

# Case Study

## General Services Administration (GSA)

Halley's COMET (Chief Information Officer Modernization & Enterprise Transformation)

### The Challenge

GSA is chartered to deliver operational excellence, ensuring availability of mission critical e-commerce and acquisition platforms. GSA's Federal Marketplace needed to **modernize and improve user experience by simplifying the buying and selling process** for customers, suppliers, and acquisition professionals to increase operational efficiencies through new and innovative approaches for managing application environments. To accomplish this, **GSA needed to transition to cloud based infrastructure and modern architectures to improve application performance, elasticity, resilience, and security.**

### The Solution

As the prime contractor on the Halley's COMET task order, **Octo's team of more than 140 technologists and domain experts** is responsible for the development, modernization, enhancement, and operations and maintenance (O&M) of **50+ mission critical applications that provide services for more than 1.5 million external users and more than 3,000 GSA Acquisition Work Force employees with 24x7 need** for availability and usability. Octo supports the modernization of GSA Halley's COMET portfolio of applications, reducing the number of systems and eliminating dependencies while streamlining the user experience. Octo is accomplishing this as GSA transitions from a systems-based development organization to a product-based organization following DevSecOps processes using a variety of Agile tools and processes to deliver new system features, while ensuring O&M continues to be prioritized.

To **improve efficiencies and security**, Octo leverages CI/CD pipelines and cloud infrastructure to deploy and operate secure applications. To **improve application performance**, we developed an API in GSA's Federal Acquisition Services Cloud Services (FCS) environment built on AWS by leveraging S3 buckets. Once data is received these services send out automated notifications, extract the compressed data, and process it asynchronously. This new process **significantly decreases the time it would take to load millions of rows of data manually** and allows GSA to better manage their cloud costs by expanding S3 buckets only when needed.

Octo structured its teams into four portfolios each with **14 Agile teams**. Each team is made up of Scrum Masters, business analysts, architects, full stack developers, user interface/user experience (UI/UX) developers, and automation testers supporting system and software development.

We **enhanced GSA's data capabilities** by building a critical application to ingest and store vendor catalogs to support GSA's Advantage! system and the other enterprise services that rely on large sets of catalog data. The Authoritative Catalog Repository (ACR) is comprised of a set of microservices that run on Kubernetes and uses an event-driven architecture. These **microservices are automatically scaled up and down horizontally** through GSA's AWS environment to handle heavy data loads.





## The Benefits

Octo developed **modern architectures, CI/CD pipelines, and a cloud-based infrastructure to make development faster and more secure.** We also used Agile and Human Centered Design (HCD) practices to make applications more user focused which drove up adoption and user engagement.

Through these efforts, Octo has **simplified the buying and selling experience** for customers, suppliers, and acquisition professionals. By developing a Digital Software Supply Chain framework to support multi-portfolio application modernization efforts, we created new human-centric solutions **that provide a consistent, streamlined digital experience centered around a common user journey.** This approach allows GSA to connect to its customers and suppliers intuitively and efficiently.

## The Results

- Octo **enhanced the Federal Government's largest online retailer, Advantage!®** in which we maintain more than **78 million** uniquely priced catalog items from 25,000+ vendors.
- We support GSA's Enterprise Content Management System (ECMS) which is used to successfully **process requests for 25+ terabytes** of contract and solicitation related data.
- We support GSA's eOffer/eMod systems used for creation and submission of Multiple Award Schedule (MAS) Offers and contract modification requests by vendors to initiate a MAS Contract or to modify one. An average of **13,000 offers and contract modifications per year** are successfully awarded through the systems that Octo operates and maintains.
- Octo supports GSA's eBuy application, an electronic RFQ tool for successfully managing more than **\$11 billion in contract solicitations annually**, workflow business process components, published RFQs, and vendor responses to solicitations, along with contract awards.
- We have **streamlined millions of rows of transactional sales data** needing to be reported by external vendors on a monthly basis. Octo developed services for commercial platform vendors that would allow them to generate and compress XML data directly from their systems. This process enables us to **compress the data being transferred from upwards of 1 GB down to 10 MB.**
- Octo enabled GSA to transition from **on-premise to cloud** infrastructure.
- Our modernization and cloud infrastructure support improved **application security.**
- Our implementation of modern development architecture and design patterns and HCD and UX practices increased **user happiness, engagement, adoption, and task success** and created a far more cohesive experience for customers and suppliers and increased efficiencies across all GSA properties.

To learn more, visit [gsa.octo.us](https://gsa.octo.us).