

Japanese Genetics Firm Picks CORVAULT

GeneBay, a Japanese SME specialising in genetic research, turned to Seagate for an affordable storage solution to manage their extensive biological analysis inventories without compromising performance or ease of maintenance.

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6 minute read

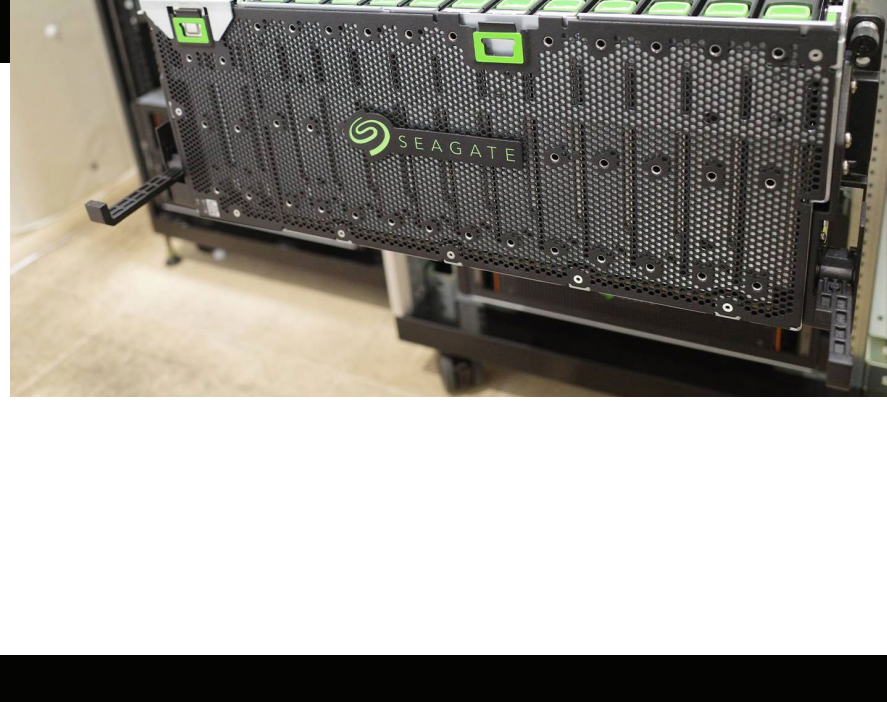


Table of Contents

- Introduction
- Their Story
- Their Goal
- Their Problem
- Their Solution
- Their Success

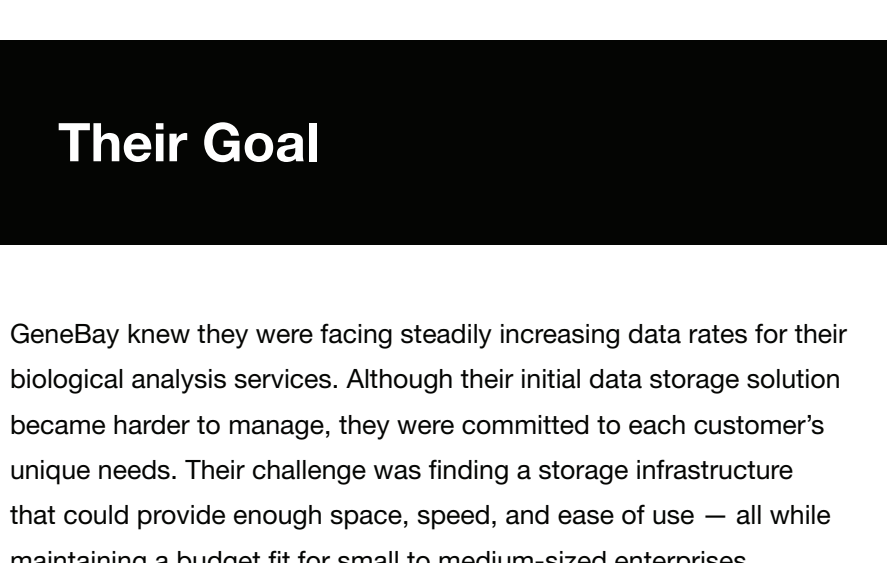
Introduction

Founded in Yokohama, Japan in 2016, GeneBay, Inc. (<https://genebay.co.jp>) uses next-generation sequencing and design to provide cutting-edge “-omics” (genome and transcriptome) analysis and develop -omics analysis-related software systems. GeneBay also collaborates with several sequencing companies, some of which are well-known overseas, to deliver analysis services.

Their Story

GeneBay’s clients are concentrated in academia, mainly comprised of universities and private and national research institutions. They provide analysis for research and development in human medicine and biology. Recently, there’s been a growing need in the field for DNA analysis of biological species other than humans, such as plants, animals and fish.

