PME 2024 What's New

Canada Plug 2024

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Life Is On Schneider Electric

EcoStruxure Power Monitoring Expert

More Secure

- Single Sign On to all apps with SAMLv2
- Encrypt data in transit with TLS 1.3

More Connectivity

- Integrate via OPC UA Server and Client
- Native support for ASCOBus

More Sustainable

- Power Event Analysis with COMTRADE
- Analyze utility reliability with SAIDI & SAIFI indexes

Better Graphics

- Visualize DDD in TGML with simple set up
- Perform control operation via TGML

SSO to all PME apps with SAMLv2 compliant IdP

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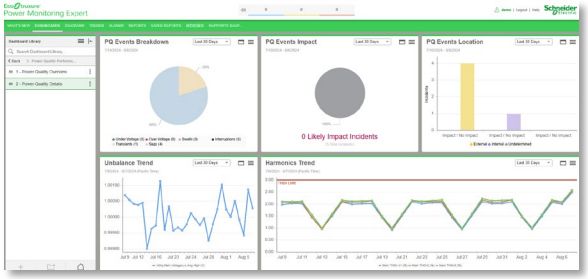
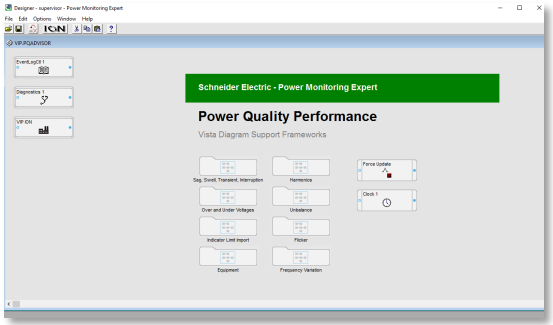
PME as a Service Provider (SP)

Web Applications



Windows Applications



Authentication Request

SAML Assertion

Authentication Token

Identity Provider (IdP)

- User identify creation, maintenance and management
- Manage user access to applications
- Provide authentication as a service to relying party applications
- A trusted provider lets users use Single Sign On to access websites and applications

3 Options to Log in to PME Applications

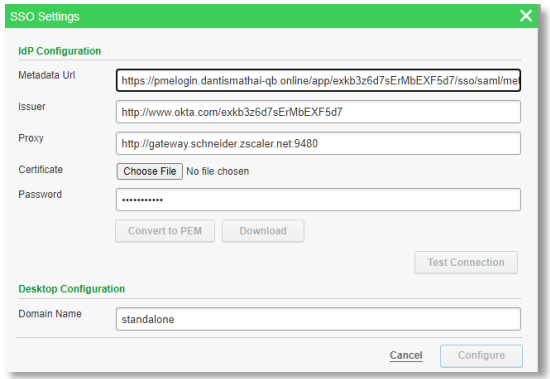
	PME Standard User	Windows AD User	SSO User
User information storage	PME	Windows Active Directory	Identify Provider (IdP)
Password management	• Password encrypted and stored in PME • Strong password policy by PME	• No password stored in PME • Password stored and managed by Windows AD • Password policy managed by Windows AD	• No password stored in PME • Password stored and managed by IdP • Password policy managed by IdP
Authentication	PME internal authentication process	Windows AD via .Net library	IdP via SAML assertion and SAML token
Login process	User enters PME standard user username and password on PME's login screen	• User enters their Windows credential on the PME's login screen • One Click login option available to create logged Windows credential to login to PME	• PME redirects user login to IdP's login page from PME's log in screen • PME validates user login via SAML token received from IdP

3 Options to Log in to PME Applications

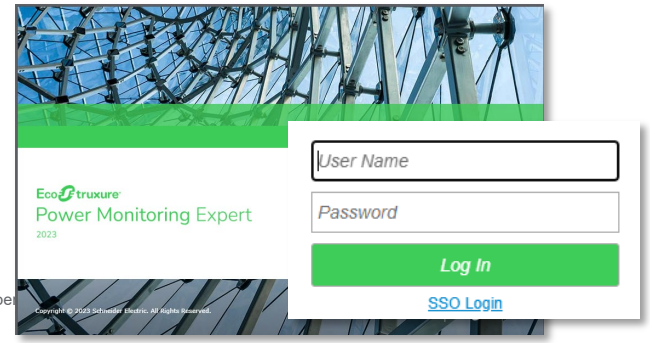
	PME Standard User	Windows AD User	SSO User
Multi Factor Authentication (MFA) support	No native support	No supported in Windows AD integration	• MFA may be set up in IdP • IdP handles MFA as part of its login process • PME doesn't handle MFA directly
Configuration	PME Standard User is created for each user that needs access PME	Windows AD users and/or user groups added to PME and mapped to PME user access level	• PME added to IdP as an application • Users in IdP added to PME application to get access • Users in IdP mapped to PME access level
Additional software required	None	Windows Active Directory	SAMLv2 IdP, such as Okta, OneLogin, Keycloak and Azure AD
PME license required	PME base license	PME base license	PME base license

Example: SSO with Okta

1 Configure SSO settings in PME to connect to Okta

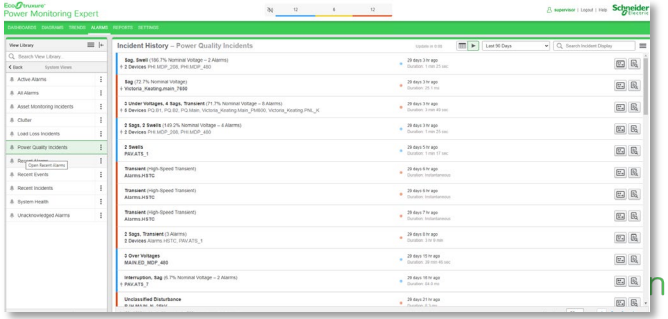


2 Choose SSO Login on PME login screen



3 User redirected to Okta log in page to log in to IdP with their credential

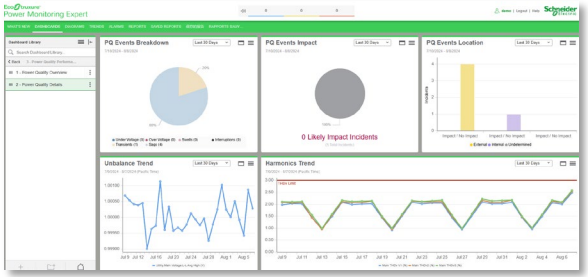
4 Upon successful authentication by Okta, user is logged onto PME application



Faster Handshake

- TLS 1.3 shortens TLS handshake with only one round trip. If client has connected, TLS handshake require zero round trip
- TLS makes HTTPS connection faster with cutdown latency and improves overall user experience

PME Web Application



HTTPS

Default: TLS 1.3
Fallback: TLS 1.2

Stronger Cipher Suites

- TLS 1.3 includes support only for algorithms based on Authenticated Encryption with Associated Data (AEAD) principle that currently have no known vulnerabilities
- TLS 1.3 enables perfect forward secrecy by default

Micrologic X with IFE/IFM*

Modbus Encryption

Default: TLS 1.3
Fallback: TLS 1.2

PME

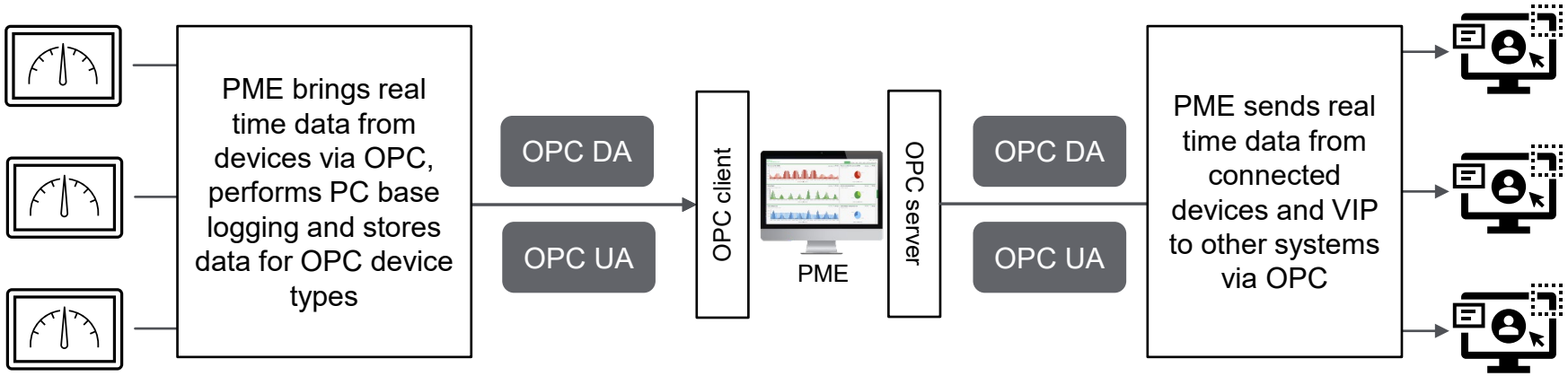
Secure ION

Default: TLS 1.3
Fallback: TLS 1.2

PM8000, ION7400 and ION9000*

*: Data encryption between PME and devices depends on if device supports TLS 1.3

Integrate via OPC UA server and client



- Setting OPC device type and using OPC tags in PME is the same with OPC DA client and OPC UA client
- Switching from OPC DA client to OPC UA client simply by connecting a OPC site to a OPC UA server

