

SICAM PAS

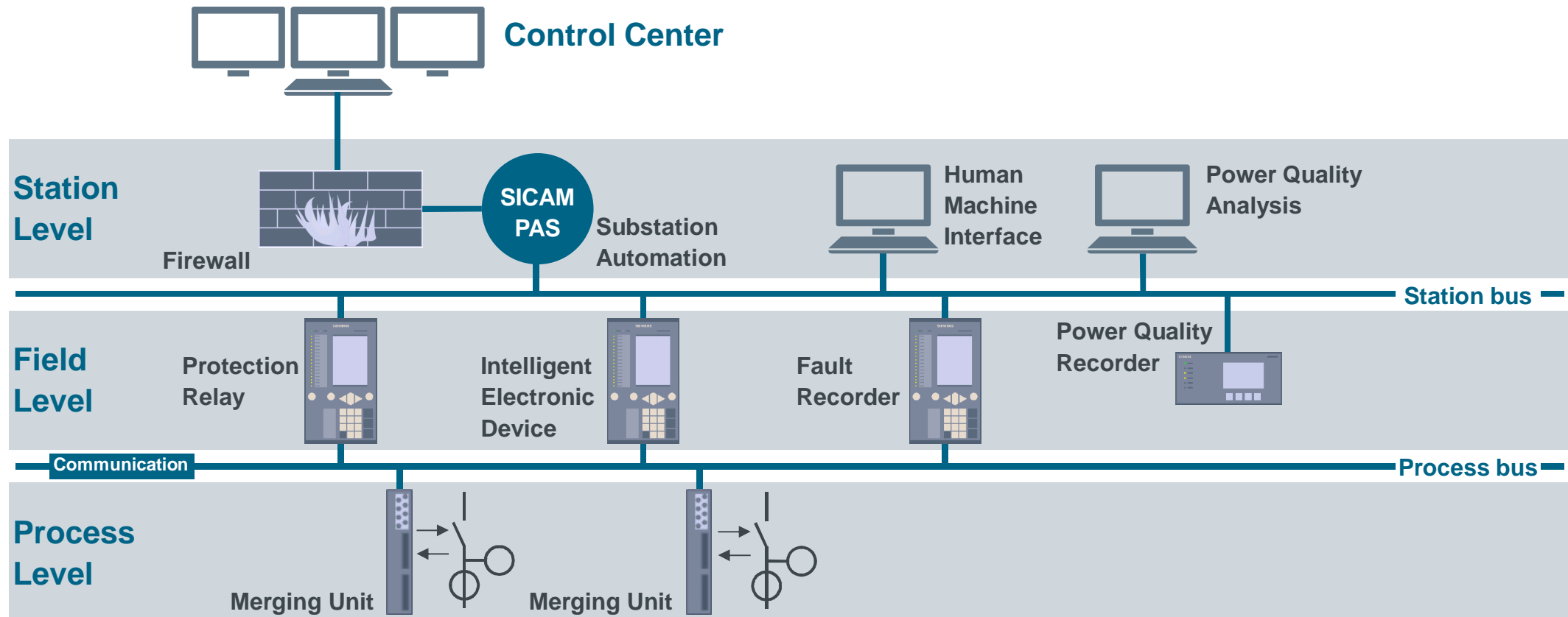
Substation Automation

Definition	Key features
<p>SICAM PAS Power Automation System for energy automation</p> <p>An important component of a seamless system solution from Siemens for the digitalization of substations</p>	<ul style="list-style-type: none">§ Automation§ Local / Remote Operation§ Recording and processing of events & alarms, measured and metered values and§ Fault records and PQ data§ Aggregation and selective routing§ Logging & archiving <p>24/7</p>

SICAM PAS - Digitization of substations

System topology and components

Basic structure of a substation



SICAM PAS - Digitization of substations

System topology and components

Basic configuration

Software versions:

Runtime & Configuration

- § up to 15 devices
- § more than 15 devices

Runtime

- § up to 4 devices
- § up to 15 devices
- § up to 180 devices
- § up to 400 devices

