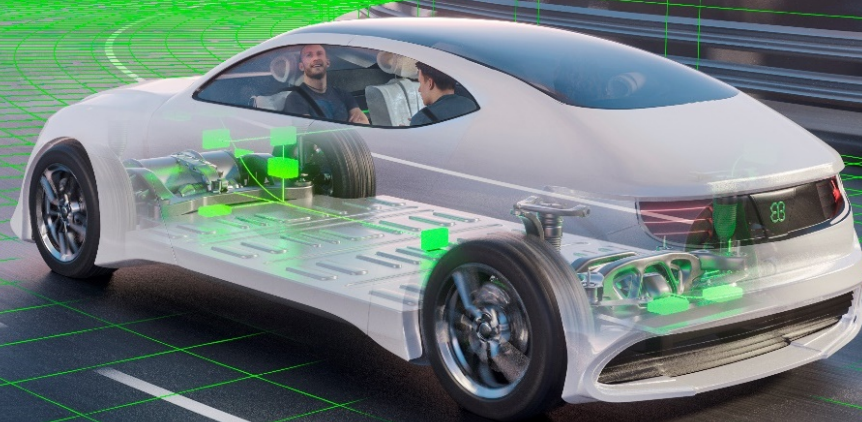


Improving the eHorizon experience with NDS.Live

Emanuel Elhardt
NDS Public Conference, September 2020



Elektrobit



About map data

Back in the day

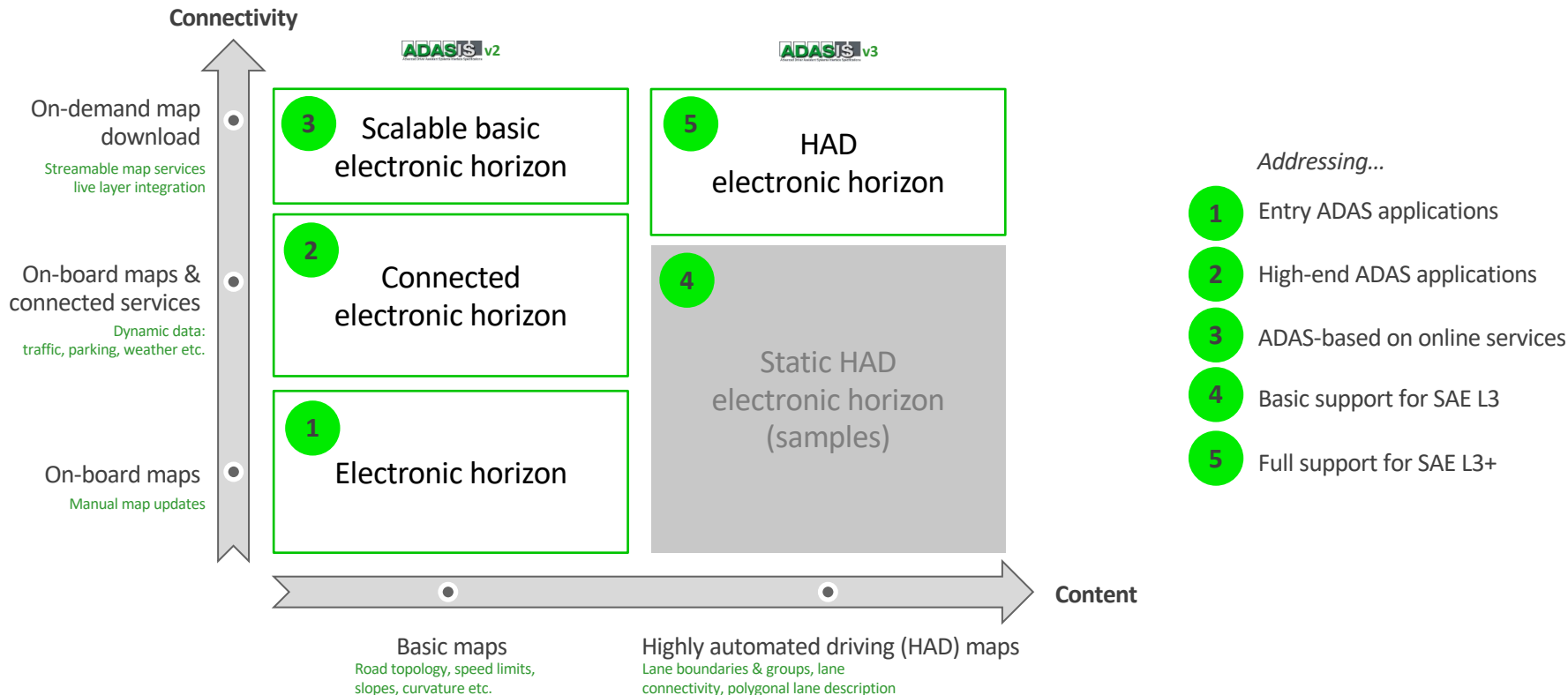
- ... a static local map in the vehicle was state of the art
- ... which was updated first once a year, then two times, then four times per year

