success story

General Mills migrates from mainframe to Superdome for ERP excellence

"Choosing the HP Superdomes allowed us to greatly simplify our technology environment. We eliminated our mainframe, enabling our employees to concentrate on being experts on HP-UX and Oracle, rather than HP-UX, Oracle, IBM MVS and DB2. Now we have the expertise and plenty of room for future business growth."

Michael Meinz
Director of Information Technology, General Mills

Cheerios, Hamburger Helper and Betty Crocker

General Mills, the maker of these well-known brands and many other consumer food products, planned to transition from SAP R/2 software running on a mainframe to SAP R/3, and needed a solution that could meet its always-on requirements for global implementation. Along the way, the company also had to deal with complex IT issues resulting from a planned acquisition of the Pillsbury Company.

The General Mills and HP relationship dates back to 1976, growing from a single HP 3000 to over 100 HP 9000s scattered throughout the company, mostly performing database functions. In 1995, the company installed the SAP R/2 enterprise resource planning application on an Amdahl mainframe.

When SAP released the latest version of its R/3 software, and began upgrading it with attractive add-on functions, General Mills began to consider migrating to another technology. The final impetus came when SAP announced plans to no longer support R/2.

performing due-diligence

"Before we could make a change," said Michael Meinz, Director of Information Technology at General Mills, "We had to take a good look at our hardware options, and deal with such issues as whether we should continue to run SAP on a mainframe or move to HP-UX, like many of our other applications. We also were faced with a diminishing workforce qualified on mainframes, not to mention the ever-increasing high cost of third-party software."

Seeking the independent advice of the Gartner Group, it was revealed that there were hundreds of companies running R/3 on a mainframe, whereas thousands were operating R/3 on the HP 9000 Enterprise Servers. Concerned about putting the company in position of vulnerability, Meinz reasoned that, "It was important to be in the mainstream, using technologies that were widely accepted in the marketplace and appealing to both current and potential employees."

Don Monk, Technical Architect for General Mills explained, "Since we were going to make some radical changes to our IT environment anyway, it made sense to simplify our technology, and at the same time, increase our proficiency. So we chose to stay with HP-UX and Microsoft Windows® 2000 as our core operating systems."

In the end, Meinz stated, "We selected the HP Superdome to replace our mainframe system because of the excellent performance levels achieved with their superior system design and modular architecture, and excellent track record of product quality and reliability."

Once the decision was made, considerable pre-planning was necessary. According to Meinz, "Before we took delivery, a lot of time was spent on getting the configuration exactly right. To help with this process, HP assigned a dedicated technician to investigate all our options and put together a detailed plan specifying exactly what was needed."

chilly installation, warm reception

General Mills took delivery of two Superdomes during the dead of Minnesota's winter. The temperature was so low, the installation team elected to put the servers in the data center and let them acclimate for a couple of days. Once the installation was complete, General Mills moved into its stress-testing mode.

Monk confirmed that, "Thanks to the Solution Lifecycle approach taken to the implementation planning by HP, the system was enabled and up and running in a matter of hours."

He noted, "During a couple of the stress tests we encountered some difficulties, not with the Superdomes, but with the SAP and Oracle software configurations. However, because we had HP's Critical Systems Support on the Superdomes, the problems were quickly

industry

consumer foods manufacturing

challenge

- **transition from SAP R/2 on a mainframe to SAP R/3 on a platform that could meet its demanding system requirements for global implementation**
- **ability to handle the planned integration of Pillsbury into the General Mills operation**
- **desire to simplify the company's IT infrastructure by reducing the number of vendors**

solution

- **two HP Superdome servers to host SAP R/3**
- **HP Critical Systems Support, MC/ServiceGuard and HP OpenView to maintain high availability**

results

- **the HP 9000 Superdome server provided the computing power that made the SAP R/2 to R/3 migration a success**
- **able to eliminate its mainframe technology environment**
- **HP's Solution Lifecycle approach enabled the system to be up and running in a matter of hours**
- **with the successful implementation of the HP Superdome and SAP R/3, General Mills now has the capacity to incorporate Pillsbury if the acquisition is approved, as expected**

resolved with assistance of the HP support team. They took ownership of the issues and coordinated with both Oracle and SAP to get us timely resolutions. We were very happy with this level of support; it goes a long way to helping us achieve our high-availability goals. After our very successful stress testing period, over a long Easter weekend, we performed the physical migration off the mainframe SAP R/2 onto the Superdomes running R/3."

