
RZ/G Verified Linux Package for 64bit kernel

Version 1.0.20

R01TU0283EJ0118

Rev. 1.18

Patch application guide

May. 31, 2024

Introduction

This document describes the contents of the “diff” files of RZ/G Verified Linux Package for 64bit kernel (hereinafter referred to as “VLP64”) and instructions to use them.

Please read the “Release Note” of VLP64 v1.0.20 carefully before using this document.

Contents

1. Release Items	2
2. Patch Application Guide	3
2.1 Patch Application Guide.....	3
2.2 Patch Application Guide for HTML5 (Gecko78)	6

1. Release Items

VLP64 is delivered by the files listed in **Table 1**. A developed environment of VLP64 v1.0.18 or v1.0.19-RT can be changed to that of VLP64 v1.0.20 by applying the patch files included in diff files without downloading basic packages.

Table 1. RZ/G Verified Linux Package

Diff files for VLP64 v1.0.18 and v1.0.19-RT users

File	Explanation
r01tu0283ej0118-rz-g(Patch Application Guide).pdf	This document
v1018-to-v1020.patch.tar.gz (Evaluation and Product version) (43KB)	Diff files of Yocto recipes compared with VLP64 v1.0.18
v1019rt-to-v1020.patch.tar.gz (Evaluation and Product version) (43KB)	Diff files of Yocto recipes compared with VLP64 v1.0.19rt
v1018-to-v1020.oss_packages.7z (241MB)	Diff file of OSS packages compared with VLP64 v1.0.18

Basic packages

File	Explanation
rzg2_bsp_eva_v1018.tar.gz (Evaluation version) (65MB)	Yocto recipe packages (including Multimedia package)
rzg2_bsp_pro_v1018.tar.gz (Product version) (65MB)	
rzg2_bsp_eva_v1019rt.tar.gz (Evaluation version) (65MB)	Yocto recipe packages (including Multimedia package)
rzg2_bsp_pro_v1019rt.tar.gz (Product version) (65MB)	
oss_pkg_v1018.7z (7.27GB)	Open source software packages
oss_pkg_v1019rt.7z (7.27GB)	Open source software packages

Basic packages for HTML5 (Gecko) environment

File	Explanation
rzg2_bsp_gecko78_v1018.tar.gz (592KB) (*)	Yocto recipe packages for HTML5 (Gecko78)
oss_pkg_gecko78_v1018.7z (1.75GB) (*)	Open source software packages for HTML5 (Gecko78)
rzg2_bsp_gecko78_v1019rt.tar.gz (592KB) (*)	Yocto recipe packages for HTML5 (Gecko78)
oss_pkg_gecko78_v1019rt.7z (1.75GB) (*)	Open source software packages for HTML5 (Gecko78)

Documents

File	Explanation
r01tu0277ej0125-rz-g(Release Note).pdf	Release Note
r01tu0311ej0121-rz-g(Release Note for HTML5).pdf	Release Note for HTML5 (Gecko)
r01tu0278ej0120-rz-g(Component List).pdf	Component list

Note: (*) If you want to support Gecko68 instead of Gecko78, please use basic gecko packages from VLP64 v1.0.10 due to no changes.

The above packages are downloaded with the different file names like as “REN_rzg2_bsp_eva_v10x.tar.gz_ESW_2021xxxx.gz”. When you use the packages, please rename them to the above file names.

Additional packages

File	Description
RTK0EF0045Z9002AZJ-v1.0.120.zip (23MB)	RZ/G2 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/G2 Group BSP Manual Set".

<https://www.renesas.com/document/rzg2-group-bsp-manual-set>

2. Patch Application Guide

This chapter describes how to prepare a clean environment of **VLP64 v1.0.18** or **VLP64 v1.0.19rt** and update it to **VLP64 v1.0.20**.

It is recommended to prepare and use a clean new environment, but if the environment prepared with **VLP64 v1.0.18** or **VLP64 v1.0.19rt** is being used, it can also be updated with the section 2.1 or 2.2 below. In this case, it is highly recommended to backup whole environment before updating them. If HTML5 (Gecko) is not required, please refer to only the section 2.1. If HTML5 (Gecko) is required, please skip the section 2.1 and refer to only the section 2.2.

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

2.1 Patch Application Guide

All below steps are created for **v1.0.18**. Please do the similar steps for **v1.0.19rt** if you want to update from this version.

(1) Create a working directory (rzg2_vlp_v1.0.18) at your home directory and decompress Yocto recipe package of v1.0.18

Run the commands below. The name and the place of the working directory can be changed, as necessary. Please replace "eva" with "pro" for the product version.

```
$ mkdir ~/rzg2_vlp_v1.0.18
$ cd ~/rzg2_vlp_v1.0.18
$ tar zxvf ~/rzg2_bsp_eva_v1018.tar.gz
```

Note) In case updating existing environment:

- Please revert the patch which enables HDMI with below command if necessary. Please replace "directory" to the path to the directory which stores the patch file.

```
$ patch -R -p1 < directory/0001-BSPv1.0.18-Add-HDMI-support-for-RZ-G2.patch
```

- For **v1.0.19rt**, the HDMI patch should be "0001-BSPv1.0.19-Add-HDMI-support-for-RZ-G2.patch"

(2) Apply the patch file to Yocto recipes and remove a directory and add a file

Run the commands below.

```
$ cd ~/rzg2_vlp_v1.0.18
$ tar zxvf ~/v1018-to-v1020.patch.tar.gz
$ patch -p1 < v1018-to-v1020.patch
```

For **v1.0.19rt**, patch file will be **v1019rt-to-v1020.patch** that is compressed in **v1019rt-to-v1020.patch.tar.gz**.

