Cloud Computing in Laboratories

The Drive to Reduce Costs

As firms look to cut IT and operational burdens, we are seeing the Cloud gaining momentum. Many German companies have been cautious about making this step but, as knowledge and understanding evolve, concerns about the security of the Cloud do not present the same issues as they did 12 months ago.

Not a Cloud on Germany’s Horizon?
Cloud computing has been around for over a decade, yet interest amongst enterprises has generally been hesitant.

A 2014 Eurostat survey reported that only one in ten German enterprises were using cloud services in some form, far lower than the European average of one in five, with many stating that their lack of knowledge was stopping them from even considering cloud computing [1]. But, the Cloud’s appeal is growing rapidly, and 2015 saw a 37.5 % increase in the number of European enterprises making use of the Cloud [4]. These figures may have been influenced by the opening of the Amazon Web Services (AWS) data center in Frankfurt, Germany, in October 2014 – which has become AWS’s fastest ever growing region [5]. The possibility of another data center in Germany has captured the attention of many Europeans looking to take advantage of the Cloud and, as knowledge and understanding increases, the opportunities afforded by the Cloud become more obvious.

Intellectual property (IP) and data protection are just as topical and important today as they have been in recent years. This is particularly true in the pharma and life science industry. Moving away from an on premise model was believed to introduce risk and loss of control to their most valuable asset - data.

A deeper look into the Eurostat survey reveals that, amongst the 81 % of enterprises not using the Cloud, uncertainty about data location, laws and security were the three main reasons why they were not using it.

Understanding the market and working with providers that offer local German data centers removes the first two of these concerns immediately. But, what about
security? In reality, much of the fear around security is more perception than reality. Cloud providers have specialized staff and well defined security protocols that are often more sophisticated than on premise solutions and provide higher levels of security.

A survey from AlertLogic found that while there were many factors to weigh when moving infrastructure into the Cloud, an assumption of insecurity should not be one of them. [2]

**Beyond the Foundation**
We are also seeing a rise in outsourcing research as companies continue to drive down costs. This further compounds the need to find solutions that provide secure collaboration with external partners and enable data sharing outside the corporate firewall without compromising security. A 2016 Centre for European Economic Research report on the innovation behaviours of the German economy shows innovation spending in the research and chemical sectors have risen almost 10 % over the past two years and that 17-84 % of all German enterprises were engaged in collaborative initiatives in 2014 [6].

Green and cost effective ways to collaborate are particularly relevant to larger enterprises where the focus to improve profit margins is paramount. For small to mid-sized enterprises, the drive is more around innovation and showcasing their adoption of new technologies as they jostle to compete as a viable partner for collaboration. The Cloud allows companies a secure, more agile approach to the changing demands of their business - it’s easy to scale and only uses the services that are needed when they’re needed.

You needn’t worry about cyber security any more, or less, than you would with on premise installations. Last year, Jon Inglis, former Deputy Director, U.S. National Security Agency said that he doesn't think paralysis [of the electrical grid] is more likely by cyberattack than by natural disaster. And frankly the number-one threat
experienced to date by the U.S. electrical grid is squirrels.

There were 20 power failures and server shutdowns caused by animals in Germany in 2015 [7]. Planning your prevention strategy is important whether in the Cloud or on premise and you should keep three key things in mind: identify your trade secrets, consider your threats and control the flow of information in and out of your enterprise [8]. Deploying systems on the Cloud affords redundant backup capabilities that avoid outages, which would otherwise handicap enterprises with smaller budgets.

The Great Equalizer
Another trend in the life science and pharma industry is replacing home grown solutions for more commercial off-the-shelf offerings in order to focus on advances in technology and increased quality. But this is perceived to come at a price, which includes new and updated hardware requirements, skills and expertise and additional resourcing, for example. This puts small to mid-sized enterprises at a disadvantage when compared with their larger competitors. Deploying solutions on, or in part with, the Cloud creates a more cost effective entry point, a pay as you go solution with a low IT profile provides all the same services and allows organizations to scale with the needs of their business. Put simply, cloud solutions introduce possibilities that level the playing field and allow more enterprises to have an impact on their market.

Technology is constantly evolving, and yet IT budgets and resources are likely to be the same, or lower, than they were in 2015 [3]. Companies are finding it harder to allocate capital budget under an increasing pressure to do more with less.

Cloud solutions offer companies an alternative to capital budgets, giving them the chance to take advantage of operational funding in order to solve a business problem. Common activities such as upgrades, patches and end of life hardware replacements become the responsibility of the provider, giving critical time back to the organization to focus on more strategic objectives. Another advantage of the Cloud is the ease of purchase when it comes to software dependencies. Oracle is a part of many solutions on the market, so taking this off the table means internal IT does not need to consider the underlying technologies within purchasing decisions. Implementation times are also low - with the Cloud, start-up times are typically measured in hours, rather than weeks or months. All of this helps bring faster value and return on investment to the business and ultimately, lower overall Total Cost of Ownership (TCO).

Summary
There are many business reasons to move some or part of your business to the
Cloud, but that’s not to say you shouldn’t do your homework. Factors such as reducing costs, going green, flexibility and scalability are all beneficial to a range of industries. You need to carefully plan your cloud strategy, security measures and costs completely, and take advantage of the expertise many technology providers are bringing to the Cloud arena. While the Cloud’s growth may have started slowly, people are certainly paying attention to the movement, and there is no sign of it slowing down.

References:

2. Maxwell Cooter, ITPro 21FEB2013
3. Cliff Saran, ComputerWeekly.com 01OCT2015
5. Rene Buest, Analyst Point of View, 31JUL2015
8. Christopher Hagon, Incident Management Group, Inc. 29SEP2012

Contact
John Thomas Kaminski
Director of Technology Servies EMEA
IDBS Deutschland
Munich
info@idbs.com

More article on Lab-IT:  http://www.laboratory-journal.com/