



Release Notes

Tecplot 360 EX 2021 Release 1

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Additional Resources

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

- [Getting Started Manual](#) Your introduction to Tecplot 360 includes a tutorial that will help you learn your way around the product.
- [User's Manual](#) This manual provides a complete description of working with Tecplot 360 EX features.
- [Scripting Guide](#) This guide provides macro command syntax and information on working with macro 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 file format.
- [Installation Guide](#) These instructions give a detailed description of how to install Tecplot 360 on your machine.

My Tecplot

My Tecplot is Tecplot's one-stop portal that allows you to download software, manage your license keys, and more. Visit it at <https://my.tecplot.com/>.

Welcome to Tecplot 360 2021 R1

Tecplot 360 2021 R1 represents our commitment to helping engineers and scientists analyze their results quickly and easily. We have added a new Fluent Common Fluid File loader and increased compatibility with our current loaders.

What is new in Tecplot 360 2021 R1

- **Fluent Common Fluid File (HDF5) data loader** - allows loading of *.dat.h5 and *.cas.h5 files directly into Tecplot.
 - Supported on Windows & Linux only (will not work on CentOS7 or similarly aged Linux distributions. Contact support@tecplot.com for a workaround).
 - Load interior faces with Macro option "IncludeInteriorFaceZones".
 - Known Issue: Internal boundaries between volume zones are visible (no global face neighbor information).
 - Known Issue: Additional Quantities are not written to the Fluent CFF files as they were in classic Fluent files, thus Tecplot cannot load these variables.
- **Abaqus loader** - now supports Abaqus 2021 files.
- **CFX loader** - updated to support CFX 2021 files.
- **TecIO-MPI** - performance improved by an order of magnitude when exporting thousands of zones. For details see our website: <https://www.tecplot.com/products/tecio-library/>.

Bug Fixes, and Enhancements

- Fixed crash when displaying contour coloring for some OpenFOAM datasets.
- Fixed crash when creating streaklines with cell centered data.
- Removed invalid error message when performing an Integration by Strand.
- Fixed issue with various loaders that create the Node User ID variable where values were being truncated.
- Fixed crash when using \$!CreateSliceFromPlane when the slice position passes through a region with no data.
- Fixed crash when clicking on a slice or iso-surface after Data Alter error.
- Style is no longer lost when adding zones to existing Strand Ids (e.g. using the Edit Time Strands, Axial Duplicate, Duplicate Zones dialogs).
- Fixed menu access for Key Frame and GUI builder dialogs on Mac.

Platform Support Changes

The 2021 R1 release will be supported on the following platforms:

- Windows 10
- Ubuntu 18.04 LTS, 20.04 LTS
- SUSE Linux Enterprise Desktop (SLED) 15
- RedHat 7.5+, 8.0+
- CentOS 7.5+, 8.0+
- Mac 10.14, 10.15, 11

Previously supported platforms that will not be supported by the 2021 R1 release:

- Ubuntu 16.04 LTS (end of life April, 2021)
- CentOS & RedHat 6 (end of life November, 2020)

What was new in Tecplot 360 2020 R2

- **Tecplot Chorus** - Chorus returns with support for 4k monitors and newer operating systems.
- **Faster Variable Calculations** - Variables calculated under the *Analyze>Calculate Variables* menu are now multi-threaded, providing up to 6x faster variable calculations.
- **CGNS 4 file support** - The CGNS loader is now built against CGNS 4.1.2. CGNS 4 added capabilities which allow for faster parallel write of polyhedral data. Note that CGNS 4.1 no longer supports CGNS 3.3 files which are backed by HDF5 1.10. The CGNS community is aware of this issue and a ticket has been logged. When writing CGNS files use CGNS 3.3 with HDF5 1.8 or CGNS 4 with HDF5 1.12. For the best performance, use HDF5 backed files instead of ADF backed files.
- **Exodus II file support** - Tecplot 360 now offers a new data loader for the Exodus II file format
- **Ability to split a zone into distinct connected regions** - A new function has been added to PyTecplot and the Tecplot 360 macro language to create new zones from isolated regions in one or more finite element zones.

