Part 1: Application Transformation Case Study Dives Down to Bottom Line with Eye-Popping ROI

Transcript of the first in a series of sponsored BriefingsDirect podcasts -- "Application Transformation: Getting to the Bottom Line" -- on the rationale and strategies for application transformation.

Listen to the podcast. Find it on iTunes/iPod and Podcast.com. Learn more. Sponsor: Hewlett-Packard.

Gain more insights into "Application Transformation: Getting to the Bottom Line" via a series of HP virtual conferences Nov. 3-5. For more on Application Transformation, and to get real time answers to your questions, register to the virtual conferences for your region:

Register here to attend the Asia Pacific event on Nov. 3.

Register here to attend the EMEA event on Nov. 4.

Register here to attend the Americas event on Nov. 5.

Dana Gardner: Hi, this is Dana Gardner, principal analyst at Interarbor Solutions, and you're listening to BriefingsDirect.

Today, we present a sponsored podcast discussion on gaining myriad paybacks from transformation of legacy enterprise applications.

The ongoing impact of the reset economy is putting more emphasis on lean IT -- of identifying and eliminating waste across the data-center landscape. The top candidates, on several levels, are the silo-architected legacy applications and the aging IT systems that support them.

This podcast is the first in the series of three to examine application transformation getting to the bottom-line. We'll discuss the rationale and likely returns of assessing the true role and character of legacy applications and assessing therefore their true costs.

We'll also uncover a number of proven strategies on how to innovatively architect legacy applications for transformation and for improved technical, economic, and productivity outcomes. The podcast coincidentally runs in support of an HP virtual conference on the same subject.

Here to start us off on our series on how and why to transform legacy enterprise applications are Paul Evans, worldwide marketing lead on Applications Transformation at HP. Welcome Paul.

Paul Evans: Hi, Dana.

Gardner: We're also joined by Luc Vogeleer, CTO for Application Modernization Practice in HP Enterprise Services. Welcome to the show, Luc.

Luc Vogeleer: Hello, Dana. Nice to meet you.

Gardner: Let's start with you, Paul, if you don't mind. You have this virtual conference coming up, and the focus is on a variety of use cases for transformation of legacy applications. I believe this has gone beyond the point in the market where people do this because it's a "nice to have" or a marginal improvement. We've seen it begin with a core of economic benefits here.

Evans: It's very interesting to observe what has happened. When the economic situation hit really hard, we definitely saw customers retreat, and basically say, "We don't know what to do now. Some of us have never been in this position before in a recessionary environment, seeing IT budgets reduce considerably."

That wasn't surprising. We sort of expected it across all of HP. People had prepared for that, and I think that's why the company has weathered the storm. But, at a very macro level, it was obvious that people would retrench and then scratch their heads and say, "Now what do we do?"

A different dynamic

Now, six months or nine months later, depending on when you believe the economic situation started, we're seeing a different dynamic. We're definitely seeing something like a two-fold increase in what you might call "customer interest." The number of opportunities we're seeing as a company has doubled over the last six or nine months.

I think that's based on the fact, as you pointed out, that if you ask any CIO or IT head, "Is application transformation something you want to do," the answer is, "No, not really." It's like tidying your garage at home. You know you should do it, but you don't really want to do it. You know that you benefit, but you still don't want to do it.

Because of the pressure that the economy has brought, this has moved from being something that maybe I should do to something that I have to do, because there are two real forces here. One is the force that says, "If I don't continue to innovate and differentiate, I go out of business, because my competitors are doing that." If I believe the economy doesn't allow me to stand still, then I've got it wrong. So, I have to continue to move forward.

Secondly, I have to reduce the amount of money I spend on my innovation, but at the same time I need a bigger payback. I've got to reduce the cost of IT. Now, with 80 percent of my budget

being dedicated to maintenance, that doesn't move my business forward. So, the strategic goal is, I want to flip the ratio.

I want to spend more on innovation and less on maintenance. People now are taking a hard look at, "Where do I spend my money? Where are the proprietary systems that I've had around for 10, 20, 30 years? Where do these soak up money that, honestly, I don't have today anymore?"

I've got to find a cheaper way, and I've got to find solutions that have a rapid return on investment (ROI), so that maybe I can afford them, but I can only afford them on the basis that they are going to repay me quickly. That's the dynamic that we're seeing on a worldwide basis.

That's why we've put together a series of webinars, virtual events that people can come to and listen to customers who've done it. One of the biggest challenges we face is that customers obviously believe that there is potential risk. Of course there is risk, and if people ask us, we'll tell them.

