# Heritage Foods Ltd.

The poor performance and reliability of Heritage Foods Ltd.’s existing platform for SAP ERP was causing delays and lost sales. By migrating from UNIX to SUSE® Linux Enterprise Server for SAP Applications, the company boosted performance, increased availability and fault tolerance, and reduced costs. With SAP ERP on the SUSE operating system, Heritage Foods Ltd. is better equipped to get the right stock to the right stores at the right time, increasing customer satisfaction.

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## Overview

The Heritage Group, founded in the year 1992 by Mr. Nara Chandrababu Naidu, is one of the fastest growing public listed companies in India, with five business divisions—Dairy, Retail, Agri, Bakery and Renewable Energy—under its flagship company Heritage Foods Limited. Currently Heritage’s milk and milk products have a market presence in Andhra Pradesh, Telangana, Karnataka, Kerala, Tamil Nadu, Maharashtra, Odisha and NCR Delhi and its retail stores across Bangalore, Chennai and Hyderabad.

## Challenge

Since deploying SAP ERP on a proprietary distribution of UNIX in 2008, Heritage Foods Ltd. had seen steady business growth take a heavy toll on performance and availability. The chosen platform for this mission-critical environment was increasingly struggling to meet the company’s expectations.

Srikant Pachigolla, Senior Manager, IT, at Heritage Foods Ltd., said: “SAP ERP runs many aspects of our retail business from financials and cost accounting to sales and distribution and from warehouse management to human resources. Given the criticality of the system, we needed to significantly improve the performance and reliability. We also found that the platform was expensive to run and to upgrade.”

One of the key problem areas for Heritage Foods Ltd. was ensuring reliable integration between Microsoft SQL Server databases running in its stores and the central SAP system. Data on sales, stock levels, pricing and promotions is exchanged overnight between these systems, and challenges with VPN connectivity made it hard to ensure that all the necessary transfers took place outside of store opening times. At times, this was impacting Heritage Foods Ltd.’s ability to get the right stock to the right stores in a timely manner, ultimately leading to missed sales opportunities.

“The integration between SQL Server and iDocs on SAP ERP was problematic, and we also had availability issues with our SAP applications,” said Srikant Pachigolla. “In general, response times for SAP were too high, and occasionally background jobs would fail to complete in time for the

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## Results

- Cut 50 percent from IT capital and operational costs by embracing Linux
- Gained a reliable, high-performance, easy-to-manage platform for SAP ERP
- Enabled high availability at low cost, with near-zero RPO
- Boosted performance, cutting runtime for SAP jobs by up to 93 percent

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### Heritage Foods Ltd. at a Glance:

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<th>Industry and Location</th>
<th>Retail, India</th>
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<td>Products and Services</td>
<td>SUSE Linux Enterprise Server for SAP Applications, SUSE Linux Enterprise Server</td>
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**SUSE Linux Enterprise Server for SAP Applications** gave us the confidence we needed: the OS is tightly integrated with the ERP system and is built for SAP. It not only gave us cost benefits but also enabled our move to x64.”

-SRIKANT PACHIGOLLA  
Senior Manager IT  
Heritage Foods Ltd.
start of the working day. We also had I/O issues in the data storage layer, and backing up or restoring data took too long, so our ability to recover rapidly in the event of a disaster was in doubt.”

Solution
With the aim of reducing costs, improving performance and enhancing availability, Heritage Foods Ltd. rejected upgrading its existing platform for SAP ERP. “The cost of new hardware for our existing platform was much higher than for Intel-architecture systems, and we did not want to be locked into a proprietary architecture any longer,” said Srikant Pachigolla. “Equally, we had only a partially virtualized environment, and we knew it would cost too much to get the degree of flexibility and sophistication we wanted in virtualization.”

Heritage Foods Ltd. reviewed the leading distributions of Linux, and selected SUSE Linux Enterprise Server for SAP Applications running on Cisco UCS servers as its new platform for SAP ERP. “At the time of selection, SUSE was the only Linux vendor to have a well-developed support network in India, and we also wanted to take advantage of having an operating system adapted specially for the demands of SAP ERP,” said Srikant Pachigolla. “A further attraction of the SUSE solution was that it includes high-availability components for servers, storage and network at no extra charge.”

SUSE Linux Enterprise Server for SAP Applications is a tailor-made distribution of Linux specifically tuned for SAP software. SUSE runs a completely separate update channel for this distribution, pretesting all new and updated packages and reverting to the last good version of any package that is found to create problems in SAP—whether in terms of performance, security or stability. The company then works to fix the faults in the package so that it can be safely added back into the main branch of the distribution.

