Honeywell

HUpgrader

User Guide

Disclaimer

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1 INTRODUCTION

About the Honeywell Upgrader

Use the Honeywell Upgrader app (HUpgrader) to automatically search for and install Over-the-Air (OTA) operating system updates from a remote server. The app settings define when it will search for and install updates. Settings can be configured in the app or by using Enterprise Provisioner or EZConfig to create an XML file or barcode that can be used to configure multiple devices.

The app can also be used to downgrade the operating system on a mobile computer or manually install an update from a file that has been downloaded to the device.

Requirements

To use the full set of features described in this guide, the device must meet the following minimum requirements:

- Android operating system (OS) version: 8
- HUpgrader version: 01.04.00.1437

Download Software and OS Updates

Software and Operating System updates can be accessed through the Software Downloads portal. You will need to create a login account for portal access. Additional information such as purchased date, service agreement number, maintenance plan number, or software license number may be required for downloads.

Note: *HUpgrader is delivered as part of the Android OS package. When the OS is upgraded on the device, any updates to HUpgrader will also be installed.*

Provisioning bundles for Enterprise Provisioner can also be obtained in the Software Downloads portal under **Software > Software and Tools > Device Management > Enterprise Provisioner > Provisioning Bundles**.

1. Go to honeywell.com/PSSsoftware-downloads.

2. Create a login account if you have not already created one.

3. Install the Honeywell Download Manager tool. See "Note" on the portal page. This tool is required for downloads.

4. Locate the upgrade in the Software directory.

5. If prompted, enter additional information, and click **Submit**.

6. Select **Download**. Follow the prompts to download the file.

HUpgrader Settings

Configure the settings in HUpgrader to define when the app will search for updates and how updates will be installed.

To access the settings in the HUpgrader app:

1. On the mobile computer, swipe up from the bottom of the Home screen to access all apps.

2. Tap **HUpgrader** to open the Honeywell Upgrader app.

3. Tap and then tap **HUpgrader Settings**.

Note: *If you are using Enterprise Provisioner to create a configuration file or barcode, the HUpgrader settings are located under* **Settings > Device Config > Other settings > HUpgrader Settings***.*
To edit the XML settings, the "HUpgrader custom enable" setting must be selected.

Setting	Description
Upgrade Major	When this setting is turned on, the device will install both major and incremental upgrades. If a major upgrade is found, the Android OS on the device can be updated to the next major Android version (i.e., from 11 to 12). If an incremental upgrade is found, the device remains on the existing major Android version and increments to the next level version (i.e, from 11.1 to 11.2). When this setting is turned off, the device will install incremental upgrades only. The device remains on the existing major Android version, incrementing to the next level version. Default: 1 = Enabled XML setting: HUpgrader upgrade Major

Setting	Description
Upgrade when battery over *n*%	Installs the upgrade only when the battery charge is above the specified percentage. Valid values are between 0 to 100. Default: 20 XML setting: Hupgrader battery threshold
Reboot after upgrade	Allow HUpgrader to reboot the device after the upgrade is completed. Default: 0 = Disabled XML: HUpgrader reboot after OS/Software upgrade
Defer reboot	When this setting is enabled, the mobile computer user will be allowed to defer the reboot of the device. Default: 0 = Disabled XML: HUpgrader defer reboot
Maximum deferrals	The maximum number of times the user will be allowed to defer rebooting the mobile computer after an OS update. Default: 3 XML: HUpgrader maximum reboot deferrals
Defer time	The maximum amount of time (in hours or days) allowed to pass before the device is rebooted. Default: 1 Hour XML settings: HUpgrader defer reboot units HUpgrader defer reboot count

