

IEC 61850 for the PowerLogic ION7550/ION7650 Power and Energy Meter

John Straughn
Power Monitoring Offer Line Manager
Power Quality Meters

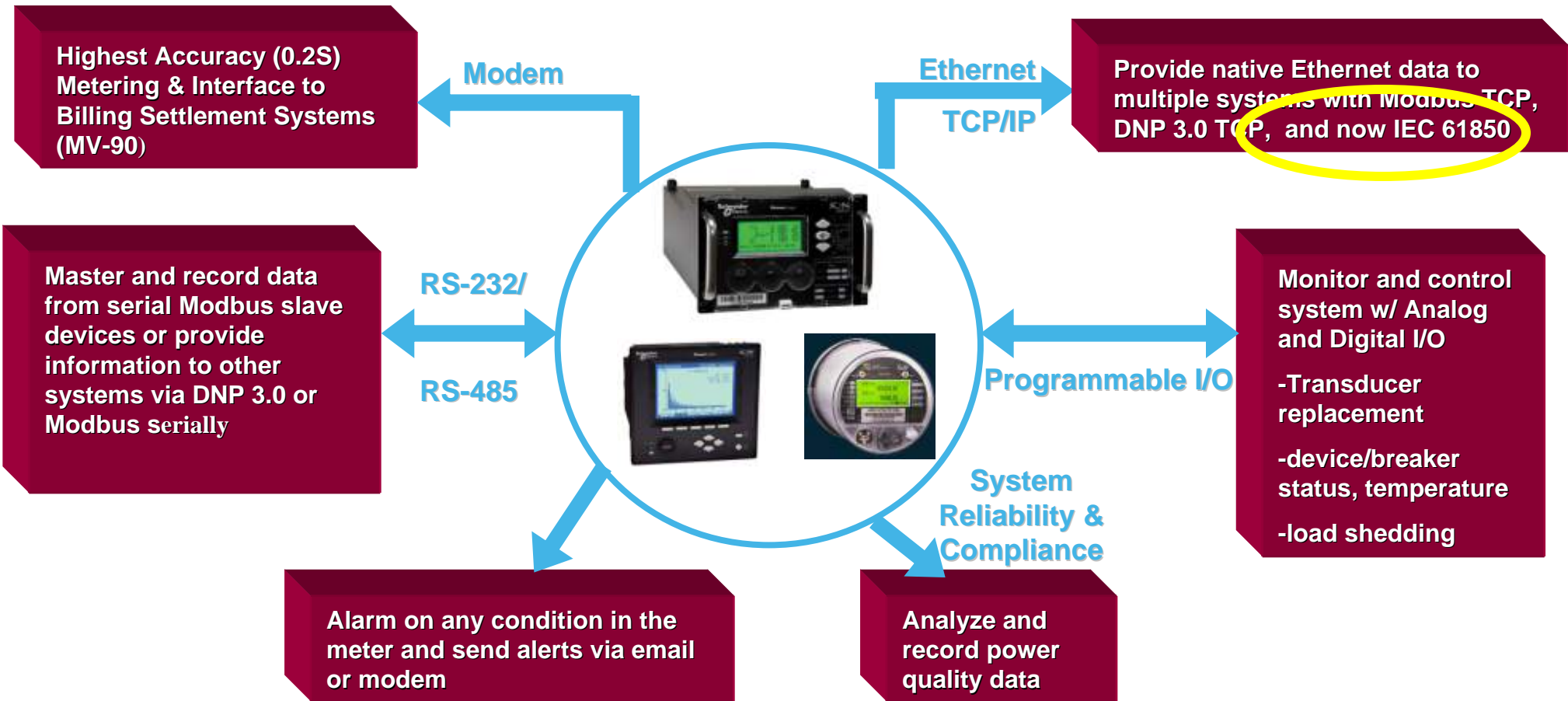


Schneider
Electric

Substation Metering Applications



ION Meter Applications in Substations



Key Markets for ION Meters with IEC61850

Energy & infrastructures
*availability, safety,
Cost effective*



**Electrical Networks
(Utilities)**

Key Application: Substation/Energy Automation



Industry
*productivity, flexibility,
safety, traceability*



**Large Industrial users
(Oil&Gas, Mines)**

What is IEC 61850?

