



General Mills Backs up a Global Enterprise with NovaStor

Summary

General Mills, with annual net sales of \$12.3 billion, is a leading global manufacturer and marketer of consumer foods products. The scope of General Mills' global activities and the size of the enterprise necessitate constant data availability to be achieved with the most economically efficient, high performing backup and restore process. At General Mills' headquartered data center, NovaStor DataCenter currently backs up more than 16 TB per day at a peak rate and on a single server of more than 2.5 TB in five hours, including full verification of the backup.

Challenging Demands of a Global Enterprise

General Mills' global brand portfolio includes Betty Crocker, Pillsbury, Green Giant, Häagen-Dazs, Old El Paso and more. General Mills produces and markets more than 100 U.S. consumer brands, more than 30 of which generate annual retail sales in excess of \$100 million. General Mills is also a leading supplier of baking and other food products to the foodservice and commercial baking industries. General Mills' global business partners expect the enterprise to operate without interruption. Due to the high data volumes General Mills backs up every day, they require a high performance solution that makes the best use of their disk and tape storage hardware. Additionally, General Mills faces a constant growth rate in both their SAP and non-SAP applications

that requires fast, scalable backup and restore software.

General Mills Chooses NovaStor for Fast Backups and Low Costs

After the acquisition of HP9000 servers, General Mills wanted to introduce a backup and restore capability that tapped the full potential of their disk and tape storage infrastructure. The ability to quickly back up an entire server including all file systems and directories in one backup job was a key requirement. Based on extensive tests, General Mills chose NovaStor DataCenter due to its extraordinary performance, scalability, and availability of the software results in minimal downtime.

In the subsequent years, NovaStor DataCenter has met General Mill's backup and restore demands confirming their decision about NovaStor's software. NovaStor DataCenter has contributed to the reduction of the enterprise's overall backup and restore costs by enabling the optimal use of hardware components. Also, NovaStor DataCenter's unique and efficient data mover requires little resources while it reads and writes data at an extraordinarily high speed. Furthermore, the solution has allowed General Mills to meet the ever growing performance requirements caused by increasing disk storage in the headquarters data center from roughly 20 TB in the mid-'90s to more than 100 TB today.

Business Benefits

- Constant data availability for business continuity
- Minimal downtime for full productivity
- Optimum use of resources for cost savings
- Fast and continuous return on investment

Customer Quote



"NovaStor DataCenter has been consistently fast not only when backing up, but also when restoring data."

(Mike Meinz, Director of Information Technology at General Mills)

Constant Data Availability and Excellent Performance

Beyond providing backup and restore software, NovaStor has also been a reliable partner to General Mills by being responsive to their changing technology and data needs. For example, to enhance General Mills' backup performance, NovaStor increased the number of parallel read processes from 50 to 100. Additionally, NovaStor improved General Mills' backup performance by providing adjustable read and write block sizes as a part of their backup and restore software. By using the highly flexible open interfaces of the software, General Mills has integrated NovaStor DataCenter seamlessly into its IT infrastructure.

Moreover, General Mills not only automated all backup processes, but also, automated all pre- and post-processes, such as closing a database before it is backed up. Today, General Mills backs up business-critical data from SAP R/3 and other Oracle-based applications running on HP9000 PA-RISC and IA-64 servers. To store the backup data, General Mills uses four 20-drive LTO tape libraries and creates 130 LTO-I tape cartridges per day. The daily backup volume presently

totals more than 16 TB. NovaStor software products play a crucial role in handling these daily data volumes. Within General Mills' headquartered data center, NovaStor DataCenter transfers the data from the HP9000s via SAN ports to the tape library in-frastructure at a sustained speed of 25 MB/sec per tape drive. One of the backup jobs uses 13 tape drives simultaneously for an aggregate backup rate greater than 300MB/sec. In a subsequent pass, the NovaStor DataCenter backup and restore software verifies that no errors occurred during the backup at sustained verify speed of 30 MB/sec per tape drive.

General Mills and NovaStor – An Outlook

General Mills counts on the comprehensive backup and restore software features as well as the data continuity expertise that NovaStor has demonstrated in the past. "NovaStor has been a reliable, strong partner, and responsive to General Mills' requirements and feature requests for our business-critical data backup and restore issues over the last decade," comments Mike Meinz, Director of IT at General Mills.

Technical Benefits:

- **Backup volume:**
16 TB/day
- **LTO-I tape cartridges:**
130/day
- **Max backup speed:**
25 MB/sec per tape drive
- **Max verify speed:**
30 MB/sec per tape drive

"Achieving high performance is important to us. NovaStor provides a software architecture that enables us to continuously reach our ambitious backup performance goals by using our disk and tape storage infrastructure in an optimal manner. The high speed, scalability and cost of ownership of NovaStor's products are unique among backup and restore software products and are essential for our daily business."

(Mike Meinz, Director of Information Technology at General Mills)

At a glance

General Mills is a leading global manufacturer and marketer of consumer foods products. Annual net sales: 12.3 billion USD.

Total disk storage:	Greater than 100 TB in SAN
Backup Clients:	22 HP9000 servers backup to other HP9000s
Backup Servers:	23 HP9000 servers backup to tape libraries 32 HP9000 servers backup to individual tape drives
Tape libraries:	Four 20-drive LTO-I libraries
Server SAN ports:	105
Tape library SAN ports:	40
Operating systems:	HP-UX, planned: Linux



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