

Space Operations in Support of the Objective Force

By Dave Carrithers

The Army's Objective Force is designed from the ground up to be part of the Joint, interagency and multi-national team in support of rapid deployment and operations against a range of threats, including defense of the homeland. The Objective Force concept and design is nested within the strategic guidance outlined in the current National Security Strategy, National Military Strategy, Defense Planning Guidance, Joint Vision. It supports the larger Department of Defense Transformation efforts that include the six 2001 quadrennial defense operational goals, the four transformational pillars and the emerging Joint capstone concept of full spectrum dominance.

The Army will fight in the future operational environment as part of the nation's Joint military forces. To maintain supremacy in this future environment, the Army must be more strategically responsive, deployable, agile, versatile, lethal, survivable and sustainable across the full spectrum of conflict. These seven characteristics, outlined in the Army Vision, are the foundation for the development and evolution of Army organizations, its operational concepts, required capabilities and missions.

The Army must have the ability to generate overmatching combat power by leveraging the synergy of maneuver, firepower and protection in combination with mentally and physically prepared leadership that is empowered by superior situational understanding. At the same time, Army forces must contribute directly to the Joint force capabilities for dominant maneuver, precision engagement, full dimensional protection and focused logistics.

The Objective Force will conduct sustained combined arms air-space-ground operations within the Joint campaign to establish land force dominance, wrest the initiative from

the enemy, force him to the defensive and defeat him in detail. Objective Force units achieve their power through the ability to see first, understand first, act first and finish decisively at the strategic, operational and tactical levels of war. Superior situational understanding, based on networked command, control, communication and computer intelligence, surveillance and reconnaissance capabilities at all levels, enables ground commanders to operate on their terms, at the time, place, and method of their choosing. The ability to see and understand first must be enabled by reliable, redundant, networked, jam-resistant, high bandwidth communications; user-friendly information displays; and advanced tactical decisions.

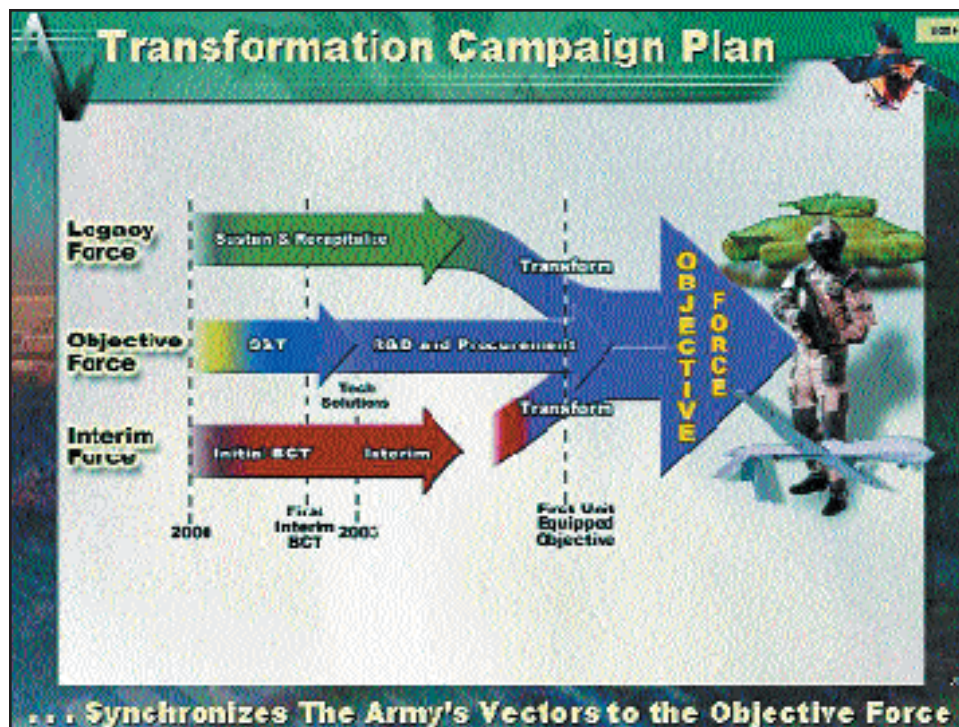
The Objective Force operating environment is more complex than today's environment. There is a growing requirement for information superiority across battlefield functional areas. Because the enemy will be less predictable, operations will be conducted in a distributed manner, in a 360-degree radius, and over non-contiguous uncontrolled terrain. This complex terrain will place a premium on integrated Space, air and ground sensors, and communications.