(3) Decompress OSS files of v1.0.18 to “build” directory

Run the commands below. All OSS packages will be decompressed at once with this '7z' command. Please place all oss_pkg_v1018.7z files in the same directory before running this '7z' command. 7zipped files are not able to decompress individually.

```
$ cd ~/rzg2_vlp_v1.0.18
$ mkdir build
$ cd build
$ 7z x ~/oss_pkg_v1018.7z
```

For **v1.0.19rt**, OSS file will be **oss_pkg_v1019rt.7z**.

(4) Add OSS files

Run the commands below to remove the old files.

```
$ cd ~/rzg2_vlp_v1.0.18/build/downloads
$ rm -rf git2/github.com.renesas-rz.rzg_trusted-firmware-a.git
```

Run the commands below to add the new files. Copy the compressed OSS diff file to the home directory and decompress the new files.

```
$ cd ~/rzg2_vlp_v1.0.18/build
$ 7z x ~/v1018-to-v1020.oss_packages.7z
```

For **v1.0.19rt**, there is no need to update the OSS packages.

(5) Build new BSP

Now it is ready to build the BSP. Please build it according to the Release Note section 3.1. Note that the below steps in the chapter 3 of the Release Note is not necessary. These steps overwrite your environment.

- (1) Create a working directory (rzg2_vlp_v1.0.18) at your home directory, and decompress Yocto recipe package
- (5) Decompress OSS files to “build” directory

2.2 Patch Application Guide for HTML5 (Gecko78)

All below steps are created for **v1.0.18**. Please do the similar steps for **v1.0.19rt** if you want to update from this version.

(1) Create a working directory (rzg2_vlp_v1.0.18) at your home directory and decompress Yocto recipe package of v1.0.18

Run the commands below. The name and the place of the working directory can be changed, as necessary. Please replace “*eva*” with “*pro*” for the product version.

```
$ mkdir ~/rzg2_vlp_v1.0.18
$ cd ~/rzg2_vlp_v1.0.18
$ tar zxvf ~/rzg2_bsp_eva_v1018.tar.gz
$ tar zxvf ~/rzg2_bsp_gecko78_v1018.tar.gz (*)
```

Note: (*) If you want to support Gecko68 instead of Gecko78, please use “rzg2_bsp_gecko68_v109rt.tar.gz”.

Note) In case updating existing environment:

- Please revert the patch which enables HDMI with below command if necessary. Please replace “*directory*” to the path to the directory which stores the patch file.

```
$ patch -R -p1 < directory/0001-BSPv1.0.17-Add-HDMI-support-for-RZ-G2.patch
```

- For **v1.0.19rt**, the HDMI patch should be “0001-BSPv1.0.19-Add-HDMI-support-for-RZ-G2.patch”

(2) Apply patch files to Yocto recipes

Run the commands below.

```
$ cd ~/rzg2_vlp_v1.0.18
$ tar zxvf ~/v1018-to-v10120.patch.tar.gz
$ patch -p1 < v1018-to-v1020.patch
```

For **v1.0.19rt**, patch file will be **v1019rt-to-v1020.patch** that is compressed in **v1019rt-to-v1020.patch.tar.gz**.

(3) Decompress OSS files of v1.0.18 to “build” directory

Run the commands below. All OSS packages will be decompressed at once with this '7z' command. Please place all `oss_pkg_v1018.7z` files and `oss_pkg_gecko78_v1018.7z` files in the same directory before running this '7z' command. 7zipped files are not able to decompress individually.

```
$ cd ~/rzg2_vlp_v1.0.18
$ mkdir build
$ cd build
$ 7z x ~/oss_pkg_v1018.7z
$ 7z x ~/oss_pkg_gecko78_v1018.7z (*)
```

Note: (*) If you want to support Gecko68 instead of Gecko78, please use “oss_pkg_gecko68_v1018.7z”.

For **v1.0.19rt**, gecko OSS packages should be `oss_pkg_gecko78_v1019rt.7z` and `oss_pkg_gecko68_v1019rt.7z`.

(4) Add OSS files

Run the commands below to remove the old files.

```
$ cd ~/rzg2_vlp_v1.0.18/build/downloads
$ rm -rf git2/github.com.renesas-rz.rzg_trusted-firmware-a.git
```

Run the commands below to add the new files. Copy the compressed OSS diff files to the home directory and decompress the new files.

```
$ cd ~/rzg2_vlp_v1.0.18/build
$ 7z x ~/v1018-to-v1020.oss_packages.7z
```

For **v1.0.19rt**, there is no need to update the OSS packages.

(5) Build new BSP

Now it is ready to build the BSP. Please build it according to the Release Note section 3.1. Note that the below steps in the chapter 3 of the Release Note is not necessary. These steps overwrite your environment.

- (1) Create a working directory (rzg2_vlp_v1.0.18) at your home directory, and decompress Yocto recipe package
- (5) Decompress OSS files to “build” directory

Website and Support

Renesas Electronics Website

<http://www.renesas.com/>

Inquiries

<http://www.renesas.com/contact/>

All trademarks and registered trademarks are the property of their respective owners.