

ECSS / CCSDS Communication Middleware for Space Applications

CPU / OS independent

PUSopen® has been designed as CPU and OS independent to fit range of platforms. The solution is easily deployable under multi-tasking operating system as well as in bare-metal applications. No specific RTOS is required.

PUSopen® allows its easy adaptation to target systems. Whether its source of system time or custom data bus handling, the adaptation layer covers your needs.

Resource-aware solution

Allocation of CPU and memory resources vary greatly among target space applications. Low-memory footprint and configurable data buffers allow scaling PUSopen® for many on-board or ground subsystem.

Configuration validation

Custom-defined configuration of PUSopen® is abstracted into XML format. Configuration tools distributed with the solution validate configuration and generate necessary code automatically.

Supported platforms

- x86 32-bit
- ARM Cortex-A/M
- MSP430
- C, C++
- FreeRTOS, RTEMS, Linux, Windows
- .NET support*

* for prototyping and ground systems

Memory footprint

| PUSopen® | Code [kB] | Data [kB] |
|------------------------|-----------|-----------|
| Smallest configuration | 29 | 2.5 |
| Full configuration | 59 | * |

* depends on the size of transmitted data

Key configuration points

- ECSS PUS Services
- TM/TC Parameters and Data
- CCSDS layers inclusion
- Virtual Channels priority
- Size of internal data buffer
- Security and Encryption keys
- Data encoding