



WHITEPAPER

# Ultra Secure Messaging Across Domains

Secure Cross Domain and  
Multi-Classification  
Communications

**EVERFOX**

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**MINDLINK**

# Introduction

This whitepaper outlines the integration between the MindLink chat messaging platform and Everfox Cross Domain Solutions (CDS).

A secure Cross Domain and multi-classification communications solution capable of significantly enhancing information-sharing and collaboration in National Security and Defence between distributed and coalition-wide mission components.

## Problem Statement

As the world enters an unforeseen time, over the past five years the need for ultra-secure mission collaboration has increased dramatically, with both conflict resolution and privacy concerns at the forefront. From diplomatic communication to everyday intelligence sharing, there is an immediate demand for solutions that can support the speed of mission whilst simultaneously ensuring classified information is protected from ever more prevalent and versatile threat actors.

Ensuring decision advantage requires the ability to share information with the right people at the earliest opportunity. However, the future mission theatre presents itself as an increasingly complex mix of international coalition and inter-agency participants, each of whom are typically siloed in completely isolated technology environments.

- “Chair-swivelling” by mission operatives – leading to fatigue and mistakes.
- Legacy import/export technology infrastructure – unable to support granular information flow in real-time.
- Denial of such information as a security risk or because it is not feasibly achievable.

The current inability to collaborate securely, seamlessly, and rapidly across such a landscape is seriously inhibiting operational agility and resulting in compromised mission outcomes. With this integration, we address this urgent need with our purpose-designed full-stack solution, enabling connectivity between security domains without compromising on security.



MindLink is an ultra-secure chat messaging platform specifically designed for classified real-time collaboration in Defence and National Security. MindLink provides proven chat room functionality natively integrated with cutting-edge “secure by design” information assurance capabilities, enabling secure mission-capable information sharing at classifications up to above TOP SECRET.

MindLink’s unique data-centric security (DCS) and encryption architecture directly incorporates “need-to-know” information handling practices developed by the Intelligence Community for classified data over the past 70 years. This automated and pervasive approach to information security defers freedom to operate at the speed of mission to end users at scale, whilst enforcing the highest-grade protection from data compromise and spillage.

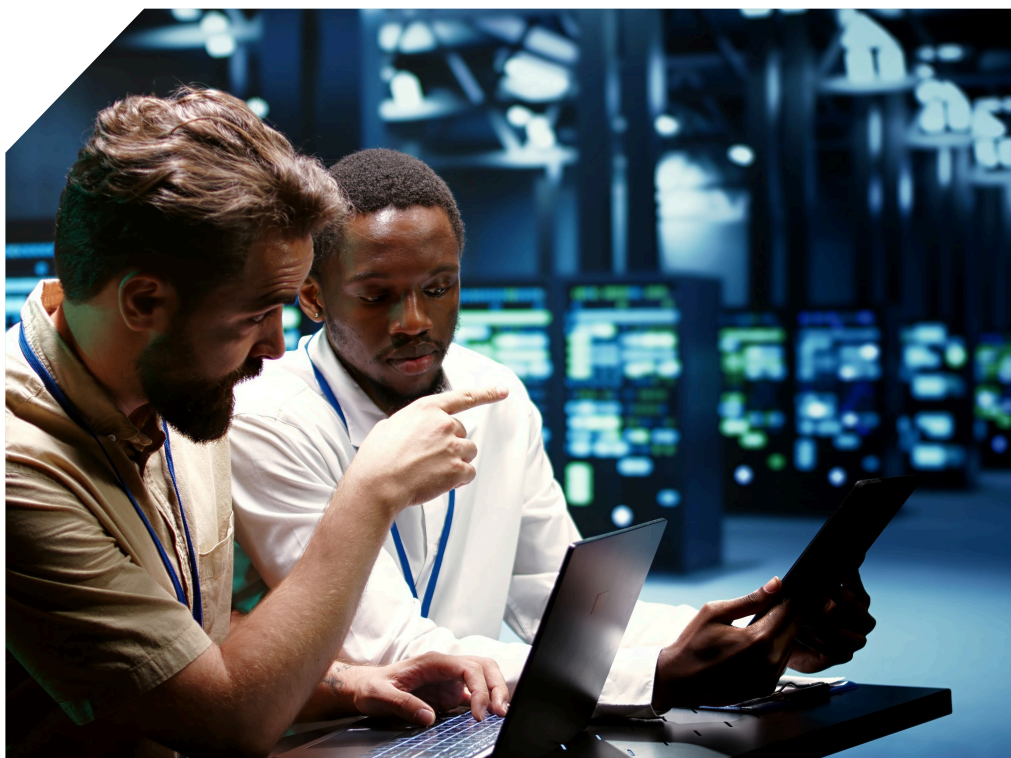
MindLink’s federated network protocol has been developed through the UK Defence and Security Accelerator (DASA) program to extend the platform’s information assurance capabilities across traditional mission network boundaries. Designed to Five Eyes (FVEY) Signals Intelligence (SIGINT) requirements, the protocol embeds advanced DCS principles as first-class concerns over a loosely coupled event-driven Application Programming Interface (API) stack, delivering connectivity capable of exchanging highly sensitive information between disparate partner networks over air-gapped hardware components.



