PrimeRead Energy Suite[SM]

Meter Data Collection and Analysis Software

A more flexible, scalable and reliable solution for automated, multi-vendor meter data collection.

PrimeStone

A better way to access interval meter data

PrimeRead ES is a multi-vendor, automated data collection software for utilities that makes data exchange with corporate IT systems for billing, operations and customer information fast and easy. PrimeRead ES offers more than just large-scale data acquisition from commercial and industrial (C&I) metering devices though. It provides communications network flexibility, configurable data validation and a true Windows interface.
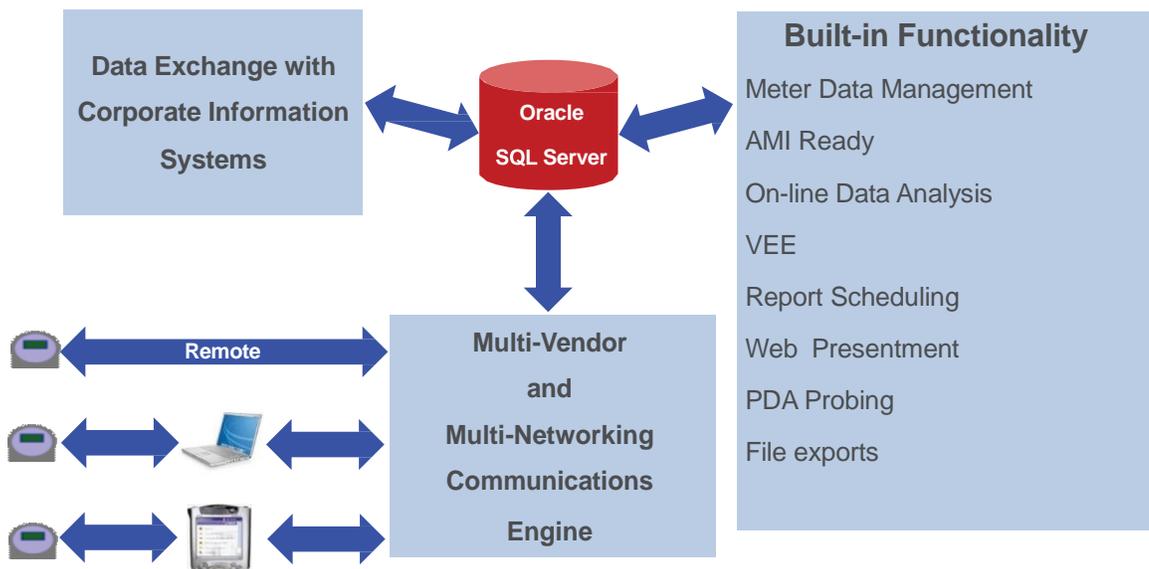
PrimeRead ES offers a multi-network metering communications engine that supports a full complement of current communication network technologies and enables new networks to be used as they emerge. The software is highly reliable, delivers powerful performance and opens previously unavailable migration paths to keep pace with advances in communication technology.

A multi-tier architecture makes PrimeRead ES flexible and scalable. Its open architecture allows scheduled exports as well as on-demand data access via SQL queries or web services.

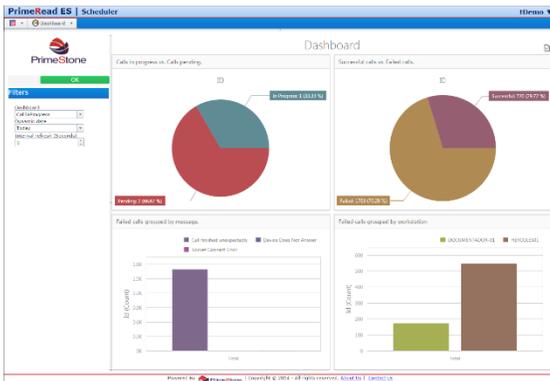PrimeRead ES also makes an ideal complement to other energy and operations management solutions.

Typical applications

➢ Implement C&I data collection with more flexibility, scalability and reliability

➢ Enable meter data management for AMI

➢ Perform validation, estimating and editing

Data Exchange with Corporate Information Systems		Oracle SQL Server		**Built-in Functionality**

Meter Data Management

AMI Ready

On-line Data Analysis

VEE

Report Scheduling

Web Presentment

PDA Probing

File exports

Remote

Multi-Vendor and Multi-Networking Communications Engine

Quickly schedule communications with devices in groups or individually.

