Capstone Concept for Joint Operations: Joint Force 2020

10 September 2012

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FOREWORD

Our nation and Armed Forces are transitioning from over a decade of war to a future that presents us with a security paradox. While the world is trending toward greater stability overall, destructive technologies are available to a wider and more disparate range of adversaries. As a result, the world is potentially more dangerous than ever before.

New concepts of operation are needed to address the security paradox we face. This Capstone Concept is one of the first to imagine what they might be. It proposes an approach called *globally integrated operations.* In this concept, Joint Force elements, globally postured, combine quickly with each other and mission partners to integrate capabilities fluidly across domains, echelons, geographic boundaries, and organizational affiliations. While much about this approach remains to be developed, it aims to leverage the distinct advantages our military holds over adversaries so that U.S. Joint Forces, in concert with the other elements of national power, keep America immune from coercion.

I have the highest expectations this concept will inform our ideas, and sharpen our thinking, as we determine how to meet the requirements laid out in the new defense strategic guidance, *Sustaining U.S. Global Leadership: Priorities for 21st Century Defense.* The ideas articulated here will also help us shape the Joint Force of 2020.

The reality of force development is that about 80% of Joint Force 2020 is programmed or exists today. We do, however, have an opportunity to be innovative in two ways. We can significantly change the other 20% of the force, and we can change the way we use the entire force. While new capabilities will be essential, many of our most important advancements will come through innovations in training, education, personnel management, and leadership development.

This Capstone Concept gets us thinking about all these things. I commend it to you.

MARTIN E. DEMPSEY
General, U.S. Army

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Table of Contents

Foreword..... iii

1. Introduction..... 1
2. Future Security Environment..... 1
3. The Concept: Globally Integrated Operations..... 4
4. Select Implications for Joint Force 2020..... 8
5. Risks of Adopting this Concept..... 14
6. Conclusion..... 15

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1. Introduction

This *Capstone Concept for Joint Operations* (CCJO) describes potential operational concepts through which the Joint Force of 2020 will defend the nation against a wide range of security challenges. Its purpose is to guide force development toward Joint Force 2020, the force called for by the new defense strategic guidance, *Sustaining U.S. Global Leadership: Priorities for 21st Century Defense.*

A capstone concept by definition articulates a high-order vision of how the future force will operate. It cannot by itself provide the detailed guidance necessary to realize the Joint Force of 2020. It can, however, describe the future operating environment, advance new concepts for joint operations, and suggest attributes that will define the future force. In this way, the CCJO aims to establish a bridge from the new strategic guidance to subordinate concepts, force development guidance, and follow-on doctrine.

This CCJO focuses on what is new and different in the future strategic environment. It builds on prior capstone concepts, but also recognizes that much of the nature of conflict in the world is enduring. War remains a clash between hostile, independent, and irreconcilable wills each trying to dominate the other through violence. Enemies will continue to search for, find, and exploit U.S. vulnerabilities. Even when waged with increasingly sophisticated technologies, the conduct of military operations remains a fundamentally human enterprise.

Finally, this concept recognizes that military force is only one element of national power. In many cases strategic success will turn on our ability to operate in concert with the rest of the U.S. government, allied governments and their armed forces, and nongovernmental partners.

2. The Future Security Environment

Sustaining U.S. Global Leadership identifies ten primary missions through which the Joint Force will protect U.S. national interests:

- Counter terrorism and irregular warfare
- Deter and defeat aggression
- Project power despite anti-access/area denial challenges

- Counter weapons of mass destruction
- Operate effectively in cyberspace and space
- Maintain a safe, secure, and effective nuclear deterrent
- Defend the homeland and provide support to civil authorities
- Provide a stabilizing presence
- Conduct stability and counterinsurgency operations
- Conduct humanitarian, disaster relief, and other operations

The Joint Force will accomplish these missions in a security environment characterized by several persistent trends: the proliferation of weapons of mass destruction, the rise of modern competitor states, violent extremism, regional instability, transnational criminal activity, and competition for resources. Armed conflicts will be inevitable in such an environment—as will be opportunities for cooperation and peaceful competition.

