



# ARaymond

Manufacturers of specialized products such as cars, pharmaceutical products, and industrial machinery require suppliers to provide rapid, reliable services 24/7. That's why ARaymond, one of the leading manufacturers of assembly solutions, set out to evolve its IT infrastructure with SUSE Linux Enterprise Server for SAP Applications and the SUSE® Linux Enterprise High Availability Extension. By strengthening stability and availability, these solutions help ARaymond maintain its long-held reputation for excellent customer service.

## Overview

Since its creation over 150 years ago, ARaymond has grown into a leading manufacturer of fastening and assembly solutions. The company provides specialist parts for the automotive, industrial, agricultural, pharmaceutical, and energy sectors, and has 25,000 assembly solutions currently in production. Most vehicles globally contain on average 500 ARaymond components.

ARaymond has a truly global presence, with 6,500 employees in 26 manufacturing sites across four continents, and generates more than 1 billion euro in annual revenues—a figure that almost tripled

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MARC COSTE

SAP Technical Leader  
ARaymond

between 2004 and 2016. With over 1,600 patents and six percent of annual turnover invested in research and development, ARaymond is committed to innovation and engineering excellence.

## Challenge

To maximize productivity and minimize waste, manufacturers in the automotive, industrial, and pharmaceutical industries typically work to a just-in-time (JIT) production model. For assembly lines to run smoothly and cost-effectively, suppliers to these manufacturers must deliver precisely on schedule—or face significant financial penalties, not to mention reputational damage.

Jérôme Rézé, Infrastructure Director at ARaymond, comments: “For companies that run lean assembly operations, waiting for components is simply not an option. Our business success at ARaymond is dependent on our continuing ability to produce and distribute fastening devices and assembly solutions quickly and efficiently. Any delay in delivery could lead to a very costly break in manufacturing for our customers, potentially triggering penalty clauses and negatively impacting

## Case Study

SUSE Linux Enterprise Server for SAP Applications  
SUSE Linux Enterprise High Availability Extension  
SUSE Manager



## ARaymond at a Glance:

*Established in 1865, the ARaymond network develops, manufactures, and markets fastening and assembly solutions for manufacturers across industries.*

### ■ Industry and Location

Manufacturing, worldwide

### ■ Product and Services

SUSE Linux Enterprise Server for SAP Applications  
SUSE Linux Enterprise High Availability Extension  
SUSE Manager

### ■ Results

- + Controls IT costs in an expanding SAP landscape
- + Supports just-in-time operations and exceptional customer service by boosting availability
- + Reduces management workload for IT staff, freeing up time for innovation
- + Provides a stable, reliable model for future growth—aiding global expansion

ARaymond's reputation as an industry leader."

To support the company's commitment to exceptional customer service, ARaymond created an internal IT services division—ARaymond IT Technology—with 170 employees supporting a total of 130 applications for 4,500 internal users. A key centralized service provided by ARaymond IT Technology is SAP ERP applications, which are offered as standard to all the parent company's global business units.

With SAP set to withdraw support for all other databases, ARaymond IT Technology decided to move early to the SAP HANA database, giving itself time for a smooth, non-disruptive migration of key business systems.

Marc Coste, SAP Technical Leader at ARaymond, comments: "We knew we needed to make the migration to SAP HANA within a few years, and we decided to reduce the risk and disruption by starting the process early. This approach allowed us to take our time and build up experience in migrating less critical systems, before we tackled the all-important production landscape."

He adds: "Moving ahead with the migration to SAP HANA was also a way to address some performance issues that had emerged in our SAP business intelligence landscape. We had upgraded to SAP BI 4.0, and users were complaining that reports that previously took 30 seconds were now taking several minutes to complete. We upgraded to BI 4.1, and spent a good deal of time trying to optimize the solution. However, we eventually hit the limits of the architecture, and the only answer was to migrate to SAP HANA."

## **Solution**

To support its new SAP HANA database servers, ARaymond chose SUSE Linux Enterprise Server for SAP Applications, together with the SUSE Linux Enterprise High Availability Extension.