- Exposing sources and measurements via OPC is the same with OPC DA server and OPC UA server
- PME has dedicated Windows services for OPC DA server and OPC UA server
- If OPC DA was set up before, it can be simply switched to OPC UA with stopping the OPC DA server Windows service and starting the OPC UA Windows service

Simplified ASCO Integration with ASCO Gateway Service

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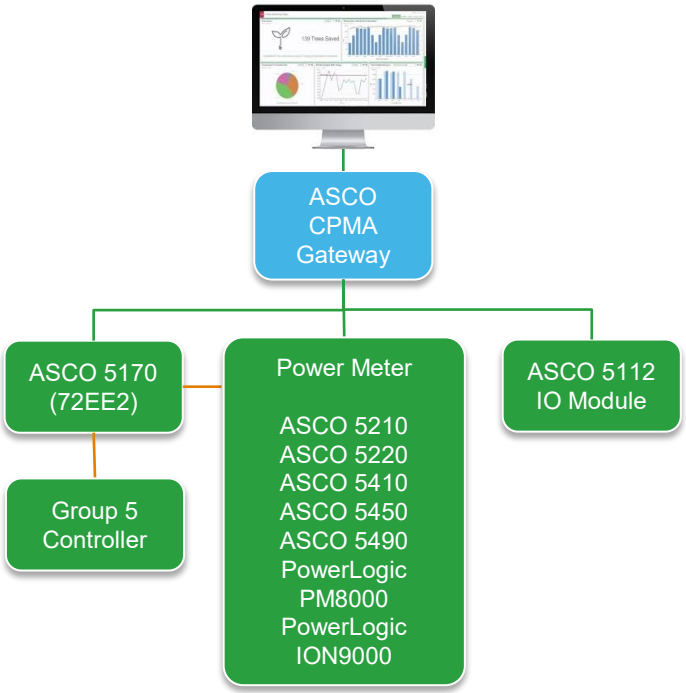
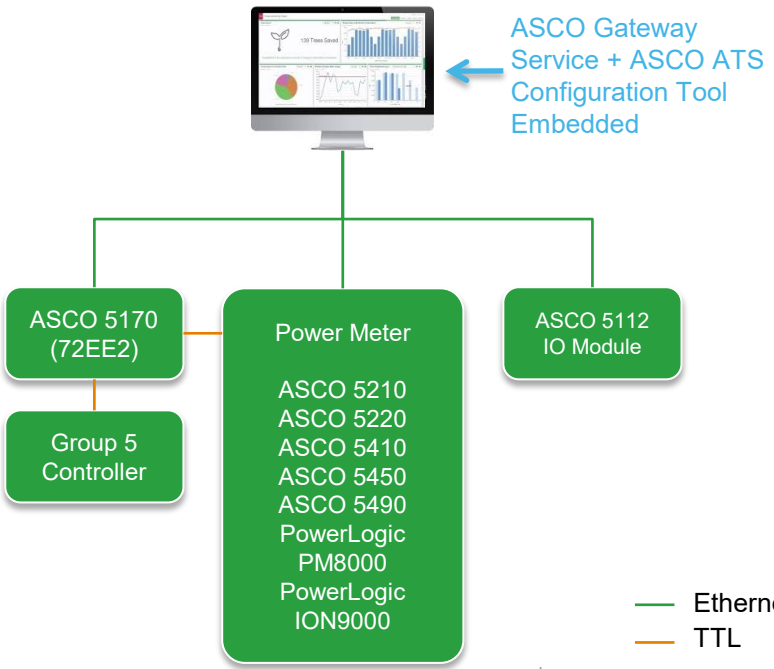
Existing Architecture for ASCO 7000/4000 Driver



PME 2024 Architecture for ASCO 7000/4000 Driver

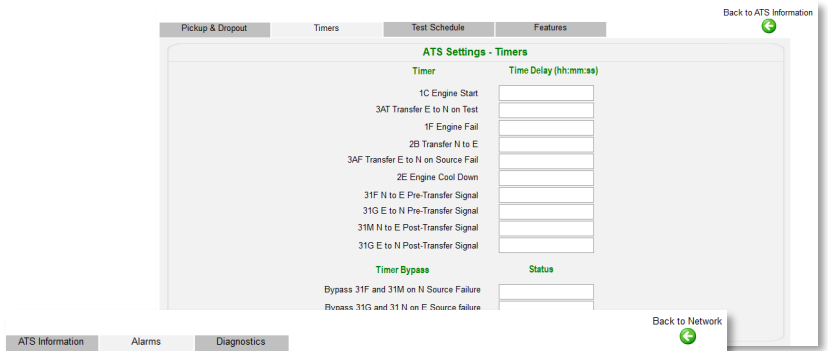


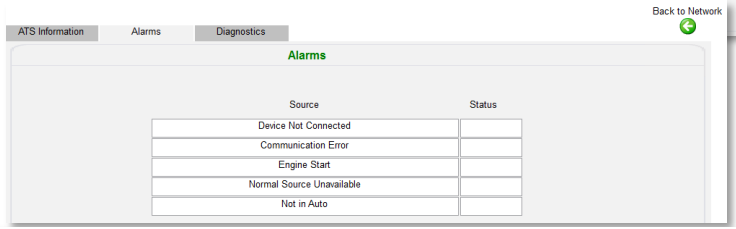
Enhanced ASCO 7000/4000 Driver

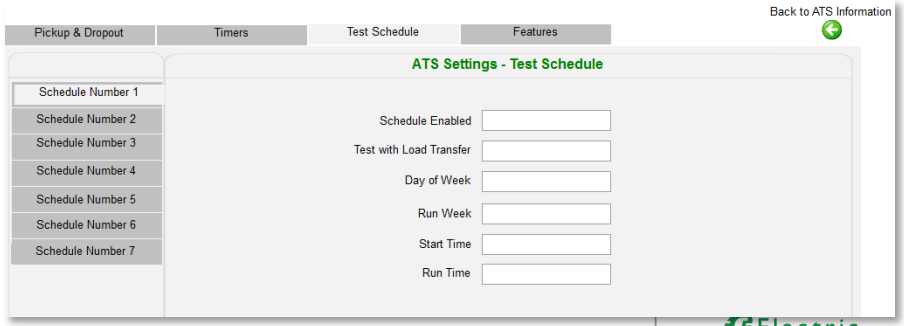
The ASCO Gateway Service provides access to additional ASCO 7000/4000 data points, unlocking more data and empowering users with deeper insights.

Updated device diagrams include:

- Additional transfer switch settings
  - Timers
  - Test schedule
  - Features
- Additional transfer switch alarms, keeping users informed
- Dynamic fields per transfer switch type (open transition, closed transition, delayed transition), tailoring a user's view to what is most relevant







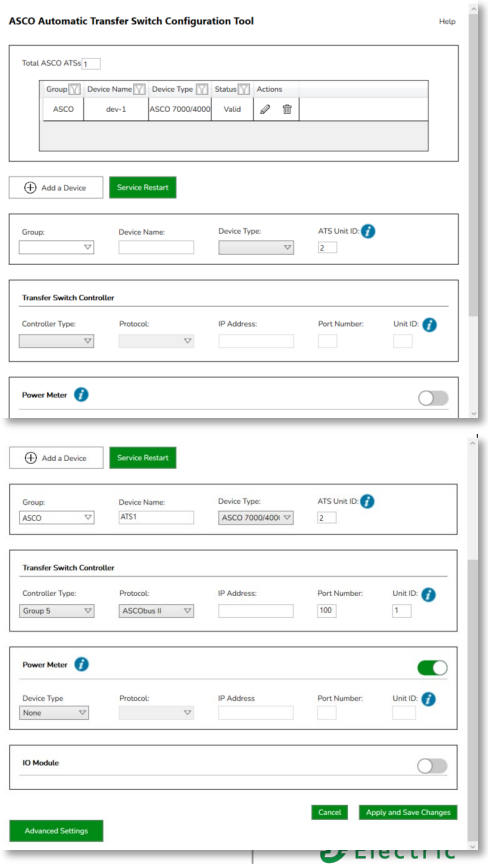
Centralized Commissioning with ASCO ATS Configuration Tool

The ASCO ATS Configuration Tool allows system integrators to configure the communication details of their ATS components for use with the ASCO Gateway Service.

