

AMCOR RIGID PLASTICS

Manufactures a Winning Archiving Strategy

by **Lauren Bonneau**, *Managing Editor*

When a business increases sales and operations through expansion, acquisition, and organic growth, it typically experiences some intense growing pains, especially when an ERP rollout is involved. As the amount of data in an ERP system multiplies, so does the negative impact on system performance, stability, and availability. In addition, total cost of ownership and data center costs rise.

As the world's largest packaging company, Amcor offers exclusive and innovative solutions that are at the forefront of the packaging industry. Amcor Rigid Plastics, a division of Amcor, manufactures packaging for food & beverage, personal & homecare, spirits/wine & beer, and pharmaceutical businesses throughout North and South America. In the past decade, the division has gone through enormous change in terms of sales revenues, acquisitions, and technology advances. About six years after going live with SAP software in 2001 — and integrating a couple acquired business units — the ERP database was getting too big, and the division began an archiving effort to address the challenge.

“Our system transactions and response times were getting slower, and the system was going through periods of intense activity where transactions were locking,” says Rob Bobba, Senior SAP Business Analyst at Amcor Rigid Plastics. “When we began experiencing severe system performance issues during days of aggressive business operations, it became obvious the system could no longer handle the increased volume of data.” In addition to acting as project manager for the archiving initiative, Bobba provides technical insight, coordinates application upgrades and database migrations, and oversees the production planning and demand planning for SAP Supply Chain Management (SAP SCM).

For the first several years on SAP ERP, the system data grew at a manageable pace. But in 2005, the data started increasing exponentially. “Our data growth picked up a lot of speed at this time because of acquisitions, business units, and new applications we added to our single ERP instance,” says Bobba. “Our system was becoming unmanageable in responsiveness for real-time and batch-processing transactions, and we knew we had to begin archiving.”

In addition, Amcor Rigid Plastics contracts with an outside hosting partner to house and maintain its SAP systems, as well as provide the Basis support — and the data center costs for this service are proportional to the size of the database. “Our data center hosting costs were increasing rapidly, and we had to find a way to control the data growth,” he says.

Start with the Low-Hanging Fruit

When Amcor Rigid Plastics started phase one of its archiving project in 2007, the project team didn’t have to implement too many tools or technologies such as a constant repository. This phase simply involved using the SAP Archive Development Toolkit (ADK) that removes data from the database and transfers it to the file system, which speeds the transactions that run on the database because there is less data to search through. The data that was initially archived in Amcor Rigid

Plastics’ file system was the low-hanging fruit that users would never need to retrieve. This simpler part of the project was completed in the fall of 2007.

The company knew that phase two of the archiving strategy would be more strenuous and require outside help because it involved continuous system performance improvements, and ensuring that the SAP ERP workers could retrieve from the system any relevant data that would be needed beyond a one-year time-frame. This information consists of data regarding inventory, the general ledger, profit center accounting, deliveries, invoices, purchase orders, and so on. “Our SAP system is very critical to our production planning and sales and distribution, so it needs to be stable and available to the business 24/7,” says Bobba.

One particular business area had been experiencing slow system performance, for example. Plant workers connect to SAP ERP from a shop-floor Manufacturing Execution System to enter warehouse movements, production receipts, and confirmed sales deliveries. “Executing those production floor transactions involved a tremendous amount of data flowing to the ERP system,” says Bobba. “Those transactions weren’t getting processed with sub-second response times, and the system was becoming overwhelmed.”

Also, because Amcor Rigid Plastics uses SAP ERP as its inventory and accounting book of record, every transaction in the company, no matter where it originates, ends up in the ERP system. “Our workers run scores of reports from our ERP system

every day, and they need to be able to run them quickly,” he says. “For example, when finance and operations workers ran daily inventory or customer-aging reports or entered general ledger accounting credits and debits, the transactions were taking too long and interfering with their work-day.” The business wanted to prevent instances where workers had to come in during evening or weekend hours to finish their business transactions.

In order to move on to phase two and complete the archiving project so that workers could easily access their relevant data for transactions or reporting, Amcor Rigid Plastics wanted to implement a solid solution that would retrieve the archived data back into the SAP system. So began the development of a business case for this part of the archiving project.

Building a Business Case for Archiving

The next step in the archiving initiative was to hire SAP consultants to perform analysis and play an advisory role, making recommendations for the best course of action. The actual project team consisted of three people from Amcor Rigid Plastics: Bobba, his counterpart — an SAP technical business analyst for the Latin American countries — and a security analyst.