Jérôme Rézé comments: "We initially considered implementing Red Hat Enterprise Linux on a larger scale, as we have been using this solution for some non-SAP applications for a number of years. However, when we worked with our partner TeamWork to consider the plus and minus points of each distribution, we quickly saw that the vast majority of the SAP market is on SUSE Linux Enterprise, which implied a very strong ecosystem for SAP software around the SUSE operating system. The commercial offer for SUSE Linux Enterprise Server for SAP Applications was also more attractive, and we liked the idea of having a release specifically tailored to the demands of SAP solutions."

Marc Coste adds: "Moreover, because SAP develops its own software on the SUSE operating system, we believed that we would stand to benefit from the synergy between the two solutions. Equally, the bundling of the SUSE high-availability component offered an economic way to support our requirements for always-on SAP systems, compared with competitive offerings."

As the first step in its global migration plan, ARaymond migrated its SAP business intelligence landscape from Oracle Database on Microsoft Windows to SAP HANA on SUSE Linux Enterprise Server for SAP Applications. In technical terms, the migration presented a number of challenges. ARaymond needed to change its server hardware, operating system, and

database, and do so quickly, with minimal disruption to ongoing business.

"Tackling the BI landscape gave us an opportunity to build up our experience and test our migration plans with a non-critical system," says Jérôme Rézé. "It also enabled us to address user concerns around degradation in reporting speed, and to demonstrate that SAP HANA would offer improved performance over the previous database platform."

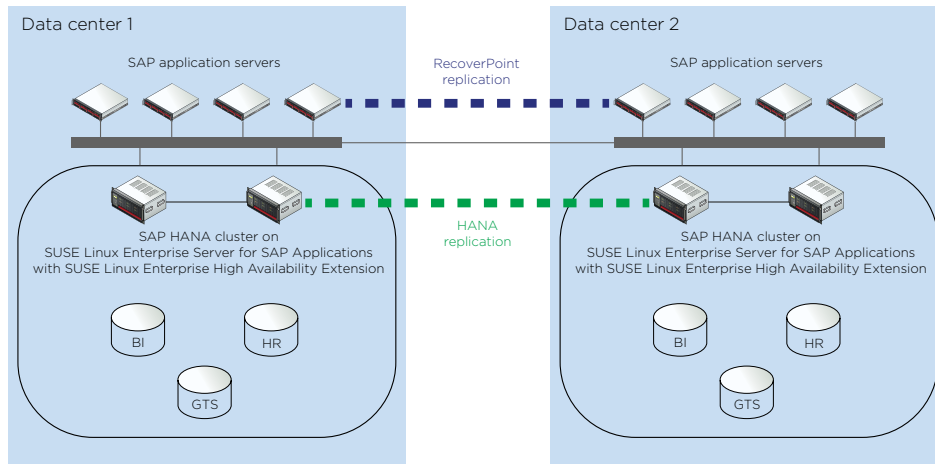
To maximize flexibility and scalability, particularly in its data storage infrastructure, ARaymond chose the SAP TDI (Tailored Datacenter Integration) approach. This enables SAP HANA to be deployed on existing hardware rather than on the pre-built appliances required when SAP HANA first launched.

"The TDI approach enables us to invest in data storage resources that can be shared with other software landscapes," comments Marc Coste. "We prefer to have infrastructure that we can manage ourselves, rather than black-box solutions. We also saw that the trend in the SAP market is towards TDI."

He adds: "We were very pleased with how smoothly the migration of the business intelligence landscape ran, and this positive experience continued as we went into production, confirming the validity of our plan to move the rest of our SAP environment to SUSE Linux Enterprise Server."

Building on the success of this initial migration, ARaymond has turned its attention to migrating other non-core SAP applications to SAP HANA, including HR and CRM. With these projects under its

## ARaymond SAP Infrastructure



belt, the organization will be well prepared to complete the migration of its production SAP ECC environment to SAP HANA.

ARaymond is currently running four production instances of SAP HANA—one for each group of mission-critical SAP applications. Jérôme Rézé comments: “SAP publishes a matrix of compatibility to show which applications can share the same SAP HANA instance. Because of the mix of applications we run, we need to have four multi-tenant instances in production, and we have further instances for testing and development. Of course, it’s really two sets of four production instances, because everything is replicated in our second data center.”

