Mechanica Version 3.2011

Contents

Two major changes are introduced in Mechanica Ver 3.2011

1) Markowitz style portfolio optimization.
2) Compliance with the new file location scheme imposed by Vista/Windows 7

Note that "Install" and "Upgrade" are different terms as used below.

Upgrade refers to existing installations (Mechanica Versions 2.2009 or earlier) on XP machines.

Install refers to new installations on either XP, Windows 7 or Vista machines.

A new install will be pretty much the same as the old one, pretty painless.

The upgrade, while easy for most, is not a trivial change from older versions of Mechanica. Mechanica Ver 3.2011 observes Microsoft's new Windows 7 and Vista file placement rules for ALL supported Windows versions. Please read NEW FILE PLACEMENT below for further discussion.

If you wish to do a fresh install you should not do the upgrade.

If you want to upgrade an existing version of Mechanica 2.2009 or earlier, you should not run Install.

The Help file for this release is not ready yet.

Both the upgrade and the install procedures require the ability to download Mechanica.exe. Be sure that you have permission to download .exe files from your network or firewall administrator.

TO UPGRADE

The Pinnacle data set supplied with Mechanica, if it exists at C:\Data\Clcdata, will be moved to

XP - C:\Documents and Settings\<User>\My Documents\Data\Clcdata

The purpose of steps 1-6 below are to guarantee that if you want to access your Version 2 installation you can do so immediately in the XP environment. We suggest that you carefully read the following instructions before beginning the upgrade.

1. Make a Copy of your original Mechanica directory. That is the original directory where Mechanica was installed, normally ..\Program Files\Mechanica. Copy it, including all sub directories, to ..\Program Files\Mechanica_V3

    Later we will perform the upgrade only on this **copy**. The original remains intact.

2. Make a ZIP of the same directory and any other Mechanica install directories that you want to guarantee protection for. Now you have 2 backups of the same original Mechanica directory. One is in ..\Program Files\Mechanica_V3, the other in the zip you just created.

3. Go to Start>>Control Panel>>Add Remove Programs and Remove all installations of Mechanica.
4. From http://www.mechanicasoftware.com/download_beta.htm get the Version 2 installer by clicking the 'download' link on the right of your screen. Then click 'Download mechanicasetup.exe'
5. Reinstall Version 2 to its original directory. We have now replaced (uninstalled) all remnants of the old Wise installer and replaced everything with the new InstallShield program for Version 2. The reason for this is explained below.
6. UnZIP the backup you made earlier over the new installation for ..\Program Files\Mechanica. Mechanica Version 2 is now restored completely and will function exacly as before. Having removed the old Wise installer there will be no problems launching Mechanica Ver 2 while Mechanica Ver 3 is present on the same machine. Otherwise the 2 installers can cause problems if Windows sees both installer programs trying to take responsibility for Mechanica installation(s).
7. Delete any copies of Mechanica.exe that may be present in your Download folder/directory.
8. Now we begin the Ver 3 upgrade to the **Copy** we previously made ..\Program Files\Mechanica_V3. Go here to download mechanicaupgrade3.exe, the new upgrader program. http://www.mechanicasoftware.com/download_beta.htm
9. Have your login information (original email and serial number) handy. Once you've downloaded mechanicaupgrade3.exe, click on it to ...
10. Launch mechanicaupgrade3.exe. If doing a first upgrade, assuming you previously had more than one Mechanica installation, we suggest that you initially upgrade only one of them. Once you are familiar with Ver 3.2011 then do the others.
11. At the end of the upgrade process the Safe-Net SuperPro drivers will be updated and that is the last operation in the upgrade list.
12. Launch Mechanica Ver 3.2011 by clicking ..\Program Files\Mechanica_V3\Mechanica.exe

Subsequent upgrades to other Mechanica installations which you may have on your hard drive can be done by launching mechanicaupgrade3.exe, clicking search or manual, and selecting the one(s) you want to upgrade. There is no need to redo 1-7 above.

TO INSTALL

These instructions are for doing a new clean install, not an upgrade to a previously existing version.