Threat forces are knowledgeable of how U.S. forces use and rely on Space capabilities to support precision engagement and situational awareness and understanding. Degradation of these Space-based capabilities serve to level the playing field by degrading situational awareness and understanding, thereby weakening the system of systems synergy and slowing the pace of "see first, understand first and act first."

Today, the enemy also occupies the high ground and has access to Space-based capabilities.

The wide use and increased capability provided by

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commercial Space systems have altered the definition of the Space environment. Commercial capabilities provide unique challenges for U.S. forces and represent an alternative for leveling the playing field by the enemy.

As a Space-empowered force, units of employment and units of action will routinely exploit the overhead constellation of military and civilian Space platforms for intelligence; focused surveillance; area reconnaissance; long-haul communications; early warning; position, velocity, time, navigation (PVNT); missile defense; weather/terrain/environmental monitoring; and access to the global information grid. The layered redundancy and improved capabilities provided through Space will sharply improve development of situational awareness at all levels, help resolve many current operational challenges (e.g., fleeting target engagement or limits on range and mobility of terrestrial communications) and strengthen the commander's confidence in the knowledge backbone that supports him. The deployed capability to cross-cue intelligence and nonintelligence platforms will lead to more responsive and comprehensive targeting information. Space enhancement will extend from national to tactical level (Space to mud) and prove particularly indispensable in immature theaters where existing communications infrastructure (e.g. absence of fiberoptic cable networks) may be insufficient or unreliable. Overall, Space-based capabilities are critical enablers for implementation of the fundamental principles of the unit of employment concept, particularly with respect to achieving information superiority, creating situational awareness and operating within the high tempo, non-contiguous, simultaneous framework of distributed operations.

Superior knowledge will enable all phases of the land campaign, beginning with the reliable identification of

key enemy forces and capabilities, and permit the unit of employment and its subordinate elements to:

- Differentiate and prioritize enemy forces, capabilities and targets for attack, enabling the unit of employment to conduct dominant, precision maneuver against those objectives that will have the most overpowering effects on the enemy's forces, capabilities and integrity.
- Conduct precise, continuous battle damage assessment.
- Sequence, weight and apportion supporting assets more effectively with respect to fires/effects, maneuver support and maneuver sustainment.
- Conduct highly synchronized, precise sustaining operations.
- Identify threats and means that must be neutralized to support operational maneuver by ground or air.
- Fully synchronize dominant maneuver with organic and external precision fires.
- Enhance force protection at all levels.

The medium of Space is the "high ground" for the Objective Force. As such, our Joint Space forces must seize this ground if we are to dominate the terrestrial battlespace. Army Space operations will focus on five essential tasks to ensure that the Objective Force successfully achieves decisive victory. Unless achieved, Objective Forces will be impaired or possibly unsuccessful. These five essential tasks are:

- Support increased deployability and reduced theater footprint.
- Enable situational understanding "off the ramp" during entry operations.
- Support precision maneuver, fires, sustainment and information.

The Objective Force will conduct operations to, from, in and through Space in support of national interests. This trend will continue; not only will commanders of Objective Force units be able to better maneuver in the vertical dimension, but they will also leverage other Joint combat capabilities hundreds of miles above the Earth.

- Enable continuous information and decision superiority.
- Protect the force during all phases of the operation.

Support increased deployability and reduced in-theater footprint

Space provides many resources that support increased deployability and which reduce in-theater footprint. Some of those resources include Space-based communications that provide global access and Space-based intelligence, surveillance and reconnaissance that enhances situational awareness. Space control capabilities ensure our freedom of action in Space while denying an adversary the same capability. Global reach to the home station operations center and home station support nodes is critical when conducting operational maneuver from strategic distances.

Enable situational understanding “off the ramp”

Understanding all aspects of the battlespace environment becomes increasingly difficult when the threat has the “home-court” advantage. The threat’s intimate knowledge of urban areas, infrastructure, cultural and political areas, and complex terrain are critical enablers to threat operations. These operations may be further enhanced by the effects of weather on the physical environment, forces and sensors.

Continuous situational understanding of the battlespace is the key enabler to offset the enemy’s home-court advantage. The information supporting this understanding must be available in real-time, actionable and tailorable to meet the unique needs of commanders at all echelons, and create the level of understanding to enable the Objective Force to gain the information initiative. Dynamic re-tasking and direct downlink capabilities must be coordinated with the Joint provider to ensure immediate access to information.