Today

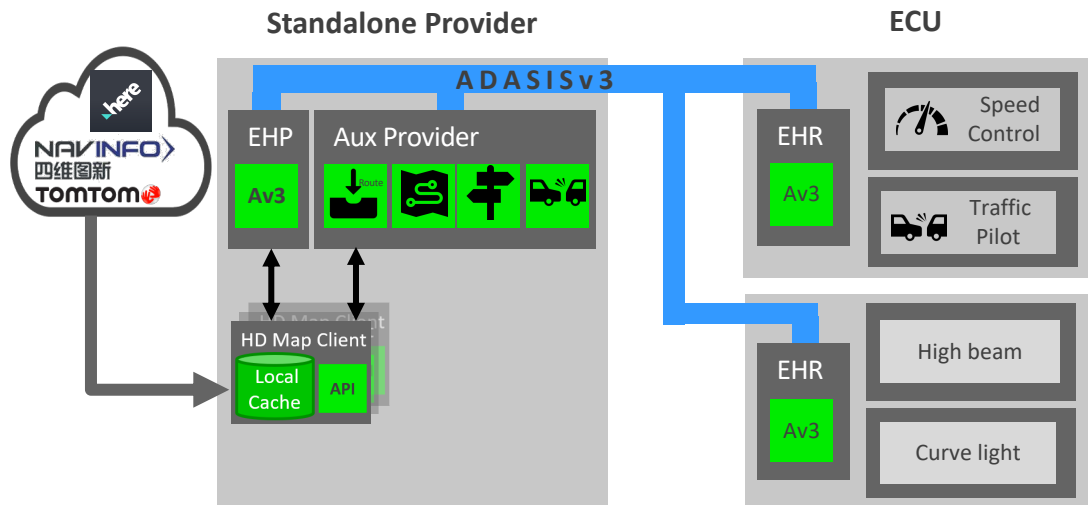
- ... dynamic and up-to-date map data is needed to serve ADAS/AD
- ... systems with an HD map have the need of a streamable map
- ... even systems which use an SD map ask for streamable solutions



EB robinos Provider



Status Quo today



Protocol compatibility

- Fully compliant to the current ADASIS v3 standard
- Easy extendable through custom profiles

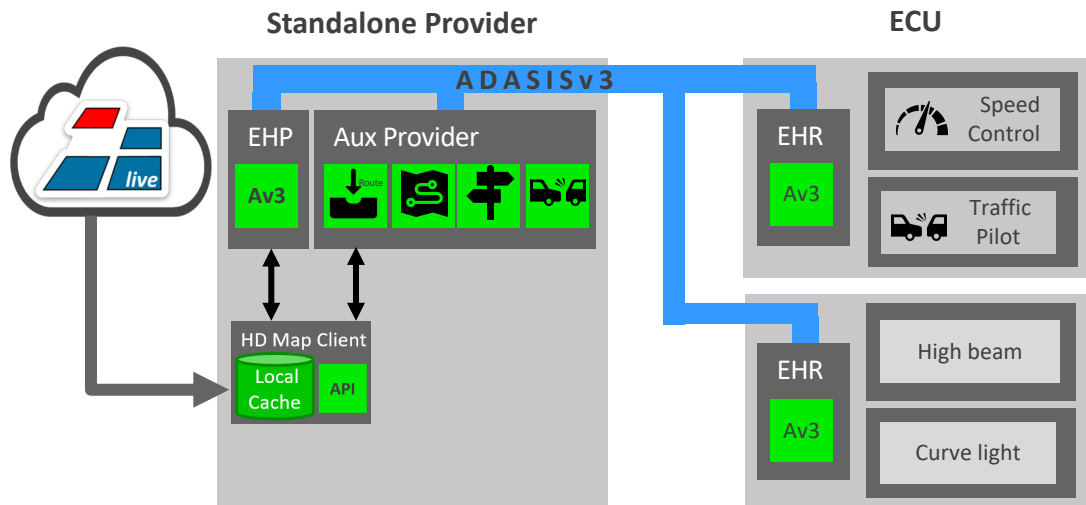
HD MAP

- Latest map updates through OTA connection
- Intelligent caching mechanism to avoid unnecessary data traffic
- Abstract backed architecture to be technology- and map-provider-independent

Dynamic data

- Auxiliary provider enables possibility to extend the ADASISv3 stream with dynamic information:
 - Traffic incidents
 - Weather
 - Car2X data

Setup with NDS.Live



Protocol compatibility

- ADASIS compatibility is still given due to clear map abstraction concepts

HD MAP

- Architecture changes from supporting multiple APIs to NDS.Live
- Only one NDS.Live Map Client implementation needed
- Caching strategies are available and can be reused
- Abstract backed architecture to be technology and map provider independent

