

WHIRLPOOL PRODUCT DESIGN ENGINEERS CLEAN UP WITH LENOVO'S HIGH POWERED WORKSTATIONS

Lenovo ThinkStations boost the output of product design engineers.



INTRODUCTION

For more than 100 years, Whirlpool Corporation's time- and labor-saving innovations have transformed home and family life. From Lou and Emory Uptons' first electric wringer washer to the newest Whirlpool laundry pair, the company has always been a leader in linking new technology with groundbreaking design. A constant investment in technological excellence is a hallmark of Whirlpool products and today the company employs thousands of product design engineers to devise every component in all of its new appliances.

This customer testimonial highlights how Lenovo impacts the daily workload and output of the product design engineers enabling them to provide fast and accurate renderings and component design concepts which impact design cycle times and time-to-market.

CHALLENGES/REQUIREMENTS

Like all manufacturing companies, Whirlpool Corporation is driven by increasing pressure to develop innovative products in shorter time frames, while maintaining high levels of quality. Product development begins with the design process and it is the job of the North American Region (NAR) Cleaning Engineering Design Quality Group to design plastic components and injection moldings for dishwasher units sold in the North American and European markets.

To help ensure its engineers could quickly and efficiently produce leading-edge component designs, Whirlpool required computing tools that blend power, versatility and reliability to help fuel the entire product lifecycle.

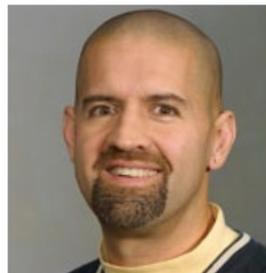
SITUATION

For more than 100 years, Whirlpool Corporation has set itself apart by offering differentiated, sustainable performance. And behind every great dishwasher is a product design engineer dedicated to ensuring the components inside are robust enough to withstand many years of use. Within Whirlpool's NAR Cleaning Engineering Design Quality Group, the hydraulics section must provide fast and accurate renderings that speed design cycles and time-to-market for new products.

CUSTOMER PROFILE

Headquartered in Benton Harbor, MI, **Whirlpool Corporation** is the world's leading manufacturer and marketer of major home appliances, including such iconic brands as Whirlpool, Maytag, KitchenAid, Jenn-Air, and Brastemp.

With 71,000 employees and 66 manufacturing and technology research centers around the world, Whirlpool Corporation is dedicated to designing, manufacturing and marketing some of the most recognized and trusted appliances across all major categories including fabric care, cooking, refrigeration, dishwashers, countertop appliances, garage organization and water filtration.



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- Don Wilson
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Whirlpool Corporation



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Tasked with designing all of the plastic pieces in contact with water while entering and exiting the dishwasher, the product designers in the hydraulics section are responsible for ensuring that all components and moldings needed in the development of the dishwashers meet exacting specifications. This requires the creation of very large assemblies where they must check for interferences and clearances and, at any time in the process, product designers are working concurrently with between 300 and 800 components.

Throughout the design process, the speed of the workstation directly affects how quickly a designer can keep pace with the quantity and intensity of design demands, from drafting and modeling to simulation and rendering.

"It became the norm to have our previous systems crashing at least three times per week when pulling up a fairly large assembly necessary to get our jobs done," said Don Wilson, Lead product designer, Whirlpool Corporation. "We could spend close to 30 minutes dealing with each system crash and reboot, which meant hours of time where my team and I would just be spinning our wheels instead of focusing on design."

Due to increasingly complex design requirements combined with a need to lower costs and shorten design times while maintaining high levels of quality, Whirlpool's product designers needed a new high-performance workstation solution. Class-leading reliability and fast processing speeds were critical considerations to help eliminate frustrating system crashes and time intensive rebooting; both issues plaguing them in the past.

Lenovo ThinkStation Landing Page

<http://www.lenovo.com/thinkstation>

Case Studies Video & PDF

<http://www.lenovo.com/enterprise/us/en/case-studies.html>

Contact a Lenovo Sales Specialist

<http://forms.lenovo.com/forms/PublicSectorContactUs?l=web>

SOLUTION

After a thorough selection process, Whirlpool procurement selected the Lenovo ThinkStation S-Series workstation, which combines powerful graphics and the latest processor technology to drive productivity. The 64-bit system features an Intel Xeon quad-core processor, 1 GB of RAM on the video card (Quadro 4000 NVIDIA graphics card), all of which combine to deliver a system with unmatched power and reliability. Whirlpool has rolled out ThinkStation S-Series workstations to thousands of product design engineers with the Pro/ENGINEER Wildfire 4.0 software and Windchill Business Collaboration Software from PTC.

"Since the switch to the Lenovo ThinkStation we have seen a phenomenal difference with software performance overall," said Wilson. "Now we rarely run out of memory and encounter absolutely zero system crashes."

BUSINESS RESULTS

With the Lenovo ThinkStation workstations PCs in place, Whirlpool's product designers have been able to recapture the time previously lost due to system crashes and rebooting. For example, boot up times are extremely quick; product design engineers can turn on their machines and be up and running and ready to start the Pro/ENGINEER software in less than one minute.

"Speed and reliability are major requirements for us. Along with a boot up time of less than one minute, model checks can be completed 30 percent faster and I believe this improvement is a direct impact of our new ThinkStation capabilities," said Wilson.

Quicker design time within the hydraulics team also means that engineers in other Whirlpool design groups can move more quickly through other phases of the product development process, from simulation and analysis through tooling design, manufacturing, and assembly of a complete product. The improved speed, productivity and throughput enabled by the Lenovo ThinkStation S-Series saves significant time, effort, and cost as well as facilitate better integration and coordination of multiple design teams.

According to Wilson, "With our old workstations we constantly dealt with multiple system crashes numerous times a day. That, coupled with extremely long boot up times, wasted a lot of time. Now, we have an uptime of 100 percent and we're seeing a huge difference in performance of the Pro/ENGINEER Wildfire Software; it has been truly phenomenal on the new Lenovo ThinkStation."

The ultimate result of all the benefits the NAR Cleaning Engineering Design Quality Group realizes from using the Lenovo ThinkStations? Getting high-quality products to market faster, which is of course, always a top priority for any design team.

LENOVO KEY FACTS

- No.1 in Worldwide Education Computing
- A **Fortune Global 500** company
- One of the **Most Reputable Companies** according to Forbes
- Listed by Forbes as **10 Companies That Are Genuinely Green**
- On the **Honor Board of the Hang Seng Sustainability Index** with an A+ rating
- **Major research centers** in Japan, China and the US
- **Manufacturing and assembly** facilities in China, India, Mexico and the US