Automated, scheduled data collection

- ➢ Robust 64-bit data collection engine

- ➢ Multi-tiered architecture allows flexible topologies

- ➢ Create port groups to define serial ports available on all data collection workstations on all domains on the LAN. Ports may be administered from any LAN workstation

- ➢ Data collection workstation supports up to 128 simultaneous serial ports for data collection

- ➢ TCP/IP is supported for data collection allowing hundreds of devices to be polled simultaneously

- ➢ Group devices for "one-click" selection and scheduling

- ➢ Individual device parameters for validation, time synchronization and DST inside the groups

- ➢ Data that can be downloaded from the devices include:

    - ➢ Load profile or interval data

    - ➢ Registers (including those without channels)

    - ➢ Power quality events and waveforms

    - ➢ General device events

- ➢ Data collection frequencies include:

    - ➢ Minutes, hours, days, weeks and months

- ➢ Demand reset can be scheduled individually and separately from data collection

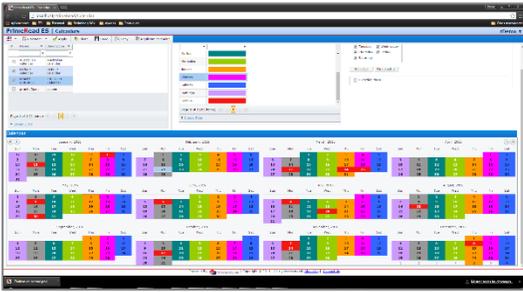   - ➢ Demand register value is stored prior to reset

Multi-network support

Lower your operational costs by using faster, cheaper and more reliable communications networks. PrimeRead ES supports a wide range of wired and wireless communication standards such as phone, cellular modem and Ethernet, with room to grow and the means to take advantage of emerging networks. PrimeRead ES supports the following communications media:

- ➢ CDPD point-to-point

- ➢ CDPD over TCP/IP

- ➢ Wireless cellular technologies

- ➢ Daisy chain (master-slave)

- ➢ Ethernet

- ➢ Modem splitters

- ➢ Optical probing

- ➢ Phone line (POTS)

- ➢ Satellite over TCP/IP

- ➢ RS-232

- ➢ RS-485

- ➢ Cellnet (UtiliNet) point-to-point

- ➢ Cellnet (UtiliNet) over TCP/IP

- ➢ Serial port servers

Use the calendar view to easily make TOU rate changes and additions.

Time-of-Use (TOU) structure expanded

Analyze energy usage data with unlimited calendars and custom seasons at your disposal. You can even create custom day types and individual TOU rate structures. The graphical interface fosters easy creation of, and changes to, rate structures for data analysis in the Business Analysis Module or standard reporting.

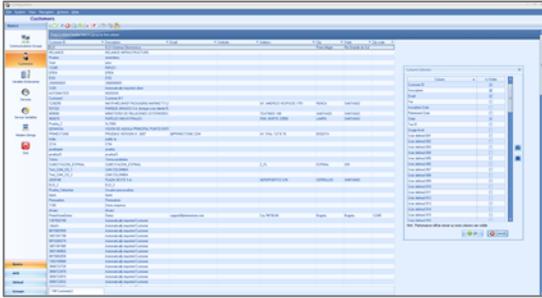## Extensive, multi-vendor device support

PrimeRead ES supports a wide range of metering devices, including standard (C12.19) and vendor-specific meter protocols. PrimeRead ES stores all interval, register and event data in a device independent format and supports the following device manufacturers:

- ➢ Actaris
- ➢ Aldana
- ➢ American Innovations
- ➢ Ametek
- ➢ Arbiter
- ➢ Arteche
- ➢ Bayard/Hunt/Landis+Gyr/Siemens/Process Systems
- ➢ Circutor
- ➢ CEWE
- ➢ Datapro
- ➢ EDMI
- ➢ Electroindustries
- ➢ ELO
- ➢ Elster/ABB
- ➢ EMH
- ➢ Emon
- ➢ First Point
- ➢ General Electric
- ➢ Iskra
- ➢ Landis + Gyr
- ➢ MTC
- ➢ Nansen
- ➢ Quadlogic
- ➢ Schneider Electric
- ➢ Schlumberger / Itron
- ➢ Scientific Columbus / Ametek
- ➢ SEL
- ➢ Transdata
- ➢ Triacta
- ➢ ZIV

Relational database support

Support for industry-standard SQL Server and Oracle databases gives PrimeRead ES an edge even in the most demanding operations. It also liberates utilities from maintaining the proprietary knowledge necessary to administer and customize obscure databases. PrimeRead ES supports:

➢ Microsoft SQL Server – Supports v 2008 R2 and above.

➢ Oracle – Database may run on a Windows, Unix or Linux server. Supports v10.x and above.

Configure the interface according to user requirements and preferences for enhanced workflow.

