

(R) Unmanned Systems (UxS) Control Segment (UCS) Architecture: Architecture Description

RATIONALE

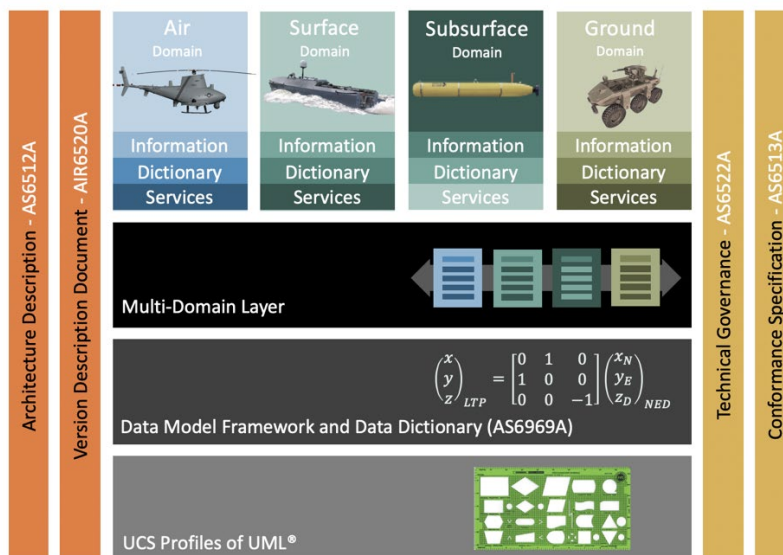
This revision of AS6512 is for Revision A of the SAE UCS Architecture Library.

FOREWORD

This Architecture Description (AD) establishes the content of the SAE Unmanned Systems (UxS) Control Segment (UCS) Architecture Library Revision A. The UCS Architecture Library Revision A is expressed by multiple SAE publications, of which this publication is the highest in the publication tree. The official designation of the UCS Architecture Library Revision A is therefore AS6512A. The other SAE publications in the UCS Architecture Library Revision A are: AS6513A, AS6518A, AS6522A, and AS6969A.

The UCS Architecture was originally applicable to systems that control unmanned aircraft above 10 kg gross take-off weight (nominal); however, it has since been extended to address all unmanned systems whose means of conveyance includes air, water, and ground. The UCS Architecture is concerned with control station software but not the control station software external environment, including information access, communications, and human-computer interfaces.

Model - AS6518A



Elements of the UCS Architecture Library Revision A

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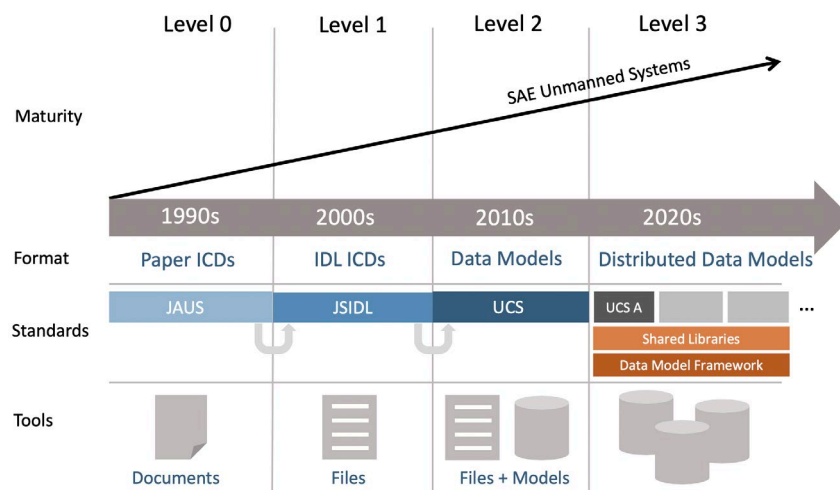
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For more information on this standard, visit
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The UCS Architecture defines a service-oriented architecture and modeling framework for the specification, integration, implementation, and deployment of control station software. The architecture is centered on a platform-independent model and associated foundational models. Platform independence (independence of the software operating environment) allows the UCS Architecture to be implemented on different computing infrastructures and with different communication protocols. This supports technology insertion and adoption on multiple UCS systems and related architectures. The architecture is deployable on any scale of UxS control station from a hand-held device to a fixed facility with multiple mission planners, operators, and analysts.

From the perspective of the SAE Aerospace Unmanned Systems Committee (AS-4), this revision of the UCS Architecture Library represents “Level 3” maturity in model-based information standards in which data model content is distributed across multiple architecture stakeholders. Specifically, the Data Model Framework (DMF) is a government-owned model and technical governance upon which AS6969A is a shared library of definition objects. Both the DMF and AS6969A library can support multiple architectures.



Evolution in AS-4 model-based information standards

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