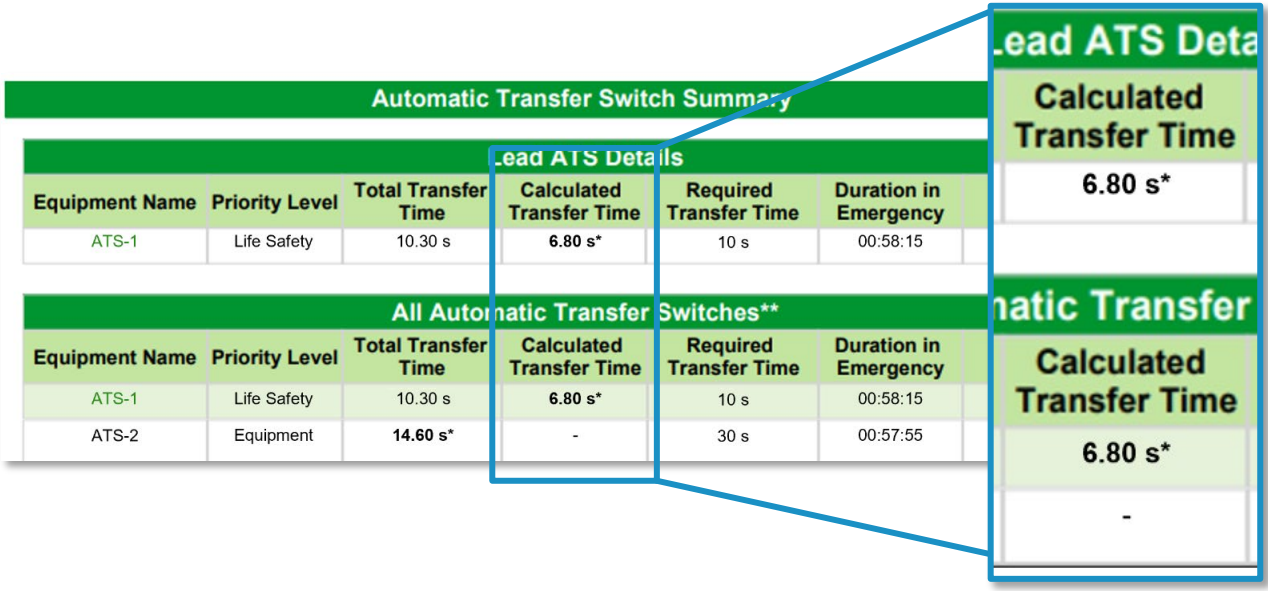
When the configuration is saved, the ASCO Gateway Service will aggregate the individual device data to represent the ATS as a single device in PME.

Supported ATS components:

- ASCO Group 5 Controller
- ASCO 5210 Power Meter
- PowerLogic ION9000
- PowerLogic PM8000
- ASCO 5112 IO Module



Achieve **Joint Commission compliance** with enhanced versions of the Generator Performance Configuration Tool and Generator Performance EPSS Report that provide **better support** of ASCO Automatic Transfer Switches



Automatic Transfer Switch Summary

Lead ATS Details

Equipment Name	Priority Level	Total Transfer Time	Calculated Transfer Time	Required Transfer Time	Duration in Emergency
ATS-1	Life Safety	10.30 s	**6.80 s***	10 s	00:58:15

All Automatic Transfer Switches**

Equipment Name	Priority Level	Total Transfer Time	Calculated Transfer Time	Required Transfer Time	Duration in Emergency
ATS-1	Life Safety	10.30 s	**6.80 s***	10 s	00:58:15
ATS-2	Equipment	**14.60 s***	-	30 s	00:57:55

- Transfer switch evaluation with Calculated Transfer Time parameter for ASCO ATS
- Calculated Transfer Time is the time it takes the ATS to transfer to the alternate source after loss of normal source, negating any features built into the test transfer sequence that would not be present during an actual outage

Note: ASCO ATS still require accessories 150x8 (PM8000) and 39PM1 for use with PME's Backup Power Module.

Simplified ASCO Integration with ASCO Gateway Service

Achieve **Joint Commission compliance** with enhanced versions of the Generator Performance Configuration Tool and Generator Performance EPSS Report that provide **better support** of ASCO Automatic Transfer Switches

GENERATOR SUMMARY

Time to Emergency Power Source Available

Equipment Name	Time to EPS Available	Required Time to EPS Available	Test Result
GEN-1	6.70 s	12 s	PASS

Generator Evaluation

Equipment Name	Nameplate Rating	Evaluation Method	Evaluation Threshold	Required Run Time Greater Than Thresold	Duration Grater Than Threshold	Test Result
GEN-1	2000 kW	Load	600 kW	30 min	00:68:45	PASS

Simplified view of test results with addition of Generator Summary page

Provide quick view of equipment by grouping ATSs & Generators separately

Automatic Transfer Switches

Equipment Name	Location	Priority Level	Description
ATS-1	Location-1	Life Safety	ATS-1 (Feeding Load A)
ATS-2	Location-2	Equipment	ATS-2 (Feeding Load B)

Generators

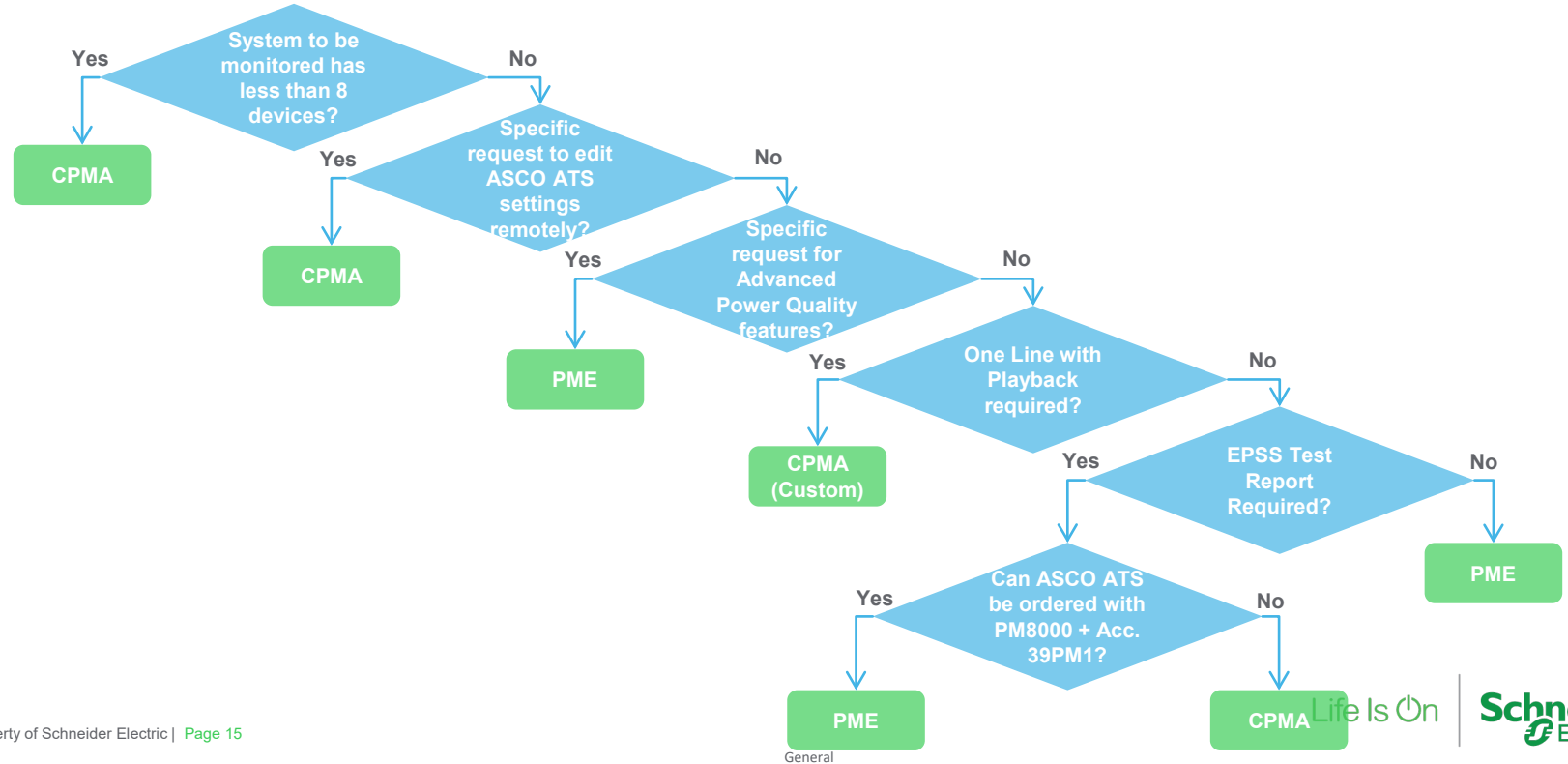
Equipment Name	Location	Evaluation Method	Description
GEN-1	Location-3	Load	Generator 1

Note: ASCO ATS still require accessories 150x8 (PM8000) and 39PM1 for use with PME's Backup Power Module.

