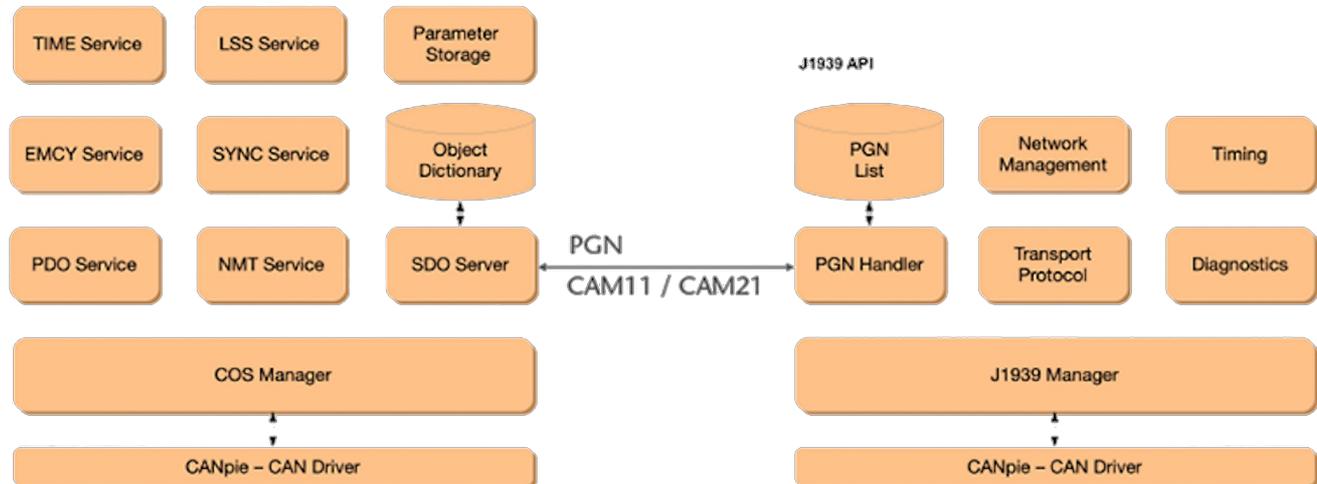


Bridging CANopen (FD) and J1939

Microcontrol provides software solutions (protocol stacks) for applications using CANopen (FD) and J1939 in one system.



CANopen (FD) protocol stack and J1939 protocol stack implement the software functions to bridge the both worlds (Source: Microcontrol)

The bridge function enables realization of devices with multi-protocol capability. Programmed once, the devices can be used in systems applying both higher-layer protocols. This reduces development time for implementation of exchanged parameters.

The J1939 protocol stack includes the bridge function and offers functionality for integration of SAE J1939 standard series into CAN-connectable devices. Cyclic transmission and reception of J1939 messages as well as transport protocols for large data volumes are supported. Setting of node-IDs is possible via address claiming. Supervision of J1939 frame timeouts is implemented as well.

The CANopen (FD) protocol stack with NMT (network management) server functionality is optimized for implementation in sensors and actuators. It is used for integration of CANopen specifications CiA 301 (CANopen FD: CiA 1301) and CiA 305 (CANopen layer setting services) in customer devices. Implemented services can be parameterized during runtime via the application or via the local object dictionary. A variety of CANopen device profiles and CANopen application profiles optionally complement the protocol stack. Safety-critical applications are addressed by optional implementation of the EN 50325-5 (CANopen Safety) standard. The CANopen NMT manager and LSS manager functionality can be added as well.

The stacks are optimized for low-resource requirements (RAM/Flash) and are suitable for different development environments (IDEs). Example codes facilitate the startup phase, enabling the user to focus on implementation of their own application. The open CAN driver (CANpie) enables to use any CAN controller available on the market, claims the manufacturer. The modular software structure allows adaption to the target device without changing the code structure.

Software designers in automotive, measurement, and energy technology already use the protocol stacks in thousands of applications. Company's experts offer to assist customers in implementing the software in a target system. An extendable 12-months technical support, CANopen and J1939 workshops, as well as dedicated software tools are provided.

[of](#)