



## Product Engineering

# Open secrets

Globalization requires manufacturers to allow controlled access to intellectual property

By Jim Fulcher, contributing editor

It can be argued that a manufacturer's intellectual property (IP) is its greatest asset. It is, after all, the foundation for innovative products and processes.

But as manufacturers develop global partner networks to speed innovation, enhance supply chain efficiency, and increase return on R&D investment, protecting IP becomes a significant concern.

For example, strategies such as outsourcing manufacturing and promoting open innovation with global partners require sharing documents and product data. The issue then becomes how best to share that information without mak-

ing IP vulnerable; management (PLM); and IT security applications, Murphy explains. The issue gets confusing for manufacturers that are flooded with different approaches.

The best approach, Murphy argues, begins with careful deliberation by manufacturing executives to determine not only specific goals, but also which applications are involved, the audience, and scope of data—along with actual business processes.

The next step is to create a road map of priorities. Here it becomes possible to determine the best way to work toward those goals without jeopardizing IP.

Fortunately, there is more than one way to address this objective. While there is no one-size-fits-all solution,

the requirement is the first challenge, he says, but the second is to implement a solution that strikes the right balance between security and ease of use.

"Our goal is to deliver persistent protection for effective collaboration," Worsham says. "But we realize that if a solution is too complex or requires high levels of training, people won't use it. GigaTrust's security apparatus on the client side, for instance, allows users to look at files or documents in their native application, which promotes user comfort. The security comes from restricting what users can then do with the file. One example is delivering a shared document as 'view only' so the other party can't copy or print it."

That type of capability suits the requirements of a growing number of GigaTrust clients—for different applications.

For example, Ivara offers asset performance management software for companies in capital-intensive industries. It also owns and operates **The Aladon Network**, a global team of reliability experts. Members are certified as practitioners in the delivery of Ivara's RCM2 and MTA methodologies, which offer team-based approaches to developing a reliability strategy for all assets in an organization.

The Aladon Network uses GigaTrust's ShareSafe Desktop-Media Edition to protect the IP that it distributes to its global practitioners, says Susan Park, Aladon's operations manager. ShareSafe protects information placed on CD or DVD. Essentially, it enables recipients to access secure content directly from the CD or DVD without having to first copy that content to their hard drive.



**Jim Murphy, a director with AMR Research, says considerable overlap among systems that handle intellectual property—e.g., content management; PLM, and IT security applications—causes confusion for manufacturers as they are flooded with different approaches for sharing information.**

ing IP vulnerable.

"As manufacturers globalize [their businesses] and form new partnerships, securing IP is a key priority because these companies must collaborate more effectively to foster innovation," says Jim Murphy, a director with Boston-based **AMR Research**. "That means manufacturers must create an environment that makes it easy to freely share ideas with their partners. On the other hand, they must still protect IP."

The problem is the considerable overlap among systems that handle IP—content

management; product life-cycle management (PLM); and IT security applications, Murphy explains. The issue gets confusing for manufacturers that are flooded with different approaches.

### Enterprise rights management

The prevalent issue surrounding outsourced manufacturing is the need for a rights management platform that can be used across the enterprise, says Darryl Worsham, VP of business development for **GigaTrust**, an enterprise rights management solution provider. Acknowledging

Large amounts of information—such as training materials, Flash video presentations, CAD files, and other content-heavy files—can be sent to users anywhere securely, and users don't require a special application to view the information.

"We have worldwide practitioners who receive updated training materials and other IP every year via CD," Park says. "What we do with the GigaTrust solution is protect IP by restricting the CD's content so users can't print, save, or modify it. The content also expires in 12 months, so after that date, the CD is no longer readable."

According to Park, two aspects that led to successful use of ShareSafe are ease of use and workflow, "which means people aren't hesitant to use it," she says. "And it doesn't add lots of extra steps or processes to the workflow. This streamlines our publishing process and also ensures our team will use it."

#### Apps-level security

Depending on the goal of a manufacturer and the type of information or documents being shared, it may make

sense to leverage the security inherent in an application. For example, if a PLM solution contains built-in security features, CAD drawings can then be shared with external partners without having to first pass through intermediate translators.

"As manufacturers seek all possible competitive advantages, it forces them to loosen the reins on IP because they've got to share it with other parties," says Tom Shoemaker, a VP with PTC, a PLM, content management, and dynamic publishing solutions provider. "Digital rights management allows a manufacturer to share a CAD drawing with an outside party, but they also can protect content. They can selectively de-feature a design so it retains its look and feel, but a supplier can't view specifics such as geometry."

