

# ADDAX SOFTWARE SOLUTION BASED ON UP-TO DATE ADDAX TECHNOLOGY FOR RESIDENTIAL METERING



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### SIMS APPLICATION SERVER

Provides data collection functions necessary to schedule readings of meter interval data and meter registers from data concentrators and store that data in the central database, automatically manages the load and proceeds the tasks

#### SIMS APPLICATION CLIENT

Includes MDMS elements and provides daily operation of the system by monitoring and administering the network, data collection configuring and visualizing the data, remote parameterization, meters control, events handling

#### **NETWORK MANAGEMENT AND CONTROL**

Provides automatic discovery, registration and support of end-point devices within the network, network status monitoring, generating statistics reports

## DATABASE MICROSOFT SQL SERVER

Stores the meter register readings, load profile data, as well as all configuration data required to read a meter, and to associate the metering data with metering points, customers and premises within the network

## **DOMAIN NAME SERVER (optional)**

Converts host names and domain names into IP addresses on the Internet or on local networks that use the TCP/IP protocol

	Microsoft Windows Platform
SQL	SQL Server Database
\$	Data Exchange With External Systems
٩.	Differentiation of Access Rights
S	Remote Software Upgrade & Parameterization of Controlled Devices
Т1-Т6	Support of Multi-Rate Registration
0	Time Synchronization of Controlled Devices
Ü	Event Log
<b>(</b> ))	Alarms Management & Control
	Schedulling of Devices Operation
<b>~</b> -	Remote Relay Triggering
<b>A</b>	Tamper-Proof & Anti-Fraud Control
<u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u></u>	Control of Consumption Imbalance
昌	Generating & Printing Reports
ul	Graphical Visualisation of Meter Data
PLC	PLC Support
<b>?</b>	Support of 3GPP Communication
	Network Management & Control
DCU	Tools to Control & Debug Data Concentrator Operation
Web	Support of Web-Services Architecture
IP	Support of IPv4/v6 Protocol
P3.2Ex	Support of P3.2Ex Protocol
OPS	On-Premises Software
24/7	Uninterrupted Operation



SPECIFICATIONS		
SVSTFM	Operating System	
REQUIREMENTS	MS Windows 8.1 Professional	
	<ul> <li>MS Windows Server 2008 R2 Standard/Enterprise</li> </ul>	
	MS Windows Server 2012 R2 Standard/Enterprise	
	MS SUL Server Standard Edition 2012     32 or 64-bit operating system	
	Database Server	
	MS SOL Server 2008 or 2012 Standard/Enterprise	
	•OPS (On-Premises Software), deployed at the customer server(s), not requiring Internet	
	connection	
USER FRIENDLY	Intuitive graphical user interface with standard Windows view	
INTERFACE	English as default language	
	<ul> <li>Possibility to change user interface language according to customer requirements using dedicated *.lng file</li> </ul>	
DLMS/COSEM SUPPORT	Standard data model	
	Standard communication protocols	
	Interoperability	
INTEGRATION	Integration with third-party systems, such as Billing system, CRM, CIS	
	• 2-way integration using P3.2Ex protocol (based on DSMR P3.2 protocol). Web-services	
	Support System Users Management	
INFRASTRUCTURE	• Creating managing and delating new users and user groups	
MANAGEMENT	• Assigning users to groups and granting relevant rights for users and user groups	
	Managing Address and Measuring Points	
	• Creating, assigning and deleting address groups and measuring points	
	•Linking devices to measuring points	
	Import of devices geographical address from a file	
	• Import of devices from the external systems	
	• Tasks for data export to external systems	
	Configuration tasks	
	Switch tasks	
	Updating tasks	
	Network Management (DCU Manager, DCU Logger Server, Virtual Data Concentrator)	
	Real-time monitoring of current network status	
	Detecting network changes     Identifying types of new devices	
	• Displaying reports of associated devices statuses and history, time synchronization events	
	<ul> <li>Detailed software and hardware information for network devices</li> </ul>	
	• Using of Virtual Data Concentrator (VDCU) for direct communication between meters and HES	
DATA	Remote data exchange between the HES and end-point devices	
COLLECTION & PROCESSING	• Data acquisition automatically (by schedule) or on demand (online data request)	
	• Accumulation and storage of collected and processed data from the meters, including interval and real-time readings. Event Logs, outage history	
	• Meter data collection: interval data (5', 10', 15', 30', 60', daily, monthly), consumption data	
	(active/reactive energy, active energy import/export, reactive energy 4 quadrants, Max	
	demand), TOU, electricity quality data	
	<ul> <li>Data collection from the 3<sup>rd</sup> party HAN metering devices (water, gas, heat meters) via ADDAX meters</li> </ul>	
	Viewing reports on data availability and received data itself	
	Graphical visualization of metering data	
	Archiving and restoration of the consumption data	
	<ul> <li>Generating reports that can be printed or exported (XML, CSV, PDF, MHTML, Excel, TIFF, Word format)</li> </ul>	
	• Transmission of the processed data to the HES	

