

Modular Open Systems Approach

- DoD and US Army heavily investing in MOSA and standards
- Previous 10 years: MOSA standards development efforts
- Last several years: MOSA standards on acquisition contracts
 - VICTORY, SOSA, GCIA, FACE, MORA
- VICTORY: Vehicular Integration for C4ISR/EW Interoperability

VICTORY addresses integration of electronic systems on military ground vehicles by establishing a managed Ethernet-based in vehicle network (IVN) and establishing open standard specifications for C4ISR/EW systems to interoperate with each other and the platform via the IVN.

- Funded through “Coalition of the Willing”
 - Gov’t funding partners, industry, VICTORY Standards Support Office
- Adopt, Adapt, Author approach

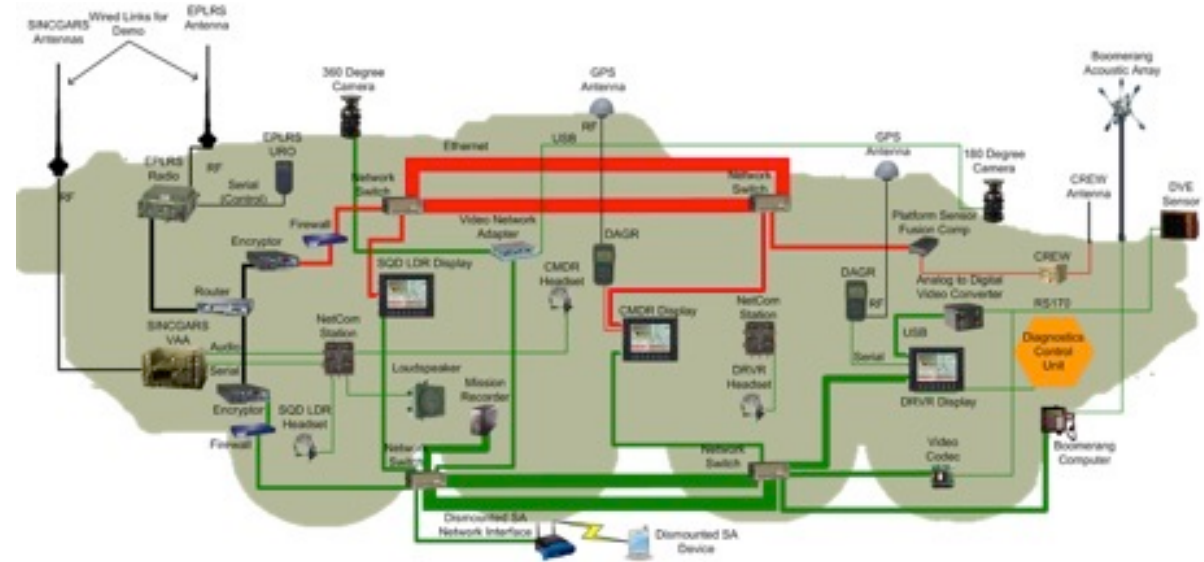


SwRI's MOSA Expertise

Open systems standardization and validation

Network architecture development

Compliance tool creation & compliance testing



SwRI's DoD MOSA Involvement includes:

