CAS Hemera Frontier

F

Border Metering and Free Customers operational and strategic management, in compliance with regulatory requirements.

Metering Management

Hemera Frontier Platform provides resources and tools that meet the Border Metering and Free Customers needs, helping in energy supply continuous monitoring and in information management.

- It provides relevant and complete information, updated in real time, which contributes to decision making and the identification and resolution of failures related to data collection in the field, including recorders, mass memory and instantaneous electrical quantities.

- It enables remote actions by metering and operation centers, anticipating eventual field maintenance. It provides tools for meter remote parameterization.

- It controls and manages the energy consumed by Free Customers in the utility concession area.

Market Regulations

It allows the availability of an exclusive channel for the regulatory agency, or a shared but priority channel. Metering data are made available in the form of detailed reports according to the user's needs, in standardized file formats to meet regulatory requirements.

ONS   **ccee** Câmara de Comercialização de Energia Elétrica

Tools for monitoring data collection and XML files generation

The collected data are processed and the XML files generated for submission to the regulatory agent. This functionality meets automatic generation demands by scheduling or manually, as required by the customer.

Integration with different Protocols / Meters

Hemera Frontier Platform has intelligence to interpret all the metering protocols currently used in the country and approved by the regulatory agent.

ABNT   ANSI   dlms   ION.   IEC

Main Tools:

Virtual Meter

Hemera Frontier has the Virtual Metering tool, which enables metering data compound calculation for a region or group of consumers, according to formulas pre-established by the user.

Total energies summarization:
- Captive Market.
- Free Market.
- Power Plants.
- Billing Measurements.

Main and Rearguard Meter
A graphical report comparing the Main and Rearguard meters, containing all the tabular information from the Mass Memories.

Missing Data Automatic Reading
Missing Data identification through periodic tasks, with an indication of the period to be filled for the next reading to reach 100% of the Mass Memory.

Metering data compound calculation of a region/consumer group.

$$+ \div X =$$

Compound calculation

HEMERA

Smart Estimation

CAS Tecnologia Virtual Meters use the missing data estimation methodology ONS-PDC ME 01, used by the regulatory agent.

Alerts about Past Events

Through configurable alarms, it allows to identify problems in the quality of the collected data, metering of atypical electrical quantities, discrepancies in the collected parameters, quality loss in power supply and other aspects of the network that require inspections and regularizations, promoting the analyst's fast action.

Task Scheduling

It allows the user to configure specific tasks, making process management more dynamic, with configurable scheduling options: billing, reporting, reading, parametrization, notifications, etc.

Screen: Main x Rearguard Meter Report.
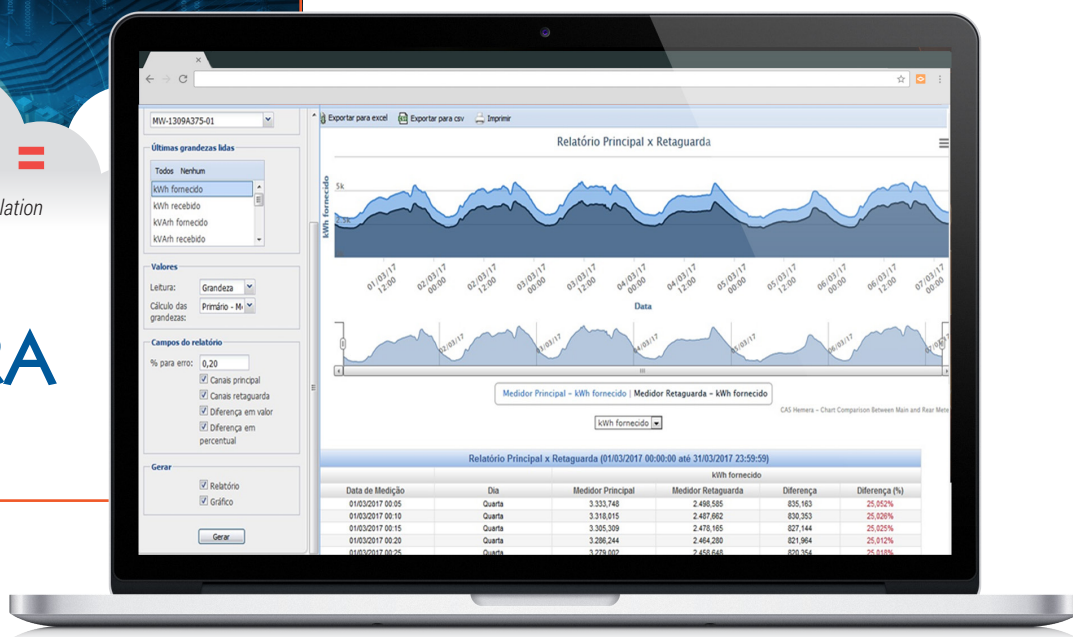
Metering Reading