Setting	Description
Custom Server	Turn the Custom Server setting on then enter the URL of the server to connect to for OTA updates. Both "http" and "https" are supported. If the URL ends with a ".zip" extension, HUpgrader interprets the URL as the OTA upgrade to apply to the device. If the URL ends with an ".html" extension, HUpgrader interprets the URL as a manifest file. HUpgrader will download and parse the manifest file looking for HTML anchor tags with the format href="example_ota.zip" or href="next.html". ".zip" extension anchor tags are interpreted as a candidate OTA. ".html" extension anchor tags are interpreted as the next manifest to download and parse looking for more HTML anchor tags. If the URL ends with "directory.json", HUpgrader interprets the URL as another type of manifest file. HUpgrader will download the file directory.json and look for the newest OTA version to apply to the device. If the Upgrade Major setting is enabled, only full OTAs that will upgrade the device to the next major Android version are applied. If the upgrade major switch is disabled, full and incremental OTAs that will upgrade the device's current Android version are considered. See JSON Schema for more information. XML settings: HUpgrader operating mode (Set to "Upgrade") HUpgrader server url
Note: *The following settings are only displayed in the app when Custom Server is enabled.*	
Downgrade	Downgrade the OS on a mobile computer to a previous version. See Downgrade the Operating System for details. Default: Upgrade XML settings: HUpgrader operating mode (Set to "Downgrade") HUpgrader server downgrade url HUpgrader downgrade password
OTA file matcher	Regular expression used to filter the OS version string value found at **Settings > About phone > Build number**. The filtered string is then used to create a Java class containing version information (major, minor, level, and number). The same regular expression is used to filter the OTA file name from the web server for the same purpose, creating a Java class with version information. The values in both class instances are then compared to see if the OTA from the server is newer than the installed OS version.

Setting	Description
Start download in *n* minutes	The time in minutes that HUpgrader will wait to begin to download the OS from the server after an upgrade is detected. Valid values are from 0 to 180 minutes. Default: 0 XML setting: HUpgrader time sharing
Delete OTA after upgrade	Delete the OTA file after the upgrade is completed. Default: 0=Disabled XML setting: HUpgrader del after upgrade
Check on boot up	Check for available OS updates on every boot up of the device. Default: 0=Disabled XML setting: HUpgrader check on bootup
Check on intent	Check for available OS updates when an intent is sent to the device. The command to send the intent is: adb shell am broadcast –a com.honeywell.action.INTENT_CHECK –f 0x01000000 Where: The –f parameter 0x01000000 is the value of android.content.Intent.FLAG_RECEIVER_INCLUDE_BACKGROUND Default: 0=Disabled XML setting: HUpgrader check on intent
Check on interval	Check for available OS updates based on a configured interval. Default: 0=Disabled XML setting: HUpgrader check on interval
Check interval	When Check on interval is selected, define the interval to look for updates in hours or days. Default: 1 Day XML settings: HUpgrader check on interval units HUpgrader check on interval count

Setting	Description
Add check task	Sets an HUpgrader alarm to specific times such as 8:00 or 14:00. When the alarm time is reached HUpgrader will check if OS/Software is available for download from the custom server. Alarm times use the 24 hour clock and the UTC time zone. XML setting: HUpgrader alarm
HUpgrader reboot voice message after OS/Software upgrade	When this setting is enabled, the device will play a voice message when an OTA update has been received and the device needs to reboot. When this setting is disabled, no voice message will be played. Default: 1=Enabled XML setting: Hupgrader reboot voice message **Note:** This setting is not displayed in the HUpgrader application. It must be configured in DeviceConfig.xml.

View History

To view a history of previous upgrades, tap ⋮ and then tap **HUpgrade History**. The HUpgrader History screen displays a list of previous upgrades, including the OS version and the date and time the update was performed.

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PERFORMING MANUAL UPDATES

In addition to making automatic updates from OTA files, users can also manually initiate a search for OS updates, update the OS using a file downloaded to the mobile device, and downgrade the operating system to a previous version.

Manually Install OTA Updates

HUpgrader will automatically check for available updates based on the defined settings. You can also manually check for available updates.

1. On the mobile computer, swipe up from the bottom of the Home screen to access all apps.

2. Tap **HUpgrader** to open the Honeywell Upgrader app.

3. Tap ⋮, and then tap **Select OTA from server**.
   The app checks for available updates.

4. If an OTA update is available for download, the cloud icon will indicate that the download is in progress.

5. Tap the back arrow to return to the app home screen

6. Tap the **Check for updates** button.

7. In the list of available updates, tap an update to install.

8. Tap **Install from server**.

Downgrade the Operating System

You can use HUpgrader to downgrade the OS on a mobile computer. The downgrade must be performed manually on the device.