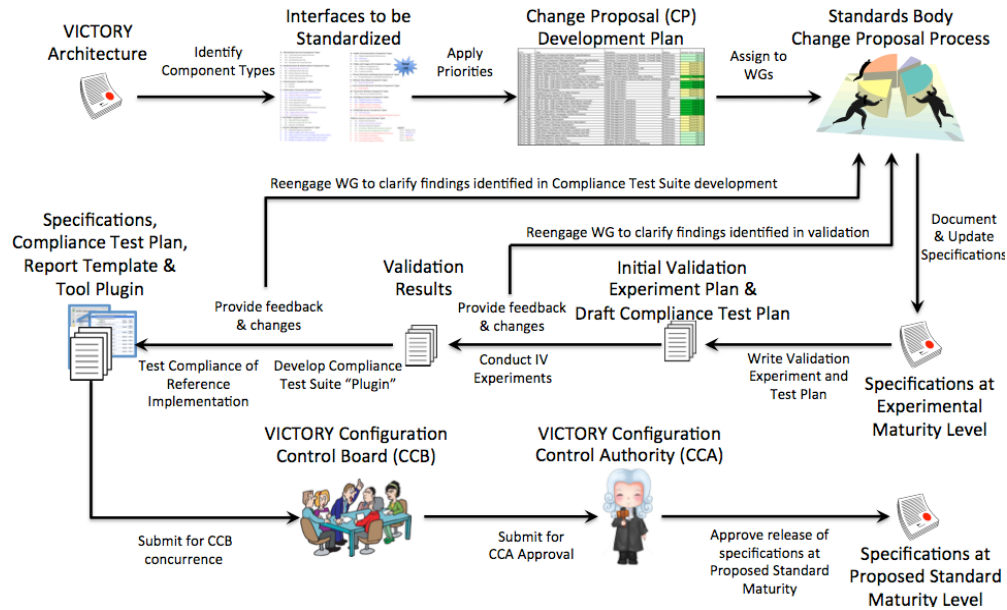
VICTORY

GCIA

MORA

SOSA

FACE



SwRI's Lead Role in US Army VICTORY Initiative

SwRI led the VICTORY Standards Support Office to create and develop the VICTORY Standard Specifications in support of the following US Army Program Executive Offices: PEO GCS, PEO CS&CSS, PEO C3T, PEO IEW&S as well as RDECOM and TARDEC

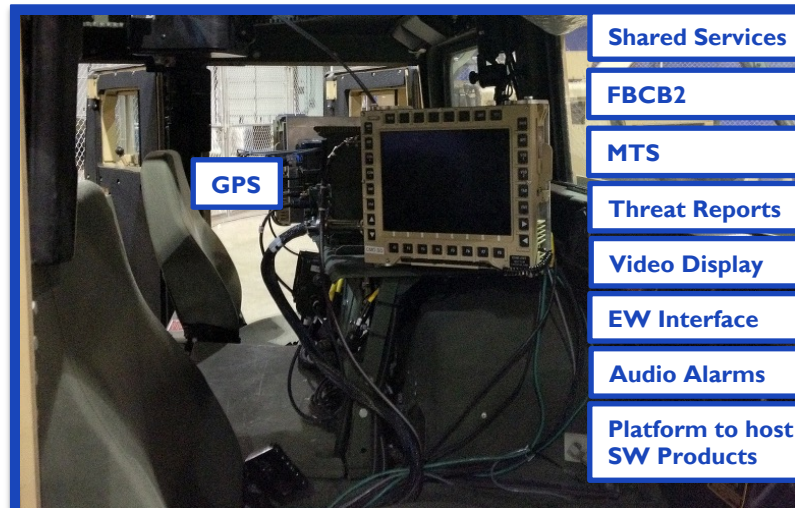
Traditional Approach



US Army System of Systems Problem:
C4ISR/EW Integration in Ground Platforms

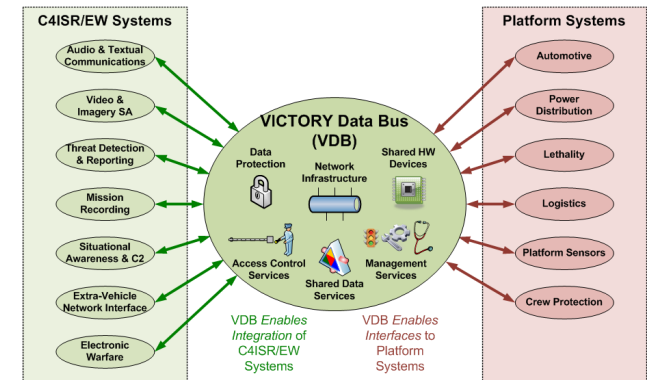
“Bolt On” Mission Equipment Integration

VICTORY Approach



VICTORY Data Bus enables interoperability across C4ISR/EW and platform systems

VICTORY defined open standard interface specifications for data exchanges and management operations for the US Army



- 1) Reduces SWaP-C impact of GFE/TPE over time
- 2) Enables new capabilities through interoperability: systems share data and are managed via a vehicle network – the VICTORY Data Bus (VDB)
- 3) Enables commonality: common specifications, software and hardware



VICTORY Lessons Learned

- Defined what we were, and what we weren't
 - Yes: on the wire network standard, validated, compliance test tool
 - No: physical connector standard, one standard to rule them all
- Limited scope of effort to ensure success
 - Achieved buy-in from gov't partners to fund core leadership group
 - Ability to get industry buy-in via WG concept
 - Baked in concept of validation into development process
- Philosophy of Adopt, Adapt, Author
- Utilize open standard interfaces and data formats
- Considered IA/Cyber from the start
 - Utilize concept of “component type” for interface development
 - Developed and owned the entire process from end-to-end
 - Standards development, maturation, and configuration management



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