The initial task the project team tackled was to go through the customer case studies presented at SAP conferences and reach out to experts from SAP partners and even other SAP customers — including team leads and project managers. It took almost six months of background work to determine which way to go. One factor to consider was how the business workers would access the archived data. Another consideration was how to make the archived data reside in Amcor Rigid Plastics’ data center, versus the hosting provider’s data center. “We wouldn’t get a lot of the benefits if we continued to keep the archived data at our hosting provider, so we wanted to transfer it over to our data center,” says Bobba.

The project team also went through multiple presentations from different

At a Glance

Objective: Reduce costs, stabilize database growth, and increase SAP ERP system performance and availability

Solutions: Implemented an archiving strategy

Benefits: Significantly increased system response times and reduced total cost of ownership



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— **Rob Bobba**, Senior SAP Business Analyst, Amcor Rigid Plastics

Company Snapshot **Amcor**

Headquarters: Melbourne, Australia

Industry: Manufactures packaging at 300+ sites in 42 countries

Revenue: \$12 billion

Employees: 33,000

Divisions: Flexibles Europe & Americas, Flexibles Asia Pacific, Tobacco & Specialty Packaging, Rigid Plastics, and Australasia & Packaging Distribution

Company details for Rigid Plastics division:

- Headquartered in Ann Arbor, Michigan
- \$3.4 billion revenue (USD)
- 6,600 employees
- 65 plants in 12 countries

SAP solutions for Rigid Plastics division:

- SAP ERP 6.0
- SAP SCM 5.0
- SAP SRM 7.1
- SAP CRM 7.0
- SAP NetWeaver BW 7.1
- SAP NetWeaver Portal 7.1
- SAP NetWeaver MDM 7.1
- SAP Solution Manager
- SAP BusinessObjects solutions 4.0
- SAP BPC 7.0

vendors selling their solutions, and at SAP's annual SAPHIRE event, Bobba met with some of these vendors, including the CEO of Dolphin Enterprise Solutions (Dolphin). "Once I talked with the Dolphin folks about their PBS solution, I felt comfortable with their SAP archiving knowledge and that they knew how best to handle storing the archived data in a separate data center from where the SAP systems reside," says Bobba. "I gained a lot of confidence in the company and chose to implement the PBS tool on top of SAP ERP. What cemented the decision was that the PBS transactions were the ones that most impressed workers while we demoed the different solutions." (See the sidebar to the right for more details about Dolphin's role in this archiving project and the PBS tool.)

With the help of Dolphin consultants to augment the project team, Amcor Rigid Plastics was ready to undertake the second phase of the archiving initiative — beginning with a business case project proposal presented to the steering committee in 2008 for approval. The proposal included charts and graphs based on actual data in the system to show performance issues that would affect the business as well as cost savings projections that demonstrated the project would pay for itself within two years. The analysis also quantified annual savings as a result of managed data growth, showing an increase year over year, as more data is archived.

"We could clearly see how the data growth was accelerating every year, so we drew up a projection of how we thought the system response time would get worse in a 10-year period without archiving," says Bobba. "One major benefit of archiving is that it increases system stability and makes your system more available and efficient for the business. We wanted to demonstrate how archiving would not only cut and control data storage costs, but also improve efficiency and running of our operations."

The team created a graph that demonstrated improvements to system performance, measured in seconds. SAP's recommendation is to have a system response time below two seconds. "We projected that we could bring down the response time with archiving significantly and keep it under control and under two seconds through 2014. And if the response time goes past four seconds, then we can no longer guarantee a stable system for our business," says Bobba.

Results Surpass Projections

Phase two of the archiving initiative took roughly one year to complete from beginning planning stages to go-live. The project began in 2009 when the proposal was approved and was completed in April 2010. Initial results actually exceeded both the performance target as well as the estimated projection for data storage cost reduction.

"Where we are right now in 2012 is better than what the projection shows, and that was the case for 2011 and 2010 as well," says Bobba. "Without these results, it would have been difficult to roll out our SAP template to the operations in South Central America and the new operations we gained from acquisitions. The newly added plants doubled our transaction volume in the SAP system, and we maintained our single ERP instance strategy to keep our costs under control."

