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Conductor and Arcas: expanding MDA capabilities from Edge to Enterprise

Samantha Hamilton

Director of Delivery, cOS & Dominate

BigBear.ai

Bradley Zogopoulos

Deputy Director of Combatant Command Programs

BigBear.ai

Abstract:

Sea Service teams need AI-powered MDA capabilities that can evolve as quickly as the threat. Today, sensors, data feeds, and analytics are often stitched together as one-off integrations, which slows upgrades, locks operators into vendor-specific workflows, and pushes routine changes onto contractor teams. The result is long lead times, brittle pipelines, and limited agility in contested communication environments.

This session presents a shift from one-off to on-demand via a field-tested AI orchestrator backbone, ConductorOS. ConductorOS standardizes how data, sensors, platforms, and AI components connect, schedule, and integrate across edge and cloud. With DDIL resiliency and any-vendor integration, ConductorOS breaks down the barriers of vendor lock-in and phone-home orchestration, creating an ecosystem built for where missions are executed - at the edge. The result is faster fielding of mission-tailored updates: swap a model, add a sensor, change a workflow, and push it to the right platform in minutes, not months.

Arcas provides the proof points. As a modular analytics suite, Arcas models plug into ConductorOS to deliver maritime object detection, track stitching, and multi-source fusion, while remaining replaceable when better models or sensors appear. Most importantly, this approach puts control back in the hands of operators. They can compose workflows, tune thresholds, and select models to suit the mission, while contractors and integrators focus on building and delivering better tools rather than operating them. The takeaway: a practical pattern for rapidly expanding MDA capabilities with lower integration