



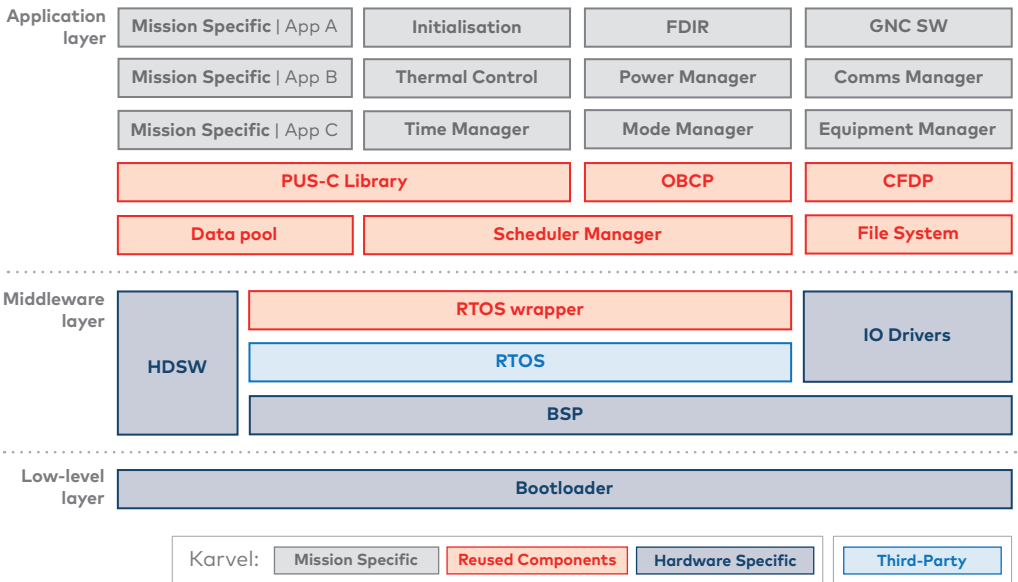
Compatible With:



# Karvel

A one-stop-shop software platform for satellites. The go-to tool for space exploration and scientific research. A bespoke solution catering to the precise needs of the mission.

## Karvel Architecture



### Accelerated Software Readiness



Develop your mission software 3x faster with Karvel.

### Cost-Effective Solutions



Cut software development costs by 4x with Karvel's efficient and streamlined processes.

### No More Starting from Scratch



With Karvel, leverage existing frameworks and tools so you never have to start your mission software from scratch.

## Specs

### Multi-OS:

RTOS: RTEMS (4.x to 6.x), VxWorks (6.x to 7.x) and FreeRTOS  
Other: Linux and Windows with wsl

### Multi-Platform:

SPARC (LEON3 & 4), PPC (P2020), RISC V (Generic & NOEL-V),  
ARM Cortex A72 & A9 (Xilinx Zynq), NVIDIA (Jetson Xavier NX),  
Beyond Gravity's cOBC, NASA' cFS

### Supported Interfaces:

MIL-STD-1553, SpaceWire, RS-422, RS-485, CAN,

### Communication Protocol:

CCSDS, ECSS PUS (A & C), Cubesat Space Protocol, CFDP

## Tech

### Development:

C language

### Testing:

C++ language

### Software Development (and Testing) Kit:

VS Code + plugins, Jenkins,  
Karvel SVF, Static analysis  
tool, Debug tool chain,  
Cross compiler suite

## Karvel Highlights

- › Enjoy an integrated software development and testing environment
- › Multi-platform & multi-OS
- › Qualification ready: full documented (ECSS compliant) platform

## Critical Software Space Heritage

- › Founded in 1998, our first client was NASA
- › 30+ missions completed
- › 25+ years in the space industry
- › Pioneers in safety and mission-critical software development and testing

## Commercial Offer

- ☑ KARVEL On-Board Software Platform
- ☑ KARVEL SDK (incl. Software Validation Environment) fully integrated with cOBC development kit
- ☑ Engineering services for mission acceleration:
  - › Bespoke mission software development
  - › Mission specific software tailoring
  - › Driver development support
  - › RTOS abstraction implementation support
  - › Verification and validation support
  - › Qualification support
  - › Maintenance, update and upgrade services
  - › Training

Get in touch with us:

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 Critical software