Our job is to minimize that risk by exposing them to customers who've done it before. They can view those best-case scenarios and understand what to do and what not to do. Remember, we do a lot of these things. We've built up massive skills experience in this space. We're going to share that on this global event, so that people get to hear real customers talking about real problems and the benefits that they've achieved from that.

We'll top-and-tail that with a session from Geoffrey Moore, who'll talk about where you really want to focus your investment in terms of core and context applications. We'll also hear from Dale Vecchio, vice president research of Gartner, giving us some really good insight as to best practices to move forward. That's really what the event is all about -- "It's not what I want to do, but it's what I am going to have to do."

Gardner: I've seen the analyst firms really rally around this. For example, this week I've been observing the Forrester conference via Twitter, reading the tweets of the various analysts and others at the conference. This whole notion of Lean IT is a deep and recurring topic throughout.

It seems to me that we've had this shift in psychology. You termed it a shift from "want to" to "must." I think what we've seen is people recognizing that they have to cut their costs and bite the bullet. It's no longer putting this off and putting this off and putting this off.

Still don't understand

Evans: No. Part of HP's portfolio is hardware. For a number of years, we've seen people who have consulted with us, bought our equipment to consolidate their systems and virtualize their systems, and built some very, very smart Lean IT solutions. But, when they stand back from it, they still say, "But, the line-of-business manager still giving me the heartache that it takes us six months to make a change."

We're still challenged by the fact that we don't really understand the structure of our applications. We're still challenged by the fact that the people who know about these applications are heading toward retirement. And, we're still challenged by the thought of what we're going to do when they're not here. None of that has changed.

Although every day we're finding inherently smarter ways to use silicon, faster systems, blade systems, and scaling out, the fundamental thing that has affected IT for so many years now is right, smack dab in the cross hairs of the target -- people saying that this is done properly, we'll improve our agility, our differentiation, and innovation, at the same time, cutting costs.

In a second, we'll hear about a case study that we are going to talk about at these events. This customer got an ROI in 18 months. In 18 months, the savings they had made -- and this runs into millions of dollars -- had been paid for. Their new system, in under 18 months, paid for itself. After that, it was pure money to the bottom-line, and that's what this series is all about.

Gardner: Luc, we certainly have seen both from the analysts as well as from folks like HP, a doubling or certainly a very substantial increase in inquires and interest in doing legacy transformation. The desire is there. Now, how do we go beyond theory and get into concrete practice?

Vogeleer: From an HP perspective, we take a very holistic approach and look at the entire portfolio of applications from a customer. Then, from that application portfolio, depending on the usage of the application, the business criticality of the application, as well as the frequency of changes that this application require, we deploy different strategies for each application.

We not only focus on one approach of completely re-writing or re-platforming the application or replacing the application with a package, but we go for a combination of all those elements. By doing a complete portfolio assessment, as a first step into the customer legacy application landscape, we're able to bring out a complete road map to conduct this transformation.

This is in terms of the sequence in which the application will be transformed across one of the strategies that we will describe or also in terms of the sequence in time. We first execute applications that bring a quick ROI. We first execute quick wins and the ROI and the benefits from those quick wins are immediately reinvested for continuing the transformation. So, transformation is not just one project. It's not just one shot. It's a continuous program over time, where all the legacy applications are progressively migrated into a more agile and cost-effective platform.

Gardner: It certainly helps to understand the detail and approach to this through an actual implementation and a process. I wonder if you could tell us about the use case we're going to discuss, some background on that organization, and their story?

Vogeleer: The Italian Ministry of Instruction, University and Research (MIUR), is the customer we're going to cover with this case, is a large governmental organization and their overall budget is €55 billion.

This Italian public education sector serves 8 million students from 40,000 schools, and the schools are located across the country in more than 10,000 locations, with each of those locations connected to the information system provided by the ministry.

Very large employer

The ministry is, in fact, one of the largest employers in the world, with over one million employees. Its system manages both permanent and temporary employees, like teachers and substitutes, and the administrative employees. It also supports the ministry users, about 7,000 or 8,000 school employees. It's a very large employer with a large number of users connected across the country.

Why do they need to modernize their environment? In fact, their system was written in the early 1980s on IBM mainframe architecture. In early 2000, there was a substantial change in Italian legislation, which was called so-called a Devolution Law. The Devolution Law was about more decentralization of their process to school level and also to move the administration processes from the central ministry level into the regions, and there are 20 different regions in Italy.

