Whole-of-Government Teaming Through Collaborative Construction:
NRO/NSA Synergy

by Leilani DeWitt and Bob Dillinger

Each member of the Nation's Security Agency Community is defined by the distinct responsibilities, competencies, and capabilities it contributes to the national intelligence mission.[1] The melding of the unique overhead information processing of the National Reconnaissance Office (NRO) with the related production proficiencies of the National Security Agency/Central Security Service (NSA/CSS) Signals Intelligence (SIGINT) has created a unique and enduring whole-of-government teaming.[2] This paper describes the substantive joint-agency ownership of multi-intelligence (multi-INT) fusion tools that meld NRO capabilities and competencies to advance NSA's national and tactical missions to include support to military operations. This decade-long collaboration, focused on joint system "construction," efficiently and effectively advances the mission of each agency.

NSA leads the U.S. government in cryptology, which includes foreign signals analysis and related services for intelligence and counterintelligence missions. NSA's information assurance (IA) products combined with its enabling of computer network operations affords decision advantage for the U.S. and its allies. NSA's core values include accountability, innovation, and collaboration.[3]

NRO designs, builds, launches, and maintains highly technical overhead collectors. NRO contributes unique information and perspectives regarding early warning of missile launches, signals intelligence, and imagery for U.S. forces in support of national defense missions. By design, NRO is a hybrid organization with stated objectives including "collaborate to deliver intelligence capabilities" to increase "the value of collected data through multi-INT fusion at its source... enabling mission partners and end-users to meet their mission objectives."[4]

Jointly, these two agencies have created common multi-INT fusion information (MFI) capabilities, which after a decade of collaboration, significantly contribute to both agencies' strategic objectives. Through the operation of MFI, NRO improves overhead data utility and NSA increases situation awareness in accomplishing its mission objectives. Creating a common

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capability "owned" by neither organization is a distinctly unique approach to cross-agency collaboration. This paper examines this unique methodology (a whole-of-government collaborative construction success) from the historic, cultural, and organizational structure perspectives.

Historic Perspective of Cross-Agency Teaming

Interservice and interagency teaming traces back to 1942 with the establishment of joint intelligence centers (JIC) in several World War II theaters of operations, spawned from a need to address fragmented intelligence, duplicate and conflicting assessments, inadequate dissemination, and an increasing number of data sources. Joint intelligence staff leveraged integrated intelligence products to assess enemy strength, capabilities, and intentions and, as a result, came to the conclusion that "neither Army nor Navy Intelligence is complete without the other."[5] Joint intelligence improved support to military and national decision makers while reducing operational expenditures.[6]

Post WWII, JIC component services expressed parochial concerns leading to the quick dissolution of the measurably successful JICs. Reasons for dissolution included concerns that single component needs would neither be met nor valued appropriately and that JICs would produce redundant assessments to those planned for production by component agencies. As a result, all JICs were disbanded by 1947. While failed attempts were made to resurrect the joint intelligence construct during several international crises, the concept lay dormant for the next 40 years.

Today, examples of cross-agency teaming include Joint Intelligence Agency Task Force –South which Munsing and Lamb describe as the "gold-standard" for interagency cooperation and intelligence fusion. Lessons learned from this success include the necessity to overcome the parochial and cultural barriers within the team.[7]

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Cultural Perspective of Cross-Agency Teaming

Organizational "birth marks" impact the culture and, thus, behavior of an organization. In the 1930s, Max Weber matured a theory that organizations work best as hierarchical structures with clear boundaries and impersonal focus to achieve competitive advantage. Within this construct, oversight, governance, and incentives flow downward through the vertical arrangement. Accountability for results flow upward through the structure. Maintaining clear boundaries defining the organization increases group survival probabilities. Growth within and by the organization itself can be achieved by competing for budgets and staff. Reaching across organizational boundaries is viewed as not only threatening, but also counterproductive to organizational objectives.[8] As a result, any cross-agency teaming will inevitably dissolve over time to reflect the established component boundaries due to the numerous forces at work consistent with the "birth mark" of hierarchical bureaucratic organizational structures.