Everfox is the only Commercial Off-The-Shelf (COTS) developer with secure access and secure transfer solutions recognized by the US National Cross Domain Strategy & Management Office (NCDSMO) alongside conforming to the NCSC guidance and principles. Everfox provides secure and reliable CDS are implemented within various FVEY networks and beyond.

Everfox CDS are designed to support the unique and complex missions and objectives undertaken by those who protect national security. Everfox supports a broad range of government agencies and commercial users worldwide, with solutions that deliver the utmost security for secure access and transfer of information. Everfox Cross Domain Transfer Guards help get files and data get where they are needed, when they are needed, while minimizing risk of compromise through mistakes or portable media. Everfox enables organizations to centralize servers where data is stored - be that in a datacentre, the cloud, or a hybrid of the two.

Everfox secure access and transfer solutions are among the widest deployed CDS within the DoD, IC, and Civilian Federal Government in the USA. For systems that face the most sophisticated threats and require Hardsec protection, CDS can be deployed with the Everfox High Speed Verifier (HSV). The HSV provides independent verification implemented in hardware logic of the data being transferred. This means there is no software to make it vulnerable to attack and its simplicity means its effectiveness can be independently confirmed by an accreditor or accreditation body.





## Solution Overview

The integration between MindLink and Everfox Cross Domain Solutions enabled seamless real-time collaboration between different classified networks. MindLink chat rooms created by users on the “lower” network will be available to directly join and collaborate in by their counterparts on the “higher” network.

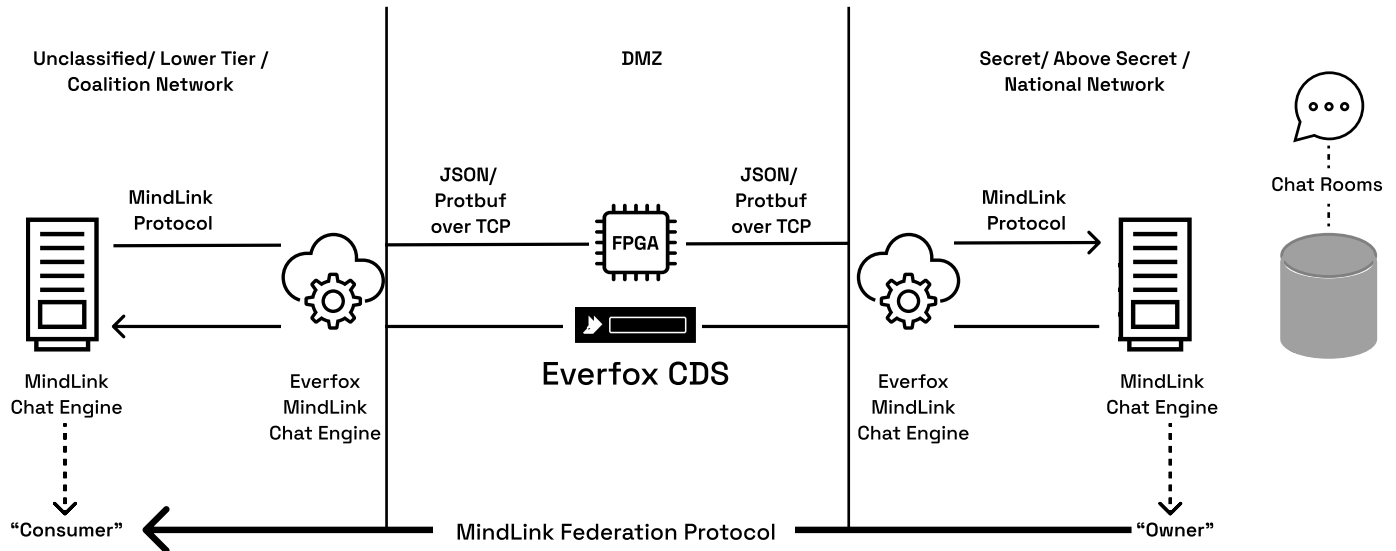
The MindLink DCS security engine enforces access and releasability of information Cross Domain according to multi-faceted data attribution, classification, and user entitlement controls. MindLink’s asymmetric federation architecture assures data sovereignty and footprint according to the “browse down, share up” Cross Domain approach.

