

Our Vision

Our mission is to deliver great new high technology products to the renewable energy industry. We do that by studying existing systems and making continual incremental improvements by employing our **RACE** principle. We believe that for energy systems to provide the best performance, they must be:

- **R**eliable
- **A**ccountable
- **C**ontrollable
- **E**fficient

At Lauritzen Inc., we strive to deliver products that follow our **RACE** principle and bring the renewable energy industry to the next level.



Renewable Energy Monitoring

Valhalla™ Server

Valhalla holds detailed historical records for all of your field units.

Valhalla is a multi-threaded Solaris/Linux based server, typically situated at HQ, which functions as the contact point by field based clients. It uses a MySQL database, and provides client data, control and software management.

High level of data integrity; as a data packet is assembled by a *Valhalla* client in the field it includes a number of checks which authenticates the originator, sequence and data validity.

Client Push technology that supports dynamic-IP environments and has comprehensive accounting and recovery methods.

Encrypted client/server communication sessions.

Patent pending event and alert handling.



Valhalla System Logs

Valhalla maintains a number of different logs for communication sessions. An Access log tracks all communication activity. Entries made into the Error log record communication exceptions and may result in an admin alert. At the client level, a session summary is maintained for admin diagnostics use.

Client Software Management System

Valhalla has an integrated management system to support any number of different client-hardware-platforms, where each may operate different applications and software revisions. Software updates are either initiated by a system administrator or field technician. A robust transfer protocol is implemented such that even wireless transfers can be used.

Data Integrity

Comprehensive data packet integrity including origination, serialization, time stamp and CRC checksum from data creation to *Valhalla*/Database interface.

Event Handling

A uniform method of managing events from creation, through transfer, software applications and revisions to alert creation is an integrated part of *Valhalla*.

Server Diagnostic Access

A special server telnet diagnostic port is offered through which a real-time client/server communication session can be monitored. A system administrator may also use the same port to view internal server performance statistics.

Monitoring & Control

Valhalla Server

Diagnostics & Remote Control

A remote operator can diagnose field equipment by placing a request with the *Valhalla* server for a diagnostic and remote control tunnel to be established during an upcoming client/server communication session. Once connected, the operator has direct access to the client's internal diagnostic console. The diagnostics and remote control features are limited by the client software, but typically include views of input and output states, and may offer full client remote control.

Client Access to Server Functionality

A client may invoke authorized server based functions. An example of such functionality is communication testing, software availability, and admin call for assist.

Future Expansion Options

An intrinsic feature to *Valhalla* is the transparent support of prior and future client/server protocol revisions.

Management Hosting

Heimdal™ Custom Interface

Heimdal is a collection of a database and web server scripts to view and control distributed clients.

Heimdal is fully customizable for you or your customer.

In Norse Mythology, Valhalla is the resting place for honorable Vikings. Heimdal is the guardian of the Gods who never sleeps.