

Honeywell Newhouse Implements

e-Business with Metaphase

Document management control and workflow capabilities feed online customer catalog



The Goal:

Reduce time-to-market by automating product data control and management. Implement searchable online customer catalog providing complete, real-time product information "anytime" or "anywhere."

The Challenge:

Replace a labor intensive, paper-based change order system.

Metaphase Solution:

The core of an innovative e-business application that incorporates out-of-the-box document management control and workflow. Interfaces with ProEngineer, Mentor Graphics, and Oracle Manufacturing.

Key Results:

- Change order life cycles reduced 66 percent (from 12 weeks to 4 weeks).
- Reduced release/change process by 70 percent.
- Staffing requirements for document management reduced 500 percent.
- Substantial annual savings in equipment leasing cost.
- Improved product data accuracy.
- Searchable, online customer catalog provides complete, real-time product information.

Background

Honeywell Newhouse, located 12 miles east of Glasgow, Scotland, has long been one of the Honeywell Corporation's leading lights. The facility manufactures products for Honeywell's Home and Building Controls and Industrial Sensing Controls businesses, which serve two broad marketplaces with many different needs. So many, in fact, that out of a basic family of 50 to 60 products, Honeywell Newhouse turns out some 12,000-product variations a year. Newhouse also manufactures printed-circuit board assemblies for other Honeywell facilities.

Newhouse has established its reputation as one of the UK's most productive industrial sites by employing advanced manufacturing techniques, including cellular manufacturing, and by leveraging the effective use of robotics. These and other efforts have enabled Newhouse to win awards such as the "Best Factory" award from *Management Today* magazine. And numerous businesses have benchmarked themselves against Newhouse's practices, in the process discovering the value of empowering their people to work smarter.

Newhouse has lagged behind similar world-class facilities, however, in several key aspects of product design and engineering.

These came to light over a period of years in the 1990s, when Honeywell began looking at its operations worldwide to see where costs could be saved, processes streamlined and time-to-market improved.

Newhouse's biggest problem was an archaic engineering change order process. Newhouse solved that problem fairly easily with Metaphase's powerful and flexible product data management (PDM) system. Now Newhouse is using Metaphase as the core of an innovative e-business application that is extending its reputation for innovation into the Internet Age.



Losing its edge

According to Sandy Sutherland, Honeywell Newhouse Systems Manager, in the mid-1990s, when Honeywell (Corporate HQ) was casting around for PDM solutions, Newhouse had known for awhile that its time-to-market for new products needed improvements. Benchmarking against UK facilities of Motorola, Hewlett-Packard, and others known for product speed and innovation showed just how far they needed to go.

"We realized that our new product introductions had to be a lot faster," Sutherland says. "Our time-to-market just wasn't competitive anymore. What we saw clearly led us in the direction of introducing electronic packages that would automate workflow and eliminate manual, non-value-added work."

Nowhere was this challenge greater than in Newhouse's product documentation change control process, known as ECRO, for engineering change of release order. Master copies of ECROs were stored on paper and housed in a central filing location staffed by five clerks. Once a week all change notices were collected and walked through the 500,000 square-foot facility. Keeping track of these change orders after distribution was an administrative

nightmare. And if an engineer needed the most recent version of an ECRO, they had to visit the central location, where a clerk then fetched and photocopied the document, which ran as long as 12 pages. Invariably, the engineer would then discover related ECROs and have to repeat the entire process.

"It was a nightmare from an engineering perspective," Sutherland says. "We had so many documents floating around in so many different hands that errors were inevitable." Several engineers, for example, often separately updated paper versions of the same drawing and up-issued their drawings to the same issue number, creating three different versions of the same drawing.

Now Newhouse is using Metaphase as the core of an innovative e-business application that is extending its reputation for innovation into the Internet Age.

Maybe worse was the time it took to issue an ECRO – 12 weeks, due to all the paper-pushing involved. There was a considerable amount of expense involved, too. Not only for the five clerks needed to staff the filing location, but also for leasing microfilm and aperture card equipment, which alone was costing the facility over 25,000 pounds a year.

Laying an e-business foundation

Newhouse decided to tackle the problem on an incremental basis, rather than attempt to re-engineer its entire operation. The corporation settled on Metaphase after benchmarking PDM practices at companies around the world. According to Honeywell, Metaphase was selected over several competitors' products because it offered more out-of-the-box functionality and had more modules available, including interfaces with ProEngineer, Mentor Graphics and other major CAD/CAE applications the company relied on.

