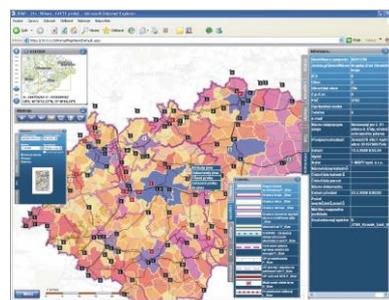
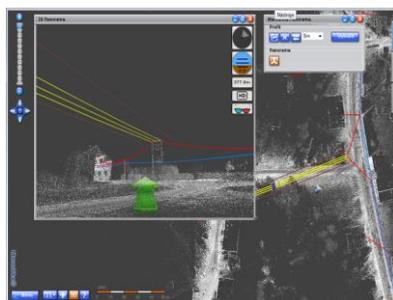
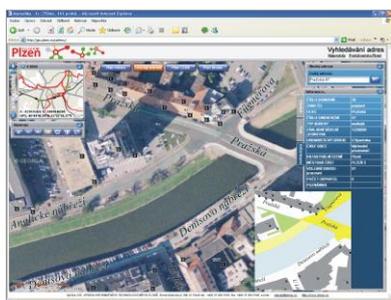


Marushka Server

Product Specification



GEOVAP

Introductory Information

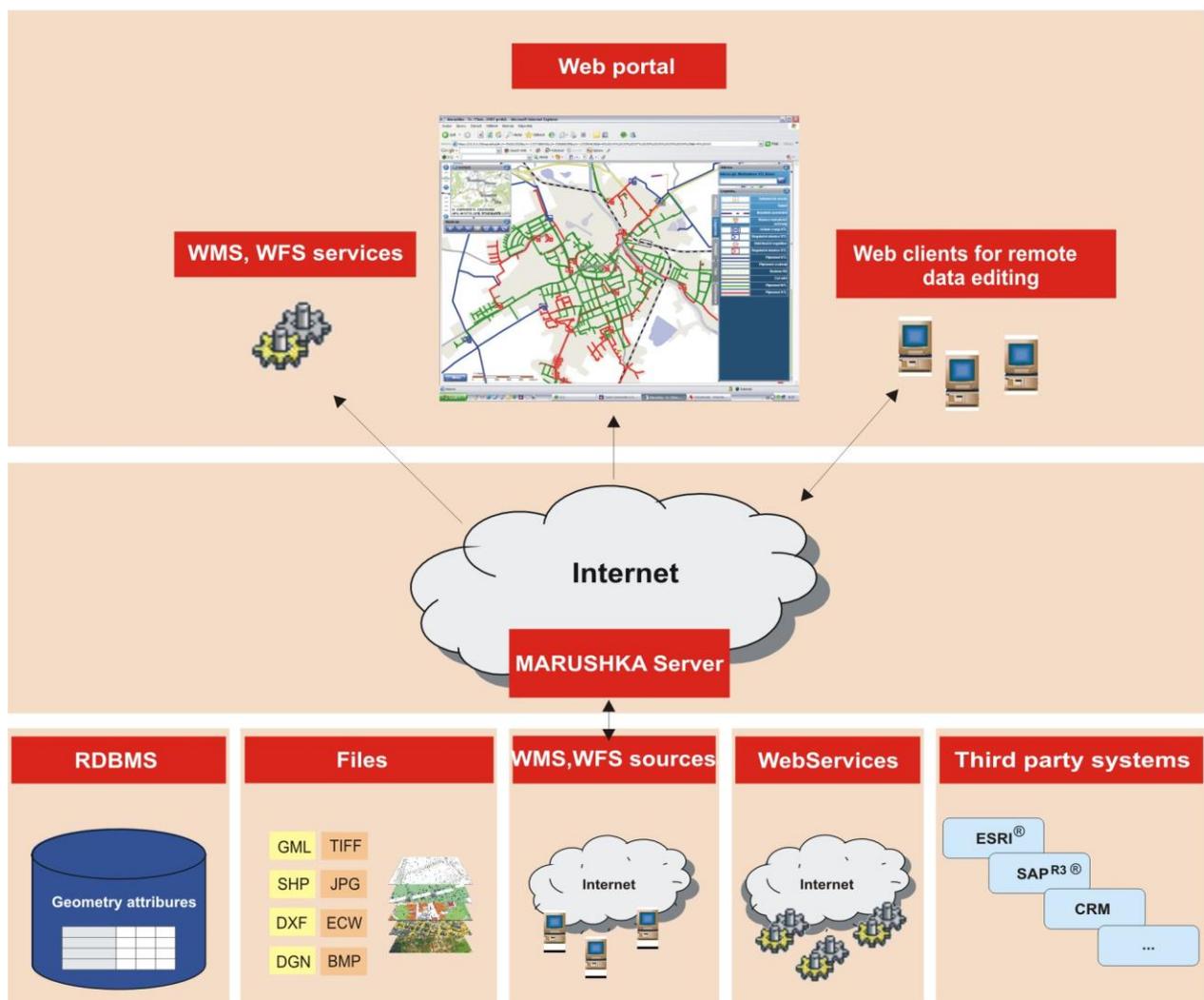
Product **Marushka Server** represents a new generation of tools (devices) for publication and use of GIS data in the Internet and intranet. It is built on component technology in .NET environment. The aim of development was to overcome the limits of current map servers, especially in terms of publishing performance and cartographic data presentation.

