
RZ/G Verified Linux Package V2.1.16-RT

R01TU0271EJ0115

Rev. 1.15

Patch Application Guide

Dec 24, 2022

Introduction

This document describes the contents of the “diff” files of RZ/G Verified Linux Package V2.1.16-RT (hereinafter referred to as “VLP v2.1.16-RT”) and instructions to use them.

Please read the “Release Note” of VLP v2.1.16-RT carefully before using this document.

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1. Release Items

VLP v2.1.16-RT is delivered by the files listed in **Table 1**. A develop environment of previous RZ/G Verified Linux Package v2.1.14-RT (hereinafter referred to as “VLP v2.1.14-RT”) can be upgraded to that of VLP v2.1.16-RT by applying the patch files included in following diff packages without having to download the basic packages.

Table 1. RZ/G Verified Linux Package

For VLP v2.1.14-RT users

File	Description
r01tu0271ej0115-rz-g.pdf	This document
v2114rt-to-v2116rt.patch.tar.gz (2.6MB)	Diff files of Yocto recipes compared with VLP v2.1.14-RT
v2114rt-to-v2116rt.oss_packages.7z (232MB)	Diff files of Open Source Software packages compared with VLP v2.1.14-RT

Basic packages

File	Description
rzg_bsp_eva_v2116rt.tar.gz (Evaluation version) (100MB) rzg_bsp_pro_v2116rt.tar.gz (Product version) (100MB)	Yocto recipe packages
rzg_bsp_gecko_v2116rt.tar.gz	Yocto recipe packages for HTML5
oss_pkg_v2116rt.7z (3.9GB)	Open source software packages
oss_pkg_gecko_v2116rt.7z (841MB)	Open source packages for HTML5
setup_env_script_v2116rt.py (7.6KB)	Script for setting up a build environment
RTK0EF0045Z0004AZJ-v2.1.16rt.zip (101MB)	Verified Linux Package. This file includes the Yocto recipe packages and the necessary documents.

Documents

File	Explanation
r01tu0269ej0115-rz-g.pdf	Release Note
r01tu0270ej0115-rz-g.pdf	Component list

Additional packages

File	Description
RTK0EF0045Z9000AZJ-v2.1.8.zip (42MB)	RZ/G1 Group BSP Manual Set.

Note) Detailed information regarding the configuration (Device tree) and usage of the device drivers contained in this BSP can be downloaded from Renesas.com. Please download the "RZ/G1 Group BSP Manual Set".

- <https://www.renesas.com/us/en/document/rzg1-group-bsp-manual-set-rtk0ef0045z9000azj-v2>

2. Patch Application Guide

This section explains how to prepare a clean environment of VLP v2.1.14-RT and upgrade it to VLP v2.1.16-RT. It is recommended to prepare and use a clean new environment, but if the environment prepared with VLP v2.1.16-RT are being used, it can also be upgraded with the steps (2) and (4) below. In this case, it is highly recommended to backup whole environment before upgrading.

Copy all files obtained from Renesas into your home directory prior to the steps below.

(1) Make a working directory (user_work), and decompress Yocto recipe package of VLP v2.1.14-RT

Run the commands below. Please replace “*type*” to “*pro*” or “*eva*”. Copy compressed Yocto recipe package files (rzg_bsp_*pro*_v2114rt.tar.gz for product version, rzg_bsp_*eva*_v2114rt.tar.gz for evaluation version) to current directory prior to this step.

```
$ mkdir ~/user_work
$ tar xvzf ~/rzg_bsp_type_v2114rt.tar.gz -C ~/user_work
```

Additionally, in case to use HTML5, run the commands below to decompress Yocto recipe package for building Gecko.

```
$ mkdir user_work
$ tar xvzf ~/rzg_bsp_gecko_v2114rt.tar.gz -C user_work
```

(2) Apply patch files to Yocto recipes

Run the commands below. Copy the compressed patch file to “user_work” directory prior to this step.

```
$ cd ~/user_work
$ tar xvzf ~/v2114rt-to-v2116rt.patch.tar.gz
$ patch -p1 < ./v2114rt-to-v2116rt.patch
```

Note) In case to use HTML5 on iWave board for RZ/G1E and RZ/G1C, please apply a patch to the meta-renesas directory.

```
$ cd $WORK/meta-renesas
$ patch -p1 < ../extra/0001-mmngr-iwg22m-iwg23s-reducing-CMA-reserved-for-MMP-\
to.patch
```

(3) Decompress OSS files of VLP v2.1.14-RT to “build” directory

Copy the compressed OSS package file (oss_pkg_v2114rt.7z, oss_pkg_gecko_v2114rt.7z) into your home directory prior to these steps. All OSS packages will be decompressed at the step marked (*1) and (*2). 7zipped files are not able to decompress individually. All 7z files must be placed at the same directory before running 7z command.

Run the commands below.

```
$ cd ~/user_work
$ mkdir build
$ cd build
$ 7z x ~/oss_pkg_v2114rt.7z (*1)
```

Additionally, in case to use HTML5, run the command below to decompress OSS files for building Gecko.

```
$ cd user_work/build
$ 7z x ./oss_pkg_gecko_v2114rt.7z (*2)
```

(4) Remove old OSS files and add new ones (if any)

Remove old files.

```
$ cd ~/user_work/build/oss_packages
$ rm -rf glibc_2.28* \
openssl_1.1.1d* \
git2/github.com.renesas-rz.renesas-u-boot-cip.git*
```

Add new OSS files of VLP v2.1.16-RT. Copy the compressed OSS diff file to your home directory and decompress new files.

```
$ cd ~/user_work/build
$ 7z x ~/v2114rt-to-v2116rt.oss_packages.7z
```

(5) Build new BSP

Now it is ready to build BSP. Please build it according to the Release Note **section 3.1**. Note that the below steps in the section 3.1 of the Release Note is not necessary. These steps overwrite your environment.

(2) Create the working directory, and decompress Yocto recipe package

(6) Decompress OSS files to “build” directory

Note) The source code of the Linux kernel is not included in oss_packages.7z. The step (7) of the building procedure obtains the source code from CIP’s Git repository.

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