To enable rapid recovery in the event of a disaster, and to facilitate planned shutdowns for system maintenance, ARaymond uses server clustering within each data center (powered by the SUSE Linux Enterprise High Availability Extension) and replicates SAP data at the level of the SAP HANA

database between the two data centers. Jérôme Rézé comments: “We handle the DC-to-DC replication at the database level, because this enables faster re-starts. Without the SAP HANA data replication, in the event of a re-start we would have to allow an extra 15 or 20 minutes to get all of the SAP database into memory in the second data center.”

The infrastructure in the two ARaymond data centers is identical; if any workload is re-started in another center, the organization will continue to run it there until the next failover exercise. This means both data centers can support the SAP production workload at any given time.

For any major migration project, it is common to bring in external support in key areas, and ARaymond’s SAP HANA migration was no exception. The company continues to work with two partners: TeamWork and Delaware. “We worked initially with TeamWork to plan the project, to procure and install the new server

and storage hardware, and to procure the SUSE licenses,” says Jérôme Rézé. “The configuration and set-up of SAP HANA was mostly in collaboration with Delaware—although TeamWork also has competence on the software side, and provided training for our technical teams in managing SUSE Linux Enterprise Server. We have had a positive experience working with both partners, as well as directly with SUSE in pre-sales—everyone we’ve encountered has been highly professional and a pleasure to work with.”

Knowing the migration to SAP HANA would add significantly to its virtual server landscape, ARaymond planned from the outset to deploy SUSE Manager to simplify the implementation and management of VMs. The company is currently managing around 100 SUSE Linux Enterprise VMs (running on the VMware hypervisor across 12 physical servers).

Marc Coste comments, “SUSE Manager is easy to use and is saving us time in deploying new virtual servers. It also helps us manage the standardization of configurations across servers, which helps with reducing the complexity of our SAP landscape.”

## Results

ARaymond is successfully forging ahead with its strategic migration to SAP HANA on SUSE Linux Enterprise Server for SAP Applications with the SUSE Linux Enterprise High Availability Extension. The SUSE technologies help keep costs under control, simplify system management, and provide a stable platform for the continued growth of the SAP landscape.

“With SUSE, all the components we need to run SAP HANA are included in the single

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**JÉRÔME RÉZÉ**

*Infrastructure Director,  
ARaymond*

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license for SUSE Linux Enterprise Server for SAP Applications,” comments Marc Coste. “This helps keep costs low as we expand our SAP landscape, while reduced administration frees up staff resources to focus on migration activities, and on optimizing our business services.”

Thanks to the SUSE Linux Enterprise High Availability Extension, ARaymond’s SAP HANA landscape is very stable—an important consideration for a global business serving manufacturers in just-in-time industries. Indeed, as part of ongoing technical discussions with SUSE, ARaymond is planning to implement SUSE Linux Enterprise Live Patching. This technology should further reduce scheduled downtime by enabling ARaymond to apply kernel fixes without service interruptions.

Marc Coste says: “Our experience suggests that SUSE Linux Enterprise will provide a stable, secure, and reliable platform for our entire mission-critical SAP landscape—both the applications and the SAP HANA databases.”

Naturally, adopting the in-memory SAP HANA database has already significantly

improved performance, eliminating delays in running BI reports. This helps give users an early indication of the longer-term strategic value of the migration. Jérôme Rézé comments: “The improved BI performance is of course nice to have, but the real value of the migration will come later, when we are able to look at deploying the new S/4HANA applications in areas such as finance and logistics. We’re still really just at the first step, getting the future platform in place, and making sure it’s stable.”

For ARaymond, the introduction of SUSE Linux Enterprise alongside Microsoft Windows Server has gone smoothly—so much so that the organization is now looking outside of the SAP environment at other candidates for OS migration. “We have some other systems in the migration pipeline now because our experience suggests that Linux is generally more stable and easier to manage than Windows,” says Jérôme Rézé. “Before the SAP HANA project began, perhaps 2% of our servers were on Linux, whereas today we are at about 20%. At the end of the process, we expect the proportion to hit 35%, making SUSE Linux Enterprise a truly strategic platform for ARaymond.”