

TACTICAL EDGE TRANSLATOR

Translate between any tactical systems at the edge — without modifying existing software on either side.

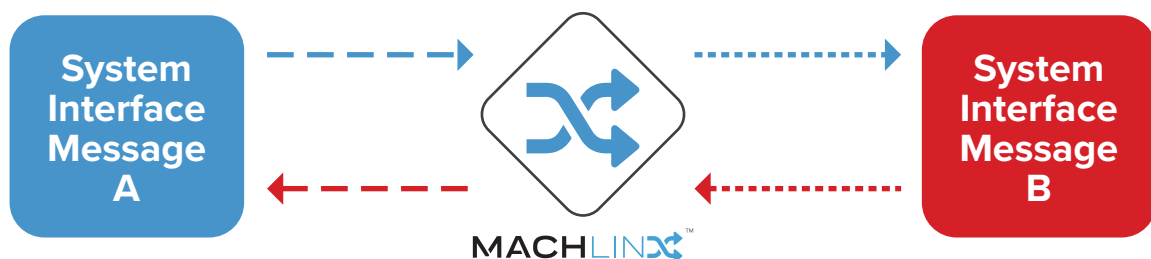
System-to-system integrations at the tactical edge take months of bespoke adapter development, custom code for each pairing, and repeated accreditation cycles. The systems that need to talk are already fielded — modifying their software isn't a realistic option. As the 2029 UAI mandate is fast approaching and MOSA is now required at milestone reviews, custom 12-18 month integrations for each new pairing just don't scale.

What if you could connect systems *without* making changes to their code?

MachLinx is a rapidly reconfigurable translator that enables cross-protocol communication between platforms, weapons, sensors, and coalition partners — deployed where the mission is, configured in hours, without touching existing software on either side.

HOW MACHLINX WORKS

MachLinx is able to perform highly complex transformations by using a Core Interoperability Service (CIS) engine to **route**, **transform**, and **bridge** protocol-specific data between specified protocol interfaces.



A COTS integration product, MachLinx handles protocol transformations out of the box with configuration, not months of custom development and with a shared library of non-proprietary, pre-built interface adapters, you get government-ownable outputs and no vendor lock-in.

KEY CAPABILITIES

RAPID RECONFIGURATION New system pairings in hours. No recompilation.	MULTI-PROTOCOL TRANSLATION Link 16, MIL-STD-1553, DDS, and more. All from one device.	NON-INVASIVE INTEGRATION No changes to platform code, OFPs, or firmware.	GRA COMPLIANT OUT OF THE BOX WOSA, UAI, OMS/UCI, AMS - no custom development.	ACCREDITABLE RUNTIME ARINC-653 partitioned RTOS with time/space isolation. Supports RMF accreditation.
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DEPLOYMENT OPTIONS

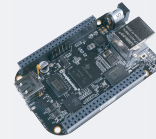


Full Tactical Gateway

Use cases: Manned/Unmanned aircraft, ground vehicles, ships

Small Form Factor

Use cases: Group 1-3 UAS, low SWAP platforms

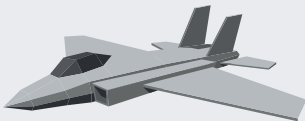


Software-Only

Use cases: Existing ruggedized compute, custom form factors

WHERE IT DEPLOYS

AIR



Weapon-to-platform integration, UAS sensor-to-C2, coalition aircraft interoperability

LAND



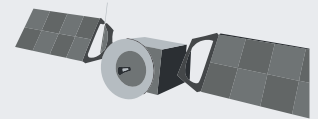
Counter-UAS sensor fusion, ground vehicle interoperability, tactical edge C2

SEA



USV integration, ship sensor modernization, unmanned-to-manned teaming

CROSS-DOMAIN



Coalition interoperability (NATO, INDOPACOM), multi-service translation

TECH SPECS

CORE IMPLEMENTATION	MISRA-C / C++ (safety critical compliant)
RUNTIME	ARINC-653 partitioned RTOS with time/space isolation
VERIFICATION	Formal methods (model checking + static analysis) applied to Core Interoperability Service code
CONFIGURATION LANGUAGE	Flex (open-standard, non-proprietary DSL)
SUPPORTED PROTOCOLS	DDS, Link 16, STANAG 4586, ARINC-429, MIL-STD-1553, custom/proprietary
GRA PACKAGES	WOSA, UAI, OMS, UCI, SOSA, AMS GRA (pluggable)
SECURITY	ARINC-653 partitioning for cross-domain isolation; supports RMF accreditation
CLASSIFICATION	Unclassified through TS/SCI, including IL5/6 air-gapped deployments
TESTING	Continuous automated testing, dynamic/static analysis on all configuration changes

Want to see MachLinx in action? Contact us at hello@tangramflex.com to schedule a demo!