PyTecplot: `tecplot.data.extract.extract_connected_regions()`

Macro: `!ExtractConnectedRegions`

- **Reference variables by name** - Tecplot 360 can now save variables by name in macros, layouts, and stylesheets and use names when loading data and retaining the existing style. This capability must be turned on in the `tecplot.cfg` file.

See: `!Compatibility UseNamesForVariableAssignments = YES`

Setting this to “YES” will instruct Tecplot 360 to save variable references by name instead of number. Note that if you have duplicate variable names or variable aliases Tecplot 360 will pick the first variable matching that name.

Bug Fixes and Minor Enhancements

- Arbitrary slices with SZL data no longer have holes in them.
- CONVERGE loader now supports Boundaries with an ID of zero.
- OpenFOAM loader now supports files written with foam-extend.
- Fixed problems loading CONVERGE files with zero size boundaries.
- Added support for CONVERGE 3.1 file format.
- Edges are now drawn correctly for physically collapsed cells.
- Fixed issue with some dialogs on Windows would not close using the Close icon at the upper right of the dialog.
- Fixed issue in TecIO-MPI where `.szplt` output file corruption occasionally happened using certain versions of OpenMPI (issue was observed with OpenMPI 3.1.5 and may have affected newer versions as well).

Platform support changes

- PyTecplot no longer supports Python 2.7 as of release 1.3.1. PyTecplot scripts should continue to work, but we will no longer support installation, usage, or compatibility with Python 2.7.
- CentOS 8.0 and macOS Big Sur (macOS 11) have been added as supported platforms.
- macOS 10.13 is no longer supported and Tecplot 360 2020 R2 will not run on this operating system. Please use 2020 R1 if you require macOS 10.13.

TecPLUS Subscriptions

As of January 1, 2017, TecPLUS replaces Tecplot's Software Maintenance Service (SMS). With TecPLUS, you get all the benefits of SMS, including:

- No-charge upgrades to Tecplot 360 during your subscription period
- Unlimited technical support
- One free hour of online training per year

Additionally, an active TecPLUS subscription gives you access to the following components, boosting your Tecplot 360 license to a whole new level of value:

- Tecplot Chorus

Our simulation analytics product for engineers who work with large numbers of cases. Previously, Chorus included Tecplot 360 to view individual cases' data files; we've flipped that, and now offer every Tecplot 360 user access to this powerful tool.

- PyTecplot

Tecplot and the Python programming language reunite! PyTecplot works with your system's installed Python and with popular Python tools like NumPy, SciPy, and Jupyter. PyTecplot features an easy-to-use object-oriented approach to working with your data and plots using the engine that powers Tecplot 360.

- Tecplot SZL Server

When your data is too big to move around comfortably, you can install this lightweight server on most Linux hosts to quickly and securely access your remote data.

Your basic Tecplot 360 license is perpetual: even if your TecPLUS subscription expires, you will still be licensed to run any version of Tecplot 360 released while your subscription was active—forever.¹ However, your access to these additional software components (Tecplot Chorus, PyTecplot, and Tecplot SZL Server) ends when your TecPLUS subscription expires.

Most Tecplot 360 users now receive a new license key annually, even those without TecPLUS. If you currently have a Tecplot 360 license with active SMS, you can receive a new license key that activates the TecPLUS features through My Tecplot or by contacting sales@tecplot.com.

Usage Data Collection

To help us better understand how our customers use our products and improve them further, Tecplot 360 includes an analytics feature that reports user activity over the Internet using the Google Analytics™ platform. This feature tells us which dialogs you use and which controls you manipulate in them. However, to protect your privacy and trade secrets, we do not see names associated with your data (such as variable, zone, or file names) or the actual values of fields in dialogs, nor do we receive any information about you or your organization's identity.

