MOSA

Modular Open Systems Approach Services

The Department of Defense (DoD) established the Modular Open Systems Approach (MOSA) for procuring new systems and upgrading existing systems. This mandatory approach is designed to reduce acquisition and sustainment costs without sacrificing capability. The Space Dynamics Laboratory (SDL) offers the experience and services to help agencies integrate complex modular open systems.

SERVICES

SDL is one of 14 Department of Defense University Affiliated Research Centers (UARCs), a status that provides key benefits:

- Independence & objectivity
- Current operational experience
- Freedom from real or perceived conflicts of interest

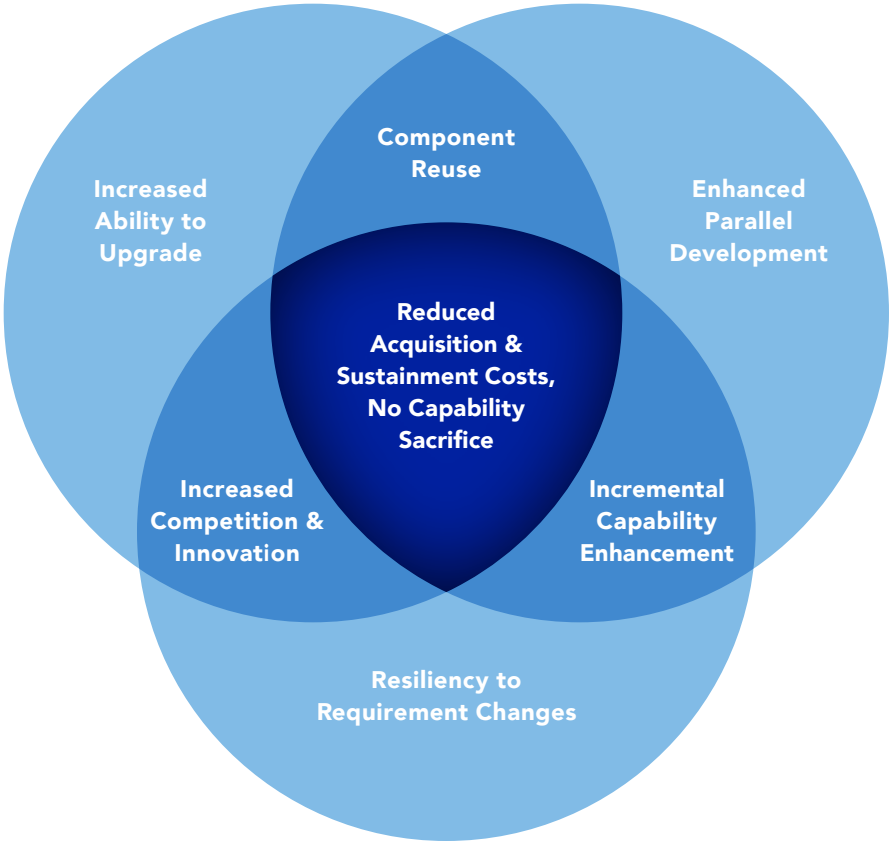
As a trusted Government partner, SDL has had great success facilitating and integrating MOSA into several Government programs. As a UARC, SDL provides solutions with unlimited rights to Government customers with no licensing fees.

MOSA COST SAVINGS

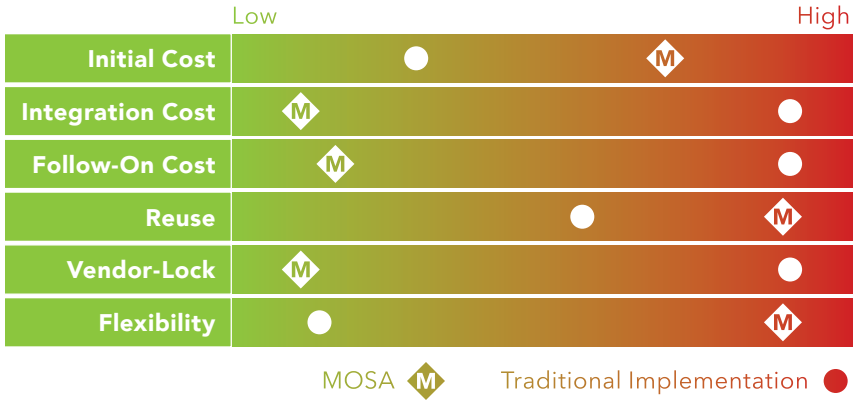
By decoupling system components, MOSA provides cost savings in the following ways:

- Reduces interface definition & design effort by using standard interfaces
- Facilitates parallel development of hardware & software
- Reduces testing effort by consolidating changes
- Reduces system integration effort by enabling individual component verification