Enable information and decision superiority

A CONUS-based Army must have theater access to project combat power. Deployments may be into areas with poor infrastructure, limited ports of entry and little host-nation support. Entry operations will create “gray space” in which Objective Force commanders will be able to maneuver freely to fully develop multiple PODs (Points of debarkation). Threat forces will attempt to deny access by applying a wide range of anti-access strategies to include indirect attacks by asymmetric means and direct attacks using special purpose and terrorist forces. Threat forces will attempt to determine what forces will be deployed and when and where they will enter.

Superior situational understanding of the battlespace environment prior to deployment enables Objective Force commanders

to deploy the right force mix to establish multiple entry points. The employment of Space control systems will enable us to preclude the adversary from determining these points of entry. Space control systems will ensure that the deploying force can be protected from space observation from the time it prepares for deployment until the time it arrives in theater. Once the force arrives in theater, mobile Space control systems will continue to ensure that the adversary is denied information on friendly force operations from enemy Space assets.

Support precision maneuver, fires, sustainment and information

Adversarial forces will be more difficult to target as they conduct dispersed operations and use asymmetric responses to achieve operational objectives. They will also migrate to urban and complex terrain for hiding and shielding, disrupting command and control, and reducing the impact of Objective Force standoff situational awareness.

To increase friendly force advantage, the Objective Force commander must be able to leverage intelligence, surveillance, reconnaissance and PVNT resources to maneuver decisively and bring effective fires to bear on threat forces. Timely and continuous, jam-resistant PVNT is key to providing precision munitions on target. One-meter accuracy is the accuracy requirement. Combat identi-

fication and timely, accurate and responsive information are required to ensure that sustainment operations during every operational phase are conducted at the correct time and place.

Protect the force during all phases of the operation

Space capabilities play key roles in protecting the force during all operational phases. By attacking the adversary's Space systems, we deny him the information needed to detect and attack our forces. Satellite warning systems will cue missile defense systems with the location of missile launch and trigger passive and active defense reactions.

In summary, Space is a medium in the same way as the air, land or sea. The Objective Force will conduct operations to, from, in and through Space in support of national interests. This trend will continue; not only will commanders of Objective Force units be able to better maneuver in the vertical dimension, but they will also leverage other Joint combat capabilities hundreds of miles above the Earth.

The Objective Force will be equipped and trained to routinely exploit Joint Space-based capabilities. A responsive, integrated and interoperable command, control, communications and computer intelligence, surveillance and reconnaissance system — C4ISR — that collects, processes and disseminates information in a timely manner is critical to the development of situational understanding and awareness on the future battlefield.

In short, the Objective Force will be in position to exploit Space-based capabilities, while at the same time developing and executing protective measures for Space systems

as well as avoiding absolute dependency on them.

Seamlessness will be the signature characteristic of well-integrated air-Space-ground force operations. From the user perspective, Space support must be reliable, timely and conducted with minimal operational friction. During operations at the tactical or operational level, undue delays or discontinuities will quickly make Space support irrelevant. For this reason, the central thrust of Army Space operations is to eliminate technical and procedural seams in the system of systems to reduce friction and enhance information exchange.



In the far term, this capability will be achieved through the global information grid. Space battlespace awareness and Space analysis provide a combat multiplier required for achieving information superiority. Whether at home or abroad, near or far term, Army Space operations will be consistent with the Army's responsibility to execute prompt response, mobilize the Army, conduct forced entry and conduct prompt and sustained land combat to win the nation's wars.

Procedures to enable direct tasking of satellites by tactical commanders and expanded employment of direct downlinks

from satellites to tactical users will remain an ongoing initiative. Initiatives are under way to develop new Army contributions to the Space surveillance and negation functions of Space control operations. Army forces will also provide support to Space forces, such as those conducting satellite control operations. Some of this support will be tied to the Army's role in homeland security with an emphasis on Army national missile defense operations.

The overall contribution of Space control capabilities cannot be overemphasized. U.S. dominance in Space is not guaranteed. Adversaries may probe our Space systems

and segments for vulnerabilities or they might alter the Space environment to disrupt or deny our Space operations. Space control, a mission shared by all Services, ensures freedom of action for the Objective Force units and, when directed, denies an adversary freedom of action in using Space-based systems and products.

Finally, Space-based intelligence, surveillance and reconnaissance capabilities will often be the first "eyes on target." The

Army has been, is and will continue to be a prominent player on the Joint Space team to "secure the high ground."

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