



Unified BSP Upgrade using CLI

Introduction

- Reference guide to upgrade to and from the unified BSP on **Kona Gateways (Enterprise, Micro, Macro and Mega)** using the **Command Line Interface (CLI)**.
- Table of contents:
 1. [Prerequisites](#)
 2. [Download Upgrade Package](#)
 3. [Upload packages to the gateway](#)
 4. [Configure and Initiate Upgrade](#)
 5. [Automation Tip](#)
 6. [Conserve Gateway Space](#)

Prerequisites

This guide will assume that you are familiar with operating and navigating through a Linux environment. For a guide with ease of access, please see the [BSP upgrade guide using KonaFT.](#)

Requirements:

- FTP Program (such as [FileZilla](#) or [WinSCP](#))
- Terminal program (such as [TeraTerm](#) or [PuTTY](#))
- Kona Gateway
- Access via SSH

Prerequisites (Continued)

To determine the current BSP version on the gateway manually, there is only one method.

1. Access the gateway via **SSH** with the appropriate credentials. See the table below for details.
2. Enter the command: **system_version**

Username	Password	Notes
root	9-Digit Serial number of the Gateway (i.e. 1618B0052)	<ul style="list-style-type: none">• Applies to gateways with serial numbers that start with 21 and below.
admin	9-Digit Serial number of the Gateway (i.e. 1618B0052)	<ul style="list-style-type: none">• Commonly found on older ENTERPRISE gateways.
admin	Random string of characters provided on the test report.	<ul style="list-style-type: none">• Applies to gateways with serial numbers that start with 22 and above.• Some units in this category may still have root as the user and the serial number as the default password.

Table-1 Username and Password

NOTE: If the password is not on the test report, [contact Tektelic Support](#) and provide the following:

- T-code (i.e. **T000XXYY**) and serial number (i.e. **1212A3434**)

Prerequisites (Continued)

- All Kona gateways will be using a **unified BSP upgrade package** moving forward starting with **BSP v7.X.X**.
- Kona gateways will need to be on a specified BSP (seen below) before upgrading to the unified BSP.
- If your gateway is not on the initial BSP version, **use the legacy upgrade guide before proceeding.**

Gateway	Initial BSP Version	Final BSP Version
Kona Micro	v4.0.5 or newer	v7.x.x
Kona Micro PoE	v5.1.1 or newer	v7.x.x
Kona Macro	v6.1.4 or newer	v7.x.x
Kona Mega	v5.0.6 or newer	v7.x.x
Kona Enterprise	v2.1.2 or newer	v7.x.x

Table-2 Universal BSP upgrade

Download Upgrade Package

All BSP upgrade packages can be found on the TEKTELIC FTP server. You can find out [the latest releases here](#). Instructions to access the FTP are as follows:

1. Configure your FTP client to **“Use explicit FTP over TLS if available”**.

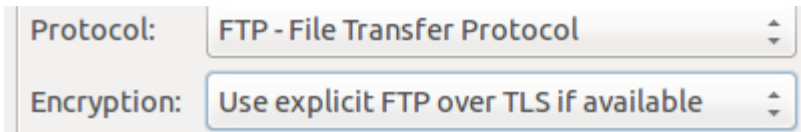


Figure-1 FTP client settings

2. Use the following credentials to access the server.
 - Site: **74.3.134.34**
 - Username: **customer**
 - Password: **vU6_ATR3**
3. Navigate to the **“Universal_Kona_SW”** directory and download two items.
 - **snmpManaged-feed.conf** found in **“Universal_Kona_SW”** folder
 - BSP package of your choice

Upload Upgrade Package

There are various ways of uploading the BSP Upgrade Package to the gateway. This guide will use FileZilla to upload files to the gateway.