These are some of the continuities. We also anticipate differences going forward. The diffusion of advanced technology in the global economy means that middleweight militaries and non-state actors can now muster weaponry once available only to superpowers. The proliferation of cyber and space weapons, precision munitions, ballistic missiles, and anti-access and area denial capabilities will grant more adversaries the ability to inflict devastating losses. These threats place our access to the global commons at risk, target our forces as they deploy to the operational area, and can even threaten forces at their points of origin. Meanwhile, adversaries continue to explore asymmetric ways to employ both crude and advanced technology to exploit U.S. vulnerabilities. Consequently, the capability advantage that U.S. forces have had over many potential adversaries may narrow in the future. Adversaries will not only have more advanced capabilities in every domain. More of them will have the ability to simultaneously fight across multiple domains.

Space and cyberspace will play a particularly important role in the years ahead. As these domains figure more prominently in the projection of military power, operations in them will become both a precursor to and integral part of armed combat in the land, maritime and air domains. Future adversaries may even elect to attack only in cyberspace, where military networks and critical infrastructure are vulnerable to remote attack, and actions remain difficult to trace.

The diffusion of technology that is transforming warfare is also reshaping global politics. Social media can catalyze protests in days that popular movements once took months or years to build. The penetration of mobile technology especially in developing nations will dramatically increase the number of people able to access and share

information rapidly. The ubiquity of personal communications devices with cameras and full motion video also allows much of the world to observe unfolding events in real time, rendering future operations increasingly sensitive to popular perceptions. As we have learned in Iraq and Afghanistan, military actions will receive intense media scrutiny, a dynamic that potentially invests otherwise inconsequential actions with strategic importance.

Digital technology is also profoundly altering command and control within our own military and between military and civilian leaders. Just as commanders now have greater connectivity with their subordinates, national command authorities will enjoy extensive visibility of joint operations, changing how military and political leaders relate as operations unfold.

In this new global political environment—distinguished by digital networks and worldwide flows of capital, material, people, and information—the geography of threats and crises grow more complex. While most security challenges remain rooted in a place or region, many will be driven by—and in turn drive—transnational dynamics. In a world where fragile critical infrastructure is widely connected to the internet, and in which sabotage and terrorism have profound effects, adversaries can also more easily escalate a conflict laterally, including to the U.S. homeland. In such a world, the dimensions of any particular security challenge may not align with existing boundaries or command structures. Likewise, the conventions by which wars are fought are no longer as settled as they once were. Notions of who is a combatant and what constitutes a battlefield in the digital age are rapidly shifting beyond previous norms.

Taken together, these factors give rise to a future security environment likely to be more unpredictable, complex, and potentially dangerous than today. The accelerating rates of change present in so many aspects of this future security environment will require greater speed in the planning and conduct of military operations. Once in a fight, adversary capabilities and tactics will also shift more quickly.

With more actors having access to destructive technologies, forces will also have to cope with a potentially greater degree of uncertainty with respect to how and against whom they will fight. Although broad trends in warfare can often be discerned in advance, it will be impossible to predict with certainty when, where, and for what purpose Joint Forces will operate.

Joint Forces must also adapt to the nation's fiscal environment. Though some key capability areas will see increased investment, the cumulative impact of retrenchment in defense accounts will be reduced

capacity in terms of overall force structure. While the armed forces are likely to grow smaller, it is less likely their operational tempo will decrease.

The operational challenge that emerges can be summarized as this: *How will future Joint Forces with constrained resources protect U.S. national interests against increasingly capable enemies in an uncertain, complex, rapidly changing, and increasingly transparent world?*

3. The Concept: Globally Integrated Operations

Globally integrated operations is the concept for how the Joint Force should prepare for the security environment we will soon face. It requires a globally postured Joint Force to quickly combine capabilities with itself and mission partners across domains, echelons, geographic boundaries, and organizational affiliations. These networks of forces and partners will form, evolve, dissolve, and reform in different arrangements in time and space with significantly greater fluidity than today's Joint Force.

The strength of our Joint Force has always been its ability to combine unique Service capabilities to project decisive military force. The concept of globally integrated operations aims to accelerate and expand how the Joint Force musters decisive force. At its heart, the concept envisions the integration of emerging capabilities—particularly special operations forces, cyber, and intelligence, surveillance and reconnaissance (ISR)—with new ways of fighting and partnering. Together, this will achieve higher levels of military effectiveness against the threats we will most likely face.

