Dear customer,

Thank you for choosing our products to address your energy automation needs. This report provides an overview on the latest security-related product updates released by Siemens for the SIPROTEC and SICAM range of products, spanning:

- Protection, Bay Controller and Fault Recorder
  - SIPROTEC 4
  - SIPROTEC 5
  - SIPROTEC Compact
  - Associated engineering and evaluation software

- Substation Automation, RTUs and Power Quality
  - SICAM Substation Automation
  - SICAM A8000 / SICAM RTUs
  - SICAM Power Quality and Measurements
  - SICAM Accessories

Should you have any questions or need further information in this regard, please contact your Siemens Partner or our Customer Support Center at support.energy@siemens.com.

**Reports Archive**

You can retrieve the security update report for the year 2016 [here](#).
Security Updates for SPROTEC and SICAM Products

Important Updates

Product Updates
October 2017: SICAM AK3 – powerful and modular substation controller – Firmware release V0401 with security-relevant updates  click here for details

SIGUARD PDP – Phasor Data Processor for Wide Area Monitoring - Version V5.20 with security-relevant updates  click here for details

Security Advisories
October 2017: Updated existing security advisory with information relevant to the SPROTEC 7SJ66 protection relay. Click here for more details

Microsoft Windows Security Patch Compatibility Reports

Information related to Security Patch Management Practices
In order to maximize the operational security and availability of critical systems, Siemens strongly recommends customers to upgrade to supported versions of Microsoft Windows operating systems and Windows-based Siemens products, and to systematically practice security patch management. Siemens recommends customers to sign up for its patch management and system maintenance services, which enable customers to receive tailored security patch management recommendations with minimized delays.
# SIPROTEC 4 Security Update Overview

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### SIPROTEC 4

#### SECURITY UPDATE OVERVIEW

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### SIPROTEC 4 – Communication Interfaces

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**October 2017: Security Updates for Products of the SIPROTEC 4 and SIPROTEC Compact Families**

**Security Advisories**

- SSA-323211: An existing security advisory SSA-323211 has been updated to correct the list of vulnerabilities affecting the SIPROTEC 7SJ66 device. More information can be found under: [https://www.siemens.com/cert/pool/cert/siemens_security_advisory_ssa-323211.pdf](https://www.siemens.com/cert/pool/cert/siemens_security_advisory_ssa-323211.pdf)
September 2017: Security Updates for Products of the SIPROTEC 4 and SIPROTEC Compact Families

Security Advisories
- SSA-323211: An existing security advisory SSA-323211 has been updated to inform about the availability of firmware update V1.11.0 to the MODBUS TCP communication protocol variant of our EN100 Ethernet module.
  More information can be found under: https://www.siemens.com/cert/pool/cert/siemens_security_advisory_ssa-323211.pdf

July 2017: Security Updates for Products of the SIPROTEC 4 and SIPROTEC Compact Families

Security Advisory SSA-323211
- EN100 Ethernet Communication Module DNP3 TCP firmware version: V1.03
- EN100 Ethernet Communication Module IEC 104 firmware version: V1.21
- EN100 Ethernet Communication Module PROFINET IO firmware version: V1.04.01
- EN100 Ethernet Communication Module MODBUS TCP firmware version: V1.10.01
- EN100 Ethernet Communication Module included in SIPROTEC Merging Unit 6MU80: V1.02.02
- SIPROTEC 7SJ66 firmware version: V4.23

  Multiple vulnerabilities have been addressed.
  More information can be found under: https://www.siemens.com/cert/pool/cert/siemens_security_advisory_ssa-323211.pdf

September 2016: IEC 61850 Communication Module Security Update

Security Advisory SSA-630413
- Firmware version: V4.29

  Multiple vulnerabilities have been addressed.
  More information can be found under: https://www.siemens.com/cert/pool/cert/siemens_security_advisory_ssa-630413.pdf
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## Cyber Security - Product Updates

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### August 2017: Security-relevant updates in SIPROTEC 5 Firmware V7.50, covering select device types

In August 2017 we released the version V7.50 for select SIPROTEC 5 device types (see table above) with the following security-relevant updates.

**Security-relevant Features**
- New central logging functionality for security-relevant events and alarms (Syslog support): All security-relevant events and alarms that are recorded in the device-internal security log can also be simultaneously transferred to central syslog servers, in order to facilitate substation-wide aggregation of all security-relevant events in keeping with requirements from standards and guidelines such as IEEE 1686, IEC 62443 and BDEW Whitepaper.

