MISSION PARTNER FABRIC CONCEPT

Setting the Conditions for Optimizing Alliance Interoperability

The Strategic Imperative

DoD and coalition partner senior leaders have made it clear: data superiority and decision speed will largely define great power competition outcomes across the full spectrum of operations. Leaders including the DoD CIO and theater commanders have recently highlighted critical gaps in coalition data sharing that directly undermine alliance effectiveness. An evolution in Mission Partner Environments (MPEs) is urgently needed to support today's operational reality—from routine peacetime coordination to crisis response and potential conflict.

Lessons from Building the INDOPACOM Mission Netowrk

Building the INDOPACOM Mission Network (IMN), the DoD's largest mission partner information domain revealed three critical insights:

- Connectivity: Effective MPE to MPE connectivity is challenging.
- Standards: Current MPEs lack standardized integration layers.
- Architecture: Data-centric and net-centric systems will need to coexist near-term.

The Solution: Mission Partner Fabric (MP-Fabric) Concept

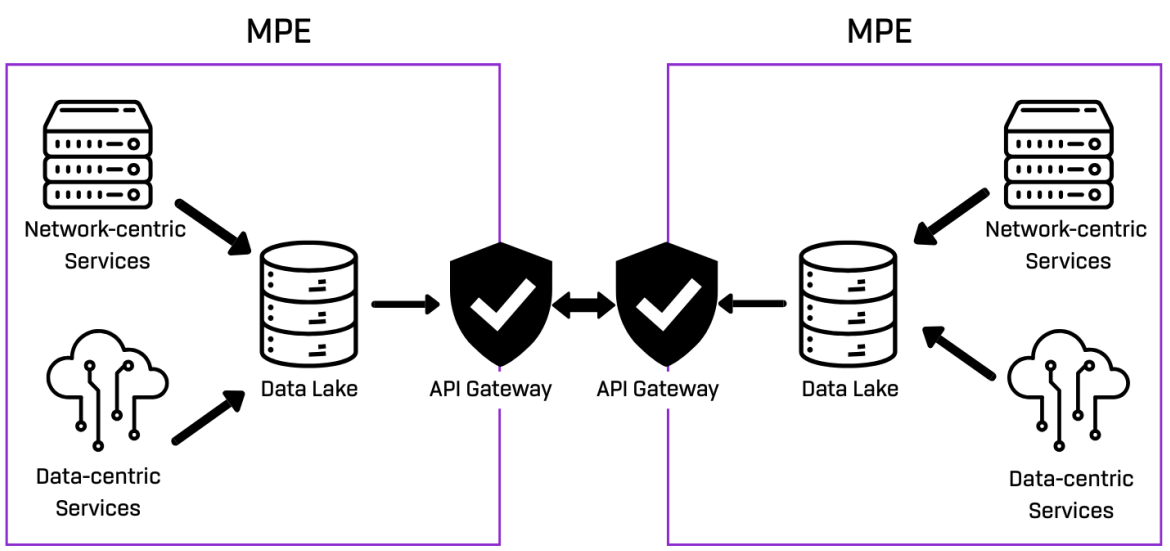
SOSi's Mission Partner Fabric (MP-Fabric) concept resolves all three challenges by creating a data-centric network of networks. Rather than forcing all coalition partners into a single monolithic system, this approach preserves existing MPE investments while enabling seamless interconnection through targeted enhancements:

Resilient Transport : SD-WAN and Commercial Solutions for Classified (CSfC) combine military and partner-nation networks into global self-healing, Zero Trust overlays paired with crypto agility and post-quantum cryptography readiness.

API Integration Layer: Each MPE would expose secure, policy-driven APIs through an API gateway for MPE-MPE sharing of data and services. This enforces Attribute-Based Access Control (ABAC) and Zero Trust at every boundary while preserving internal architectures.

Unified Data Architecture: Each MPE would operate an internal vendor-neutral data lake built on NATO's Core Data Framework (NCDF), Data Centric Reference Architecture (DCRA), and Allied Communications Publication 240 (ACP240) to enable both data-centric services

Mission Partner Fabric: Enabling Seamless Coalition Data Exchange



and legacy net-centric operations within the same MPE. Net-centric tools access data through the lake while new data-centric services operate natively, ensuring seamless coexistence. This unified architecture also accelerates AI/ML implementation by providing standardized data access and consistent classification protocols across coalition environments, ensuring that proprietary platforms become data sources rather than architectural bottlenecks.

The Path Forward

Coalition networks require immediate action to operate at the pace of mission. Organizations such as existing Cross Functional Teams and Operational Planning Teams should champion MP-Fabric concepts to ensure MPEs can deliver the secure, resilient, and scalable connectivity that modern alliance operations demand across all CCMDs.

SOSi Vision
Future Mission Partner Environment

The Challenge:

USINDOPACOM needed to transform numerous of isolated computing environments into a unified coalition network—without compromising security or operational tempo.

SOSi's Vision:

Our future Mission Partner Environment would implement the core MP-Fabric concepts through advanced capabilities:

- **Resilient Transport:** Hyper-converged infrastructure with Zero Trust architecture
- **API Integration:** Data-centric design connecting disparate systems seamlessly
- **Unified Data Architecture:** Private cloud foundation enabling rapid coalition formation

Measurable Impact:

- Coalition formation time: Reduced from weeks to days
- Connected environments: Unified previously isolated systems
- Operational duration: Continuous mission support with proven reliability
- Enhanced capabilities: Real-time data analysis and AI/ML integration ready

Operational Advantage:

By enabling faster information sharing and enhanced situational awareness, commanders gain decision superiority through improved coordination across coalition partners.**This operational success demonstrates how MP-Fabric principles could deliver transformative value in real-world coalition environments.**

Key Takeaways

Current Reality:

Mission Partner Environments cannot operate at the pace of modern threats due to connectivity gaps, lack of standardized integration, and incompatible data architectures.

The Solution:

Mission Partner Fabric (MP-Fabric) evolves existing MPEs through three targeted enhancements:

- Resilient Transport with SD-WAN and Zero Trust overlays
- API Integration Layer for secure MPE-to-MPE data sharing
- Unified Data Architecture enabling both data-centric and net-centric coexistence

Proven Approach:

SOSi's INDOPACOM MPE work demonstrates MP-Fabric principles in action—connecting multiple network-centric environments and reducing coalition formation time from weeks to days.

Immediate Benefits:

- Faster decision cycles through automated processes
- Enhanced security with continuous Zero Trust verification
- Seamless coalition integration without architectural disruption

Bottom Line:

MP-Fabric doesn't require building new systems—it strategically enhances current MPEs to deliver the secure, resilient con**nectivity that alliance operations demand today.**

About Us

For over 30 years, SOSi has built a unique culture that empowers our teams to tackle the most demanding tasks across various sectors. As a leading privately-held government contractor, we offer deep expertise and innovative services across government IT, defense, and intelligence. We take pride in our ability to merge comprehensive capabilities with the agility required for evolving challenges, ensuring we stay at the forefront of national security and our customer's mission needs.

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