Metering contingency tools in case of reading failures at the Border and in Free Customers.

It allows meter reading in order to avoid that the teams use different softwares for each type of meter.

M MOBii

Mobile app for Smartphone to collect readings from electronic meters:

- Web Manager.
- Native integration with the Hemera® Platform.
- Collector with Android operating system, and Bluetooth communication.

L Ladon

Point to point meter reading, using regulatory agency communication channel.

- Communication problems diagnosis and meter configuration.
- Tests in the regulatory agency audit channels.

Free Customers Billing

In addition to Free Customers billing already performed by Hemera for all standard ABNT meters, it is possible to carry out the billing using **SL7000 Meters** through public format standard ABNT file.
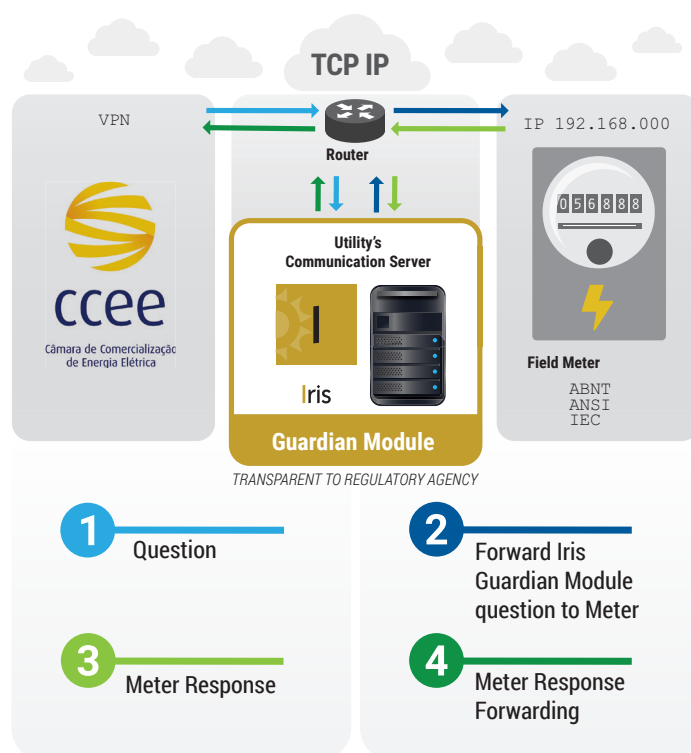
IG Guardian

It monitors the readings carried out by the regulatory agency for logical inspection, with protocol verification and analysis of the communication channel up to the meter. It identifies communication failures and allows the repair for new access attempts. Success in monitoring communications between the regulatory agency and Utilities.

- Carried out logs analyses.
- Analysis report.
- Alarms – identification of events related to communication failures.

Through the **Port Forward** module, it is also possible to perform the regulatory agency analysis for meters that do not have telemetry / CAS Remote Terminal Unit in the field or when the agent already has a TCP-IP infrastructure up to the meter.