CPMA vs. PME 2024 Feature Comparison

	Standard CPMA (CTO)	Custom CPMA (ETO)	PME 2024
System Size	Up to 8 Devices (5701, 5705) Up to 256 Devices (5702)	Up to 8 Devices (5701, 5705) Up to 256 Devices (5702)	Unlimited Device Licenses Available *(limits based on computer hardware)*
Configuration	Configured on-site	Configured in-office + on-site	Configured in-office + on-site
Monitoring	ASCO ATS Engine Generators Power Control Systems Load Banks Power Meters	ASCO ATS Engine Generators Power Control Systems Load Banks Power Meters Custom Third-Party Devices	ASCO 7000/4000 ATS Power Meters Custom Third-Party Devices *(see PME device support matrix for additional device types)*
Control	Remote Control of ATS Bulk Control Action of ATS Remote Update to ATS Settings	Remote Control of ATS Bulk Control Action of ATS Remote Update to ATS Settings	Remote Control of ATS *(through install of separate driver package)*
Alarming	Device Alarms Displayed Notification via Email	Device Alarms Displayed Notification via Email	Device Alarms Displayed Notification via Email + SMS
Reporting	Backup Power Test Report (with calculated transfer time)	Backup Power Test Report (with calculated transfer time)	Generator Test EPSS Report* (with calculated transfer time for ASCO ATS) *Requires ATS Acc. 39PM1 + PM8000, offering higher time accuracy than CPMA
Advanced Features	---	Custom One Line Playback	Custom One Line Advanced Power Quality Features Additional Software Modules On-Prem + Cloud Connectivity to Additional EcoStruxure Applications

CPMA vs. PME 2024 Decision Tree



Analyze third-party PQ data of COMTRADE format

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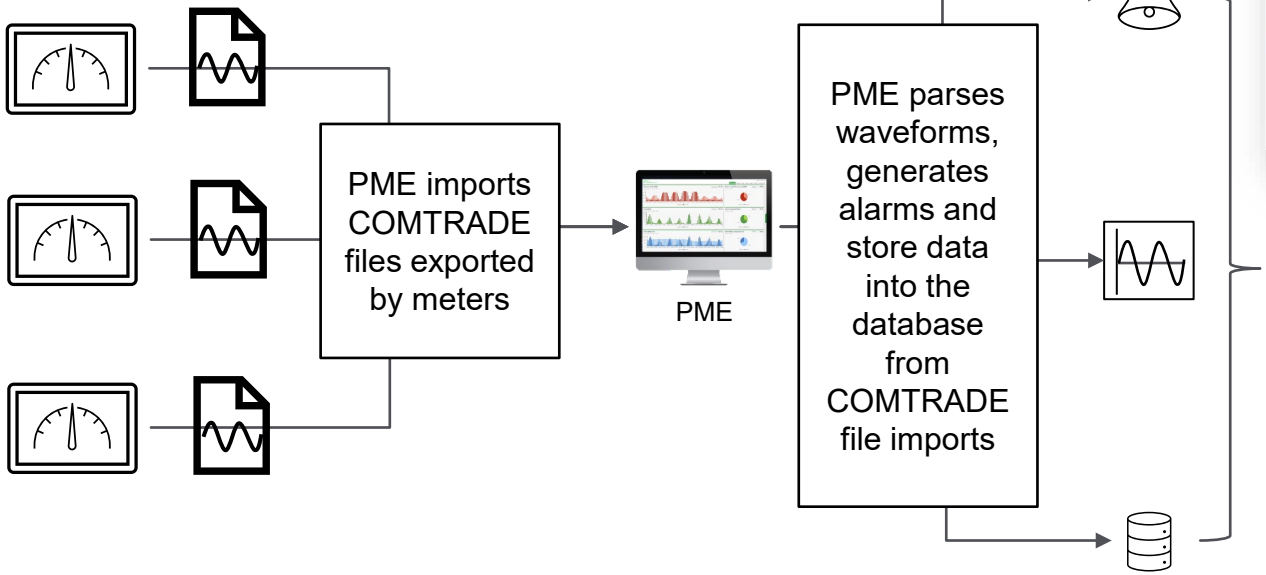
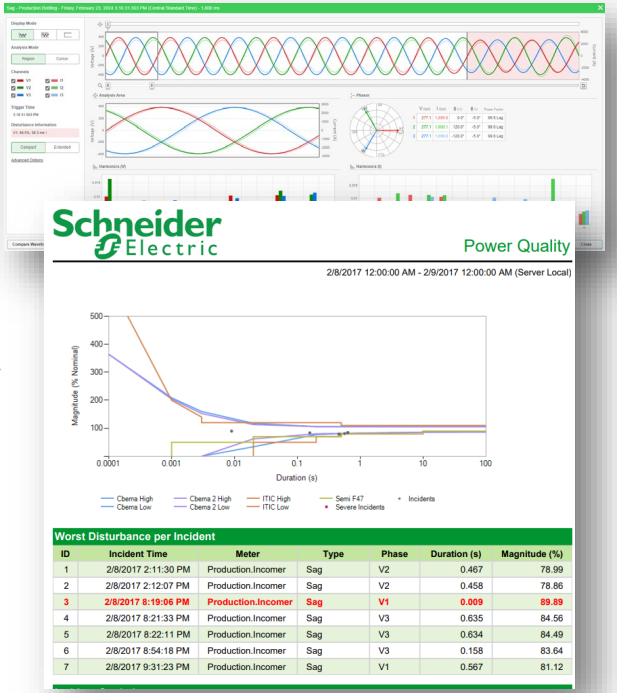




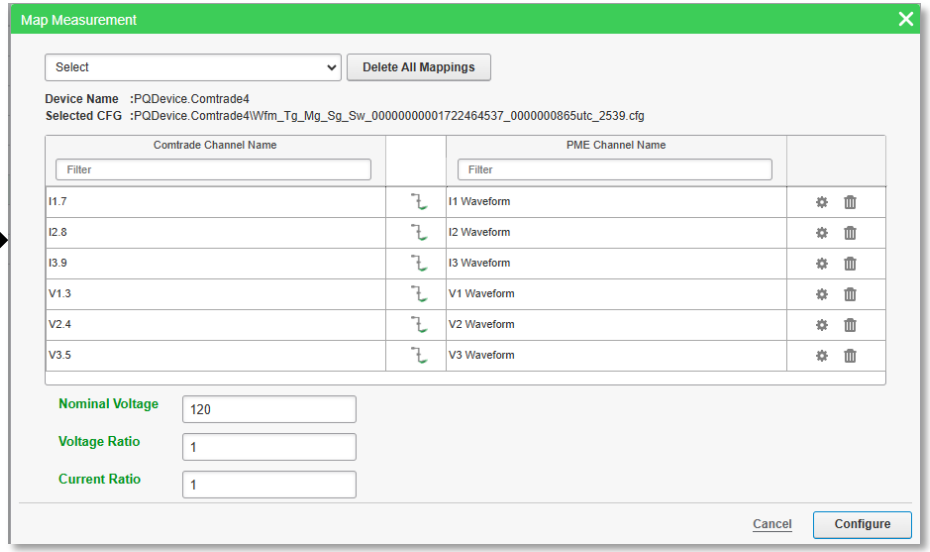
Analyze third-party PQ data of COMTRADE format

COMTRADE

.cfg

Configuration File

- COMTRADE's .cfg file is used to map V/I channels in COMTRADE file to V/I channels in PME
- Nominal Voltage of the COMTRADE device is required to properly categorize PQ event
- Voltage and Current Ratios are required to properly display values



.dat

Data File

When new COMTRADE file is detected in PME, PME reads COMTRADE waveform in the .dat file, generate events and alarms and store the waveform in the database accordingly

PME Database

Analyze third-party PQ data of COMTRADE format

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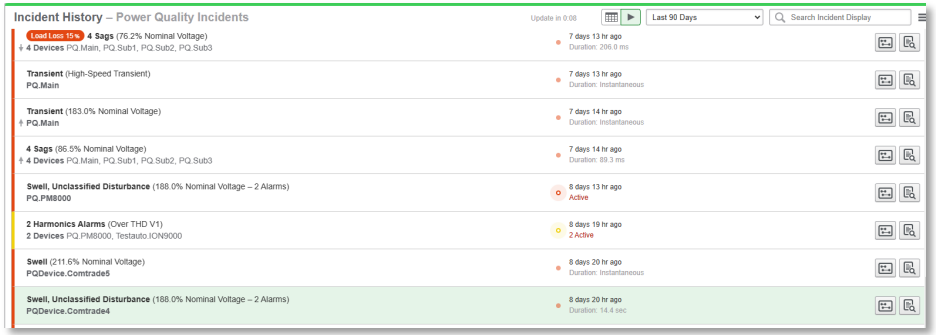
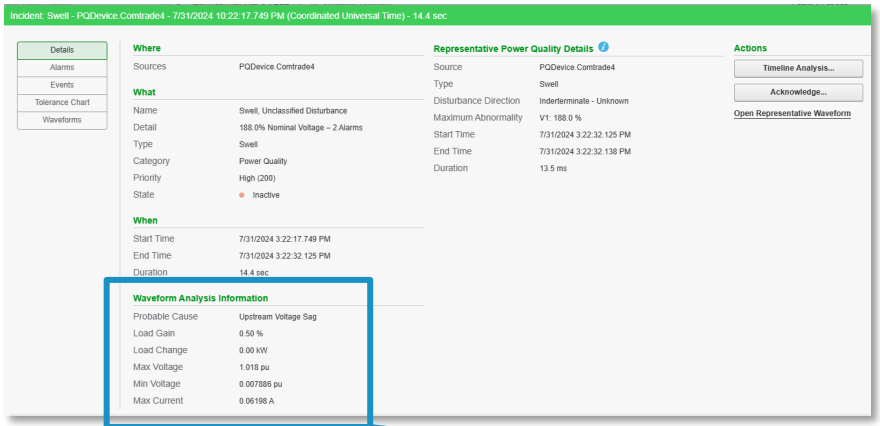
Analyze COMTRADE PQ data as part of Power Event Analysis