The Pinnacle data set supplied with Mechanica will be located here

XP - C:\Documents and Settings\<User>\My Documents\Data\Clcdata

W7 - C:\Users\<User>\My Documents\Data\Clcdata

1. UNinstall any old version(s) of Mechanica that may exist on the machine.

2. For now, use only this link. Do not go to the website directly.
   http://www.mechanicasoftware.com/download_beta.htm

3. Download mechanicasetup3.exe via the link.

4. Run mechanicasetup3.exe and follow the on-screen instructions carefully.

5. After the initial install is complete you'll need to go back to the above link and download mechanica.exe version 3.2011.

6. Once downloaded Move mechanica.exe to C:\Program Files\Mechanica 2011

7. Click to run it.

MEAN VARIANCE OPTIMIZATION

Markowitz style MVO (Mean Variance Optimization) is supported in the new version. In its current incarnation (demonstrated when running MVO Batch Funds.Sig) during the Sig run Mechanica saves covariance matrix information. While processing Siz code, Mechanica searches for the combination of the Fidelity Select funds and weightings for each fund that provides the best Sharpe Ratio. The example program reallocates once a month. The code is heavily commented and there are, of course, many, many permutations to play with.

Take a close look in MVO Batch Funds.Sig. You will see a new keyword there INITIALIZEGBL. This keeps you from having to spend time managing the GBL files that the MVO routines depend on. They are created new each time the batch file is run.

Diagnostic reports are available for MVO

If you create a file in notepad named Markowitz.mec and put it in your new default/support folder

XP - <User>\My Documents\Mechanica\Markowitz.mec

W7 - <User>\My Documents\Mechanica\Markowitz.mec

a good deal of diagnostic information will be created. Enter a date of interest in the .mec file to see a report for that specific date. So if you wanted to have a closer look at MVO activities for 20100430 (reallocations take place on last day of month in the demo) just add 20100430 to the file named Markowitz.mec and save it. After the run, look for an MS Excel loadable file named "20100430 Rebalance.CSV" in the default folder. There you'll also find a new file named "Diagnostic.CSV".

NEW FILE PLACEMENT

Beginning with Vista, Microsoft imposes/dictates locations for executables.

Most executables perform read-write operations on "data". Microsoft imposes/dictates locations for these data/support files.

Our reading is that the new MS regime and hinted later 'improvements' wants:

Executables located in C:\Program Files\XXX

Mechanica Ver 3.2011 observes Microsoft's Windows 7 and Vista rules for ALL supported Windows versions.

A program's data/support files will be located in

W7 - C:\Users\<User>\My Documents\Mechanica

XP - C:\Documents and Settings\<User>\My Documents\Mechanica

One implication of this file location change is that the file Mechanica.exe version 3.2011.xx cannot be freely exchanged with previous versions of Mechanica.exe in non-upgraded installations/directories/folders residing on XP machines. For upgrades, following the directions above will allow you to run both Ver. 2 and Ver. 3 on the same XP machine. But Please don't just drop the new Mechanica.exe into an old installation location (or vice versa) and expect it to work properly. Be sure to run MechanicaUpgrade3.exe if you wish to upgrade a particular installation/directory/folder to the new version.

Another important implication affects Order Manager operations after an upgrade. One of the column headings in OM is "Batch File". This is the path pointing to the batch.sig file your system uses to generate daily orders. **If this batch file previously resided under your Mechanica directory/folder it has now been moved. So you will need to open Order Manager and under the column heading "Batch File" click on the batch.sig file to navigate to its new location.**

With previous versions of Mechanica all files were deposited at install time into folder C:\Program Files\Mechanica

With Mechanica version 3.2011 only the executable files in the package such as Mechanica.exe will reside there. During upgrade all other support files from your old Mechanica folder(s) will be moved to a place that W7 deems proper. A typical location for these files, after upgrading or fresh install will be...

XP - C:\Documents and Settings\<User>\My Documents\Mechanica

For new installs:

W7 - C:\Users\<User>\My Documents\Mechanica 2011. Here <User> means whatever name you supplied when originally installing Windows as the name for the logged in user's information.

If you are doing a fresh Install of version 3.2011, executable files will be placed in C:\Program Files\Mechanica 2011\ in all cases.

If you are doing an upgrade, ALL Mechanica executable files will be placed under C:\Program Files\..

So, no matter whether you are doing an upgrade or a fresh install All Mechanica executable files will be placed (or moved if necessary) to C:\Program Files\..

