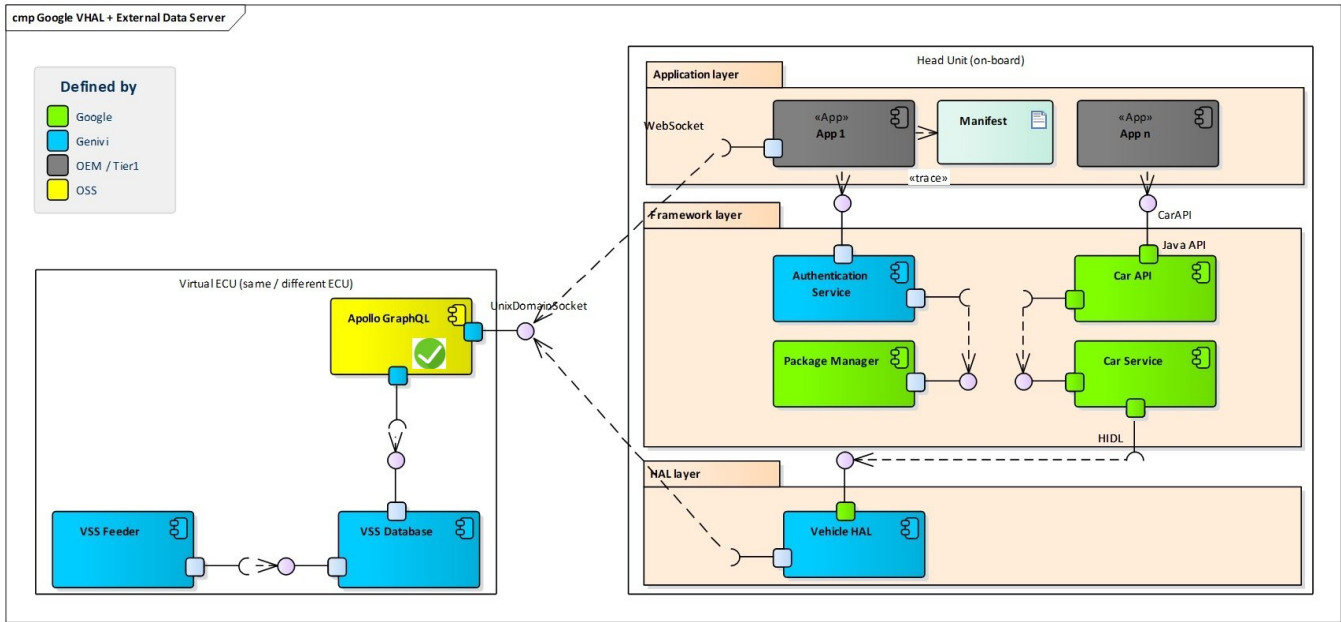







External Data Server Proof-Of-Concept - Work Breakdown Structure






EA Block Diagram for the External Data Server Proof-of-Concept






- look at [ExternalDataServerPoC-lookatslide#7](#) for the slide
















1	Work Breakdown Structure for the External Data Server Proof-Of-Concept	Owner	Comment
2	<p>VSS feeder component </p> <div> AASIG-37 - Jira project doesn't exist or you don't have permission to view it.</div> <p>Checked with demo that has vss-feeder as submodule. VSS feeder seems to provide data with the right* format. *(Note: SQLite database schema was not (yet) aligned with CCS project schema).</p>	Stefan Wysocki	See vss-feeder repository
3	<ul style="list-style-type: none">• todo create a layer concept for the Franca to VSS leaf mapping (model transformation)• <div> AASIG-39 - Jira project doesn't exist or you don't have permission to view it.</div>• We are not immediately dependent on it now.• VSS to Franca transformation is a Work-in-progress PR currently: vss-tools/pull/6 repository		

4	<ul style="list-style-type: none"> • todo design and implement franca service (SomeIP) • ★ We are not immediately dependent on it now. <div>  AASIG-40 - Jira project doesn't exist or you don't have permission to view it. </div> <ul style="list-style-type: none"> • ❌ Awaiting item 3, and more implementation. 		
5	<i>superfluous line, removed</i>		
6	<ul style="list-style-type: none"> • Check signal to service translation in Adaptive AUTOSAR • ★ We are not immediately dependent on it now. • in-progress in CCS project:  CCS-88 - Analyze Adaptive Autosar Signal2Service Interface DONE • ❌ For future milestones 		
7	<ul style="list-style-type: none"> • Create PoC SOME/IP simulation component to playback agreed use cases <div>  AASIG-42 - Jira project doesn't exist or you don't have permission to view it. </div> <ul style="list-style-type: none"> • <ul style="list-style-type: none"> ◦ note: we could consider using an Adaptive Autosar node like what we did for the FARACON demo ◦ note: VSS data base could be merged into the VSS feeder ◦ ❌ For future milestones 		
8	<ul style="list-style-type: none"> • Select and implement feeder input API how feeder writes data into the "shared database" <div>  AASIG-43 - Jira project doesn't exist or you don't have permission to view it. </div> <ul style="list-style-type: none"> • Either it is writing directly into the database ✔️ (shared with the VSS data server component) or writing into an API ❌ provided by the VSS data server • DECISION: vss-feeder writes into SQLite file, and the other components read from the file. I.e. the database "API" is SQL. 		
9	VSS data server component <div>  AASIG-44 - Jira project doesn't exist or you don't have permission to view it. </div> <ul style="list-style-type: none"> • ❌ TODO: (Gunnar) Put vss-feeder, • ⚠️ Pending some input from Alexander on permissions <p>See JIRA for some updates</p>		