Easily import/export legacy systems

PrimeRead ES supports HHF file imports, which allows backward compatibility with legacy systems and handheld hardware. Its relational database provides for fast migrations into the software. Import formats include:

➢ HHF

➢ MV-90 Masterfile
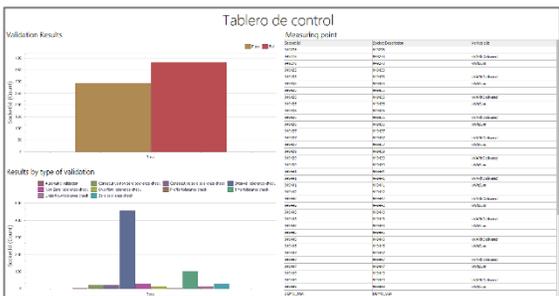
➢ EDI-867

➢ MDEF

➢ Lotus PRN

➢ BDF

Exporting data to billing systems, SCADA or data warehouses is as simple as querying the database. Export formats include:

➢ ASCII, CSV, character-separated or tab-separated text

➢ Microsoft Word

➢ Microsoft Excel

➢ Lotus PRN
➢ ML

➢ DHTML

➢ XML

➢ EDI-867

➢ Lodestar (LSE)

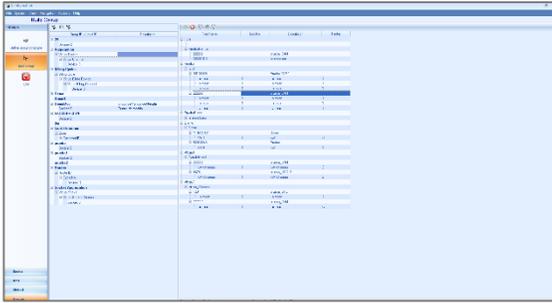➢ Engineering Units (EU)

➢ BDF

Validation, editing and estimation (VEE)

PrimeRead ES supports online and interactive data validation. VEE routines are configurable to your needs and based on your market operator or regulator.

➢ Online data validation techniques for energy tolerance, gap check, zero tolerance and time tolerance

➢ Set online data validation parameters system-wide or individually at each device

➢ Interactive data permits the creation of unlimited device profiles, including devices and
    channels per device

➢ Store device profiles and use them to capture skew data or estimate data

➢ Set time synchronization parameters globally or at the device level, even schedule periodic synchronizations

Create a typical profile based on historical data for use in validation routines.
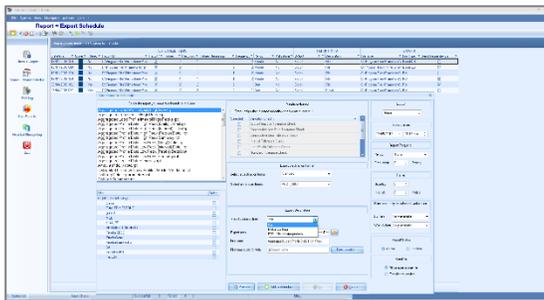
Aggregation and totalization

Aggregation structures may be created using virtual device and virtual channel for data aggregation. Users create virtual channels by combining individual channels or registers from a number of real devices in the field. Each device can be assigned its own factor to control its contribution to the group.

Create as many "tree" structures as needed for easy reference and multi-level data analysis. For example, a geographical tree can be created to analyze
or bill based on geographical areas. The information structure allows users to define structures that will facilitate data mining of the information inside
the database. The structures can be used to analyze different aspects of the devices inside a system.
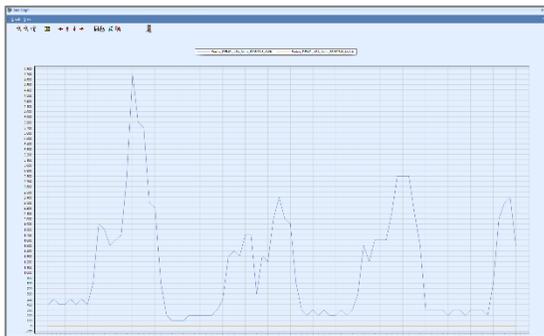
The intuitive design allows you to build data structures according to your business needs.

