

TRUSTED PARTNER FOR SECURE MISSION DATA SHARING

Empowering seamless, secure data exchange for the Department of Defense

Core Services for Secure Mission Data Sharing

1. Agility and Security in Access Control

Tyto delivers flexible and secure access control solutions by integrating identity-based, data-based, and context-based attributes. This approach allows commanders to confidently enforce policies that ensure only trusted identities on authorized platforms can access sensitive data with the appropriate rights and privileges.

2. Future-Proof Data Access

Tyto's architecture is designed for scalability, leveraging attribute-based access policies to adapt to the evolving landscape of data sharing. This future-proof strategy supports a growing variety of data sources, destinations, identities, and sharing methods while maintaining secure and efficient access control.

3. Trusted Automation for Rapid Decision-Making

To meet the speed demands of the battlefield, Tyto employs trusted automation across key processes, including data tagging, cross-domain solution navigation, access decision-making, and revoking or expiring access rights. This ensures critical data reaches decision makers in seconds, enabling timely and lifesaving decisions.

4. Tailored Deployment Models

We design solutions for on-premises, cloud, hybrid, and DDIL environments, adaptable to your mission's unique requirements.

Mission Strategy:

Tyto's mission data-sharing strategy addresses both immediate and long-term needs by focusing on today's data sources, standards, and policies while preparing for future growth. This ensures data is securely accessed and protected as organizations evolve.

Overview

The Problem:

- The speed of conflict and adversarial technology gains require faster and more responsive data solutions for military operations.
- The complex multi-national data-sharing environment creates challenges in securely sharing data among mission partners in real-time.
- No single tool or software covers both enterprise and tactical needs, requiring integration of multiple solutions.
- Multiple vendor data sources with proprietary or non-standard data format standards, present increasing complexity challenges.
- Data classification policies and cross-domain limitations restrict how mission data can be shared.
- Data at the edge is growing rapidly, requiring more processing power, while public cloud options are increasingly limited due to connectivity and security concerns.

The Impact:

Inadequate data-sharing solutions can result in:

- Inefficient collaboration among joint forces and allied partners.
- Compromised mission success due to delayed or intercepted information.
- Unauthorized access to classified data, jeopardizing national security.

The Solution:

Tyto Athene provides secure, scalable solutions tailored to DoD requirements, enabling real-time mission data sharing across the ecosystem. From field units to command centers, we ensure your team can collaborate seamlessly and securely.

Architectural Approach

Tyto's architecture is designed for scalability, interoperability, and security.

- **Secure Data Exchange Layer:** facilitates cross-domain encrypted data transfers with encryption and policy driven access controls
- **Integration Framework:** ensures compatibility with legacy and modern DoD systems
- **Performance Visibility Module:** offers real-time insights into system performance and data-sharing activities
- **Adaptable Deployment:** efficiently supports diverse environments, from DDIL to cloud-based solutions

