‘HPIARepo_Downloader’ User Guide

By Dan Felman/HP – August 10, 2021

The Downloader script is designed to help manage repositories used by HP Image Assistant in an offline mode with the appropriate runtime option (/offlinemode:<path>). This guide explores the use of the script function, and is based on the current version posted on GitHub, 1.86

The script uses PowerShell commands and relies on HP’s Client Management Script Library (CMSL) to initialize and maintain repositories

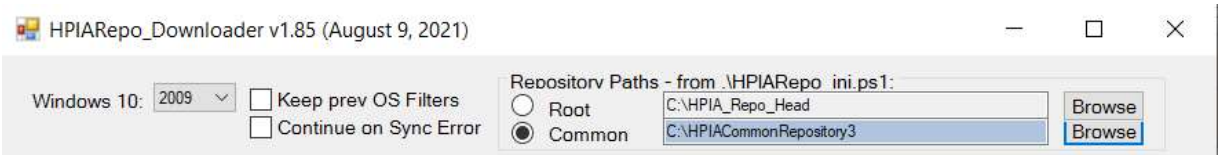
A separate, user-editable initialization file contains basic, default information that allows customization

- Main script: HPIARepo_Downloader_1.86.ps1 – the main script
- Initialization file: HPIARepo_ini.ps1 – (the INI file) user should edit for local use

On startup, the script sources the initialization (defaults) file, HPIARepo_ini.ps1, for information to set up, use, and populate in the UI.

User Interface

Let’s review the top of the UI:



Windows Version

The Windows 10 OS version list is added to the repository filters used to create, or maintain, each repository. This list is populated from an entry in the INI file, which can be edited to reflect the requirements and use case of the Enterprise

```
$v_OSVALID = @("1909", "2009", "2104")
```

The script will show the currently selected OS version as default, based on the content of this INI setting/variable

```
$v_OSVER = "2009"
```

This file setting changes as the user selects a different version in the User Interface

Keep Filters and Continue on Error

[Keep prev OS Filters] when selected, will prevent the script from removing existing repository filters and new ones will be added. When unchecked, all existing filters are replaced with settings (e.g., checkmarks) from the grid so that the only filters that will exist on the repository will contain the new OS version.

Enabling this setting can allow, for example, a user to maintain product Softpaqs from two different OS versions, for example, 1909 and 2009/20H2. If unchecked, only the visible, selected, OS version is used as part of the repository filters

[Continue on Sync Error] For the rare occasion a Softpaq might be missing during a 'Sync' and the process stop at that point, setting this checkmark will set the Sync process to continue, even when a file may be missing at the source. Both these are maintained in the INI file

```
$v_Continueon404 = $False
```

```
$v_KeepFilters = $False
```

Repository Paths

The next grouping, 'Repository Paths', show the default paths (as sourced from INI) for the root folder used to host individual product repositories, and the common/shared repository containing Softpaqs for all models. The 'Common' repository can be useful to allow for the removal of any duplicate Softpaq files. These are the ones that are shared across 2 or more models being captured

The INI file settings that are read during the script startup are

```
$v_Root_IndividualRepoFolder = "C:\HPIA_Repo_Head"
```

```
$v_Root_CommonRepoFolder = "C:\HPIACommonRepository3"
```

And this next setting sets up the downloader script to work with the Common or Individual/rooted repositories

```
$v_CommonRepo = $True
```

The path and this last variable are manipulated and reset during the script run. For example, if the script runs with the paths and common setting variable as listed above, the script will show this in the UI (as shown above) defaulting to the Common repository path.

If then, the user clicks on the Rooted radio button to select individual repositories, both the UI and the INI files will be reset to show the new values and the Common setting will be rewritten to

```
$v_CommonRepo = $False
```

