Neon Server Application Software 2302A

The Neon Server Applications software is the server-based suite of software that is part of an overall Neon system. This suite of software provides centralised data capture and management for remote field based Neon data loggers and RTU units.

Received data can be viewed on the Neon Web user interface in near real time from any browser or can be disseminated to third party storage or data visualisation systems via several different reporting and interface mechanisms.

The Neon system can also issue control commands based on pre- set algorithms and issue alarms and notifications via several mediums. Alarm set points can be set up on the Neon data logger/ RTU units as well as the Neon central server and alarm notifications can be sent via several methods including email and SMS text messages. Alarm triggers can initiate physical actions in the field such as turning pumps on and off or activating other control functions based on the internal program within the Neon data logger/ RTU.

The Neon system has fully bi directional communications between the Neon data logger/ RTU units and the central Neon server. This allows for remote diagnosis, remote programming and remote firmware updating for complete remote operation of the remote equipment and this minimises costly site visits. Neon data logger/ RTU units can be configured to read sensors, log data internally to local memory and push data to the central Neon server at user settable intervals such as once a minute, every few minutes, every hour, once a day.

The Neon Server Applications software is offered as either a hosted service for a subscription fee, managed by Unidata, or customers can purchase a Neon Server Applications Server License and run the software on their own server.

SOFTWARE ARCHITECTURE

The Neon Server Applications software is based on industry standard platforms and technologies, including Windows Server Operating Systems, Microsoft SQL, the .NET framework and IP networks.
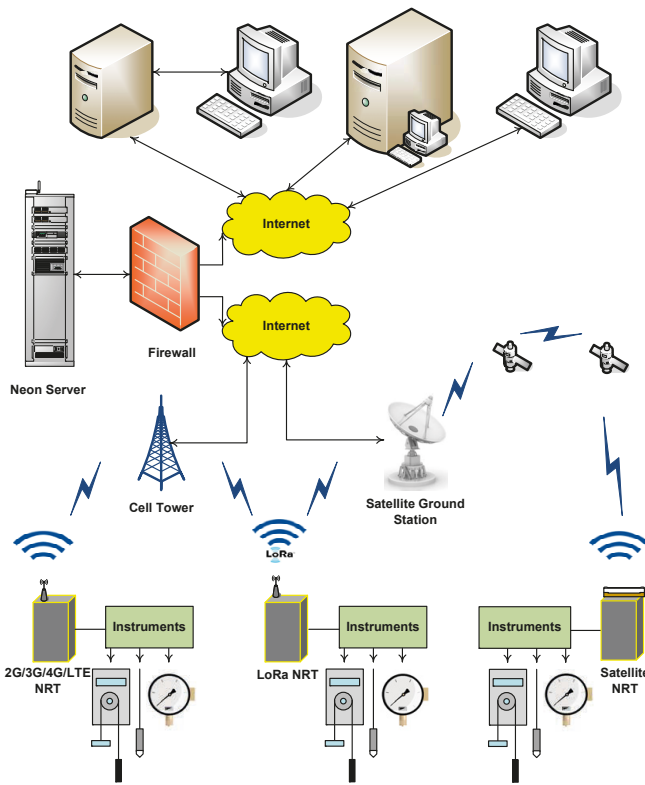
The software suite encompasses two major components: the Neon Communications Server and the Neon Web Application. The Neon Communications Server handles all communication protocols with the Neon data loggers and RTU units. This includes receiving and storing log data, processing commands and controlling alarms. The Neon Web Application provides the Web user interface, contains the reporting engine plus various data exchange interfaces

SUITABLE FOR

• Remote data monitoring and acquisition
• Environmental compliance reporting
• Metering for utilities
• Asset monitoring
• Modbus TCP
• Industrial Measurement

FEATURES

• Low communications overhead
• Scaleable architecture
• Software can be installed on - Windows 2008/2012 server - Physical servers or virtual servers - Scalable server platforms depending on number of loggers / RTUs required
• View data from any browser on the internet
• Reconfigure Neon remote loggers on-line
• Diagnose and reset Neon remote loggers on-line
• Upload new logger schemes on-line
• Automated FTP/ Web Services/email reports
• Data exchange with established third party systems, including Hydstra and Aquarius
• Automated email and SMS alarm notifications
• True IP services/guaranteed data delivery system
• Industry standard Microsoft .net architecture
• SQL database: SQL express, SQL standard or SQL enterprise.