Communication Architecture

TCP IP

VPN

Router

IP 192.168.000

0 5 6 8 8 8

Utility's Communication Server

Iris

Guardian Module

TRANSPARENT TO REGULATORY AGENCY

CCEE
Câmara de Comercialização de Energia Elétrica

Field Meter
ABNT
ANSI
IEC

1 Question

2 Forward Iris Guardian Module question to Meter

3 Meter Response

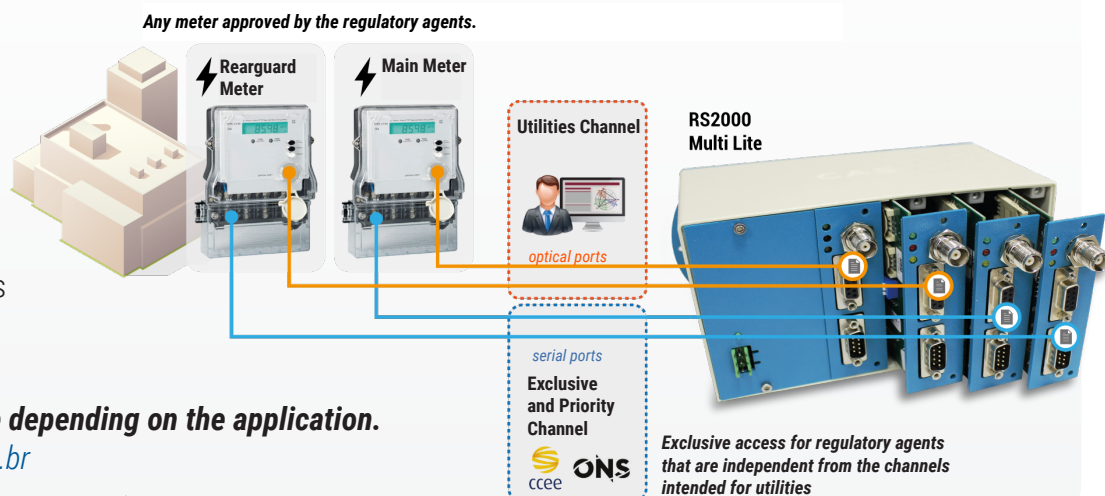**4** Meter Response Forwarding

I Iris

Communication Server that provides operational and strategic support, enabling two-way communication with metering and automation systems.

CAS RS2000 Remote Terminal Unit used in the solution

Remote Terminal Units developed for **Free Customers** and **Border Measurements remote reading.**

RS2000 Multi Lite

Exclusive system for sharing independent remote terminal units in a single cabinet, providing simultaneous readings from both Utilities and regulatory agency.

Any meter approved by the regulatory agents.

Rearguard Meter

Main Meter

Utilities Channel

optical ports

RS2000 Multi Lite

serial ports

Exclusive and Priority Channel

ccee ONS

Exclusive access for regulatory agents that are independent from the channels intended for utilities

Different models available depending on the application.
catalogo.castecnologia.com.br

Ultra Lite GSM

Ultra Lite Ethernet

Lite DS 3G

Contingency and Performance

▪ Big data availability and scalability to meet the needs of utilities due to metering endpoints increase.

▪ Easy maintenance in the servers' physical architecture – allowing one server to take over the services of another when it is under maintenance.

▪ It allows the use of smaller servers with load balancing, enabling high availability and flexibility in storage.

▪ Effective improvement in message processing capacity, accelerating data recovery in case of unavailability.

▪ Process independence, allowing prioritization of the utilities' business' most critical activities.

▪ Compliance with several operating systems, adapting to any computational structure.

Hemera Frontier's Benefits

● **Easy** configuration and **complete asset control** in the field.

● Multi-**manufacturer approach**: freedom of meter choice, using a single piece of equipment in the field.

● **End to end solution**: from the collection to the delivery of information to regulatory agency.

● **Monitoring** and analysis of the actions carried out by the regulatory agent at the metering points.

● **Single platform** to manage **Residential Customers, C&I, Free Customers and Border Metering.**

● **Free Customers Billing** using the same standard as for Large Consumers.

● **Centralized and personalized support**, avoiding attrition with suppliers.

● Open API for **integrations with legacy systems.**

● Possibility of using the **existing IT infrastructure**, optimizing investments.

● Technical staff **specialized in the utilities' business.**

● Speed ability and flexibility in the development of **new features** for the product.