Configuration

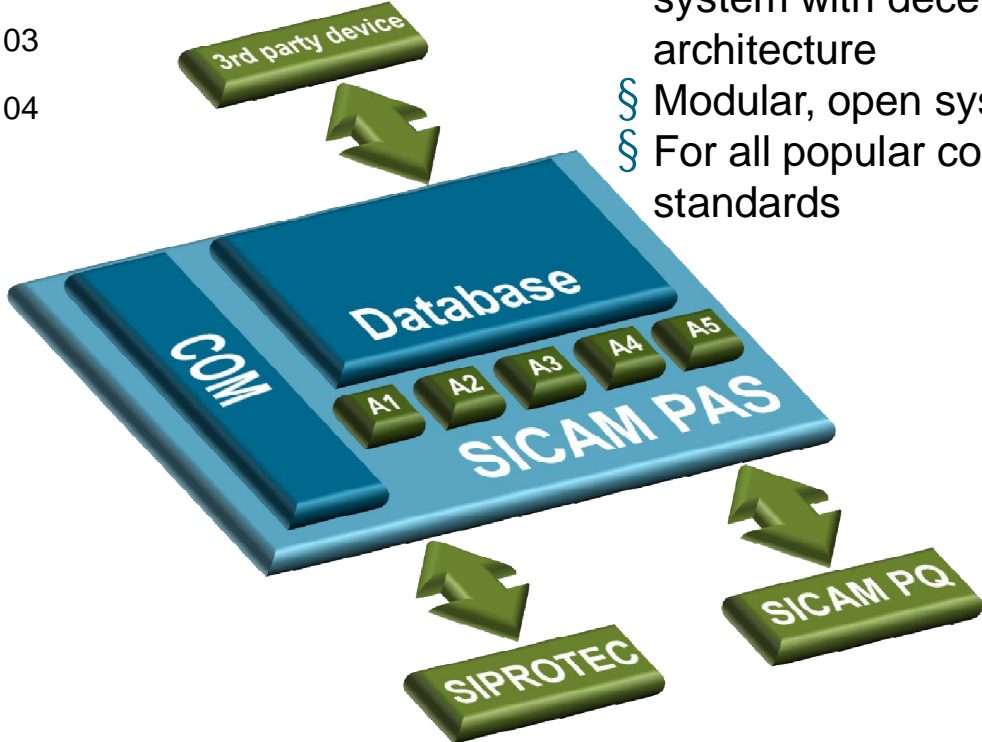
- § up to 15 devices
- § more than 15 devices



- § Software runs on any commercially available industrial PC
- § Meets highest cyber security requirements