This change implied a completely different process workflow within their information systems. To fulfill the changes, the legacy approach was very time-consuming and inappropriate. A number of strong application have been developed incrementally to fulfill those new organizational requirements, but very quickly this became completely unmanageable and inflexible. The aging legacy systems were expected to be changed quickly.

In addition to the element of agility to change application to meet the new legislation requirement, the cost in that context went completely out of control. So, the simple, most important objective of the modernization was to design and implement a new architecture that could reduce cost and provide a more flexible and agile infrastructure.

Gardner: We certainly get a better sense of the scope with this organization, a great deal of complexity, no doubt. How did you begin to get into such a large organization with so many different applications?

Vogeleer: The first step we took was to develop a modernization road map that took into account the organizational change requirements, using our service offering, which is the application portfolio assessment.

From the standard engagement that we can offer to a customer, we did an analysis of the complete set of applications and associated data assets from multiple perspectives. We looked at it from a financial perspective, a business perspective, functionality and the technical perspective.

From those different dimensions, we could make the right decision on each application. The application portfolio assessment ensured that the client's business context and strategic drivers were understood, before commencing a modernization strategy for a given application in the portfolio.

A business case was developed for modernizing each application, an approach that was personalized for each group of applications and was appropriate to the current situation.

Gardner: How many people were devoted to this particular project?

Some 19,000 programs

Vogeleer: In the assessment phase, we did it with a staff of seven people. The seven people looked into the customer's 20 million lines of code using automated tools. There were about 19,000 programs involved into the analysis that we did. Out of that, we grouped the applications by their categories and then defined different strategies for each category of programs.

Gardner: How about the timing on this? I know it's a big complicated and can go on and on, but the general scoping, the assessment phase, how long do these sorts of activities, generally take?

Vogeleer: If we look at the way we conducted the program, this assessment phase took about three months with the seven people. From there, we did a first transformation pilot, with a small staff of people in three months.

After the pilot, we went into the complete transform and user-acceptance test, and after an additional year, 90 percent of the transformation was completed. In the transformation, we had about 3,500 batch processes. We had the transformation. We had re-architecting of 7,500 programs. And, all the screens were also transformed. But, that was a larger effort with a team of about 50 people over one year.

Gardner: Can you tell us about where they ended up? One of the things I understand about transformation is you still needed to asses what you've got, but you also need to know where you are going to take it?

Vogeleer: As I indicated at the beginning, we have a mixture of different strategies for modernization. First of all, we looked into the accounting and HR system, and the accounting and HR system for non-teacher employees. This was initially written on the mainframe and was carrying a low level of customization. So, there was a relatively limited need for integration with the rest of the application portfolio.

In that case, we selected Oracle HR Human Resources, Oracle Self-Service Human Resources, and Oracle Financial as the package to implement. The strategy for that component was to replace them with packaged applications. Twenty years ago, those custom accounting packages

didn't exist and were completely written in COBOL. Now, with existing suitable applications, we can replace them.

Secondly, we did look into the batch COBOL applications on the mainframe. In that scenario, there were limited changes to those applications. So, a simple re-platforming of the application from the IBM 3070 onto a Linux database was sufficient as an approach.

More important were all the transactional COBOL/CICS applications. Those needed to be refracted and re-architected to the new platform. So, we took the legacy COBOL sources and transformed them into Java.

Also, different techniques were used there. We tried to use automated conversion, especially for non-critical programs, where they're not frequently changed. That represented 60 percent of the code. This code could be then immediately transferred by removing only the barriers in the code that prevented it from compiling.

All barriers removed

We had also frequently updated programs, where all barriers were removed and code was completely cleaned in the conversion. Then, in critical programs, especially, the conversion effort was bigger than the rewrite effort. Thirty percent of the programs were completely rewritten.

Gardner: You said that 60 percent of the code was essentially being supported through these expensive systems, doing what we might consider commodity functionality nowadays.

Vogeleer: Let me clarify what happens with those 60 percent.

We considered that 60 percent of the code was code that was not frequently changed. So, we used automatic conversion of this code from COBOL to Java to create some automatically translated Java procedures. By the way, this is probably not easy to read, but the advantage is that, because it was not often changed, the day that we need to change it, we already have Java source code from which we can start. That was the reason to not rewrite it, but to do automated conversion from COBOL to Java.

Gardner: Now we've certainly got a sense of where you started and where you wanted to end up. What were the results? What were some of the metrics of success -- technical, economic, and in productivity?

Vogeleer: The result, I believe, was very impressive. The applications are now accessed through a more efficient web-based user interface, which replaces the green screen and provides improved navigation and better overall system performance, including improved user productivity.