**Third-party Software Related Updates**
- Secure communication between DIGSI 5 and SIPROTEC 5 devices is handled on the device side with the OpenSSL component (https://www.openssl.org/). The OpenSSL version has been updated to 1.0.2K to address multiple reported vulnerabilities: CVE-2017-3731, CVE-2017-3730, CVE-2017-3732, CVE-2016-7055 and others fixed by preceding OpenSSL versions.
July 2016: Security-relevant updates in SIPROTEC 5 Firmware V7.30, covering select device types

In July 2016 we released the version V7.30 for select SIPROTEC 5 device types (see table above) with the following security-relevant updates.

Third-party Software Related Updates
- Applied security fix to Wind River VXWorks to address CVE-2015-3963. Vendor Note: The VxWorks software generates predictable TCP initial sequence numbers that may allow an attacker to predict the TCP initial sequence numbers from previous values, which may allow an attacker to spoof or disrupt TCP connections.
- Secure communication between DIGSI 5 and SIPROTEC 5 devices is handled on the device side with the OpenSSL component (https://www.openssl.org/). The OpenSSL version has been updated to 1.0.2H to address multiple reported vulnerabilities - CVE-2016-2105, CVE-2016-2106, CVE-2016-2107, CVE-2016-2108, CVE-2016-2109, CVE-2016-2176, CVE-2016-0703, CVE-2016-0704 and others fixed by preceding OpenSSL versions.
## Siprotec Compact - Security Update Overview

<table>
<thead>
<tr>
<th>Siprotec Compact - Communication Interfaces</th>
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<td>Siprotec 7SJ80</td>
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</table>

### June 2016: Security-relevant updates in Siprotec 7SJ80
- **Security Advisory SSA-574990**
  - Firmware version: V4.76
  - "Information Disclosure" vulnerabilities have been addressed.
  - More information can be found under: [https://www.siemens.com/cert/pool/cert/siemens_security_advisory_ssa-547990.pdf](https://www.siemens.com/cert/pool/cert/siemens_security_advisory_ssa-547990.pdf)
## August 2017: Security-relevant updates in DIGSI 5

In August 2017 we released the version DIGSI 5 V7.50 with the following security-relevant updates.

**Security-relevant Features**
- System-local logging of security-relevant DIGSI 5 engineering events
- Configuration of new central logging functionality for security-relevant events on SIPROTEC 5 devices (Syslog)

**Third-party Software Related Updates**
- Compatibility with Microsoft Windows 10 operating system

## October 2016: Security-relevant updates in IEC 61850 System Configurator

In October 2016 we released the version IEC 61850 System Configurator V5.30 with the following security-relevant updates.

**Security-relevant Features**
- Digitally signed installation software

**Third-party Software Related Updates**
- IEC 61850 System Configurator has been designed especially for the following operating systems:
July 2016: Security-relevant updates in DIGSI 5

In July 2016 we released the version DIGSI 5 V7.30 with the following security-relevant updates.

**Security-relevant Features**
- Digitally signed installation software

**Third-party Software Related Updates**
- DIGSI 5 has been designed especially for the following operating systems:
  - Microsoft Windows 8.1 Enterprise 32- and 64-bit
  - Microsoft Windows 7 Ultimate/Enterprise and Professional 32- and 64-bit with Service Pack 1
  - Microsoft Windows Server 2012 R2 64-bit with Service Pack 1 as workstation computer
  - VMWare support for the following operating systems – Microsoft Windows 7 Ultimate/Enterprise and Professional 32- and 64-bit with Service Pack 1, Microsoft Windows 8.1 64-Bit

July 2016: Security-relevant updates in SIGRA

In July 2016 we released the version SIGRA V4.58 with the following security-relevant updates.

**Security-relevant Features**
- Digitally signed installation software

**Third-party Software Related Updates**
- SIGRA has been designed especially for the following operating systems:
  - Microsoft Windows 8.1 Enterprise 32- and 64-bit
  - Microsoft Windows 7 Ultimate/Enterprise and Professional 32- and 64-bit with Service Pack 1
  - Microsoft Windows Server 2008 R2 64-bit as a workstation computer
  - VMWare support for the following operating systems – Microsoft Windows 7 Ultimate/Enterprise and Professional 32- and 64-bit with Service Pack 1
## SICAM SUBSTATION AUTOMATION

### SECURITY UPDATE OVERVIEW

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<th>Most recent software/firmware version with security update</th>
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<td>SICAM PAS</td>
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<td>Update</td>
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<td>V8.09, June 2017. Click here for more details on security updates</td>
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<td>Short-Circuit Indicator</td>
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<td>SICAM FCG – Fault Collector Gateway</td>
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### June 2017: Security related updates in SICAM PAS/PQS

In June 2017 we released the version SICAM PAS/PQS V8.09 with the following security updates.

