Speeding up the Program

General Information · https://dev.forecastpro.com/documentation/forecast-pro-trac/general-information/speeding-up-the-program/

> Marked content is Forecast Pro TRAC only
>
> Note, command line is not supported in Forecast Pro 100

If decreasing processing time is important for your application, you may wish to investigate some of the following options. You can also reach out to support@forecastpro.com if you have any specific questions.

Optimize Model Selection for Speed

Specifying “Exclude machine learning” on the Performance tab of the **Options** dialog box will speed up forecast generation considerably. This option will remove machine learning models from consideration when using expert selection.

If you are forecasting data where the number of periods per cycle is greater than 13 (e.g., weekly data) you might consider turning on the *Exclude seasonal simplification* option in the Performance tab of the **Options** dialog box. If this switch is on (it is off by default), Forecast Pro’s expert selection mode will not consider seasonally simplified forms of exponential smoothing models. This will speed up forecast generation considerably.

Specifying the models to use rather than using the expert selection will substantially improve performance. This will require some work to determine the best type of model to use for your data. The best way to determine the appropriate model for your data set is to experiment using the forecast evaluation procedures (see methodology chapter in the *Forecast Pro Statistical Reference Manual* for details).

Divide Data into Smaller Projects

Larger projects are more cumbersome to work with and have slower processing times. Working with several smaller projects can be more efficient. Forecast Pro TRAC includes Project Collaboration which allows you to easily divide a large project into several smaller projects.

Consider your Data Hierarchy and Periodicity

Increasing the number of hierarchy levels will result in more forecasts being generated. This increases processing time and may not improve the accuracy of the forecasts. Using weekly or daily data is not as efficient as monthly data. Forecasting one year of monthly data will be much faster than forecasting one year of weekly or monthly data.

Optimize Input Data

Generally, connecting to a database requires going over the internet, in which the network speed is a common performance bottleneck. Reading from a table in a database via ODBC is faster than reading from a view or saved query, but reading from files is faster than reading from a database. If you are using xlsx files you might consider switching to csv or xls files. Xlsx files are slower to read than csv and xls files and use over twice as much memory. CSV files and MLT files are the fastest file type for reading input data.

Work Locally

Working with projects stored on a network drive can be substantially slower than working on a project stored locally when saving and opening the project. Reading input data over the network and saving output files to network drives can also be substantially slower than reading and writing from a local drive, as the network is often the performance bottleneck.

If you are currently saving your projects to a network drive, saving them to a local drive will improve performance considerably. If you are currently reading your input data from a network drive and/or saving output files to a network drive, moving them to a local drive will speed up read/write operations considerably.

Use Command Line to Automate Forecast Pro

Forecast Pro supports running via Command Line which can allow you to run Forecast Pro noninteractively for a “hands off” approach. When you trigger a project to run via Command Line,

Forecast Pro will read in the data, create the forecasts, save all output files and then exit. This can be used to automate the creation of output files as well as reading in new periods of historic data. More information is available here.

Use Manual Override Mode

If you make overrides to large complex hierarchies, the reconciliation can take a little time. To defer this time consuming reconciliation, Forecast Pro supports a manual override mode. When this mode is active, the override window will include a **Retain** button as well as a **Commit** button. The **Retain** button is used to accept overrides without reconciling the hierarchy. In this mode you would typically enter and retain all of the overrides you wish to make (i.e., for multiple items) and then click **Commit** or the **Recalculate** icon on the **Home** tab to perform the reconciliation. The control to turn on manual override mode is found on the Performance tab of the **Options** dialog box.

Use Manual Forecast Mode

By default, Forecast Pro will automatically recalculate the forecasts and re-reconcile the relevant nodes of the hierarchy every time you apply a forecast modifier. For large hierarchies this can be time consuming. Forecast Pro allows you turn on manual recalculation using an option of the Performance tab of the **Options** dialog. If you turn this option off, when you specify a forecast modifier the forecasts will not be updated until you click the **Recalculate** icon on the Home tab. This allows you to specify multiple forecast modifiers without having to wait for the program to recalculate the forecasts in between each specification. The control to turn on manual forecast mode is found on the Performance tab of the **Options** dialog box.

[TRAC] Reduce the Size of the Forecast Archive

By default, Forecast Pro will archive all the forecasts you've created in the project's database. Forecast Pro allows you to limit the number of periods archived using the *Periods to retain in archive* spinner on the Performance tab of the **Options** dialog box. Reducing the number of archived forecasts will result in a smaller project and better performance for many program operations (e.g., opening and saving projects, loading the tracking report, etc.).

Upgrade Your Hardware

Upgrading your hardware will improve performance dramatically. Since Forecast Pro deals with large amounts of floating point data, it makes sense to run it on as fast a machine as possible.

Forecast Pro supports multi-core processing. A faster processor with more cores/threads will improve performance for all aspects of Forecast Pro as well as any other applications you run.

Having enough RAM is important. As you use the program, Forecast Pro is storing and retrieving a great deal of information in memory. If you do not have an adequate amount of RAM Forecast Pro will resort to using virtual memory (i.e., caching to your hard drive). This is substantially slower than using RAM. In addition to ensuring you have adequate capacity of your RAM, you should use the fastest RAM your motherboard supports.

Use a Solid State hard drive. Virtualizing RAM with this type of hard drive is significantly faster. This will improve the read/write times which should make program performance for certain operations more efficient (e.g. opening and saving projects, as well as reading in/saving data files).

[TRAC] Simplify the Override Grid

The Time Series view of the history in the Override grid allows you to enter formulas in Calculated Rows for historic periods. This may slow down override reconciliation, as the entire override grid must be recalculated each time an override is committed. Consider limiting the number and complexity of the formulas being used, or consider using Year over Year view of the history when committing overrides.

Optimize Outlier Detection and Correction for Speed

The outlier detection and correction algorithm will slow down the processing. If you wish to use outlier detection and correction but speed is of concern, one option is to initially run the forecasts in the detection only mode to detect the outliers and then turn outlier detection off and use the \OUTLIER=CORRECT modifier to perform the corrections on the detected items.

Use Zipped Projects

As mentioned above, in some networked environments, working with projects stored on a network drive can be substantially slower than working on a project stored locally. To improve performance in these cases, Forecast Pro supports “zipped” projects to reduce the amount of data that needs to be passed through the network. When you save a zipped project, Forecast Pro zips the three standard project files described in the Projects section into a single file with the extension .FPZip.
When you open a zipped project, Forecast Pro copies the zipped file from the network drive to a local workspace, unzips the project files and opens the project—allowing you to work on your project

locally, even though it was saved to a network drive. When you resave your zipped project, Forecast Pro will zip the updated local Projects files and save the updated .FPZip file to the network drive.

The zipped format is the default for projects. If your project does not have a .FPZip file extension, you should resave your project using the zipped format. To save and open zipped projects, you select *FPZip* as the file type in the **File>Save** as and **File>Open** dialog boxes.