

# Internet-based Parking Guidance System from Setrix

Setrix is the first company to offer a completely internet-based parking guidance system. The system provides great flexibility and can be optimally integrated into the customer's operating procedures. The software is browser-oriented. Parking garages as well as message signs are connected via the internet without cables. The advantages include: utilization of legacy infrastructure, minimization of connection costs, and easy expansion any time in the future.

The Setrix solution enables implementation of new operating models for parking guidance systems. The benefits can be extended to other user groups such as parking garage operators and public.

The solution is service-oriented. Customers do not have to administer a server on their own premises. Backup, restore and monitoring are performed automatically by an internal or external service provider. This minimizes total cost of ownership (TCO) of the server system. It also makes it easy to implement operation of the parking guidance system by a third party.

## Advantages

The advantages of internet technology for operating a parking guidance system:

- **Service-oriented**

Functions are available via the internet and can be executed by all authorized users. Own hardware is not required.

- **Browser-based**

Installation on special PCs not required. Software is updated on the server.

- **Hardware with high availability**

Server operated in a computer center or special department. Advantages: redundant hardware components, rapid and direct maintenance, high-speed internet connection

- **Scalable**

Several servers ensure high availability and higher speeds. Linking of additional parking garages and message signs is easily implemented.

- **Flexible**

Smooth integration into the customer's operating procedures. All participants receive user rights so they can execute functions.

Can be adapted to organization changes at any time in the future.

- **Low price**

Enables choice of operating the least-cost system available

The software is web-based. Does not need to be installed on a specific computer. It can be started anytime and anywhere. All that is needed is a browser and internet access.

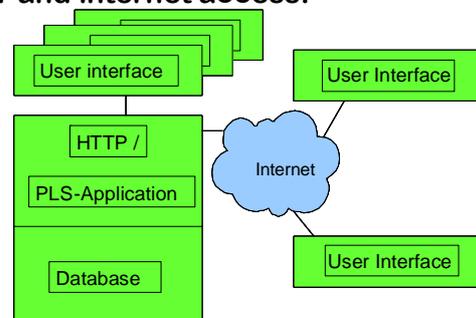


Fig. Internet-based PGS – Server configuration

A central server in the internet executes the GPS application and the database.

This computer does not need to be installed on the customer's premises. This means it is easy to operate the computer in a computer center for optimum availability and communication links. Municipal departments such as police, administration dept and building authority can access the service at all times. The group of authorized users can be increased or reduced at any time. New possibilities for integrating garage operators and public can be implemented.

### Benefits of the Setrix solution

Optimal integration into the customer's organization, minimal operating costs for parking guidance system operator and a scalable system are all features of the Setrix solution.

Deployment of the Setrix PGS system brings benefits for everyone:

- **Planners:** optimum operating model for the customers, integration of additional users

- **Suppliers:** Easy installation and new maintenance options
- **Operators:** Optimum service structure for each individual organization
- **Customers:** Innovative solution, more utility and optimized operating costs

### Selected applications

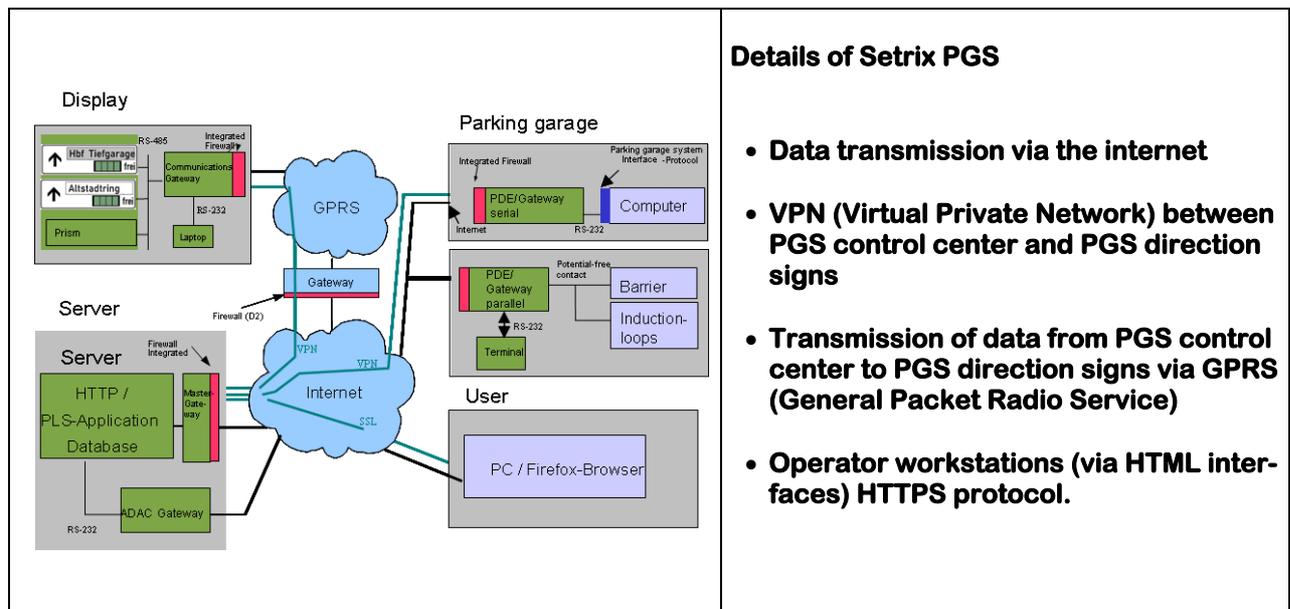
Setrix solutions with GPRS communications:

- **Munich:** Parking guidance system with 60 dynamic sign locations via GPRS
- **Cologne:** vehicle counting systems on stadium parking places and connection to stadium parking control center via GPRS

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### Setrix internet-based PGS



### Details of Setrix PGS

- **Data transmission via the internet**
- **VPN (Virtual Private Network) between PGS control center and PGS direction signs**
- **Transmission of data from PGS control center to PGS direction signs via GPRS (General Packet Radio Service)**
- **Operator workstations (via HTML interfaces) HTTPS protocol.**