

Renesas R-Car Gen 3 (H3/M3/E3 SoC) Genivi 14 (YP 2.5 Sumo) support

With the recent release of meta-ivi v14.50.x and GDP v14.1 the Genivi platforms were re-based on Yocto Project 2.5 (Sumo). It's therefore a good time to write a blog about support for them on Renesas R-Car Gen 3.

R-Car Gen 3 Community Yocto BSP v3.9.0 for YP 2.5 (Sumo)

Back in August I [blogged](#) about the customer Yocto BSP v3.9.0 for YP 2.4 (Rocko). The customer BSP typically updates Yocto Project once a year. To help support the community Renesas is re-basing these releases on Sumo to create a community Yocto BSP.

Developer Summary

Purpose	Repository location	Branch
Upstream Community Yocto BSP support	https://github.com/renesas-rcar/meta-renesas.git	sumo-dev
Adapt Yocto BSP (meta-renesas) to Genivi Yocto Baseline (meta-ivi)	https://github.com/GENIVI/meta-ivi-renesas.git	genivi-14.x-sumo

Migration Guide

If you wish to use the "click through" licensed gfx/mmp packages that requires no NDA then please download the packages for **YBSP v3.9.0** and **Wayland 1.14 / Weston 3.0** from the section for **YP 2.5 (Sumo)** from [here](#).

If you are updating from an earlier BSP version then the new Yocto BSP release introduces updates to various Yocto BSP packages including the kernel, Initial Program Loader (IPL) and u-boot. The kernel and op-tee updates include mitigations for Spectre/Meltdown.

Please flash the updated IPL/u-boot to your board. Instructions for doing that can be found on elinux.org in the "Flashing Firmware" section of the [M3 Starter Kit](#) and [H3 Starter Kit](#) board pages. For Salvator-X(S) and Ebisu boards please refer to the documentation that came with the customer Yocto BSP.

There has been no change to the example local.conf's.

Details of the Yocto BSP changes can be found in the git commit messages. Here is a log between v3.9.0 (Rocko) and v3.9.0 (Sumo) using the github compare [function](#).

The community v.3.9.0 (Sumo) BSP uses the upstream (Poky) Weston 3.0 implementation and therefore only supports the gl-renderer which uses the GPU for h/w acceleration.

The dtb filenames have not changed since the last blog but here is the table again for reference. Please refer to the table below for the correct dtb to use for your board and SoC:

Board	SoC	DTB filename
Ebisu	E3	Image-r8a77990-ebisu.dtb
M3 Starter Kit	M3	Image-r8a7796-m3ulcb.dtb
Salvator-X	M3	Image-r8a7796-salvator-x.dtb
Salvator-XS	M3	Image-r8a7796-salvator-xs.dtb
Salvator-X	M3N 1.1	Image-r8a77965-salvator-x.dtb
Salvator-XS	M3N 1.1	Image-r8a77965-salvator-xs.dtb
H3 Starter Kit	H3 1.0, 1.1	Image-r8a7795-es1-h3ulcb.dtb
H3 Starter Kit	H3 2.0	Image-r8a7795-h3ulcb.dtb
Salvator-X	H3 1.0, 1.1	Image-r8a7795-es1-salvator-x.dtb
Salvator-X	H3 2.0	Image-r8a7795-salvator-x.dtb
Salvator-XS 4GByte	H3 2.0, 3.0	Image-r8a7795-salvator-xs.dtb
Salvator-XS 8GByte	H3 3.0	Image-r8a7795-salvator-xs-4x2gb.dtb

Documentation

I continue to maintain pages discussing the building of Genivi s/w for R-Car in the [meta-ivi Yocto BSP wiki](#) area. I have created a new page covering R-Car Gen 3 builds for [Genivi-14 \(Pulsar\)](#) for YP 2.5 (Sumo).

Genivi Yocto Baseline

I have successfully sanity tested building the 14.50.x Genivi Yocto Baseline using the Community YBSP v3.9.0 for Sumo on the M3 and H3 Starter Kits. Testing of the other boards will follow, but I do not expect any issues and see no reason for you to wait before trying them.

See the Documentation section above on how to build it.

GDP

The GDP Master and 14.1.x-sumo branches have been updated to use the Community Yocto BSP v3.9.0 for Sumo. I have also updated the corresponding build instructions of the GDP Master wiki page. Finally, I have successfully sanity tested it on the M3 and H3 Starter Kits. As with the Baseline testing of the other boards will follow.