Elements of Globally Integrated Operations

- Mission command
- Seize, retain and exploit the initiative
- Global agility
- Partnering
- Flexibility in establishing Joint Forces
- Cross-domain synergy
- Use of flexible, low-signature capabilities
- Increasingly discriminate to minimize unintended consequences

There are eight key elements to globally integrated operations:

First, *globally integrated operations requires a commitment to the use of mission command.* Mission command is the most appropriate command philosophy for the increasingly uncertain future environment because it empowers individuals to exercise judgment in how they carry out their assigned tasks. First and foremost, it exploits the human element in joint operations, emphasizing trust, force of will, intuitive judgment, and creativity, among other traits. This ethic of decentralization empowers

subordinate leaders to advance their commander's intent through the most effective means at their disposal. A new generation of digital collaboration technology enables us to realize mission command in even more powerful ways. Mobile devices with reach-back to network-based services will allow distributed commanders and staffs to collaborate as though co-located. Developing networks that can simultaneously integrate secure and non-secure communications will widen the circle of actors who can support a given operation, allowing diverse stakeholders to contribute insights and expertise in real time. Future mission command will thus be highly collaborative as seniors and subordinates join in a circle of feedback, initiative, adaptation, and mission effectiveness.

It is important to note that while mission command is the preferred command philosophy, it is not appropriate to all situations. Certain specific activities require more detailed control, such as the employment of nuclear weapons or other national capabilities, air traffic control, or activities that are fundamentally about the efficient synchronization of resources.

Second, *globally integrated operations must provide the ability to seize, retain and exploit the initiative in time and across domains.* Controlling the pace of operations is a key part of maintaining military advantage. Especially in a conflict that plays out in multiple domains, our operational campaign design must enable us to decide and direct faster than our adversaries. Building on the command philosophy of mission command, developing leaders with the ability to understand the environment, visualize operational solutions, and provide decisive direction will be essential to mission success.

Third, *globally integrated operations both enable and are premised upon global agility.* As with today's force, all joint operations will begin from an initial posture of bases, home-station forces, forward-deployed forces, and prepositioned stocks. However, the increasing speed at which events develop will place a premium on swift and adaptable military responses. To achieve this, globally integrated Joint Forces can use capabilities such as cyber and global strike to rapidly bring combat power to bear. Massed formations will remain an option but increasingly they will not be the option of choice. Further, smarter positioning of forces, as well as greater use of prepositioned stocks and rapid expeditionary basing, will increase overall operational reach. More nimble command and control will also allow resources to be allocated, shifted, and de-conflicted more fluidly among combatant commanders as strategic priorities evolve. The result is a more agile Joint Force able to aggregate, reconfigure, and disaggregate as required.

Fourth, *globally integrated operations place a premium on partnering.* This allows expertise and resources existing outside the U.S. military to be better integrated in a variety of operational contexts. The complex security challenges of the future almost invariably will require more than the military instrument of national power. Joint Forces must be able to integrate effectively with U.S. governmental agencies, partner militaries, and indigenous and regional stakeholders. This integration must be scalable, ranging from the ability of an individual unit to enroll the expertise of a nongovernmental partner to multi-nation coalition operations.

Fifth, *globally integrated operations provide for more flexibility in how Joint Forces are established and employed.* Current doctrine specifies that Joint Forces be established on a geographic or functional basis, with geographic boundaries shifted as required. In the years to come, security challenges are less likely to correspond with, or even approximate, existing geographic or functional divisions. Future Joint Forces might therefore be increasingly organized around specific security challenges themselves. This might be done globally, as U.S. Special Operations Command synchronizes counterterrorism operations today. Or it might be done on a more tailored basis, as a joint task force operating across multiple non-contiguous geographic areas to accomplish its mission against a single threat. The assertion here is not that mission-based Joint Forces will replace geographically or functionally-based ones. Geography remains the logical basis for conducting theater cooperative security, while some missions, such as strategic deterrence, remain functionally distinct. Rather, the intent is to explore hybrid command arrangements that provide greater flexibility in how Joint Forces accomplish their mission.

The imperative for lateral coordination will be a distinguishing feature of these new hybrid arrangements. The greater use of functional or mission-based Joint Forces increases the likelihood that multiple commanders will operate in geographic proximity. Commanders' relationships with one another in these scenarios will become increasingly complex. For example, a commander may be supported by another commander with respect to some issues and supporting with respect to others—with the aggregate effect being that the two are mutually supporting. The functional need for lateral coordination in future joint missions, and associated idea of mutually supporting commands, is one of the most important insights of the CCJO. Mutually supporting command is in many ways an extension of the practices that have evolved from a decade of joint combat experience, in which a Joint Force commander's authority and relationships with other Joint Force commanders are clearly specified by the establishing authority.