To complete the downgrade operation, an Enterprise data reset must be performed to remove any configuration that may potentially interfere with a successful downgrade. This method provides a clean configuration by erasing all data from the Internal shared storage location on the computer. Data is not erased from the IPSM Card location.

When the downgrade operation is completed, HUpgrader copies the contents of `/internal shared storage/honeywell/persist/` to `/storage/IPSM/honeywell/persist/`. Copying the file to `/storage/IPSM/honeywell/persist/` preserves the device's network configuration and allows it to rejoin the network after the enterprise reset.

Prerequisites

- Both the **Downgrade Password** and **Server Downgrade URL** must be configured. If only the password is configured, HUpgrader will display an error. If only the downgrade URL is configured, the Downgrade option will not be active in Settings.

- The downgrade URL must be an absolute URL. That is, the URL contains both the domain name and the directory/page path.

- The downgrade settings cannot be configured in the HUpgrader app. Use Enterprise Provisioner to define these settings.

Downgrading the OS

Follow these steps to downgrade the operating system.

1. On the mobile computer, swipe up from the bottom of the Home screen to access all apps.

2. Tap **HUpgrader** to open the Honeywell Upgrader app.

3. Tap ⋮, and then tap **HUpgrader Settings**.

4. Tap **Downgrade**.

5. Enter the **Downgrade password** and tap **SUBMIT**.

6. Tap **START DOWNGRADE**.
   HUpgrader downloads and applies the OTA from the downgrade server.

7. When prompted, allow HUpgrader to perform an Enterprise data reset.

Install Updates from Storage

Follow these steps to use HUpgrader to install an update from a file downloaded to the mobile computer.

Installing Software

1. Copy the downloaded file to the following folder on the mobile computer:

   • **`Internal shared storage\Download`**

   Note: *If you are using a USB connection to transfer the upgrade files to the handheld computer, make sure you set the USB connection to allow file transfers. To learn more, see the user guide for your handheld computer model.*

2. On the mobile computer, swipe up from the bottom of the Home screen to access all apps.

3. Tap **Settings** ⚙ > **Honeywell Settings** > **Provisioning mode**.

4. Tap the toggle button to turn Provisioning mode **On**.

5. Swipe up from the bottom of the Home screen to access all apps then tap **HUpgrader** 🔵 to open the Honeywell Upgrader app.

6. Tap ⋮ , and then tap **Select OTA from storage**.

   OTA Update ⋮

   H

   Check for updates

   Current OTA Version On Device
   84.00.03(0004)

   Latest OTA Version On Storage
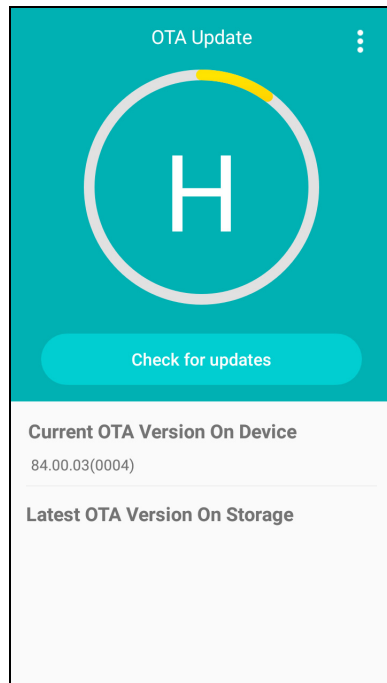
7. Select the storage location (i.e., Internal Storage) where you saved the file.