10	<ul style="list-style-type: none"> Implement the connection between the access protocol (GraphQL) and the fetching/writing of data into the database. <div data-bbox="215 201 1000 369">  AASIG-45 - Jira project doesn't exist or you don't have permission to view it. </div> <p>duplicate of</p> <div data-bbox="215 432 1000 600">  AASIG-48 - Jira project doesn't exist or you don't have permission to view it. </div> <ul style="list-style-type: none"> PR sent with reduced schema that matches only the OpenDS signals. Long term solution should be. PR proposal vss-graphql/pull/7 repository New plan uses separate Demo repo instead action Gunnar Andersson 	done	
11	<ul style="list-style-type: none"> APP implement request/response serialization (look at Application Layer) <ul style="list-style-type: none"> Gunnar: this is probably defined by the communication protocol (defined by GraphQL) ✓ Done. (It uses apollo plugin for Android and therefore works only with Apollo). Thereby it serializes automatically with the right JSON formats. 		
12	<p>Define GraphQL schema - what does it look like?</p> <div data-bbox="172 909 956 1077">  AASIG-47 - Jira project doesn't exist or you don't have permission to view it. </div> <p>⚠ See above, working to use the proposal from PR 7 in the new demo repo setup.</p>	Alex.	See vss-graphql repository
13	<ul style="list-style-type: none"> Resolve requested data for the APP from the VSS data structure <div data-bbox="215 1184 1000 1352">  AASIG-48 - Jira project doesn't exist or you don't have permission to view it. </div> <ul style="list-style-type: none"> ==> This means: Implement the resolvers function in GraphQL. Depends on choosing the database implementation first. ==> Adjust resolver to fetch the data from SQLite. ✓ The basic one without permission enforcement is done. ⚠ Pending permissions-enforcement. 		
14	<ul style="list-style-type: none"> todo change/write data values for requested data leaves <div data-bbox="215 1543 1000 1711">  AASIG-49 - Jira project doesn't exist or you don't have permission to view it. </div> <ul style="list-style-type: none"> <ul style="list-style-type: none"> ==> Same as implementation of 14, but for writing. This means: Implement Mutation functions in GraphQL ✗ Not implemented any writing support yet. 		

15	<ul style="list-style-type: none"> Handle the subscription for APPs <div data-bbox="215 178 1000 348" style="border: 1px solid orange; padding: 10px; margin: 10px 0;">  AASIG-50 - Jira project doesn't exist or you don't have permission to view it. </div> <ul style="list-style-type: none"> => Implement Subscriptions (according to GraphQL) ✗ Not implemented any subscription support yet. 		
16	<ul style="list-style-type: none"> APP implement authentication to access the data server (eg JWT), e.g. json Web token <div data-bbox="215 472 1000 642" style="border: 1px solid orange; padding: 10px; margin: 10px 0;">  AASIG-51 - Jira project doesn't exist or you don't have permission to view it. </div> <ul style="list-style-type: none"> <ul style="list-style-type: none"> relates to Vehicle Signal Authentication description TBD definition of done TBD look at https://github.com/w3c/automotive/issues/322 todo implement the permissions handling in the data server <div data-bbox="215 747 1000 917" style="border: 1px solid orange; padding: 10px; margin: 10px 0;">  AASIG-52 - Jira project doesn't exist or you don't have permission to view it. </div> <ul style="list-style-type: none"> <ul style="list-style-type: none"> look at on-going discussion in W3C on the dynamic registry https://www.w3.org/2019/11/W3C_Gen2_dynamic_registry.pdf (Geotab proposal) ⚠ See above, awaiting implementation 		
17	<p>Define the "signal groups" that make up each permission and give each permission a name.</p> <div data-bbox="172 1062 956 1232" style="border: 1px solid orange; padding: 10px; margin: 10px 0;">  AASIG-53 - Jira project doesn't exist or you don't have permission to view it. </div> <ul style="list-style-type: none"> Example permission group created by Alexander (in .md file), similar to the layers discussion. Alexander found it easiest to do SignalGroup mapping (this fits the VSS layer principle exactly.) but also to have the opposite view (Group Signals) generated by tooling (for human readability) vss.permission.xxx (as proposed in VSS layers) was a nice convention, but let's confirm that we are aligned with Google standards on permission names. ⚠ Awaiting proposal PR 		
18	<ul style="list-style-type: none"> todo finalize permissions layer concept (independent work item) <div data-bbox="215 1482 1000 1652" style="border: 1px solid orange; padding: 10px; margin: 10px 0;">  AASIG-38 - Jira project doesn't exist or you don't have permission to view it. </div> <ul style="list-style-type: none"> <ul style="list-style-type: none"> description TBD definition of done TBD ⚠ Awaiting proposal PR 		

