

# SIEMENS

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## SICAM GridPass

Automated certification manager for energy systems

[www.siemens.com/sicam-gridpass](http://www.siemens.com/sicam-gridpass)

### Cyber security for energy systems - The challenges for securing digital systems

The top priority in the digitalization of energy networks is the security culture of grid operators and their increased responsibility due to the connectivity of devices and grids.

Generally, cyber security is enhanced by employing multiple security controls (defense-in-depth approach).

The security controls include:

- Identity management  
Unique IDs for personnel and products for authentication
- Access control  
Specification of roles and restrictions for authorization
- Secure communication  
Agreement of cryptographic details for securing network protocols
- Malware protection  
Validation of the source and integrity of OT software and firmware
- Data Protection  
Verification of the integrity of process data
- Protection of setting values  
Verification of the integrity of OT settings

The administration of these security controls can become a complicated and time-consuming task with the increasing number of digitalized and networked products and services in energy systems.



Building a public key infrastructure (PKI) helps in managing these increased requirements in a scalable way by bringing security based on certificates to energy systems.

### SICAM GridPass manages digital certificates for secured operation of substations

SICAM GridPass manages digital certificates for your OT network automatically and thus allows for the effective and efficient use of the security controls. The digital certificates are managed according to the following criteria:

- Authenticate: Verification of the identity and authenticity of automated certificate issuing requests
- Issue: Automatic or manual issuing of certificates
- Renew: Re-issue of certificates
- Revoke: Management and provision of a list for revoked certificates

# reliable and efficient

## SICAM GridPass – Overview of the functions:

- Management of digital X.509 certificates for OT use
- Creating or importing of certification authorities (CA) used as Root- or Sub-CA
- Acting as Registration Authority connected via CMP to an external Certificate Authority
- Automated issuing and management of certificates using EST protocol (Enrollment over Secure Transport) in adherence to IEC 62351-9 for
  - SICAM A8000 CP 8050 devices for securing IEC 60870-5-104 telecontrol protocols
  - SICAM PAS/PQS for securing IEC 60870-5-104, IEC 61850 MMS and DNP3 telecontrol protocols
  - SIPROTEC5 for securing WebUI, DIGSI5 and IEEE 802.1X network authentication
- Manual creation and export of certificates
- Creation and distribution of Certificate Revocation Lists (CRL) for revoked certificates
- Web-based engineering and management
- Role-based access control according to IEC 62531-8 with role-based views
- Support for user accounts that are managed locally or centrally via RADIUS
- Logging of security-relevant events via Syslog
- Supporting of elliptic curve cryptography (secp256r1, secp521r1 and brainpool256r1) as well as TLSv1.3



## Benefits

- High level of cyber security and easy handling of your security controls - automated management of the digital certificates of the substation operator
- IT/OT interoperability with support for international security standards such as PKCS, CMS, X.509, EST and IEC 62351
- Minimum of installation work and scalable (software license for 50, 250, 1,000 or 10,000 clients available)
- Ready for use with SIPROTEC, SICAM and third-party products supporting IEC 62351



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For all products using security features of OpenSSL, the following shall apply:

This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit ([www.openssl.org](http://www.openssl.org)) and cryptographic software written by Eric Young ([ey@cryptsoft.com](mailto:ey@cryptsoft.com)).