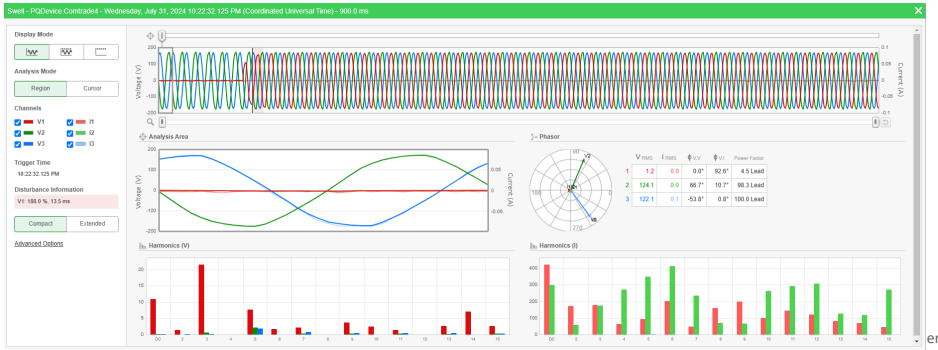
PQ Incidents with COMTRADE and ION devices



Incident and alarm details with root cause analysis



View COMTRADE waveform



Waveform Analysis Information

Probable Cause	Upstream Voltage Sag
Load Gain	0.50 %
Load Change	0.00 kW
Max Voltage	1.018 pu
Min Voltage	0.007886 pu
Max Current	0.06198 A

Analyze third-party PQ data of COMTRADE format

What is not supported with COMTRADE import

EN50160 Compliance Reporting

- EN50160 compliance bases on how many intervals of PQ event type exceeds the allow limits within the evaluation period defined in the standard
- COMTRADE files contain waveform of individual voltage disturbance and doesn't provide information on PQ events such as power frequency, flicker, harmonic voltage and so on
- ION meters have dedicated framework to monitor PQ events and provide comprehensive data for compliance reporting based on EN50160 standard

Harmonics Compliance Reporting

- Harmonics compliance based on IEEE 519 standard requires weekly evaluation of non compliant intervals of voltage and current distortions which COMTRADE files do not have
- ION meters have dedicated framework to monitor voltage and current distortions and analyze compliance according to the IEEE 519 standard

Confident Level of Disturbance Direction Detection

- PME can analyze COMTRADE waveform signature to determine the direction of disturbance. However, confident level of disturbance direction detection is unique feature in ION meters

Load Loss Estimation

- Load loss estimation is based on the pre and post waveform capture from ION devices which is not available in COMTRADE files

Two indexes commonly used to measure electric power utility's reliability

SAIFI — System Average Interruption Frequency Index

$$\text{SAIFI} = \frac{\text{Total number of sustained interruptions}}{\text{Total number of consumers}}$$

- represents the average number of times a customer experiences an outage
- Lower SAIFI numbers represent less interruptions and better electric reliability

SAIDI — System Average Interruption Duration Index

$$\text{SAIDI} = \frac{\text{Total duration of sustained interruptions in a year}}{\text{Total number of consumers}}$$

- represents the total number of minutes of interruption average customer experiences
- lower SAIDI minutes presents shorter interruptions and better electric reliability

Visualize Disturbance Direction with TGML

TGML Refresh

What is TGML?

Inspired by the XML based Scalable Vector Graphics (SVG), **T**AC **G**raphics **M**arkup **L**anguage (TGML) is a declarative XML-based language for dynamic 2D graphics

TGML specifies a hierarchy of runtime objects with a set of properties and logic

Each markup element (XML element) represents a TGML object which can be edited, or configured, in the Graphics Editor

TGML object model is based on the W3C Document Object Model (DOM)

TGML graphics elements are accessible for applications through the exposed TGML DOM interfaces

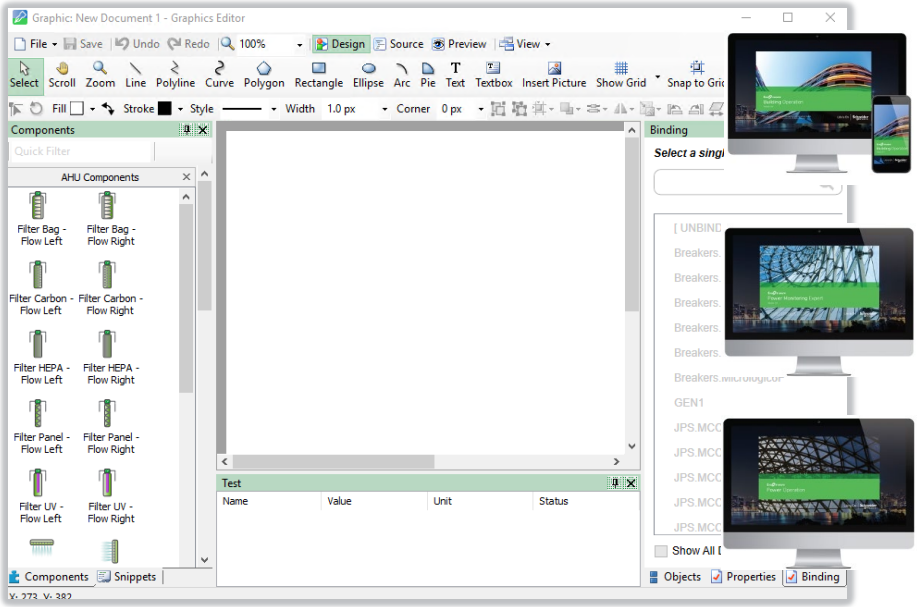
Visualize Disturbance Direction with TGML

TGML Refresh

Why TGML?

Same graphic engine and graphic editor in EBO, EPO and PME

- Common graphic creation workflow
- Comprehensive component library for diagram creation
- Consistent look and feel
- Streamline deployment
- Extendible



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EcoStruxure Power Operation

Visualize Disturbance Direction with TGML

TGML Refresh > TGML vs Vista

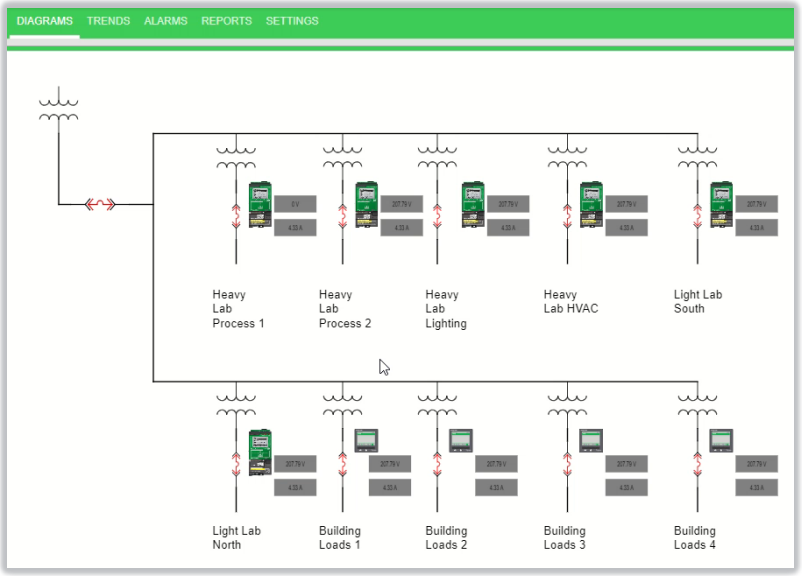
TGML	Vista
XML based	XML based
Scalable Vector Graphics (SVG) support	No SVG support
Industrialized and continuous update	No new update
New components can be created users	No object can be created by users
Scripting ability	No scripting
Animation engine	No animation
Pan and zoom ability	No pan and zoom
Single graphic editor to create diagrams	May need to use other tools
Dependency on Digital Buildings	No dependency
BMS centric and need to adapt it for power domain	General purpose with somewhat power centric