Use the following site settings to connect to the gateway:

- Site: **<IP of your gateway>**
- Username and password: [Credentials of the gateway](#)

Upload the files according to your credentials:

- **root:**
 - Upload everything to any folder of your choice.
- **admin:**
 - Upload everything to **/home/admin/**

Configure and Initiate Upgrade

Users that use **admin** as their login credentials have insufficient permissions to perform the above steps. They will have to perform additional steps:

1. Move **snmpManaged-feed.conf** to **/etc/opkg/** with command:
 - **sudo mv snmpManaged-feed.conf /etc/opkg**
2. Perform the below steps, but prefix each command with **sudo**

To set up the upgrade package, please use the following steps:

1. Create the upgrade folder: **mkdir /lib/firmware/bsp**
2. Unzip files to the newly created folder:
 - **unzip <location and name of upgrade package> -d /lib/firmware/bsp/**
3. Configure gateway upgrade location paths with the following command: **opkg update**
4. Initiate BSP upgrade with the following command: **tektelic-dist-upgrade -Du**

Configure and Initiate Upgrade (cont.)

The gateway will reboot several times in the BSP upgrade process, severing all SSH connections. **There is no way to keep track of its progress aside from logging into the gateway and manually checking.** The upgrade process will take around 15-30 minutes.

To check the upgrade progress, login to the gateway and enter the following command:

- **tektelic-dist-upgrade -p**

```
Distributor ID: Tektelic
Description: Tektelic Kona Micro GNU/Linux 4.0.2
Release: 4.0.2 upgrade-in-progress
```

Figure-2 *system_version* command during upgrade

Configure and Initiate Upgrade (cont.)

You can verify the completion of the BSP upgrade with the following two commands:

- **system_version**
 - Output should contain the desired version without **upgrade-in-progress**
- **tektelic-dist-upgrade -s**
 - Output should be: **ok**

If an error occurred during the upgrade process, [please raise a support ticket](#) with the upgrade logs.

You can find the upgrade logs in **/var/log/** or **/var/lib/logs/**

Automation Tip

For users that wish to host upgrade servers of their own, we do not recommend hosting individual upgrade files. What could happen is that one of the upgrade files may become corrupted during the file transfer and heavily disrupt the upgrade process.

We recommend developing a solution where zipped upgrade packages are distributed to the gateway and then configuring it from there. That way, the margin of error is significantly reduced from hundreds of transfers to a single file transfer per gateway.

Conserving Gateway Space

When a gateway requires multiple BSP upgrades, you will need to remove the upgrade files and backup created. This will ensure that the gateway will have enough space to create a backup and perform the upgrade. **If the gateway does not have enough space to perform an upgrade or backup the system, the upgrade will throw an error and will not proceed.**

Because each new BSP release may contain new versions of the packages, they will not overwrite existing upgrade files. Hence, we will always recommend removing upgrade package and associated files.

To check how much space you have on your gateway, run the following command: **df**
Generally, having 50% space free in **ubi0:rootfs** is enough to commence an upgrade.

```
root@kona-micro:~# df
Filesystem      1K-blocks    Used Available Use% Mounted on
ubi0:rootfs      256512    229880    26632   90% /
devtmpfs         242764         12    242752   0% /dev
tmpfs            255168        104    255064   0% /run
tmpfs             65536         492     65044   1% /var/volatile
ubi1:log         192852     14136    173880   8% /var/lib/logs
```

Figure-3 SW Management tab

Conserving Gateway Space (Files)

The files and upgrade package can only be removed through SSH.

When a package is uploaded through KonaFT, the package is uploaded to the directory **/dev/shm**

- **If the Decompress option is ticked**, the gateway will automatically remove the upgrade package.
- To remove the upgrade package, run the following command: **sudo rm /dev/shm/<upgrade-package-name>.zip**

All BSP upgrade files can be found in the following folder: **/lib/firmware/bsp**

- To remove the upgrade files, run the following command: **sudo rm -rf /lib/firmware/bsp**

Conserving Gateway Space (Backups)

Backups are always created as part of the BSP upgrade process. When doing multiple intermediate upgrades, backups should also be removed to conserve space.

Backups can be removed through 2 methods: **SSH** or **KonaFT**.