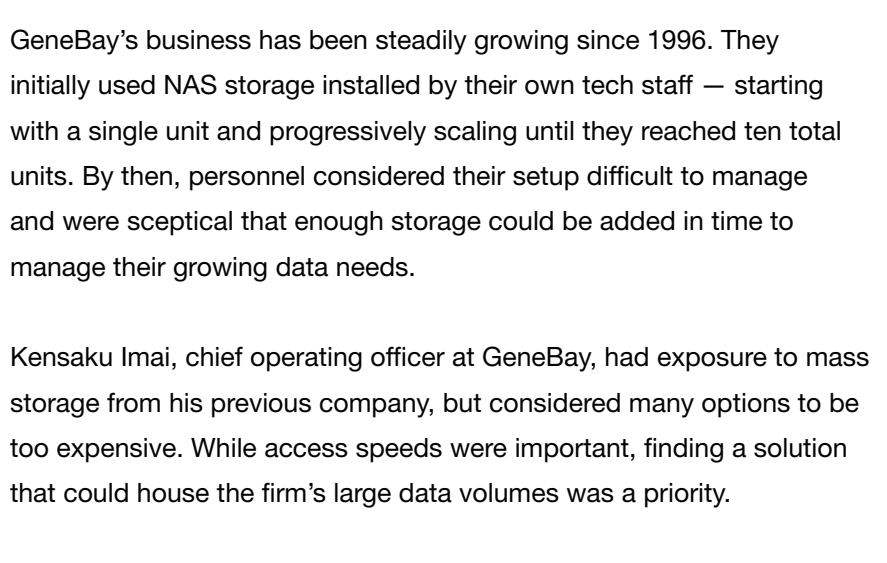
Since inception, GeneBay has conducted research on secondary and tertiary analysis of sequencer data, developed databases, and built systems for analysis. They continue to help customers by providing these services — in all aspects of biological research and beyond.



Kensaku Imai, Chief Operating Officer at GeneBay

Their Goal

GeneBay knew they were facing steadily increasing data rates for their biological analysis services. Although their initial data storage solution became harder to manage, they were committed to each customer’s unique needs. Their challenge was finding a storage infrastructure that could provide enough space, speed, and ease of use — all while maintaining a budget fit for small to medium-sized enterprises.



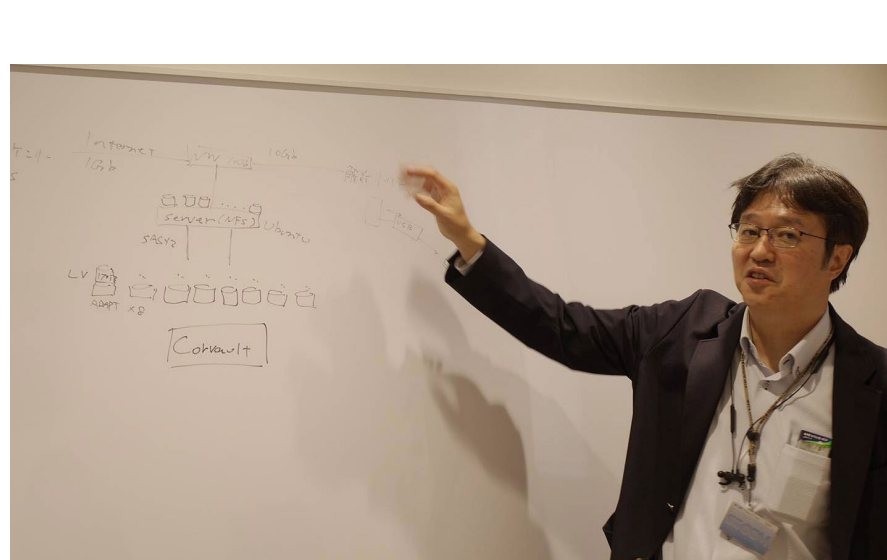
Their Problem

GeneBay’s business has been steadily growing since 1996. They initially used NAS storage installed by their own tech staff — starting with a single unit and progressively scaling until they reached ten total units. By then, personnel considered their setup difficult to manage and were sceptical that enough storage could be added in time to manage their growing data needs.

Kensaku Imai, chief operating officer at GeneBay, had exposure to mass storage from his previous company, but considered many options to be too expensive. While access speeds were important, finding a solution that could house the firm’s large data volumes was a priority.

To better understand the storage needs for biological analysis data, Imai uses human DNA as an example. Reading a human DNA sequence averages 33 points, or 3 GB, but higher accuracy demands more samples, thereby inflating those values. The method of analysis also affects how much data is created. Using long-read sequencing for one human DNA sample yields around 2 TB. If GeneBay were to read 500 samples for precision, storage capacity could easily hit petabyte-scale.

Despite varying sample needs across customers, data volume and scale of analyses have shown immense growth in the past two years.



