CYGNET® GAS APPLICATIONS SUITE

Designed to Optimize Gas Operations

CYGNET
a Weatherford Company

CygNet Software's suite of natural gas industry applications run natively against the *CygNet* Enterprise Operations Platform (EOP) and deliver superior performance over loosely integrated alternatives. Tight integration lowers both long-term cost of ownership and set-up time by requiring fewer points of configuration while leveraging all the strengths of *CygNet* EOP.

Recognizing that customers may operate facilities in multiple market segments of the Oil & Gas Industry, *CygNet* EOP provides for the addition of sector-specific applications as configurable modules which deliver operational functionality specific to that business. The combination of these applications comprises one of the most fully integrated, lowest cost and accurate suites available in Gas Operations.

The *CygNet* Gas Applications Suite is comprised of complementary applications delivered as either a standalone suite or as part of the *CygNet* for Pipeline industry solution:

Gas Measurement Repository (GMR)

An intelligent electronic flow measurement (EFM) data repository that facilitates the collection, management and distribution of gas measurement data

LinePack

A real time calculation engine that computes accurate volume or energy available by segment, compensated for pressure, temperature and composition

Gas Contract Monitor (GCM)

A monitoring service that manages the "gas day" plan against nominations and actual flow

Gas Measurement Repository (GMR)

This intelligent API 21.1 data repository collects, manages and stores EFM history, events, alarms and configuration data to ensure that critical information is reliably available to third-party measurement systems such as FlowCal or PGAS. Key features include meter auto discovery, event management, scheduling and auditing. *CygNet* GMR ensures that EFM devices and third-party measurement applications always calculate flow with the best available data to reduce the time and resources required for measurement data validation.

CygNet GMR is the first product of its kind to seamlessly integrate with a full featured SCADA solution. It uniquely interweaves real-time data access with historical data. This application's tight integration with *CygNet* Hosts and user interfaces lowers operational system total cost of ownership by providing fewer points of configuration. *CygNet* GMR also supports a wide range of defined industry standard APIs to integrate seamlessly with other best of breed vendor applications. Quicker and easier EFM data integration realizes immediate savings and, over time, allows customers to mix and match peripheral systems at will, as their business dictates, with no proprietary development necessary.

LinePack

This flexible calculation engine provides a clear, fully configurable view of pipeline inventory out of the box, without the need for custom development. This feature-rich application is configured to perform line pack and draft calculations on individual segments or sub-segments, rolling up the values to pipelines and systems to help customers optimize inventory levels. Using input values from telemetry, manual overrides, and global overrides, *CygNet* LinePack pushes calculated values into EOP's standard point processing subsystem providing access to alarming, trending, HMI integration, data quality, and history. With full support for nearly 25 output values, calculations can analyze pack/draft volumes by update frequency, conditional averaging, segment exclusion, and many additional computations. These benefits all help to ensure business continuity and enhance market responsiveness.

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Gas Contract Monitor (GCM)

This application accurately monitors gas transmission flow against nominations to produce a highly accurate picture of a customer's "gas day" target plan. Real-time measurements update automatically, displaying predicted send-out rates, scheduled gas quantities and load forecasted quantities against actual. The application can be configured to monitor by volume or energy, with all output displayed in a nomination grid control featuring hierarchal navigation. Metrics calculated and reported include rate-to-go, daily projection and accumulated, rate and accumulated deltas, estimated/average hourly accumulations, and nomination met time. CygNet® GCM ensures delivery requirements are consistently met, reducing penalties, and makes it possible to identify market opportunities to manage risk when yield is less than planned.

Key Features of *CygNet* Gas Applications

Gas Measurement Repository (GMR)

- Utilizes *CygNet* Native Collection Engines to retrieve history, events, alarms, configuration and live gas chromatograph data
- Schedules gap identification in EFM history to proactively collect missing hours of data
- Maintains audit trail for all changes
- Exports data to third-party software in various formats including CFX, PGAS XML, *CygNet* XML and CSV

LinePack

- Calculates pack for individual pipeline segments and rolls them up
- Supports output values by hour, day or month for computations including current pack, MAOP pack, pack deltas, current deltas, average pack, average delta, and maximum pack
- Supports the calculation of the potential Pack given the MAOP of a segment
- Supports standard *CygNet* EOP historical data functionality including historian storage, trending and playback

Gas Contract Monitor (GCM)

- Supports standard *CygNet* SCADA alarming and notification functionality
- Displays the predicted "send-out" flow rate required to meet daily nomination, given the volume delivered up-to-the-minute, throughout a gas day
- Supports *CygNet* EOP's standard SCADA alarming and notification functionality
- Supports historical data storage and trending capability for all calculated and imported data to facilitate further analysis