

# SICAM PAS

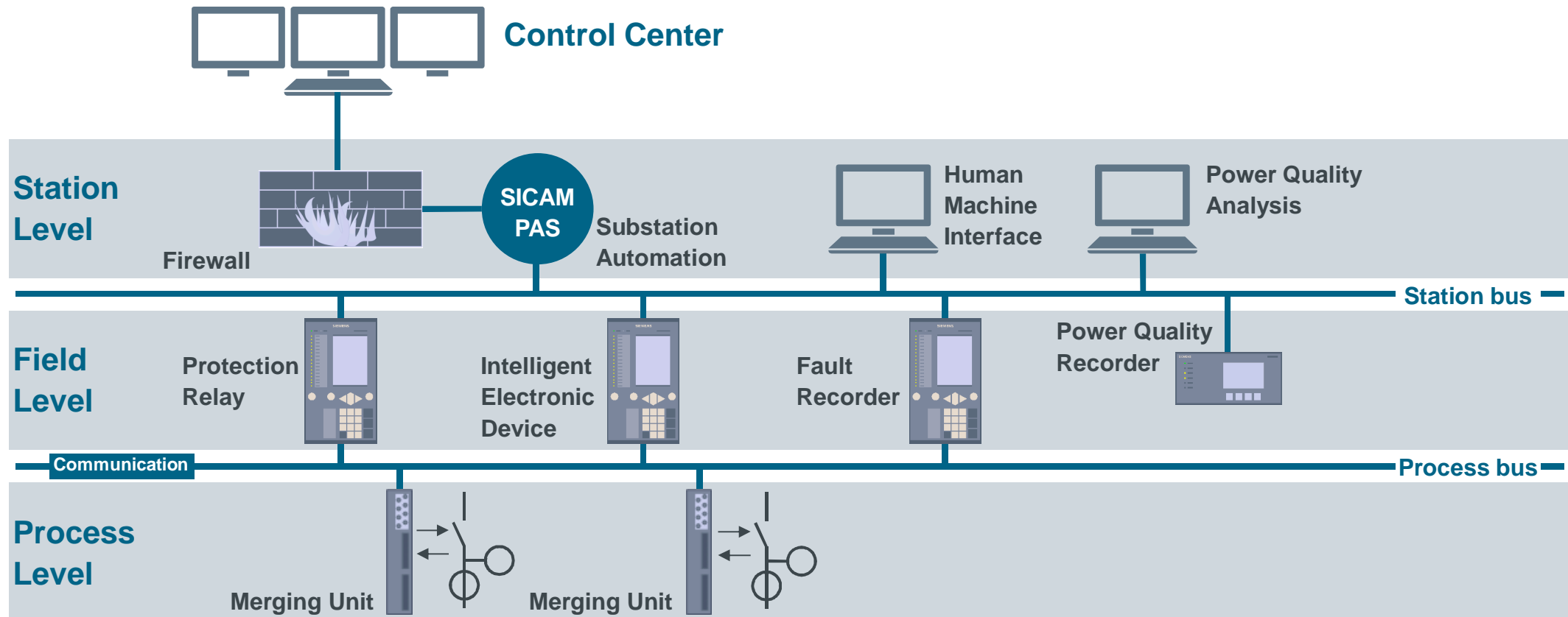
Substation Automation

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

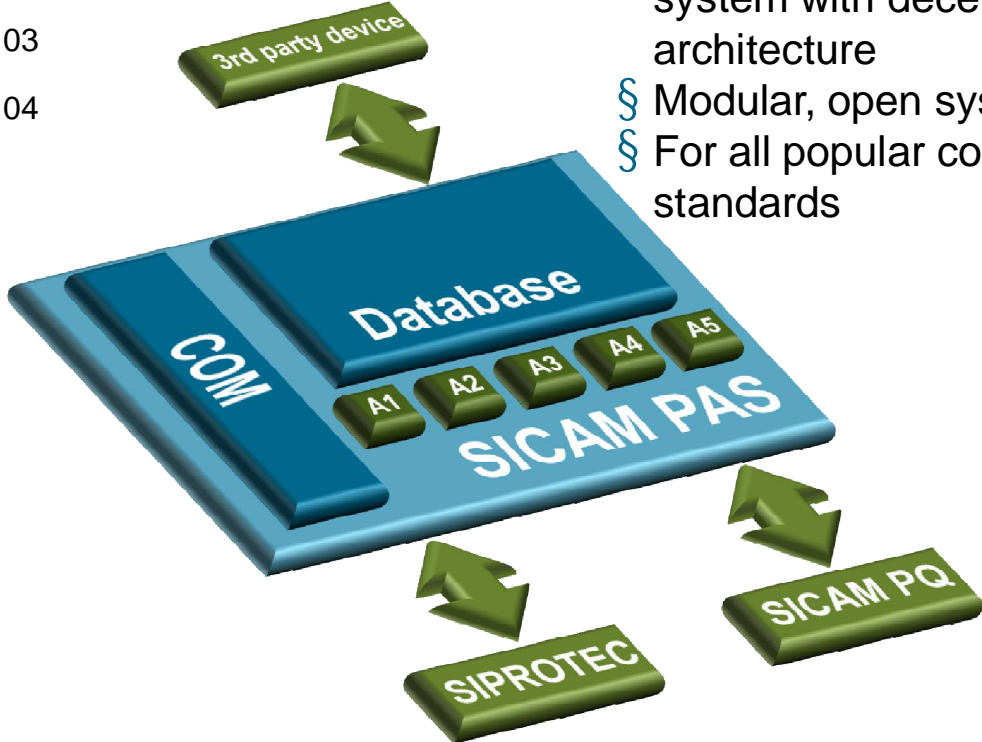