**Security Advisory SSA-946325**
- An existing security advisory SSA-946325 has been updated.
  
  More information can be found under: [https://www.siemens.com/cert/pool/cert/siemens_security_advisory_ssa-946325.pdf](https://www.siemens.com/cert/pool/cert/siemens_security_advisory_ssa-946325.pdf)

### May 2017: Security related updates in SICAM SCC

In May 2017 we released the version SICAM SCC V9.01, based on SIMATIC WinCC 7.4 SP1 with the following security related updates.

**Third-party Software Related Updates**
- NTP version updated to V4.2.8p10 to address multiple reported vulnerabilities (see here ➔ NTP notices)
Security-relevant features
- SIMATIC WinCC 7.4 SP1 fixes vulnerabilities as reported on our ProductCERT website under advisories: SSA-701708, SSA-156872
- Support for the following operating systems: Windows Server 2016 64-bit (with SIMATIC WinCC 7.4 SP1 as basis), Windows 10 Professional & Enterprise 64-bit, Windows Server 2008 R2 SP1 64-bit, Windows Server 2012 R2 64-bit, Windows 8.1 Professional / Enterprise 32-bit and 64-bit, Windows 7 Professional / Ultimate / Enterprise SP1 32-bit and 64-bit
- Virtualization with VMWare ESXi Server V6.5 (with SIMATIC WinCC 7.4 SP1 as basis)

Third-party Software Related Updates
- NTP version updated to V4.2.8p10 to address multiple reported vulnerabilities (see here ➔ NTP notices)

February 2017: Security related updates in SICAM SCC
In February 2017 we released the version SICAM SCC V9.00 with the following security related updates.

Security-relevant features
- Support for the following operating systems: Windows 10 Professional & Enterprise 64-bit (only with SIMATIC WinCC 7.4 as basis), Windows Server 2008 R2 SP1 64-bit, Windows Server 2012 R2 64-bit, Windows 8.1 Professional / Enterprise 32-bit and 64-bit, Windows 7 Professional / Ultimate / Enterprise SP1 32-bit and 64-bit
- Digitally signed installation files now also available for hotfixes

November 2016: Security related updates in SICAM PAS/PQS
In November 2016 we released the version SICAM PAS/PQS V8.08 with the following security updates.

Security-relevant features
- Three additional roles (according IEC62351-8) introduced in SICAM PAS/PQS - User Administration
  - RBAC manager
  - Security administrator
  - Security auditor
- Support to export security logs

Security Advisories SSA-946325 and SSA-444217
- SSA-946325: Multiple vulnerabilities have been addressed in a new security advisory SSA-946325.
  More information can be found under: https://www.siemens.com/cert/pool/cert/siemens_security_advisory_ssa-946325.pdf
- SSA-444217: An existing security advisory SSA-444217 has been updated.  
  More information can be found under: https://www.siemens.com/cert/pool/cert/siemens_security_advisory_ssa-444217.pdf

Third-party Software Related Updates
- OpenSSL version updated to 1.0.2j in the SICAM PAS Secure Communication Addon to address multiple reported vulnerabilities (see here → OpenSSL news)
- 7-Zip version updated to V16.00 to address multiple reported vulnerabilities (see here → more information)
- NTP version updated to V4.2.8p7 to address multiple reported vulnerabilities (see here → NTP notices)

June 2016: Security related updates to SICAM FCG

In June 2016 we released the SICAM FCG – “Fault Collector Gateway” - with firmware version V1.00 with the following security features.

Security-relevant features
- The SICAM FCG’s short-range radio communication interface supports the device parameterization and the transmission of messages and measured values of SICAM FSI devices. The information is transmitted in telegrams in a secured way.
- The SICAM FCG communication to the control center can be executed based on the IEC 60870-5-104 via internet protocol security (IPSec) tunnel and GSM.
- IPSec capabilities:
  o Pre-shared key
  o IKE v1, v2
  o Perfect Forward Secrecy
  o Symmetric encryption with AES-256, AES-192, AES-128, 3DES, DES
  o Authentication with HMAC-SHA1, HMAC-MD5
  o IPSec tunnel supervision by ping

June 2016: Security related updates to SICAM FSI

In June 2016 we released the SICAM FSI – “Fault Sensor Indicator” - with firmware version V1.00 with the following security features.