Sixth, *future Joint Forces will leverage better integration to improve cross-domain synergy*—the complementary vice merely additive employment of capabilities across domains in time and space. While the U.S. military maintains unique advantages in every domain, it is our ability to project force across domains that so often generates our decisive advantage. In the future, emerging capabilities and doctrine will make cross-domain synergy possible at increasingly lower echelons. Future Joint Forces will thus be positioned to exploit even small advantages in one domain to create or increase advantages in others, compounding those mutually reinforcing advantages until they overwhelm an enemy. While cross-domain synergy is particularly important to defeating anti-access efforts, as described in the *Joint Operational Access Concept*, it should become a core operating concept in all joint operations.

Seventh, *flexible, low-signature or small-footprint capabilities such as cyberspace, space, special operations, global strike, and intelligence, surveillance and reconnaissance (ISR) will play more pronounced roles in future joint operations.* These capabilities represent unique sources of U.S. military advantage. While they have become more prominent in recent years, forces have employed them as adjuncts rather than as integral parts of joint operations. Going forward, their fuller integration will continue to expand our combat power. Just as we have learned how to integrate special operating forces with general purpose forces, further integrating these flexible, low-signature capabilities across the force has the potential to dramatically increase the effectiveness of other standing capabilities. Low-signature capabilities also add to our strategic flexibility and global responsiveness. They are rapidly deployable, largely able to operate independently from logistically intensive forces, have operational reach, and can be persistent. Perhaps most significantly, their use does not always constitute an irreversible policy commitment.

Finally, *future joint operations will be increasingly discriminate to minimize unintended consequences.* The increased transparency of the future security environment, where digital devices will be everywhere, heightens the need for force to be used precisely when possible. That said, combat operations will not consist solely of minimal violence applied with surgical precision. Defeating determined enemies usually will require extensive physical destruction. Military force can be applied overwhelmingly and broadly, but its effects must be limited as much as possible to the intended targets. While most obvious in the case of fires, discrimination applies also to maneuver and information operations. In the saturated information environment of tomorrow, even minor lapses in conduct or the application of fires could seriously damage the international reputation of the United States. This reality places a

premium on joint operations informed by values and professionalism.

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Applying these eight ideas together—collectively known as "globally integrated operations"—will leverage present and future sources of U.S. military advantage to improve tempo and adaptation. Globally integrated operations will enable commanders to cope with uncertainty, complexity and rapid change. It will improve a commander's ability to tailor the force to the situation. It will aid a commander's ability to scale military force as required. It will help commanders down to the lowest echelons exercise initiative and coordinate locally while maintaining broader situational awareness.

More broadly, globally integrated operations will encourage collaboration across the Joint Force and with partners. It will allow stakeholders to bring differing perspectives and capabilities to bear on complex challenges. Finally, by enhancing military effectiveness even as U.S. forces grow smaller, it will allow us to be better stewards of fiscal resources as we defend the nation and its interests.

4. Select Implications for Joint Force 2020

The operational concept advocated for in this CCJO—*globally integrated operations*—entails potentially significant implications for force development. The following is an initial list of implications by warfighting function and partnership strategies.

Command and Control:

• ***Use joint professional military education to realize mission command in joint operations.*** Each of the Services implement some version of mission command in the conduct of joint operations, but differences exist owing to characteristic missions and primary operating domains. Ensuring the principles of mission command in play at the Service level can function together in joint operations requires a common understanding of its varying manifestations and how they might be harmonized. A renewed focus on the command environment in Joint Professional Military Education is therefore critical. Mission command must be further understood in the context of the modern information environment, including advancements in command and control technologies and their vulnerabilities. Educating commanders and staffs to match command philosophy to the particular requirements of each mission is also important, as is imbuing commanders with restraint as communication technologies could increase the propensity for micromanagement.

• ***Develop portable, cloud-enabled command and control technologies for commanders and their staffs.*** Paralleling the revolution in mobile technologies, new command and control platforms have the potential to untether commanders from their command centers while also improving their ability to build situational awareness, devise plans, and direct operations. These technologies should allow commanders and others to access imagery and other situational information to develop, share, and reconcile operational pictures. Making a common set of command and control applications available as cloud services will further enhance mission effectiveness.