Marushka Server publishes data from uniform data store on RDBMS basis with extreme speed. Data are transmitted by the standard protocol (http/HTML) in raster form in symbology defined on the server side. The client in a standard web browser allows all the progressive options for controlling the map view. The descriptive information of the displayed data graphics, dynamic legend and server-generated printouts, exports to various raster and vector formats are solved by a completely unique way.

Marushka Server

Map server Marushka® is also a tool to publish data through OGC Web Services standards, such as WMS and WFS. For advanced applications, it is then possible to provide data based on Web Services and SOAP, which is encrypted and optimized in terms of size of transmitted data.

Marushka Server in combination with GeostoreV6 system also allows full editing of graphical data from remote locations via Internet connection.

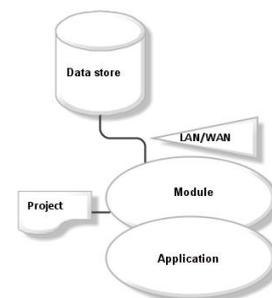


System Requirements

- Support of operating systems SUSE Linux Enterprise Server, RED HAT Enterprise Linux, Windows server 2012 R2
- Web server: Microsoft IIS 5.0 and higher, Mozilla Firefox and Google Chrome
- 64bit architecture support
- Support of virtualization platforms

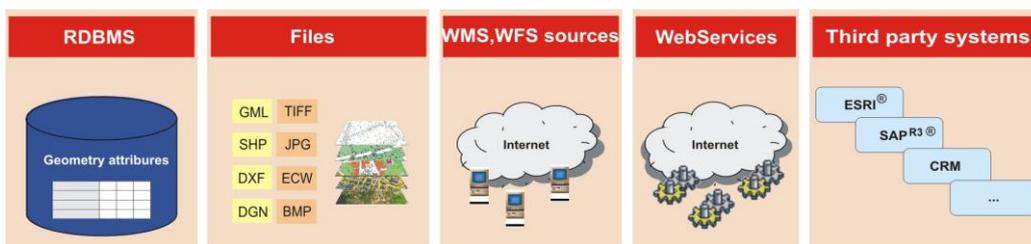
Architecture

- Three-layer architecture of map server based on .NET technology with saving graphical data into RDBMS
- Data publication is possible from the moment of data publication into RDBMS, it is not necessary to prepare data
- Limitlessness of data modelling of application itself and non-existence of data metamodel, it is not necessary to adapt user data model to system needs
- Excellent data publishing performance, no limitations in terms of the amount of data and the number of displayed layers
- Data publishing in internet formats (SVG, JPEG, PNG, GIF) through HTTP/HTTPS protocol
- Unlimited possibilities in terms of input data formats
- Server services for data provision via Web services and SOAP with encryption and optimization of transmitted data



Data Stores and Formats

- Output vector file formats: SHP, DGN V7, DGN V8, WKB, DXF, GML, DWG
- Raster formats: TIFF, Geo TIFF, JPG/TIFF, JPG200, ECW, BMP, PNG, GIF
- RDBMS ORACLE, MS SQL Server, Postgresql, Sqlite
- Support of native formats of vector geometry of database data stores + support of WKB and WKT in all data stores
- Services WMS and WFS of client and server



User Administration

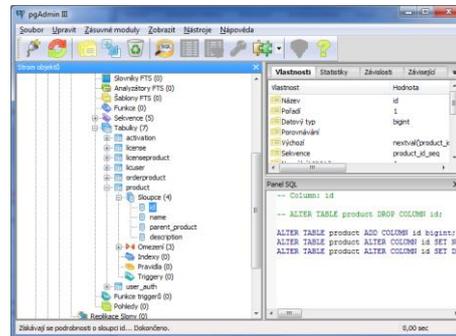
- User authentication and authorization for services, data and editing
- Management of user account, including permission settings on individual publish services and web application security
- Possibility to secure group of services or individual services
- Management using roles, with option to use Windows accounts and groups and groups or definition stored in the database server