A Model for Cross-Agency Teaming

The first law of thermodynamics states that energy injected into any system delivers potential to alter the natural state of that system. Thus, should one agency contribute resources and energy toward teaming with another, the

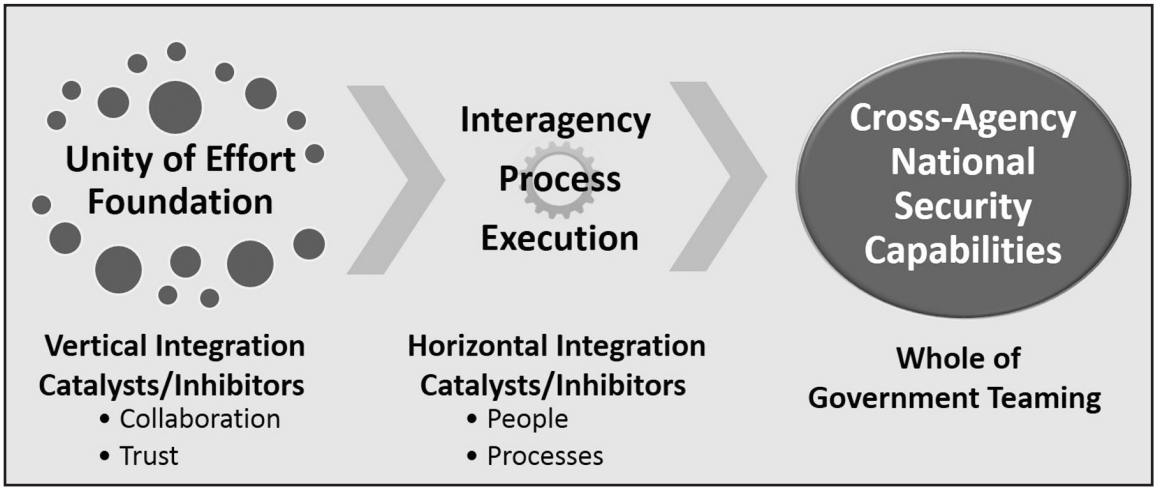

Figure 1. System of Systems Model for Interagency Teaming Noting Key Elements and Integration Factors

natural steady state of "adversarial democracy" between agencies can, theoretically, be altered. There are a number of reasons one agency might contribute resources toward cross-agency teaming, even under parochial state conditions of equating collaboration with threat. Impetus may include advancement of capabilities, improvement in relevancy or timeliness of products, and an increase in efficiencies through the melding of multi-agency resources, and competencies.

A literature survey of interagency teaming is summarized in Figure 1 to facilitate discussion and demonstrate fundamental concepts. Vertical (hierarchal structures of component agencies) and horizontal (team execution efforts across agencies) elements of interagency teaming are separated for clarity, revealing the perpendicular sub-systems for independent evaluation and to enable understanding of their interplay. Successful integration of horizontal and vertical elements in collaborative team efforts result in capabilities "greater than the sum of the parts," achieving efficiencies superior to that which can be achieved through component agencies alone.[9]

As witnessed by the swift dissolution of the JICs after WWII, we note that fundamental to cross-agency teaming is a willingness to cooperate—to reach across organizational boundaries in a positive, productive, and non-threatening manner respectful of the autonomy and validity of each component agency. Discord among agencies is the norm, as each agency has its own culture, biases, focus, objectives, hierarchy, and perceptions. Unity of effort results from the trustful melding of the individual agency core competencies and core capabilities while assuring the autonomy and viability of each component agency. Unity of effort has been described as harmonization of diverse elements working to minimize the dissonance.[10] The vertical element of the interagency team provides the fundamental advantages of hierarchies including speed of decision-making. Disadvantages of this element can include tendencies toward sclerosis (bureaucratic over-growth) and inability to avoid long-term risks.[11]

