



Release Notes
Tecplot RS 2026 Release 1

Tecplot, Inc.

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Welcome to Tecplot RS 2026 R1

What is new in Tecplot RS 2026 R1

- **Vulkan Rendering Technology**

This release brings a new Vulkan-based graphics engine to Tecplot RS, delivering significant improvements in rendering performance, visual quality, and long-term platform support. As simulation datasets continue to increase in size and complexity, the new engine provides a faster and more responsive post-processing experience while establishing a modern graphics foundation for future enhancements.

The new graphics engine has been designed and tested across all environments supported by Tecplot RS, including systems with discrete, integrated, and virtual GPUs, as well as CPU-based software rendering. For optimal performance, we recommend running Tecplot RS on a system with a discrete GPU using the latest native graphics drivers.

The most noticeable improvement is a substantial increase in graphics performance across supported platforms. Users should experience faster, smoother interaction and visualization, particularly when working with large datasets and complex scenes that place greater demands on graphics hardware.

- **Multi-Frame RFT**

RFT plots now support Multi-Frame mode, allowing users to display multiple RFT views simultaneously for easier comparison and analysis. Previously, Multi-Frame mode was unavailable in RFT view. This enhancement makes it easier to compare wells, timesteps, datasets, or variables side by side, improving workflows for reservoir evaluation and interpretation.

- **Configurable Transparency Levels**

Transparency controls have been enhanced to provide adjustable transparency levels. Rather than simply enabling or disabling transparency, users can now fine-tune the transparency amount to improve visualization of overlapping grid cells, wells, and other 3D objects.

- **Enhanced Quick Plot Formatting**

Quick Plot visualizations now provide additional formatting options, allowing users to customize fonts and presentation settings for improved readability when extracting and reviewing data.

- **Optional Matrix/Fracture Display in XY Plots**

Users working with dual-porosity simulation results can now control whether matrix and fracture data are displayed separately or combined, providing greater flexibility when comparing datasets and preparing presentation-quality plots.

- **Improved CSV Date Support**

CSV import has been enhanced to support ISO date formats in addition to existing regional date formats. Users can select the appropriate date format during import, simplifying workflows involving internationally formatted datasets.

- **Eclipse Region Output Improvements**

Handling of Eclipse region output has been improved, providing more reliable interpretation of region information from supported Eclipse datasets.

Bug Fixes and Minor Enhancements

- Fixed a crash that could occur when comparing RFT datasets with different porosity models.
- Corrected XY Entity plot behavior when using reversed axes.
- Updated FFmpeg to version 8.1 to address security vulnerabilities.
- Improved support for preserving the current 3D camera position during data management operations, reducing unnecessary view resets while modifying or swapping datasets.
- Point ordering in RFT plots is now determined by DEPTH, a variable containing the word "depth" or CONKPOS if they are placed on the X-axis. Previously, points were always ordered by the variable on the Y-axis. This improves plotting RFT data for horizontal wells.
- Numerous additional fixes and stability improvements throughout Tecplot RS.

Vulkan Rendering Technical Details

Faster Translucency with GPU-accelerated OIT

This release introduces GPU-accelerated Order Independent Transparency (OIT), a modern rendering technique that not only produces accurate transparency for a high number of overlapping surfaces but also delivers substantial performance gains.

Previous Tecplot RS releases continuously sorted the scene elements on the CPU to achieve the transparency effect during interactive rotations. This became a bottleneck for large meshes with many overlapping surfaces and resulted in incorrect plots when rotated too far as it caused the sorted elements to be rendered in the wrong order. In addition, intersections between surfaces were processed per-triangle instead of per-pixel even though only a portion of a triangle may be below another.

By moving transparency compositing onto the GPU and performing it at the pixel level, Tecplot RS can now handle far more layers of transparency per pixel without lag. Rotations and zooms remain smooth even with transparency-heavy scenes. Transparent iso-surfaces and contour planes appear cleaner, with fewer visual artifacts. Large 3D datasets that previously felt “heavy” when translucency was enabled are now much more responsive.

No rendering technique is perfect, particularly when designed to succeed on the wide range of environments supported by Tecplot RS (discrete, integrated or virtual GPU, software rendering on the CPU). When rendering scenes that are pushing your system to its graphics limits (very large resolution, hundreds of overlaid faces, etc.), transparency artifacts may appear, taking the form of “noisy” or “grainy” rendering, with pixels showing what could seem like arbitrary colors.