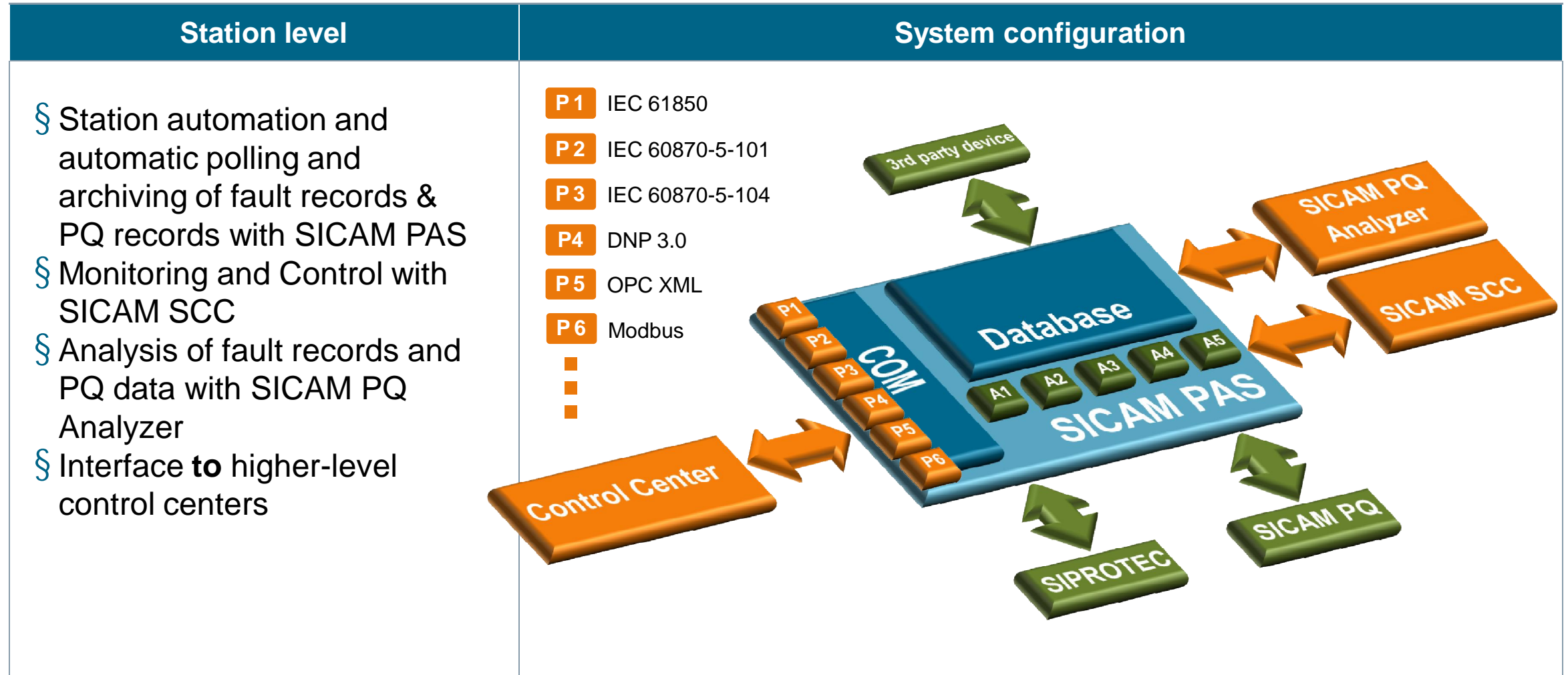
SICAM PAS - Digitization of substations

System topology and components

Field level	System configuration	
<p>§ SIPROTEC protection and bay controller IEDs (devices)</p> <p>§ SICAM PQ IEDs (devices)</p> <p>§ Fault recorder</p> <p>§ 3rd party IEDs (devices)</p> <p>Data exchange from the process and field level IEDs via standardized protocols</p>	<ul style="list-style-type: none"> A1 IEC 61850 A2 IEC 60870-5-103 A3 IEC 60870-5-104 A4 DNP 3.0 A5 Modbus 	<div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <p>§ Substation automation system with decentralized architecture</p> <p>§ Modular, open system design</p> <p>§ For all popular communication standards</p> </div> </div>