Following that type of application-centric security approach holds notable merits. Consider that by using secure



Mike Morel, director of manufacturing solutions, Adobe Systems, says the vendor fosters safe collaboration by offering software that allows manufacturers to extend their infrastructures to securely deliver documents in business context, within business processes, and in workflow.

company may also be allowed access—but they may enter to view only a very limited amount of information because they work for a tactical supplier.

"This is a priority topic for many—if not all—of PTC's customers, but it's complicated because it requires a fair amount of planning and deliberation," Shoemaker says. "Manufacturers must decide who—whether they are internal or external users—can see documents, how much detail they see, what actions they are allowed to take, and the length of time they have access to files. Then everything must be reviewed periodically because relationships with suppliers and partners can change quickly as people leave the companies, and the tactical and strategic goals evolve."

#### Combined approach

Given the nature of collaboration and the realization that partners and suppliers use different IT solutions, it's only logical that some manufacturers combine solutions. Such an approach promotes the delivery of secure access to the information people require without undue risk to IP.

PLM, ERP, and other solutions all have inherent security, says Mike Morel, director of manufacturing solutions at Adobe Systems, a supplier of software used to produce and deliver content. Manufacturers want to leverage that existing infrastructure, but they also want to extend it so they can securely deliver documents within business processes, and in workflow, he says.

Photo courtesy Allgaier



Using Adobe solutions, molding tools maker Allgaier Automotive GmbH is managing the access rights of documents independently of their physical location.



## Product Engineering

One example involves engineers working with CAD drawings and using a PLM solution. It makes sense for them to share those drawings using the PLM solution, Morel says, but they also can securely send the drawing in 3D PDF—using Adobe LiveCycle—to purchasing agents and external partners so they too can use the document without having to be trained in—or have access to—the CAD system.

“The goal is to make it easier for customers to get product out the door in a faster, more economical way,” Morel says. “Using 3D PDFs, for instance, gives people the information they need, but their access to other information can be restricted depending on their role and requirements. It’s a way of limiting just how much they see.”

**Allgaier Automotive GmbH**—a German company that designs and makes molding tools primarily for the automobile industry—exchanges 3D models daily with its customers and suppliers. The challenge the company faced, however, came from the sheer amount of data involved.

“During a 10-day period, we must exchange as much as 30 GB of design

data with customers and suppliers,” says Ralf Schmidt, manager, engineering and construction at Allgaier. “It’s extremely time-consuming to send and receive files that large.”

Today, rather than relying on email, the company uses the IQweb Review platform created by Munich-based Adobe partner **IPEQ**. Based on Adobe’s Acrobat 3D software and LiveCycle software suite, the Internet-based platform for distributed product development supports collaboration among departments and business partners through secure exchange of 3D models.

“Use of Adobe LiveCycle Rights Management ES server means we can simplify user rights and role management when sharing documents,” Schmidt says. “We don’t need to send email with large attachments because, instead, data is available from a central location. That enables recipients to access data when it’s needed, and they also are notified automatically when new data is available.”

Equally important, data from independent systems is collected and made available via download in a digital folder within the Web portal. In addition to CAD data, the portal contains documentation, presentations, spreadsheets, photos, or videos, Schmidt says.

“With very little end-user training, we’ve streamlined the sharing of—and collaboration on—3D models, simpli-



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—Tom Shoemaker, VP, PTC

fied rights management associated with shared documents, completed development projects faster, and increased efficiency and productivity,” Schmidt says.

Every partner and supplier has one or more individual intelligent folders on the IQweb platform, Schmidt adds. Allgaier defines and controls the access profiles of these folders, and secured documents stored in these folders are synchronized with the access profile of the intelligent folder.

Consequently, Allgaier manages the access rights of documents independently of their physical location. That means Allgaier can change the access rights of a document—even when it is stored on any local hard drive outside of IQweb, Schmidt says.

“User rights can be defined to enable or restrict features such as open, print, copy, or download based on topic, project, or partner company,” explains Schmidt. “The sender also can revoke access to a file if critical changes are made to the initial CAD drawing, so the original can no longer be accessed.”

“In addition,” Schmidt continues, “it’s possible to define a time frame for a recipient to open a 3D model file. That requirement may be part of the agreement when a contract is awarded so access expires at the time the contract ends.” ■

Photo courtesy Allgaier



Allgaier Automotive GmbH, a German designer of molding tools, exchanges large files and 3D models daily with customers and suppliers.