Such artifacts are more likely to appear during view transforms, as Tecplot RS will temporarily reduce the number of transparent layers being ordered to prioritize performance. Once the view transform is complete, the number of sorted layers will be raised to prioritize image quality again.

Another artifact can look like portions of a transparent surface are disappearing.

If you experience any of these problems, you may adjust one or more of Tecplot RS’s three new OIT configuration settings found in the `tecplot.cfg` file located in the top-level directory of your installation. New values will take effect on the next startup of the application.

```
$!Interface VulkanConfig { OnScreenDevice { OITSettings { MinSortedFragmentCount = 128}}}
```

This sets number of fragments sorted during interactive view changes. Default: 128. Valid range: 1 to 1024. Must be less or equal to `MaxSortedFragmentCount`. Lower this setting for smoother view changes. Raise it for higher quality.

```
$!Interface VulkanConfig { OnScreenDevice { OITSettings { MaxSortedFragmentCount = 1024}}}
```

This sets number of fragments sorted when the view is stationary. Default: 1024. Valid range: 1 to 4096. Lower this setting for a faster fixed view. Raise it for higher quality.

```
$!Interface VulkanConfig { OnScreenDevice { OITSettings { FragmentBufferSize = 512}}}
```

This sets size of the memory buffer (in MiB) used to sort fragments. Default: is 512 on Windows and Linux. Valid range: 1 to 4096 inclusive. If portions of transparent surfaces are disappearing or if raising `MaxSortedFragmentCount` has no effect, try increasing the size of the memory buffer. As a general rule, it is recommended to keep it well below the dedicated memory of your GPU.

New Lighting Effects and Smoother Specular Highlights

This release introduces a new lighting effect, **Smooth with Creases**, as a replacement for **Smooth**. It also includes improvements to **Paneled** for better performance. Starting with this release, options include:

- **Paneled**: this option is identical visually to the one already available in previous versions, but it has been optimized for better performance. Because it uses a single normal per face, it will result in the best performance of all three options. It is used by default for Slices.
- **Smooth with Creases**: this new option uses an interpolation of face normals, which then gets used in lighting being computed per pixel (a method called Phong lighting). It is an improvement from the former Smooth lighting option, with which lighting was only calculated at the nodes prior to being interpolated across faces.

Multi-Sampling Anti-Aliasing

This release upgrades our anti-aliasing technology by replacing the older Super-Sampling Anti-Aliasing (SSAA) method with Multi-Sampling Anti-Aliasing (MSAA). While SSAA produced smooth edges, it did so at a significant performance cost by rendering scenes at higher resolutions and then downscaling.

MSAA achieves similar edge-smoothing quality with a far more efficient approach. The result is sharper, cleaner images with much lower GPU load, allowing users to enjoy smoother visuals without sacrificing rendering speed.

By default, a sampling level of 4 is used for both interactive and offscreen rendering (used to save images and animations). It provides a good balance of performance, GPU memory and quality. For users who still want control over the MSAA sampling level, two new settings are available in the Tecplot configuration file (`tecplot.cfg`), located in the top-level directory in your installation. These values will be checked at startup.

```
!!Interface VulkanConfig { OnScreenDevice { MaxMultiSamples = <integer> }}
```

This sets the number of desired multi-samples used for on-screen rendering. The range of values are powers of 2 between 0 and 64. If a value of 0 or 1 is supplied, no multi-sampling is performed. Larger values of multi-sampling produce smoother lines but require more GPU memory, which may not be supported on your GPU. The default value is 4.

```
!!Interface VulkanConfig { OffScreenDevice { MaxMultiSamples = <integer> }}
```

