Integrating CONOPS into the Acquisition Process

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The phrase *concept of operations* (CONOPS) has been interpreted in many ways. Its most useful manifestation is when a CONOPS reveals how the horizontal integration of joint capabilities can produce the effects intended by the joint commander. Its least useful—yet most common—manifestation is when a CONOPS is created to justify or rationalize one specific platform or program.

When applied properly, a CONOPS leads the acquisition process by forcing us to decide how we are going to fight before we decide what we are going *to buy* to fight with. By making CONOPS a living exercise, we introduce the temporal dimension—the potential of systems deemed important in a current acquisition over extended periods of time—remembering that acquisition decisions made today must be useful to commanders 30 or 40 years from now. One need not be convinced of the lingering value of the B–52 that communicates directly with special operations forces or is equipped with its own targeting pod and precision weapons. The original CONOPS for the B–52 was focused on the strategic nuclear mission, but as mission needs transitioned into modern applications, the idea that global range in the

Marines patrol in mine resistant ambush protected vehicle in Afghanistan

U.S. Marine Corps (Joseph R. Breinlinger)

Cold War could be traded for persistence in counterinsurgency operations (with a large precision payload) was one born of progressive CONOPS developed by mission-oriented commanders and tacticians. By any definition, however, the U.S. military's efforts to date to integrate CONOPS into the acquisition process have been of middling success.

Case Study: The UAS

There is no better example than the way we have approached acquisitions for unmanned aircraft systems (UAS). Early on, the UAS debate was swallowed by emotional but irrelevant worries about replacing manned aircraft. The convenient indictment was that UAS are resisted by pilots or that their value was avoidance of dangerous exposure to threats. Unguided by a coherent joint CONOPS, we have, by turns, reached either too far with UAS or not far enough. Today, the battlespace is saturated with a wide variety of UAS platforms while complaints persist down to the lowest tactical level that timely support is not available. The unfortunate debate has centered on emotional disagreements about ownership of platforms rather than integration of information. What seems obvious is that a joint CONOPS, backed by an integrating technology, would reveal that the number of platforms is not the issue.

We need a joint theater CONOPS to integrate appropriate UAS capabilities for all our forces in the joint force at the right place at the right time in a way that optimizes utility—a CONOPS that fields an immediate integration capability for the current situation, on an emergency basis, followed by policy that insists on an operationally developed CONOPS to lead the acquisition process.

Consider the case of the X–45. The platform-centric argument was that this unmanned fighter would be a candidate to replace the F–16. Stealth would be its main defense. While understandable from the perspective of wanting to develop an unmanned fighter platform—a worthy enough goal—this particular platform was impractical from a CONOPS perspective. The employment called for the platforms to be stored and deployed in containers aboard transport aircraft, then assembled, test flown, and loaded with weapons before being ready for combat at the receiving base—not the picture of rapid airpower. The assumption that transport aircraft would be available did not comport with any existing war plans, and the use of stealth as its only defense made it vulnerable to any visual system during daylight.

The F–16, on the other hand, could self-deploy with weapons and fly directly into combat 24 hours a day. It was hard to imagine that commanders would prefer the lesser capability just because it was unmanned. The procurement of a limited number of X–45s for the purpose of developing integration protocols, unmanned air refueling, and command and control, and for generally advancing the technology, was a much better idea.

Search for a Construct

So what would be a useful construct for a next-generation joint CONOPS for UAS? First, it has become evident that the proliferation of many sizes and shapes of UAS is still *not* delivering what is needed. The most reliable UAS coverage comes from vehicles that offer access to multiple sensors (working day/night through any weather) and good persistence and that communicate seamlessly with the variety of air, land, maritime, special operations, and space platforms, sensors, or operators that can produce target-quality location and identification. This means UAS platforms that do not blow away at operational altitude when the wind blows faster than the platforms' maximum speed (as is the case with many hand-launched vehicles); vehicles that traverse a reasonable distance to react to emerging or time-sensitive situations; and, equally important, a command and control system that can shift UAS resources around the battlespace to respond to commander priorities.