Dynamic data

- Auxiliary data can now also be handled through the same interfaces
- Auxiliary provider can facilitate the availability of data layers in NDS.Live

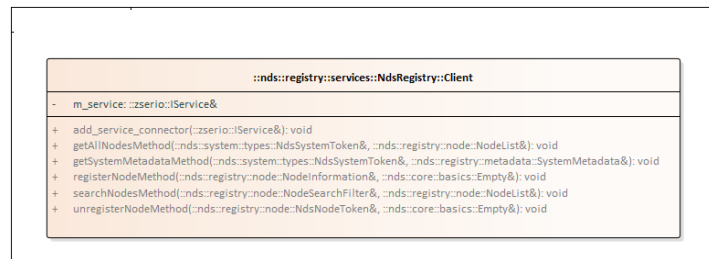
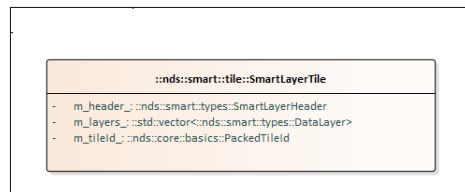
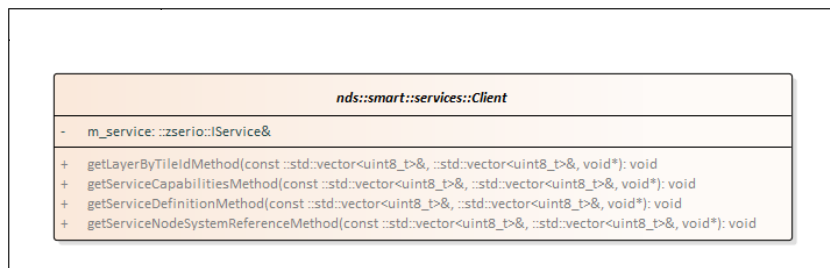
Changes needed for NDS.Live

Integration of NDS.Live access components

- `::nds::registry::services::client`
- `::nds::smart::services::client`
- `::nds::smart::tile::SmartLayerTile`

Implementation changes to new data structures

- NDSLIVE_map_client to connect to the service api by using the `::nds::registry::services::client`
- Fetch map via the `nds::smart::services::Client` and the corresponding TileId to populate the local cache
- Adapt the map abstractor to NDS.Live data structures
- Build up the ADASIS v3 tree



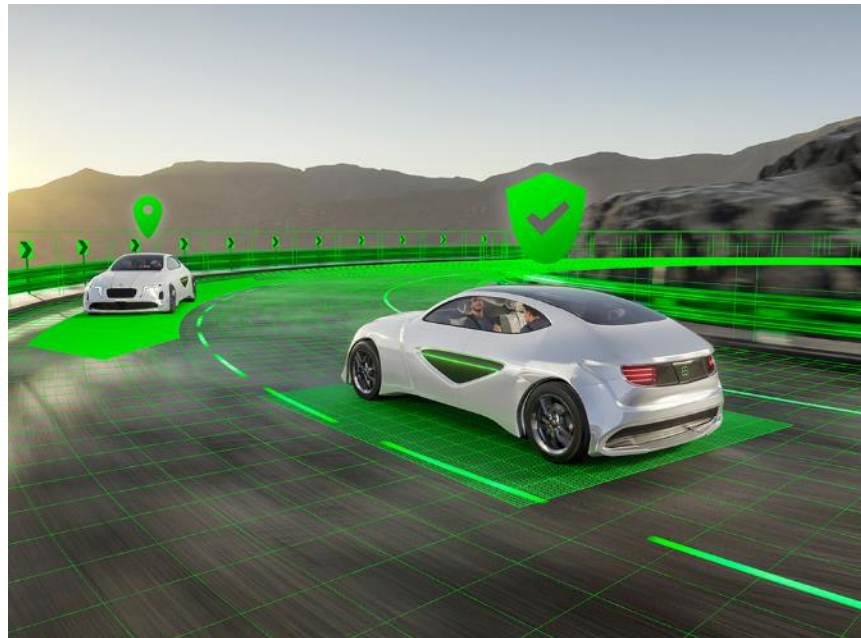
Possible use cases covered with NDS.Live

ADASIS v2 (road-based)

- Intelligent Speed Assist
- Enrich database with additional data from different sources

ADASIS v3 (lane-based)

- Dynamically download additional map data to support the update of ADAS features via OTA software update
- Download more map layers as they become available by the map provider
- Download local object maps on demand (truck hubs, parking garages, company campus)



What's next?

Adding support for

- ... ADASIS v2 based on NDS.Live
- ... map streaming by path and object
- both road- and lane-based map materials
- additional attribute coverage (e.g. truck attributes)



Demo video / live demo

Get in touch!

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