XD Vision*

Multi-Domain Voice, VTC, FMV, & XML Cross Domain Solution

Key Features

→ Designed for Multi-Domain

→ Voice/VTC, FMV, XML Streaming

→ Scalable, Flexible Configuration

→ Remote Administration & Monitoring

→ In LBSA Testing, Anticipated Completion Q4 2024

Supported Data Formats & Transport Layers

→ Session Initiation Protocol (SIP)

→ Real Time Transport Protocol (RTP)

→ Transmission Control Protocol (TCP)

→ User Datagram Protocol (UDP)

→ ISA C2 sensor control protocol

→ H.263, H.263+, H.264, XML

Management & Monitoring Features

→ Remote Monitoring (RMON) rsyslog support

→ Remote Management (RMAN) 2 factor authenticated secure console administration via HTML5 in web browser

→ High Side Management and DCO network interfaces

The Owl Solution

Owl XD Vision is a multi-domain, scalable, secure software-based cross domain solution for sharing high-definition video and audio among multiple classified or coalition domains. Designed with a base 3-domain architecture, it can support Voice / Video teleconferencing (VTC), full-motion video (FMV), and XML Structured/Fixed Format data transfer between up to 7 or more domains (depending on throughput requirements). XD Vision can be configured as requirements grow to add additional domains, data types, and/or call and stream volume.

Designed for multi-domain collaboration, XD Vision builds off of Owl's revolutionary voice and video cross domain technology, enabling flexible data sharing and calling across multiple classified and/or coalition networks in real-time. From FMV feeds to video teleconferencing, XD Vision is the world's most capable multi-domain voice and video cross domain solution.

Voice & Video

XD Vision supports Voice over IP (VoIP) and Video Teleconference (VTC) cross-domain voice calls between at least 3 domains, with support for LDAP and Active Directory.

FMV

XD Vision supports full motion video (FMV) such as cameras for force protections and Unmanned Aircraft System (UAS) with metadata in Key Length Value (KLV) format. It also supports geofencing, which enforces sharing rules based on where the camera is pointed. The level of content filtering can be configured per stream based on threat level, quality, and sharing requirements.

XML Structured / Fixed Format

XD Vision is type accredited for XML and supports fixed format messages for structured streaming data, providing XML schema (XSD) validation and XSLT modification.

Geofencing

XD Vision supports geofencing, a location-based technology that captures and manages global positioning (GPS) coordinates from the KLV metadata for creating blackout regions for FMV sharing by setting virtual perimeters around a geographic boundary. The defined geofenced coordinates can be output so that the eXtensible Stylesheet Language for Transformation (XSLT) filter in the Assured Pipeline appends a redacted tag to any XML file that contains the geographic coordinates that fall within any of the specified regions.

* Owl XD Vision was previously named V3CDS

XD Vision Components

Dispatcher

The Dispatcher verifies domains attempting to exchange data are allowed (based on the Security Policy) and routes the data to an available Pipeline Appliance (PLA).

Pipeline Appliance (PLA)

Manages the data transfer between domains. Filters the data (based on the Security Policy) and routes it through the Dispatcher to a Gateway on another domain.

Gateway Server

The Gateway Server contains the Protocol Adapters to accept and connect various data types between domains.

The Owl Solution

As shown in **Figure 1. Sample High-Level XD Vision Deployment** Domain 1 (red) has two Gateway Servers, a Call Manager, a sink that receives FMV video, and a Dispatcher that connects to all the Gateway Servers in the other domains.

Gateways 2 and 3 each have an FMV source (camera) that sends video to Domain 1 FMV Sink. If these domains are allowed to communicate (based on the Security Policy), when Domain 2 initiates a call to Domain 3, the call flows through its Gateway to the Dispatcher in Domain 1, where the Dispatcher verifies whether Domain 2 is allowed

