Abstract AEF Virtual Plugfest experiences

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During the summer of 2020, AEF and a company named Vector Informatik shared thoughts on establishing a virtual ISOBUS connection. The idea was to arrange alternatives for the upcoming cancelled physical AEF Plugfest. Vector has experience with remote automotive CAN diagnostics in the past and was able to develop a pilot infrastructure.

First peer-to-peer tests delivered promising results. To test the first implementation for Plugfest suitability, pilot events for the AEF functionalities UT and TC were carried out.

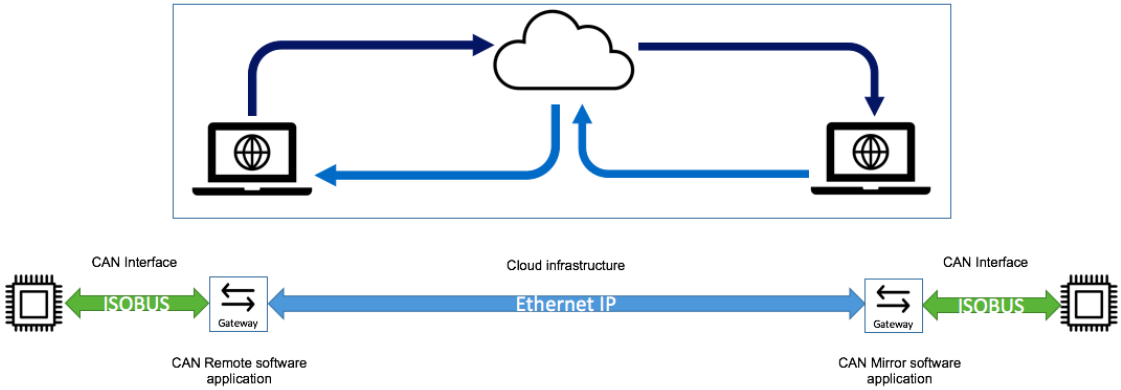

Figure 1: Virtual Plugfest infrastructure

A first UT pilot event with 10 participants was hosted in April 2021, a second TC pilot event with 20 participants was hosted in June 2021. The participants were spread all over the world, we had participants from Australia, USA, India, Japan, and Europe. Despite this distribution, there were no showstoppers regarding ISOBUS communication.

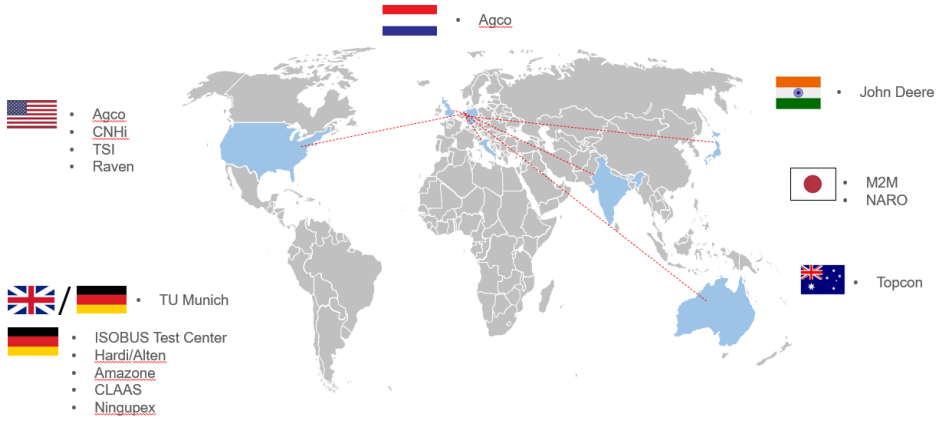

Figure 2: TC Pilot Participants overview

The UT event scope was about testing the general infrastructure (virtual meeting rooms, Vector applications, Vector Hardware, screen sharing etc.), general ISOBUS initialization and UT communication (Pool Upload, Pool Updates, User interaction etc.).

The TC event scope also focuses on more complex TC communication TC capabilities. The participants tested DDOP uploads, TASKDATA exchanges, TC Section Control, and handling of TC GEO prescription maps.

During test slots the following latencies (round-trip times) were measured:

Location 1	**Location 2**	**Roundtrip-Time**
Europe	Europe	40 - 100ms
Europe	USA	200 - 250ms
Europe	Australia/Japan/India	200-350ms
India	Japan	360ms
USA	USA	300ms

As a result of this promising Virtual Plugfest approach, it is not intended to replace the classic face to face Plugfest, but rather to complement it. Virtual pre- and post-tests can accompany the in-person Plugfests with less effort and improve the efficiency with respect to time and costs. Furthermore, it offers completely new application possibilities outside of AEF Plugfests. For example, users can independently interact across companies and locations to test their devices against each other.

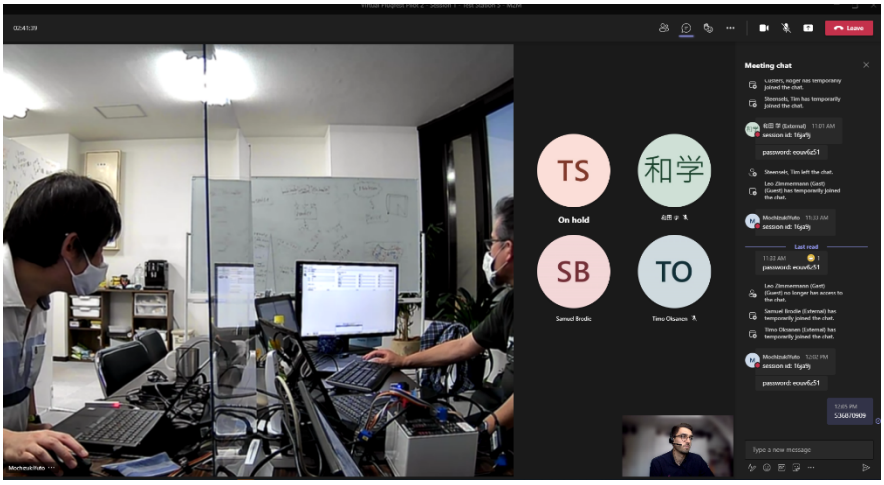

Figure 3: TC Pilot Impressions