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NETWORK MAP DISPLAY

Geographic areas, locations and loggers can be assigned a Latitude and Longitude and then displayed on a geographic map.

LOGGER NETWORK STATUS

The application software can display the status of each location in the network and indicate if the logger is inactive, operating normally or has an alarm condition.

This status is also displayed on the Network Map.

ALARM CONFIGURATION AND NOTIFICATION

Logger alarms conditions can be configured via the software application and can notify users of active alarms via the following methods:

1. Web site on screen display
2. Email
3. SMS

AUTOMATED DATA REPORTING

Automated data reports can be configured to export logger data from the Neon server to an external system. Reporting formats include, among others:

1. CSV files, delivered via FTP, email or web service
2. Hydstra files, delivered via FTP
3. Aquarius interface, import and export, compatible with Aquarius 3.X and NG versions

PHOTOGRAPHS AND VIDEO CAPTURE

The Neon system can automatically capture regular photographs and video from the field using the appropriate logger adaptors. These photographs and videos can then be viewed via the Neon Web user interface or delivered to an external system as JPEG or MPEG files.

USER SECURITY

The application software can handle any number of security access profiles, which can be configured according to access requirements. These access profiles can control which logger or group of loggers a user can access. System administrators can create users and assign the appropriate security access profile to them.

SERVER PLATFORM SOFTWARE REQUIREMENTS

- Microsoft Windows 2008 R2 Server or 2012 Server
- Microsoft SQL Server 2008 or later, Express, Standard or Enterprise editions

NEON SERVER APPLICATION SOFTWARE

This software is used to provide communicate between the server and on site loggers. Main functions include:

1. Retrieving data from the loggers and storing the data on the server
2. Managing logger configuration
3. Uploading new programs and logger schemes to the loggers
4. Displaying retrieved data in real time
5. Sending automated data reports to external systems
6. Sending alarm messages via SMS or Email

USER INTERFACE

The application software has the Neon Web user interface that can be accessed from anywhere on the Internet using a standard web browser.

LOGGER / RTU COMMUNICATIONS

- Cellular (2G/3G/4G LTE)
- Satellite (Global Star, Iridium)
- Lora radio
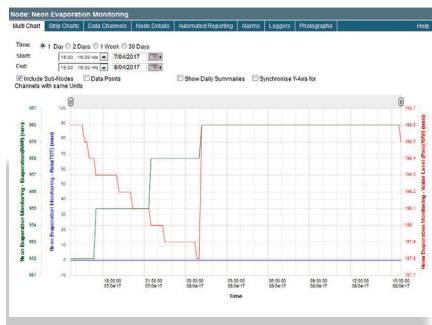
LOGGER CAPACITY

The application software is able to handle at least 5000 loggers, assuming that the communication parameters have been appropriately configured.

USER CAPACITY

There is no specific limit to how many users can be configured but the concurrent usage is dependent on server hardware and internet bandwidth capability.

LOGGER CONFIGURATION

All configuration and operating parameters of the loggers can be remotely managed via the application software. Users do not have to visit loggers on location to change their operating parameters.
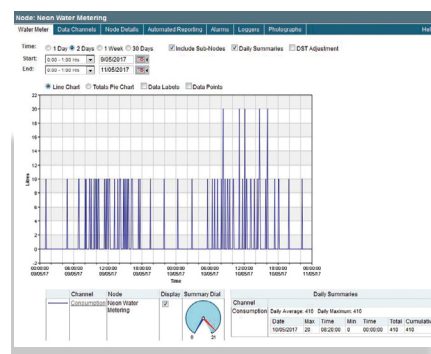
LOGGER NETWORK CONFIGURATION

The application software can group loggers and display data according to an unlimited number of geographic areas and locations.

DATA DISPLAY

Retrieved logger data can be viewed in real time, via the following methods:

1. Charting
2. Data Table
3. Excel Export
4. Weather Stations
5. Schematic diagrams

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