From cyber to cloud, virtualization to artificial intelligence (Ai), software is an integral part of the digital transformation happening across U.S. defense and intelligence agencies. But the potential to enhance operations while reducing costs through software isn’t limited to front-page news. Department of Defense (DoD) and other leaders can use software to improve functions at every level.

**STAY CURRENT, STAY READY**
That is, of course, if they aren’t locked in to limited, long-term tools. Between vendor lock, the time it takes to acquire new software, and the speed at which today’s technology changes, DoD leaders must invest in secure software that can flex and evolve with their missions—as well as with the rest of the world.

Fortunately, open architecture software provides a secure and affordable solution to this challenge. Through open solutions, the DoD can remain current, implementing enhancements over time via components that can be expanded, upgraded, or changed quickly and at little or no cost.

**THE COMPLETE SOFTWARE PACKAGE**
For more than 25 years, Alion has built and refined a software development capability that translates the edge of commercial innovation for our national defense and security clients. We combine agile engineering and open architectures to quickly deliver robust software applications that keep you current and secure.

Whether you need wargame simulation, web services, SaaS, software integration, terrain generation, or serious games, our engineers work with you from the beginning to deliver the right solutions backed by actionable metrics. In line with industry and domain best practices, we use an Agile software development and Scrum methodology to develop and validate our solutions, while minimizing cyber risk in a DevSecOps environment through our fully accredited processes.

With expertise across simulation protocols, C++, Java, C#, and Javascript — while constantly learning new languages and protocols — our software development experts provide holistic solutions that keep pace with technology changes and your mission needs.
ALION’S SOFTWARE ENGINEERING SOLUTIONS

Using SCRUM and Agile methodologies, our software engineers quickly and continually deliver product iterations throughout each project, so you can see your vision as it evolves and make adjustments on the requirements in real time. This rapid prototyping, paired with our vendor-agnostic approach, means we save you time and money while delivering industry-leading software engineering solutions.

REQUIREMENTS EVALUATIONS
Bringing our expertise together with your mission goals, we work with you to refine and evaluate the requirements that will drive the final software solution we deliver.

RESEARCH & TESTING
Our experts conduct research and automated testing on technology from across the market to find the best solution for your needs. And if we don’t find the right fit, we’ll create it!

DESIGN & PROTOTYPING
Based on your specific requirements and the results of our research and testing, we design and prototype software across a wide range of modern technologies and languages.

DEVELOPMENT & OPERATIONS
We don’t stop at developing your software. We help integrate it into your environment and provide ongoing operations and maintenance, so it continues to perform as planned.

SPOTLIGHT ON: JOINT SIMULATION BUS (JBUS)

Gateways are critical to connecting varied applications and systems into a cohesive, functioning, and integrated environment. For an integrated system to function properly, these gateways must do more than connect; they must translate data between various protocols, so it can flow unhindered throughout the system in real-time.

Our Joint Simulation BUS (JBUS) tool reduces the effort and risk associated with gateway development by providing a common framework for data translation. The framework delivers a system and software architecture capable of rapidly integrating, configuring, controlling, and monitoring execution of new and existing modules. We designed JBUS to support protocol and application plug-ins of varying size and complexity while reducing design, implementation, maintenance effort. In addition, it supports filters and manipulators that can be applied to any plug-in.

Through JBUS, we aim to provide a validated framework that will promote interoperability and reuse of interface components, reducing cost and effort for our clients while enabling new data translation capabilities to be deployed more rapidly.

We help you maintain reliable, secure, and useful computing environments with the software and support you need to run a smooth operation. To learn more about our complete package of software engineering solutions, or to get connected with one of our experts, visit us online at www.alionscience.com/software.

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About Alion Science and Technology
Solving our nation’s complex national security challenges, Alion works with our defense and intelligence communities to deliver advanced engineering solutions. With global expertise in Live, Virtual, and Constructive Training; Big Data Analytics and Cyber Security; Artificial Intelligence; Electronic Warfare and C5ISR, Alion ensures mission success. To learn more, visit alionscience.com.

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