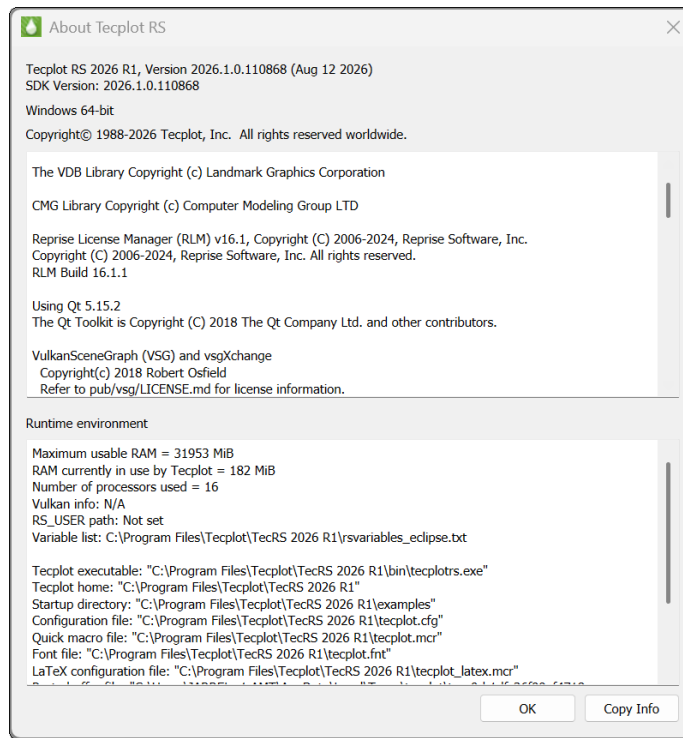
This sets the number of desired multi-samples used for off-screen rendering. Identical to the setting for on screen rendering otherwise.

Vulkan Support Across Various Configurations

Built on the Vulkan API, the new graphics engine delivers consistent performance across multiple platforms and hardware configurations. Vulkan's wide industry support—from GPU and driver vendors to operating systems—ensures reliable rendering whether running on Windows and Linux. We recommend keeping your graphics drivers up to date, as Vulkan continues to evolve through active development.

Windows systems support Vulkan out of the box. On Linux, Vulkan support depends on the distribution—if it's not already installed, you may need to add the appropriate Vulkan packages or drivers manually.

To help you quickly confirm Vulkan compatibility and version details, the **Help** → **About Tecplot RS** panel will display your system's runtime environment information after a first plot has been rendered.



If your system has multiple GPUs, you can select the one being used by Tecplot RS thanks to a new setting in the Tecplot configuration file (**tecplot.cfg**):

```
$!Interface VulkanConfig { GpuNumber = <integer> }
```

The default setting is -1, indicating that Tecplot chooses. GPU numbers range from 0 to <numdevices>-1.

The same can be achieved with the command line option **--gpu-number <integer>**.

Software Rendering is supported through Mesa's LLVM driver. Naturally, this will be much slower than running with Hardware Rendering, but may be a valid workaround when a GPU is not available or has buggy drivers.

On Linux, you can force Tecplot RS to use Tecplot's LLVM Mesa Vulkan drivers by using the **--mesa** command line option. For RedHat 8 in particular, the default Linux drivers do not support Mesa and this will be the only option for using software rendering.

What Was New in Tecplot RS 2025 R1

- **Bookmark Gallery (Revamped Plot Gallery)**

The Plot Gallery has been significantly redesigned and renamed the Bookmark Gallery. The feature has been modernized with a thumbnail-based interface, allowing users to visually preview each saved view. For plot galleries created prior to the 2025 R1 release, a new *Rebuild Thumbnails* option allows users to refresh the view with updated previews. The overall workflow has been refined to make saving, reviewing, and managing stored views easier and more intuitive. Each bookmark now includes timestep and source dataset metadata, providing improved context for stored views. A significant improvement is the inclusion of Swap Files directly within the Bookmark Gallery. Previously, swap file settings were found elsewhere in Tecplot RS. Consolidating this workflow into a single location simplifies the process and keeps all related functionality together. These updates lay the foundation for additional enhancements to the Bookmark Gallery in future releases.

- **Modernized Filter Dialog**

The Filter Dialog—which is a powerful but dated component of Tecplot RS—has been fully modernized. The Filter interface has been visually refreshed and reorganized to make creating and applying filters more straightforward. When sorting the entity list by a variable, the operation is now clearer, and the sorted variable’s metadata is now displayed directly in the table. The entity type is now displayed in a new column, improving clarity when inspecting mixed lists of wells, groups, and other entities. A key improvement is the integration of group/pattern/branch creation directly into the Filter Dialog streamlining the workflow. Previously, users needed to navigate to separate locations within Tecplot RS to create these sets.

- **INTERSECT Fault Definitions**

Tecplot RS now supports fault definitions generated by INTERSECT.

- **CMG MINC Grid Support**

Support has been added for CMG MINC grids.

- **Lines and Contours Together**

Under *Plot Options* → *Grid* → *Active Grid Styles*, users can now display grid lines and contour shading simultaneously.

