Case Study Overview

Who: PostNL is a large, European delivery company based in the Netherlands.

In 2015, PostNL:

- Operated with 10 networks across 13 countries
- Had more than 56,000 employees
- Ran 18 parcel sorting locations and six mail sorting locations across the Netherlands
- Delivered more than 2.4 billion pieces of mail and 156 million parcels
- Reported Euro (EUR) 3.4 billion in revenue

Business need: A highly scalable infrastructure to support large and growing data volumes and reduce business costs.

Solution: Migrate its entire enterprise-resource-planning (ERP) environment to the cloud with SAP® Business ByDesign®. Engineers from SAP and Intel also tested SAP Business ByDesign on systems based on the Intel® Xeon® processor E5 v4 family using PostNL business requirements as a baseline.

Outcomes: Dramatically reduced IT costs and complexity:

- Achieved, on average, 25-percent cost reduction compared to on-premises software
- Consolidated five separate accounting systems to only one
- Consolidated six production SAP environments into one
- Reduced the number of interfaces in the environment by 66 percent

In addition, performance tests conducted by engineers from Intel and SAP showed that the Intel Xeon processor E5 v4 family, combined with SAP Business ByDesign, enables linear scalability and performance that can exceed the company’s current needs by up to 3.5 times.

Intel® Xeon® Processors Power the Cloud

The Intel Xeon processor E5 v4 family is ready to power forward thinking enterprise-cloud strategies.

These processors have 20 percent more cores than the prior generation, and they support faster memory. The Intel Xeon processor E5 v4 family also includes integrated Intel® Data Protection Technology with Advanced Encryption Standard New Instructions (AES-NI). AES-NI accelerates encryption operations and helps cloud applications deliver better results.

These processors can plug into servers currently powered by the Intel Xeon processor E5-2600 v3 product family, so enterprises can continue to use existing IT investments.

A Robust OEM Ecosystem

OEMs are taking note of the Intel Xeon processor E5 v4 family. For example, Dell is providing incremental upgrades to existing servers, such as the Dell PowerEdge R730*, which has received a cooling-system upgrade to handle the new processors with more cores.
PostNL: New Challenges for a New Decade

Few companies are bold enough to move their entire infrastructures and most of their applications to the cloud. But in 2012, IT leaders at PostNL declared their intention to do exactly that.

PostNL made this visionary full-cloud commitment as a response to changes in its markets. Postal volume was down, whereas parcel volume was steadily increasing, and PostNL wanted to seize opportunities in the logistical-services space. These market changes required that PostNL implement a more robust IT infrastructure because new business realities will entail far more data.

For example, PostNL will need to invoice on a per-parcel basis. This change means a shift to event-based billing, with many more events to charge—millions per day—than its existing infrastructure can handle.

Technology leaders at PostNL recognized that the company needed greater IT agility, more freedom to scale IT services, and more flexibility to innovate while dramatically simplifying the IT infrastructure.

Solution architects in the PostNL IT department knew that cloud solutions could deliver these benefits without the expense of expanding the company’s on-premises infrastructure. These architects had confidence in cloud solutions in part because large high-tech companies were making big investments in ongoing cloud development. This meant that the cloud market was being driven by solid companies with a long-term commitment to cloud success. As a result, the right cloud solution could allow PostNL to take advantage of ongoing innovation as cloud offerings continued to mature.

Why PostNL Chose SAP Business ByDesign

PostNL began its cloud implementation by migrating its on-premises infrastructure to either infrastructure-as-a-service (IaaS) or platform-as-a-service (PaaS) offerings from Amazon and Microsoft.

This migration allowed PostNL to close its data centers, leaving only its sorting operations on premises.

PostNL then began to take advantage of software-as-a-service (SaaS) offerings as quickly as possible. The company even decided to move its ERP functions, then running on SAP software, fully to the cloud. To choose the solution that would best meet PostNL’s needs, PostNL solution architects identified specific criteria as they began to evaluate cloud-based ERP solutions:

- The cloud provider needed to understand PostNL’s unique business requirements.
- The solution needed to be capable of easily integrating with partners’ solutions.
- The solution should be able to easily scale up and down; PostNL’s delivery volume and number of users fluctuate—both have high volumes during the week, but drop to almost none on weekends.
- The potential savings and return on investment (ROI) had to be favorable.

Above all, PostNL needed a partner that was stable and committed for long-term collaboration. PostNL was moving everything except its sorting centers to the cloud—it required a cloud provider with a proven record of success and a long-term plan for the future.

PostNL IT determined that an SAP Business ByDesign solution most effectively met the company’s criteria, and so the SAP solution became a crucial piece of PostNL’s cloud strategy.

“No other ERP vendor could deliver a full-suite SaaS solution in the cloud that is capable of running a multi-billion dollar company. The solution fit our requirements well.”