In fact, actual savings at Amcor Rigid Plastics were better than the projections. "We have exceeded the savings with a combination of archiving and database compression, but clearly the archiving savings are much higher than projected," he says.

When referring to the growth of Amcor Rigid Plastics' database, the size represents the sum of the production system, the quality test system, and disaster recovery system databases. (The quality test and disaster recovery systems are both copies of the production system.) IT copies production to quality periodically and replicates the production data to the disaster recovery system every 15 minutes. Therefore, the total database savings reflects all three versions of the ERP system.

The database size for the ERP systems and its copies was projected to reach 15TB in 2012 without archiving and 9TB with archiving. Instead, the current total size in 2012 is at 4TB with archiving, database compression, and total database reorganization.

"When you archive, you are reducing the data in the production system as well as the quality test and disaster recovery — so in a sense, you have triple the savings," says Bobba. "We beat our projections pretty conclusively."

When a business first archives its data it sees significant savings initially because it is removing several years of data right off the bat and huge decreases are realized. Subsequent years see less savings, but still savings nonetheless.

"But as you implement new archive objects, you see additional benefits. This year, we've implemented another archive object that will save more storage space," he says. "Going forward we expect a half a TB of savings every year as we continue to archive."

Lessons Learned

Because the project team was well prepared for the archiving initiative, there weren't many hurdles along the way. However, one thing that surprised Bobba was the amount of ABAP coding that was needed and the complexity of this coding. "Because it involves dealing with two different data sources — one from the main database and one from the archive files — and plugging them together, the work takes a high level of skill. You need a very good ABAP programmer for this project," he says. "There were many custom reports that still needed to read from the archived data, so we had to train our in-house resources on how to do that extensive ABAP work."

To help with this coding, an ABAP programmer from Dolphin came on site for a couple of months and then continued to assist the project team from an off-site location.

One piece of advice that Bobba would like to pass on to others undergoing archiving initiatives is to go to the latest support pack. "Make sure you schedule your support pack upgrades and get them approved ahead of time — and then take up archiving," he says.

Next for Archiving

The more applications that Amcor Rigid Plastics goes live with, the more the business discovers opportunities to archive new data. According to Bobba, the team will implement archiving in other SAP systems as the need arises. "The next step for Amcor Rigid Plastics is to keep up with the evolving technology and to implement archiving in our SAP NetWeaver Business Warehouse system," he says. "This application is very important to our company, and we need to keep it efficient."

The business intends to keep up with advances in product offerings such as SAP NetWeaver Information Lifecycle Management and the Nearline Storage solution from Dolphin.

In addition, the company plans to take a close look at its data decommissioning and retention policies. "We will also look at deleting data that shouldn't be kept any longer beyond its life," says Bobba. With all of these considerations, Amcor Rigid Plastics will confidently run to its optimal level by maintaining system efficiency and controlling costs. ■

A Step-by-Step Approach to Data Management Success

Focused on improving business performance through information lifecycle management (ILM) and transformative business process management (BPM) solutions, Dolphin assists SAP customers with complete SAP data and document archiving solutions for SAP ERP and SAP NetWeaver Business Warehouse, as well as offers ILM and BPM strategies for all SAP systems. For nearly 20 years, Dolphin has been helping companies improve business and IT performance, lower total cost of ownership, and deliver a high return on investment.

Dolphin helped Amcor Rigid Plastics lower platform costs and accelerate performance by implementing a solid and robust data archiving strategy for its SAP system. Dolphin took a phased approach to the implementation, which involved getting project sponsorship and buy-in from the business. The solution included implementing archive retrieval software from PBS so that business users can now transparently access and retrieve archived data from the SAP system the same as they do "live" data. Amcor Rigid Plastics was able to decrease the size of its database and stabilize growth. The business also reduced data center costs by storing the archived data at its own facility instead of an outsourced data center. The Dolphin team also helped Amcor Rigid Plastics respond to Internal Revenue Service (IRS) audits faster and maintain compliance with internal audit requirements.

An ideal ILM strategy improves database performance, increases control over data retention and destruction policies, addresses regulatory compliance, and mitigates risk. It also lowers costs by aligning the type of storage and access with the value of the data to the business. For SAP users, the Dolphin platform delivers an agile set of technologies including data archiving, retention management, legacy decommissioning, and SAP NetWeaver BW archiving for efficient management of data and documents.

To learn more, visit www.dolphin-corp.com/information-lifecycle-management or email contact@dolphin-corp.com.



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