Security-relevant features
The SICAM FSI variant 6MD2314-1AB11 transfers earth fault and short circuit related data to a gateway (SICAM FCG) via a secured short-range radio connection.
# Cyber Security - Product Updates

## SICAM A8000 / SICAM RTUs

### SECURITY UPDATE OVERVIEW

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<tbody>
<tr>
<td>SICAM A8000 CP-8000/21/22</td>
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<td>Update</td>
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<td>Exclusively available for ETA-4 Ethernet Interface revision 09. ETA4 Firmware Revision 08, October 2016. Click here for more details.</td>
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### October 2017: Security related updates in SICAM AK3 RTU

In October 2017 we released the firmware revision 0401 of the SICAM AK3 RTU with the following security updates.

**Security-relevant features**

- Firmware signature is implemented
- Transport-layer security for IEC60870-5-104 communication (master and slave) based on IEC 60870-5-7, IEC 62351-5 and IEC 62351-3 now supported by ETA-4 Ethernet Interface firmware revision 09:
  - up to 4 parallel IEC 104 connections secured
  - user certificates are supported
- Support of IPSEC IKEv2 and additional cipher suites:
  - AES 192, AES 256
  - SHA384
  - DH Group 5 and 14
- Following Ciphers are removed from auto-configuration: 3DES, MD5, DH Group 1
- SNMPv3 Enhancements
  - AES128 and SHA1/SHA2 support (SHA1, SHA2_224, SHA2_256, SHA2_384, SHA2_512)
  - IP address restricted SNMP access
  - Retrieval of firmware revision via SNMP with SICAM RTUs SNMP MIB V04.00.00 for asset monitoring
- Security event logging enhancements
  - Security logbook - All Syslog Events are written to a security logbook. The security logbook can be downloaded via SICAM Toolbox II
  - Syslog Prefix Text - A 32 Byte prefix text can be added to the every Syslog message
  - Syslog messages can be sent to a 2nd Syslog Server over the ETA-4 Ethernet interface firmware revision 09

Third-party Software Related Updates
- OpenSSL version updated to 1.0.2k to address multiple reported vulnerabilities (see here → OpenSSL news)

June 2017: Security related updates in SICAM A8000 CP-8000/21/22 RTUs

In June 2017 we released the firmware version V12 of the SICAM A8000 CP-8000/21/22 products with the following security updates.

Security-relevant features
- Transport-layer security for IEC60870-5-104 communication (master and slave) based on IEC 60870-5-7, IEC 62351-5 and IEC 62351-3 now supported by ET84 Ethernet Interface firmware revision 05:
  - up to 4 parallel IEC 104 connections secured
  - user certificates are supported
- Firmware signature check is activated. Only firmware with valid signature are loaded
- SNMPv3 enhancements
  - included authentication protocol: AES128
  - included privacy protocols: SHA1, SHA2_224, SHA2_256, SHA2_384, SHA2_512
  - Retrieve firmware revision with SICAM RTUs SNMP MIB V04.00.00
- Security event logging
  - New Syslog events logged by the inbuilt IEC 104 Whitelist Filter of the ET84 Ethernet interface firmware revision 05
    ▪ "Data message blocked by system internal WhiteList Filter" – logged upon detection of malformed IEC 104 packets
    ▪ "Data message in transmit direction blocked by activated WhiteList Filter" - Only defined telegrams (selected by type identification and cause of transmission) will be sent in transmit direction to the remote network with the WhiteList Filter enabled. All undefined telegrams are blocked.
  - All Syslog Events are also written to a security logbook. This can be viewed and downloaded via SICAM WEB
  - A user-defined 32 Byte prefix text can be added to the every Syslog message
- IPSec enhancements
  - Remote ID can now be left empty (then the IP address will be used) while the Local ID is parameterized to use FQDN (e.g. "CMIC")
  - Sub network mask for local IP V4 address can have the value 255.255.255.255 to protect a single host network when using IPSec
Cyber Security - Product Updates

Third-party Software Related Updates
- OpenSSL version updated to 1.0.2k to address multiple reported vulnerabilities (see here ➔ OpenSSL news)

January 2017: Security related updates in SICAM A8000 CP-8050 RTUs
In January 2017 we released the firmware version V1 of our new RTU product SICAM A8000 CP-8050 with the following security updates.