to indicate the user is working with individual repositories, one per model name

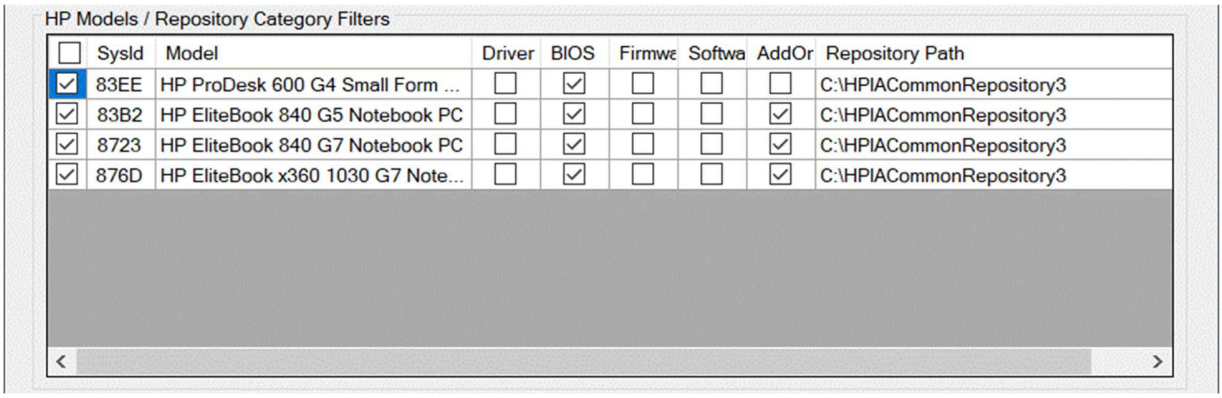
NOTE: if the repository path read from the INI file does not exist when the script runs, there will be an attempt to create it, either as a common/shared repository or as the root/head of individual repositories, as specified in the last setting. In this case, the folder is initialized but nothing is done until the user sets what to script to do in the grid and then clicks on 'Sync Repository', at which point filters are set and corresponding HP Softpaqs are downloaded, as well as any additional software Softpaqs, maintained with the AddOns list, per model

Clicking on the paths' radio button will select it and refresh the information in the UI. If the selected path is not available or empty, nothing will happen, otherwise, the grid will refresh with information from the filters in the associated path

The Browse buttons allows the user to point to and start using an existing repository, or to create a new one. If a new repository is created, the script will maintain the list of models already being used as a starting point. This can help create a new repository with existing models and perhaps a different set of filters

Models Grid

Next, the UI shows a list of the HP Models to be managed in the repository (or repositories, for individual ones).



When the script runs, the list is filled in from the INI file's $HPModelsList entries, for example,

```
$HPModelsTable = @(

      @{ ProdCode = '83B2'; Model = 'HP EliteBook 840 G5 Notebook PC' ;
AddOns = 'Hotkey', 'Notifications' }

      @{ ProdCode = '876D'; Model = 'HP EliteBook x360 1030 G7 Notebook PC' }

      @{ ProdCode = '83EE'; Model = 'HP ProDesk 600 G4 Small Form Factor PC'
}

      @{ ProdCode = '842A'; Model = 'HP ZBook 15 G5 Mobile Workstation' ;
AddOns = 'Hotkey', 'Notifications' }

      @{ ProdCode = '8723'; Model = 'HP ZBook Firefly 14 G7 Mobile
Workstation' ; AddOns = 'Hotkey' }

      )
```

If the repository already exists, it is searched for information on filters first, which is then used to populate the settings on the grid, AND the INI file gets updated with information from the repository – including models and AddOns settings. In addition, if there is information about 'AddOns', the appropriate checkmark for that model is also set in the grid

NOTE: to start the process to create a new repository with a particular list of models, clear out the INI HPModelsTable list (keeping its format),

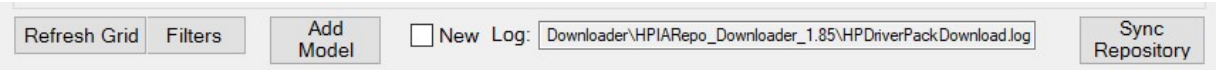
```
$HPModelsTable = @(

      )
```

and enter the name of the NEW repository path to work with. Then, in the UI use the 'Add Model' dialog to add systems to the grid. After you select (check) what Softpaq categories to download and click on 'Sync Repository', the INI file will be updated with the new list for the new repository after the CMSL Sync and Cleanup commands are executed

The checkbox column at the left of the model entry is designed to check all or uncheck all categories in that row, and it is also used as a marker to indicate 'some' categories are being initialized to be used as filters. If a model has no checkmark in the column, it will not be used during the Sync process, and the repository will not contain specific Softpaqs for the product. In this case, that model will also be removed from the HPModelsList table in the INI file

