

Coriell Life Sciences creates innovative genetics solution using IBM Cloud



*Business process management solution from IBM
speeds new customer solutions to market*

Overview

The need

The president and chief executive officer (CEO) at Coriell Life Sciences (CLS) needed to find an innovative way to take genetic sequencing information and provide it to the medical community in a usable format.

The solution

The company used the IBM Business Process Manager on Cloud offering, which invokes IBM® Watson™ technology as a service to help physicians model potential medication regimens per each patient's genetic profile.

The benefit

CLS can create new customer interfaces within weeks, rather than months, and quickly create customized reports and bills for each one.

Scott Megill, president and chief executive officer (CEO) at Coriell Life Sciences (CLS), needed to find an innovative way to deliver genetic sequencing information to the medical community. A spin-off from the Coriell Institute, a 60-year-old nonprofit specializing in biobanking, personalized medicine and genetics research, CLS was founded to take information gathered through genetic analysis and make it available for physicians and other medical professionals to use. Genetic sequencing information, which was previously very expensive to develop, had become relatively inexpensive to gather. However, until now, no one had found a way to make it widely available. "All of this data was coming, but there was this gap between the genetic scientists and the people who could make use of the information: the doctors," says Megill.

The cloud-based business process management (BPM) solution from IBM gave CLS unprecedented speed to market. "We're building customized partnership solutions now so much faster than anything we've done prior to using a BPM solution," says Scott Megill, president and chief executive officer at Coriell Life Sciences.



Searching for a process management solution

CLS needed to be able to take genetic sequencing information, put it into an easy-to-digest format and make it available in multiple layouts. “We knew we had to bring to market an informatics pipeline that allowed us to take genetic information in and come up with a readable diagnostic report for a physician at the other end,” says Megill. “But there are complicating factors given all of the different partners that we have to work with, so we knew we couldn’t just sit down and write a lot of code to handle one situation.”

CLS sought a flexible business process management (BPM) system to be able to take the genetic information obtained through genomic sequencing and analyze it to more accurately determine drug efficacy and other potential issues. “There’s an almost direct correlation between genetics and whether or not your body can metabolize certain drugs or whether they’ll cause adverse reactions,” says Megill. CLS was looking for a strong business rules engine that would provide the flexibility the company needed to work with numerous partners and suppliers, who might have very different needs. “We also needed to handle it under one unified reporting and accounting system and still be able to produce our product in a consistent way,” says Megill.

Choosing a cloud-based BPM offering

Working with the local IBM team, Megill selected the IBM Business Process Manager on Cloud offering to help achieve his goals. “Choosing the BPM solution as a managed hosted solution from IBM meant that, as a small organization, we could implement this really robust enterprise-class BPM solution without having to go through a major implementation installation effort,” says Megill. “So it’s almost like starting a big project two and a half months into it, because the groundwork has already been done for us.”

Using a cloud-based offering helps CLS better accommodate local regulations around biological samples and data. “The regulatory environment is different country by country. In the United States, we are regulated by the FDA [Food and Drug Administration] and CLIA [Clinical Laboratory Improvement Amendments], but it’s different in other countries. So when we want to do business in China or Saudi Arabia, we have to abide by the laws of those countries,” says Megill. In some countries, there are restrictions around taking biological samples or data out of the country. “So it’s not sufficient for us to have our ability to interpret the genome housed in the United States if we can’t actually get the data from a foreign country back to where we process it. The cloud infrastructure gave us an instant globalization. It allows us to be in China, to be in Saudi Arabia, so that we can process those samples locally and do business like we would with anyone else,” says Megill.

Using the BPM solution, CLS can take in new data, produce the required report and manage the billing process. “As we take in data from one lab supplier, we can invoke a rule that allows us to take that data and harmonize it inside of our systems differently than we would from another supplier,” says Megill. The BPM system can also help CLS output information in the preferred format for each supplier and accommodate customized billing processes. Because the information is hosted on the cloud, CLS can push it to multiple devices, including tablets and smartphones.

Tapping in to IBM Watson technology’s power

CLS is also working with IBM Watson technology to provide physicians with a near-real-time modeling tool that will allow them to test multiple scenarios for medications. The Watson offering is essentially a service that the BPM solution invokes. “We’re bringing the power of Watson to bear to help the physician model a patient’s medication regimens in real time and highlight on a physiological heat map where adverse reactions are likely to occur for that individual based on their genetics and based on everything that Watson services for research,” says Megill. “This model gives a really simple-to-use, easy interface for a physician to ask lots of research questions, and behind the scenes, Watson’s bringing all that information back in a very visual, easy-to-understand form.”

CLS uses Watson technology to identify relevant research and publications. “Publications in healthcare come out at a pace of about 1,500 a month, so it’s an awful lot of papers to cull through,” says Megill. “Using Watson behind the scenes during our product development phase allows us to really turbocharge that whole process. We can now eliminate that first pass step of having to look at all this information and have Watson surface for us the ones that we think are really likely to have an impact, and those are the ones that we then bring through our advisory group to ultimately get approved for inclusion in our product.”

Solution Components

Software

- IBM Business Process Manager on Cloud
 - IBM® Watson™
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Achieving unprecedented speed to market

By using the Business Process Manager on Cloud offering, CLS gained the BPM solution it needed without having to install or staff the supporting IT infrastructure. “I don’t have to maintain people that are patching and constantly versioning my software or are there in the case of an emergency,” says Megill. “I don’t need those ‘what if’ staff or ‘just in case’ staff. They’re part of a services contract that I simply pay on a monthly basis.” Plus, Megill says he’s able to easily scale the cloud-based solution as needed.

Another benefit to the solution is the level of customization it offers. “So the real benefit to our end users—the doctors, the patients and the healthcare systems that are paying for these tests—is that they don’t have to adjust their processes to work with us,” says Megill. “We can very quickly spin up a relationship with a hospital system or individual physician that doesn’t require them to do anything differently than they do today. So they have their existing electronic medical record systems, and we write the rules that allow us to interface with that. They’ll use their existing billing and accounting systems, and we write the rules that allow us to interface with that. It gives us a degree of flexibility and a speed to market that’s really unmatched.”

CLS is now able to interface with new partners and customers much more quickly than it could in the past. “When I engage a new customer, they’re up and running and receiving our product within a matter of weeks, whereas with previous types of development, this would be months’ worth of IT effort to get these systems interconnected and tested,” says Megill.

For more information

To learn more about BPM solutions from IBM or Watson, please contact your IBM marketing representative or IBM Business Partner, or visit the following websites:

ibm.com/software/products/category/bpm-software

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