With CSS support, the High Availability Observatory (HAO) software has been installed on the Superdomes. Meinz explained, "HAO continually monitors our hardware and, in the event of a potential failure, sends an alert to HP, who will dispatch a technician to make the needed repair before a problem reaches a critical stage."

Today, General Mills operates two Superdomes dedicated to SAP R/3. These are set up in a mission-critical HP MC/ServiceGuard automatic fail-over configuration hosting the central database and single instance. There are a further ten HP 9000 N4000 servers used to host the remaining SAP R/3 application modules. Multiple one-gigabit Ethernet backbones have been implemented for the SAP servers. "We knew that gigabit would give us a leg-up on performance," Meinz said.

Monk expressed pride over the general acceptance of the system within General Mills. "Our internal users love it. They're impressed with the performance, and everyone likes the new look and feel of the R/3 interface." Currently, there are approximately 2,800 users that can log on, with an average of 700 operating simultaneously. If the acquisition of Pillsbury is approved, as expected, Meinz anticipates this number will more than double.

storage environment and disaster planning

Today, both Superdomes have been set up in one data center. However, with an always-on approach, Meinz plans to locate another Superdome some distance away in its research center, which also serves as a disaster recovery center. To assure high availability, General Mills installed a fibre optic backbone between the data center and the disaster recovery location. A number of the test machines will be consolidated and replaced by a new Superdome, which will be configured to handle the majority of the SAP load in the event of a total disaster at the main data center.

Meinz confirmed that he operates the HP SureStore SC10 for local storage and that one SAP R/3 Superdome server is directly connected to an EMC 8730 disk storage system and the other Superdome server is connected to it via a SAN. The N- and L-Class servers being utilized as test machines are connected to the EMC storage system via a SAN too. Backup of the entire disk subsystems is handled by an HP SureStore E Tape Library 20/700 with LTO tape drives, and a capacity of 200GB per cartridge.

For systems management and network monitoring, Meinz utilizes HP OpenView Operations Manager and Network Node Manager to monitor all the devices on his network, including the Superdomes. He explained, "HP OpenView alerts us if there are any problems and in addition, we use Oracle Smart Plug-in and SAP R/3 Smart Plug-in to help monitor the application and database layers."

benefiting from R/3 on the Superdomes

The migration project that began as a by-product of the SAP R/2 phase-out dovetailed nicely with the planned acquisition of Pillsbury. "We are now well positioned to assume the workload that will come with an acquisition of this size," expounded Meinz. "Plus our decision to simplify our technology has resulted in a better focused IT team. And finally, we were able to cut our growing third-party software costs by migrating to the HP-UX environment."

Wrapping up his view of his relationship with HP, Meinz stated that, "HP has been an excellent long-term partner, a relationship that spans 25 years. We believe in dealing with vendors as strategic partners so we can leverage those relationships in our

customer at a glance:

General Mills

company: General Mills
headquarters: Minneapolis, Minn.
telephone: (763) 764-6364
URL: http://www.generalmills.com
primary business: international manufacturer and marketer of consumer food products

technology highlights

- **2 HP 9000 Superdome servers hosting SAP R/3 database and central instance**
- **HP SureStore SC10 for local storage**
- **10 HP 9000 N4000 servers hosting SAP R/3 application modules**
- **HP-UX 11i operating system**
- **HP SureStore E Tape Library 20/700 with LTO tape drives, 200GB per cartridge**
- **EMC 8730 disk storage system**
- **HP OpenView Operations Manager with SAP and Oracle SPIs**
- **HP OpenView Network Node Manager**
- **HP Critical Systems Support**
- **HP MC/ServiceGuard**

infrastructure, applications and services. Further, maintaining a relationship with only a couple of quality partners, rather than hopping around from vendor to vendor, has, in the long-run, really paid off for General Mills."

For more information on how working with Hewlett-Packard can benefit you, contact your local HP service representative, or visit us through the Internet at our World Wide Web address: http://www.hp.com

www.generalmills.com

Printed in USA M0701
5980-6948EN