8. Tap the OTA update file. The computer examines the file, and then starts the installation.
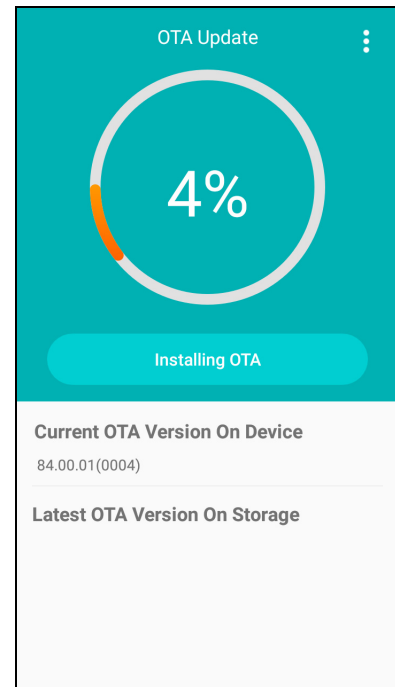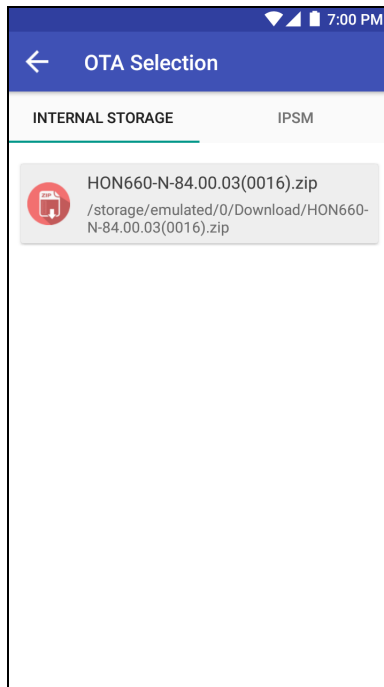
9. Once the installation is complete (100%), select **OK** when prompted to **Reboot** the computer. The computer reboots and finishes the update.

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JSON SCHEMA

If the URL entered for the Custom Server setting ends with "directory.json", HUpgrader will download the directory.json file and look for the newest OTA version to apply to the device.

The directory.json file identifies the currently installed version or versions that can be found on the mobile devices and the OTA file that will be used to upgrade to a new version.

This chapter provides an overview of the attributes used in the directory.json file and gives examples of how those attributes are used.

Attributes

This section describes the attributes of the schema used in the directory.json file to download an OTA update to mobile devices.

Section	Field Presence	Purpose
Directory	Required	Top level block to set: • the schema version • if logging is enabled • an array of channels The channels array must have at least one entry.
channels	Required	Top level block to describe a channel for distributing software deliverables. A channel is a method of grouping software deliverables according to maturity. As of HUpgrader version 1.04.00.1581, only the release channel is supported.

Section	Field Presence	Purpose
Android_OS	Required	Top level block to describe an array of available Android OS releases. The versions array must have at least one entry.
dessertVersion	Required	Top level block to describe the available Android OS releases for a major Android version.
Device platform (hon660, hon4290, etc.)	Required	Each device platform section must have one of: • FullOta section named "GMS-Full-OTA" • IncrementalOta section named "GMS-Incremental-OTA" • FullOta section named "non-GMS-Full-OTA" • IncrementalOta section named "non-GMS-Incremental-OTA"
upgrades	Required if the JSON includes an Incremental-OTA section	Describes an Android OS version currently installed on the device and an incremental OTA that will upgrade the device to the next Android version.

Examples

The following examples demonstrate possible options for the directory.json file. Customize the file based on your use case.

Note: *The versions shown in these examples are for demonstration purposes. An OTA for the versions in this file may not exist. Replace the versions in the examples with the actual OS versions you are working with.*