Security-relevant features
- Role-based access control (RBAC) with support for IEC 62351-8 standard roles in device and in the engineering software SICAM TOOLBOX II
- Support for both device-local user accounts and RADIUS-based central user management
- Secured password storage
- Digitally signed firmware
- Secure factory reset of the device
- Configurable SD card usage
- Onboard firewall with rule generation and editing options
- Onboard IPSec features for end-to-site communication security – up to 8 IPSec VPN tunnels supported
- Security event logging both locally on device and via Syslog protocol – up to 2 configurable Syslog servers supported
- Enable/disable the “Remote operations” feature with process data messages
- BDEW whitepaper security conformance statement available

November 2016: Security related updates in SICAM A8000 CP-8000/21/22 RTUs
In November 2016 we released the firmware version V11 of the SICAM A8000 CP-8000/21/22 products with the following security updates.

Security-relevant features
- TLS 1.2 support for HTTPS
- IPSec enhancements:
  o Support for SHA384, DH groups 5 and 14
  o Ciphers removed from auto-configuration: 3DES, MD5, DH Group 1
- Digitally signed firmware
- Support for backup RADIUS server
- Syslog messages can be sent to a second Syslog Server
- Enable/disable the “Remote operations” feature with process data messages

Third-party Software Related Updates
- Upgrade to SQLite 3.13.0 to address a reported vulnerability (see here ➔ more information)
- Upgrade to Expat XML Parser 2.2.0 to address multiple reported vulnerabilities (see here → Expat news)

**October 2016: Security related updates to SM-2558 Ethernet Interface**

*Security Advisory SSA-296574*

"Denial of Service" vulnerability has been addressed in the ETA4 firmware Revision 08 for IEC 60870-5-104 communication.

More information can be found under: [https://www.siemens.com/cert/pool/cert/siemens_security_advisory_ssa-296574.pdf](https://www.siemens.com/cert/pool/cert/siemens_security_advisory_ssa-296574.pdf)
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<td>SICAM Q200</td>
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October 17: Security related features in SIGUARD PDP

In October 2017 we released SIGUARD PDP – Phasor Data Processor for Wide Area Monitoring - Version V5.20.

Security-relevant updates
- Added support for Microsoft Windows 10 Pro (64 bit) operating system for SIGUARD PDP UI and Engineer workstations
- Information and recommendations on SIGUARD PDP system hardening and administration in the accompanying Administrator Guide

June 2017: Security related updates in SICAM PQ Analyzer

In June 2017 we released the version SICAM PQ Analyzer V3.09 with the following security updates.

Security-relevant features
- Secure authentication: User credentials are checked while accessing Archive with SICAM PQ Analyzer or SICAM Collector

Third-party Software Related Updates
- NTP version updated to V4.2.8p10 to address multiple reported vulnerabilities (see here → NTP notices)

November 2016: Security related updates in SICAM PQ Analyzer

In November 2016 we released the version SICAM PQ Analyzer V3.08 with the following security updates.

Security-relevant features
- Syslog Server Support
  - User activities on SICAM PQS archives can be logged into Syslog server by configuring Syslog server information in SICAM PQS – User Administration
  - User activities on SICAM PQ Collector Archives can be logged into Syslog server by configuring Syslog server information in SICAM PQ Collector
  - All user activities on PQS Archive or SICAM PQ Collector archives are logged in Event logs by default
- Three additional roles (according to IEC62351-8) are introduced:
  - RBAC manager
  - Security administrator
  - Security auditor

Third-party Software Related Updates
- Siemens Automation License Manager (ALM) updated to version V5.3 SP3 Update 1 to address multiple reported vulnerabilities (see here → advisory)
- 7-Zip version updated to V16.00 to address multiple reported vulnerabilities (see here → more information)
**September 2016: Security related features in SIGUARD PDP**

In September 2016 we released SIGUARD PDP – Phasor Data Processor for Wide Area Monitoring - Version V5.10 with the following security features:

**Security-relevant features**
- Cyber Diode (spontaneous start of communication to partner-PDC)
- Role-based access control with Windows user administration and NTFS security features
- Securing the data connections using IPSec between different SIGUARD PDP servers/workstations, and between the PMU and the SIGUARD PDP Server
- Information and recommendations on SIGUARD PDP system hardening and administration in the accompanying Administrator Guide
- Support for Microsoft Windows 8.1 and Windows 2012 R2 operating systems

**August 2016: Security related updates to SICAM Q200**

In August 2016 we released the SICAM Q200 – “Multifunctional Power Recorder and Power Analyzer” - with firmware version V1.00 with the following security features.

**Security-relevant features**
- Role-based access control
- SNMPv3 with support for User-based Security Model (USM) as per RFC 3414.
## ACCESSORIES

### SECURITY UPDATE OVERVIEW

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<th>Jan-17</th>
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Most recent software/firmware with security update

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Edition 1

October 2017