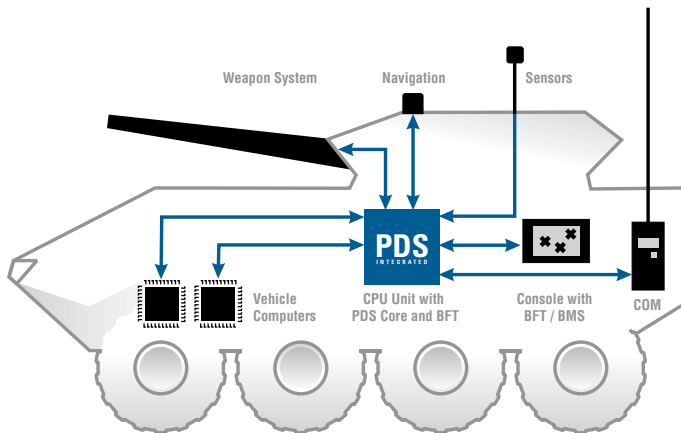




The PDS is an advanced server that integrates various military vehicle information and communication systems.

The PDS communicates with different systems by using various standards throughout the internal vehicle network or through serial connections. It serves relevant data to personnel inside the vehicle or enables communication between vehicles utilizing the tactical radio communication network. It also offers an integrated Blue Force Tracking application. The PDS is currently being developed for Patria AMV 8x8, Steyer Pandur 6x6 (Valuk), and Otokar Cobra CBRN vehicles in use by the Slovenian Armed Forces..

- A rapid, cost effective and low level system integration of platform, sensor and weapon systems into a true sensor network.
- No user interaction. Its completely automated operation lowers crew workload and eliminates the possibility of human error.
- The integrated communication module can automatically share selected data within a sensor network.
- A single box integrated solution saves valuable crew space and lowers power consumption.



Examples of PDS Usage

Weapon System Integration

PDS integrates various weapon systems and collects their status information. Vice versa, it can also serve these systems with data from navigation, sensors or the BMS system.

Navigation System Integrations

PDS also integrates several navigation systems (GPS navigation, inertial navigation...), enables calibration and conveys the information to the crew and hardware systems.

Sensor Integration

Via PDS we can connect a wide set of sensors (such as laser radion sensors, NBC sensors etc...). The PDS then delivers the collected data to the other systems or, with the help of BMS, to the crew and headquarters.

Vehicle (platform) Computer Integration

One of many PDS options is the integration of vehicle autonomous electronic systems. This enables the monitoring of data and control over various vehicle settings.

Communications

PDS can communicate over a full array of IP enabled communication equipment and military combat net radios. This functionality can be expanded to the maximum extent with addition of the COMMS II communication layer(1).

BFT and BMS

Blue Force Tracking (BFT) functionality is natively supported by the PDS. PDS servers can collect BFT data from selected CNRs or share proprietary BFT information over an IP based combat net. BFT data can also be displayed by connected BMS(2).

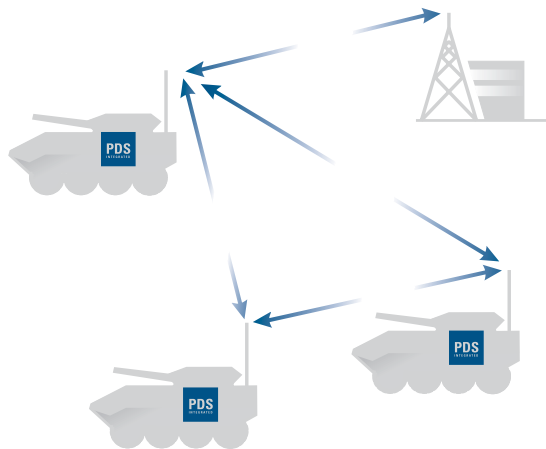
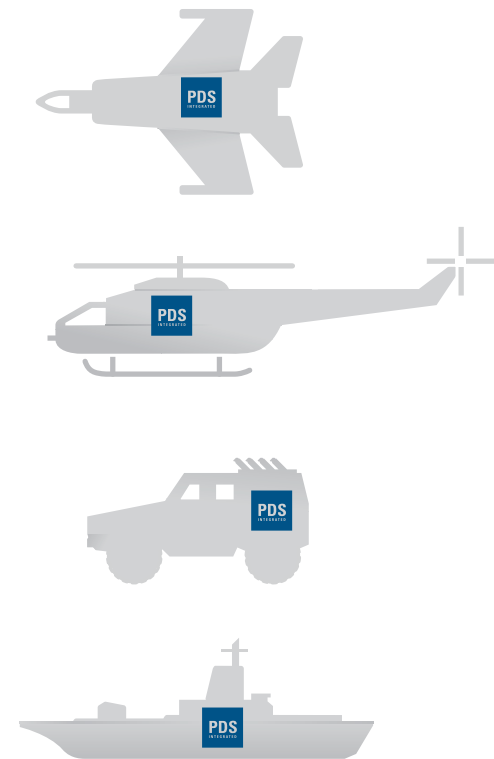
Additional Equipment

Additional equipment can be quickly integrated with the PDS through its open architecture and modular design, while the PDS client library API enables C2I system developers to focus on C2I instead of hardware device drivers. The PDS hardware abstraction layer ensures homogenous software deployment over wide variety of different hardware configurations.