Reporting and data analysis

PrimeRead ES serves as a very powerful, yet inexpensive data mining tool. Data viewed is dynamically built, whether through aggregation or TOU logs.
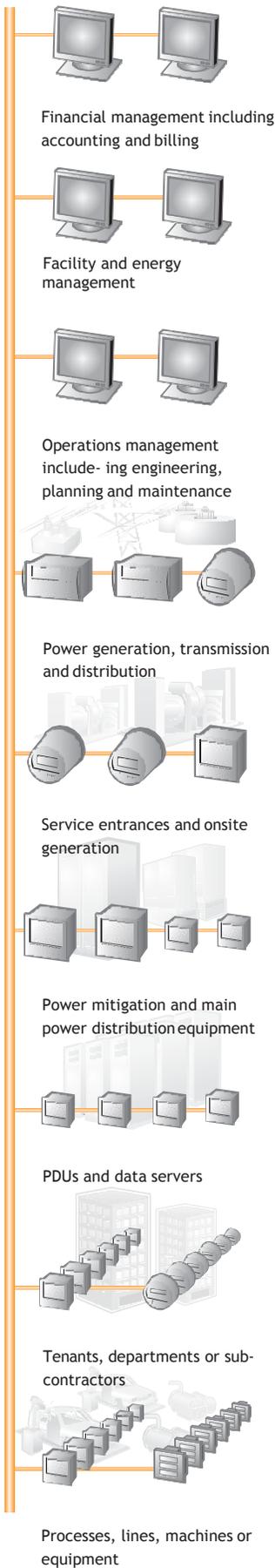
- ➤ Multi-dimensional decision cube with configurable dimensions and layouts allows for real-time analysis

- ➤ Unlimited, advanced filtering for decision cube analysis, spreadsheet analysis, reporting, graphing and validation

- ➤ Unlimited, easy-to-use, user-defined reporting with industry-standard Crystal Reports

- ➤ Schedule reports for automatic generation in several different formats, including ASCII, CSV, character separated or tab separated text, Microsoft Word, Excel, Lotus PRN, HTML, DHTML and XML

- ➤ Schedule reports for generation on different workstations on LAN/WAN environment

- ➤ Schedule reports for automatic distribution using email and standard MAPI or FTP

- ➤ Powerful graphs

- ➤ Exporting capabilities to Microsoft Excel, HTML, XML and Text

Schedule reports to run automatically and specify their formats and delivery methods.

Service and support

Primestone will help you design and commission a PrimeRead ES solution to exactly meet your needs. Our customer support team will help you gain the know-how to maximize your productivity and get the most from your PrimeRead system.

Use the graphic function to identify and quickly address anomolies.

Financial management including accounting and billing

Facility and energy management

Operations management include- ing engineering, planning and maintenance

Power generation, transmission and distribution

Service entrances and onsite generation

Power mitigation and main power distribution equipment

PDUs and data servers

Tenants, departments or sub-contractors

Processes, lines, machines or equipment

Features and Benefits

Standard Windows interface

A true 64-bit application, PrimeRead ES takes advantage of all current Windows operational and connectivity options, minimizing the learning curve and optimizing the workflow.

Multi-tier architecture

Its multi-tier architecture allows for flexible application distribution over a network environment or over a geographically dispersed environment.

Relational database support

Built on common relational databases, PrimeRead ES permits other enterprise systems/applications to access its data via SQL, APIs and web services. All information is securely stored in a central database and is dynamically updated each time an operation is performed.

Automated/unattended reporting and data analysis

Easily create and schedule unlimited user-defined reports or utilize more than 30 standard reports. Multi-format support makes sending reports via email or FTP easy.

More legacy protocols

PrimeRead ES offers support for over 80 meter protocols, including ANSI and IEC meter manufacturers.

Easy import/export data interface

Using the same industry-standard file formats makes replacing your legacy C&I data collection system easy and accurate. Additionally, PrimeRead ES provides for scheduled exports and on-demand data access, and its open architecture supports customization of the data imported or exported.

Time of use capability

Offering more than simple TOU structure, PrimeRead ES allows time-of-use (TOU) structures to be applied using calendars. You can create unlimited calendars with custom seasons, 365 day types and 48 rates per day type!

Automated, online interactive data validation

Online data validation techniques are available for energy tolerance, number of intervals, number of zeros and time tolerance. Interactive data validation considers historical values for each device and channel and creates a typical consumption profile. New data is compared with the historical values to capture "skew values."

Auto-correction for daylight savings time change

PrimeRead ES easily incorporates the devices that follow daylight savings time. In addition, you have a choice of manually correcting any calendar differences between the device and the system or let the system handle it for you automatically!

Standard features	
Multi-Vendor	Y
Multi-Networking	Y
AMI Ready	Y
One-stop end-to-end Meter Data Management Software	Y
Standard Windows interface with true 64-bit application	Y
Multi-tier architecture	Y
Relational database support, including SQL Server and Oracle	Y
Unlimited user-defined reports	Y
More than 30 standard reports available	Y
Scheduled Report Generation	Y
Supports over 160 meter protocols, including ANSI and IEC	Y
Industry-standard file format exports	Y
TOU capability with unlimited calendars and custom seasons	Y
Aggregation or totalization of groups of meters	Y
Online data validation techniques	Y
Manual and automatic Estimating and Editing	Y
Auto or manual correction for daylight savings time changes	Y
Supports Billing Calendars for Billing Determinants exports	Y
Integrated Billing Suite	Y
Support for laptop or PDA probing	Y
Integrated Revenue Protection System for prepayment option	Y

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