



PEACE OF MIND WITH ABBOTT INFORMATICS CLOUD SERVICES

INTRODUCTION

Purchasing a LIMS can be an exciting time of transition and change for a laboratory. A new LIMS ushers in an opportunity to re-evaluate the way a business operates and introduces more efficient ways of running the business. A new LIMS also provides an opportunity to take advantage of the latest technologies. However, for all the benefits and features a LIMS can bring, it can only be as valuable to the business as the infrastructure on which it is running.

Infrastructure is the unsung hero for many enterprise systems. Silently running behind the scenes, many users are not aware of the value of well-managed systems infrastructure until something goes wrong. Whether it be recovering from a disaster, or responding to user performance issues, how well the infrastructure is designed and managed on an on-going basis can make or break a business. As such, it is critical the laboratory decision maker and IT manager evaluate the right choice for their infrastructure needs early in the decision cycle. They should consider the full cost of ownership for managing and hosting the LIMS themselves versus the benefits of utilizing a managed services provider that will maintain the system for them.

For customers purchasing STARLIMS, Abbott Informatics (AI) offers a high quality and secure cloud STARLIMS solution with infrastructure that is fully managed by AI. This allows customers to focus on running the laboratory, while leaving the ongoing management of STARLIMS to AI.

Flexible Options to Meet Budgetary Requirements

AI offers two types of Cloud Services to align with the budgetary requirements of its customers. For customers preferring to purchase perpetual licenses for STARLIMS, which are typically purchased as a capital expense, AI offers Managed Hosting Services as an add-on.

The monthly fee for Managed Hosting Services covers the fully managed service and infrastructure. Alternatively, for customers who prefer to purchase STARLIMS as a monthly

operational expense, AI offers a Cloud Subscription offering. The monthly fee for Cloud Subscription includes the fully managed service, infrastructure, STARLIMS licenses and STARLIMS application maintenance and support. Customers can choose the option which best fits their budgetary needs.

World Class Infrastructure & Security

AI Cloud Services is built on the world class infrastructure provided by Amazon Web Services (AWS). AWS provides global data centers which allows Abbott Informatics to serve

a global customer base and meet regulatory needs such as HIPAA compliance in the United States and GDPR compliance in the European Union. Furthermore, AWS provides several security features which AI leverages to provide a secure environment for customers. Data-in-transit and data-at-rest are both encrypted with 256-bit encryption. AI also offers the option for customers to choose public connectivity, available over the internet and secured with SSL/HTTPS, or private connectivity where the system is only available behind the customer's firewall. This flexibility allows customers to choose the level of access required by their organization.

To mitigate risk and ensure development and testing activities are completely separated from production, customers are provided with 3 environments (development, test and production). Cloud Services application servers are deployed in an automated fashion with the latest OS versions to ensure the most stable and secure operating system. The flexibility of the underlying infrastructure also allows AI to scale services to meet the needs of the customer. Customers can start with what they need now and scale up as they roll out STARLIMS to additional labs in their organization.

Fully Managed Service

Customers benefit from the fully managed service provided by AI Cloud Services staff. The global staff have expertise in server, database and network administration. The fully managed service includes installation (including installation qualification for STARLIMS), patch management (ensuring OS and database vendor patches are applied in a timely manner, through a rigorous process of testing), malware protection, system monitoring, notifications and more. Customers also receive database maintenance, backup and retention services which includes retaining 5 weeks of backup sets in case they are needed.

A key component of AI's fully managed service is planning and architecting for disaster recovery to minimize potential downtime for customers. Production servers are set up in a high availability design across multiple data centers in AWS, and disaster recovery is tested with an annual timed exercise. In the event of a disaster, AI commits to a 4-hour Recovery Time Objective (RTO) and 15-minute Recovery Point Objective (RPO). This commitment to delivering quality service has allowed AI to provide customers with a 99.9% availability. And when

customers need infrastructure support, the global staff is available via phone, email or Zendesk ticketing system.

Organizational Synergy

Customers who choose to use AI Cloud Services benefit from the organizational synergy which comes from hosting services provided by the same company which has invented and built STARLIMS. Best practices discovered across all of AI are utilized within the Cloud Services offering. Any recommendations to customers from AI's Training Academy is reviewed and implemented for Cloud Services customers, including STARLIMS security best practices. Cloud Services staff also work with AI R&D to not only help other customers, but to utilize efficiencies discovered by Cloud Services as feedback for product teams to better bridge the gap between customers and developers. For example, working closely with R&D, AI Cloud Services staff has been able to reduce infrastructure usage by over 15% via application efficiencies including database query optimization. Cloud Services database administration has also been able to work closely with R&D and Professional Services to bring a high performing production service to customer without any additional cost for performance tuning.

Since AI Cloud Services runs only STARLIMS in its infrastructure, the staff can find efficiencies in many different areas and apply them to all customers. For example, in 2019, the staff has revamped the patching process to reduce downtime from a few hours to a few minutes on a monthly basis. This has allowed AI Cloud Services customers to see little or no downtime while keeping the cloud infrastructure safe with critical security patches.

The joint effort between the team which builds STARLIMS and the AI Cloud Services team allows AI to optimize the architecture design, leverage economies of scale and provide high degree of performance in a cost-effective manner for the customer.

In summary, customers who choose STARLIMS to meet the needs of their laboratory will find an experienced partner with AI Cloud Services. With flexible options to meet budgetary requirements, world class infrastructure, fully managed services and the benefits of organizational synergy, AI Cloud Services is positioned to deliver peace of mind to customers so they can focus on the business of running the laboratory.

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