SICAM PAS - Digitization of substations

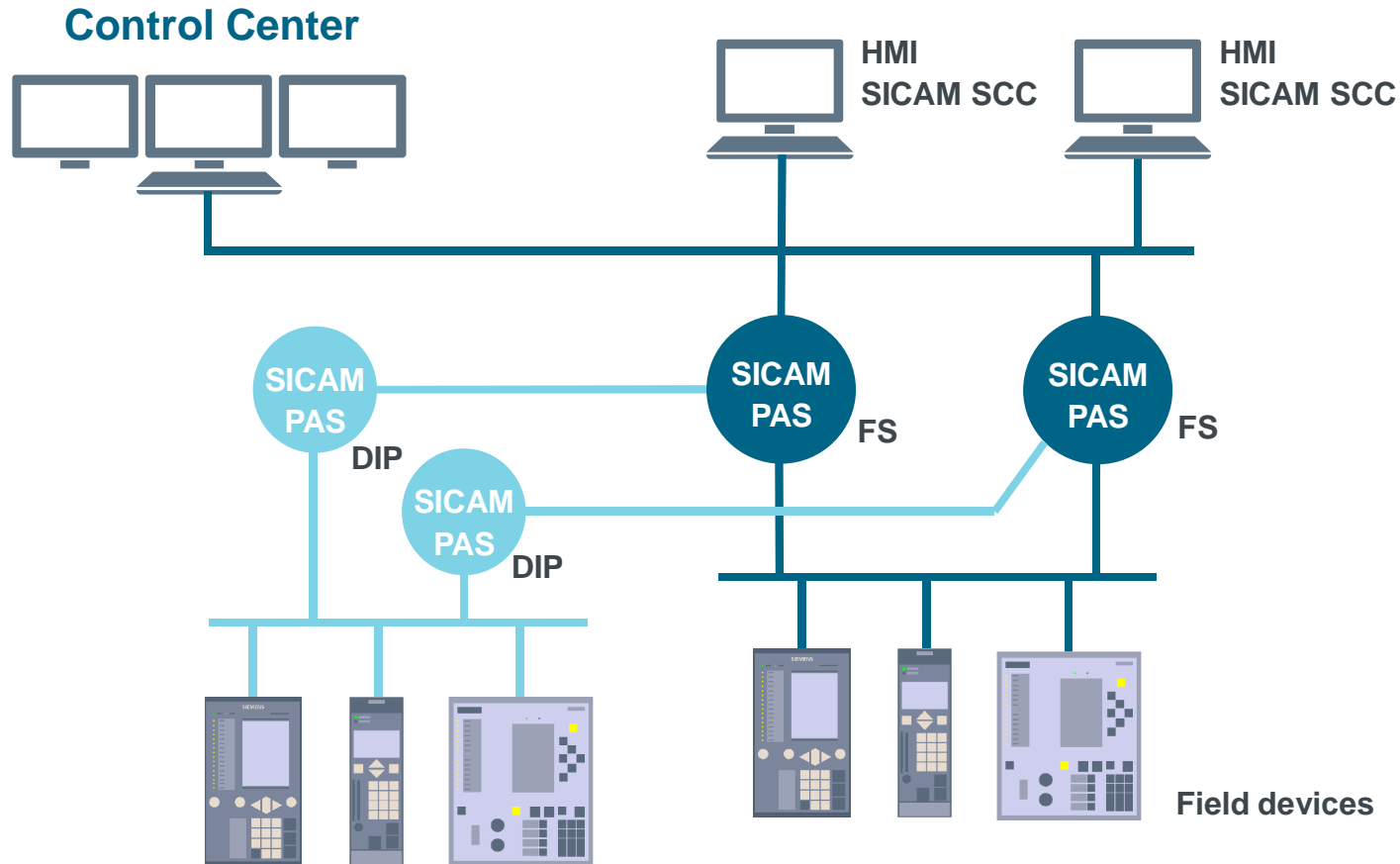
System topology and components



SICAM PAS - Digitization of substations

System topology and components

Examples of SICAM PAS system architecture



- § Field device connection to SICAM PAS
FS: Full Server
- § Field device connection to a distributed SICAM PAS system: FS + DIPs
DIP: Device Interface Processor
- § Redundant SICAM PAS system connected to a single SICAM SCC
- § Redundant SICAM PAS system connected to a redundant SICAM SCC
- § Connection to control center

SICAM PAS - Digitization of substations

System topology and components: SICAM PAS compact

SICAM PAS compact



Economically priced version with different predefined bundles of functionality -
Tailored for a wide range of applications via these function bundles












Same functionality and modularity as “standard” SICAM PAS
All SICAM PAS options can be purchased and enabled at any time via licenses







System architecture is limited to 2000 data points -
An upgrade to a higher amount of data points is not possible

Cyber Security

-  **Secure Communication** – option: allows additional encryption, authentication and data protection
-  **TLS-encryption** - encryption protocol for data transmission on the Internet
-  **Password protected** - ensures that only authorized persons have access to the system
-  **User administration** - restrictive control: different users require different rights
-  **Role Based Access Control** - RBAC according to IEC 62351-8 ensures that each user can only exercise the rights corresponding to the assigned role
-  **Configurable system functions** - selective clearance of single or multiple system functions per communication interface
-  **Security Logbook** - all activities (user logons, logoffs) are stored
-  **Firewall** - rules for the recommended network topology
-  **BDEW White Paper conform** - fulfills the recommendations for safe control and communication systems



SICAM – telecontrol and substation automation technology with over 75 years of experience

-  **Scalable and individually configurable systems -**
Flexible and tailor-made solutions for a wide range of applications
-  **Safe and reliable operation -**
Efficient operating concepts, automation functions, on board tools
-  **Proven system architecture -**
Using international standards like IEC61850 / KEMA IEC 61850 Edition 2 certification
-  **Comprehensive system solution -**
SICAM and SIPROTEC, the complete product portfolio for energy automation

SICAM PAS - Digitization of substations

For Further Information, do not hesitate to Contact Us!

SIEMENS



Simone Kachelriess / Michael Zapp
EM EA PRO S PROM

Humboldtstr. 59
90459 Nuremberg
Germany

Mobil:

+49 (172) 32 33 199 / +49 (172) 28 77 192

E-Mail:

simone.kachelriess@siemens.com

michael.zapp@siemens.com