Generic Communication Protocols Evaluation Project

⭐ What is this? Please refer to the projects overview page for a quick introduction, then for more details, the Kickoff slides, and recording.

Next GPRO weekly call - January, 21st 2020

- Link to Zoom meeting: https://zoom.us/j/741931761
- ID de réunion : 741 931 761
- For local dial-in, visit : https://zoom.us/u/aeDLu354w5
- Agenda
  - Data & interfaces modeling (continuation of last week’s discussion)
  - FARACON: wiki page and linkedin post for dissemination
  - AOB

Webinar: delivered twice on 24 & 25 September

- Title: Franca / ARA::COM Interoperability - Establishing interoperability of Linux-based systems and Adaptive AUTOSAR systems by model-to-model transformations
- slide deck
- recording
- latest release (v0.9) of the transformation tool: franca_ara_tools/wiki/FARACON-Developer-Guide#how-to-build-the-command-line-tool-from-source-repository

Meeting Minutes use link

Presentations Materials use link

Project pages (list)

- [GPRO] REST/HTTP
- AMM informal GPRO poll
- Android
- Bench-marking of different protocols & technologies
- CoAP
- CommonAPI overview
- Evaluation criteria for GPRO technologies
- Franca/ARA::COM Demo
- Franca+
- Franca-ARA Stage 2 Project
- GPRO Meeting Minutes
- GPRO - Presentations Materials
- GPRO Whitepaper
- List of relevant technologies
- Overview of a few communication protocols/technologies
- Poll - Your favorite protocols

Definitions

Generic Protocol (in this context):

“Network (*and d IPC) protocols acting primarily as a transparent data carrier, applicable to many different application domains, but including convenience features above that of a plain data stream (socket). For example: data encoding, segmenting, opaque target addressing, routing, peer authentication, delivery guarantee, data integrity and service-discovery.”

• In other words, we are concerned with OSI model levels 5-6 (approx.)
• To reduce scope – focused on segmented, atomic, event/message event/message- based semantics more than “streaming data”
• IPC needs to be in scope, because of shared parts (data encoding) similarity, and that network-transparency is often a design goal.

Project Goals

<to be copied from GA deck and then edited>

Use cases

Information about real-world functions (ideally from user perspective) to anchor the technical discussion.

FILL IN HERE!!!
Philippe C

NB: see the target architecture in the attached file

The vehicle position computed in the telematic box shall be provided to applications carried by the smartphone

- the vehicle position is either raw (i.e. coming from the GNSS sensor) or estimated (i.e. computed by a dead reckoning algorithm)

Transmission of data shall be seamless

- to avoid mismatch between data types
- to reduce diversity of specifications by using a common format

Requirements:

Evaluation criteria for GPRO technologies

List of relevant technologies  use link

Comparisons of different communication protocols/technologies

- Overview Page containing one-paragraph summaries of REST/JSON/XML/SOAP.
- When survey/knowledge sharing phase winds down, the Evaluation Criteria page should be extended, eventually leading to comparisons and possibly recommendation.

Feature Selection

- We looked at the possibility to use feature-modeling tools (example: Feature IDE) to encode a database (model) of possible protocol features. Normal use of such tools is rather to define how a system can be configured, including all constraints, and then to present a UI to do that configuration (i.e. selecting features rather than comparing solutions), but it could be useful.
- Feature Selection tooling is definitely useful for complex feature modeling, so it’s worth knowing about it and documenting it. See May 15, 2018 in the Minutes.

🌟 The video is being recoded and combined into one. New (smaller) version is coming soon:

Introduction slide:

pageaccueil (2).mp4

Presentation (file is still truncated, please look for an updated version soon).