BENEFITS OF MOSA



MOSA'S MODULAR DESIGN SAVES TIME & MONEY



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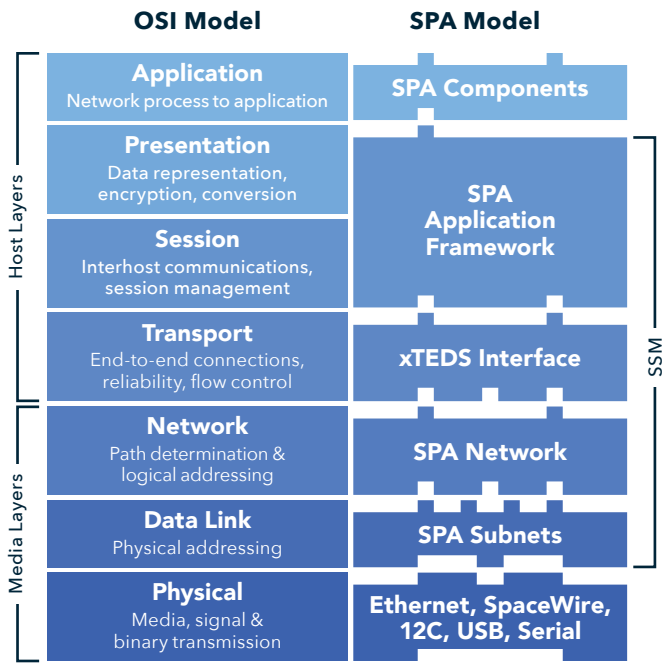
LAYERED ARCHITECTURE

- Network conceptual model uses layered architecture
- Layers are developed independently
- Individual layers improve maintainability & enable layer modification with minimal impact
- Layer boundaries provide ideal testability
- Simple architecture for ease of use

HARDWARE INDEPENDENT

- Portable Operating System Interface constructs (POSIX & POSIX-like)
- Platform Abstraction Layer (PAL)
  - Provides standardized application programming interface (API) to the operating system & hardware
  - Localizes hardware-dependent code in a single layer
  - Allows for hardware & OS modifications without impacting the application code
  - Enables quick & easy code development for multiple software or hardware platforms



The Space Plug-and-Play (SPA) model maps directly to the industry standard Open Systems Interconnect (OSI) model for a layered architecture.

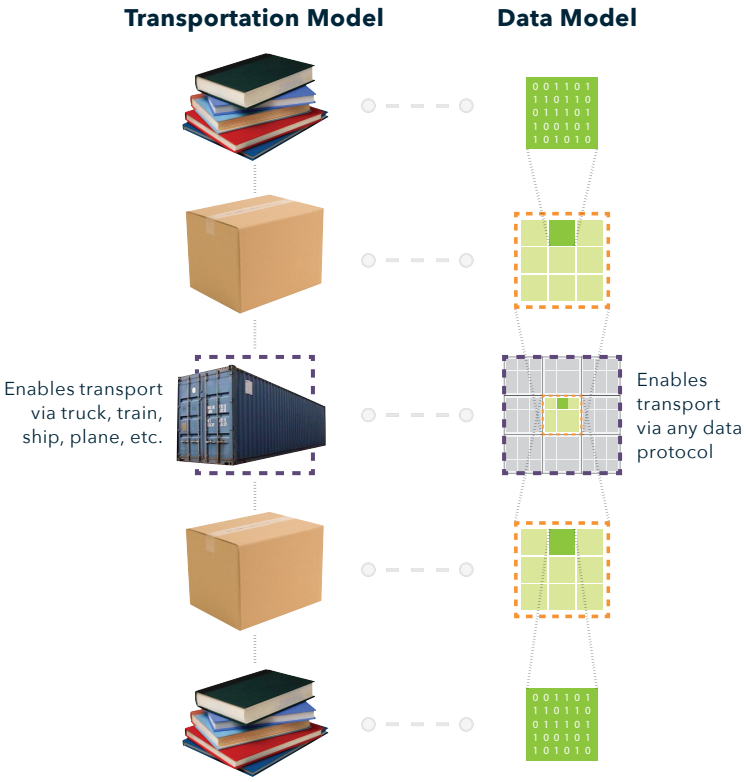
NET-CENTRIC IMPLEMENTATION

System of Systems

- Communicates across heterogeneous network media via packet encapsulation
- Abstracts complex interfaces into simple network-accessible services
- Enables communication between systems not originally designed to interoperate
- Uses logical addressing to ignore physical location of components
- Enables dynamic discovery of available network services

OPEN STANDARDS

- Available to everyone
- Still interoperable with proprietary solutions
- Developed & maintained by the community
- Provider or implementation agnostic
- Facilitate enhanced competitive solutions
- Open to improvement through a well-managed process



Using packet encapsulation minimizes change propagation. The carrier can change, but the packet remains the same.