A Perfect PLAN

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LeasePlan Information Services uses XML and SOA to improve data sharing and integration

By Jim Utsler ➤ Photography by Rob Durston

Big data has become an industry buzzword, but the interpretation of the term varies from organization to organization. To some, it may be as simple as receiving both structured and unstructured data. To others, it could be data coming from a variety of internal and external sources. And to yet others, it might be handling the volume of data—no matter the type or the source—that's hitting their data centers.

Whatever the case, it's clear that data (big, small or in between) has become a big issue. Not all businesses, after all, are in the position to properly gather it, let alone make sense of it. This is often the case in environments with dispersed and hetero-geneous systems. They must find a way to consolidate all of the information they have to make smarter data-driven decisions, allowing them to become more intimately familiar with every aspect of their operations.

And that's what the LeasePlan Group, via its own IT service provider, LeasePlan Information Services (LPIS), is doing. By gathering information from its offshoot companies and depositing that into a central data repository, it's gaining more insight into how many of its moving parts mesh together so it can offer improved services, saving money in the process.

From Infrastructure to Information

Headquartered in the Netherlands, LeasePlan Group is comprised of several different companies offering a number of services, many of which are tightly coupled to its core vehicle fleet-leasing business. These include LeasePlan International, a division of LeasePlan specializing in managing large global vehicle fleets; LeasePlan Supply Services, which provides services for its automotive supply-chain and car-remarketing activities; CarNext International, which is a platform for the international online auctioning of used LeasePlan cars; Euro Insurances, which offers automotive insurance in 20 countries; Travelcard Nederland, which offers fuel cards for business customers in the Netherlands and some additional international locations; and LeasePlan Bank, which is a Dutch Internet savings bank.

Established more than 50 years ago, the company currently has more than 6,500 employees worldwide and manages more than 1.3 million vehicles in the 32 countries in which it operates. Demonstrating its continuing growth around the globe, 85 percent of its workforce now operates outside the Netherlands.

Because of this expanding marketplace, LeasePlan decided in 2003 to establish the Dublin, Ireland-based LPIS to support many of the group's companies. This included maintaining and supporting globally used applications, as well as providing technical and supplier management for the group's WAN.

Its IT environment is somewhat mixed, having several x86 servers in addition to four IBM POWER7* servers hosting, depending on remote-office needs, around 98 LPARs. Key applications running in the Power Systems* environment include the homegrown and regionally supported New Object Leasing System (NOLS) core leasing application and the CarNext International auctioning platform.

Up Close

Customer: LeasePlan Information Services

Headquarters: Dublin, Ireland

Business: Information-services provider for parent company LeasePlan Group

Challenge: Sharing information between disparate and geographically dispersed systems

Solution: Using KrengelTech's RPG-XML Suite to create an SOA environment to gain greater control over data

Hardware: Four IBM Power Systems servers

Software: Several core homegrown legacy applications and RPG-XML from KrengelTech

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Prior to this current environment, LPIS's IT operations were largely decentralized, with 32 entities pretty much doing their own thing in terms of IT. "To address this, our then-CEO, who was more a centralizing thinker, came up with the idea to establish LPIS and focus on consolidating many of those once disparate IT operations, with an emphasis on Power* technology. That was about 10 years ago," explains Niall Harrison, LPIS's director of application maintenance and development.

Initially, this initiative—formerly referred to as LeasePlan Infrastructure Services—was geared primarily toward the banking side of the LeasePlan Group's business, with the Power Systems architecture being used because of its reliability and high availability. The company soon realized, however, that it could also bring many of its other groupwide operations under the same umbrella. Now, LPIS (the "Infrastructure" part of the name has since been replaced by "Information") is responsible for not only application maintenance, but also overseeing application development.

"We host applications, look after all the networks and infrastructure, and develop, support and maintain applications. We also work on longer-term IT strategies, collaborating with the business to define where the applications may go in the future," Harrison says. "So we started off as an IT-hosting type of company and then became a full-fledged IT services organization."

