OWL Cyber Defense™

Secure Multi-Domain Collaboration with **XD Vision**

In the modern near-peer threat landscape, secure, real-time cross domain communication is not just a necessity, it's a critical component of national security, and the need for robust, reliable solutions to enable decision advantage has never been greater.

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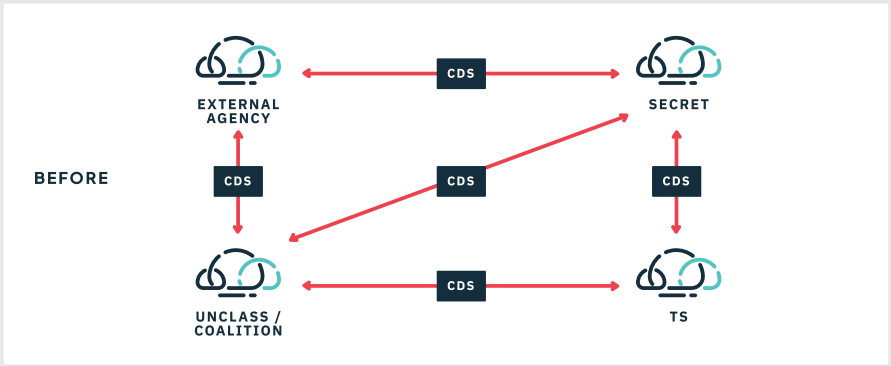
Owl developed **XD Vision** – an advanced multi-domain cross domain solution (CDS) for secure, real-time communication. Now, for the first time ever, you can stream and collaborate over voice (VoIP) and video teleconferencing (VTC) or full-motion video (FMV) with data across multiple classified or unclassified networks, all with RTB-compliant content filtering, from a single unified CDS platform.

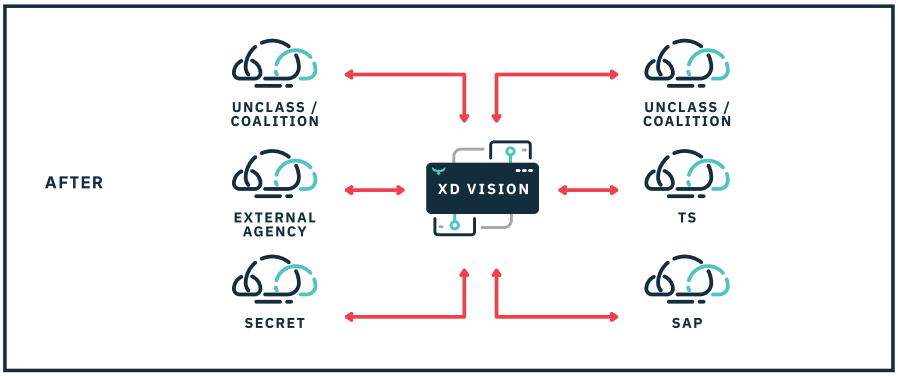
The Challenges Prior to XD Vision:

In a collaborative defense or intelligence setting, various departments, branches, agencies, and coalition forces need to communicate securely without compromising classified information.

In both routine and acute defense scenarios, this may involve sharing secure video teleconferencing (VTC) and voice (VoIP) lines, live full-motion video (e.g., from unmanned aircraft systems) and associated metadata to enable cross-domain collaboration and decision making.

Prior to XD Vision, facilitating secure multi-domain voice and video communication required implementing and maintaining multiple point-to-point cross domain solutions, each tailored to specific domain connections and data types. This approach was inefficient, costly, and had much higher administrative burden.





Key Challenges

Hardware Complexity:

Each domain required its own dedicated hardware systems and network infrastructure, including multiple servers, gateways, and network components to be deployed and maintained.

High Maintenance Costs:

Maintaining separate network infrastructure for each domain and reconfiguration of CDSs for mission changes was costly and labor-intensive, requiring frequent visits from professional services and heavy IT resource involvement.

Operational Inefficiencies:

Coordinating missions between separate systems for each communication task and security level led to mission delays and lack of real-time decision-making. Administrating multiple CDSs slowed mission-based updates and caused potential policy conflicts between systems.

The XD Vision Transformation:

The modern connected battlefield involves coordinating intelligence from multiple sources, including real-time secure voice/VTC communications between field and command centers, and live video feeds with structured metadata.

XD Vision provides an innovative, scalable, and secure multi-domain collaboration platform for the modern warfighter. Not only is it operationally efficient, XD Vision also provides superior ease of use with enterprise-ready, flexible policy management and central administration – all in one cross domain solution.

Secure	Scalable	Efficient	Cost Effective
Built on proven, certified voice and video assured pipeline technology (V2CDS). FMV geofencing strengthens coalition security.	Designed for multi-domain connectivity between 3 or more classified or unclassified domains. Can facilitate bridging between dozens of network domains with system federation.	One reliable, secure solution for voice (VoIP) and VTC collaboration enables lightning-fast decision-making potential between agencies, branches, and coalition partners.	Replaces clunky, expensive-to-maintain legacy equipment and eliminates need for redundant network infrastructure.

Real World Example

Imagine a scenario in the Indo-Pacific region where coalition forces, including the United States, Australia, and New Zealand, need to coordinate a response to a potential threat. A radar station in Japan detects an unidentified Russian aircraft approaching from the north. This information needs to be relayed quickly and securely to various command centers, including U.S. Pacific Command, Australian Defense Force Headquarters, and New Zealand Defense Force Operations Command.

