CASE STUDY

Maximizing Microservices

The Challenge

—   A Department of Homeland Security (DHS) client needed to deliver applications to customers more quickly and at a lower cost. While Ardent Management Consulting, Inc. (Ardent) brings proven DevSecOps best practices, we realized that we had gaps between our best practices and implementation. Despite our best efforts, we were not able to consistently implement best practices when creating a Continuous Integration/Continuous Delivery (CI/CD) pipeline.

The Solution

—   The Microservices architectural method uses a set of small services to develop a single application. Ardent expanded upon the concept of Microservices to create a Common Microservices Initializer (CMI). CMI simplifies the process of creating a clean, structured, and fully functional CI/CD pipeline that automatically adheres to DHS's security guidelines and best practices. CMI also generates a microservice and Jenkins pipeline configured to follow defined DevSecOps standards with minimal developer input. For a single client, Ardent has integrated CMI with five major investments solutions and developed over 90 microservices across multiple domains using the technology stack shown.
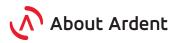
The Outcome

— CMI will save a DHS component approximately $250M in software development and delivery annually. CMI further benefits our clients by reducing months of expensive developer time down to as little as 10 minutes. Furthermore, our CMI standardizes all microservices and facilitates maintainability, automation, quality, and governance.

"I cannot stress enough how much time and money CMI has saved us. We are developing microservices in 10 minutes (minus the business code). This tool is amazing. Also, Ardent implemented every single change that we requested in no time."

~ DHS Client, Branch Chief

Tools used to achieve these outcomes:

Manufacturer/Product	Manufacturer/Product	Manufacturer/Product
Adobe/Adobe Livecycle	Docker Inc/Docker	**Microsoft/** Microsoft SQL Server; Microsoft Windows Server 2008 R2 Enterprise
AdoptOpenJDK/OpenJDK; OpenJRE	Eclipse/Eclipse	
Amazon/Amazon Web Services	**GitHub/**GitHub Enterprise	Open/ **Hibernate Core for Java**
AngularJS/AngularJS	**Google/**Apigee	Oracle/ **Oracle JDBC Drivers; Solaris 10; SQL Developer**
Apache/ActiveMQ; Apache HTTP Server; Apache Tomcat; Kafka	**Gradle.org/**Gradle	OSS GNU/**Ansible**
Apache Software Foundation/Apache Tomcat Native	**HashiCorp/**Terraform	Splunk/**Splunk**
Atlassian/Confluence; Jira	**Hewlett Packard/**WebInspect	SpringSource.org/**Spring Boot; Spring Framework**
CapitalOne/Hygieia	**Jboss/**Hibernate	Tableau/**Tableau**
Cloudbees/Cloudbees Jenkins	**Jenkins CI/**Jenkins	Twistlock/**Twistlock**

About Ardent

— A Digital Transformation, Location Intelligence, and Data Analytics firm, Ardent Management Consulting (ArdentMC) is a certified HUBZone Small Business and CMMI-Dev Level 3, v2.0 and ISO 9001:2015 company with offices in Arlington, VA and Tulsa, OK. ArdentMC management systems (ISMS/ITSMS) are certified to ISO 27001:2013: ISO 20000-1:2018 standards by SRI Quality System Registrar. Ardent brings a significant history of innovative and "at the speed of the mission" proven best practices in geospatial analytics, cloud services and modernization, and software development. Ardent is the "All In" trusted provider to many government agencies, DHS mission components, state and local projects, and the commercial and non-profit sectors.

For more information, visit www.ardentmc.com.