

GROUND COMMAND, CONTROL AND COMMUNICATIONS



Imagine if you had to go to the manufacturer every time you wanted to update software or integrate new applications on your smartphone or computer. Until recently, this is what happened when the Government wanted to update systems they rely on for ground stations, command and control centers and space operations. New capabilities or applications would have to be developed with the system integrator, who would have to take the entire system offline for installation, integration and testing.



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Features

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

Agile:

With the ground command, control and communications (GC3) end-to-end system, mission partners can respond quickly to emerging threats. The GC3 system uses continuous integration/continuous deliver (CI/CD) to develop on unclassified networks and push to classified environments in a day. Automated units and functional testing ensure new features won't risk mission operations, virtually eliminating system regression problems. Secure agile development tools are ready to use and include features such as issue tracking, configuration management, chat and more.

Reliable:

Deployed GC3 systems are extremely reliable. The distributed, cloud-native architecture recovers quickly from hardware or software crashes. The Virtual Mission Operations Center spans locations and can be relocated in seconds. Common microservices are shared across programs, receive extensive testing and operational use, and deploy frequent small system updates instead of disruptive major releases.

Secure:

The GC3 system requires every system user and component to authenticate. It uses an innovative phased approach to library security to ensure the software supply chain is secure without impeding developer efficiency. It also alerts you when new vulnerabilities are discovered. Traditional "one and done" software security scans leave you vulnerable to flaws unknown when the scan was performed. Frequent updates keep your system securely patched.

Developer-Centered Philosophy:

GC3 tools help developers be effective by allowing them to spend less time creating and maintaining development tools and more time writing software functionality. Automation and representative test data build confidence and understanding and expert support minimizes downtime due to technical challenges.



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Quick Facts

- Operates on private hardware, AWS Commercial, AWS GovCloud, C2S, Azure or Azure GovCloud
- Facilitates secure DevOps for rapid delivery of new features
- Encourages Event Driven Architecture 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

Flexible:

GC3's modular components support your mission's unique needs without constraining them. Customers can choose from our collection of common microservices and contribute to the ecosystem of reusable GC3 services.

GC3 leverages both legacy and new development. You can start from scratch quickly with our QuickStart guides and sample code in C/C++, Java, Python and NodeJS. Additionally, you can easily transition mission operations from costly legacy systems to a modern cloud solution without interrupting operations, either with support from the cloud or self-hosted deployment.

