



Working Together

Users work out interoperability methods
for global product development.

Like many of their counterparts, engineers at \$28-billion automobile components supplier Delphi typically networked design teams together from many locations. But because the Troy, Mich.-based company's partners and customers often used different computer-aided design (CAD) packages, when engineers tried to make changes, links broke and all the designers lost their work.

Engineers in Saginaw, Mich., could create a product, says Delphi licensing executive Jeffrey Solash, and have a project engineer working in Poland accidentally overwrite their work. As a result, the company reluctantly implemented strict design standards, which minimized creativity.

Delphi is not alone. Collaborative design is a super popular engineering approach, but its rise in popularity comes with interoperability problems. The more people involved, the bigger the problems.

Simple Business Practices

"CAD files have complex vectors, complex drawings, and there's a lot that can go wrong," says Jeff Kissling, CTO at Manugistics Inc., a supply chain and revenue management solutions provider in Rockville, Md. Sometimes "you make your life a lot easier by implementing some simple business practices." Options can be as intricate as strict standards or as simple as picking an older file format so a company needn't depend on its partners having the latest application versions.

"You can support standards, but you have a high degree of dependency on the graphic subsystems of the computers themselves, of the rendering software. I can have incompatibilities with browsers and files," he says, citing one operating system example. Let's say "the drawing was rendered in Unix SVR4 and now I'm trying to render it in a slightly different version. That's one reason why the files will blow up."

PDM, PLM Options

Even file compatibility doesn't guarantee keeping all the data straight. Product data management (PDM) and product life-time management (PLM) systems are supposed to help everyone stay on the same page—or byte. But they don't interoperate either. "If you have to be in one of those environments, you have to have licenses," Kissling says, and getting partners to purchase licenses can be a hard and costly sell.

Emerson Process Management, a control valve manufacturer in Austin, Texas, turned to Adobe PDF files that outsiders can mark-up and a content management system that monitors the location of documents. "The person on our end then has to make those changes [when a document comes back], put it back in the system, and get it done," says Mark Heindselman, information services manager at Emerson. The company also sets up project extranets, where a global repository controls the document version in use.

"Most companies have a structured process going from concept to launch to end of life," says Mark Strom, a director with consulting firm PRTM in Waltham, Mass. "When you work with a partner, their process isn't going to be like yours. Not only do you have all the complexity of cross-functional projects, but you have the complexity of working with someone outside your four walls."

Typically, "a small number of people creates things, but a large number has to use them," says Dan Ryan, executive vice president at content management vendor Stellent Inc. in Eden Prairie, Minn. "Usually systems are biased to the creation process or toward broad consumption."

With proprietary systems facing criticism, change may be on the horizon. Until it happens, however, engineers may have to be more flexible and creative. "The important point," Strom says, "is to adapt." ■

RESOURCES

Manugistics Inc.
<http://www.manugistics.com>

Front End of Innovation Conference
<http://www.frontendofinnovation.com>

The Institute for International Research
<http://www.iirusa.com>

Product Development & Management Association
<http://www.pdma.org>

PRTM Management Consultants
<http://www.prtm.com>