NOTE: if the user does a 'Sync Repository', any products not selected will not be listed again on restart, as the script will rely on information in the repository, if it exists, INSTEAD OF, the product list information in the INI file

Sync Bar

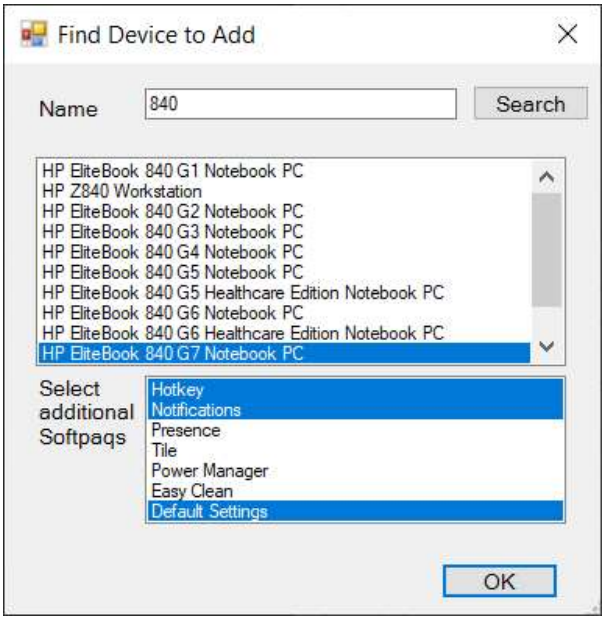


Below the Models grid, the user can refresh the grid, or list existing filters in the repository (or repositories).

[Refresh Grid] resets the list of models from information shown in the INI file, and will show each model, its motherboard ID/SysID, and whether there are AddOns listed for the model. In this case, any other checkmarks the user set and/or reset will be set back to default

[List Filters] does exactly that. It lists all current repository filters in the output Text box

[Add Model] - New since version 1.85. Clicking on the button will open a dialog form to help find HP supported models that can be added to the models list. In Version 1.86, the dialog us updated to allow the choosing of specific Softpaqs (by name, or part of name) to be added to the standard categories for the chosen model. The information ends up in the INI file and the appropriate repository



Typing a name, or part of a model name in the ID field and pressing Search will list out any HP systems matching the entry. Selecting an item from the list and pressing OK the script will add that entry to the Grid. If the model shows 2 or more System ID (motherboards) all are added to the list

The variable (version 1.86 and newer)

```
$v_Softpaqs = @(
    'Hotkey', 'Notifications' , 'Presence', 'Tile', 'Power Manager', 'Easy Clean', 'Default Settings'
)
```

in the INI file holds the entries shown in the above dialog as the source for what is needed to be included in a particular model's repository. Use Ctrl-click to add multiple entries. The list will be added to the AddOns setting in the HPModelsTable entry for that model

[Log] Everything the script does is logged. The default log file name is obtained from the INI file, and can be changed from the variable, which points to creating it where the script is run from

```
$v_LogFile = "$PSScriptRoot\HPDriverPackDownload.log"
```

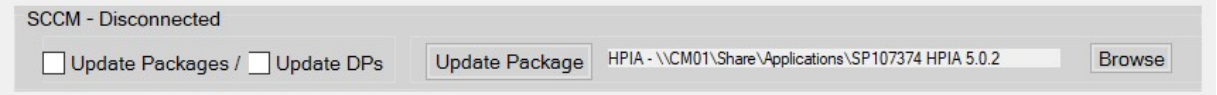
For troubleshooting , it is useful to have a clean log with just the information from a new action. The [ ] New log checkmark will back up the existing log and start a new one where all future actions will be sent to.