End-user productivity, as I mentioned, is doubled in terms of the daily operation of some business processes. Also, the overall application portfolio has been greatly simplified by this approach. The number of function points that we're managing has decreased by 33 percent.

From a financial perspective, there are also very significant results.
Hardware and software license and maintenance cost savings were about €400,000 in the first year, €2 million in the second year, and are projected to be €3.4 million this year. This represents a savings of 36 percent of the overall project.

Also, because of the transfer from COBOL to Java technology and the low-cost of the programmers and the use of packaged application, development has now dropped by 38 percent.

Gardner: I think it's very impressive. I want to go quickly to Paul Evans. Is this unusual? Is this typical? How constant are these sorts of returns, when we look at a transformation project?

Evans: Well, of course, as a marketing person I'd say that every time we get this return, and everybody would laugh like you. In general, people are very keen on total cost of ownership (TCO) and ROI, especially the ROI. They say, "Look, maybe I can afford something, but I've got to feel certain that I am going to get my money back -- and quickly."

ROI of 18-24 months

I don't want to say that you're going to get it back in 10 years time. People just aren't going to be around that long. In general, when we're doing a project, as we did here in Italy, which combines applications modernization and an infrastructure renew, an ROI of around 18-24 months is usually about the norm.

We have tools online. We have a thing called the TCO Challenge. People can insert the configuration of the current system today. Then, we promote a comparable system from HP in terms of power and performance and functionality. We provide not only the price of that system, but, more importantly, we provide the TCO and ROI data. Anyone can go online and try that, and what they'll see is an ROI of around 18 months.

This is why I think we're beginning to see this up-take in momentum. People are hearing about these case studies and are beginning to believe that this is not just smoke and mirrors, and it's not marketing people like me all the time.

People like Luc are out there at the coalface, working with customers who are getting these results. They are not getting the results because there is something special or different. This solution was a type that we deliver every day of the week, and these results are fairly commonplace.

Gardner: Luc, certainly the scale of this particular activity, this project set, convinces me that the automation is really key. The scale and the size of the code base that you dealt with, the number of people, and the amount of time that were devoted are pretty impressive. What's

coming next down the avenue in terms of the automation toolset? I can only assume that this type of activity is going to become faster, better, and cheaper?

Vogeleer: Yes, indeed. What we realized here is that, although we didn't rewrite all the code, 80 percent of the migrated code that we did by automated tools is very stable and infrequently modified. We have a base from which we can easily rework.

Tools are improving, and we see also that those tools are growing in the direction of being integrated with integrated development environments that the programs can use. So, it becomes very common that the new programing style is very much integrated with the convergence tool, with the migration tools, and allows the new generation of programmers to work with those migration tools very easily.

Gardner: And, the labor pools around the world that produce the skill sets that are required for this are ready and growing. Is that correct?

Vogeleer: Yes, that's right. As I indicated, the savings that were achieved in terms of development cost by changing the programing language, because of the large pool of programmers that we can have and the lower labor cost, dropped the development cost by 38 percent.

Gardner: Very good. We've certainly learned a lot about the paybacks from transformation of legacy enterprise applications and systems. This podcast is the first in a series of three to examine application transformation getting to the bottom-line.

There is also a set of webinars and virtual conferences from HP on the same subject. I want to thank our guests for today's insights and the use-case of the Italian Ministry of Instruction, University and Research (MIUR). Thanks, Paul Evans, worldwide marketing lead on Applications Transformation at HP.

Evans: Thanks, Dana.

Gardner: We've also been joined by Luc Vogeleer, CTO for the Application Modernization Practice in HP Enterprise Services. Thanks so much, Luc.

Vogeleer: Thank you, Dana.

Gardner: This is Dana Gardner, principal analyst at Interarbor Solutions. You've been listening to a sponsored BriefingsDirect podcast. Thanks for listening, and come back next time.

Gain more insights into "Application Transformation: Getting to the Bottom Line" via a series of HP virtual conferences Nov. 3-5. For more on Application Transformation, and to get real time answers to your questions, register to the virtual conferences for your region:

Register here to attend the Asia Pacific event on Nov. 3.

Register here to attend the EMEA event on Nov. 4.

Register here to attend the Americas event on Nov. 5.

Listen to the podcast. Find it on iTunes/iPod and Podcast.com. Learn more. Sponsor: Hewlett-Packard.

Transcript of the first in a series of sponsored BriefingsDirect podcasts -- "Application Transformation: Getting to the Bottom Line" -- on the rationale and strategies for application transformation.