

That is really worth it!

Central Institute for Supervising and Testing in Agriculture (ÚKZÚZ, formerly the State Plant Health Administration) uses a number of internal information systems that communicate with the services provided by the Electronic Filing Office at the Ministry of Agriculture of the Czech Republic. Communication was fragmented between different systems without central administration and auditing. The aim of the project was to design and implement an Integration platform to unify communication with the Ministry of Agriculture and any other external entities, enable unified administration, increase security and enable more efficient auditing. The deployment of the Light Service Bus (LSB) component in the High Availability configuration was designed for this purpose.



## REFERENCE



### Ústřední kontrolní a zkušební ústav zemědělský

*(Central Institute for Supervising  
and Testing in Agriculture)*

## ÚKZÚZ

The institute carries out administrative proceedings, professional and testing actions and control activities in the fields of plant protection and plant products, mechanization means and professional phytosanitary activities

## Advantages of using LSB

- Low price
- Prompt deployment
- Easy service management
- A flexible and efficient solution with fast response time
- The ability to validate requests and responses using XSD, which can further reduce the communication burden
- Ability to respond to service changes by XSL transforming requests and responses without the need for major interventions in the services on the other side of the communication

## Benefits

- Unified certificate management for SSL communication
- Simple and efficient configuration of consumed services
- Validation and transformation of requests and responses
- Unified communication with external systems via a single component
- Precision communication audit

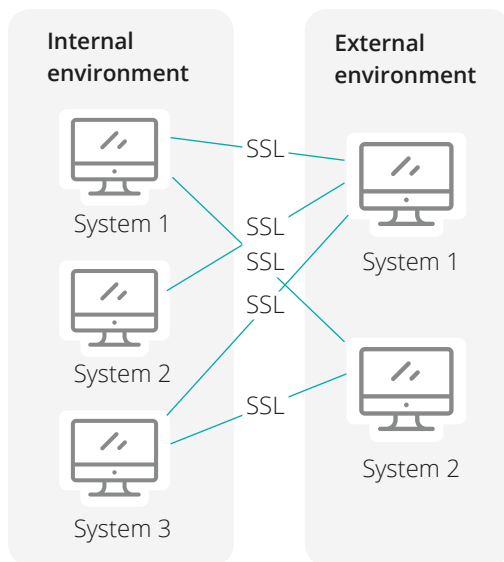
## Technologies used

- LSB component
- Apache HTTP Server
- Python
- MySQL relational database in master-slave replication mode

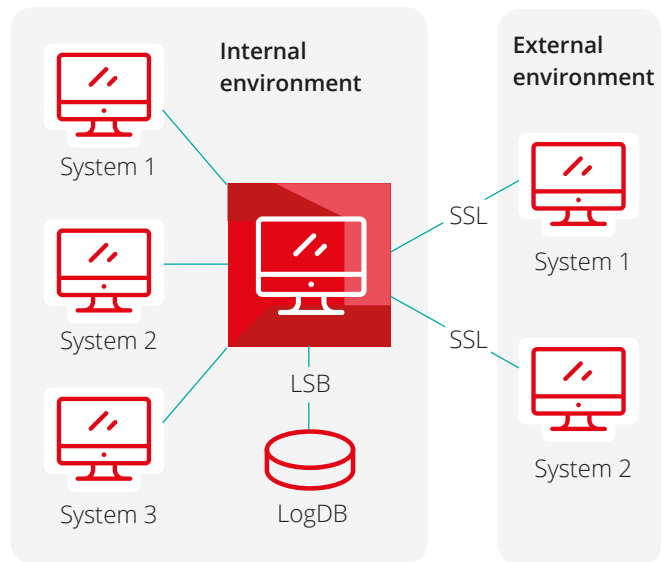
## SERVICES PROVIDED



## Default state



## Target state



## Reference

„Cooperation with GEM System in connecting our agency information systems to the core registries through new communication and integration platform required a professional approach and maximum commitment with regard to given the limited time available.

The project was successfully implemented in the required quality and in accordance with the applicable standards.”

### Ing. Aleš Prošek

Director of the Department of Informatics  
Central Institute for Supervising and Testing in Agriculture



## Project implementation

### Analysis

GEM System performed a detailed analysis of the client's services and, depending on the results of this analysis, the LSB component was used to enable efficient and hardware-light unified management of secure SSL communication with external services, validation and transformation of requests and responses, and asynchronous logging of communications for auditing - all at a very low price. For purposes of ensuring high availability of the Client Integration Platform, it was designed deployment of the LSB component on two parallel servers. Also, the database for storing logged communication information was deployed in High Availability mode using classic master-slave replication and failover utility to monitor possible database server failure.

### Testing

After the analysis was completed, the approved Client Integration Platform solution was deployed on the test environment. To verify the correct functionality, a test configuration of services for communication with the EPO test services of the Ministry of Agriculture was performed. Subsequently, the actual testing was performed by the form of SoapUI tests with descriptions, the creation of which was part of the project implementation and testing integration with the selected client's agenda system.

### Production deployment and support

After successful testing in a test environment, the solution was deployed into production environment and the production configuration of the provided services was performed. In addition, replication was set up for the High Availability database solution storage for logged communication information.

As part of the production deployment of the Client Integration Platform solution, we also launched a support mode that is available to resolve operational issues with the Integration Platform 24/7.