- A standard for a common communication system architecture inside a substation
- A standard that defines functionalities of devices
- A standardized device description language
- A standardized method to access data

Benefits of IEC 61850 protocol?

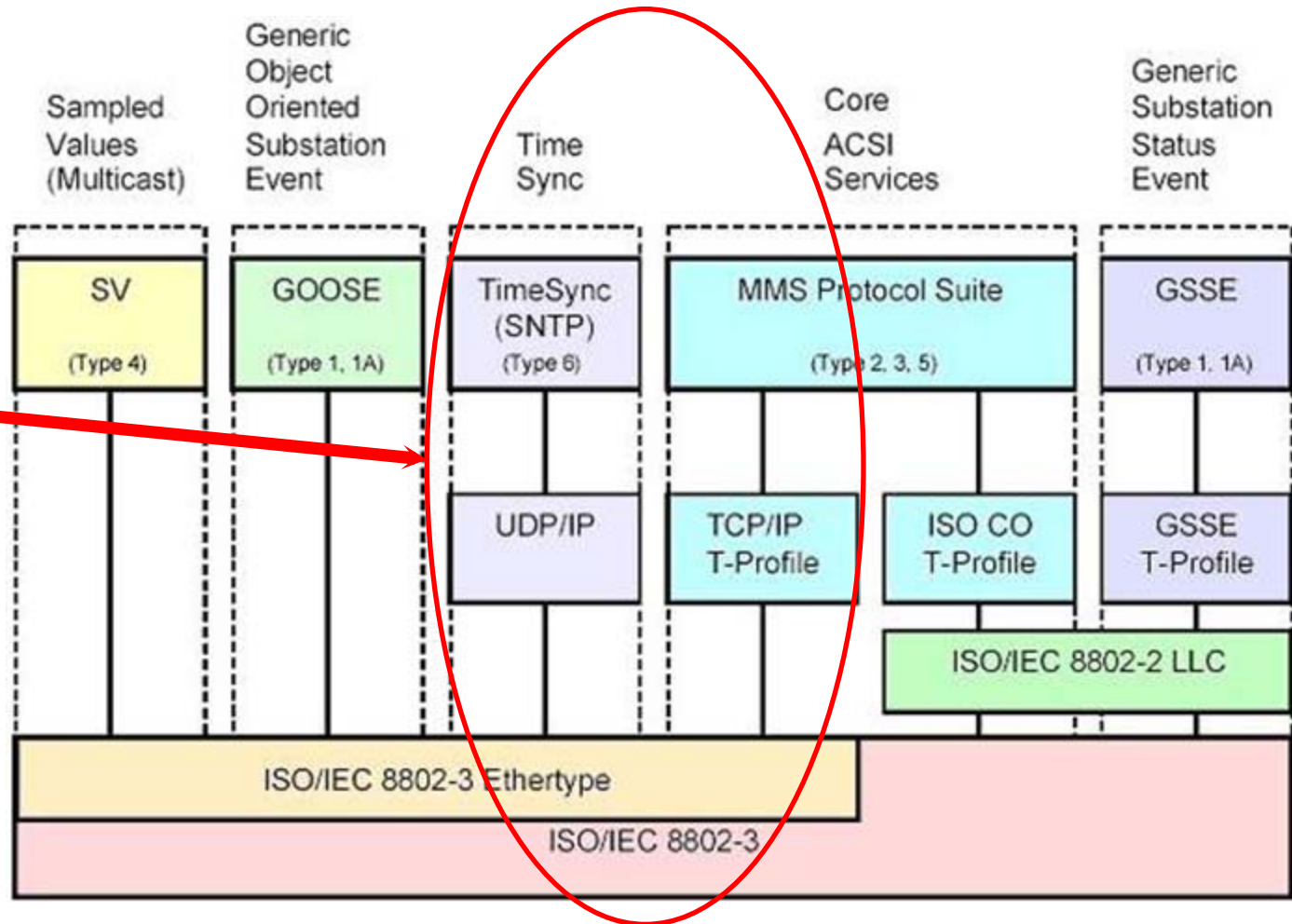
- Self-describing devices reduce setup time and cost
- Standardized device object models provide a high level of interoperability
 - Reduces incompatibilities between different devices and vendors
- A Substation Configuration Language (SCL) provides a common XML file format
- The use of names instead of numbered tags to improves understandability
- Use of shared station level networking for data access, supervisory control, and process functions minimizes point to point wiring reduces installation and maintenance
- Multiple protocol profiles leverage modern networking technology to provide secure, optimized, and reliable performance for a wider variety of applications including:
 - Station and bay control and monitoring.
 - IED to IED protection messaging for intrabay, intrastation, and wide area remedial action.
 - Transducer networks for CT/PT interfaces

