



DNA Software Application Portal: SaaS Overview

December 2013

DNA Software's *qPCR CopyCount*, a qPCR data analysis tool, is the flagship application in the *DNA Software Application Portal* (which is located at portal.dnasoftware.com). The *DNA Software Application Portal* is powered by the Amazon Web Services (AWS) Elastic Compute Cloud (EC2) service, and can be accessed by any computer, tablet, or mobile device. The EC2 platform has been utilized by over 60,000 companies worldwide for their Software as a Service (SaaS) product applications. Diverse businesses, including banks, pharmaceutical, biotechnology and social media services, depend on the security of the EC2 platform to protect the flow of sensitive information.¹

What is DNA Software (DNAS) doing to protect your data on the internet and in the cloud? In the world's fastest growing commercial sectors, the protection of Biotechnological, Pharmaceutical and Agricultural proprietary information is the most important issue being faced today. New methods and products can reshape and revolutionize how we think about the human experience, which could translate to millions, if not billions of dollars in revenue. So what is DNA Software (DNAS) doing to protect the data used by *qPCR CopyCount*? Since the *DNA Software Application Portal* exists within an AWS Virtual Private Cloud (VPC), we are able to place strict limitations on access of portal instances by utilizing EC2 security groups, which provide inbound and outbound filtering at the instance and subnet levels.² Amazon's Web Services have also achieved ISO 27001 certification as a Level 1 service provider under the Payment Card Industry (PCI) Data Security Standard (DSS) and is certified as a Level 2 provider for Department of Defense (DoD) systems.^{3,4}

What data does qPCR CopyCount store on the Amazon EC2 platform? Only raw qPCR fluorescence data and well nomenclature data is kept, which "anonymizes" experimental PCR data. Experimental data which is not stored includes primer or probe sequence, target identity, and buffer concentration information. In very rare cases, the portal may retain a copy of the original file which is uploaded, but this is done solely to help us to improve *qPCR CopyCount*. Nonetheless, DNAS protects all stored data as though it were identifiable.

Why does DNA Software use a SaaS business model? The *DNA Software Application Portal* allows all of our users to easily and affordably access supercomputer-level computational power, which provides as large a design and analysis space as is required. This brings incredible levels of computational ability to many individuals and businesses that could not take advantage of such capability in the past. Both *qPCR CopyCount* and the upcoming *ThermoBLAST - Cloud Edition* products are capable of distributing their computational processes across a large cluster of supercomputers – this will allow our suite of portal products to achieve a level of scalability so vast that we have not yet found its limit.

¹ <http://www.deepfield.net/2012/04/how-big-is-amazons-cloud/>

² <http://aws.amazon.com/vpc/>

³ <http://aws.amazon.com/security/>

⁴ http://media.amazonwebservices.com/pdf/AWS_Security_Whitepaper.pdf