Technological Leap Forward in Record Time

Make new from old: This phrase best summarizes the VW's migration of a business critical application from Oracle Forms version 3 to version 11g, Oracle ADF and MS. NET.
And thanks to PITSS.CON, at a price lower than anybody expected.

"ATLAS Dezentral is now a state-of-the-art solution. We are finally able to once again use Oracle's current standard technology and will be able to easily implement future version updates. All the project goals were achieved in what I consider to be record time."

David Christmann, Head of Project Delivery Systems ATLAS Dezentral at VW

You will find these "treasures" in more businesses than you think. Applications that were developed in the 90's and since then have been consistently expanded until they are virtually perfectly suited for the respective company processes. Is that a mistake? Actually, for years now it has not been an issue. No one wants to work without these stable applications, even if in many respects they are no longer state-of-the-art.

Time and again there are discussions about whether the old system should be modernized, newly implemented or simply replaced by standard solutions. Since all of these options are costly and at the same time the users are highly satisfied with the existing solution, these discussions come to an end very quickly. However, the risks associated with these applications should not to be underestimated.

The base technology is no longer supported by the manufacturer, the hardware by far no longer corresponds to today's technological possibilities, spare parts are almost impossible to obtain. From the perspective of responsible risk management, this is not a sustainable situation.

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When good software becomes a risk, modernization is inevitable

VW also found themselves in exactly the same dilemma when it came to ATLAS Dezentral, one of the Group's essential systems. Not a single car would ever make it to the customer without this solution, which handles the entire logistics for the company, be it road, rail or water. In use since 1994 and repeatedly expanded to provide new functionalities, the application based on Oracle Forms version 3 also supports handheld devices and barcode scanners and completely fulfills the complex requirements for automotive logistics. The requirements for virtualization, high availability, or even disaster recovery however, were simply no longer feasible as they were well beyond what the technology could offer.

"Internally, we had assumed over the past few years that a migration did not make sense or was not economically feasible because there were too many significant differences in the Forms versions. The cost estimates for a new development were also always a stopping factor when deciding to rebuild ATLAS Dezentral from the ground up," says David Christmann, Head of Project Delivery Systems ATLAS Dezentral at VW, describing the situation. "But everyone knew we urgently needed to take action. There were no more spare parts for our hardware, Oracle no longer offered support for Forms 3, it was not possible to transfer the system to our highly available virtual server at the data center. The risks were increasing with each day."

Since "daring" to migrate to Oracle Forms 11g with the help of PITSS, these risks are now a thing of the past. 14 of the 19 VW sites where ATLAS Dezentral is used were successfully migrated in 2013, and the rest will follow in 2014.

On-time rollout despite a "nasty" surprise

Immediately after receiving the order, PITSS impressed with an enormously quick project start. After the kickoff in July 2012, the first working version of the application, which consisted of around 350 Forms modules, was already available for testing purposes at the beginning of September. The adjustment of the various associated C programs, the entire quality assurance, including comprehensive testing and acceptance workshops with the users, were the responsibility of the VW employees.

The PITSS team performed the Forms migration using PITSS.CON, a powerful Oracle-based development platform that is used for the modernization and development of Oracle Forms and Reports applications.

"We had a very ambitious time frame for the project. We wanted to have the new version of ATLAS Dezentral up and running at the first site in Portugal already by the end of January 2013," recalls David Christmann. "Therefore we gave PITSS full responsibility for the migration and did not use the tool internally ourselves. However, the extremely quick deployment of the first test version made it clear just how important efficient automation is. All the deadlines were met; even those that we had classified internally as barely feasible."

One problem that only became apparent at the very end of the test cycles could not be solved by an automation tool like PITSS.CON: a hardware incompatibility with Oracle Forms 11g for some of the hand-held devices used at VW. We had to find a special solution for the approximately 25 Forms modules that run on the mobile devices. And that, after the rollout was already in the starting blocks.

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Madi Serban, Project Manager at PITSS explains the situation: "Although the modules migrated to Oracle Forms 11g were web-enabled and looked very good, they no longer ran on some mobile devices because they simply lacked the resources necessary to run a Forms applet. A remote desktop solution would have been an option, but it would have created serious security and configuration problems that were unacceptable for VW."

Modern and mobile: Oracle ADF and MS NET make it possible

The January deadline could still be met without any problems because the mobile devices concerned were not used in Portugal, but a solution had to be developed by early summer that fulfilled all of the requirements for the wide range of handheld devices. In addition to support for new devices and operating systems such as Android, iOS, etc., all the old devices also had to remain functional. This meant that even the now obsolete platform Microsoft Windows CE 5 had to remain functional.

