

U.S. Army UAS Interoperability



For more than 20 years, The U.S Army's Uncrewed Aircraft Systems Project Office (UAS PO) has led the way in promoting Modular Open Systems Approach (MOSA) concepts through the generation of standardized UAS interface Interoperability Profiles (IOPs) and associated Private Message Interface Control Documents (ICDs). IOP associated technical disciplines include Data Links, Networks, Command and Control (C2) Protocols and Private Messaging, and Intelligence, Surveillance, and Reconnaissance (ISR) payload data formats and dissemination. These standards are developed and maintained by the U.S. Army UAS Interface Control Working Group (ICWG). IOP test tools are available for distribution to programs or vendors to support risk reduction self-tests during product development. The goal is to standardize these interfaces, enabling interoperability across U.S. Army UAS interoperable capability requirements. Read on to find out more about these activities.

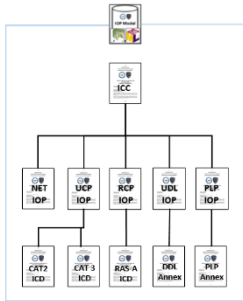
Interface Control Working Group (ICWG)



The UAS ICWG is the U.S. Army Capability Program Executive (CPE) Aviation chartered Government/Industry collaborative configuration control body charged to resolve and establish common technical interface solutions for U.S. Army UAS. The resulting implementations are published within sets of IOPs and associated Private Message ICDs. IOP associated technical disciplines include Data Links, Networks, C2 Protocols and Private Messaging, and ISR payload data formats and dissemination. The ICWG currently includes over 650 participants from more than 100 organizations, to include U.S. Government, U.S. Industry, and U.S. DoD University Affiliated Research Centers (UARCs), Federally Funded Research and Development Centers (FFRDCs) or other university/non-traditional entities.

To request more information about this activity or learn how to join the ICWG – [Click Here](#)

Interoperability Profiles (IOPs)



The UAS IOPs and associated Private Message ICDs are baselined in a Model-Based Systems Engineering (MBSE) Systems Modeling Language (SysML) format, which is used to generate multi-volume specifications library. IOP associated technical disciplines include Data Links, Networks, C2 Protocols and Private Messaging, and ISR payload data formats and dissemination. These IOP Specifications are available to recipients who are eligible to receive Distribution D, Export Controlled Technical Materials. These distributions may be produced in the

originating “source-of-truth” SysML Cameo (MDZip) files or in standard document formats [such as Microsoft Word (.docx) or Portable Document Format (.pdf)].

Currently, there are two active IOP models and document libraries:

- **UAS and MUM-T Family of Systems Block I IOPs:** This IOP library includes interface specifications subject to U.S. Army UAS fleet capabilities circa 2006-2024. These profiles include U.S. Army UAS implementations of Standard-Common Data Link (CDL) waveforms, Networking and Internet-Protocol (IP), NATO Standardization Agreement (STANAG) 4586-based C2 Protocol/Behaviors and Private Messaging, and associated ISR payload data, such as Motion and Still Electro-Optical/Infra-Red (EO/IR) imagery, Synthetic Aperture Radar (SAR), and Ground Motion Target Indicator (GMTI).
- **UAS and MUM-T Family of Systems Block III IOPs:** The Block III IOP library addresses many of UAS capabilities needed in the modern-day and emerging U.S. Army UAS portfolio. These include Advanced Teaming capabilities such as Collaborative and Autonomous Behaviors. Additional Data Links represented in this library include Bandwidth Efficient-CDL (BE-CDL), various Digital Data Links (DDL), and Satellite Communications (SATCOM). Block III associated STANAG-4586 based protocols/messages have expanded to include a more robust handover process allowing for one-to-many simultaneous platform interactions. ISR payload data standards still include the baseline Block I sensor products but also adds Large Volume Motion Imagery (LVMI), Targeting Metadata and Video Moving Target Indicator (VMTI) data format specifications.

To request copies of either Block I or Block III UAS and MUM-T Family of Systems Interoperability Profiles in any of the available formats – [Click Here](#)

IOP Verification Tools



Many software test tools are available to programs and eligible vendors to help demonstrate compliance with applicable standards as identified for each tool. The test tools continue to evolve to further automate compliance testing. These tools are available for dissemination upon request.

Available test tools fall under two domains, C2 and Payload Products (PLP). Datalinks tools are not included in this list since they involve firmware and are not available for distribution.

- If Datalinks test verification is desired, please contact:
usarmy.redstone.devcom-avmc.mbx.jsil-info@army.mil

To find out more about each tool's verification capabilities, please review the [JSIL Test Tool Catalog](#)

Once you identify the tool(s) you need, please request distribution by [Clicking Here](#)