




tecplot.360 2012

Release Notes

Tecplot, Inc.
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Additional Resources

In addition to these Release Notes and HTML Help, Tecplot 360 includes access to the following online forum and eight manuals to help you explore all of Tecplot 360's functionality.

- [Getting Started Manual](#) Your introduction to Tecplot 360, including tutorials that will help you learn your way around.
- [User's Manual](#) This manual provides a complete description of working with Tecplot 360 features.
- [Scripting Guide](#) This guide provides Macro and Python command syntax and information on working with Macro and Python files and commands.
- [Quick Reference Guide](#) This guide provides syntax for zone header files, macro variables, keyboard shortcuts, and more.
- [Data Format Guide](#) This guide provides information on outputting simulator data to Tecplot 360 file format.
- [Add-on Developer's Kit - User's Manual](#) This manual provides instructions and examples for creating add-ons for Tecplot 360.
- [Add-on Developer's Kit - Reference Manual](#) This manual provides the syntax for functions included in the add-on kit.
- [Installation Guide](#) These instructions give a detailed description of how to install Tecplot 360 on your machine.
- [Tecplot Talk](#) A user-supported forum discussing Tecplot 360, Tecplot Focus, Python scripting, Add-on development, TecIO and more. Visit www.tecplottalk.com for details.

Welcome to Tecplot 360 2012

Welcome to Tecplot 360 2012! This release includes new features based on customer requests, along with updated file format support, bug fixes, and overall speed and stability improvements.

A Tecplot 360 2012 license key is required to run this release.

What's New

- **Improved Streamtraces**

Streamtraces may now be seeded randomly on the surface of a zone or selected objects. Additionally, streamtraces may be selected by clicking the streamtrace body rather than only the pick handles.

- **Constrained Slicing**

Slices may now be constrained to a specified bounding box so that they do not appear through the entire volume. For example, if you have a data set of an airframe and are slicing the wing, you can set a bounding box around the wing so that the slice appears only in that vicinity.

- **FEA Loader Updates**

The FEA loader now supports ANSYS 14 and ABAQUS 6.11 files. It also now supports ANSYS CFX files, including boundary zones. Note that invalid CFX files may crash the loader; we are investigating the cause of this issue.

- **FLUENT loader performance improvements**

The FLUENT loader now saves an index file (if directory permissions allow) of data gleaned during the initial loads of a file, making the second and subsequent loads of the same file faster. Note that if you

update the FLUENT data file, you should also delete the metadata subfolder *tecplot-derived* to force it to be rebuilt.

If you have been using a beta release of this loader, delete any *tecplot-derived* or *tmd* folders next to your FLUENT data files; the release version of the loader cannot read index files written by beta versions.

- **Upgraded Python interpreter**

Python 2.7.2 is now included with Tecplot 360 and is again available on UNIX platforms. UNIX users must explicitly activate the Python add-on by editing the *tecplot.add* file in the installation instruction and removing the # character from the line:

```
#!Loadaddon "pythonutil"
```

If you wish to use a Python interpreter other than the one included with Tecplot 360, set the environment `TEC_PYTHON_HOME` to point to the desired Python 2.7.2 installation directory.

- **Improved Linux/UNIX/Mac Installation Experience**

The standard Linux/UNIX installer is now a small script that, when executed, downloads only the bits needed for your platform, instead of requiring that you download the *linux.tar* file that contains the bits for all supported platforms. The newly-installed copy of Tecplot 360 is also validated to make sure it was installed correctly.

To support offline installation and/or multiple installations, you may also download the *linux.tar* file manually and place it in the same directory as the *setuptec.sh* script; if the *.tar* file exists, it will be used and nothing will need to be downloaded.

Prototype Add-Ons

Some features are provided as prototype add-ons for your feedback.

- The Distribution Plots add-on produces histogram and cross plots for 3D and 2D Cartesian frames. This add-on is available from the Tools menu.
- The Compare XY Maps add-on produces various types of comparison plots between line maps in XY plots, including delta, variance, average, sum, standard deviation, minimum, and maximum. This add-on is available from the Data menu.
- The PickAlter add-on allows data to be quickly altered or blanked based on 2D or 3D geometries. This add-on is disabled by default. To enable it, put the following line in your *tecplot.add* file:

These add-ons are not loaded by default. To activate them, make sure the following lines are in your *tecplot.add* file:

```
#!LoadAddon "histogram"
#!LoadAddon "companalysis"
#!LoadAddon "tecutiltools_pickalter"
```

Some of the above lines may already exist in your *tecplot.add* file, but with a # symbol at the beginning of the line. Just remove the leading # symbol in this case.

Remote Display

Linux and UNIX systems (including Mac OS X) can use X Windows to display Tecplot 360 on a separate system from the one on which Tecplot 360 is actually running. Your X display software must support the GLX OpenGL Extensions, or you must have the graphics rendered by the host CPU using the Mesa software renderer.