SPECIFICATIONS		
CONFLCUDING	Remote parameterization of the devices under control	
	<ul> <li>Remote configuring of the group of devices of the same type or a single device</li> </ul>	
	<ul> <li>Real time configuring or sending of configuration task in advance</li> </ul>	
	<ul> <li>Configuring of meters technical parameters, thresholds for energy quality control, interval profiles, tariff profiles, calendar settings, event control, relays operation schedules, security</li> </ul>	
	settings	
	Configuring of data concentrator (DC) communication channels and interfaces over web	
	<ul> <li>Viewing and printing of the configuration history for a single device or group of devices</li> </ul>	
SOFTWARF	Remote meter and DC software update	
UPDATE	<ul> <li>Support of Image Transfer mechanism for meters updating</li> </ul>	
	Continuous time synchronization for the devices under control	
CONTROL	• Remote management of the switch relay for consumer disconnection/reconnection on demand or on schedule	
	<ul> <li>Remote management of the extra relay to provide Demand Side Management (DSM) on demand or on schedule</li> </ul>	
	<ul> <li>Control commands may be defined to be executed only on predefined intervals (e.g., working hours), and after that, are automatically canceled</li> </ul>	
	Setting and changing of TOU tariffs	
	• Electrical energy quality control by monitoring the power quality indices as well as outage management	
	<ul> <li>Control of the electricity consumption balance in the distribution network</li> </ul>	
	Tamper-proof and anti-fraud monitoring and control	
	• Sending informing or warning text messages to the remote Customer Interface Units (CIU)	
EVENTS & ALARMS HANDLING	• Viewing events, taking place in the System for the System itself, group of devices or a single device: user actions, configuration setting, devices state changes, alarms, etc.	
	<ul> <li>Generating reports on DC statistics (discovery history, firmware updates history, communication statistics, installation/deinstallation of slave devices, logs delivery)</li> </ul>	
	Changing of alarm statuses	
	<ul> <li>Generating reports on alarms and events that can be printed or exported (Excel or PDF format)</li> </ul>	
	<ul> <li>Providing visual warning on alarms occurred and sound alarm</li> </ul>	
	Monitoring of the devices with specific unresolved alarm	
	Ignoring/registration of the alarms for the group of users or devices	
	• Sending commands to switch the meters off, when specified alarms occur	
	• viewing different types of meters event Logs in real time, such as changes of configuration, firmware update, beginning/failing or remote/local communication, power outages, fraud	
	Viewing user requests including pending requests	
REPORTING	•Using of SQL Server Reporting Services 2008 R2 tool	
	• Role-based security to grant user access to a report server	
	• Possibility to create interactive, tabular, graphical, or free-form reports from HES data sources	
	<ul> <li>Reports viewing on-demand or scheduled reports processing as well as delivery by e-mail</li> </ul>	
	<ul> <li>Different formats of reports, such as XML, CSV, PDF, MHTML, Excel, TIFF, Word file</li> </ul>	
	Reports accessing using Web-browser or directly from HES	
COMMUNICATION	• 3GPP, Ethernet data communication	
	• Support of web-services for communication with DC	
SECURITY	• Standard Microsoft Windows and SQL Server information security facilities	
	Password access to the database and client application     Differentiation of the seases rights at the different functional levels for different user groups	
	• Differentiation of the access rights at the different functional levels for different user groups and users	
	Support of VPN between the DC and HES on transmitting data over public channels	
	Support of AES-GCM-128 Security Suite for data encryption and authentication and key	
	transport methods between meters and DC or directly with HES. Support of LLS (Low Level Security) and HLS (High Level Seucrity)	
	• Data exchange between DC and HES over web-services based on https/x.509 certificates	