

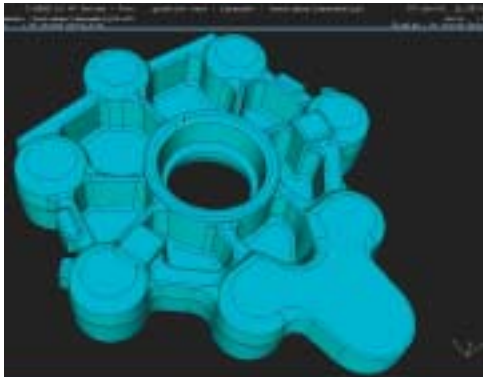
EDS take the wraps off the next I-deas

The latest release of I-deas software, the design, manufacturing, and simulation product formerly from SDRC, was recently unwrapped to show improvements that will speed design work, associativity with Unigraphics CAM software, and more. The new release, now called I-deas 10 NX Series, comes from **EDS PLM Solutions**, Plano, Tex. (www.eds.com). Beta-site users say EDS has delivered on most of the top 10 requests from several categories presented to the company by the national users group.

The lion's share of additions are in design features. Some of these pertain to "working with bushy history trees, those with lots of branches," says Paul Howard, a beta-site tester and designer with **Goodrich Corp., Aircraft Wheels and Brakes**, Troy, Ohio (www.goodrich.com). "When generating new parts that could have surfaces similar to existing geometry, users can copy part features and surfaces from one branch to a new branch. The partial geometry can then be the basis for new parts."

Howard says that through Version 9, switching from a wire frame to a shaded image sent the system off to recalculate every surface in the model. "We learned to shade complex models only before a coffee

This design by engineers at Goodrich Aircraft Wheels and Brakes shows complex fillets and rounds, an improvement in I-deas 10 NX Series. The feature blends multiple fillets that come together into a smooth surface.



break. Now, the software performs the task almost instantly." And when in the wire-frame sketch mode, one button performs an auto scale on all dimensions. This greatly eases working in wire-frame and sketching modes, he adds.

"At one time, cut, join, and intersect were separate buttons that worked independently," says Howard. "Now they come on a single form, making it easier to switch between them. The form includes options for turning on and off end caps. Another button aligns different features," he adds.

"Work break up is a cornerstone idea in the release," says Doug Pierce, a spokesperson for EDS PLM Solutions. "Several engineers can work separately on large or complex parts. The benefits are evident when several engineers each have ideas, say, for a different rib design. Each could be substituted into the main design, tested, and removed as necessary. This capability adds automation to engineering decisions," adds Pierce.

Assemblies now carry reference geometry owned at the assembly level



The part model (left) is abstracted into simpler geometry by new features in I-deas 10 NX. It's then meshed for a particular analysis.

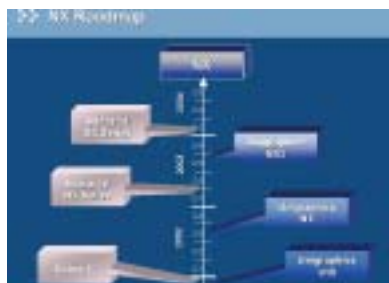
rather than at the part level. Reference geometry might consist of spacing between two other components, or a whole pattern from another part. "Now designers don't have to own the reference parts, they just borrow the shape," says Howard. "And you can dimension to the reference geometry in the assembly."

Users can run diagnostics on part models prior to handing them off for analyses or manufacturing. "This tells whether or not parts are 'watertight' so operations such as NC and FEA work won't stall on small flaws, such as tiny surfaces, short edges, little protruding edges, duplicate surfaces, things like that," says Howard. When the diagnostic finds a problem, it highlights the flaw so users can fix it.

In the simulation area, users will find additional performance improvements, better geometry abstractions, and mapped meshing around holes. Geometry abstractions simplify complex parts, for

example, by removing small details that will not affect the simulation outcome but would require many small elements to mesh.

"We've run associativity and manufacturing tests on piston housings, which can be complicated parts," says Howard. "Our engineers model in I-deas. Manufacturing people pull part models into Unigraphics, from the same developer, where they generate toolpaths. If engineering makes a design change on the original model, the manufacturing group can pull in the new model and update the toolpaths without starting from scratch," he says. Moreover, Howard says the system proved quite stable during his beta tests. "In the few weeks I worked with the software, it did not crash once," he adds.



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EDS PLM Solutions, developer for both I-deas NX Series and Unigraphics NX software, plans to merge the two into one system by late 2004.