If you do not wish to participate in this program, turn off "Collect Anonymous Usage Data" in the Help menu.

We receive basic information about your operating system, product version, and license at each launch of Tecplot 360, even if you have opted out of the usage data program. This information is not tied to any usage data collected.

No usage data of any kind is collected if you do not have access to the Internet or if the Google Analytics service is blocked by a firewall.

1. While your license is perpetual, we cannot guarantee compatibility of today's Tecplot products with future systems.

Crash Reporting

Please help us make Tecplot 360 better by sending a crash report to us in the event that the application terminates unexpectedly.

On Windows, Tecplot 360 creates a crash dump file. You will receive a message indicating that a crash dump file has been created. Click **Yes** in this dialog to open the folder where the file is created. You can then e-mail the most recent *.dmp* file in this folder, along with a description of what you were trying to do, to support@tecplot.com.

On other platforms, no crash dump file is created. However, we urge you to send us a report anyway with as much detail as you can remember.

If you have a moment and a desire to be extra helpful, please re-open Tecplot 360 and choose **Enable Diagnostic Logging** in the **Help** menu. Then redo the steps you took to cause the crash. Tecplot 360 will record your actions as a macro file. If you are able to reproduce the crash, send the resulting *.mcr* file to us (along with the *.dmp* file if you use Windows). On non-Windows platforms, you can find the *.mcr* file in */usr/tmp/tecplot_\${USER}/tpa_diagnostics*.

Crash dumps and diagnostic macros are stored in a temporary folder and will be eventually be deleted by the system. There is no need to delete them manually.

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 EX, especially with larger data sets.

- NVIDIA: <https://www.nvidia.com/Download/index.aspx>
- ATI: <https://www.amd.com/en/support>
- Intel: <https://downloadcenter.intel.com/Default.aspx>

Platform-Specific Notes

The following table outlines the support for various platform-specific features in Tecplot 360 EX 2021 R1.

	Linux	Mac	Windows
FLOW3D loader	✓		✓
ABAQUS loader			✓
Excel Loader			✓
Tecplot Chorus	✓		✓
Tecplot SZL Server ^a	✓		

a. The SZL Server runs only on Linux, but Tecplot 360 running on any supported platform can connect to the server as a client

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

Windows

Your account must have administrator rights on your computer to install Tecplot 360 EX, or else right-click the installer and choose “Run as Administrator.”

Linux

- **Temporary Directory**

Tecplot 360 EX relies on being able to create temporary files in the system temporary directory. On Linux, this directory is typically `/usr/tmp` or `/var/tmp`. If your user account does not have permission to write into the system temporary directory, you can use a different directory 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 may 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, replacing `/path/to/tec360/lib` with the actual path of your installed Tecplot 360 *lib* directory (your account needs `sudo` permission):

```
sudo chcon -v -R -u system_u -r object_r -t lib_t /path/to/tec360/lib/
```

```
sudo chcon -t texrel_shlib_t /path/to/tec360/lib/*
```

You can then run Tecplot 360 EX without disabling SELinux.

Mac

- **Keyboard Shortcuts**

Previous versions of Tecplot 360 used the Control key for most keyboard shortcuts, rather than the Mac standard Command key. Tecplot 360 EX changes these shortcuts to use the Command key under Mac. Similarly, when rotating a 3D plot, you now hold down the Command key while dragging with the right mouse button.

Note that the Alt key may be called Option on some Mac keyboards.

- **Right Mouse Button**

If your Mac’s mouse has only a single button, hold the Control key while clicking to access right-click functionality.

- **Middle Mouse Button**

There is no functionality in Tecplot 360 that *requires* a middle mouse button; however, it does provide some shortcuts. Users of single-button mice cannot emulate the middle button, but users of mice with two buttons can hold down Control while right-clicking if their mouse does not support a true middle-button click.

Enjoy Tecplot 360 EX 2021 R1 and master the view!