• ***Enhance our ability to operate effectively in a degraded environment.*** Given dramatic increases in the ability of adversaries to disrupt, degrade or destroy cyberspace and space systems, it is essential that Joint Forces be able to operate effectively despite degradation to those systems. Greater resilience must be built into technical architectures, and the force must regularly train to operate in "worst case" degraded environments.

Force Development Implications

- Use joint professional military education to realize mission command in joint operations
- Develop portable, cloud-enabled command and control technologies for commanders and their staffs
- Enhance our ability to operate in a degraded environment
- Explore how mutually supporting command can help construct command relationships tailored to specific future threats
- Become pervasively interoperable internally and externally
- Maintain and enhance GPF/SOF integration
- Develop analytic capabilities that correspond with the wider array of threats
- Improve capabilities that better fuse, analyze, and exploit large data sets
- Provide a fire support coordination capability that integrates all fires
- Improve capabilities to defeat anti-access and area denial threats
- Rapidly employable on a global scale
- Develop deep regional expertise
- Improve strategic and operational mobility
- Improve tactical maneuver
- Synchronize global distribution
- Standardize tactics, techniques and procedures that facilitate the shifting of forces
- Improve cyber defense capabilities
- Continue to improve defensive space capabilities
- Integrate missile defense systems
- Continue to develop and implement the Joint Logistics Enterprise
- Reduce operational energy requirements and develop operationally viable alternative energy sources
- Identify those agencies with which Joint Forces will work most often and develop common coordinating procedures
- Field a mission-partner information environment to facilitate integration with various partners

• ***Explore how the notion of mutually supporting command can help construct command relationships tailored to specific future threats.*** Globally integrated operations within the context of increasingly interconnected security challenges may require future Joint Forces to be established based on the nature of the challenge itself rather than pre-established geographic or functional responsibilities. We must begin experimenting now with mutual command and hybrid command architectures.

• ***Become pervasively interoperable both internally and externally.*** Interoperability is the critical attribute that will allow commanders to achieve the synergy from integrated operations this concept imagines. Interoperability refers not only to materiel but also to doctrine, organization, training, and leader development. Within Joint Forces, interoperability should be widespread and should exist at all echelons. It should exist among Services and extend across domains and to partners.

• ***Maintain and enhance general purpose force and special operating force integration.*** The high levels of effective integration of general purpose forces and special operating forces achieved over the past decade, as well as the similar integration of operations and intelligence has provided a synergy enabling the Joint Force to dominate adversaries in today's conflicts. This level of integration must be maintained and enhanced where possible in order to meet future challenges.

Intelligence:

• ***Develop analytic capabilities that correspond with the wider array of threats and contexts in which they will occur.*** In order to address the broader set of security challenges that characterize the coming threat environment, the Joint Force must develop analytic capabilities and tradecraft that provide broader intelligence to decision makers, including a focus on the precursors of war and greater technical and cultural expertise.

• ***Improve capabilities that better fuse, analyze, and exploit large data sets.*** The military now captures an exploding amount of data that can be stored digitally. We need better techniques to mine it in the service of specific operational needs. Advances in machine learning, automated processing, and machine-analyst interaction are needed.

Fires:

• ***Provide a fire support coordination capability that integrates all fires, including cyber.*** Key to maximizing cross-domain synergy will be fielding a system for planning, requesting and directing all available fires so any element of a Joint Force can access the most appropriate supporting arm. In particular, realizing the global potential of Joint Forces will require that previously niche capabilities, such as offensive cyber weapons, are available to Joint Force commanders.

• ***Improve capabilities to defeat anti-access and area denial threats.*** The ability to gain operational access and maintain freedom of action is being threatened by advanced anti-access and area denial capabilities. Developing mature fires able to deter and defeat these threats is a priority.

Movement and Maneuver:

• ***Rapidly employable on a global scale.*** As a nation with global responsibilities, the forces of the United States must be able to operate effectively anywhere in the world on short notice. This can be achieved through multiple means. Massed force, deployed to the scene, is certainly one way. Low-signature and low-footprint capabilities, such as cyber and global strike, can also project force quickly. Versatility, too, plays a role. Forces suitable for a variety of missions, if smartly positioned, maximize the chance of being prepared for a crisis.

• ***Develop deep regional expertise.*** While the ability to operate globally is critical, the last decade of war clearly illustrates the benefit of incorporating an understanding of political and cultural differences into military operations. Maintaining regional expertise within the armed forces will therefore remain an important requirement, especially when it comes to cooperative security, counterinsurgency, and unconventional warfare. Likewise, even as we maintain an ability to operate globally, we must continue to calibrate the posture of our forces to the particular security dynamics of individual regions.