[Sync Repository] uses HP CMSL commands to sync the repository based on the filters created (for the categories selected per model) and to clean up afterwards – removing duplicate Softpaqs. In addition, those models that have a list of Softpaqs marked with the AddOns entry, those Softpaqs are downloaded to a folder (..\.ADDSOFTWARE) not managed by CMSL and then copied up to the main repository. This method allows HPIA to also add Software as a category, but ONLY install or update those Softpaqs listed in 'AddOns'

Every time the user presses [Sync Repository], all filters are cleared out and a new set of filters is created based on the information selected by the user in the UI

Connecting with MEM Configuration Manager

The bar contains items related to managing Softpaq packages and HPIA in a Microsoft Endpoint Manager Configuration Manager environment



The group heading 'SCCM – Disconnected' shows that a connection to the CM environment has not yet been established, and therefore the script will not attempt to work with CM. A connection is done whenever a 'Sync Repository' is invoked and one of the items here are enabled

The 'Update Packages' checkbox tells the script create or update repository packages. This is done during a 'Sync Repository' step, where one of the steps is to either create a CM Package pointing to the repository folder or update it if the repository changed. If managing individual repositories, each one will get its own CM Package created

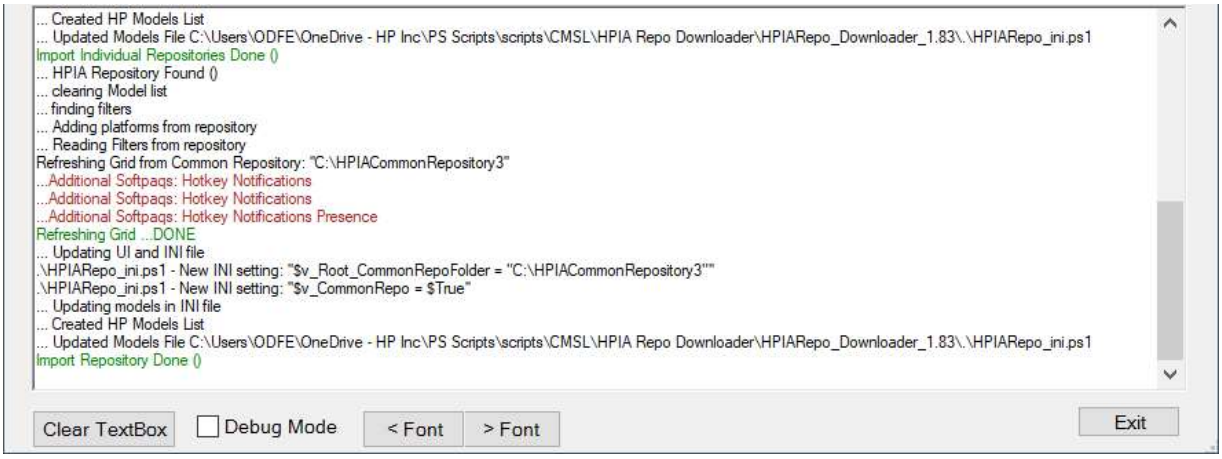
The 'Update DPs' checkbox tells CM to also update its Distribution Points with the created packages. This is also only done when doing a repository Sync

The downloader script can create an HP Image Assistant package in Configuration Manager, when the user clicks on 'Update Package' shown next to the path to where HPIA is downloaded and available. The 'Browse' button allows the user to search of the folder containing the HPIA executable, and then sets the path in the UI as well as updating the INI file with the new entry

These variable settings manage the behavior at start up and are updated with UI interaction to remain for next start

```
$HPIACMPackage = 'HPIA'   # Package Name for creating/maintaining in SCCM
$v_HPIAVersion = '5.0.2.3827'  # info pulled from Browsing for the app in UI
$v_HPIAPath = '\\CM01\Share\Applications\SP107374 HPIA 5.0.2'
$v_UpdateCMPackages = $False
$v_DistributeCMPackages = $False
```

Output Text box



All output from the script actions is sent to the text box, as well as the log file mentioned before. When testing or during troubleshooting, the 'Clear TextBox' will empty the contents of the box to allow easy view of next actions

The 'Debug Mode' enables additional script feedback that might be useful during testing should behavior be different than expected.

The '< Font' and '> Font' buttons decrease or increase the text size of the content of the text in the box

Other INI Items

- Debug

During development, a Debug flag was used to output additional details of the functioning of the downloader script. If problems arise during startup, the INI file flag variable

```
$v_DebugMode = $false
```

can be used to help list things happening before the UI is available. When set to $True, the script will show what is doing to the console in the hope to isolate where the problem surfaces. Makes it easier to troubleshoot. In addition, the 'Debug Mode' checkbox will do the same in the UI, sending additional details of operation to the Output Text box