

# CVII Tech Stack: "Deep-dive" topics

- GraphQL strategy sharing Sharing of viewpoints for GraphQL integration
- Interfacing VSS Data Storage to VSS Data Servers
- CAN integration
- VSS and VSC cohabitation

## Scheduled or taken place

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### CCS State Storage Component

Status: Scheduled for Mon 23rd May 2022

Original proposer: [Stephen Lawrence Ulf Bjorkengren](#)

The CCS State Storage Component is used as the storage backend abstraction for the WAI VISS Data Server implementation. The session will start with a summary of the component. The abstractions it provides for data feeders and data servers and its current status. Armed with a wider understanding of the component in the group the discussion can both move onto the future of the component and act as a starting point to wider (follow on) discussions about Data Storage in general.

Details: [CCS Components: State Storage Deep Dive](#)

## Topic backlog / Ideas

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### GraphQL strategy sharing

Original proposer: [Unknown User \(alexander.domin\)](#)

Alexander wishes to have a discussion about GraphQL and how he sees its integration in the architecture. Exchange of viewpoints should make it clearer where GraphQL can sit in the tech stack.

### VSS Data Storage

Original proposer: [Stephen Lawrence](#)

Discussion of topics specific to VSS Data Storage

- Architecture implications/outcomes of "last value" statestorage vs timeseries data.
- Revisit CCS statestorage component. Improvements or replacement needed?
  - Minor: to simplify for adopters we should probably transition from use of "CCS"
- Different architecture configurations, e.g. deployment illustrations in [vss-otaku](#) and [kuksa.val](#)
- Design patterns or abstraction related to data feeders

### Interfacing VSS Data Storage to VSS Data Servers

Original proposer: [Stephen Lawrence](#)

Architecture and strategy discussion on interfacing VSS Data Storage to VSS Data Servers:

1. Protocols, methods
  - a. Is storage abstraction to servers useful?
2. Requirements
3. Different architecture configurations, e.g. deployment illustrations in [vss-otaku](#) and [kuksa.val](#)

### CAN integration

Original proposer: [Gunnar Andersson](#) [Stephen Lawrence](#) others..

This comes up repeatedly. Integration of CAN into VSS data feeders. Various methods and ways to do: socketCAN, via SomeIP, code generators.

From this would ideally come some more concrete plans to improve and fill in gaps in OSS CAN eco-system

## Northbound (former CCS) towards Cloud

Original proposer: [Ulf Bjorkengren](#)

We should keep in mind northbound towards Cloud is in Tech Stack scope as previously worked on in the CCS group.

Topics need to be expanded upon by interested parties.

## VSS and VSC cohabitation

Original proposer: [Gunnar Andersson](#)

Sensors/actuators can be manipulated through VSS (VISS). In-vehicle functions, e.g. comfort, may also be controlled through VSC defined APIs that may be higher level than manipulating sensors/actuators. In this way a future vehicle will most likely contain a mix depending on the functionality. Best practices therefore need to be developed for the cohabitation of VSS and VSC so they both maintain a consistent view of the vehicle state.

Coordination note: This discussion is starting across the three groups, VSS, VSC and Tech Stack. Session planned for Spring 2022 workshops.

## VSS Layers

## Tech Stack Priorities

Survey as to what are the priorities for Tech Stack and Tooling?

## VSS Metadata

## VSS Relationship to and Utilization Other Projects

Project requirements