With the establishment of foundational unity of effort, the real work of horizontal integration cross-agency collaboration can now begin. Two keys to this horizontal networking are people and process. People provide the resource labor and innovative energy of the collaboration. Process, among other things, refers to the division of

labor in the teaming—the unique melding of the characteristic strengths of each agency to achieve capabilities far greater than can be achieved by either component alone. Dysfunctional performance of teams can be impacted by changes to people, processes, or labor division. Replacing team members or processes causing dysfunction with team members or processes that can contribute to interagency productivity optimizes cross-agency team performance. This horizontal sub-system of the interagency team exhibits advantageous characteristics including adaptability and resilience to changes in environment or mission. Disadvantages can include lack of focus or control of the team, as well as short-term risk produced by people or processes disharmony.[12]

This simple model illustrates that fundamental to cross-agency teaming is the ability to reach agreement among vertical organizations in order to then reach out horizontally across boundaries in a non-threatening way to achieve common goals and efficiencies. Reality, however, proves that the agreed-collaboration of vertical agency organizations is extremely hard to achieve and is, thus, described as an "elusive goal" of the interagency process.[13] History shows that the propensity to revert to the competing-agency state rather than teaming is more the norm than not.[14]

Unique Endurance of this Teaming around Joint "Construction"

If hierarchical, bureaucratic, natural forces pushing agencies toward the steady-state of non-collaboration have been in play for the decade during which NRO and NSA have been in joint-partnership on MFI, why have these forces not been successful in breaking these two agencies apart? The answer to this question lies in the understanding of the vertical and horizontal elements of the interagency partnership and the interaction between the two.

In 1999, NSA Director Michael Hayden pressed NSA to seamlessly integrate its operations with those of the larger defense and intelligence communities. He expected corporate behavior such that: "All NSA organizations must recognize and embrace the fact that competencies necessary to them exist in other organizations (both internal and external), and leverage those capabilities, rather than trying to build their own organic, but redundant, capabilities."[15] Under General Hayden's leadership, MFI began deploying in 2004, catalyzing the "vertical element" teaming of NRO and NSA organizations.

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Enduring interagency horizontal partnership efforts between NRO and NSA built MFI, ensuring the system "construction" would best address mission needs of NSA while honing NRO's needed advanced multi-INT data fusion techniques. The partnership, over the years, resulted in a system upon which NSA now depends for certain missions and NRO requires for its objectives. A partnership originally forged from national corporate responsibility has evolved to be one of mutual collaborative benefit and efficiency.

Numerous studies document that advancements in technology introduced within an organization will actually impact organizational structure.[16] As NSA came to depend on these advanced capabilities, it altered its internal organizational units and processes to leverage and, thus, reflect key capabilities provided by NRO. Successes in the

resultant advancement of multi-INT data fusion is reflected within the NRO organization as it continues to contribute significant resources to further advance and sustain this and other related systems toward its mission to assure efficacy of data collection. So while, theoretically, the bureaucratic forces of "adversarial democracy" should have detrimentally affected this interagency relationship, successes stemmed from anchoring a collaborative "jointly owned" constructed system have driven the organization toward even deeper codependence on these advancing capabilities, increasing resource efficiencies for both organizations. Achieving "elusive" unity of effort through vertical integration enabled horizontal teaming across agencies. The advancement of capabilities from horizontal teaming further conjoins this vertical partnership and codependency.

Although "whole-of-government" may be a national strategy, there exists a void in its realization.

Another reason for this decade-long enduring collaboration stems from the fact that this "jointly owned" system positions each agency as a "hybrid leaderless organization" from the vantage point of the program. Brafman and Beckstrom document that "leaderless" organizations generate innovative and collaborative energies, as well as lower-cost technological successes, atypical of bureaucratic hierarchies.[17] In other words, failure to sustain this capability and safeguard inherent technological gains and efficiencies made through this program would increase not only costs but also technological challenges to both agencies in future data-integration technology advancements.[18]

Catalysts and Inhibitors in Breaking through Parochial Structures toward Teaming and Collaboration

Although "whole-of-government" may be a national strategy, there exists a void in its realization. Figure 1 helps define elements as well as catalysts, such as consistent and well-defined policy and regulations across agency boundaries.[19] For example, the jointly-constructed NRO/NSA MFI has to satisfy both agencies' infrastructure security regulations. The system is thus constructed to be "doubly compliant." This "double" compliance example also points out the frailty in the collaboration—if policy is ill-defined in either one of the agencies, this system will suffer disproportionate impact. Process, poorly defined, can thus be an inhibitor to interagency collaboration and efficiencies.

