



## + About AVE 2

AVE 2 is a modular system for automatic remote data reading from different types of gas-volume conversion devices. The system is capable of reading thousands or tens of thousands of devices as well as reading only dozens of devices.

The system architecture is designed for use on LAN networks as well as on WAN networks among several plants.

### The AVE system consists of:



### The main advantages of the AVE system include

- Administration of the whole system using a single application
- Easy system installation, administration and diagnostics
- System modularity
- Intuitive, transparent and modern user interface (MS Office 2007 style)
- Multilingual version of the client and server
- Support for the open market with gas (external dealers)
- Data presentation for end customers and external dealers via internet
- Seamless integration with SAP, Microsoft Office and Converge
- Automatic import of gas service points from the customer information system (CIS)
- Automatic export of data to the customer information system (CIS)
- Automatic update of AVE Client and AVE Mobile for PDA
- Data presentation in actual time (summer/winter time)
- Automatic data check
- Automatic data correction
- Import of data from original device software
- Semi-automatic data reading using PDA
- Data export for Microsoft Office (data, print reports)
- Automatic data transfer into DataWareHouse and third party relational database using configurable data pumps
- Data stored in relational databases (MS SQL, Oracle)
- Automatic data backup
- Servers run as a service
- Cluster solution
- Support and use of .NET, XML, COM/DCOM, DDE, SOAP and HTTP standards
- Machine-machine interface for data exchange with third party applications (audit systems) based on web services
- Designed for MS Windows 7, Windows 2000/XP/Vista and MS Server 2003/2008
- Primary and secondary connection to a device
- Fast and high-quality support
- Alarms and events

## + AVE 2 Client

A crucial tool in the AVE 2 system is AVE Client. AVE Client is designed for administration and control of the whole system without the need to use any other tool or utility. Every user is required login the system using a login name and password in order to get a user role and to be able to see enabled documents/screens.

### General characteristics

- Intuitive, transparent and modern user interface (MS Office 2007 style)
- Automatic updates
- Seamless integration with Microsoft Office (copy, export)
- Mass edit of parameters of several devices at the same time
- Advanced function for data filtering, sorting and making groups of devices

### User management

- Management of AVE Client users and Internet AVE users
- Management of external dealers
- Management of user accounts for data transfer using the machine-machine interface
- Assignment of devices and groups of devices to user accounts
- Overview of currently connected AVE Client and Internet AVE users

### Automated data acquisition

- Grouping devices into logical groups (profiles)
- Defining of automatic schedulers for periodic device reading at specified time
- View of data reading progress
- Centralized control of acquired data

### Manual data acquisition

- Import of data files acquired by the original software
- Optional link definition for automatic assignment of data files in AVE
- Importing universal protocols created by MS Excel
- Manual entry of device states to specified dates
- Data import from control stations of the SCADA system
- Data recount in the case of manual data entry or missing values
- Definition of corrections and recounts of corrections for acquired data

### Presentation of acquired data

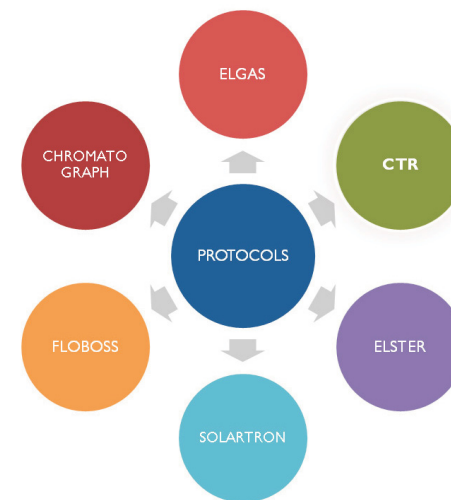
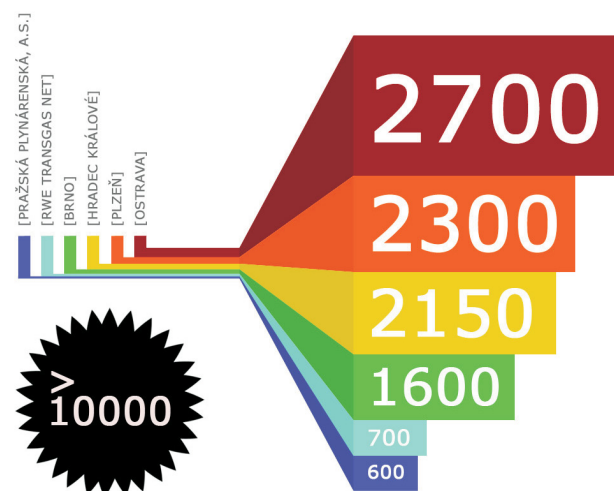
- Presentation of data in the current time (support for summer / winter time)
- Data view in form of hourly, daily and monthly consumption diagrams
- Print reports of consumption diagrams
- Export of data in XLS, CSV, PDF, HTM or TXT formats
- Bulk data exports for multiple devices
- Graphical data presentation (trends)