• ***Improve strategic and operational mobility.*** Growing lift capability, decreasing lift and sustainment requirements, and the intelligent use of prepositioned equipment could each improve strategic and operational mobility. Determining the most cost-effective mix of these various approaches will require careful analysis considering technology advancements and expected fiscal constraints between now and 2020.

• ***Improve tactical maneuver.*** After a decade of focus on the relatively confined geographic limits of stability operations and counterinsurgency, the Joint Force – and especially its ground components – must restore their ability to maneuver over distance. This will require innovative and collaborative approaches to training in order to achieve this objective affordably.

• ***Synchronize global distribution.*** Achieving global agility requires adequate transportation capabilities and the ability to quickly open sea and air ports in or near the operational area. Creating those capabilities, in sufficient capacity, will be critical to implementing globally integrated operations successfully.

• ***Standardize tactics, techniques and procedures across combatant commands to facilitate the shifting of forces.*** The ability to shift forces fluidly from one combatant command to another necessitates a certain amount of standardization between those theaters. Forces must train and exercise standardized tactics, techniques, and procedures in both joint and Service-specific training. The desire for global standardization should not, done correctly, undercut the unique requirements of combatant commanders.

Protection:

• ***Improve cyber defense capabilities.*** Given the heavy reliance of Joint Forces on military computer networks and civilian critical infrastructure, it is essential that Joint Forces be able to defend key systems and ensure the continuity of critical network functions in the face of disruption.

• ***Continue to improve defensive space capabilities.*** Given the heavy reliance of Joint Forces on space systems and the rapidly increasing proliferation of counterspace systems, it is essential that Joint Forces be able to protect friendly space capabilities, including defensive space control and space situational awareness capabilities.

• ***Integrate missile defense systems.*** As missile technology improves and proliferates, missiles will become a major threat to deployed and deploying forces and even to forces in the homeland. A concept predicated on global agility requires the ability to protect against such a threat. Integrating existing capabilities into a comprehensive defensive system will be as important as developing new capabilities.

Sustainment:

• ***Continue to develop and implement the Joint Logistics Enterprise.*** The Joint Logistics Enterprise is critical to achieving the global agility envisioned in this concept. Facilitated by secure enterprise-wide visibility into logistics processes, resources and requirements, the enterprise will promote the efficient and responsive global management of resources.

• ***Reduce operational energy requirements and develop operationally viable alternative energy sources.*** Energy is the largest share of logistical requirements. Improving how forces use energy, especially reducing demand for liquid fuel, will decrease the amount of combat power that must be dedicated to transporting those forces. Improved energy efficiency will also enhance operational endurance and mobility. In concert with reducing energy requirements, developing alternative energy sources will lead to a greater number of operational options.

Partnership Strategies:

• **Identify those agencies with which Joint Forces will work most often and develop common coordinating procedures.** Just as the Services must not retreat from the search for higher levels of integration as joint combat operations slow, so must we continue to refine how we work with our interagency partners. Realizing higher levels of partnership will require identifying those agencies Joint Forces will work most often with and then developing common coordinating procedures and interoperability standards.

• ***Field a mission-partner information environment to facilitate integration with various external partners.*** The Joint Force will possess a more advanced command and control system than almost any potential partner. The burden thus falls on the Joint Force to create the information environment that will facilitate partner integration. Any such environment should provide the ability to collaborate across multiple security levels without the need for segregated hardware systems.

5. Risks of Adopting this Concept

Adopting this capstone concept carries with it potential risks.

• ***The communications required by this concept may be unavailable.*** The greatest risk to a highly-networked Joint Force is that robust, global communications are not available because of enemy operations, budgetary shortfalls, the failure of expected technological improvements to materialize, or simple operational friction. The ability of Joint Forces to operate effectively according to this concept will decline in relation to the number of units that cannot network with one another. Ensuring redundancy and diversity for critical communications links and providing forces with adequate training with alternative communications systems will help mitigate the risk. In the extreme, elements of the Joint Force operating in highly-contested communications environments will have to remain effective even when acting autonomously.

• ***Partners may be unable or unwilling to integrate.*** There could be a variety of reasons why a partner might not be able to integrate closely with a Joint Force, including technical, political, legal, security, financial, or cultural reasons. For that matter, there also may be cases when the United States is unable or unwilling to integrate with partner forces. When that occurs, the utility of this concept will decline.