Why IEC 61850 in the ION7650?

- Future proofing for those customers that may migrate to IEC61850
- Reduce engineering/ deployment time and cost
- Interoperability with other systems
- Reporting Service for communication efficiency – get the data you want when you need it - report by exception
- In addition we are providing on-board ftp server
 - for file based meter setup for IEC61850
 - to transmit WFC using COMTRADE format

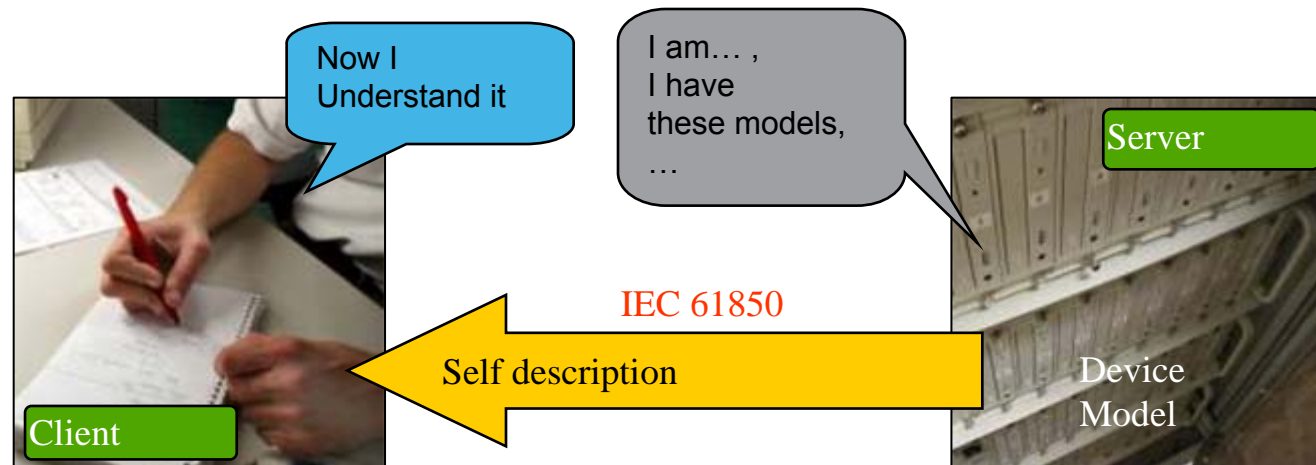
Core IEC 61850 Protocols for ION meters

Core ION
Metering
Functionality



IEC 61850 specifies a standard language and file format

- It describes:
 - IED communication configuration and IED parameters
 - Communication system configuration
 - Based on XML (Extensible Mark up Language)
- It provide a **compatible way to exchange IED capability descriptions, and Substation Automation System descriptions** between the IED engineering tools and the system engineering tool(s) of different manufacturers.



How ION is Mapped to 61850

Similar to ION, IEC 61850 is an object oriented protocol