Support for a wide variety of platforms was not the only challenge the PITSS team had to face. A certified runtime environment was expected that should be based as far as possible on the strategic recommendations and "best practices" set out by Oracle. Protection of investment to reduce future developments and the need for migration should also be ensured, as well as the realization of an attractive interface. After all, end users nowadays are used to modern apps for mobile phones and expect an appropriate user interface with kiosk/app mode, also in their own work environment.
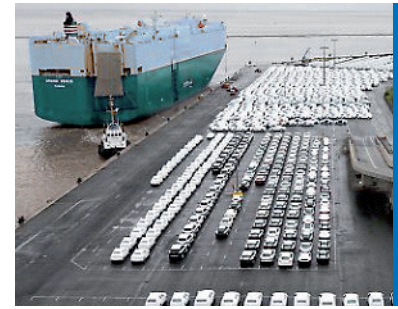
At first glance, Oracle ADF Mobile offered the necessary functions. In principle it also ran under the mobile version of Internet Explorer for Windows CE 5, however not completely as desired.

Therefore, it was decided to use a combination of Oracle database, ADF application and a .NET user interface. The Forms functionality was therefore migrated with the help of PITSS.CON in three layers: a thin .NET user interface and a thick database and ADF-layer; all in a development period of just two months.

"The commitment of the PITSS team significantly contributed to the fact that we were able to meet the scheduled international rollout dates, something we strongly doubted would be possible due to the surprise with the handheld devices. PITSS proved to be a very reliable and flexible service partner," says David Christmann praising the project team. "Our users are also extremely satisfied with the new version of ATLAS Dezentral and we have received nothing but positive feedback."

Sustainable modernization: higher security included

In the course of migrating to Oracle Forms 11g, mechanisms for authentication and access protection were improved and brought up to the company standards. This added security alone is greatly appreciated by VW. The company is also now able to enjoy a considerable increase in reliability and high availability.

" It was all possible for just one third of the budget we had originally calculated. What more could you want?!"

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Since ATLAS Dezentral will now run on virtual machines just like all the other applications, it could be installed on the standard hardware in the VW data center. Through virtualization, the high-availability requirements that exist for such a business critical application can be easily fulfilled. Thanks to redundancy across multiple locations, the system is now protected against a regional disaster, meaning the production lines will never come to a standstill because we do not know where to send the finished vehicles.

It is no wonder that the project received a very positive assessment from David Christmann: "ATLAS Dezentral is now a state-of-the-art solution. We are finally able to once again use Oracle's current standard technology and will be able to easily implement future version updates. All the project goals were achieved in what I consider to be record time. And the best part: it was all possible for just one third of the budget we had originally calculated. What more could you want?!"

PITSS VW Project Team
Madi Serban, Mathias Waedt,
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About the Volkswagen Group

The Volkswagen Group with its headquarters in Wolfsburg is one of the leading automobile manufacturers in the world and the largest carmaker in Europe. In 2012, the Group increased the number of vehicles delivered to customers to 9.276 million, which corresponds to a global passenger car market share of 12.8 percent. In Western Europe, nearly a quarter of all new cars come from the Volkswagen Group. Twelve brands from seven European countries belong to the Group: Volkswagen Passenger Cars, Audi, SEAT, ŠKODA, Bentley, Bugatti, Lamborghini, Porsche, Ducati, Volkswagen Commercial Vehicles, Scania and MAN

Industry: Automotive Industry
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The Highlights at a Glance

- Dramatic technological leap forward, many believed the migration of Oracle Forms 3 to Forms 11g and ADF was "impossible"

- Realization of the migration at a third of the originally calculated budget

- Timely realization of the project in just a few months despite unexpected problems thanks to PITSS.CON

- Use of modern standard technology ensures compliance with the Group's standards for security and availability

PITSS is the leading provider of software & services for modernizing and effectively managing Oracle applications. The PITSS Group was established in 1999 and has gained international recognition with over 1,000 customers and a multitude of successful Oracle projects. PITSS is an Oracle Gold partner and, as a member of the Oracle Modernization Alliance (OMA), is the only Oracle Forms Migration partner for automated migrations. With sites in Stuttgart (HQ), Wolfratshausen near Munich, Bielefeld (Germany), Milton Keynes (UK) and Troy (USA) as well as certified international partners, the company successfully provides support for IT projects of medium sized companies, large enterprises and public contractors across the globe.

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