



EDAPTIVA – URBAN TRAFFIC MANAGEMENT CENTER

- **Monitoring in the real time**
- **Control in the real time**
- **Strategic and adaptive control**
- **Open interface to the systems of different manufacturers**
- **Open architecture to third-party systems integration**

General Description

EDAPTIVA is the urban traffic management center providing monitoring and effective solution for the city traffic situations. EDAPTIVA offers a level of monitoring, surveillance and adaptive management meeting requirements of small, medium and large urban agglomerations. The basic principle of the center is the comprehensive monitoring and control of light signaling system of all intersections to ensure relevant traffic flow. An integral part of the system is a preference of public transport vehicles and integrated rescue system vehicles.

The urban traffic management center can be easily connected to controller with AŽD, CROSS or OCIT communication protocol. In the case a communication protocol of some other manufacturer is available EDAPTIVA can be adjusted also to this protocol.

Through the integration of other monitoring and detection systems (e.g. camera and parking systems, traffic detectors, weigh-in-motion, etc.), EDAPTIVA can strategically control the city traffic. At the same time it can provide drivers with traf-

fic information through variable message signs.

The advantage of EDAPTIVA management center is adaptability to the specific conditions of the city. Its design is also open to any local partners.

The urban traffic management center EDAPTIVA was developed in co-operation of AZD Praha and CROSS Zlín.

Basic Technical Description

EDAPTIVA can be operated from the single central dispatcher's workplace or from several technologically and functionally multi-featured regional workplaces. They can be hierarchically limited according to access software rights.

Thanks to automatic software processing the system is user-friendly. Setting the entire user interface is possible in local languages. The city map basis gives the user a graphic overview about the specific situation at the specific location in the real time.

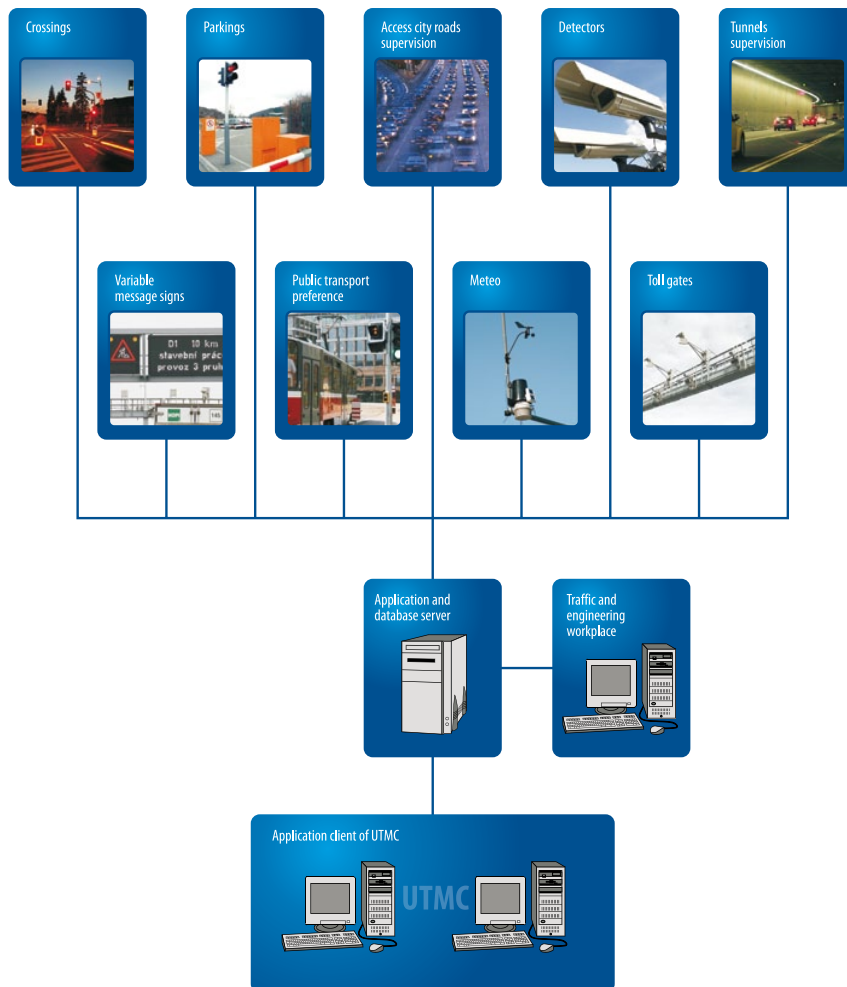
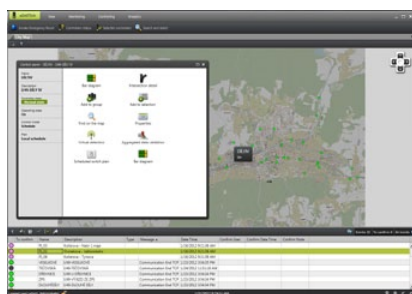
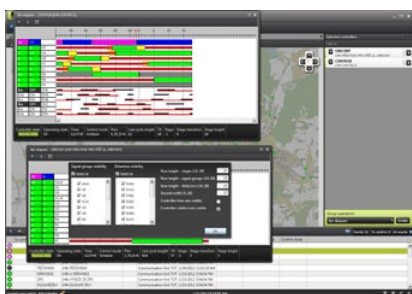
The urban traffic management center integrates three levels of functional parameters.



Real-time Monitoring Level:

- Monitoring of intersection operational state with possibility to filtrate the groups of intersections
- Visualization of a detailed status of the city, groups of controllers in the map cut-outs with details up to the signal groups and detectors
- Display of an interactive diagram of individual intersections with visualization of the real control procedure (signals, detectors, other inputs and outputs)
- Graphic display of band diagrams of signal groups and detectors state
- Recording the signal plan progress
- Display of controller subsystems parameters (groups, detectors)
- History of events in the system (errors, control commands, etc.)
- Intersection capacity calculation
- Graphic comparison of light signaling system capacity utilization
- Graphic monitoring of co-ordination effectiveness
- Monitoring the HW state
- Statistical data (freely definable log)





- Display of parameters of traffic flows (e.g. intensity, gap between vehicles, use of leave time, etc.)
- Processing of historical data (fully user-definable filtering and retrieval of records)

Supervising and Control Level:

- Control based on data from individual controllers in the real time – possibility to switch road signaling system into the blinking yellow immediately or according to the timetable, switching of plans and their parameters
- Change of operation mode of intersections individually or in groups for the Public Transportation vehicles preference
- Setup and starting routes of vehicles with right of way on isolated

intersections and on coordinated traffic lines

- Manual operation phase control
- Availability of features for individual controllers or group of controllers

Strategic and Adaptive Control Level:

- automatic change of signal plan parameters generated in individual controllers in the following range:
 - Change of the limits prolongation
 - Change of demand conditions
 - Change of extending the parameters (time gap between vehicles, occupancy etc.)
 - Change of the phase order and their structure
 - Recalculation of signal plan synchronization point
- Automatic definition of co-ordination parameters

- Automatic switching of signal plans or groups of signal plans
- Remote upload of the new traffic logic into the controller

Definition of logic is carried out by traffic functions and parameters based on data in the real time and also statistical data. Input traffic functions provide information from detectors and controllers (numbers of vehicles, occupancy, congestion, use of green interval). Output functions enable to switch signal plans, to change their parameters and to modify their traffic logic.