### System diagnostics

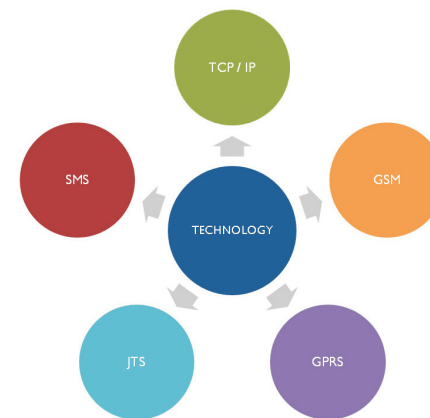
- Data reading diagnostics, communication progress statement for a given time period
- Diagnostics of server modules
- Diagnostics of the CIS interface
- System reports
- Administration, configuration and diagnostics of data pumps

### CZECH REPUBLIC DEVICES FOR READING

[RWE]  
[RWE TRANSNGAS NET]  
[E.ON]  
[+]



### COMMUNICATION PROTOCOLS



### TRANSMISSION TECHNOLOGY

### DATA EXCHANGE



## + AVE Server

The AVE 2 system uses client/n server architecture. Application servers provide the key functionality of the system and they are designed as independent subsystems with minimum requirement for configuration. The advantages of this solution are maximal adaptability to the needs of the customer, easy installation and system administration.

### General characteristics

- Application servers run as a service
- All data is stored in relational database
- Cluster solution support
- Processing of AVE Client requests
- Processing of Internet AVE requests
- Device data reading
- Sending of e-mail and SMS messages

### Remote data reading

- Reading using multiple communication channels at the same time (COM ports, modems, GSM modems, GPRS/TCP transmissions)
- Distribution of reading to multiple servers
- Begin reading according to schedulers at any time
- Definition of primary and secondary connections
- Redirect reading to the backup server in the event of failure of the main server
- Optimizing reading (limit reading to new data, several requests = one reading)

### Elgas devices

- Elcor 94, Datcom, microElcor, microElcor2, Elcor 2, Datcom 2, Datcom AMR, miniElcor, maxiElcor

### Elster devices

- EK 8x, DS 100, EK 260, DL 240, M 2000

### Other devices

- Solartron, FloBoss, Chromatograph, Daniel 2350A, Epp, MacMATIIE, Devices using Modbus protocol

### Interface for connection to customer information system

- Automatic import of devices, dealers
- Data presentation for dealers in relevant time
- Automatic data transmission to CIS
- Automatic completion of missing values
- Seamless integration to SAP, Converge

## + Internet AVE

AVE module for data presentation to the end customers via Internet.

- Support for most browsers (IE 7.0, FireFox, Opera...)
- Support for user roles (customer, dealer, distributor)
- Presentation of data in current time (summer/winter time)
- Presentation of data in the form of hourly and daily diagrams
- Data exports in XLS and CSV formats
- Bulk exports from several devices in XLS and CSV formats
- Universal machine-machine interface for data transfer to third party applications using general web service protocols

## + AVE Mobile

AVE Mobile is an application designed for local data reading from devices using PDA.

- Easy and intuitive control optimized for finger control without the use of a stylus
- Basic and advanced mode
- Automatic data transmission to the central data store
- Intuitive selection of the time period for data reading (day, week, month, all records)
- Data stored in file format created by the original device software
- Optional device time synchronization with PDA
- Graphic presentation of read progress
- Decoding and validation of acquired data
- View of actual and archive data from device
- View data in graphs
- Automatic updates
- Support for devices using Windows Mobile 5.0, Windows CE and Windows Mobile 2003