Example 1: Hon4290 with Wi-fi Version Information

```
{
  "help": [
  "Full OTA version greater than the device's current version.",
  "Incremental OTA version greater than the device's current version.",
  "If the device's current version is not found in the list of upgrades, and",
  "the full ota version is greater than the current version then the full OTA",
  "is selected",
  "HUpgrader Settings->Upgrade Major must be disabled."
    ],
    "logcat": true,
    "schemaVersion": 1,
    "channels": [
      {
        "id": "release",
        "description": "Enter description of release",
        "android_os": {
          "versions": [
            {
              "dessertVersion": 11,
              "hon4290": {
                "GMS-Wifi5-Full-OTA": {
                  "version": "311.C0.12.0317",
                  "file": "HON4290WiFi5-R-311.C0.12.0317-G.zip"
                },
                "GMS-Wifi5-Incremental-OTA": {
                  "version": "311.C0.12.0317",
                  "upgrades": [
                    {
                      "installed_version": "311.C0.03.0096",
                      "file": "HON4290-R-311.C0.03.0096-G_311.C0.12.0317-G.zip"
                    },
                    {
                      "installed_version": "311.C0.04.0146",
                      "file": "HON4290-R-311.C0.04.0146-G_311.C0.12.0317-G.zip"
                    },
                    {
                      "installed_version": "311.C0.05.0160",
                      "file": "HON4290-R-311.C0.05.0160-G_311.C0.12.0317-G.zip"
                    },
                    {
                      "installed_version": "311.C0.06.0196",
                      "file": "HON4290-R-311.C0.06.0196-G_311.C0.12.0317-G.zip"
                    },
                    {
                      "installed_version": "311.C0.07.0232",
                      "file": "HON4290-R-311.C0.07.0232-G_311.C0.12.0317-G.zip"
                    },
                    {
                      "installed_version": "311.C0.08.0253",
                      "file": "HON4290-R-311.C0.08.0253-G_311.C0.12.0317-G.zip"
                    },
                    {
                      "installed_version": "311.C0.09.0280",
                      "file": "HON4290-R-311.C0.09.0280-G_311.C0.12.0317-G.zip"
                    },
                    {
                      "installed_version": "311.C0.10.0299",
                      "file": "HON4290-R-311.C0.10.0299-G_311.C0.12.0317-G.zip"
                    }
                  ]
                }
              }
            }
```

```
                }
              ]
            }
          }
        ]
      }
```

Example 2: Hon660

```
{
  "help": [
      "Full OTA version greater than the device's current version.",
      "Incremental OTA version greater than the device's current version.",
      "If the device's current version is not found in the list of upgrades, and",
     "the full ota version is greater than the current version then the full OTA",
      "is selected",
      "HUpgrader Settings->Upgrade Major must be disabled."
  ],
   "logcat": true,
   "schemaVersion": 1,
   "channels": [
      {
           "id": "release",
           "description": "Enter description of release",
           "android_os": {
               "versions": [
                   {
                     "dessertVersion": 11,
                     "hon660": {
                       "GMS-Full-OTA": {
                           "version": "92.00.13-(0135)",
                           "file": "HON660-R-92.00.13-(0135).zip"
                       },
                        "GMS-Incremental-OTA": {
                          "version": "92.00.13-(0135)",
                          "upgrades": [
                           {
                             "installed_version": "92.00.03-(0038)",
                             "file": "HON660-R-92.00.03-(0038)_92.00.13-(0135).zip"
                           },
                           {
                             "installed_version": "92.00.04-(0032)",
                             "file": "HON660-R-92.00.04-(0032)_92.00.13-(0135).zip"
                           },
                           {
                             "installed_version": "92.00.05-(0045)",
                             "file": "HON660-R-92.00.05-(0045)_92.00.13-(0135).zip"
                           },
                           {
                             "installed_version": "92.00.06-(0058)",
                             "file": "HON660-R-92.00.06-(0058)_92.00.13-(0135).zip"
                           },
                           {
                             "installed_version": "92.00.07-(0066)",
                             "file": "HON660-R-92.00.07-(0066)_92.00.13-(0135).zip"
                           },
```

```json
    {
      "installed_version": "92.00.08-(0076)",
      "file": "HON660-R-92.00.08-(0076)_92.00.13-(0135).zip"
    },
    {
      "installed_version": "92.00.09-(0081)",
      "file": "HON660-R-92.00.09-(0081)_92.00.13-(0135).zip"
    },
    {
      "installed_version": "92.00.10-(0086)",
      "file": "HON660-R-92.00.10-(0086)_92.00.13-(0135).zip"
    },
    {
      "installed_version": "92.00.11-(0096)",
      "file": "HON660-R-92.00.11-(0096)_92.00.13-(0135).zip"
    },
    {
      "installed_version": "92.00.12-(0111)",
      "file": "HON660-R-92.00.12-(0111)_92.00.13-(0135).zip"
    }
  ]
              }
            }
          ]
        }
      }
    ]
  }
```

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