On Windows systems you must use the included Remote Desktop Connection software, which transmits the entire user interface to a remote computer. This allows the rendering to be performed in hardware on the host computer and the results transmitted across

the network. Similar options are also available for Linux, UNIX, and Mac OS X systems as an alternative to X.

Remote desktop software is not suitable for situations in which multiple users need to run GUI applications such as Tecplot on the host system at the same time. In these situations, X is the preferred solution.

You may find performance better using remote desktop software instead of X. In our tests, the [HP Remote Graphics Software](#) was generally the most performant such solution when one or the other systems was Linux or UNIX-based. If both systems are Windows-based, [ThinAnywhere](#) is a plug-in that can improve the remote performance of 3D applications over slow networks.

Graphics Drivers

For best results, please make sure that you are using the latest graphics drivers compatible with your hardware and operating system. These can be obtained from your graphics adapter vendor's Web site. Old versions may have issues with Tecplot 360, especially with larger data sets.

- **NVIDIA:** <http://www.nvidia.com/Download/index.aspx>
- **ATI:** <http://support.amd.com/us/gpudownload/Pages/index.aspx>
- **Intel:** <http://downloadcenter.intel.com/Default.aspx>

Bug Updates

For a list of bugs fixed in this release, visit:

http://download.tecplot.com/360/2012/bugs_fixed.html

For a list of current known bugs in this release, visit:

<http://download.tecplot.com/360/2012/bugs.html>

To receive updates about new issues discovered in Tecplot 360, subscribe to the Technical Bulletins forum on Tecplot Talk: <http://www.tecplottalk.com/>

Platform-specific Issues

The following table outlines the support for various platform-specific features in Tecplot 360 2012.

| | Linux | Mac | Windows | UNIX |
|----------------------|-------|-----|---------|------|
| FLOW3D loader | Y | N | Y | N |
| ABAQUS loader | N | N | Y | N |
| TrueType/ Unicode | Y | Y | Y | N |

Refer to the remainder of this section for issues specific to your operating system.

32-bit

On 32-bit operating systems, the address space available to applications is limited to 2-3 GB (the exact amount depends on which operating system you use). You must use the 64-bit version of Tecplot 360 on a 64-bit OS to visualize solutions larger than this.

Windows

Please help us make Tecplot products better by submitting an electronic report to Microsoft in the event that Tecplot 360 terminates unexpectedly. All you need to do is click the **Send Error Report** button. We review these reports regularly and they often help us

find and resolve issues. To review some of the issues we've solved thanks to crash reports from users like you, visit <http://tecplottalk.com/viewforum.php?f=33>



The 32-bit version of Tecplot 360 is not supported on 64-bit Windows platforms. If you have a 64-bit version of Windows, install the 64-bit version of Tecplot 360.

- **Windows Vista™ and Windows 7 Users**

- You must have administrator rights on your computer to install Tecplot 360.

Linux

- **Unicode Support**

Recent Linux distributions can take advantage of the Unicode text support introduced in Tecplot 360 2010.

Your X Server must be using a Unicode font to see extended characters in Tecplot 360's interface controls. The `xlsfonts` shell command can be used to determine which X fonts support Unicode (fonts whose name contains "iso10646" are Unicode fonts). To have your X server automatically select a Unicode font while running Tecplot 360, edit the `fontList` line in `app-default/Tecplot130` as follows:

```
Tecplot*fontList:          -*-medium-r-*-12-*-*-*-*-*iso10646-*
```

If your operating system does not allow you to enter Unicode text in Tecplot 360's dialogs, you may need to edit layouts or use macros to use non-ASCII text.

- **3D Graphics and Compiz Fusion**

3D graphics in Tecplot 360 are not compatible with the Compiz Fusion window manager, which is used by default in recent Ubuntu and related Linux distributions.

You may choose “Ubuntu classic (no effects)” when logging in, or use the following shell command to switch your session to a compatible window manager.

```
metacity --replace &
```

You may also install the package `fusion-icon`, which will provide a GUI for managing Compiz Fusion, including substituting the Metacity window manager, in **Applications > System tools > Compiz Fusion**.

- **Temporary Directory**

Tecplot 360 relies on being able to create temporary files in the system temporary directory. On Linux, this directory is `/usr/tmp` or `/var/tmp` by default. If this directory is not writable, you can override the default either by setting the `TMPDIR` environment variable in your profile or by setting the `TEMPFILEPATH` in the `tecplot.cfg` file.

- **Menu Shortcuts**

Menu shortcut keys will not work if the NUM LOCK is on. You may set the NUM LOCK to turn off automatically at boot in your computer’s BIOS.

