Homeland Security & Critical Infrastructures

CSP-ALS
AUTOMATIC LOCALIZATION SYSTEM

PERSEUS CSP is a telecommunication solutions designed to provide professional users with integrated network and services across heterogeneous technologies and to bring in professional broadband environment the same level of functionalities, services and reliability supplied by narrowband technologies.

The **CSP-ALS (Automatic Localization System Server)** is the network element used to track mobile assets such as mobile units and operators with handheld, inside the CSP TETRA network.

To provide mobile unit location and in general fleet management. The GPS position data is transmitted from mobile unit on vehicle or handheld radios to the CSP-ALS using the Short Data Service (SDS) provided by the TETRA network.

The CSP-ALS supports the Location Information Protocol (LIP), an ETSI application layer protocol designed to minimize the number of location reports sent over the air-interface to avoid network congestion.
In this way, it can work with most TETRA radio terminals available on the market.
The localization messages are received from a dedicated CSP-ALS server and then dispatched to several ALS clients according to mobiles distribution.

The Localization System is based on a main single CSP-ALS and several ALS clients running a specialized tracking application. This application manages the fleets (mobile units and/or handhelds) and provides a graphical visualization of the tracks on a operative map. All the most widely deployed map formats are supported.

CSP-ALS

MAIN FEATURES

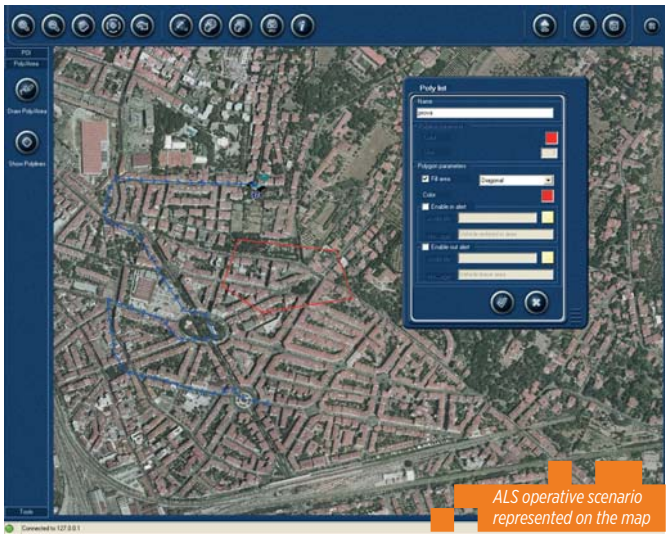
- Fleet management:
  - Fleet partitioning according to separately treat subsets of assets when displayed all together
  - Vehicle selection via configured attributes
  - Search of the closest vehicle to a specified location
  - Map centering on a selected vehicle
  - Dynamic map calculation according to the movement of a selected vehicle
  - Positioning update for a selected vehicle
  - Sending and receiving free text/status messages
- Points of interest management
- Web-based administration tool.

Optional features
Fleet management extensive tool set for real-time and historical analysis, including distance measurement.

LOCALIZATION SERVICES

Localization services are obtained by means of the CSP-ALS server and Client providing integrated mobile localization services, also for LTE devices.

In case of very small networks the two components can be deployed in the same machine.
The localization CSP platform can be accompanied by a SES Geographic Information System (GIS). However, the solution is open to support third-party GIS clients as well.



ALS operative scenario represented on the map

TECHNICAL DATA

The technical data and the environmental specifications listed here, are refer to a basic CSP-ALS PC server HW configuration. For specific request, the CSP-ALS is provided on industrial server HW platform.

GENERAL	
Operating System	Genuine Windows® 7 Professional 32-Bit (English)
CPU & RAM	Intel Xeon - 4GB
Hard drive	2x HD 500GB (minimum) RAID1 controller, 7200 rpm (redund.)
Networking	LAN server adapter PCI – 10/100/1000 Mbit/s dual (redundant)
Storage controller	RAID 0/1/5/10, SATA and PCI
Graphics controller	1GB DDR3 (video resolution 1280x1024)
Audio output	Stereo high definition, 24 bit conversion
I/O (input/output) ports	1 x USB 2.0 1 x RS-232 serial 1 x LAN 1 x VGA
Optical drive	1 x 8x DVD +/-RW
Mouse	Optical
Power consumption	About 150 watt maximum (fully equipped)
Power requirements	Input voltage 100–240 VAC, 47/63Hz
RS 232	2x serial port RS-232
LAN4 GigaBitEth	Intel QUAD LAN 10/100/1000BASE-T

PERFORMANCE	
Server fleets managed	Fleets may range in size from 1 to 2,000 units (for each server)
Clients	Up to 10 ALS clients supported per server
Users	Up to 200 users tracked per ALS client

ENVIRONMENTAL SPECIFICATIONS (PC SERVER)	
Storage	Compliant to ETSI ETS 300 019-1-1 class 1.2 standard
Transportation	Compliant to ETSI ETS 300 019-1-2 class 2.2 standard
Operation	Compliant to ETSI ETS 300 019-1-3 class 3.1 (+5° to +40°C) standard
EMC	Compliant to EN 300 386 standard (this standard concerns both emissions and immunity requirements) Emissions limits compliant to EN 55022 class A standard.
Safety	Compliant to CENELEC EN 60950-1 standard
CE marked	Compliant to essential requirements of 2004/108/EC directive

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