Additional functions
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 key and digital certificates. Furthermore, 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.

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

Client Layer	Windows Explorer	Outlook	Notes
Message Encoding Layer	MIME	S/MIME	
Key Holder Layer	SmartCard	TPM	Softtoken

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Advantages at a glance

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

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 conditions of approval and use, are required for the use of GreenShield in approved operations.

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

Supplements

cryptovision 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 self-service and central management of all key and certificate requests.

Supported operating systems
- Microsoft Windows 10
- Microsoft Windows Server 2016 / 2019
- VDI

Supported Microsoft email clients
- Microsoft Outlook 2016
- Microsoft Outlook 2019

Supported Notes email clients
- IBM Notes 9.1
- HCL-Notes 11

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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 the then cryptovision 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 has also been using GreenShield Mail, the latest email encryption solution from cryptovision.

About cryptovision

cv cryptovision GmbH is one of the leading specialists for modern, user-friendly cryptography and secure electronic identities. With its solutions, over 250 million people worldwide and a multitude of institutions in the digital world protect themselves against hacker attacks, manipulation, misuse of identities and espionage.

cryptovision addresses various industries such as public administration, health, automotive, finance & insurance, energy or IT. Its customers include countries such as Nigeria, Ghana and Ecuador, institutions such as the German Armed Forces, the German Federal Office for Information Security (BSI), the city of New York and companies such as E.ON, VW and Allianz.

CUSTOMERS

Numerous German authorities with high protection requirements use GreenShield to protect e-mails and files at the highest security level with encryption and digital signature.

SecurITy
made in Germany
Trust Seal
www.teletrust.de/itsmig