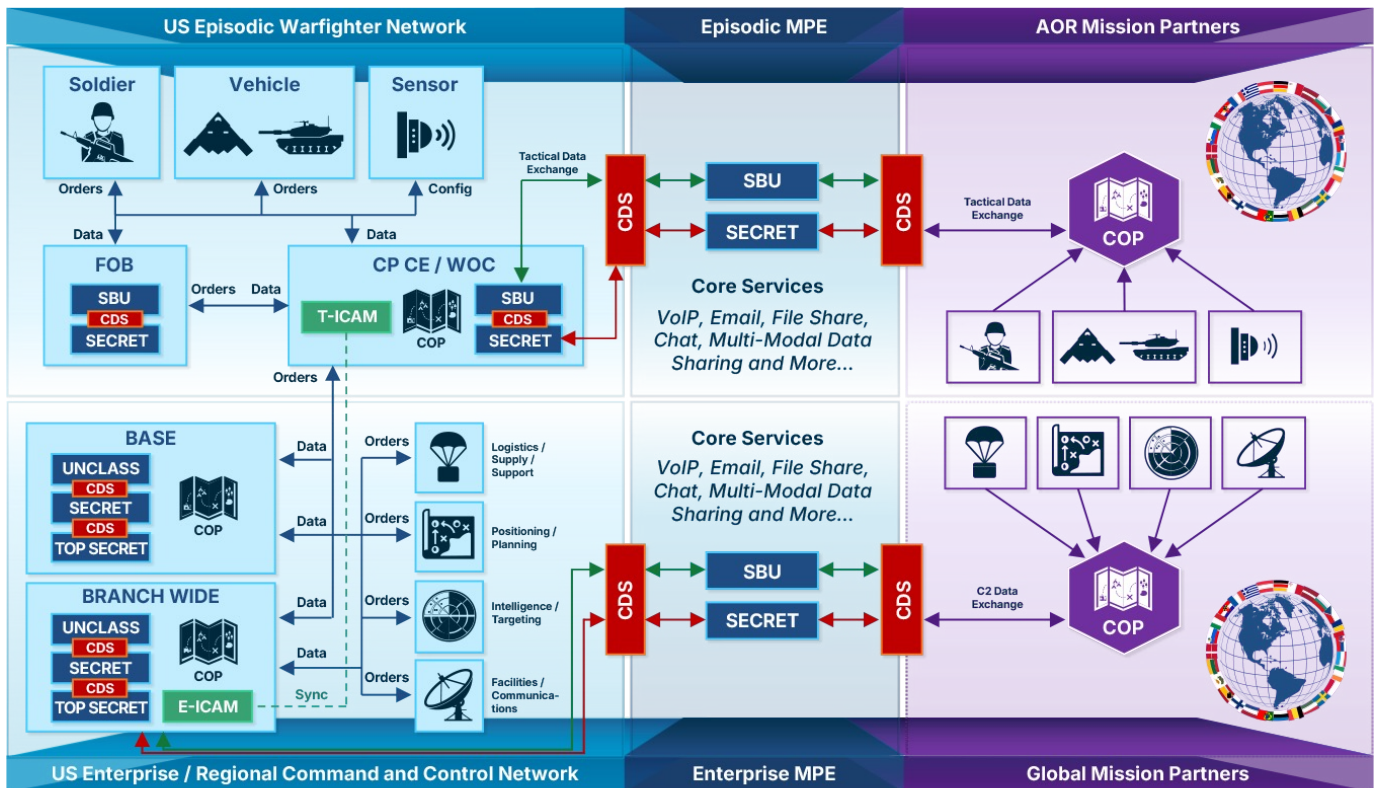


Figure 1: Mission Data Sharing Operation Environment

1. Mastering Complexity

Tyto addresses the complexity of multi-national data sharing—including diverse tools, software, data formats, and compliance laws—through an open and extensible architecture. By leveraging its expertise in networking and communications, Tyto securely and promptly shares information with mission partners. This includes integrating DoD's ICAM ecosystem, data tagging/labeling solutions, and Zero Trust-aligned ABAC policies, running on resilient network-distributed cloud fabrics that extend to the edge.

2. Automated Data Tagging and Labeling

Tyto integrates advanced tools for automated and manual metadata tagging, ensuring classification markings, context tags, or custom labels are applied accurately. Using AI-driven algorithms or tagging policy enforcement, metadata is combined with identity and context attributes from ICAM to feed into Tyto's ABAC policy engine, enabling dynamic, real-time access control for every request.

3. Zero Trust Aligned ABAC

Tyto's architecture places a data-centric access framework at its core, leveraging ABAC policies to dynamically govern access. By aligning with Zero Trust principles, Tyto enables soldiers and commanders to set granular data access policies via code or GUI. The inclusion of Zero Trust Policy Enforcement Points (PEPs) ensures consistent enforcement across cross-domain solutions (CDS), enabling metadata, requests, and policy to traverse securely within the MPE and DoD ecosystem.

4. Distributed Cloud Data Fabric

To support the growing volume and complexity of warfighter data, Tyto employs partnerships with leading distributed cloud providers to deliver scalable, service-rich edge cloud environments. These solutions collect, process, and share data locally, supporting C2 operations at both the tactical and enterprise levels. X's deploy-ready automation artifacts allow for rapid deployment of fully configured data-sharing solutions in minutes, even in disconnected or tactical environments.

Key Benefits



Secure Availability

Provides trusted and authorized identities encrypted, revokable access to mission sensitive data on trusted platforms via a Zero Trust data sharing framework.



Operational Efficiency

Streamlined collaboration across agencies, units, and mission partners.



Open Design

Streamlined collaboration across agencies, units, and mission partners.



Scalability

Streamlined collaboration across agencies, units, and mission partners.



Compliance Assurance

Streamlined collaboration across agencies, units, and mission partners.

Tyto Athene's mission data sharing strategy prepares organizations for both immediate and long-term data sharing needs focusing on today's sources, standards, and policy while still planning for future growth and evolution of how data is securely accessed and protected.

Agility and Security in Access Control

By focusing on a combination of identity-based, data-based and context-based attributes, Tyto provides the most flexibility and agility to commanders to set access policy that proves the requests are from trusted identities coming from trusted platforms with the correct access rights and privileges to access the data.

Trusted Automation

Battlefield data must get to the right decision makers in seconds to save lives, therefore the access decision points must be built upon a foundation that maximizes trusted automation. Tyto's strategy utilizes automation within data tagging/labeling, traversing the cross-domain solutions, determining access decisions, and revoking or expiring access.

Future-Proof Data Access

By building decision point access actions based on attribute-based access policy, our architecture future-proofs the growth in number and variety of data sources, data destinations, identities, data sharing software and methods, and types of attributes.

Phases of Tyto Mission Data Sharing Engagement



Environment Assessment

Assess existing data and sharing ecosystem



Implementation Fielding

Field / Deploy / Configure solution per site



Implementation Planning

Activities required to prepare for fielding / deployment



ATO Support

Support the attainment of agency ATO



Operational Support

Support and evolve operational solution



About Tyto Athene

Tyto Athene, LLC, a large portfolio company of Arlington Capital Partners, was established as an IT services and solutions providers specializing in mission-focused digital transformation. Our goal is to enhance client experience and drive successful outcomes through innovative technology solutions.

As a full-service systems integrator, Tyto Athene empowers clients with the ability to make informed, timely decisions by providing secure and ubiquitous access to enterprise information across their operating environments. We leverage cutting-edge technologies, strategic innovation, and proven methodologies to deliver successful results for clients worldwide. With a full spectrum of industry-leading capabilities, substantial scale, and extensive resources, we are equipped to meet the increasingly complex demands U.S. government agencies. Supporting the rapidly evolving mission requirements of federal clients remains our top priority.

Our combination of experience and forward-thinking technology solutions gives Tyto Athene customers a distinct strategic advantage. Our primary objective is to deliver the best solutions and services available in the market to our trusted partners and clients. Tyto Athene remains committed to providing our high-quality products, superior service, and world-class technical support.



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