Their Solution

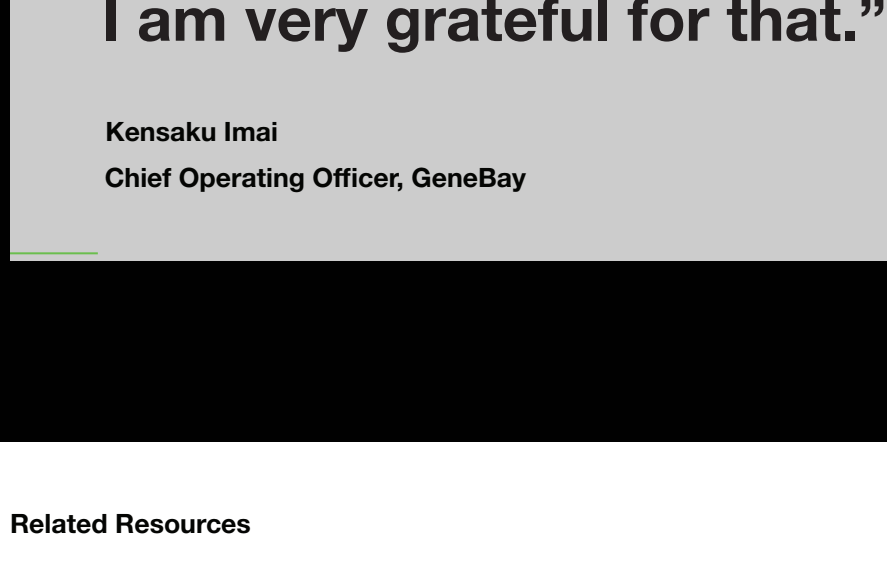
“It’s hard to find a low-cost solution,” Imai said. “That’s when I came across Seagate Exos CORVAULT, which seemed able to store large capacity data at a low cost.”

GeneBay worked with value-added provider ASK to determine which Seagate solutions fit their needs. Not only did they want an affordable mass capacity solution, but also a supplier who supported them in applying for Japan’s Small and Medium-Sized Enterprise (SME) Tax Measures System. Imai noted that this system offers SMEs a tax incentive (deduction) when investing in new equipment that improves company productivity by a yearly average of one percent or more compared to their previous model (e.g., in production efficiency, accuracy, or energy efficiency, etc.). To apply, manufacturers must issue a certificate to the SME prior to purchasing, proving that the equipment meets productivity improvement requirements.

GeneBay’s initial technology provider of choice declined handling such requests, noting that the application process has become more complex. Seagate, however, agreed to help and supported GeneBay in successfully applying for the tax incentive. Since the initiative is ongoing, Imai anticipates reapplying for the incentive when purchasing future Seagate solutions.

Prior to purchasing, Imai was familiar with the previous model of Exos CORVAULT with Seagate’s Automatic Distributed Allocation Protection Technology (ADAPT). At the time of decision making for GeneBay’s intended purchase, Imai was especially pleased that a new generation of Exos CORVAULT was available — bridging ADAPT with exclusive features that were simple and comparatively low-cost.

Seagate Exos CORVAULT helped streamline GeneBay’s data workflow. First, a DNA sequencer connected to a NAS system sends data to GeneBay’s 10 GB network for storage. Once stored in their new CORVAULT infrastructure, dedicated analysis servers interpret and prepare the data for delivery to the end customer through USB, external HDD, or the public cloud.



Their Success

Within the first three months of using Exos CORVAULT, GeneBay’s data amounted to 735 TB of storage capacity. Staff could now take on “particularly large projects that deal with tremendous amounts of data” with peace of mind.

“Without implementing CORVAULT, we would not have been able to take on these projects,” Imai said.

Imai and his colleagues also appreciated Seagate’s fast solutions delivery. The implementation process only took six months, with discussions beginning in October and product delivery in March. The interim period enabled GeneBay to successfully apply for the SME tax incentive. They noted that their Exos CORVAULT system is “stable, fast, and easy to manage” — all important benefits for resource-stretched SMEs.

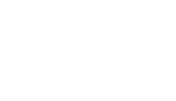
GeneBay also accomplished their initial goal of responding to growing data demands and the volume of analysis requested by each customer. Without the proper infrastructure, Imai believes GeneBay would have declined business deals worth tens of millions of Japanese yen in the last three months.

Imai wants to prevent exhausting storage resources, regardless of how much data is deleted. Although he expects GeneBay’s data analysis to continue growing, he is hesitant to add more capacity without a more comprehensive plan of action which accounts for additional factors such as electricity costs. If, or when, that time comes, Imai said that GeneBay would happily consider Seagate’s assistance again.

“Up until now, our storage capacity has been very dispersed and separated, and running out of storage space has always been on my mind. At the moment, with Exos CORVAULT, this has been resolved, and I am very grateful for that.”

Kensaku Imai
Chief Operating Officer, GeneBay

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