



Harman Specialty Group Decreases Product Development Time and Cost Through Centralized Product Data

Customer

Formed in 2002, Harman Specialty Group is a collection of Harman International's highest-quality consumer audio brands including Mark Levinson, Revel and Lexicon. The goal of Harman Specialty Group is to pioneer new technologies and create advances that better the audio experience in home theater, automobile, and other exciting possibilities.

Challenge/Situation

Silos of product information

As Harman Specialty Group set out to develop the next generation of advanced audio technologies, they were plagued by manual, paper-based processes that resulted in delays and inconsistent data. All product documentation and Approved Vendor Lists (AVLs) existed in different file formats stored on various servers throughout the company. "Finding documents was a very time consuming task that could take hours or days and often required assistance from engineering employees to see if they had, or could help find, the documents you needed," stated Scott Douglas, Manager, Engineering Services for Harman Specialty Group. "Often enough the documents either did not exist, existed only on paper, or existed in a state where the accuracy of the file was suspect."

For engineering design teams it was tough to gain control over their design information. Determining what symbol was linked to what part was a difficult task due to the multiple libraries of schematic symbols and the fact that most schematic diagrams and PCB footprints existed only in paper format.

Another challenge Harman faced was with their engineering change process. Engineering change documents were output to paper and manually routed from office to office for review. Anyone outside of the document control group did not have visibility into the engineering change review process. Other team members were not aware of what stage a change was at or where it would be routed next. In addition, when someone made changes to the Engineering Change Order (ECO) in review, notification to other reviewers was not always guaranteed. Processing this information manually resulted in a number of incomplete change requests with no record as to whether or not the change request existed and with no documentation as to why it was not processed.

Key Benefits

- Business-ready solution
 - Easy to use and implement
 - Flexible system for easy integration with existing and future engineering and ERP systems
 - Low IT maintenance (based on SQL Server)
 - Affordable price with flexible license model (floating licenses)
 - Responsive and professional customer support
- Streamlined communications
 - Reduced product development costs
 - Shortened engineering change and NPR cycles
 - Improved communication among development teams
 - Single repository to access product data
 - Eliminated various silos of data
 - Gained visibility into the entire product development process
- Automated Processes
 - Increased efficiency in product development
 - Eliminated data duplication through automated data sharing
 - Established accountability with history tracking
 - Improved data integrity by eliminating manual errors

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"We were looking for ways to reduce product development time, improve accuracy and efficiency, and reduce the cost of development. This required evaluating existing processes and making drastic changes in the way we developed and maintained products. We chose the Omnify PLM system over several other competing products, some that were already in use in other divisions of Harman International. Since we implemented Omnify it has lived up to our expectations. The entire organization finds the tool very powerful yet simple to use."

-Scott Douglas, Manager, Engineering Services, Harman Specialty Group

Goals

Unified system to manage, track and store product information

"We were looking for ways to reduce product development time, improve accuracy and efficiency, and reduce the cost of development," continued Douglas. "This required evaluating existing processes and making drastic changes in the way we developed and maintained products."

It was apparent that Harman needed a unified system to manage, track and store their product information as well as provide visibility into the entire product development process. A Product Lifecycle Management (PLM) system was the ideal solution.

Harman had a number of goals in mind for implementing a PLM system such as:

- Establishing one source for all product documentation;
- Placing all documentation under change management;
- Increasing the speed of the engineering change process and making it visible to all the departments involved;
- Making all documentation electronically accessible to those who needed to see it;
- Tracking the RoHS compliance status of every part in every product, track the changes made for compliance, and document the compliance of the parts;
- Linking schematics symbols and PCB footprints to the PLM system

Harman also had specific technology requirements for selecting a PLM vendor. The ability to integrate with their existing electrical and mechanical design tools was critical. In addition, they wanted a solution provider with the capability to integrate with their existing ERP system, **Minx ERP**, as well as the flexibility to integrate with any new ERP systems in the future. Harman wanted responsive and professional support along with a reasonably priced solution that required minimal training and low maintenance overhead.

Omnify Solution

"We chose the Omnify PLM system over several other competing products, some that were already in use in other divisions of Harman International," commented Douglas.

Harman was able to quickly import and cleanse their data of over 30,000 parts from the various data sources. Omnify's open and flexible solution allowed Harman to assign part numbers based on their schemas to import and export data to/from their Minx ERP system.

CUSTOMER SUCCESS

“Having the ability to export information from the Omnify database into the Minx system was critical to eliminate the duplicate data entry that we had been doing in the past,” said Douglas. In addition, being able to pull information from ERP into the Omnify database has given Harman engineers visibility into extended information such as costs, lead times, and vendor status to help them make better design decisions.

Omnify’s ability to directly interface with Harman’s engineering design tool, **Mentor’s DxDesigner**, has given electrical designers control over their schematics. Schematics now contain the appropriate attributes from Omnify including; part values, schematic symbols, and PCB footprint names. Schematics are checked against the Omnify database for accuracy, Netlists are generated for use in the PCB layout, and Bill of Materials (BOMs) are generated for import to Omnify.

All documents are now available electronically from a single source, eliminating the need to search the multitude of servers and folders where documentation once resided. Harman is able to link all of the associated data to a part including; vendor datasheets, fabrication and assembly drawings, programming files, etc., via Omnify. As these documents are linked or vaulted in Omnify they are immediately available to all users.

New Part Requests (NPRs) and Engineering Change Requests (ECRs) are processed electronically through Omnify. When NPRs are created, a new part number is generated immediately. The new parts can then be added to schematics or assemblies without delay. Waiting for the document control group to create the number and description and waiting for the various sign-off stages has been eliminated. ECRs are routed electronically via a workflow engine. Once all necessary parties have approved the change, Omnify automatically updates the affected products with the suggested changes, and then provides the updated information to Minx.

Customer Success

Reduced process times from weeks to days/hours

“Since we implemented Omnify it has lived up to our expectations,” said Douglas. “The entire organization finds the tool very powerful yet simple to use.” As stated earlier, one of Harman’s main goals of implementing a PLM system was to increase the speed of the engineering change process and make it visible to all the departments involved. “The signoff process for ECOs can be as short as a few hours or a day compared to the previous paper process which could take from hours to weeks,” continued Mr. Douglas. Harman also gained transparency into the change process- all team members can check the status of an engineering change at anytime. In addition, the change history tracking in Omnify allows Harman to see what was changed, why, and by whom. This has established accountability that did not exist prior to Omnify.

“Another benefit is that other departments can locate and package their own document sets for their uses,” added Douglas. “For example, Purchasing can now login to Omnify and locate the AVL and all other child documents for a PCB assembly, package this all up and send to a vendor within an hour or less. In days past, this would have been a request that would take one to three weeks to process.”

With the Omnify PLM solution in place, there is no longer discord in product development. All product information is managed and accessible from a single location. Harman can maintain their position as the premiere manufacturer of audio technologies profitably as well as easily meet their goal of pioneering new technologies and creating advances that better the audio experience.