

## UC3 Teleoperation - Demonstrators

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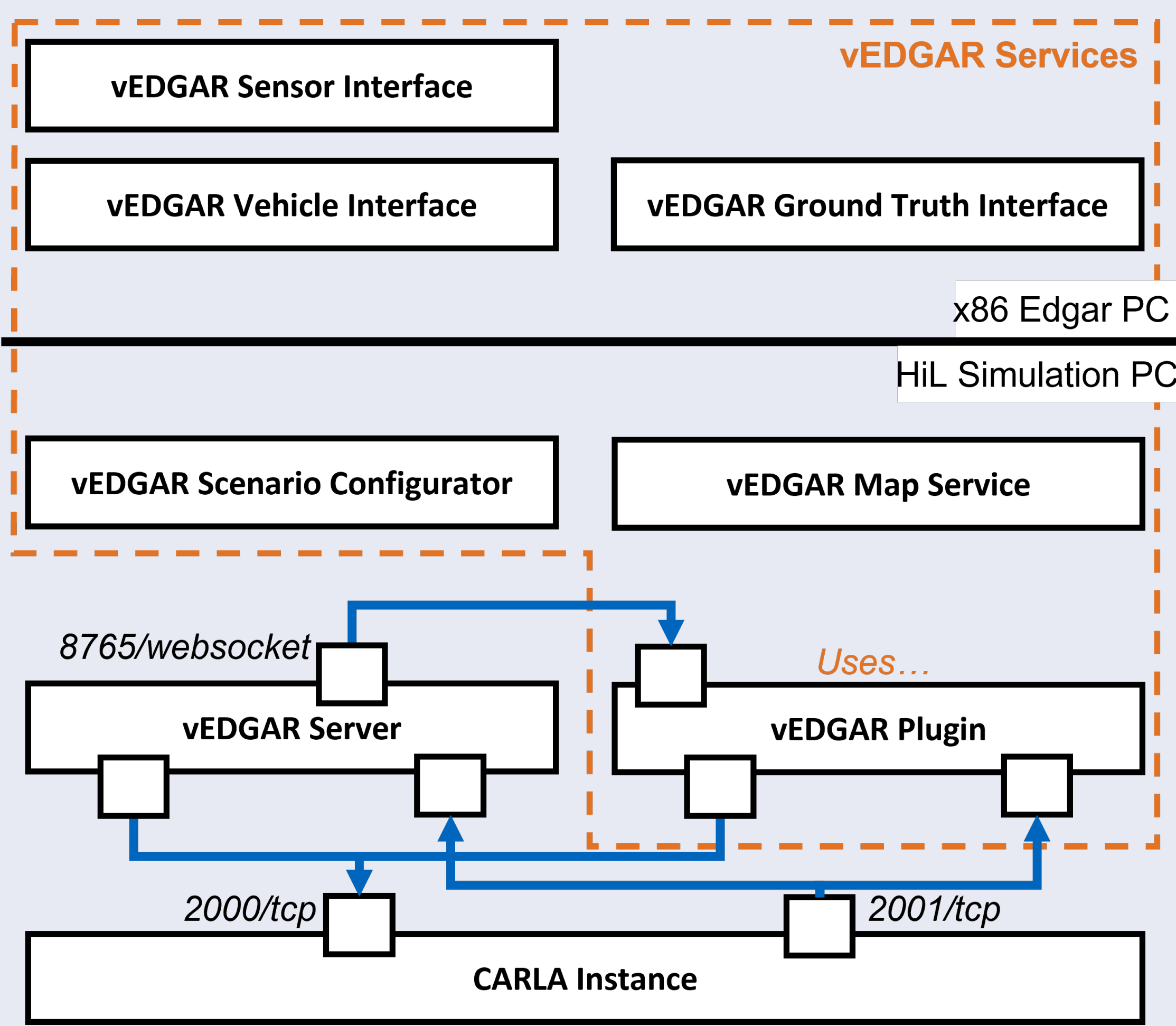
### Demonstrators used for ConnRAD

UC3 is implemented in the open source software for remote driving from TUM. The newest version of the software was partially funded via the ConnRAD project. Demonstration of the resilience concepts Ability Awareness Protocol and the Metric and KPI approach including the Network PQoS, is performed on both a physical research vehicle EDGAR and it's virtual platform vEDGAR respectively.