• ***The pursuit of advanced technology may prove unaffordable.*** This concept envisions Joint Forces enabled by advanced technologies in global communications, networked operations, space, cyberspace, robotics, platforms and lift. Such technologies, especially in a time of restricted budgets, may prove prohibitively expensive to develop and deploy.

Risks of Adopting this Concept

- The communications required by this concept may be unavailable
- Partners may be unable or unwilling to integrate
- The pursuit of advanced technology may prove unaffordable
- An overemphasis on decentralization may lead to lack of coordination and inefficient use of scarce resources
- The armed forces may fail to achieve the required level of global agility
- Standardization may lead to decreased diversity, flexibility, versatility and, ultimately, effectiveness
- Elimination of redundancies may lead to operational brittleness and risk
- The emphasis on organizational flexibility may limit operational effectiveness

• ***An overemphasis on decentralization may lead to lack of coordination and inefficient use of scarce resources.*** Military operations are trending toward decentralization. That is, reliance upon

smaller units of action to accomplish more limited objectives. Taken to the extreme this could drive us to inadequate force structure or to unaffordable force structure. We must find the optimal point in between.

• ***The armed forces may fail to achieve the required level of global agility.*** A fundamental assertion of this concept is that Joint Forces with decreased overall capacity can continue to meet their global requirements through increased agility. This will depend on several factors, most important of which may be that forces themselves are rapidly deployable and that sufficient lift be available and properly postured to deploy them global distances.

• ***Standardization may lead to decreased diversity, flexibility, versatility and, ultimately, effectiveness.*** Standardization in the interest of interoperability could lead to homogeneity throughout the force, which threatens the very idea of jointness as the complementary employment of diverse Service capabilities.

• ***Elimination of redundancies may lead to operational brittleness and risk.*** Some redundancies are merely inefficient and can safely be reduced without penalty to operational effectiveness. Other redundancies provide alternative means to accomplish an objective, which can be critical in war when losses due to enemy action are commonplace. Eliminating those redundancies can make a Joint Force less flexible and more brittle—that is, more easily disrupted and less resilient in the face of enemy action.

• ***The emphasis on organizational flexibility may limit operational effectiveness.*** Globally integrated operations emphasize organizational flexibility—that is, the ability of practically any unit to integrate with practically any other. But truly effective integration between Services requires familiarity, trust, and teamwork created by repeated joint training, as well as the precise combination of specialized skills. Forces must not enhance their modularity at the expense of their mission effectiveness.

6. Conclusion

Future Joint Forces will face an increasingly complex, uncertain, competitive, rapidly changing, and transparent operating environment characterized by security challenges that cross borders. Conflicts could arise with other states or with increasingly powerful non-state actors, both of whom have access to advanced weapons.

This capstone concept advances the notion of *globally integrated operations* to address the operational challenge arising from the future security environment. Joint force elements postured around the globe can combine quickly with each other and mission partners to harmonize capabilities fluidly across domains, echelons, geographic boundaries, and organizational affiliations. These networks will form, evolve, dissolve and reform in different arrangements in time and space as required with significantly greater fluidity and flexibility than do current Joint Forces.

The strength of any Joint Force has always been the combining of unique Service capabilities into a coherent operational whole. Future Joint Forces will routinely employ more such combinations than ever before, with partners as well as within the Joint Force, to achieve efficiencies and synergies not previously feasible. The assertion is that through globally integrated operations, Joint Forces will remain able to protect U.S. national interests despite constrained resources.

Globally integrated operations rely on mission command to provide the adaptability and tempo essential to future operations. It must provide the ability to seize, retain and exploit the initiative in time and across domains. It is predicated on significant global agility so forces can aggregate, reconfigure, and disaggregate fluidly as required. It leverages the participation of partners. It presents more flexible options for establishing Joint Forces and enables cross-domain synergy at increasingly lower echelons. It plans for cyberspace, space, special operations, global strike, and global intelligence, surveillance and reconnaissance capabilities to play more pronounced roles in future joint operations. Finally, it helps future joint operations be increasingly discriminate to minimize unintended consequences.

The institutional implications of adopting this capstone concept are potentially dramatic and wide-ranging, and will far exceed those noted by this paper. We offer it so that all of us can begin exploring its validity and what it might achieve for the Joint Force of 2020.

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