The SAP landscape at Heritage Foods Ltd. is fully virtualized using VMware ESX Server 6.0 and uses the SUSE Linux Enterprise High Availability Extension to cluster application servers in the primary data center. For protection against disaster, the company operates a secondary data center, asynchronously replicating the SAP data at the Oracle database level using EMC RecoverPoint software. “We cannot afford to lose any data, so we set a target of near-zero Recovery Point Objective (RPO),” said Srikant Pachigolla. “Our Recovery Time Objective (RTO) is less critical—we can tolerate a couple of hours of downtime in the event of a disaster—so asynchronous replication of data to the secondary data center was the option that made the most sense economically.”

EMC RecoverPoint enables point-in-time database recovery in the primary data center, working with the SUSE high-availability components to support continuous local production. Certified by SAP, the SUSE Linux Enterprise High Availability Extension provides not only a clustering solution for application servers, but also solutions for high-availability storage and network load-balancing—all delivered and licensed as part of SUSE Linux Enterprise Server for SAP Applications.

Heritage Foods Ltd. is using a kernel-tune option in the SUSE operating system to optimize performance for its SAP workloads. As standard, the Linux kernel swaps out any rarely-accessed application memory pages, using these freed-up pages as a cache to accelerate file system operations. However, some SAP applications require large amounts of memory to ensure fast access to data—and some of this memory is accessed very infrequently. If the application needs to access memory that has already been paged out by the kernel, this will naturally result in impaired response times. The kernel-tune option instructs the kernel to avoid paging out application memory once the page-cache is filled to the configured limit. Using this feature, Heritage Foods Ltd. is able to limit the amount of page-cache used by the Linux kernel whenever there is competition between the application memory and the system page-cache, thereby avoiding the possibility of degraded performance.

Results
Looking first at the technical benefits, Srikant Pachigolla cites the tight integration between SAP ERP and SUSE Linux Enterprise Server for SAP Applications, which includes a number of SAP-specific libraries, configuration tweaks and a SAP-specific update channel. He said, “The SUSE operating system’s built-in libraries eliminate compatibility-related issues, and the deployment wizard enables us to get new SAP applications up and running very quickly. We also benefit from a single point of support via SUSE for the entire SAP ERP stack—even in practice we have had almost no requirement for support, such is the reliability of the solution.”

Heritage Foods Ltd. also achieved its objective of reducing capital and operational expenditure: hardware and software costs have been cut in half, and the company can run as many virtual instances of the SAP ERP stack—though in practice we have had almost no requirement for support, such is the reliability of the solution.”

Beyond the immediate benefits to the IT function and its budgets, the solution has also had a significant positive impact on the business. Migrating from UNIX to SUSE Linux Enterprise Server for SAP Applications on Cisco UCS resulted in immediate and dramatic performance improvements for Heritage Foods Ltd.
The response time for a sample of 100,000 screen changes in SAP has fallen from 1,909 seconds to 455 seconds, a reduction of 76 percent, and the time taken to process inbound iDocs from the stores has fallen from 3 hours 42 minutes to just under 51 minutes—a 77 percent reduction. Heritage Foods Ltd. has seen similar percentage reductions for a number of other common SAP jobs: for example, the time required to prepare and deliver purchase orders to vendors for direct store delivery has come down by 59 percent, 81 percent and 60 percent for the Bangalore, Chennai and Hyderabad stores respectively. Meanwhile, the time required to determine Stock on Hand for the Bangalore stores is 93 percent lower.
“Although the number of retail outlets grew from 70 to 110, there was no impact on system performance. SUSE Linux Enterprise Server provides a risk-free platform that enables us to concentrate on business initiatives rather than spending time on terminal access.”

SRIKANT PACHIGOLLA
Senior Manager IT
Heritage Foods Ltd.

“Migrating to SUSE Linux Enterprise Server for SAP Applications has significantly reduced the runtime for SAP jobs right across the board,” said Srikant Pachigolla. “Direct users of the SAP applications also benefit, with much faster response times and less waiting for reports. The performance of the new environment is awesome, and we are very happy with it.”

The combination of faster disk performance, higher network speeds and backup compression has massively increased the speed of backup and recovery for the SAP environment. The previous RTO was estimated at 16 hours; today, the tested time for full recovery in the secondary data center is just two hours. With full virtualization from VMware and clustering handled by the SUSE Linux Enterprise High Availability Extension, the primary environment is also far more resilient and can tolerate up to three simultaneous physical server failures without interruption to the SAP applications. All of this means that Heritage Foods Ltd. is confident that its systems will be ready to serve the business and its customers.

“We essentially have 100 percent availability for our SAP landscape, and ultimately that means Heritage Foods Ltd. is always able to bring the best products at the best prices to our customers,” said Srikant Pachigolla. “We no longer have concerns about late deliveries or out-of-stock situations, so customers get what they want in-store and we maximize our sales performance.”