to communicate with Domain 3. If Domain 2 is verified, the Dispatcher in Domain 1 filters the call data (audio, video, text) through the Egress connection to the Ingress Pipeline Appliance (PLA). The Dispatcher receives the filtered call data and double checks that communication between the domains is allowed.
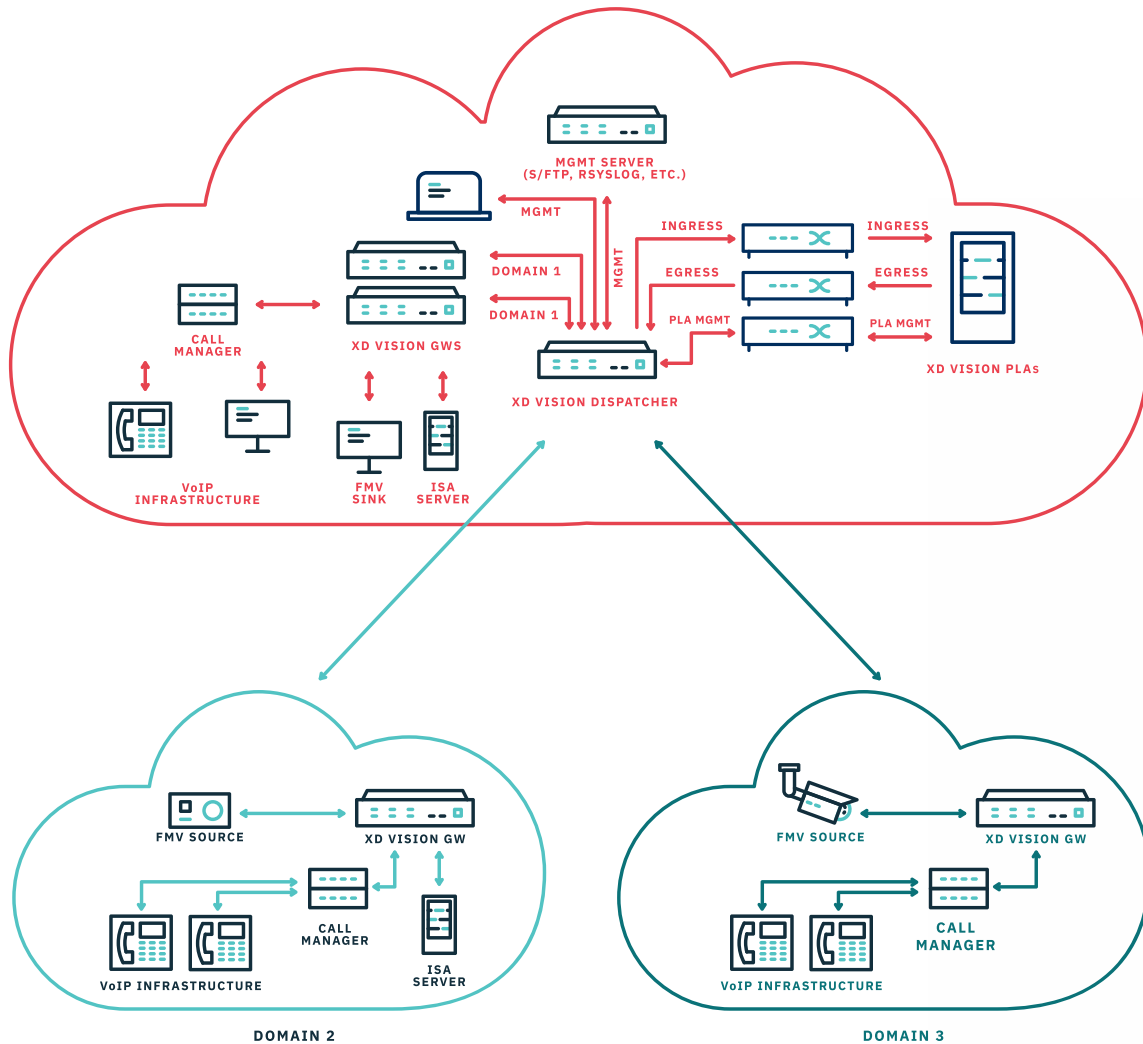

Fig 1. Sample High-Level XD Vision Deployment

Dispatcher:
HPE Proliant DL560 GEN 11

Technical Specifications *

Dimensions

(H x W x D) (with bezel):
8.75 × 44.54 × 71.47 cm
3.44 × 17.54 × 29.71 in

Form Factor

2U rack

Processor

AMD® EPYC® 7002
Series Processors

Temperature

**Standard Operating
Temperature:**
10° to 35°C (50° to 95°F)
at sea level

Power Supply

1600 W at 200 VAC to 240 VAC
input, 1600 W at 240 VDC input

Altitude

Operating:

3050 m (10,000 ft)

Weight

Minimum:
34.12 kg or 75.23 lb

Maximum:
18.45 kg 40.67 lb

Humidity

Operating:
8% to 90% relative humidity (Rh),
28°C (82.4°F) maximum wet bulb
temperature, non-condensing.

