SPECapc™ for Solidworks™ 2019 Benchmark Run Rules

SPECapc for Solidworks 2019 is performance evaluation software for vendors and users of computing systems running Solidworks 2019 CAD/CAM software on Microsoft Windows 10 64-bit platforms. It includes 10 updated and new tests exercising a full range of graphics and CPU functionality.

Graphics tests within the benchmark measure performance for both standard and enhanced graphics modes. The enhanced graphics mode is designed to take advantage of modern graphics adapters to deliver better performance. It is optional in Solidworks 2019 but is anticipated to become the default graphics mode in future versions. The new Solidworks Visualize renderer is used on select models to measure CPU ray tracing performance.

The benchmark incorporates order-independent transparency (OIT), a methodology for quickly displaying transparency, and full-scene anti-aliasing (FSAA) for higher-quality visuals. It can be run with either default anti-aliasing (edges/sketches only) or with FSAA. Individual scores are generated for each test and composite scores are computed for graphics and CPU performance.

This document outlines the system requirements, initialization and execution steps required for a rules-compliant run of the SPECapc for Solidworks 2019 benchmark.

Benchmark System Requirements

- Dassault Systèmes Solidworks 2019 Service Pack 4 or greater, fully licenses or trial version. Solidworks 2019 Visualize must be installed and licensed.

- Microsoft Windows 10 64-bit

- Display resolution options: 1920 x 1080, 1920 x 1200, 2048 x 1080 (2K), 3840 x 2160 (4K)

- Minimum 16GB of system memory

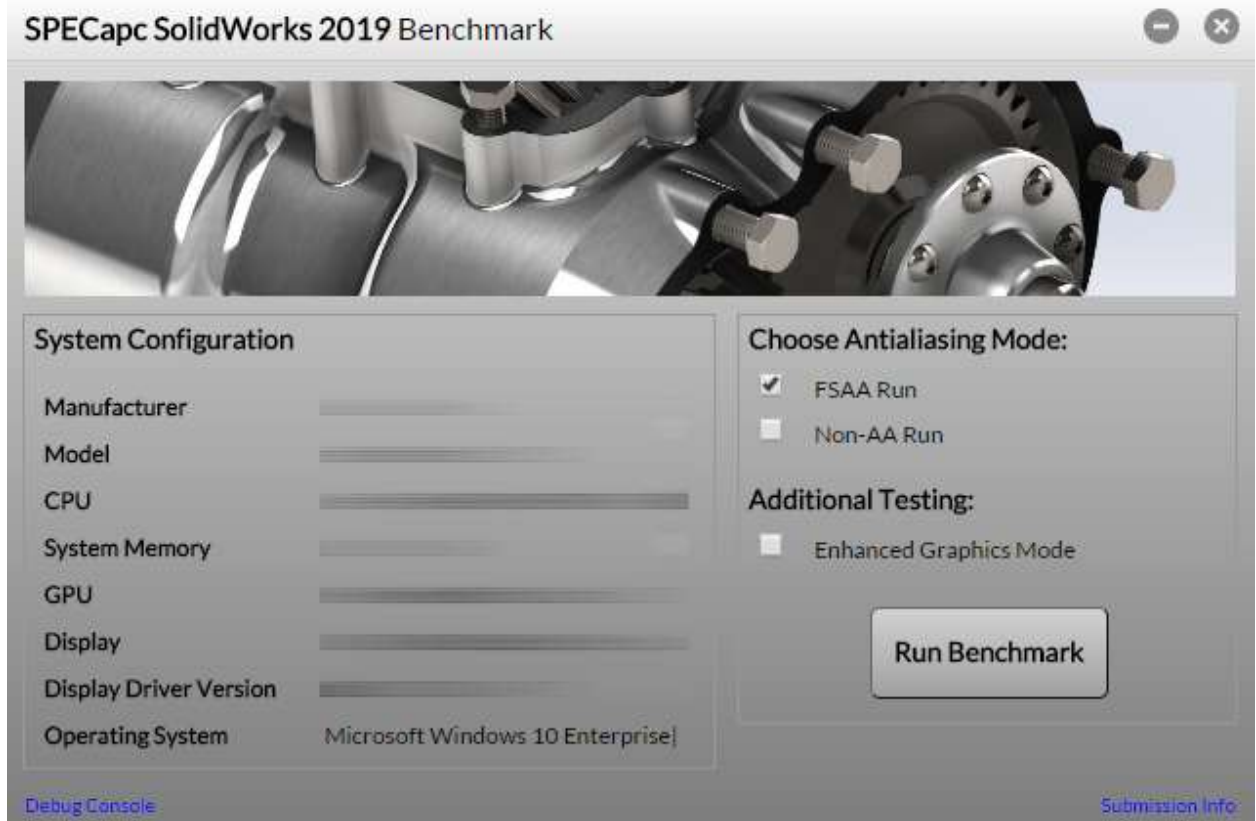- Graphics hardware that fully supports the Solidworks RealView feature

Benchmark Initialization Requirements

- The Solidworks and Visualize applications must be started at least once after installation.

Benchmark Execution

- Set the display resolution to 1920 x 1080, 1920 x 1200, 2048 x 1080 (2K), or 3840 x 2160 (4K) .

- Set the Windows Display Scaling to 100%.

- Use the default Solidworks application settings.

- Reboot the benchmark system.

- From the Start menu, select
  Start -> SPECapc -> SPECapc Solidworks 2019
  This will bring up the benchmark interface and allow the user to select the anti-aliasing setting with which the benchmark will be run.

- For official SPEC submissions, runs must be made without "Enhanced Graphics Mode" selected.

- (optional) If submitting results to SPEC, click on the "***Submission Info***" link in the bottom right hand corner of the benchmark interface to enter all information in this form BEFORE running the benchmark.

- Do not interact with the benchmark system as the benchmark runs.

- Ensure that nothing is obscuring the Solidworks window, including taskbar, application pop-ups, and other applications.

Benchmark Results

- When the benchmark is complete, the results will be displayed, filename *apcSwResults.html*, in a folder named *results_[FSAA|NOAA}_<timestamp in form YYYYMMDDTHHMM>*, located in the benchmark install location, along with screen grabs and additional details from the benchmark run.

Benchmark Results Submission

To submit benchmark results for review by SPEC and after acceptance, to be posted on www.spec.org, a benchmark package must be prepared to be uploaded to SPEC.

The submission must include all directory and files located in the results folder. The results folder is created by the benchmark with the following naming convention: *"results_"[FSAA|NoFSAA}"_"YYYYMMDD"T"HHMM*.

The submission zip file name must contain apc_solidworks2019, contain all lower-case letters and not contain "." except prior to the zip file extension. The initial file version is v0. Resubmitted files must increment the version number. Example: <company>_apc_solidworks2019_v0.zip

The submission must include a run with FSAA enabled, and may optionally include a run with FSAA disabled.

Non-default Solidworks application settings must be documented.