SSH:

1. Log into the gateway via SSH.
2. See the list of available backups: `ls /backup`
3. Remove backups as desired: `sudo rm -rf /backup/<Three digit backup index>`

KonaFT:

1. Connect to the gateway.
2. In the top row of tabs, select **Board Details**.
3. In the row of tabs slightly below, select **Backup and Restore**.
4. Under Restore, select **Update Table**.
5. A list of backups will now appear. Click one and then select **Delete Selected** to delete the backup.

Conserving Gateway Space (Backups)

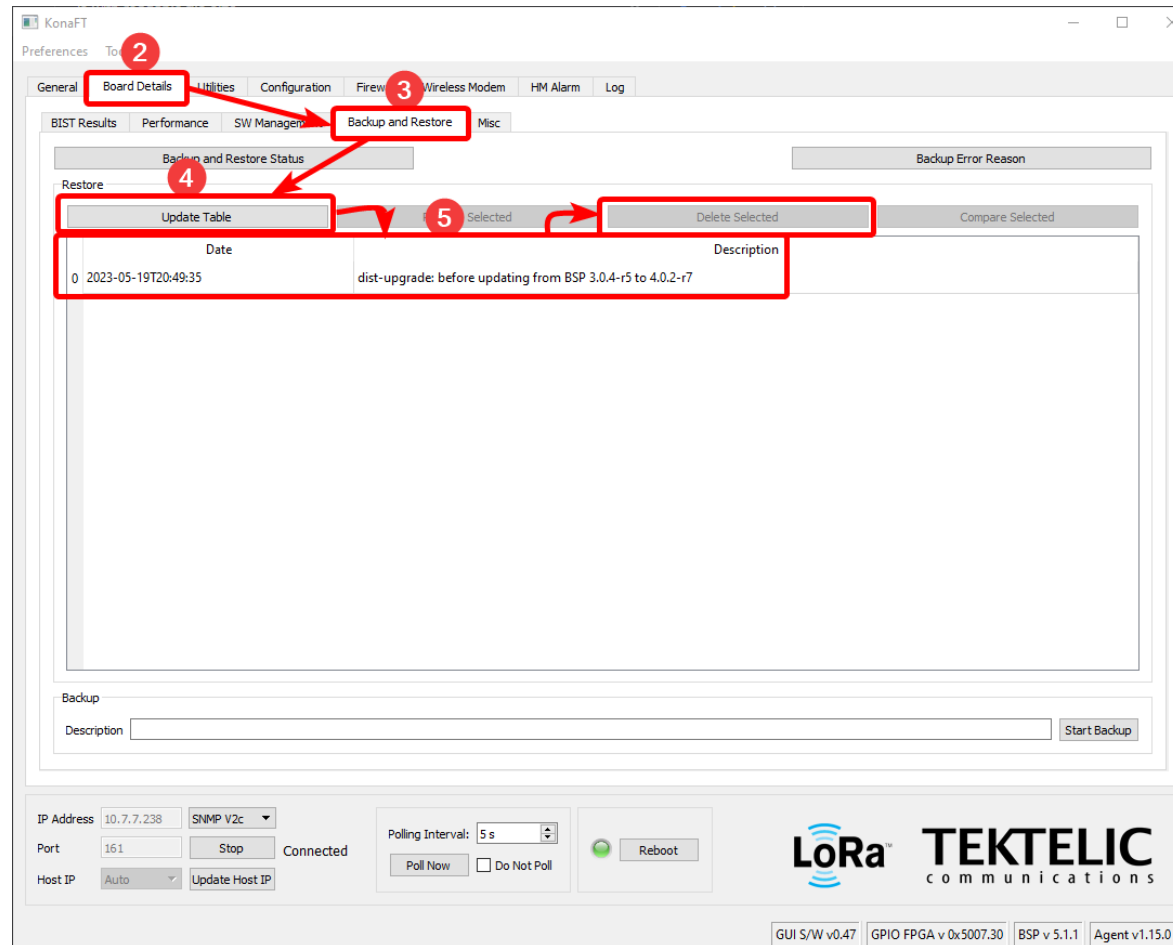


Figure-4 Deleting Backups

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