Excelfore

SDVconnect
In - Vehicle Network Stacks

Protocols for the Software Defined Vehicle

Excelfore protocol stacks are a set of embedded software providing critical functions for In-Vehicle networking. This includes protocols for diagnostics, discovery, configuration, and memory flashing. The Excelfore Ethernet AVB/TSN protocol stacks and bridging stacks for CAN/LIN/Flexray provide the necessary functionality for a high-speed Ethernet backbone within the heterogenous networking environment that defines today's automotive electronics.

Excelfore provides full Ethernet AVB stacks for entertainment and information systems which require guaranteed bandwidth and time synchronization over Ethernet.

Excelfore provides industry-leading Ethernet TSN stacks for control and safety applications which require deterministic timing with guaranteed latencies, and fully redundant signal routing.
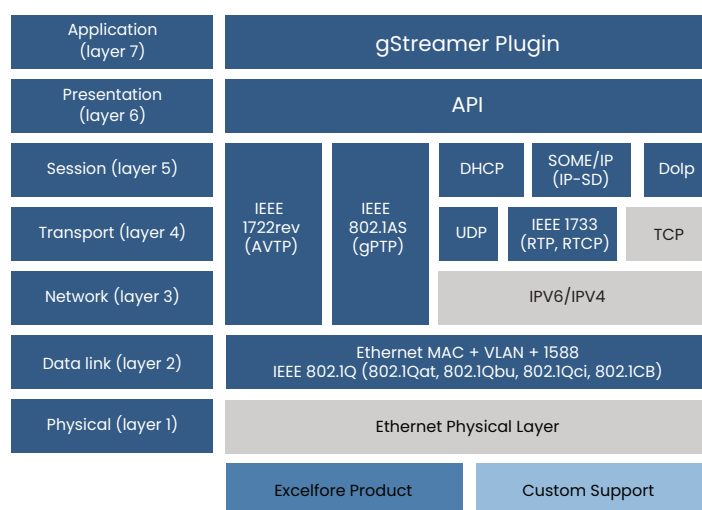
Excelfore also offers a variety of other major protocols for completing infotainment and time-sensitive functions in complex systems, including DoIP, SOME/IP, AVTP and UDS.

AVNU Certified

Excelfore AVB/TSN stacks were the industry's first base software stacks to be certified for compliance by AVNU. The Excelfore AVB Talker, Listener, and Switch protocol stacks, have all achieved Avnu Milan Certification, assuring devices will work together for maximum reliability and functionality.

Protocols for All Major POSIX OSs

Excelfore offers full Ethernet AVB/TSN stacks, with associated protocols, for operating systems such as Linux, QNX, and Integrity. (Android stack is available as well, but differs from diagram.)

Application (layer 7)	gStreamer Plugin					
Presentation (layer 6)	API					
Session (layer 5)	IEEE 1722rev (AVTP)	IEEE 802.1AS (gPTP)	DHCP	SOME/IP (IP-SD)		DoIP
Transport (layer 4)			UDP	IEEE 1733 (RTP, RTCP)		TCP
Network (layer 3)			IPV6/IPV4			
Data link (layer 2)	Ethernet MAC + VLAN + 1588 IEEE 802.1Q (802.1Qat, 802.1Qbu, 802.1Qci, 802.1CB)					
Physical (layer 1)	Ethernet Physical Layer					
	Excelfore Product			Custom Support		

Protocols for AUTOSAR Classic

Excelfore also offers Ethernet AVB/TSN and associated protocols for the AUTOSAR CP environment.

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