- **Quick Plot Data Export**

Histogram, Cross Plot, Time/History, Depth, and Well Path Quick Plots now support data export. Users may export by right-clicking in the plot or by selecting *Data* → *Export Quick Plot Data*.

Bug Fixes and Minor Enhancements

- Time/History – Well Probe Visibility – Resolved an issue where Well Probe indicators could disappear when switching into Time/History mode.

- Completion Node Issue – Fixed a bug affecting completion node handling.
- Independent Slice Frame Behavior – Corrected an issue in which independent arbitrary slice frames could appear outside of 3D mode.
- RFT Compare Crash – Corrected an issue where Tecplot RS will crash when comparing field auxiliary RFT data to simulation dual porosity RFT data.
- Additional fixes were made to improve stability, macro recording consistency, entity list management, and UI responsiveness across various dialogs.

Usage Notes

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 RS, especially with larger data sets.

- Nvidia: www.nvidia.com/Download/index.aspx
- AMD: www.amd.com/en/support
- Intel: www.intel.com/content/www/us/en/download-center/home.html

Usage Data Collection

To help us better understand how our customers use our products and improve them further, Tecplot RS includes an analytics feature that reports basic information about your operating system, product version, and license at each launch of Tecplot RS. This data is not collected if you do not have access to the Internet or if the Google Analytics service is blocked by a firewall. No other data about your use of the product is collected.

Windows Configuration

Tecplot RS uses OpenGL 3D graphics, and will utilize high-end 3D graphics cards. For best results, use a graphics card and operating system that supports OpenGL (almost all newer graphics cards do).

With certain system configurations, it is not uncommon to experience problems due to insufficient memory or issues with graphics drivers. If problems arise on your system, please attempt the following:

1. Temporarily set the Hardware Acceleration option to None. To do this, add the following line to your **tecplot.cfg** file:

```
$!Interface OpenGLConfig{AllowHWAceleration= No}
```

If this fixes the problem, it is very likely your OpenGL driver was involved. We recommend you install the latest driver for your graphics card from the manufacturer's Web site. Setting Hardware Acceleration to None may substantially reduce drawing speed, so use this as the final solution only if nothing else works.

2. Try changing the Color Palette to 16-, 24-, or 32-bit color.
3. If operating on large data sets, you still may run into memory issues. If this is the case, try setting the memory threshold percentages in the **Performance Options** from the **Options** menu. Under the Rendering section of the Performance dialog, choose the desired min and max. = Linux

Qt Display Customization

The default display settings for Qt software on Linux platforms may cause Tecplot RS to display graphics at less than optimal speeds. You can customize your Qt display settings by using the `qtconfig` utility included in the standard Tecplot RS installation (in the `bin` folder).

Remote Display Issues

If you have a Network or Site license, you can run Tecplot RS on one computer and display it on a second computer (via an X server). However, if you are running the OpenGL version of Tecplot RS, 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 RS 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 RS functions more slowly, 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 improve the speed of 3D plotting.)

```
export MESA_BACK_BUFFER=Pixmap
```

Platform-Independent Issues

Sidebar docking

If you have trouble re-docking the toolbar or dockable sidebar, double-click the title bar at the top of the sidebar, where it says "Plot Controls."

Crash Reporting

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

On Windows, Tecplot RS creates a crash dump file. You will receive a message indicating that a crash dump file has been created. Click 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 RS and choose **Enable Diagnostic Logging** in the **Help** menu. Then redo the steps you took to cause the crash. Tecplot RS 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. The `.dmp` file should be located in `C:\Users\%USERNAME%\AppData\Local\Temp\tecplot\tpa_diagnostics\*.dmp`. 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.

Additional Resources

In addition to these Release Notes, Tecplot RS includes the following manuals and HTML Help Library to help you explore all of Tecplot RS's features. Your installation includes these manuals in the **doc** folder within your installation folder.

- [Installation Guide](#) - This guide gives detailed instructions on how to install Tecplot RS on your machine.
- [Tutorial](#) - Get started with Tecplot RS quickly by working with real-world data in a series of easy lessons.
- [User's Manual](#) - This manual provides a complete description of working with Tecplot RS features.
- The Integrated Help Library - You can access indexed, searchable Tecplot RS information by choosing **Tecplot RS Help** from the **Help** menu.
- For additional resources or help using Tecplot RS, visit our Web site at www.tecplot.com.

My Tecplot

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