Second, the next-generation CONOPS should be agile enough in tasking and employment to serve both traditional intelligence collection—that is, the tedious but necessary cycle of "collect, analyze, report" that yields the battlefield forensic data necessary to understand and anticipate—and then seamlessly shift to direct engagement—the real-time targeting cycle—when priorities dictate.

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U.S. Air Force (David H. Lipp)

U.S. Customs and Border Protection agent pilots Predator B UAS to assess flood threat in North Dakota

Third, a new CONOPS could help clearly define the next generation of UAS operators. The time has come to move away from the idea that a fully qualified pilot

is required to fly a UAS while remaining sensitive to the requirement that pilot-like knowledge is needed to operate in shared airspace, control zones, restricted areas, and within the rules of an airspace control authority. Thus, it is reasonable to assume that the next-generation UAS operator must possess entry-level pilot knowledge, battle management skills, and the appropriate qualifications to assume responsibility for compliance with rules of engagement. These skills include appropriate warrior credentials to assign both responsibility and authority for weapons guidance or release. A challenge will be to appropriately adjust Federal Aviation Administration and International Civil Aviation Organization rules and regulations to safely integrate UAS into national and international airspace using such UAS operators without requiring the traditional pilot ratings.

Logically, this would all come together using a combined mission planning/mission execution system where the vehicle is flown by the autopilot and repositioned by mouse clicks. Technology would assist in planning and executing mission tasks by displaying optimum routes, search patterns, weapons envelopes, required coverage, number of required vehicles, and so forth—with human intervention always possible but not always necessary. Multiple vehicles could be under the control of a single operator or crew (depending on the mission), and communication among crews could allow shifting of resources to cover emerging priorities.

If we were to embrace a truly joint approach, it is not difficult to imagine how the construct described above would evolve beyond UAS and be insensitive to the location or type of sensor at the end of the operator's tether. The operator could at any time, and with appropriate authorizations, bring any needed system into the network as required to verify (for example, request signals intelligence or other information), bring additional firepower (call the bomber or fighter formation), and observe more closely (using space, ground, or hovering platform capabilities).

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U.S. Air Force (Sabrina Johnson)

Airmen load AFM–114 Hellfire missile onto MQ–1B Predator UAS in Iraq

QDR Role

Without question, the Quadrennial Defense Review (QDR) will play an important role in determining the next steps in UAS application as critical elements of our nation's defense. Unfortunately, the most recent examples of the QDR have become more of a *program* review than a *strategic* review, aggravating Service rivalries in competition for programs rather than inviting the real, integrative CONOPS that would produce cooperative results. The consequence is that the Services prepare for the QDR for 2 years and then spend 2 years repairing relationships.

Specifically, the QDR should direct that the Services produce joint CONOPS for joint employment of UAS rather than decide on platforms and programs. Strategic direction—perhaps the Joint Requirements Oversight Committee could be directed to oversee CONOPS development—would be for CONOPS to drive capabilities and then requirements in a way that keeps the acquisition *process* in the acquisition *business* and away from having to create CONOPS based on platform justification.

If done properly, the introduction of a joint, integrating CONOPS into the acquisition process for unmanned systems will produce an understanding that real jointness is about using the right force at the right place at the right time. Real jointness will deliver systems that promote Service and component interdependence over Service or component dominance.

In an era of decreasing resource availability for the Department of Defense, Service interdependence will be not an option, but a requirement. Achieving Service interdependence requires making decisions that bring the full power of air, land, sea, space, and cyberspace competencies to bear with minimum overlap and redundancy.

Finally, our actions must account for the fact that today's procurement decisions will define capabilities for the next 35 to 40 years. Just as today's operational concepts are guiding the modern utility of platforms and systems that were procured in the 1950s, 1960s, and 1970s, future commanders will depend on the right balance of capabilities—decisions being made today—to accommodate future contingencies. **JFQ**