Visualize Disturbance Direction with TGML

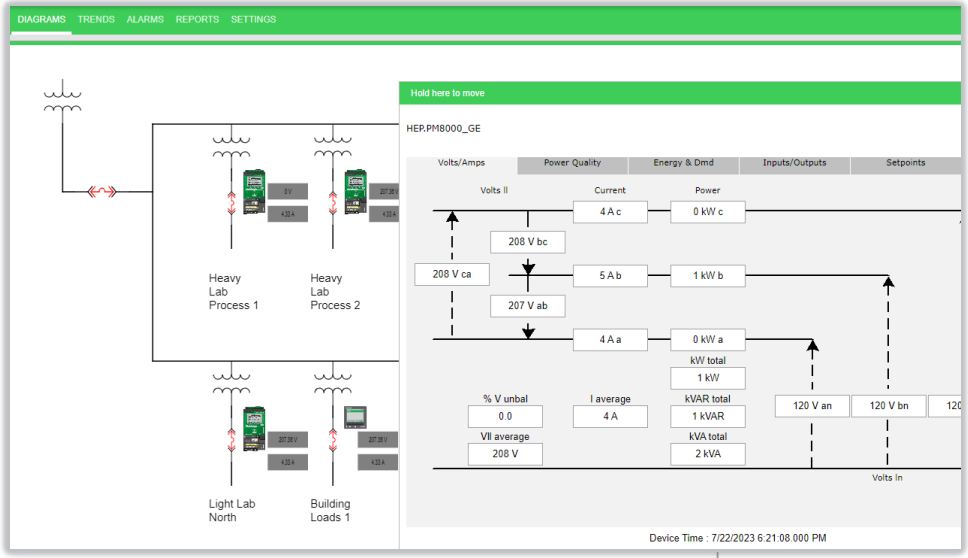
TGML Refresh

View TGML in Diagrams web app

Navigate SLD with pan and zoom



View device diagram in Pop-up



Vista to TGML Journey

2023

Fundamental support of TGML

- Create diagrams with TGML Graphic Editor, such as single line diagram
- Create binding between TGML components and ION registers to display real time data and status from devices
- View TGML diagrams in Diagrams web app
- Diagrams web app supports both TGML diagrams and Vista diagrams
- Switch between TGML diagrams and Vista diagrams

2024

Advancing TGML Support

- Support write operation in TGML
- Support Disturbance Direction Detection (DDD)
- TGML diagrams for EVCE support in PME
- No other TGML diagrams shipped with PME 2024 natively

2025

Advancing TGML Support

- Support parent linking
- Support offline configuration
- More TGML components to match Vista objects and properties
- Vista to TGML migration tool PoC
- Selected device drivers shipped with TGML diagrams
- Start migration of software module diagrams to TGML
- Existing released Vista device diagrams remain in Vista

2026+

Advancing TGML Support

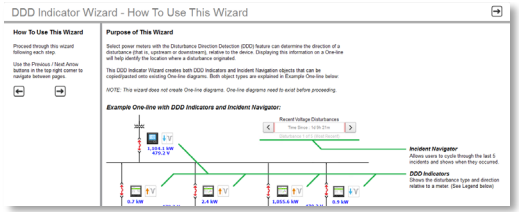
- Vista to TGML migration tool V1.0+
- Close all feature gaps between Vista and TGML
- Software module TGML diagrams shipped with PME natively
- All device drivers shipped with TGML diagrams
- Existing released Vista device diagrams remain in Vista
- Vista remains to view legacy device diagrams

Vista remains supported but no new features on Vista

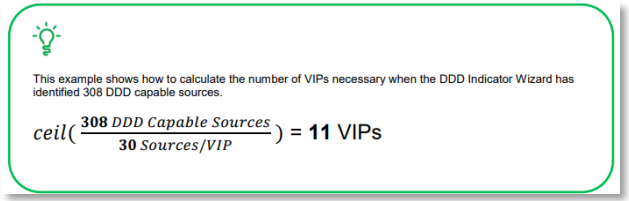
Visualize Disturbance Direction with TGML

Set up Disturbance Direction indicators in Vista may take hours

Follow DDD Indicator Wizard to support upto 30 devices



Follow an App note to support 30+ devices with multiple VIPs



Set up Disturbance Direction indicators with TGML in minutes

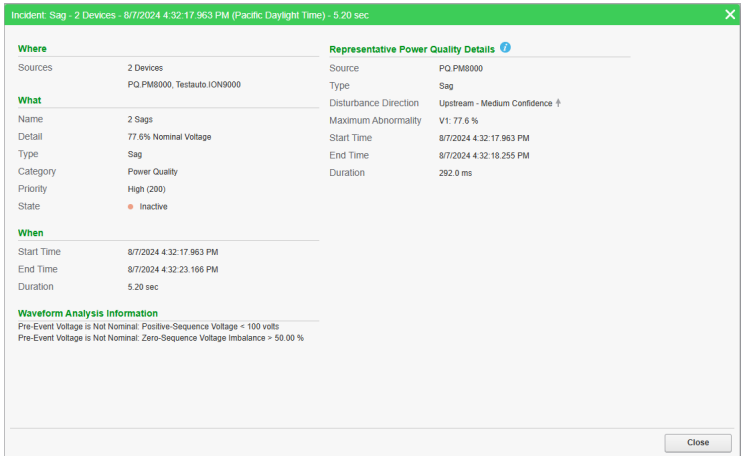
1. Drag and drop IncidentSummary component to TGML diagram

2. Drag and drop DDD Indicator component to TGML diagram & link to device

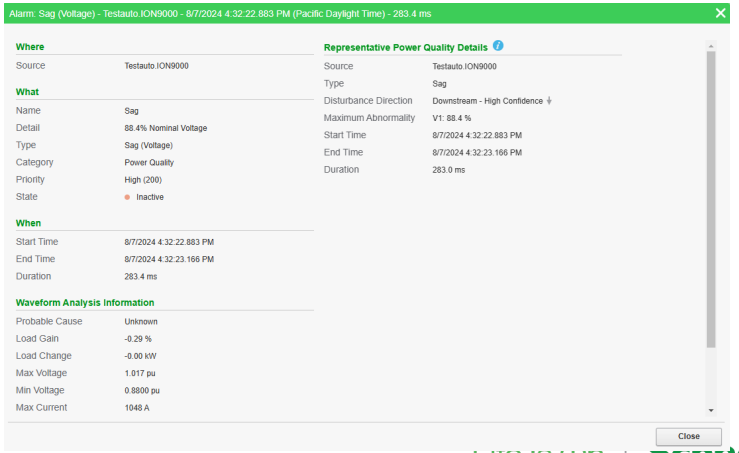
3. TGML DDD components automatically pulls DDD information from PME incident view with no limitation on # of devices

Visualize Disturbance Direction with TGML

Clicking on Incident Summary opens popup with incident details



Clicking on DDD Indicator opens popup with alarm details of the linked device



Other New Features and Improvements in PME 2024

TGML Graphics Enhancements

- Configure component binding in a popup accessed from a dedicated “Configure” context menu item
- Binding popup remembers configured binding
- Improved component loading performance
- SSO authentication for write operation
- New EVCE Integration
  - Set Connector Availability,
  - Set Station Availability
  - Set Zone Reduction
- New Electrical Network components:
  - DDD Vertical Indicator,
  - DDD horizonal Indicator
  - DDD Latest PQ Incidents View
  - Power Measurement Display Bar
  - Power Measurement Selector
  - Setpoint Display Bar

More Cybersecure

- Send PME events to SysLog server over TLS
- 3rd party libraries updated to latest version, such as JQuery, Moment.js, Telerik and etc
- Ability to trust/reject applications that tries to read realtime data from PME
- All previously released cybersecurity fixes

Improve Engineering Efficiency

- Installer automatically configure common IIS settings during installation
- Support EVCE and Smart Connector alarms via EWS
- Improved performance and stability of EWS server and client

Integration with SE Offers

- EPO 2024
- EBO 2024

Preview of PME 2024 CU1 Roadmap

Comply with latest IT requirements

- Secure authentication process with LDAPS
- Restrict slideshows to authorized users
- Minimum privilege on PME's Windows services

Modern graphics

- Parent binding in TGML
- Offline configuration in TGML
- Migrate Vista diagrams to TGML PoC*

Improve efficiency and sustainability

- Monitor MV breaker aging status & setting changes
- HTML base reporting PoC

Scalable solution

- Scale data acquisition architecture to support small to XL systems
- Device devices and data from Device Manager

More Connectivity

- Simple integration with Power BI

*: available as a separate tool independent from PME releases

OS Support

Operating Systems

- Windows 10 Professional/Enterprise
- Windows 11 Professional/Enterprise
- Windows 11 IoT Enterprise
- Windows Server 2016 Standard
- Windows Server 2019 Standard/**Datacenter**
- Windows Server 2022 Standard/**Datacenter**

Microsoft Excel

- Microsoft Excel ~~2013~~, 2016, 365

.Net Framework

- .NET 4.8

Database Systems

- ~~SQL Server 2014 Express~~
- SQL Server 2016 Express
- SQL Server 2017 Express
- SQL Server 2019 Express
- SQL Server 2022 Express (included in PME 2024 ISO)
- ~~SQL Server 2014 Standard/Enterprise/Business Intelligence~~
- SQL Server 2016 Standard/Enterprise/Business Intelligence
- SQL Server 2017 Standard/Enterprise/Business Intelligence
- SQL Server 2019 Standard/Enterprise/Business Intelligence
- SQL Server 2022 Standard/Enterprise/Business Intelligence

Virtual Environments

- VMWare Workstation 10
- VMWare ESXi 7.0
- Oracle Virtual Box 5.0.4
- Microsoft Hyper-V from Windows 10, Windows Server 2016
- Citrix XenServer 6.2
- Parallels Desktop 10
- QEMU-KVM 2.7

