

USE CASE

Secure, Tactical Cross Domain Transfer of Aircraft Surveillance Data

Summary

Problem:

Secure, real-time aircraft surveillance data sharing hindered by leakage risks and manual filtering delays.

Solution:

Owl XD Bridge ST delivers low-SWaP, RTB-compliant real-time data transfer to enable joint operations partners real-time visibility to field operations without exposing sensitive information.

Benefits:

Accelerated, secure data transfer improves mission efficiency and reduces fratricide risks.

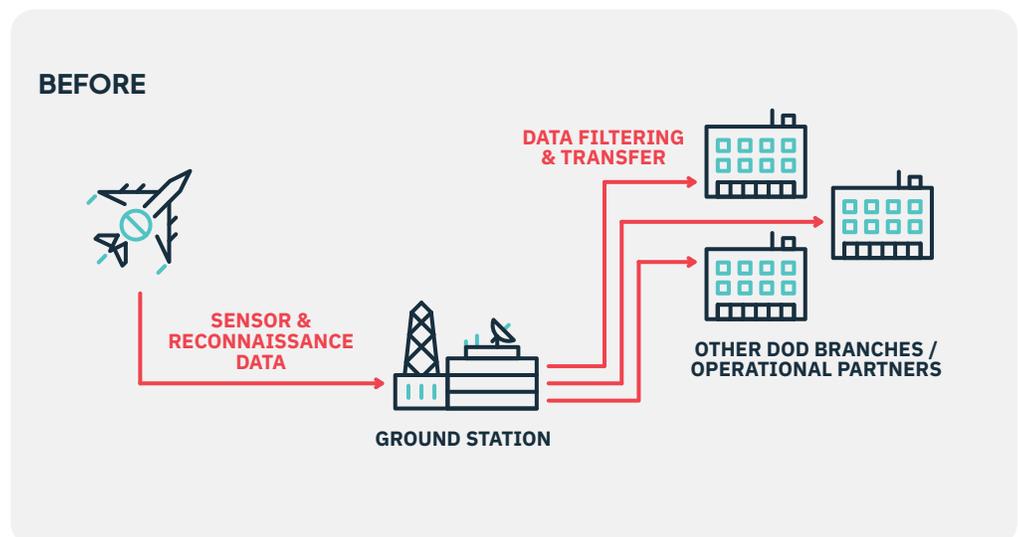
- Safe, real-time transfer of sensor and reconnaissance data from aircraft to joint operational command partners
- Sensitive content filtered from data transfer to prevent unauthorized exposure/data leakage
- Increased situational awareness and operational efficiency
- Reduced time to actionable intelligence and potential for blue-on-blue conflict

Challenge: Securing Real-Time Aircraft Surveillance Data for Joint Operations

Modern tactical aircraft collect critical surveillance data (e.g., adversarial force movements, blue force tracking, sensor/visual intelligence) that must be shared with joint operational command partners in near-real time. However, transmitting this data directly from aircraft risks exposing sensitive or classified information to unauthorized parties. Manual filtering through field command introduces delays, reducing combat efficiency. Additionally, the solution required a low size, weight, and power (SWaP) form factor for onboard installation, alongside customizable filters to enforce mission-specific security policies without compromising data utility.

