

# The MVS 3.8j Tur(n)key 4- System -- Version 1.00 -- Update 05

## Installation

1. It is strongly recommended to create a backup copy of the system. Although the update process has been thoroughly tested a backup copy comes in handy if an unforeseen error occurs.
2. [Update 01](#), [Update 02](#), [Update 03](#) and [Update 04](#) are prerequisites for [Update 05](#). Make sure [Update 01](#), [Update 02](#), [Update 03](#) and [Update 04](#) have been installed successfully before trying to install [Update 05](#).
3. Unzip archive tk4-\_v1.00\_update\_05.zip into the tk4- folder. Allow your unzip utility to overwrite existing files and to merge into existing folders while unzipping the archive.

**Note:** This update changes scripts `mvs` and `start_herc` in the tk4- folder, script `ipl.rc` in the `scripts` folder and file `01` in the `conf/tk4-_updates` folder. If local changes have been applied to these files, please review the updated files carefully and merge the local changes back in if they are still necessary. However, when re-applying changes, it should be taken into consideration that the maintenance concept of TK4- provides dedicated locations for local modifications, allowing for almost every desirable customization to be done without needing to update any of these files.

4. IPL the system and verify that your regularly used functionality still works as expected. If it does not, revert to your backup copy and report the problems to the author.

## New or Changed Function

[Update 05](#) changes the host platform support and parameterization framework only. It does not contain any changes to the MVS 3.8j system provided by TK4- and thus there is no functional difference for existing TK4- systems running on Windows or Linux hosts. Nonetheless it is strongly recommended that existing Linux, Windows and OS X deployments upgrade to [Update 05](#) also, to avoid potential conflicts with future updates.

## Host Platform Support

Support for Debian Wheezy armhf “Raspbian” (Linux kernel 3.12 and higher) running on systems with ARMv6 compatible processors (in particular the Raspberry Pi) has been added.

Up to [Update 04](#) the TK4- system did not support Raspbian. In the TK4- User’s Manual as well as in update documentations there a few procedures pointed out which differentiate between Windows, Linux and OS X based TK4- installations only. With the new Raspbian support the procedures as described for Linux apply to Raspbian too.

Given that TK4- didn’t support Raspbian *before* [Update 05](#), a TK4- system on a Raspberry Pi typically will be *new* (as opposed to being an existing one). To install a new TK4- system on a Raspberry Pi it is strongly recommended to directly start with the “Current TK4- System”, which has all updates applied already. Doing so avoids the chicken and egg problem of needing to run TK4- on a not yet supported host to apply the updates.

Nonetheless, starting with the original “TK4- System” and applying the updates as outlined for [Update 01](#) to [Update 04](#) is possible on a Raspberry Pi too. Should this become necessary (for example to upgrade an existing system that uses some homegrown Raspbian support) the procedure is as follows:

1. Download and unzip the update in question ([Update 01](#), [02](#), [03](#) or [04](#)) as described in the update’s README document, but do *not* yet run the `apply_update` script.
2. Perform step three of the above installation procedure for [Update 05](#).
3. Now continue the application of the originally intended update by running the `apply_update` script and following the rest of the update’s README documentation.

## Parameterization and New Default of Timer Update Interval

The default interval Hercules uses to update the interval timer of the emulated mainframe system is 50  $\mu$ s, i.e. the interval timer gets updated 20,000 times per second. This may cause quite a bit of overhead on the underlying host system, particularly if it runs on a tickless kernel and uses timer coalescing.

TK4- [Update 05](#) changes the default to 10,000  $\mu$ s, i.e. 100 interval timer updates per second. If this new default doesn't match the requirements of a particular system, it can be adapted by setting the following environment variable to the desired value:

Variable	Default	Description
TIMERINT	10000	interval timer update interval

Please refer to the TK4- [Update 01](#) documentation for information on how to set a parameter using environment variable substitution.

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