



Compress the kill cycle with Red Hat Device Edge



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Executive summary

The U.S. Air Force and its mission partners are fielding new mission capabilities on airframes and command-and-control (C2) nodes to compress the kill chain. The find, fix, track, target, engage, assess (FTT2EA) process requires ubiquitous access to data at the strategic, operational and tactical levels. Red Hat® Device Edge embeds captured, analyzed, and federated data sets in a manner that positions the warfighter to use artificial intelligence and machine learning (AI/ML) to increase the accuracy of airborne targeting and mission-guidance systems. Challenges of edge computing on aircraft and other tactical C2 edge nodes include delivering consistent capabilities on diverse hardware (new and old, connected and disconnected), meeting airworthiness security requirements, and efficiently sustaining software at scale. The Air Force can meet these requirements with Red Hat Device Edge, the edge-optimized software platform that is hardware agnostic.

Opportunity: Use edge technology to defeat the adversary

The Air Force and its partners are developing innovative capabilities on airborne and ground systems to gain battlespace advantage, including:

- Coalescing and stratifying data to feed AI/ML at the edge to increase the accuracy of targeting and mission-guidance systems and compresses the mean time to detect (MTTD), make sense and act across all warfighter domains.
- Delivering near real-time data from sensor pods directly to aimers, accelerating the sensor-to-shooter cycle.
- Supporting Agile Combat Employment (ACE) in the highly contested 21st-century battlespace.
- Sharing near real-time sensor fusion data with joint and multinational forces to increase awareness, survivability, and lethality.

“With Red Hat Device Edge Lockheed Martin is leading the infusion of cutting-edge commercial technology into military capabilities that deliver advanced solutions to our customers. Unlocking these AI technologies can help national security decision makers stay ahead of adversaries, enabling a safer and more secure world.”

John Hays
Vice President, F-35 and F-35X
Lockheed Martin

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© Red Hat press release, “Lockheed Martin, Red Hat Collaborate to Advance Artificial Intelligence for Military Missions,” 25 Oct. 2022.

Automated deployment streamlines sustainment at scale. Read about how Red Hat Device Edge meets this need and airworthiness security requirements.