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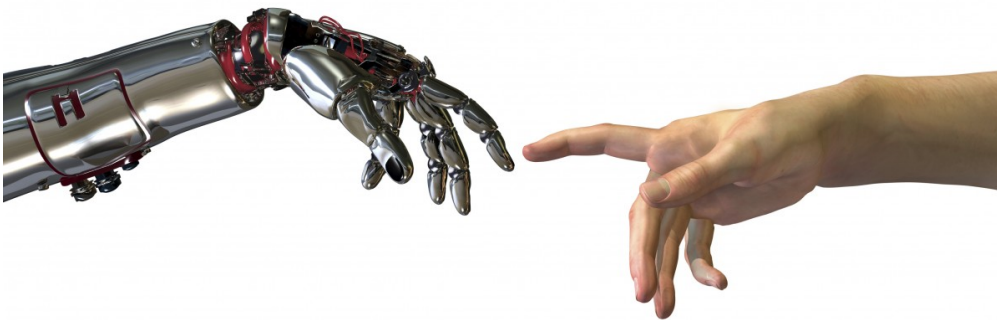
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Once upon a time, you might have been the only simulation engineer in your company. If you weren't working alone then you were probably part of a small team. Consistency and 'best practices' were never a problem, because in a small group of engineers you could easily look over each others shoulders, and discuss model settings and assumptions by the water cooler.

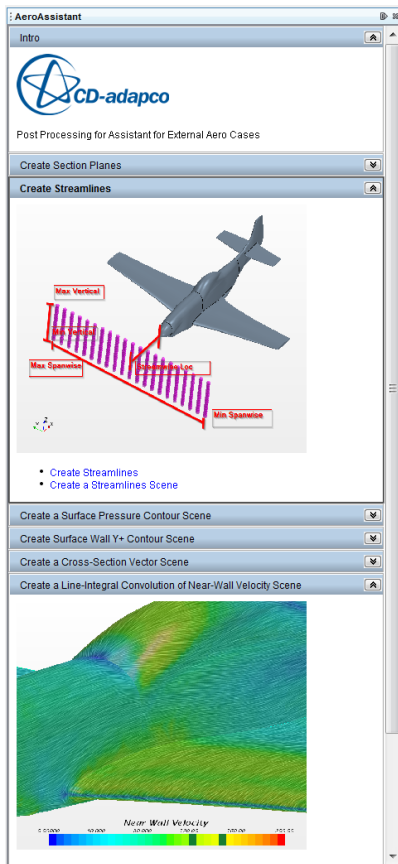
However, as simulation has become a more important part of the engineering process, simulation teams have grown bigger and more geographically dispersed. The sheer volume of simulation being performed in product development makes it increasingly difficult (or probably impossible) for any single person to keep a handle on all of the simulation work that is going on inside an organization. You might not even know all of the other simulation engineers working on your project.



The danger here is that, what we gain in productivity, we lose in consistency and repeatability. As we discussed previously ^[1], any numerical simulation is only as good as the modeling assumptions that underlie it. If engineers in the same team make different modeling choices then it becomes difficult to directly compare simulation results down the line.

How do you ensure that methods developed in one part of your organization are deployed by engineers working elsewhere?

To answer this question, CD-adapco has developed the Simulation Assistant, an interactive user interface that allows you to capture best practices and deploy them across your whole organization, ensuring repeatability of process and guaranteeing consistency of results.



[2]The Simulation Assistant itself is exposed as a side panel

within STAR-CCM+, subdivided into separate tasks to step you through your analysis workflow. You can execute actions within the simulation tree, set parameters or automatically execute complex series of tasks. Each task can be thought of as a mini, and interactive Java macro. Using the Simulation Assistant, you can execute entire workflows from geometry creation through to post-processing or simply automate small parts of your process, input recommended settings or easily handle sophisticated analysis setups.

The Simulation Assistant is also a valuable tool for introducing new or inexperienced engineers to your simulation process, allowing a tailored step-by-step approach that guides the engineer through each of the stages necessary to produce a simulation. Individual steps can be illustrated using pictures and actions are able to highlight the relevant areas in the STAR-CCM+ simulation tree, making for a visual and intuitive learning process.

In the early part of the learning experience you can expose the rookie engineer to only those parts of the software that are necessary to perform a specific task. However, as their experience and confidences grows, you can use the Simulation Assistant to expose more of the underlying detail. Even if you are an experienced user of STAR-CCM+, the Simulation Assistant can help you learn new applications to broaden your simulation capabilities.

The Simulation Assistant will be released as part of STAR-CCM+ v8.06 this fall. I'll be back

then to provide you with some examples of Simulation Assistants that we've been testing internally, and to guide you through the steps for creating your own.

Products:

STAR-CCM+® [3]

CD-adapco is the world's largest independent CFD focused provider of engineering simulation software, support and services. We have over 30 years of experience in delivering industrial strength engineering simulation.

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[1] <http://www.cd-adapco.com/blog/stephen-ferguson/art-and-science-prediction>

[2] <http://www.cd-adapco.com/sites/default/files/aero%20assistant.png>

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