- Support of SSL for communication

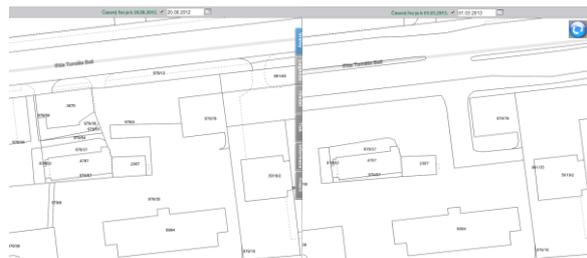
Geo-data Management

- Management of data in a relational database, definition of any data scheme
- Possibility of using native spatial data types within a given database, including spatial indexation
- Multi-user data sharing and editing
- Support for replication of geo-databases and their mutual synchronization – unidirectional or bidirectional
- Replication of data content and creating disposable replicas and backups
- Support of all common coordinate systems in the Czech Republic (S-JTSK, UTM, WGS84, ETRS, S-42 and others)
- Publication of map bases or map bases stored in vector or raster map cache
- Publication of vector representation of geo-elements and its symbology



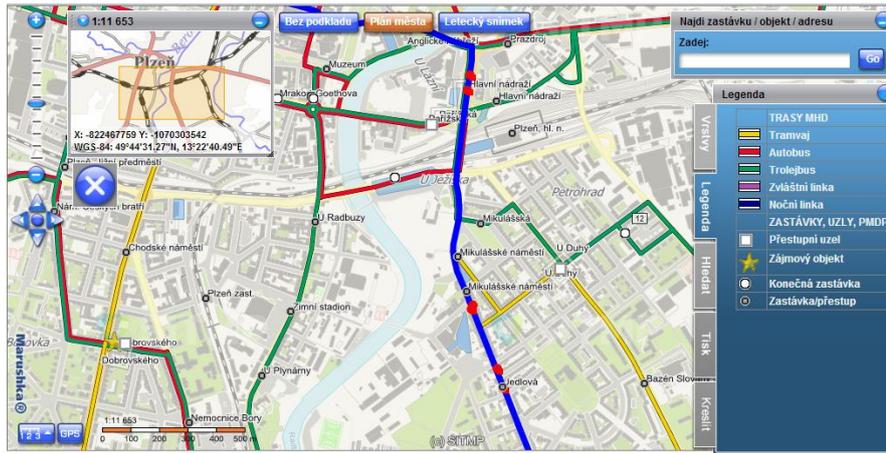
Support of Versioned Database

- Data versioning and comparing different versions in terms of changes in geometry or element attribute information
- Record of history of operations with data
- Tools for data versioning, replication, export and import of data



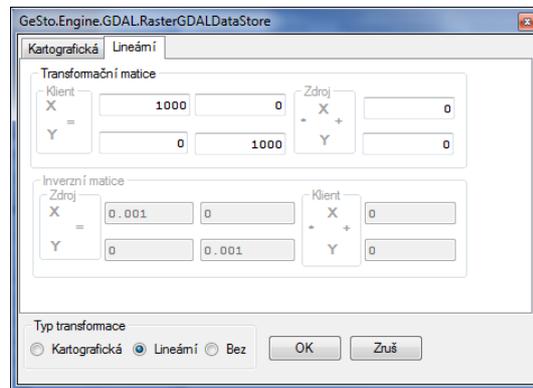
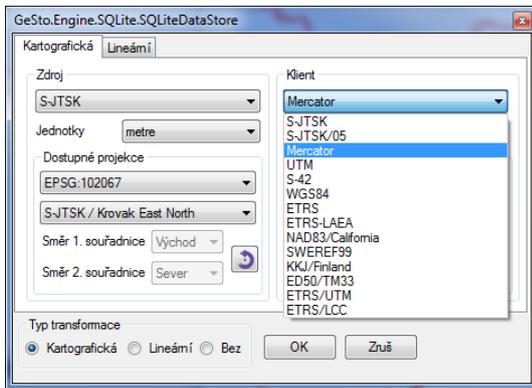
Analytical Tools

- Configuration of analytic functions using Marushka GIS Admin
- Publication of analytical queries of network services (SOAP, GET, POST)
- Geometric services allowing calculations of buffer zones, areas and lengths
- Data extraction, querying the database content without any restrictions
- Tools for processing and analyzing geographic data, unlimited combination of spatial and attribute predicates
- Support of localize queries (address search)
- Support of chart tasks (geometry consistency and topology of spatial data check, creation of area chart, searching for critical path)
- Support of regionalization of service centers (transportation services)
- Visibility analysis support
- Support of general spatial analysis (zoning, general set operations)
- Support of selection and visualization of data according to the time records, the use of OLAP technologies in the database data store
- Providing computing performance of analytical tasks on the server side by technology request/response



Transformation of Coordinate Systems

- Service for precise transformations of coordinate systems



Support of Open Geospatial Consortium (OGC) Standards

- Support of publication of web services OGC
- WMS, WMTS, WCS, WFS, WPS, CS-W