Web Browser

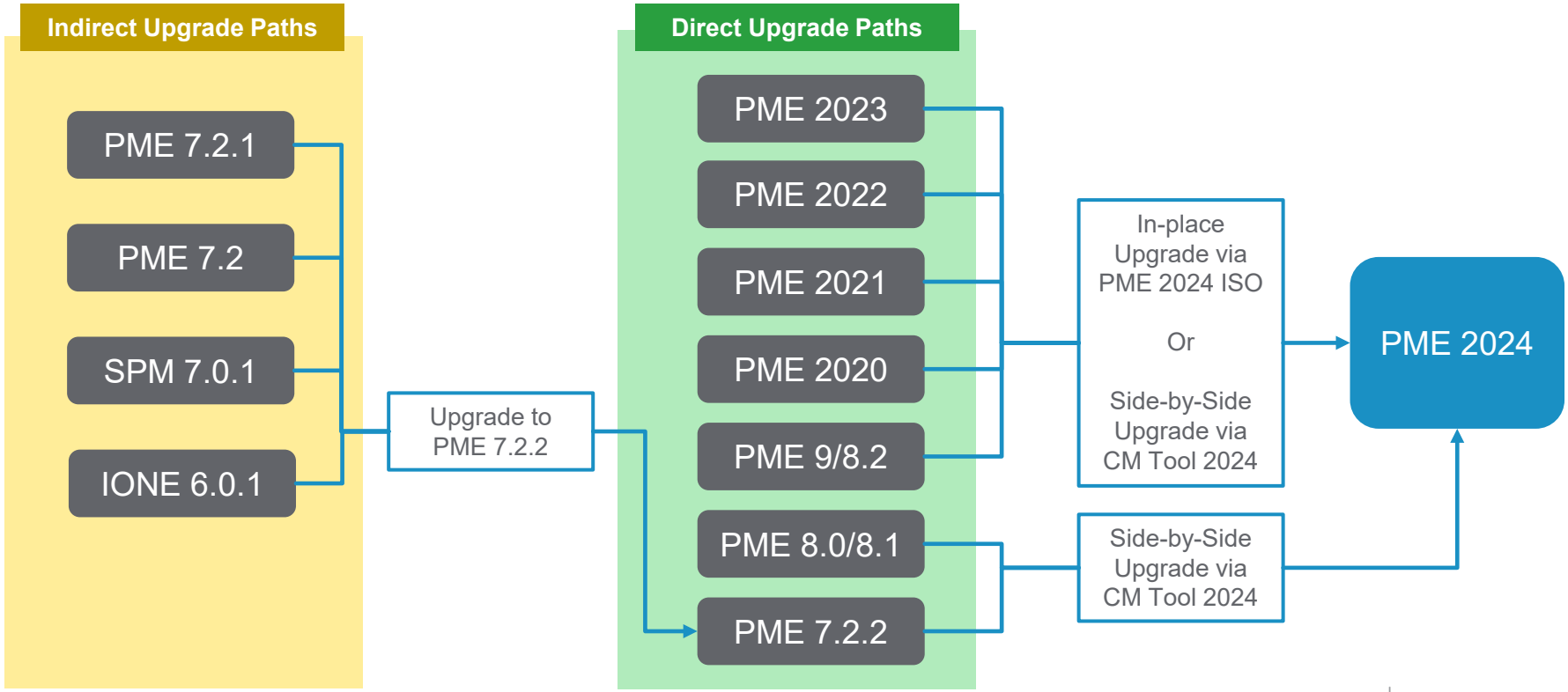
Desktop Web Brower:

- Google Chrome version 100 and later
- Mozilla Firefox version **128** and later
- Apple Safari versions 7 or 8 and later
- Microsoft Edge

Mobile Web Browser:

- Safari on iOS8.3+ operating systems
- Chrome on Android systems

Upgrade Path



Always check if existing Windows OS and SQL versions are supported by PME 2024 before upgrading.

Upgrade to PME 2024 to continuously receive technical support

After a PME version is released, the PME version has 2 years of full support followed by another 2 year of limited support. After the end of limited support, the PME version will no longer supported by our technical support centers unless the PME version is upgraded to a supported version.

Full Support

- Technical investigation and assistance for customer issues, including creation of critical hotfixes that deemed necessary by the factory

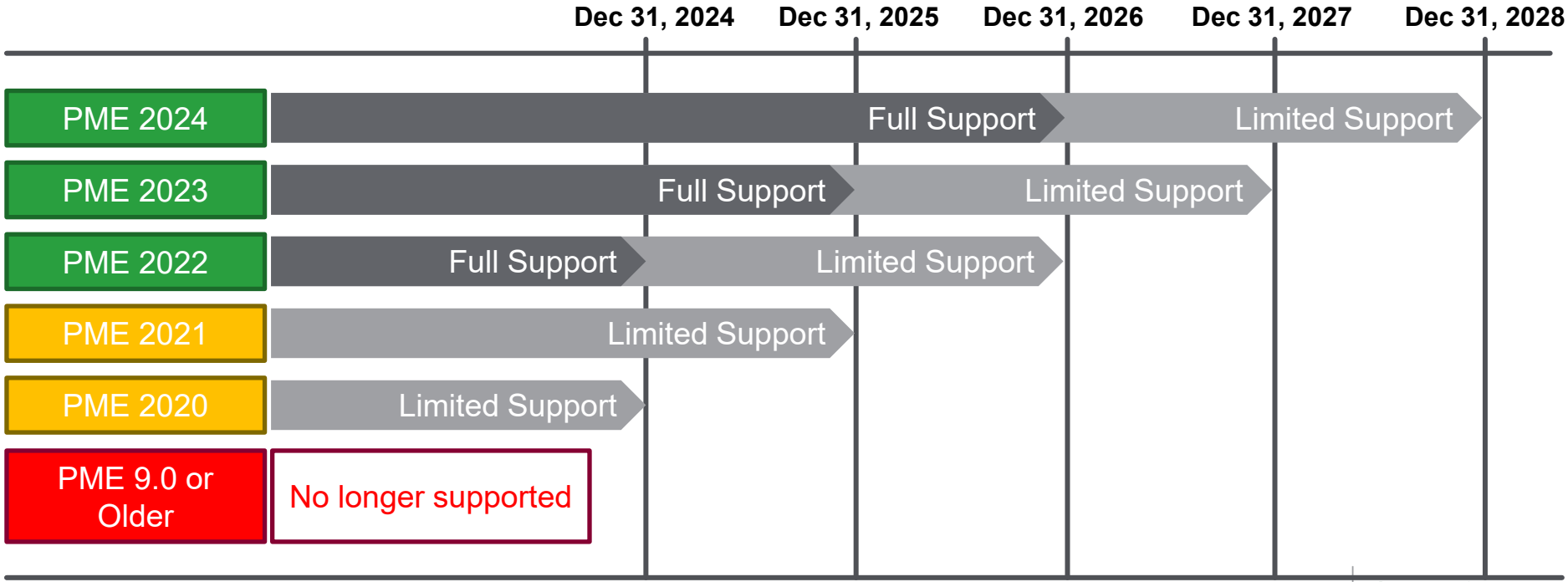
Limited Support

- Technical investigation and assistance for customer issues but no new hotfixes for issues
- Provide information on migration to a newer product release that has Full Support

Software Assurance always upgrades PME licenses to the latest released PME version

Upgrade to PME 2024 to continuously receive technical support

PME support lifecycle after PME 2024 release



Commercial Update

PME License Update

PME License	New Features Added in PME 2024
PME Base Licenses • PME Standard Edition • PME Express Edition • PME for ESTIDAMA Edition (UAE) • PME for Tenant Billing Edition (US) • PME + DL Bundle Editions (China)	• TLS 1.3 support • SAIDI SAIFI index report • SSO with SAMLv2 IdP* • TGML DDD • TGML write operation • OPC UA client • ASCO gateway service • All features in Event Notification Module **
Data Exchange Module	• OPC UA server • COMTRADE import
Backup Power Module	• Updated EPSS report

*: SAMLv2 IdP is not included in PME and customers are responsible to manage IdP on their own

**: Twillio subscription is not included in PME base license and customers are responsible to manage their own Twillio subscription

New Systems

PME base licenses will include Event Notification Module features

- PME Standard Edition
- PME Express Edition
- PME for ESTIDAMA Edition (UAE)
- PME for Tenant Billing Edition (US)
- PME + DL Bundle Editions (China)

Existing Systems

Event Notification Module features will be enabled by default after upgrade to PME 2024 and will require to be configured if not configured before

Event Notification Module may be purchased for PME 2023 or older version

Note: Twillio subscription is not included in PME base license price and customers are responsible to manage their own Twillio subscription

PME Trial License Validity Period

PME 2023 or Older Version

The 90 days trial license embedded trial license in PME 2023 or older version does not expire, which means whenever you install a PME 2023 or older version, it will always have a 90 days trial license

Example:

- If PME 2022 is freshly installed on Oct 1, 2024, PME 2022 can run under its embedded trial license till Dec 30, 2024
- If PME 2023 is freshly installed on Jan 1, 2026, PME 2023 can run under its embedded trial license till Apr 1, 2026

PME 2024 or Newer Version

The embedded 90 day trial license in PME 2024 or newer version is valid only for 18 months from the release date. From April 1, 2026 and on, a fresh installed PME 2024 will not have any trial license