At the end of a six-month implementation process, Newhouse was able to drive its entire document issue and ECRO procedure electronically. Today, every PC user in the facility accesses master copies of ECROs, including CAD

drawings, which are held in electronic format and viewable in the Metaphase environment. Meanwhile, all documents relating to ECRO are distributed automatically via Newhouse's internal network. Tracking the ECRO process is achieved through a Newhouse innovation dubbed "autoclype." (Clype is a Scottish term for whistle-blower.) With this, if anyone fails to perform a task related to the change procedure within a set period of time, the omission is automatically flagged and sent to the the appropriate manager. This allows Newhouse to track documents down

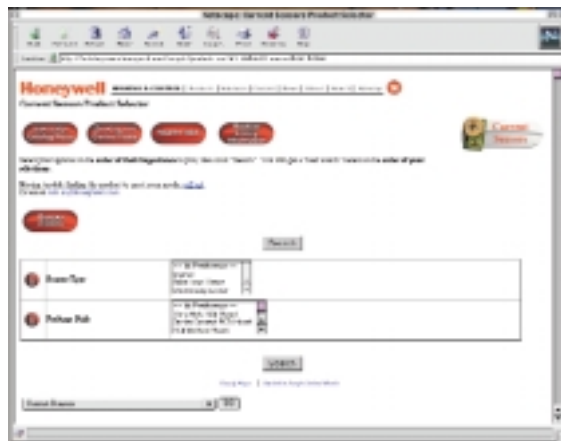
to the individual level, instead of relying on phone calls and sleuthing to figure out where and why things are being held up.

Newhouse's next step is interfacing Metaphase with Oracle Manufacturing. "This will give us—for the first the time—the ability to fully control our engineering bills of materials under PDM," Sutherland says. "There will be no manual entering of information from one system to another. This will improve our productivity and increase our throughput time through the factory."

Newhouse's most innovative use of Metaphase is seen on its new interactive online parts catalog (www.Honeywell.com/sensing). Here, any Honeywell Sensing and Controls customer can search for parts and parts information easily. The site is updated on a real-time basis from within Metaphase using Metaphase's workflow capabilities. "Metaphase is the master system for our e-catalog," Sutherland says. (Sutherland has since gone on to become e-business channel manager for Honeywell's European sensing control operations). "With it we can provide customers access to all of our parts documentation, including data sheets, installation sheets, cata-

logs in PDF format, engineering drawings and more."

Why is this such a big deal? In the past, customers had to call a Honeywell customer service center, assuming, Sutherland says, they knew which one to call. Even that didn't



guarantee the latest and most accurate information would be readily available, given Honeywell's vast and always-changing product offerings. "It often could be a prolonged effort for customers," Sutherland says. "And it may have taken us a day or two to respond. Now the information customers need is available online, in real-time, whenever they need it."

In addition to greater convenience for customers, anticipated cost savings from the new web site are expected to be major, since

it will allow Honeywell to consolidate its customer service operations in Europe (there are three call-in centers right now in the UK alone) and reduce staffing needs.

Newhouse is also using Metaphase's ability to update web sites to share data with a sister facility in Freeport, Illinois. When Newhouse makes a change to a product, the information is automatically available via the Intranet to designers and engineers at the Freeport facility.

Just the beginning

Newhouse was very methodical in setting performance goals for Metaphase. Metrics for what Newhouse thought it could achieve were established early and then tracked monthly. Results include:

- **Reducing the ECRO life cycle from 12 weeks to 4.** As a natural consequence of this, the product design-to-engineering life cycle has been greatly reduced.
- **Reducing staffing requirements and costs.** It used to take five full-time personnel to handle ECRO information requests; now that figure is down to one.
- **Equipment cost savings.** Newhouse has been able to decommission leased equipment needed for creating aperture cards and microfilm and photocopying.
- **Greater data accuracy.** Now that multiple personnel can no longer work on separate copies of product information issued to the same issue number, Newhouse knows that no one is using out-of-date or incomplete information.

- **Faster time-to-market.** Newhouse may be shaving as much as a month off the process of getting new products to market.
- **An e-business head start.** Because of Metaphase, the information customers need is available online, in real-time, whenever they need it.

Metaphase is helping Honeywell Newhouse to lay its e-business foundation. Certainly, designers and engineers are working far more efficiently, since the time it once took to track product data manually has been eliminated. "The information they need is available in real-time, at their desks," Sutherland says. And the online catalog makes information available to its customers anytime or anywhere.

In the future, Newhouse may use Metaphase to provide web access to its change order and release system to major customers. This would be especially useful to customers who need early insight into product decisions.

"In some of the projects we work on, it's important for customers to sign off on design changes," Sutherland says. "Now we have to fax documents to them and have them fax their sign-off back. I can see us "web-izing" this by having Metaphase automatically generate e-mails with hyperlinks to customers who could then sign off electronically and send it right back into the Metaphase environment directly."

With Metaphase, Newhouse has achieved its performance goals. "We've been bang-on target," Sutherland says. And, going forward, Newhouse expects only better and better results from its implementation of Metaphase, a key enabler of its e-business strategy.

SDRC Headquarters

Cincinnati, Ohio
+1-513-576-2400
+1-513-576-2135 fax

Metaphase Division

St. Paul, Minnesota
+1-651-482-4219
+1-651-482-2215 fax

SDRC Europe

London, England
+44-1462-440222
+44-1462-440522 fax

SDRC Asia/ Pacific

Tokyo, Japan
+81-3-5354-6700
+81-3-5354-6780 fax

www.sdrc.com

SDRC

Metaphase[®]