Incoming and Outgoing

As part of this larger mission, LPIS is also responsible for integrating other systems with NOLS, including those from third parties. For example, the company gathers data either from suppliers or the manufacturers themselves about vehicles, vehicle trim levels (which are particular sets of special features), packages and available options before purchasing them.

"We need information such as residual values so we can calculate monthly charges. And when we're creating quotes, we need to know about all of the available options a car might offer. Take BMW, for instance. The 3 Series has 400 to 500 different options available, and we need to embed all of that logic into our system so customers can order the vehicles they need," Harrison notes. "This is part of our big-data infrastructure, because there's so much information available in the automotive industry."

LeasePlan's own systems also contain a lot of information, and—until recently—it wasn't necessarily easy to integrate that data to create a deeper, wider view of company operations. This challenge became especially apparent as newer IT initiatives, including cloud applications, began becoming part of the company's essential operations, which resulted in a case of new projects driving new ways of looking at data integration.

This heavily involves a service oriented architecture (SOA), which

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allows for both incoming and outgoing Web-based calls. One of LPIS's forays into this arena involved its Supplier Integration Management Solution (SIMS), which, when a vehicle is taken into a garage for service, connects to the garage to approve the work.

"SIMS is effectively a portal for the garages that's connected to a data provider using SOA to get parts availability, pricing and labor information for any particular service related to a particular vehicle. It then runs a rules engine, which is again SOA-based using XML messaging, to get approval for the service, whether automatically or manually," Harrison says. "So what we're essentially doing is creating a largely automated method by which approvals for service, maintenance and repairs are handled."

Calls to NOLS are conducted similarly. The company had been using native messaging tools for some of this, but it wanted to instead bolster its SOA presence, in keeping with the other development efforts it had in place and to create a seamless SOA environment. However, because NOLS is RPG-based, the company had to find a solution that would let the company's RPG programmers natively code XML for RPG. After conducting some research, LPIS ran across KrengelTech's RPG-XML Suite.

"One of our key challenges was that our RPG developers didn't know a whole lot about XML or Web services," remarks Krzysztof Jarzynski, LPIS's middleware specialist. "So we chose the RPG-XML Suite because it was RPG based and resulted in a relatively small learning curve. So now, when we have a requirement to send or receive data to or from NOLS on Power technology, we use RPG-XML."

This has become increasingly significant as LPIS rolls out more applications. Rather than creating convoluted call procedures to share information between different applications, such as SIMS and the NOLS environments, XML can now be used. This represents a great leap forward, because the company had been relying on local resources to update its own leasing systems. The Dublin LPIS office can now quickly reach

out to remote programmers and help them set up the XML calls themselves, providing much greater data integration between systems than it had before.

"We have a three-day training program where we introduce them to XML and then set up some sample calls. After the training, which on the third day includes real business-case uses, we allow them to adjust their existing solutions to match the NOLS environment," Jarzynski explains. "We're doing this country by country and are now hosting central training sessions here in Dublin. So far, we've converted 27 NOLS instances."

This type of SOA environment can also be used between suppliers and LeasePlan. So, for example, when a supplier sends an invoice to LeasePlan, those messages are ushered into other systems using RPG-XML. Similarly, the company's mobile applications directly connect to RPG-XML to retrieve driver information. Further, when a driver updates his or her information on the mobile site, that information is updated in real time within NOLS.

Staying on Top

Although various organizations use the term big data differently, it's clear that data—whatever the size, sort or volume—has become an issue in data centers around the world. If it's not properly parsed, received and integrated, it's essentially useless.

That's why companies like LeasePlan are actively pursuing ways to ensure data is available and actionable, no matter where it resides. Finding the right solution to address this, though, is the trick. In the case of LPIS, RPG-XML has allowed the company to more quickly roll out SOA-like procedures much

easier than it had in the past— and has kept the legacy NOLS application relevant.

"We're the number one leasing company in the world, and NOLS is a vital system for us. Although we may move to another system sometime in the future, we're now actively leveraging it to remain state-of-the-art," Harrison says. **P**

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