- § up to 15 devices
- § more than 15 devices



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

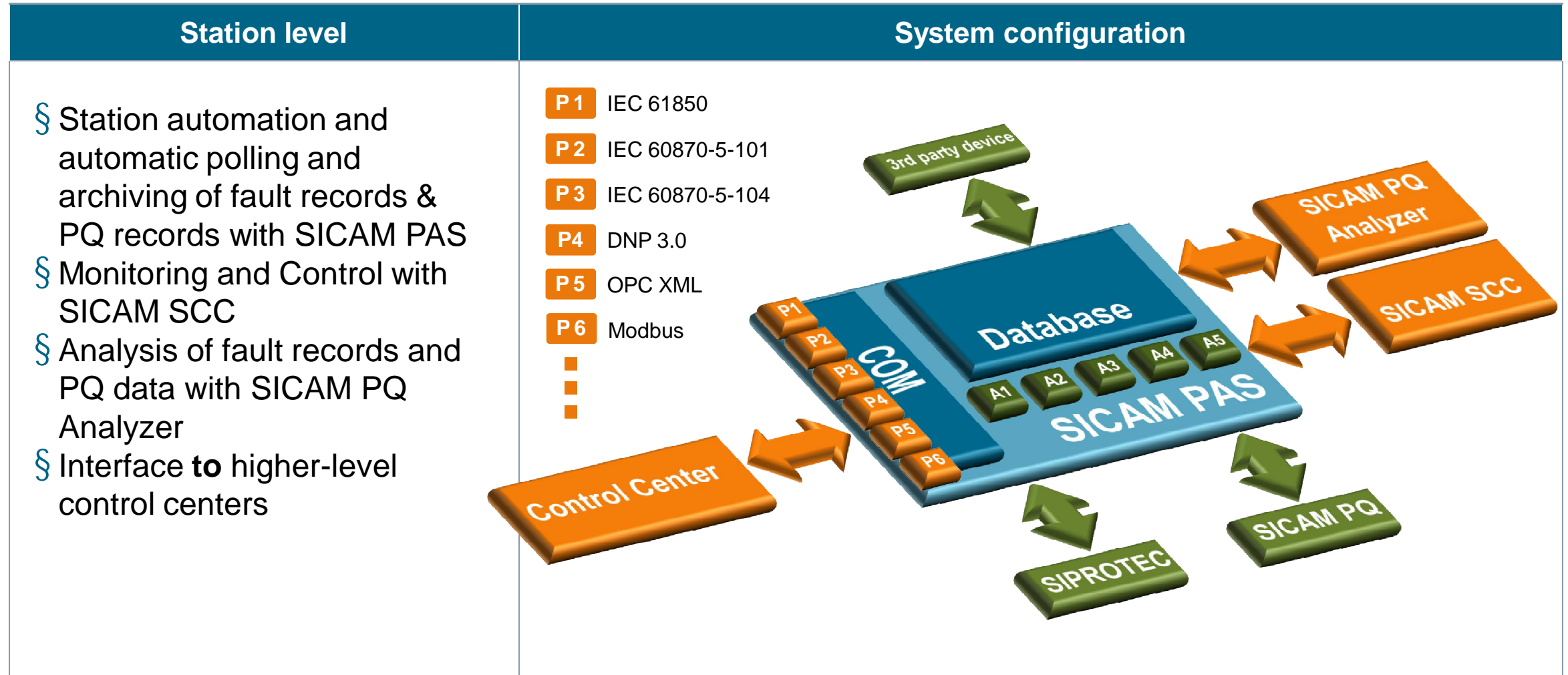
# SICAM PAS - Digitization of substations