PDS Multiple Platforms and Modularity

Integrating Systems on Land, Sea and Air...

PDS can be used wherever weapon, sensor or other system integration is required. Being a near real-time system with a data sampling rate measured in Khz makes it an attractive solution for a wide range of applications. From wheeled vehicles to sensor networks, PDS can gather, share and process data without the need to develop a costly solution for every single system involved. Because of its modular design, it can be configured and tailored to the customer's needs, while the PDS API offers software developers complete freedom of integration with other existing or future systems. With the PDS in place, integrating application software is easy. The PDS does not just provide an interface to the hardware in the vehicle, but a complete Hardware Abstraction Layer, providing information rather than just a connection to different hardware systems. It is currently being used in AMV 8x8, Steyer Pandur (valuk) and CBRN Cobra 4x4 vehicles.



PDS Communication Systems

The Building Block of a Sensor Network...

With every soldier, vehicle or platform being a sensor, communication has become increasingly important. The PDS has been designed to meet this challenge head on. PDS servers can be interconnected locally into an inter-vehicle network, or connected over a wider area utilising combat net radios. While natively supporting IP communication equipment, when supplemented with the COMMS II(1) module it can communicate with a wide variety of different GSM, GSM PRO, Satellite and radio equipment, including popular Harris, tadiran and Thales CNRs (3). Using the PDS not only connects the nodes into a shared network, but also offers a common standard platform supporting the C2I/C4I software.

PDS Low Maintenance

Built to Endure

Designed with military use in mind, it requires minimal configuration and NO regular maintenance at all. Various PDS internal mechanisms insures high resistance to problems, automatic equipment failure detection and error correction.

PDS Integrated BFT Blue Force Tracking Function

Enhancing Situational Awareness

The PDS can perform BFT in autonomous mode without the need for the BMS even to be installed, thus bringing BFT support to all platforms involved in the military operation. With the use of a PDS client library API, the PDS can be coupled with 3d party BMS applications, providing a graphical user interface to the PDS functionality. The best and most straightforward solution is to use the PDS with S&T's own Battle Eye System(5).



PDS in a Mission

A Reliable and Practical System

The S&T Defence Program has equipped different types of Slovenian Armed Forces vehicles (4x4 Valuk, LIV 4x4 NRKBO, AMV 8x8) and installed a complete, reliable system that has been tested in practice (various training, military exercises, tests...). The testing and the training exercises have shown that the system itself is reliable and practical, and that does not require extra effort or configuration, or require regular maintenance and therefore does not interfere with the work of a soldier.



PDS Features

Vehicle-Born System

The PDS is designed as a black box system, without the need for user interaction. It is based on the Windows XP Embedded industry standard. It runs using solid state flash memory for increased reliability in harsh environments etc ...).

Weapon and Sensor Integration

Is the job of the PDS to provide sensor and navigation data to weapon systems, weapon systems status data to BMS, etc. PDS can provide Communication Layer and Blue Force Tracking Support without the need for the BMS or other C2 application. Features support for RCWS from Elbit, Kongsberg, inertial navigation units from Honeywell, and Rockwell Collins DAGR GPS receivers.

Hardware Abstraction Layer

Once the PDS is in place, integrating hardware with the application software is easy. PDS does not just provide an interface to the hardware in the vehicle, but offers a complete Hardware Abstraction Layer in the form of a client library API, providing information rather than just a connection to different hardware.

Modular Design

Built around the PDS core service component, its modular design allows easy configuration for use in various environments with different hardware. While supporting a wide range of sensors and weapons, it also offers a stand-alone Blue Force tracking functionality, communication and CBRN alerting modules.

Multi Operating System

Initially developed for Windows (XP, 2003 server or embedded), it can be ported to Linux if required.

Integration Interface

A standard software API is provided for C2I/C4I software manufacturers.

High Availability

Various PDS internal mechanisms insure high resistance to problems, automatic equipment failure detection and error correction.

Low Maintenance

Designed with military use in mind, it requires minimal configuration and NO regular maintenance whatsoever.

Technical Support

Development services and technical support is available to all PDS buyers.

PDS Technical Specifications

Connectivity

TCP/IP LAN, USB and async interfaces are natively supported. Others available on request.

Communications

An IP communication module is built in. Other communications provided via COMMS II or custom implementation.

Performance

High performance (kHz sampling rate/device) achievable on Pentium M 1.1 Ghz and with a roughly 50Mb memory usage footprint.

Minimum Hardware Requirements

Windows XP/Embedded with 256Mb RAM and a Pentium M class processor. .NET 2 framework required.



PDS / Peripheral Device Server

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