

# Integrated Advanced Cyber Security

Benefit from products and certified system solutions

[www.siemens.com/gridsecurity](http://www.siemens.com/gridsecurity)

## The importance of Cybersecurity

Increased networking of systems, standardization of communication protocols and operating systems – simplifying processes ensures efficient operation. But the other side of the coin is that these trends also make our networks vulnerable.

What can effectively protect our energy supply from attack? A solution which takes security into account at every stage of the development process. And at the end, contains exactly the security features that are needed. Looking at security as an integral component is important for a secure infrastructure – already during network planning and the design process.

Siemens offers well-thought-out products, systems and solutions to ensure the security of the energy automation infrastructure. From the outset, they meet the most stringent security requirements – including those of the BDEW Whitepaper (German Association of Energy and Water Industries), IEC 62443, IEC 62351 and NERC CIP (North American Electric Reliability Corporation, Critical Infrastructure Protection).

Siemens Secure Substation Automation Solution is certified by TÜV Süd Munich according IEC 62443-2-4 (Security program) and IEC 62443-3-3 (Security functions).

Our systems and solutions:

Secured from end to end

The more comprehensively IT security is taken into account in energy automation systems, the more effective and cost-effective the solutions. Siemens offers holistic concepts for efficient security architecture in your substation.



IEC 62443 Certificate „Secure Substation Automation Solution“

- End-to-end designs for security architectures including the requisite hardening measures
- Well tested security architectures
- Recommendations for network components
- Security updates, malware protection
- Solutions for central user management
- End-to-end solutions for monitoring and logging security events
- Secure remote access solutions

# Reliable and secure

## Our products:

### Integrated Advanced Cyber Security

#### SIPROTEC 5 and DIGSI 5

- Authenticated and encrypted TLS communication for engineering and web browser UI connectivity
- Role-based access control (RBAC) with support for IEC 62351 roles and central user management (RADIUS)
- Secure storage of key material in on-board crypto chip
- Device uses key stored in crypto-chip to allow only firmware signed by Siemens to load
- Device-internal / central logging of security events
- X.509 certificate management support

#### SICAM A8000

- Authenticated and encrypted TLS communication for engineering and web browser UI connectivity
- TLS-secured process communication based on IEC 62351 for IEC 104, IEC 61850-MMS and DNP3i or via IPSEC / VPN
- Application layer firewall for IEC 60870-5-104 communication
- Secure storage of key material in on-board crypto chip
- Device uses key stored in crypto chip to validate and allow only firmware signed by Siemens to load
- RBAC with support for IEC 62351 roles and central user management (RADIUS)
- Device-internal / central logging of security events
- Automated X.509 certificate management support using SICAM GridPass based on IEC 62351-9

#### SICAM PAS and PQS

- Secured process communication over TLS based on IEC 62351 for IEC 60870-5-104 or DNP3 TCP, or via IP-SEC/VPN
- Protection from malware through virus scanner and application whitelisting solutions
- RBAC with support for IEC 62351-8 roles and central user management (Microsoft Active Directory Server)
- Machine-local / central logging of security events
- Automated X.509 certificate management support using SICAM GridPass in accordance with IEC 62351-9

#### SICAM SCC

- Protection from malware through virus scanner and application whitelisting solutions
- RBAC with support for IEC 62351-8 roles and central user management (Microsoft Active Directory Server)
- Machine-local / central logging of security events

#### Siemens solutions offer:

- Integrated security at the product, system and solution level
- Experience gained from many projects and international standardization work
- Siemens ProductCERT as partner for handling security vulnerabilities and incidents
- Security testing as part of the commissioning process
- Certified substation blueprint in accordance with IEC 62443
- Future-proof according to IEC 62443 and IEC 62351



Siemens 2020  
Smart Infrastructure  
Digital Grid  
Humboldtstrasse 59  
90459 Nuremberg,  
Germany

For the U.S. published by  
Siemens Industry Inc.  
100 Technology Drive  
Alpharetta, GA 30005  
United States

Customer Support: <http://www.siemens.com/csc>

© Siemens 2020. Subject to changes and errors.  
Gridsecurity\_ProfilIe\_2020\_02.docx

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)), cryptographic software written by Eric Young ([eay@cryptsoft.com](mailto:eay@cryptsoft.com)) and software developed by Bodo Moeller.