19	<p>Framework Layer / Authentication Service</p> <div>  AASIG-54 - Jira project doesn't exist or you don't have permission to view it. </div> <p>✗ To be done. Will be stored in android-vss-authentication-service repository</p>	<p>Stefan Wysocki (TietoEVRY)</p>	<p>Will update the description and DoD for this component</p>
20	<ul style="list-style-type: none"> • todo request APP permissions from package manager <div>  AASIG-55 - Jira project doesn't exist or you don't have permission to view it. </div> <ul style="list-style-type: none"> • <ul style="list-style-type: none"> ◦ description TBD ◦ definition of done TBD • ✗ TODO 	<p>Stefan Wysocki (TietoEVRY)</p>	
21	<ul style="list-style-type: none"> • todo generate access token for the APP including the APP permissions <div>  AASIG-56 - Jira project doesn't exist or you don't have permission to view it. </div> <ul style="list-style-type: none"> • ✗ TODO 	<p>Stefan Wysocki (TietoEVRY)</p>	<p>Implementation of the module deployed on the platform. Buildable by Android buildsystem (Android.bp)</p>
22	<p>Application Layer</p> <div>  AASIG-57 - Jira project doesn't exist or you don't have permission to view it. </div> <ol style="list-style-type: none"> 1. Implement EV charging status App in Android, with a graphical UI 2. Implement Position/speed/make/model/ any other info, as received from driving simulator (could be simple UI, maybe text). <p>^^ Decision to implement number 2 first.</p> <p>Alexander: There are helpers to access GraphQL from an Android project. You add a plugin to your gradle project to include it. Some classes will be generated based on the GraphQL schema we specify. https://github.com/apollographql/apollo-android</p> <p>Stefan: The app skeleton is in the aasig_dev_platform (Only on Stefan's fork still?)</p> <p>Currently in aasig_dev_platform/tree/develop/vendor/genivi/modules repository</p> <p>Will be put in Will be stored in android-vss-authentication-service repository</p>		
23	<p>TODO: Define what signals we can get from simulator, and try the simulator (Tieto)</p> <div>  AASIG-58 - Jira project doesn't exist or you don't have permission to view it. </div> <p>✓ Done, see above for details</p>	<p>Tieto?</p>	


24	<ul style="list-style-type: none"> Implement the APP permissions based on permissions defined/proposed in VSS layers <div>  AASIG-59 - Jira project doesn't exist or you don't have permission to view it. </div> <ul style="list-style-type: none"> <ul style="list-style-type: none"> description TBD definition of done TBD  		
25	<ul style="list-style-type: none"> Implement authentication as required by the concept including access token request, etc. <div>  AASIG-60 - Jira project doesn't exist or you don't have permission to view it. </div> <p>see above</p> <ul style="list-style-type: none">  	 S	Stefan Wysocki (Tietoelementary) Will be provided as a part of "Authentication Service" to showcase the exposed API
26	<ul style="list-style-type: none"> APP implement request/response serialization for the client <div>  AASIG-61 - Jira project doesn't exist or you don't have permission to view it. </div> <ul style="list-style-type: none"> Gunnar: this is probably defined by the communication protocol (defined by GraphQL) 		
27	<ul style="list-style-type: none"> todo agree on PoC use cases for the implementation <div>  AASIG-41 - Jira project doesn't exist or you don't have permission to view it. </div>		
28	<ul style="list-style-type: none"> implement the selected use cases <div>  AASIG-62 - Jira project doesn't exist or you don't have permission to view it. </div>		

Support / Infrastructure

1. Testing

- a. [Stephen Lawrence](#) I can contribute to the effort to integrate the PoC into the Genivi LAVA Automated testing if the group decides to use it.

b.

 AASIG-67 - Jira project doesn't exist or you don't have permission to view it.


2. Integration

- a. [Stephen Lawrence](#) : I would be happy to provide best effort support for integration on R-Car h/w where needed.

Interfaces


VSSDatabase : Decision to first use SQLite as the intermediate storage.
(Note. Reuse potential with CCS project)

- SQLite is also a kind of inter-process communication between VSSFeeder and Apollo GraphQL server.
- VSSFeeder needs to be adjusted to fill data into SQLite (

 [AASIG-37](#) - Jira project doesn't exist or you don't have permission to view it.

) and Apollo needs to be adjusted to get data

from SQLite. (That is

 [AASIG-48](#) - Jira project doesn't exist or you don't have permission to view it.

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