

SOFTWARE ARCHITECTURES



Government agencies desire the enterprise-like ability to update their digital systems with the latest applications and capabilities. However, their current computer architectures require system integrators to unlock the door, oversee development and installation, and run tests that slow progress and innovation. Ball Aerospace-developed software architectures remove the need for integrators and make adding new capabilities as easy as downloading a new application to your compute system. The result is faster, more secure and seamless system integration that accelerates the pace of innovation instead of blocking it.



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Overview

Imagine if you had to go to your phone or computer manufacturer everytime you wanted to update software or integrate new applications into your smartphone or desktop computer. Until recently, this is what happened anytime the government wanted to update the systems they rely on for ground stations, command & control centers and space operations. Any new capability or application would have to be developed with the system integrator, who would then take the entire system offline for hours, if not days, for installation, integration and testing.

Ball Aerospace's event driven architectures dismantles the system-integrator-as-gatekeeper model and allows customers to make fast, secure and seamless updates to capabilities.

Hexicon

Developed by Ball Aerospace, Hexicon is a modular, open and scalable event driven software architecture that allows for rapid and seamless integration of new software and overall increased system resiliency. It provides an open-source, domain-agnostic cloud framework for capability developers. With Hexicon, updates, expansion and modernization can occur without taking the system offline and disrupting critical multi-domain operations and missions. The framework acts as an integration concierge, facilitating integration within and between applications so that capability developers can concentrate on innovation rather than endless details of software integration.

Cobalt

Cobalt provides our Hexicon framework in a downsized format to fit into small computing spaces currently dominated by closed embedded software systems. For developers creating new capabilities and commands, Cobalt provides the speed and security of an open architecture and standards-based cloud development software stack, allowing products to be integrated seamlessly.

Quick Facts

- Operates on private hardware, AWS Commercial, AWS GovCloud, C2S or Azure
- Facilitates Secure DevOps for rapid development and delivery of new features
- Encourages Event Driven Architecture (EDA) to minimize software module integration complexity
- Ball has proven success with a zero, 50% and traditional integrator role. Each new team delivering apps can choose the level that's right for them
- Rapid integration of trusted software packages: Automated build, test, integration and delivery
- Resilience is built in: self-healing, anti-fragile design; graceful degradation and rapid recovery
- Built for Security: Mandatory encryption blocks malware
- Proton Fluence Characterization

Integration with Ball Software Factory (BSF)

These frameworks integrate with our Ball Software Factory (BSF). The BSF automates tedious development tasks including application integration. Instead of developing each piece of software from the ground up every time, BSF enables developers to code faster and better by standardizing the testing, building and delivery of secure releases. For applications with their own software factories, our Software Development Kits (SDKs) are available for incorporation into second- and third-party development stacks with integration automation and brokering capability.

