Abstract:

A platform independent vehicle software and networking architecture is described. The core approach defines a variety of vehicle related functions and data in terms of APIs and network messages. This approach allows two levels of platform independence. The first is the classical processing platform independence, while the second is vehicle platform independence.

The combination of these features allows any given software application to not only be run on a variety of different hardware implementations, but it also can be used in a variety of different vehicles with different physical and electronic implementations of vehicle features.

The paper describes this architecture and identifies the developed and planned APIs and messages as well as the implementation constraints for a compliant system.