PLA:
HPE DL385 GEN 11+ v2
(Pre-configured model)

Technical Specifications *

Dimensions

SSF Drives:
8.75 x 44.54 x 71.1 cm
3.44 x 17.54 x 28 in

LFF Drives:
8.75 x 44.54 x 74.9 cm
3.44 x 17.54 x 29.5 in

Form Factor

2U rack

Processor

AMD® EPYC® 7002
Series Processors

Temperature

**Standard Operating
Temperature:**
10° to 35°C (50° to 95°F)
at sea level

Power Supply

For 1400W Power Supply:
1400W (at 240 VAC), 1400W
(at 240 VAC))

Altitude

Operating:
3050 m (10,000 ft))

Non-Operating:
9144 m (30,000 ft)

Weight

Minimum:
15.1 kg / 33.25 lbs

Maximum:
24.7 kg / 54.5 lbs

Humidity

Operating:
8% to 90% relative humidity (Rh),
28°C (82.4°F) maximum wet bulb
temperature, non-condensing.

Gateway:
HPE DL360 GEN 11

Technical Specifications *

Dimensions

SSF Drives:
4.29 x 43.46 x 70.7 cm
1.69 x 17.11 x 27.83 in

LFF Drives:
4.29 x 43.46 x 74.98 cm
1.69 x 17.11 x 29.5 in

Form Factor

1U rack

Processor

Intel® Xeon® Scalable Processor
Family with up to 28 cores

Temperature

**Standard Operating
Temperature:**
10° to 35°C (50° to 95°F)
at sea level

Power Supply

For 1600W Power Supply:
5918 BTU/hr (at 200 VAC), 5888
BTU/hr (at 220 VAC), 5884 BTU/hr
(at 240 VAC)

Altitude

Operating:
3050 m (10,000 ft))

Non-Operating:
9144 m (30,000 ft)

Weight

SFF Minimum:
13.04 kg (28.74 lb)

SFF Maximum:
16.27 kg (35.86 lb)

LFF Minimum:
13.77 kg (30.36 lb)

LFF Maximum:
16.78 kg (37 lb)

Humidity

Operating:
8% to 90% - Relative humidity
(Rh), 28°C maximum wet bulb
temperature, non-condensing.

Non-Operating:
5% to 95% - Relative humidity (Rh),
38.7°C (101.7°F) maximum wet bulb
temperature, non- condensing

* Default Data Center Configuration

Administrators

XD Vision administrators can execute only those functions assigned to their respective role.

The XD Vision administrators are divided into four roles:

→ Security Administrators (SecAdmin)

→ System Administrators (SysAdmin)

→ Log Administrators (LogAdmin)

→ Policy Administrators (PolAdmin)

V2CDS / XD Vision Comparison Matrix

	V2CDS	XD VISION
Certification & Current Version	V2CDS v2.0 on NCDSMO baseline	XD Vision v1.0 in LBSA testing
Multi-domain	Multiple CDSs along with additional Collaboration Hub UC components	One managed CDS with comprehensive administration across all domains
Remote Management & Monitoring	Yes	Yes
DFDL Messaging	Planned v2.1 (2025)	Planned v2.0 (2025)
Full Motion Video	Separate configuration (CDFMV)	Included, may require performance upgrades
Performance	Dedicated per connection. Scales up with multiple CDSs	Load balanced per PLA (3 connections). Scales up with additional PLAs
Redundancy / HA	HA failover per connection with SIP trunk grouping	Failover requires additional complete system
Cost	Can be less expensive for some high availability and high-performance requirements	Less expensive for multiple domains without high availability, and if major performance upgrades are not required