How XD Vision Facilitates This:

Unified Communication:

Commanders across the coalition forces can engage in secure VTC sessions, facilitated by XD Vision, to discuss the threat and coordinate their response. The platform's robust encryption ensures that these communications remain confidential. This encompasses:

→ Video Teleconferencing (VTC): Allowing real-time discussion and strategy formulation.

→ Voice Over IP (VoIP): Ensuring clear and secure voice communication between field units and command centers.

Enhanced Collaboration:

Field units, including missile defense operators and intelligence officers, can share live video feeds and associated structured data through XD Vision, enabling them to make informed decisions rapidly. This involves:

→ Unmanned Aerial Vehicles (UAVs): Providing live video feeds and additional surveillance data.

→ Surface-to-Air Missile Systems: Coordinating targeting information and readiness status.

→ Electronic Warfare Units: Deploying countermeasures to disrupt the aircraft's communications and navigation.

→ Naval Units: Utilizing sonar and radar to track the aircraft over water and coordinate responses.

Scalability and Flexibility:

As the situation evolves, XD Vision can easily integrate additional data sources, such as UAV feeds or sonar data from naval units, ensuring that all relevant information is available to decision-makers. This flexibility is demonstrated by:

→ Adaptive Integration: Seamlessly incorporating new sensors and data feeds as they come online.

→ Real-Time Updates: Providing continuous situational awareness with instant data refresh and integration.

→ Distributed Command and Control: Allowing various command centers to view and act upon the same data simultaneously, enhancing coordinated responses.

This integrated approach exemplifies how XD Vision not only simplifies and secures multi-domain communication but also significantly enhances operational efficiency and reduces costs, making it a critical tool for modern defense operations. By enabling seamless collaboration across multiple agencies and coalition forces, ***XD Vision ensures that timely and informed decisions can be made***, protecting national and international security interests.

Comparison of Pre- and Post-XD Vision Scenarios

Aspect	Prior to XD Vision	With XD Vision
Hardware	Multiple dedicated systems for each communication type	Single integrated platform for all communication types
Data Security	Increased risk due to fragmented systems	Robust, centralized security policy and data filtering
Maintenance Costs	High costs for maintaining separate systems	Reduced costs with a unified system, leverages existing network/VoIP infrastructure
Operational Efficiency	Delays and inefficiencies in coordination	Real-time data integration and streamlined communication
Policy Management	Complex, separate configurations for each system	Simplified, centralized policy management
Scalability	Extensive reconfiguration required for scaling	Effortless scalability with flexible configurations
Collaboration	Hindered by separate systems and information silos	Enhanced real-time collaboration across all domains

Technical Capabilities and Security Features

XD Vision is not just an upgrade but a revolutionary leap in secure communication technology. Here are some of its key technical capabilities:

→ **Multi-Domain Support:** Designed to handle voice, video teleconferencing, full-motion video (FMV), and structured data (XML) across up to 12 domains.

→ **Remote Administration and Monitoring:** Features a user-friendly interface for comprehensive administration and remote monitoring.

→ **Real-Time Threat Monitoring:** Includes real-time threat detection and mitigation capabilities.

→ **Scalable and Flexible Configuration:** Can be configured to support additional domains, data types, and call volumes as requirements grow.

Detailed Technical Specifications

XD Vision supports various data formats and transport layer protocols, including:

→ Session Initiation Protocol (SIP)

→ Real-Time Transport Protocol (RTP)

→ Transmission Control Protocol (TCP)

→ User Datagram Protocol (UDP)

→ Secure Real-time Transport Protocol (SRTP)

→ H.263, H.263+, H.264 (Video)

→ ISA C2 Sensor Control Protocol

→ XML-based structured data

Centralized Management and Dispatching

XD Vision acts as the central hub with all data flows sent through a centralized dispatcher, which verifies and routes communications between different domains. This ensures that only authorized data is transmitted, maintaining the integrity of the information.

Real-Time Data Integration

As drones capture live video feeds, XD Vision immediately streams this data to relevant parties. Commanders on the ground and in different command centers can view these feeds in real-time, collaborating and making swift decisions based on the most current information. This integration eliminates delays and enhances situational awareness.

Secure and Efficient Data Filtering

XD Vision's robust security features ensure that all transmitted data is filtered through multiple layers of security checks. For instance, when a commander in Domain 2 needs to communicate with a unit in Domain 3, the dispatcher verifies the security clearance and filters the call data through the system's secure pipeline, ensuring only authorized information is exchanged.

Simplified Policy Management

Managing communication policies across multiple domains can be complex, but XD Vision simplifies this with a unified platform. Administrators can easily define and enforce policies from a central location, ensuring consistent security measures across all communication channels.

Scalability and Flexibility

As mission requirements evolve, XD Vision scales effortlessly. Whether adding new domains, increasing call volumes, or integrating additional data types, XD Vision adapts without the need for extensive reconfiguration. This flexibility ensures the system can meet the dynamic needs of modern defense operations.

Enhanced Collaboration

By unifying voice, video, and data communication tools into a single platform, XD Vision fosters seamless collaboration. Commanders, intelligence officers, and field units can communicate and share information in real-time, leading to more coordinated and effective operations.

This transformation highlights how XD Vision not only simplifies and secures multi-domain communication but also significantly enhances operational efficiency and reduces costs, making it a critical tool for modern defense operations.

XD Vision is transforming secure multi-domain collaboration. Its advanced capabilities ensure secure, efficient, and cost-effective communication, making it a critical tool for federal and defense sectors. To explore how XD Vision can enhance your organization's communication strategy, contact us for a demo or visit **owlcyberdefense.com** for more information.