- **SELinux**

SELinux (provided with some Linux distributions) adds an extra layer of security. If you see this error message:

```
./bin/tecplot.shared: error while loading
shared libraries: ./lib/libtec.so: cannot
restore segment prot after reloc:
Permission Denied
```

Enter these two commands (you will need the root password):

```
sudo chcon -c -v -R -u system_u -r object_r
-t lib_t $TEC_360_2012R1/lib/
```

```
sudo chcon -t texrel_shlib_t
$TEC_360_2012R1/lib/*
```

You can then run Tecplot 360 without disabling SELinux.

- **Ubuntu®**

Tecplot 360 2012 is supported only on LTS (Long Term Support) releases of Ubuntu.

- **Red Hat Enterprise Linux 6**

RHEL 6 does not include all the X font packages needed to display the Tecplot 360 user interface correctly. As a result, text may be cut off or may otherwise be displayed incorrectly in dialogs. We recommend that the following font packages be installed:

```
xorg-x11-fonts-75dpi.noarch
xorg-x11-fonts-100dpi.noarch
xorg-x11-fonts-Type1.noarch
xorg-x11-fonts-IS08859-*
```

- **Remote Display Issues**

If you have a **Network** or **Site** license, you can run Tecplot 360 on one computer and display it on a second computer (via an X server). However, if you are running the OpenGL version of Tecplot 360, the X server must have the GLX extensions. If you are working with a large grid file remotely, try using the `-mesa` option to minimize the number of OpenGL commands sent across the network.

When displayed remotely, Tecplot 360 may exhibit substantially lower drawing speeds than when it is displayed locally, especially for text and geometries.

- **Mesa Versions**

Mesa, an OpenGL-equivalent graphics library, performs 3D rendering in software. It is typically used when hardware acceleration is unavailable or when working with remote display of large data.

The Mesa version of Tecplot 360 functions slower, especially for 3D plotting. If you must run the Mesa version and display remotely, you can speed up the

rendering for XY Line and 2D plots by setting the environment variable below. On some machines, this may also improve the speed of 3D plotting that does not use translucency. (Mesa translucency performance is known to be very bad.)

```
export MESA_BACK_BUFFER=Pixmap
```

UNIX

Tecplot 360 does not support TrueType fonts or Unicode text entry on UNIX platforms (IBM AIX, Solaris, or HP/UX).

- **IBM AIX**

Tecplot 360 2012 requires AIX Technology Level 7 or later. You must install OpenGL yourself, as this is not part of a standard AIX install.

Mac OS X

- **Intel Support**

If you have a Mac with an Intel Core processor (rather than a Core 2 or later processor), you cannot run the 64-bit Mac version of Tecplot 360, even if *setuptec* recommends this version. Install the 32-bit version of Tecplot 360 instead.

To determine the type of processor in your Mac, choose “About This Mac” from the Apple menu. If the processor field displays “Intel Core” or “Intel Core Duo”, you have a Core processor. If it displays “Intel Xeon” or “Intel Core 2 Duo”, you can run the 64-bit version of Tecplot 360.

- **Unicode Support**

Recent Mac OS X versions can take advantage of the Unicode text support introduced in Tecplot 360 2010.

Your X Server must be using a Unicode font to see extended characters in Tecplot 360’s interface controls. The `xlsfonts` shell command can be used to determine which X fonts support Unicode (fonts whose name

contains “iso10646” are Unicode fonts). To have your X server automatically select a Unicode font while running Tecplot 360, edit the fontList line in app-default/Tecplot130 as follows:

```
Tecplot*fontList:          *-*-medium-r*-*-12*-*-iso10646-*
```

- **Remote Display and OpenGL Issues**

In Mac OS X 10.6, the X11 server has a known bug with native (hardware-accelerated) OpenGL applications displaying remotely using the GLX protocol. This same bug prevents Mac OS X 10.6 from running native OpenGL applications remotely and displaying locally using the GLX protocol. This problem has been duplicated with even the most basic OpenGL applications and OpenGL utilities. It has been logged with Apple as bug #6628702.

Tecplot 360 can use a Mac OS X 10.6 machine as a remote display, or as a remote server displaying to a Linux or Windows client running an X11 server, if software OpenGL drivers are used. Tecplot 360 will use software OpenGL drivers if the `-mesa` option is supplied on the command line when starting the application.

- **Off-Screen Rendering**

Due to a problem with the Mac X Server, using off-screen rendering with OpenGL on a Mac may cause exported images to be all black. This is a known bug, #4889883, in Apple’s X11 server. For this reason, we have disabled off-screen rendering as the default for Mac installations. Image exporting and copying to the clipboard are performed using on-screen rendering instead.

Should you want to enable it (for example, for anti-aliasing and variable resolution image buffering), please add the following line to your `tecpot.cfg` file:

```
!INTERFACE USEOFFSCREENBITMAP = YES
```

Alternatively, you can use the "-mesa" option when launching Tecplot 360 to use the software-only 3D renderer. However, you will lose the benefits of hardware acceleration.

Enjoy Tecplot 360 2012 and master the view!