

■ EDGE TO CORE, AND BACK

C4ISR IN AT THE EDGE. BMC3I OUT — AT THE SPEED THE THREAT DEMANDS.

Five domains sense at the edge. One hybrid layer carries it. The core turns threat into measured courses of action, then pushes command back out by threat level.

DOMAIN SPACE · EDGEFIND · FIX · TRACK

Space SDA tracks · maneuvers · RF/EO custody	C4ISR
Air ISR feeds · missile warning · air picture	C4ISR
Land Ground sensors · fires · force posture	C4ISR
Maritime Surface/subsurface tracks · AIS · radar	C4ISR
Cyber Network telemetry · link health · intrusion	C4ISR

HYBRID LAYER

TRANSPORT

Mesh, any path

Agnostic data paths · no single link

Store-and-forward

Nodes rejoin without loss

Unified data

One record across domains

Cross-level sharing

DoD · IC · coalition · commercial

● DDIL-TOLERANT · SUB-MS

DECISION SPACE · CORE

INFORMATION / DECISION SPACE

- Threat / response matrix**
Threat level × pre-authorized response, per domain
- TT&P + COA generation**
Branches per scenario · kill-chain graph
- Fast-forward adjudication**
Physics + network wargame · Orekit · 200 Hz
- Probability of success**
Per scenario · measures: MQMs · MOEs · MOPs
- Operator-verified decision**
AI-assisted · complete, reviewable record of every run

FUSE → MODEL → WARGAME → MEASURE → DECIDE

AUTHORITY LANES GATE THE COMMIT →

COMBATANT COMMANDER

NATIONAL COMMAND AUTHORITY

MISSION PARTNERS · COALITION

BUSINESS TRANSACTION MODEL

RETURN · BMC3I TO THE EDGE

Battle management, command, control, communications, intelligence — pushed back into the domain space. The threat level decides who acts and how fast.

TARGET · ENGAGE · ASSESS

THREAT LEVEL

WHO ACTS

LATENCY

WHAT MOVES

■ Low

Core deliberates · commander commits

Hours → days

Updated TT&P · re-plan · retasking

■ Elevated

Core pushes ranked COAs · operator verifies

Minutes

COAs with probability of success · tasking

■ Imminent

Edge acts on pre-authorized response matrix

Seconds · <500 ms sensor-to-COA

Effects · then report to core

DDIL = DENIED, DISRUPTED, INTERMITTENT, LIMITED OF ACTION · CORE = INFORMATION / DECISION SPACE · EDGE = DOMAIN SPACE · TT&P = TACTICS, TECHNIQUES & PROCEDURES · COA = COURSE OF ACTION

SOURCES: USSPACECOM FY29-33 IPL · DAF FY27 RDT&E · JP 3-60 · HYPATIUS PLATFORM DIRECTIVES