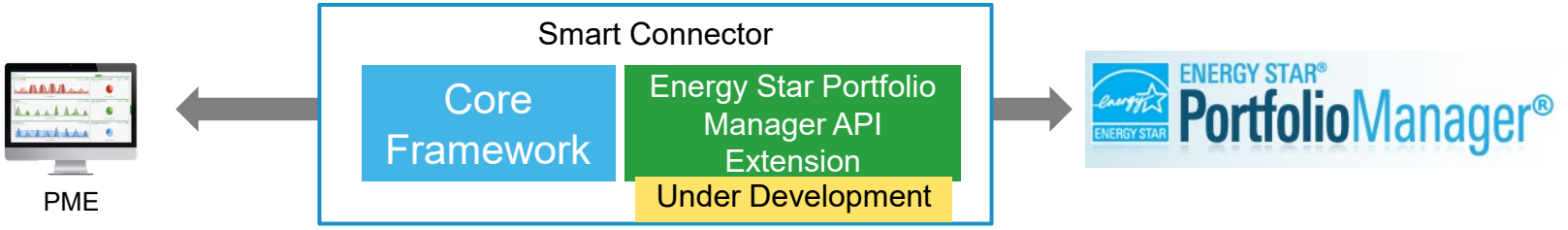
Example:

- If PME 2024 is freshly installed on Oct 1, 2024, PME 2024 can run under its embedded trial license till Mar 31, 2024
- If PME 2024 is freshly installed on Apr 1, 2026, PME 2024 cannot run on its embedded trial license as it has expired. A full license of PME 2024 is required to run PME 2024

More Connectivity via Smart Connector

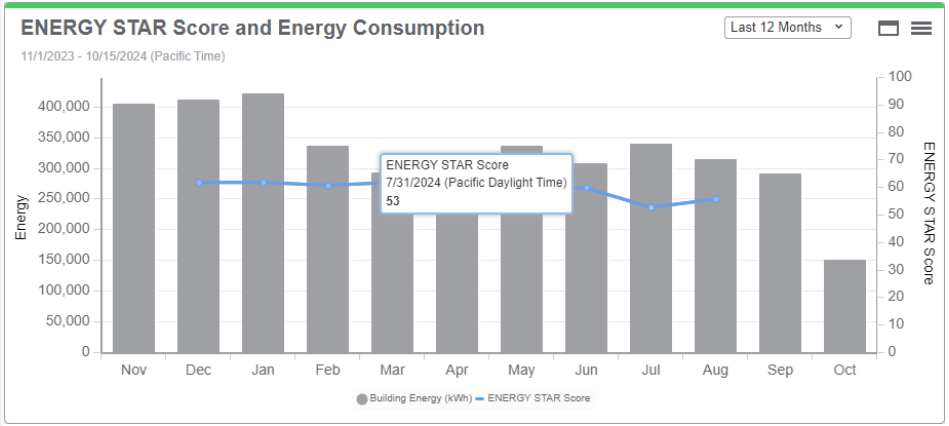
Benchmark building consumption with Energy Star

EcoStruxure Power Monitoring Expert



Data to ESPM

PME sends building total consumption to Energy Star Portfolio manager on a monthly basis via Smart Connector and Energy Star Portfolio Manager API Extension

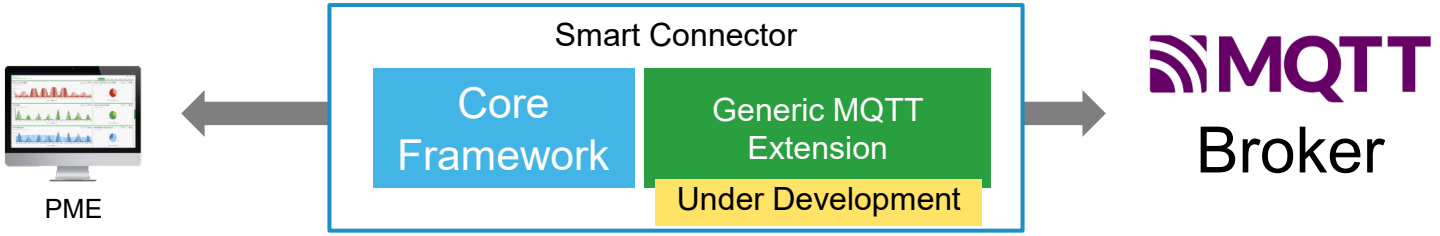


Data from ESPM

PME pulls Energy Star metrics such as Energy Star score via Smart Connector and Energy Star Portfolio Manager API Extension, and store them in the database for dashboarding and reporting

Note: Energy Star Portfolio Manager account and subscription is managed by customers and not included in PME

Benchmark building consumption with Energy Star



Publish to a MQTT Broker

PME publishes data to a MQTT Broker, such as Mosquito and HiveMQ, via Smart Connector and the Generic MQTT Extension

By default, data exposed on EWS is available for publishing over MQTT. Additional configuration on the Generic MQTT Extension to filter what data to publish to MQTT broker

Subscribe to a MQTT Broker

PME subscribes to a MQTT broker to read data into PME via Smart Connector and the Generic MQTT Extension.

Data from Smart Connector is brought into PME via EWS and EWS data mapping

Note: PME or the MQTT Extension is not a MQTT broker. MQTT broker and its license is managed by customers

PME Data API

As part of the Energy Platform Data API

Access all electrical and energy data via PME Data API

Apps & Analytics

Edge Control

Data Access via
GraphQL API

3rd party system

Integrate Power and energy data with enterprise management applications to have single pane of operation

Integrate critical asset health and status information into maintenance tools in place managing all maintenance task orders

With the access to all energy data, it is possible to analyze and improve energy efficiency with correlation to process and building usage

All energy information are transformed, normalized, ready to be used to provide
The right performance for applying regulation compliances

Access all electrical and energy data via PME Data API

EcoStruxure
Power Monitoring Expert

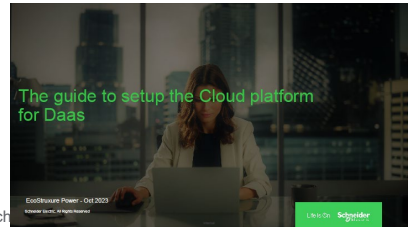
API Provisioning

1. Customer buy the APIs
2. Customer receives an activation code (A request was sent to EEH from DSC or Exchange. And EEH send the Activation code to the customer via email)
3. Customer (or EEH admin) connects on EEH
4. Customer (or EEH admin) create organization and pairs PME or Panel Servers to this account.
5. Customer (or EEH admin) activate API with the activation key
6. Customer (or EEH admin) create ID client and client secret
7. Customer (or EEH admin) can send these keys to 3rd party developer

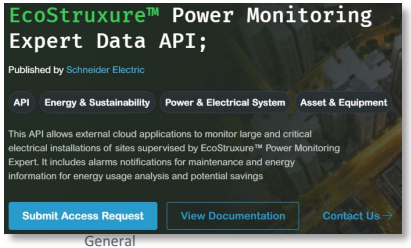
Part numbers for Ordering

- 1 year PME data API subscription
  - Part Number: DAASSWPME1Y
  - GRT: 7€/device/year
- 3 year PME data API subscription
  - Part Number: DAASSWPME3Y
  - GRT: 7€/device/year

Energy Data Platform Setup Guide



Learn more about PME Data API



API Developer Guide

Access all electrical and energy data via PME Data API

A Success Story of PME Data API Integration

Customer Challenges

- Need common understanding of meter data across real estate portfolio
- Global sustainability reporting and year on year energy use reduction plan
- Need a partner with knowledge of EMS design, installation, commissioning and data access through an open API

Customer Benefits

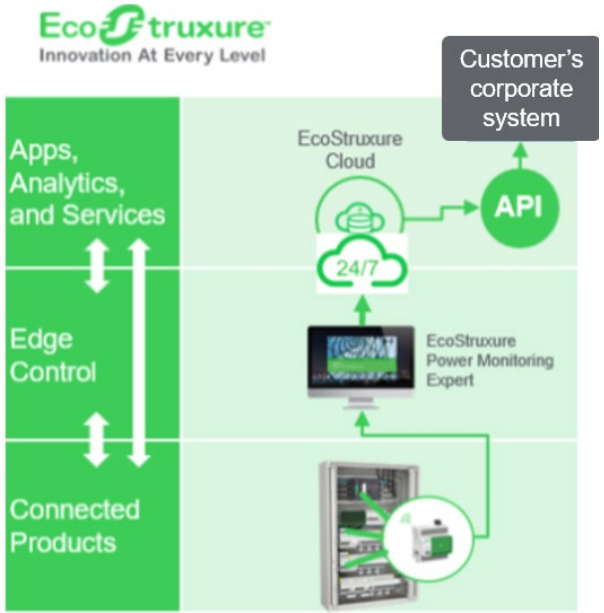
- Single vendor for full solution globally
- Trusted partner in energy management & efficiency
- Comply with customer's standards
- Single point of contact for full real estate portfolio

Our Solution

- Power meters and flow meters (100+)
- PME
- PME Data API
- Custom API integration to compliant with customer's data model

Results

- Data access, contextualization and enrichment
- Real time monitoring of energy consumption and power distribution
- Detailed reporting on power and energy data
- Power quality, monitoring and alarming
- Expected to have solution implemented with 400 meters across multiple sites



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