Everfox CDS facilitates automated real-time transfer of information from one domain boundary to another, whether that is from an internal nation only network to a coalition network, or from a secret / above secret network to an unclassified network. It does this by extracting the data itself from the file format it is in within, e.g binary over gRPC. Once the data is extracted from the source format, it is represented in an Everfox proprietary format, known as Verifier Data Stream (VDS) which can be validated at line speed in hardware logic. This is especially important when considering that real time communications are both bandwidth and latency sensitive.

Once the content has been validated in hardware logic, the Everfox MindLink connector converts the information carried over VDS back into a format which the MindLink Chat Engine can understand and ingest into the destination system. This connector is fully bidirectional with two independent one-way flows or unidirectional depending on the use case and the requirements of the mission.

# Solution Overview (cont.)

Below is a diagram which outlines the overall approach of the Cross Domain Solution with a generic connector that works across all standard Everfox CDS solutions:



- The MindLink platform delivers end-to-end information assurance of the asymmetric cross-domain collaboration solution.
- Everfox CDS delivers a secure inter-network bridge between differently classified domain networks.

This solution required deployment of MindLink and each individual CDS connector in each classified network, and Everfox CDS components within the Demilitarized Zone (DMZ) area. Integration is then achieved through purpose-built software proxy "connectors" designed to combine the capabilities of both technology platforms.

The MindLink federation protocol has been specifically designed to interoperate over CDS hardware-verifying network bridges. The Everfox MindLink connector tier is therefore solely responsible for asserting data releasability and semantics, whilst performing direct format translation of equivalent transiting protocol messages.

# Benefits

## Unified Solution

Our unified solution delivers a new-generation of mission collaboration technology, levelling up proven chat messaging as an end-to-end user experience with a future-proofed, cutting-edge security posture. Chat room messaging inherently enforces order and structure to mixed-classification information flow across a complex mission theatre, whilst the ability to collaborate directly with coalition and inter-agency counterparts delivers a fully-fledged communication platform to support integrated mission activities at the speed of relevance.

## Cutting-Edge Security

The integration of cutting-edge DCS security as first-class mechanisms into the real-time collaboration and networking stack delivers an architecture exemplifying FVEY Zero Trust (ZT) aspirational security roadmaps. DCS labelling and automated entitlement-based policy decision techniques provide optimal fine-grained protection of classified data whilst simultaneously maximizing collaboration and information flow between distributed Cross Domain mission participants.

## Protocol Break and Data Break

One of the key benefits of using the Everfox Technology to provide the Cross Domain break is by providing both a protocol break and a data break. The key difference between a protocol break and a data break is that a protocol break simply stops the risk of attacks through the protocol itself (e.g gRPC) but does nothing to alleviate the threat of an attack through the data itself. Everfox CDS technology tackles both issues by helping to ensure that a mixture of data pipelining, filtering and contextual checks protect the high side from attack.

In addition to this, automated label checking facilities can ensure that messages never intended to be sent out of the source network are blocked before ever leaving the perimeter, such as those containing classified codenames or classified information.

## Extensive Experience

Both MindLink and Everfox have extensive experience in engineering solutions for classified scenarios in FVEY National Security and Defence. This solution integrates many pre-existing components that have already achieved mission-ready accreditation at the highest Impact Levels.

The need to share and collaborate at speed around extremely sensitive information between mixed organizations extends outside of NS&D agencies to the supporting industry supply chain, Central Government, and Policing. Additionally, MindLink and Everfox are keen to explore further use cases for this solution, including other highly regulated industries that demand both the agility of real-time communication across network boundaries and the most stringent of security postures.

# Conclusion

Through this integration, we aimed to deliver a next-generation mission collaboration solution to enhance classified operations through more efficient and secure information sharing across multiple domain boundaries.

By combining the MindLink ZT/DCS chat messaging and Everfox CDS systems, we achieved a step-change in vital operational capability across the future NS&D landscape.

References to government agencies, regulatory bodies, and security frameworks in this document are for informational purposes only and do not imply endorsement, certification, or affiliation. MindLink and Everfox operate independently and comply with applicable regulatory and security standards as required



## About Everfox

Everfox, formerly Forcepoint Federal, has been a trailblazer in defense-grade cybersecurity for more than two decades. Leading the way in delivering innovative, high-assurance solutions. But we're just getting started.

**Learn More**

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## About MindLink

MindLink® is a trusted secure mission information sharing platform for organisations and their mission partners to establish a global communication backbone and advance mission execution.

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