## 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"> <li><b>A 1</b> IEC 61850</li> <li><b>A 2</b> IEC 60870-5-103</li> <li><b>A 3</b> IEC 60870-5-104</li> <li><b>A 4</b> DNP 3.0</li> <li><b>A 5</b> Modbus</li> </ul>	<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>

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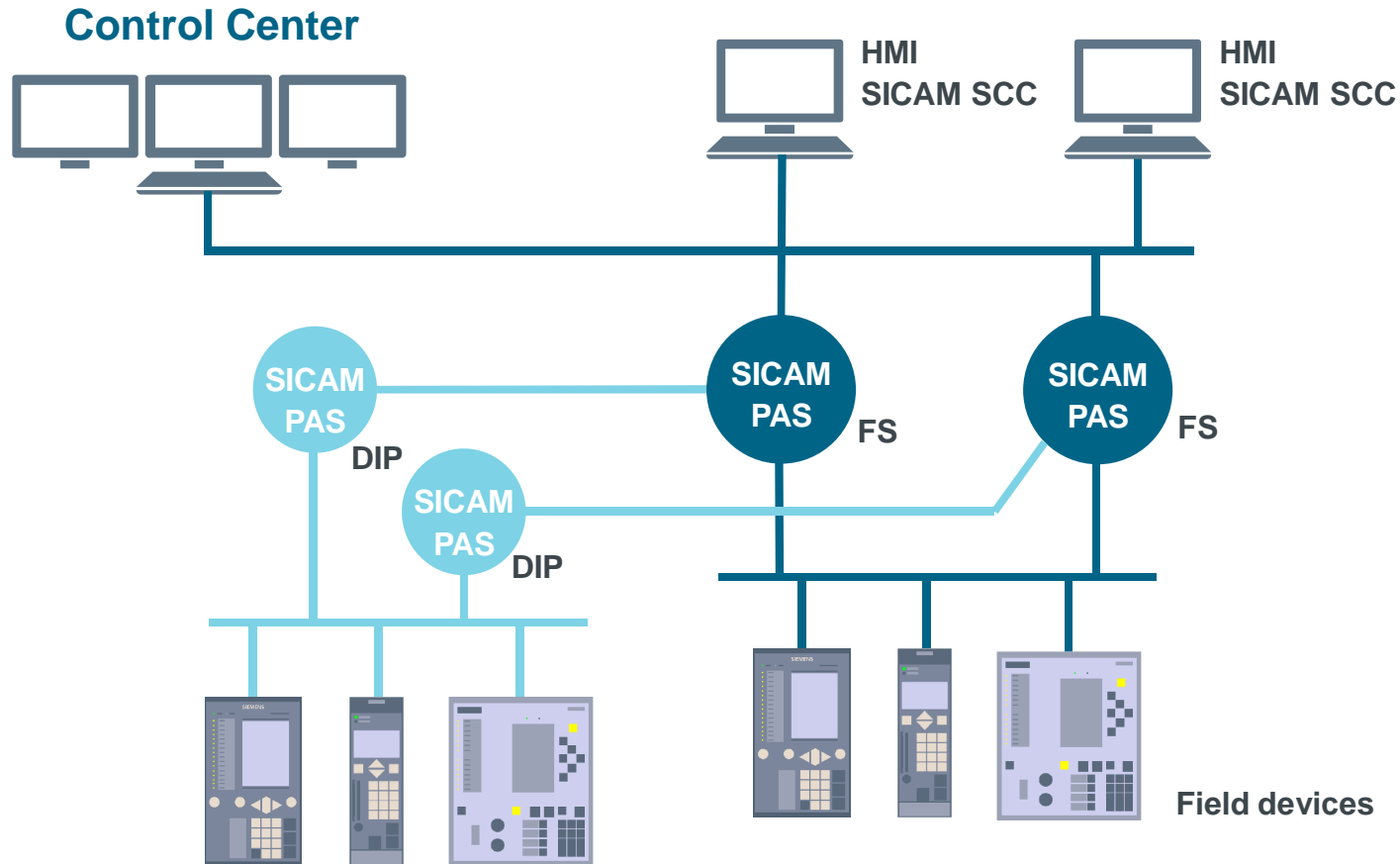
## System topology and components



# 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



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