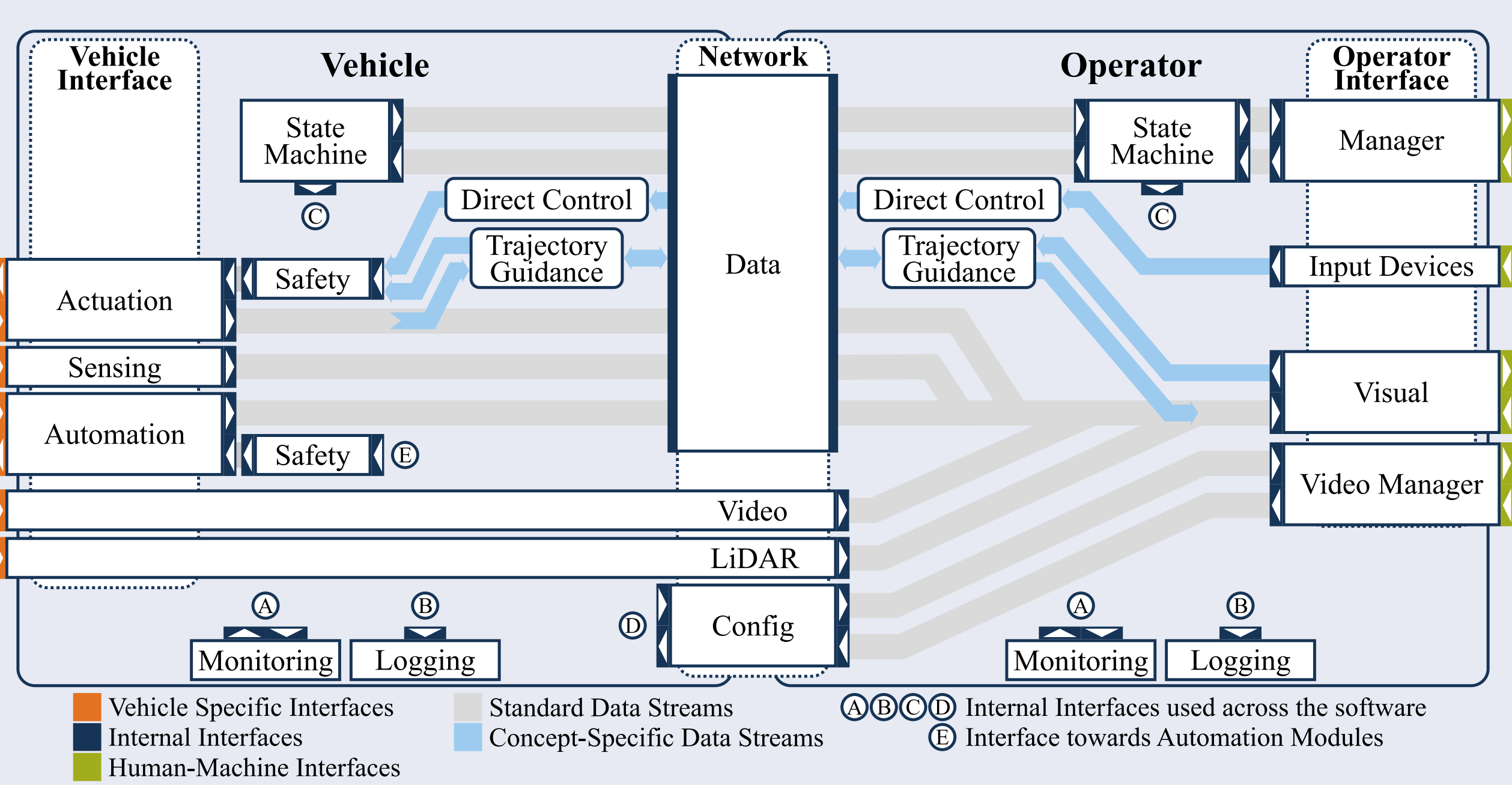
Case Study	EDGAR	vEDGAR
Remote Valet Parking Service	X	X
Temporary AV assistance by overtaking objects blocking the ego lane	X	X
Remote Operated Last Mile with variable network conditions		X

Further, tools like the fault injection, augmented reality and network emulation is used.

### Virtual EDGAR (vEDGAR) as a demonstrator platform



### Open Source Implementation for Remote Operation



The **modularity** of the remote driving system forms the foundation of the identification of the KPIs, since each sub-system (module) is responsible for **only one functionality** and can be activated and deactivated individually.

This implementation was crosschecked against the logical reference architecture, ConnRAD concepts are implemented in the monitoring, network, video and safety components, with visualization in the operator interface.

### Resilience Technology Demonstrator



**Excellent Driving GARCHing (EDGAR)** is a research vehicle which equipped with the state-of-the-art hardware and software setup for automated and teleoperated driving

**Augmented Reality (AR)** helps to visualize challenging scenarios without endangering humans or real-world systems.



### Demonstration: Case Study 1 Remote Valet Parking with the Ability Awareness Protocol