— Paul Bot, Project Director Strategic Change, PostNL

Case Study
SAP Business ByDesign allowed PostNL to combine most of its SAP business applications into a single platform. When the phased rollout is complete, the solution will support more than 3,000 users from 50 legal entities.¹

PostNL is in the process of implementing cloud-based SAP® hybris® and SAP® SuccessFactors® to complement the capabilities of SAP Business ByDesign:¹

- SAP hybris is a high-volume-subscription billing-and-revenue-management application that supports event-based order-to-cash workflows. Integrating with SAP Business ByDesign, the combination will allow PostNL to consolidate several purchasing, finance, order-to-cash, and procurement applications into one cloud-based solution. As many as 40 entities will use the joint solution when implementation is complete.
- SAP SuccessFactors is human-capital-management software that helps human-resources (HR) departments drive business value by simplifying complex HR processes and workflows. PostNL’s implementation of SuccessFactors provides HR-related IT services, including payroll processing and self-service portals for employees. The implementation will support more than 60,000 users when it is complete.

Outcomes of the SAP Business ByDesign Implementation

PostNL has proven that migrating its on-premises ERP functionality to a full-cloud environment with SAP Business ByDesign delivers business benefits. The solution has allowed PostNL to reduce custom code development to about 5 percent of the original volume. When fully implemented, the SAP Business ByDesign solution at PostNL will support more than 50 business entities and 3,000 users.¹,²

The initial results of the SAP Business ByDesign rollout at PostNL are delivering agility, greater efficiency, and cost savings. The IT team can easily scale up and down as business needs change, and they no longer have to overprovision physical hardware or IT staff to allow for peaks in demand.

Compared to the siloed solutions that PostNL was using before the implementation, the new SAP Business ByDesign solution can be managed with fewer IT staff hours because all management information is integrated in a user interface (UI) that is more intuitive and easier to learn. Early results show that SAP Business ByDesign has reduced costs for PostNL by an average of 25 percent compared to using on-premises software.²

With the SAP Business ByDesign implementation, PostNL has also tremendously improved efficiency:²

- Five existing accounting systems were consolidated into one.
- Six production SAP environments, including enterprise-central component (ECC), customer-relationship management (CRM), and supplier-relationship management (SRM), were consolidated into one.
- The company achieved a 66-percent reduction in interfaces.
- Users’ jobs are simplified through a 75-percent reduction in the standard chart of accounts.
- The company experienced a 90-percent reduction in bank accounts.
- Misused cost centers were reduced by 50 percent.

Solution architects at PostNL determined that an SAP® Business ByDesign® solution most effectively met the company’s criteria, and so the SAP solution became a crucial piece of PostNL’s cloud strategy.
Performance and Scalability Tests Prove Future Readiness with SAP Solutions and Intel® Xeon® Processors

Using PostNL’s business needs as a baseline, Intel and SAP engineers tested SAP Business ByDesign and SAP hybris on the Intel Xeon processor E5 v4 family. These solutions run on the SAP HANA® platform, which has been optimized and co-engineered for Intel Xeon processors. The test results show performance and efficiency gains that can support PostNL’s growth well into the future.

Test Environment

- Database with 200,000 customer accounts and 100 products
- One SAP HANA server and one application server (running four virtualized instances), both based on an Intel Xeon processor E5-2699 v4.

Each server’s configuration included the following:
- 2 sockets (2S)
- 55 MB last-level cache (LLC)
- 44 cores (88 threads with Intel® Hyper-Threading Technology [Intel® HT Technology])
- 256 GB RAM

Results

The test environment processed 700,000 invoice lines per hour (35,000 invoices) — 3.5 times more than the business requirement — with maximum CPU utilization at 77 percent. In other words, the SAP Business ByDesign and Intel Xeon processor environment exceeded business needs while leaving plenty of headroom for growth and peak demand.

Furthermore, the results demonstrate near linear scalability, with no performance tax as the workload increases.

Engineers also conducted the same performance and scalability tests on hardware based on previous-generation processors. In that environment, the business need to process 10,000 invoices per hour was met at 57-percent CPU utilization, while the newer processor family delivered the same results at just 21-percent utilization. That performance results in almost half as much energy consumption while delivering the same throughput.

Business Requirements

- Process up to 200,000 invoice lines per hour (10,000 invoices containing 20 lines each)
- Cap application-server CPU utilization at 77 percent to leave headroom for performance at peak volume

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Software and workloads used in performance tests may have been optimized for performance only on Intel microprocessors. Performance tests, such as SYSmark® and MobileMark®, are measured using specific computer systems, components, software, operations and functions. Any change to any of those factors may cause the results to vary. You should consult other information and performance tests to assist you in fully evaluating your contemplated purchases, including the performance of that product when combined with other products. For full configuration details, see page 5.
Through years of ongoing collaborative engineering, Intel and SAP have steadily increased the scalability of SAP Business ByDesign on the Intel Xeon processor E5 v4 family without increasing energy consumption.

**SAP Business ByDesign and Intel Xeon Processors Drive Cloud Success**

PostNL’s results show that SAP Business ByDesign and Intel Xeon processors are ready to support ambitious cloud strategies. Companies that implement SAP Business ByDesign can reduce IT costs and complexity while taking advantage of a highly scalable and flexible infrastructure. The Intel Xeon processor E5 v4 family makes additional gains possible with enterprise-grade performance from up to 22 cores per socket (44 threads per socket with Intel HT Technology) and three times more L3 cache than previous-generation processors.

Learn more about Intel and SAP solutions today and see if it's time to energize your company’s cloud strategy.