RVI SOTA Client

RVI SOTA Client has been replaced in GENIVI Development Platform (GDP) by Aktualizr!

- Building and Testing RVI SOTA Client
- Related articles

The following tutorial provides the exact steps how to build GENIVI Development Platform (GDP) and RVI (Remote Vehicle Interaction) SOTA (Software, Over the Air) client, written in the Rust programming language, as well as how to run and test it on a development board with the assistance of Docker containers for RVI nodes. The build procedure has been tested on Ubuntu 14.04 LTS (Trusty Tahr) and Debian Jessie. RVI SOTA client has been tested on Raspberry Pi 2 and Renesas M2 Porter board. Further information on the RVI SOTA project can be found [here](#).

### Building and Testing RVI SOTA Client

Perform the following steps to build GDP image, run Docker images with RVI nodes and test RVI SOTA client which is running on a development board:

1. Prepare GDP build environment.
2. Add meta-rust to BBLAYERS in `conf/bblayers.conf`, for example:

   ```bash
   BBLAYERS ?= " \
   $(TOPDIR)/../poky/meta \ 
   $(TOPDIR)/../poky/meta-yocto \ 
   $(TOPDIR)/../poky/meta-yocto-bsp \ 
   $(TOPDIR)/../meta-ivi/meta-ivi \ 
   $(TOPDIR)/../meta-ivi/meta-ivi-bsp \ 
   $(TOPDIR)/../meta-openembedded/meta-oe \ 
   $(TOPDIR)/../meta-openembedded/meta-filesystems \ 
   $(TOPDIR)/../meta-openembedded/meta-ruby \ 
   $(TOPDIR)/../meta-qt5 \ 
   $(TOPDIR)/../meta-ivi-dev/meta-ivi-dev \ 
   $(TOPDIR)/../meta-rust \ 
   "
   ```

3. Add RVI SOTA client to the image by appending the following line to `conf/local.conf`:

   ```bash
   IMAGE_INSTALL_append = " rvi-sota-client "
   ```

4. Build GDP:

   ```bash
   bitbake genivi-dev-platform
   ```

5. Install Docker.

6. Pull Docker image:

   ```bash
   docker pull advancedtelematic/rvi
   ```

7. Open a terminal and run a Docker container with RVI client node:

   ```bash
   ```

8. Make sure that port 8901 from the Docker container of RVI client node is exposed and the instances of RVI SOTA Client on the development board will be able to connect:

   ```bash
   (client@434f0e1bb6f0)1> EXPOSE 8901
   ```

9. Open another terminal and run a Docker container with RVI server node:

10. Boot the development board and login as root using password root.
11. Open `/etc/hosts` and define the IP of the host where the RVI Client node is running as rvi-client, for example after that the `/etc/hosts` should be similar to:

```
127.0.0.1 localhost.localdomain localhost
192.168.4.157 rvi-client
```

12. Restart systemd service rvi-sota-client:

```
systemctl restart rvi-sota-client
```

13. Execute the following command on the target to check the status of rvi-sota-client systemd service:

```
systemctl status -l rvi-sota-client
```

14. Verify that rvi-sota-client systemd is running and sota_client is ready to accept connections, the output should be similar to:

```
root@raspberrypi2:~# systemctl status -l rvi-sota-client
rvi-sota-client.service - RVI SOTA Client
Loaded: loaded (/lib/systemd/system/rvi-sota-client.service; enabled; vendor preset: enabled)
Active: active (running) since Tue 2016-03-01 14:26:17 UTC; 2s ago
Main PID: 6122 (run.sh)
CGroup: /system.slice/rvi-sota-client.service
6122 /bin/bash /usr/bin/run.sh
6127 /usr/bin/dbus-daemon --fork --print-pid 4 --print-address 6 --session
6128 /usr/bin/sota_client -c /var/sota/client.toml -r http://rvi-client:8901 -e 0.0.0.0:9080
Mar 01 14:26:17 raspberrypi2 run.sh[6122]: Executing: /usr/bin/run.sh
Mar 01 14:26:17 raspberrypi2 run.sh[6122]: ERROR:sota_client::configuration::configuration:
$XDG_CONFIG_HOME is not set
Mar 01 14:26:17 raspberrypi2 run.sh[6122]: WARN:sota_client::configuration::configuration: Falling back to $HOME/.config
Mar 01 14:26:17 raspberrypi2 run.sh[6122]: INFO:sota_client::rvi::edge: Ready to accept connections.
```

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