Renesas R-Car Gen 3 (H3/M3 SoC) Genivi 14 support

With the recent P-0.1 release of the Genivi Yocto Baseline (meta-ivi) it is a good time for me to discuss building it using the R-Car Gen 3 Yocto BSP. 14.0.0 (P-1.0) has now been released and should also work.

Developer Summary

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Repository Location</th>
<th>Branch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upstream Yocto BSP support</td>
<td><a href="https://github.com/renesas-rcar/meta-renesas.git">https://github.com/renesas-rcar/meta-renesas.git</a></td>
<td>rocko</td>
</tr>
<tr>
<td>Adapt Yocto BSP (meta-renesas) to Genivi Yocto Baseline (meta-ivi)</td>
<td><a href="https://github.com/GENIVI/meta-ivi-renesas.git">https://github.com/GENIVI/meta-ivi-renesas.git</a></td>
<td>genivi-14.x</td>
</tr>
</tbody>
</table>

Please see the section below for notes on migration and the changes.

Developer Notes

Upstream Yocto BSP

Some of you may have noticed that the location of meta-renesas in the table above has changed. In Genivi 14 I have adopted the upstream Yocto BSP meta-renesas layer. That was part of the plan when the former Genivi Yocto BSP was split into two layers in the Genivi 13 development cycle. Now upstream supports Yocto Project 2.4 there is no need to support it in the fork of meta-renesas in my own account. If you are not familiar with the history of the Renesas Genivi Yocto BSP and that all sounds very confusing do not worry. Simply use the git repositories shown above.

During development of the meta-ivi Genivi 14 pre-releases I tested R-Car support using upstream Yocto BSP release v3.4.0. v3.4.0 is a major update from the v2.23.1 used for Genivi 13 support. Some of the changes include support for:

- Yocto Project 2.4.1
- Poky GCC 7.2 (linaro toolchain can still be used if you wish)
- Linux kernel 4.14 stable
- Gfx and mmp
  - Weston 2.0.0
  - Gstreamer 1.12.2

Details of the Yocto BSP changes can be found in the git commit messages. Here is a log using the github compare function.

If you wish to use the "click through" licensed gfx/mmp packages that require no NDA then please download the packages for Yocto v3.4.0 and Wayland 1.13 /Weston 2.0 from here.

Next Steps

Work is underway rebasing GDP on the Genivi 14 Yocto Baseline (see GDP PRs #173, 175 in github). I will send patches to update the R-Car Gen 3 support after the Easter break.

Renesas is in the process of releasing Yocto BSP v3.6.0, a minor update to v3.4.0. The 14.0.0 release of meta-ivi will also be made soon. Once available I will blog again on using them.

(Update: Both of these are now done. See the blog post above on Yocto BSP v3.6.0 for details and a link to the page for building Genivi-14 on R-Car Gen 3)