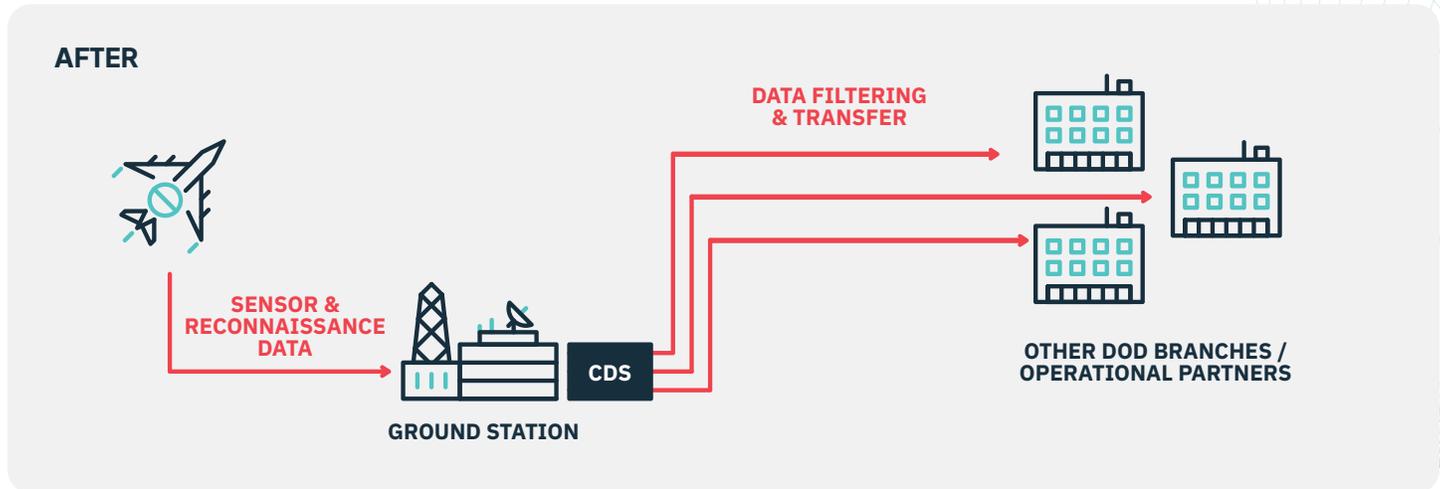
Requirements:

- Transfer surveillance and sensor data in near-real-time
- Customizable filters for sensitive or classified data/metadata based on mission security policy requirements



Solution: Owl XD Bridge ST™ for Secure, Tactical Data Transfer

The Owl XD Bridge ST™, an accredited, RTB-compliant cross-domain solution (CDS), addresses these challenges with its compact, low-SWaP design and hardware-enforced security. It enables direct, near-real-time data transfer from aircraft to command networks using customizable content filters that scrub sensitive information (e.g., metadata, geolocation details) based on dynamic mission policies. The system's modular architecture supports multiple sensor formats and protocols, ensuring compatibility with surveillance systems while maintaining strict separation between classified and unclassified networks. Its ruggedized 1U form factor allows seamless integration into aircraft systems, delivering secure data fusion without operational downtime.



XD Bridge ST: Cross Domain Solution for Streaming Fixed Format and Structured Data

XD Bridge ST is a high-performance, hardware-enforced cross domain solution (CDS) certified by the U.S. Government and tailored for the unique use cases of the U.S. DoD and Intelligence Community. It enables secure, policy-driven transfer of streaming and fixed-format structured data—including XML, USMTF, and VMF—between networks of differing security levels. Featuring NSA-certified data diodes for hardware-enforced one-way or bidirectional transfers, XD Bridge ST ensures robust domain separation and meets Raise-the-Bar (RTB) and TSABI/SABI certification requirements. Its flexible, modular filtering pipeline supports deep content inspection, custom security policies, and rapid adaptation to mission needs, delivering reliable, compliant, and scalable information exchange for critical operations.



Owl Cyber Defense Solutions, LLC, headquartered in Columbia, MD, is a pure play cybersecurity company solely focused on purpose-built, made-in-the-USA data diode and cross domain solutions. Trusted to protect the most sensitive government and commercial networks worldwide, our technologies are developed and manufactured to meet the strictest U.S. security standards. Owl enables secure, near-instantaneous collaboration across network boundaries—powering faster, safer, and smarter decisions for military, federal, and commercial critical infrastructure organizations. With a focus on scalability, interoperability, and regulatory compliance, Owl ensures resilient communication in the most high-threat environments. Rigorously tested. Globally trusted.

Visit www.owlcyberdefense.com or contact us at info@owlcyberdefense.com for more details.