In cases where you currently have Mechanica installations in locations other than ..\Program Files\.. It may be necessary to edit the shortcut(s) you previously used to launch Mechanica. To edit a shortcut, right click it, click Properties, click Find Target. Then navigate to the new C:\Program Files\?? location to find Mechanica.exe for the new installation.

A new data set which includes Fidelity Select funds will be installed at

W7 - C:\Users\<User>\My Documents\Data\Selects-CSI

XP - C:\Documents and Settings\<User>\My Documents\Data\Selects-CSI

Fidelity Select (sector) funds are used in the example program, also included, which demonstrates Markowitz style portfolio optimization. The demonstration Batch.Sig file for this can be found in

W7 - C:\Users\<User>\My Documents\Mechanica\Sample Rules\Signal Rules\MVO Batch Funds.Sig

XP - C:\Documents and Settings\<User>\My Documents\Mechanica\Sample Rules\Signal Rules\MVO Batch Funds.Sig

To run MVO Batch Funds.Sig, after upgrade, you will need to add two new data pages, "Rates" and "Selects-CSI". Set both of these up as Instrument 'Mutual Funds' when creating the new data pages. The symbol properties importable files are in their respective data folders.

So navigate to these locations when telling Mechanica where to find the data for these new data pages.

W7 - C:\Users\<User>\My Documents\Data\Selects-CSI

XP - C:\Documents and Settings\<User>\My Documents\Data\Selects-CSI

W7 - C:\Users\<User>\My Documents\Data\Rates

XP - C:\Documents and Settings\<User>\My Documents\Data\Rates

'File extension' is .Txt, 'Date format' is YYYYMMDD, 'Other Fields' is Close

It can take a good bit of time to process this code. The limit for the number of symbols/data series that can be optimized is currently 44.

Since \<User>\ is an unknown value prior to installation/upgrade it will likely be necessary to manually alter/browse the paths in any Batch.sig files you use, possibly including the ones supplied as examples. We've provided a new browse routine in Mechanica to make this easy and you will see a new screen pop up that walks you through making the necessary batch file path changes if needed. It helps you browse to the new location of your sig and siz files, so click when you've located them and you're done.

Once an upgrade is complete, Mechanica's Sample Rules files and any other files you may have stored under \Mechanica\ will now be located in

W7 - C:\Users\<User>\My Documents\Mechanica\

XP - C:\Documents and Settings\<User>\My Documents\Mechanica\

NOT in C:\Program Files\Mechanica\

As of Version 3.2011 ALL Mechanica executables will reside in C:\Program Files\

Example: If an upgraded installation was originally E:\MechanicaXYZ\, the new executables will be in C:\Program Files\MechanicaXYZ\. If you should have trouble locating the path where your other files were moved, please look in the new executables path (C:\Program Files\MechanicaXYZ) for **MechanicaPaths.exe**. Running this small utility that will make quick work of finding what you are looking for.

NEW KEYWORDS

New batch Keywords

INITIALIZEGBL 'create/initialize the GBL file specified in GBL=MyStuff.gbl

OMGBL 'lets users designate a different GBL file for OM operations. Yeah, omg.

RATIOGBL[1,11,12,13,23] 'ratios GBL values found in these slots during OM account setup. This facilitates trading your equity curve and overcomes a problem making the transition from Historical mode to OM mode for systems that save equity or risk values to GBL files for subsequent analysis in sig files that are run later in the batch process.

New Sig Keywords (Further documented in the MVO Sig files)

GBLMAP

GBLINDEX

TAGCOUNT

COLX, COLY, COLZ 'post values to the COL based on the value currently held in X,Y,Z integer variables

New Siz Keywords (Further documented in the MVO Siz files)

EXPECTEDRETURN

UTILITY

NOWEIGHT

RESIZEONLY

TOTALRISKTARGET

MINPOSITIONS

MISCELLANEOUS

GBL file format

There has been a change to the old GBL file format and none of the GBL files from previous versions are compatible with Ver. 3.2011. You will need to recreate them.

Runtime File format

The extension for RT files is now .RT3 and old .RT? files are no longer compatible so recreate them.

View

If you include the phrase "view" in the name of your Sig file and then run from batch.sig the grid will populate. This simplefies debug operations during system development.

THE BEG

I would very much appreciate it if you would let me know about any and all stumbling blocks and question points you come across... while they are fresh in mind. Some of the above info may seem sketchy so please ask!