

# CIO Review

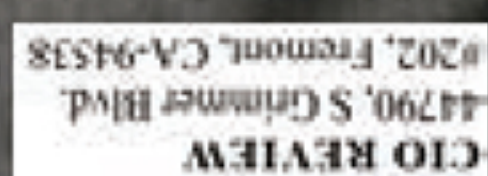
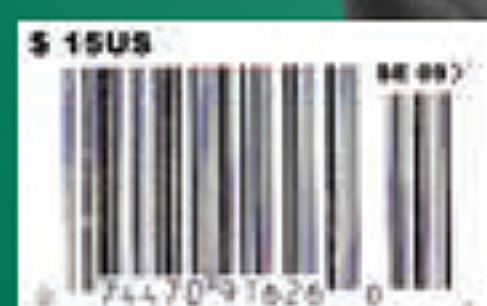
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## Sigma-Aldrich Corporation Setting the Benchmark for Scalable Bio and Chemical Products

Rakesh Sachdev  
CEO



CIO INSIGHT

Organizations across the spectrum of disciplines are slowly making use of cloud technologies, and some areas are adopting faster than others. Biotechnology is an industry sector that is slower than most to leverage the advantages of Cloud technologies and as they look to the cloud and some begin the transition there are challenges for all parties involved. The largest resistance to cloud technology comes from the part of the biotech sector that is most likely to see the benefits, the small to mid-sized analytical chemistry (i.e., environmental, food, and agriculture) organizations. Resistance is particularly strong in organizations where there isn't a well-established Information Technology Organization and leadership.

My organization has spent the last 20 years working in the Laboratory Information Management System (LIMS) software space and we have recently released one of the first Cloud based LIMS solutions available with the implementation of LIMS SaaS. There have been many unexpected challenges during this project and the single largest challenge we have faced is end user acceptance of Cloud services having positive return on investment. Again, this has been most prevalent in small to mid-sized organizations that do not have a strong IT leadership presence.

When we consider the organizations of which I speak it is really not that surprising, they are organizations whose business is focused in the laboratory. Their expertise is leveraging their laboratories to produce value for their organizations. Often these organizations have small IT departments, if any at all, and they are usually more tactically focused. The lack of a strategically focused senior IT leader directly impacts their willingness to even consider Cloud solutions. Why? Because the ROI calculations have to in-

clude numbers that are not typically the purview of a mid-level IT manager. Without factoring in the added expenses associated with each new piece of hardware added to an infrastructure the numbers are nebulous. This is not to say that these staff members can't understand the total ROI picture, it's that they have never needed to do so and have no experience in this area. Another concern is security, although from a technology standpoint the data is very secure, and most likely significantly more secure than in-house deployments, since in-house IT departments typically lack the IT security expertise, where a cloud provider must have a solid security plan and the experienced staff to monitor and ensure that client data is protected.

As a direct result of these challenges, we have had to educate our potential customers with respect to these topics to validate our claims that over time SaaS makes financial sense. It makes sense in that it mitigates key challenges and pain points for most IT departments. Such as:

- Physical power and cooling
- Security (physical, network, and data)
- System administration burden
- Access control (for users and application administrators as well)
- High availability access (if needed)
- Data integrity and Backups
- Scalability (buy what you need now and grow as your organization does)
- Speed of deployment
- Upfront capital investment costs

So with all these reasons to make the move, especially if there isn't an existing

## Convergence of "the Cloud" and Laboratory Science

By Mark Burke, CIO, Accelerated Technology Laboratories

Mark Burke



implementation on site, why is there still a demand for premise based solution? In my opinion experience resistance is from Fear, Uncertainty and Doubt. If we are honest, we can admit that IT, despite the rapid growth of the

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physical technology, is very slow to change and Cloud is a significant change. Take as an example that hardware virtualization has been around for more than 15 years however only in the last three to five years has it truly caught on. Now it has been integrated into our organizational culture and if you are not using some flavor of virtualization your organization is "outside the norm" and you will spend time explaining why you don't use it. Those organizations which already have

a solid IT infrastructure, staff, processes, leadership, and hardware, tend not to be interested in change at this time. The cost of Cloud services is evolving and getting cheaper as more organizations choose to use the technology. Eventually even organizations with seasoned IT teams will find the ROI attractive. This is why it's so important to understand how the true ROI of Cloud fits your specific organization both at the present and in the future based on the organizations strategic forward.

Cloud is slowly coming into its own, although some of the migration numbers offered by the largest providers are significantly padded and lend a level of mistrust to the overall concept. For example, organizations that are currently negotiating renewals of their Enterprise Agreements with "you know who" find themselves in an unexpected bargaining position. If they don't include some level of "cloud" services the large discounts and incentives are simply not there, however once Cloud services are added the discounts often cover the entire cloud service cost and then some. I recently attended at a meeting discussing this exact trend and when the room was unofficially

polled I would say that more than half of the attendees had experienced this trend. One attendee confided that he had no intention of moving to the cloud but accepted one of the largest cloud solutions deals signed to date.

Despite all of these challenges the interest in our offering is very promising. Some laboratory organizations see the value and want to remove the IT burden from their staff. The more insightful organization may see a way to compete in their specific market segment without the full capital outlay. One of the largest advantages for the small laboratory to leverage cloud is financial, both in the conversion of capital expense to operating expense and in offerings to their customers. Also, not having to worry about their IT infrastructure and support, running their laboratory. Choosing a Cloud solution can facilitate these labs using current software providing a strategic advantage when marketing new customers and help overcome market competitors.

The value of cloud is real and needs to be given true attention and consideration. In order to remain competitive laboratories need to evaluate their current IT situation, the ROI, and their strategic goals. **CR**