

Time Machine® for Containers Accelerates a State Government Agency's Containerization Myriad Testing

Quote

"Our Openshift operator microservices are state of the art and complex. Solution-Soft provides timely technical support all the time and works closely with our team to establish and optimize time travel best practices both with containers and across legacy applications. Solution-Soft's customer focus and technical support and service are world-class!"

**Deputy Delivery Manager
The Leading Consulting
Firm**

Enabling a Leading Consulting Firm to Speed Up Time to Market by Two-Fold for the Agency's OpenShift® Operator Microservices Modernization Project

The Project

A leading international management consulting firm is responsible for a state government agency's vital operations and implementations. The environment consists of the day-to-day operations of the agency's website, open enrollment implementations, enhancements, and digital transformations.

The modernization project involves moving from a traditional 3-tier web/application/database software architecture to an Openshift operator with microservices. New containerization functionalities are being rolled out in phases, coexisting with and eventually replacing legacy applications.

The firm chose Openshift operator 4.10, 3scale, Fuse, and PostgreSQL for its containerization technology stack, which runs in the Amazon Web Services (AWS) cloud. There are multiple Openshift clusters with numerous 16 CPU core worker nodes and multiple namespaces for parallel development and quality assurance.

The State Agency's Mission (Obamacare & Medicaid)

The state government agency operates a crucial system established under the requirements of the Affordable Care Act of 2010. This automated platform serves as consolidated support for eligibility, enrollment, and retention for a state level Obamacare program, including its Medicaid services.

The system streamlines resources for individuals and small businesses to research, compare, check eligibility, and purchase health coverage.

The Challenge

The project has to run time travel testing in a myriad of date and time-sensitive logic on a daily basis. This includes testing scenarios such as the open enrollment period, eligibility checks related to age, change of status, and college graduation, all of which require "time travel" to various trigger points.

A major challenge was running these tests independently within multiple namespaces inside Openshift clusters. Changing the system clock was ruled out because it is resource draining, cost-intensive, and error-prone.

About Solution-Soft

Since 1997, Solution-Soft has been at the forefront of virtual clock software and time travel testing solutions, empowering organizations in the ever-evolving digital world. Our flagship product, Time Machine®, has revolutionized application testing, enabling thousands of companies, including many of the Fortune 100 US companies, to reduce costs and accelerate project delivery by an average of 3 – 10 times across traditional systems and containerized applications.

The Time Machine Product Suite extends these capabilities, optimizing cloud migration, test automation, Agile/DevOps, and containerization testing. Our latest innovation, Time Machine for Containers, supports standalone Docker containers and large-scale Kubernetes and OpenShift clusters (including a 16,000+ CPU core cluster, 1,300+ namespace deployments reducing time travel testing cycle by 60 times!)

Trusted by over thousands of customers worldwide across diverse industries (including AIG, ATO, Atruvia, AMEX, BBC, Boeing, Discover, Lloyds Bank, SNCF, State of CA, ID, HI, MO, OH, NC, and more) and partnered with industry leaders like Accenture, Deloitte, DXC, IBM, Microsoft, Oracle, and Red Hat.

Solution-Soft was founded in 1993 and is headquartered in Santa Clara, CA, providing cutting-edge solutions for your time travel testing needs.

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Furthermore, it is not possible in secure environments with multiple, parallel date/time tests. This means integration testing with legacy applications running Weblogic and an Oracle database, along with Openshift operators, further complicates the process.

The Time Machine Solution

The consulting firm chose Solution-Soft's Time Machine for its containerization project. Time Machine provides time travel virtual clock testing software for databases, application pools, and Kubernetes namespaces.

These virtual clocks have speed control and can be set by users or administrators on-the-fly or via an API for test automation. The solution also includes a Floating License Server (TMFLS) for the AWS migration, which allows licenses to be easily and automatically shared between on-demand test environments under the Agile CI/CD methodology.

The Deputy Delivery Manager from the consulting firm stated, "Our Openshift operator microservices are state of the art and complex. Solution-Soft provides timely technical support all the time and works closely with our team to establish & optimize time travel best practices both with containers and across legacy applications. Solution-Soft's customer focus and technical support and service are world class."

Results and ROI

According to the Deputy Delivery Manager from the consulting firm, the project's original timeline for container migration was three years, but with the Time Machine solution, they are confident they can deliver in less than half that time.

The Time Machine solution is used for both batch and interactive testing daily. It allows the firm to perform parallel testing with multiple, different virtual clocks across seven to nine namespaces at a time, which boosts productivity and speeds up delivery.

The manager also noted that "Time Machine is instrumental to enable us with faster time-to-market and the ability to deliver multiple features with each Agile run consistently!"