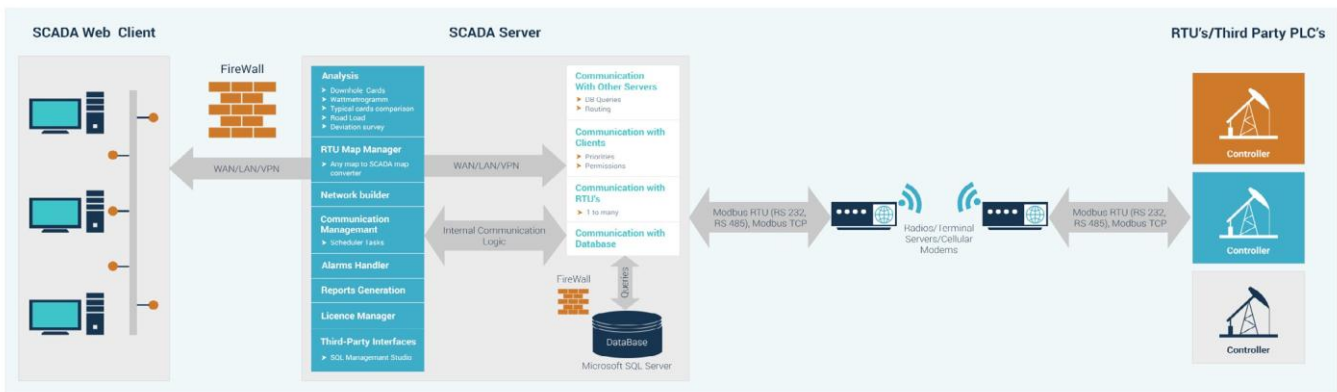


# SCADA System for Oil Pumping Rig RTUs

## SCADA TOPOLOGY



## Overview

The system is designed to diagnose, monitor and control technological processes (TP) of downhole equipment in real-time. The system provides a multi-level and multi-user access to technological and service staff. The system's whole diagnostic's tools are developed within National Instruments LabVIEW environment. The software is developed by «Ovak Technologies» upon technical specification of «Naftamatika» company. More about this system on [www.naftamatika.com](http://www.naftamatika.com).

## Functionalities

- Several levels of security and user access
- Database management
- Wells tree organization by group
- Wells analysis
- Well operation mode change
- Folders management (create, rename, delete)
- Wells management (create, rename, delete)
- Alarm history
- Parameters graphs review
- Alarms identification
- Historical information display for each parameter
- Multiple trends display over each other as graphs or tables
- Registers scanning and storage as a group
- Display of the same parameters of several wells in table (group view)
- Wells parameters management (read, write)
- Binding controller's Modbus registers with OPC tags
- Database connection configuration
- Service configuration (install, remove, start, stop, status)
- User access configuration
- Display of all registered users list
- Serial port parameters' configuration
- Ethernet port configuration
- Date and time synchronization
- Surface and downhole cards retrieval
- System analysis review
- Data retrieval from other systems databases
- Use of other OPC servers as data source for particular well
- Tags hierarchical display
- Implementation of T-SQL query from web GUI
- OPC support

- Configurator's activity log
- Tasks scheduler
- Display of all configuration ports
- Historical information life-span configuration
- Wells status parameters archive
- Cards lifetime configuration on server
- Report generation

## Advantages

- Production effectiveness increase
- Simplification and acceleration of change, update and modification procedures
- Detailed reference material
- Openness and compliance with standards provides the interaction with other programs by means of OPC, OLE DB, ODBC technologies
- Context help
- Simple-to-learn
- Object-oriented approach
- High data throughput of communication channels
- Data storage in case of following alarms and systems failures:
  1. Software failure
  2. Data transmission network failure
  3. Power supply system failure
- Unlimited data life-span
- Data retrieval for 20 parameters from 3600 units during an hour
- Individual settings storage
- Data export to MS Excel, MS Word and Adobe Reader
- More than 10000 controllers support
- Up to 5000 clients support
- Migrated in the cloud
- Can save big data in the Database and process it