

Flexibility and Speed to Help Find COVID-19 Treatments

Accelerated virtual database “sandboxes” enable a pivot toward analytics for effective treatments

“We are so busy working with the federal government on real-world data for the virus. We can tell them which drugs are working, or not, along with the length of stay and mortality rate using an Actifio sandbox. This gives my analytics team the ability to get our data to the government in real time and is better than a drug trial and more relevant to outcomes, as the information on COVID-19 is changing so rapidly.”

KIM JACQUES, CIO, SENTRY DATA SYSTEMS

Summary

Sentry Data Systems, a pioneer in automated pharmacy procurement, utilization management and 340B compliance, provides healthcare organizations with data for use in healthcare analytics. For Sentry’s Agilum division, speed and flexibility, always essential, became even more urgent with the onset of COVID-19.

Sentry needed a solution that could handle very large databases efficiently, accelerating the process to provide data and analytics to its hundreds of clients.



sentry data systems™

KEY FACTS

Who: Sentry Data Systems, a pioneer in automated pharmacy procurement, utilization management, and 340B compliance.

Challenges: Speed to market, regulatory changes & high data change rates in extensive Oracle databases.

IT Environment: 120TB Oracle database on Exadata captured using Pure ESP and Actifio Sky.

Solution: Architected a solution to fit and capture a 120TB Oracle database from which Actifio makes virtual copies.

Sentry turned to Actifio to architect and implement a solution that incorporates existing Exadata infrastructure with Pure storage and Oracle Data Guard to create virtual database copies. The solution can now provide clients access to individual test data “sandboxes” in less than ~30 minutes, reduced from weeks with the old system. In addition, Sentry’s Agilum division can now quickly share data with government agencies, connecting patient outcomes to the efficacy of pandemic virus treatment results, and helping to accelerate analytics leading to the development of more effective treatments.

“As digital transformation pushes more data use cases, we have opened the door to facilitate providing data for purposes beyond our traditional business model. Support for COVID-19 research and analytics is certainly the most satisfying example of how we can use this to make a difference.”

KIM JACQUES, CIO, SENTRY DATA SYSTEMS

Organization Overview

The Sentry Data Systems business provides healthcare organizations automated pharmacy procurement, utilization management, and 340B compliance services. Its focus is to use healthcare analytics insights and business intelligence to help customers address their three most significant challenges: reducing costs, managing compliance, and improving outcomes.

The Challenge

In many respects, Sentry Data Systems faces the same challenges faced by its customers: improving outcomes, reducing costs, and managing compliance. Amid ongoing regulatory changes, Sentry leverages data aggregation to squeeze as much usable information as possible out of its collected data. And, while speed to market has always been an essential element in facing its challenges, for Sentry’s Agilum division the onset of COVID-19 introduced an entirely new time imperative.

Sentry’s business centers on data analytics to address contract compliance in drug pricing to maintain alignment with government drug regulations. Its largest Oracle production database (120TB+), is critically important to the process, and experiences very high data change rates, as much as 500GB per hour. That has meant dealing with significant storage requirements. Dozens of database copies were needed for clients to perform their analyses, but the process was manual and slow. Refreshed copies were read-only and could take two weeks or more to produce and didn’t allow for what-if testing. Customers wanted database copies to flexibly conduct their analytics, but it wasn’t feasible or cost-effective to multiply a database 60 times to provide that resource. A new solution was needed to provide customers faster data access, and do it without increasing the storage footprint.

The Solution

Addressing speed and storage challenges were already central to Sentry's search for a new database management solution. However, the advent of COVID-19 added an extraordinary new dimension to the value of Sentry's data, especially in terms of speed. The objective was to separate customer analytics from the production database, provide "sandbox" access, and do it very quickly. Now, in addition to maintaining compliance with government drug regulations, pandemic drug efficacy became a new dimension of the work.

Before that new dimension became apparent, the search was already underway with the evaluation of manual snapshots using a storage and software combination. The initial approach proved unsuitable because the required storage capacity would have been too large and too costly. Also, the tested software could not function as promised to provide customers fast access to non-production database copies for their analysis.

Sentry turned to Actifio to architect a solution that incorporated Sentry's existing Exadata infrastructure and added Pure storage combined with Oracle Data Guard to create virtual database copies. The Oracle Data Guard extension maintains a standby database copy, and the streamlined Actifio Sky solution captures that copy directly via technology integration with Pure storage arrays. This functionality is crucial because it dramatically reduces the time it takes to capture data and bring it under management to make it available for the copies Sentry clients need.

Integration with Pure is a critical element in handling the substantial 500GB per hour data change rate. The stream capture enables customer access to the most current data and provides as many virtual copies as required without adding storage capacity. Additionally, Pure's compression reduces the 120TB database to only ~65TB of consumed storage. Through Actifio's partnership with Pure, the co-engineered solution quickly retrieves current data with the smallest feasible storage footprint. Most importantly, timing to provide clients a testing database is reduced to ~30 minutes, where it previously would have taken weeks.

Sentry is now able to connect the data with patient outcome information to measure the efficacy of pandemic virus treatments. This instant data availability is being shared with government agencies to quickly understand the benefits or problems of COVID-19 drug treatments and to accelerate the development of more effective treatments.

"The Actifio team has taken the time to understand our business complexities and our business model. They have helped us to create an easier-to-manage and faster solution that provides individual customer database copies without manual processes and other point solutions."

KIM JACQUES, CIO, SENTRY DATA SYSTEMS

Immediate Benefits

- Providing data and analytics around COVID-19 patient care to the federal government and others; data that has proven to be more relevant and enormously helpful in the search for treatments
- Database copies captured and shared in ~30 minutes, instead of weeks
- Reduced Cost of Oracle licenses and storage systems
- Near immediate customer access to current data sandbox that now enables in depth analytics and what-if testing
- A new revenue stream with unique-to-the-industry sandbox environments, long-requested service by clients
- Each customer has a virtual sandbox to run testing and analytics with no production impact
- Improved Sentry profitability, helping to take the Sentry IT function from a cost center to a revenue generator

About Actifio

Actifio is the world's leading Enterprise Data-as-a-Service (EDaaS) platform. It enables thousands of users around the world to deliver their data just as they deliver their applications and infrastructure as a service available instantly, anywhere.

An enterprise-class software platform powered by patented Virtual Data Pipeline™ technology, Actifio frees data from traditional infrastructure to accelerate adoption of hybrid cloud, build higher quality applications faster, and improve business resiliency and availability. For more, visit actifio.com or follow us on Twitter [@Actifio](https://twitter.com/Actifio).

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