The dominant challenge over time, however, is found in a lack of clarity of government policy combined with social-cultural issues derived from personnel turn-over and lack of interagency training. Without training or hand-picked-selection for interagency participation, as emphasized by Wilder in defense community cross-agency exemplars, new team members and those with parochial mindsets may find themselves ill-prepared to provide positive contribution to this non-parochial cross-agency partnership program.[20]

The need for interagency training is acknowledged by the Department of Defense and demonstrated by its recurring efforts to "hand-pick" and provide interagency training for cross-agency missions. At this time, no consistent institutionalized cross-agency training exists within the NRO and NSA sectors associated with this MFI program.[21]

Conclusions

Cross-agency teaming over a decade to "construct," evolve, sustain, and leverage a multi-INT fusion information system has

resulted in technical advancements applied to both agency missions. The enduring cross-agency collaboration between NRO and NSA over a decade is historically noteworthy. Over time, the collaborative capability and technology advancements are now reflected in internal structures and processes within each organization. This collaboration has provided significant cost efficiencies for both agencies over this decade achieving the Presidential objective of whole-of-government functionality. This technique to achieve "elusive" unity of effort through partnership of two independent agencies is unique. By anchoring each agency in this vertically-integrated partnership through joint dependency on a common "owned by neither" system, each agency moves into horizontal partnership productivities to collectively address "wicked" problems. Enablers for this example construction-based interagency teaming validate known catalysts, including well-defined and consistent policy across agencies and interagency training for all, especially new personnel joining this interagency team. Achievement of "elusive" unity of effort, cross-agency teaming, and resultant whole-of-government approach through joint construction of common capabilities provides a stable anchor for this teaming and, thus, uniquely, results in an enduring partnership, as well as increased capabilities, efficiencies, and technology advancements. ***IAJ***

NOTES

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8 Paul Michael Severance, "Characterizing the Construct of Organizational Unity of Effort in the Interagency National Security Process," doctoral thesis, Virginia Polytechnic Institute and State University, Blacksburg, VA, April 2005, <http://scholar.lib.vt.edu/theses/available/etd-05062005-145638/unrestricted/Severance.pdf,> accessed on November 25, 2014.

9 Ibid.

10 Ibid.

11 Francis Fukuyama and Abram M. Shulsky, *The Virtual Corporation and Army Organization*, Rand Arroyo Institute, Santa Monica, CA, 1997, pp. 6–26.

12 Ibid.

13 Severance.

14 For example, per note 6, above, the four decade JIC gap ended in the late 1980s, after numerous failed attempts, as a result of concerted effort (passage of the Goldwater-Nichols Act) and alignment of geopolitical, fiscal, and military factors.

15 Lieutenant General Michael V. Hayden, Director NSA, "100 Days of Change," October 1999, <nsa.gov/about/cryptologic_heritage/60th/interactive_timeline/contnt/1990s/documents/19991001_1990_Doc_3961880_Neteam.pdf>, accessed on November 25, 2014.

16 Radaphat Chongthammakun and Steven J. Jackson, "Extending Virtual Organizations in the Public Sector: Lessons Learned from CSCW, STS, and Organizational Science," IEEE Proceedings of the 43rd Hawaii International Conference on System Sciences, 2010. This example study discusses the most obvious technology that can impact organizational structures—information technology (IT). When organizations change work processes with the introduction of IT, organizational structures (organizing man-power resources) will change to reflect the resultant changed work flows.

17 Ori Brafman and Rod A. Beckstrom, *The Starfish and the Spider*, Penguin Books Ltd., 2006. Examples of "leaderless" organizations cited are Apache Indians, Alcoholics Anonymous, Wikipedia, and Craigslist, each of which benefit from high-value/low-cost innovative collaborative energies atypical of hierarchical bureaucracies.

18 Severance.

19 Leonard Lira, "An Interactive Approach to the Interagency Process," *InterAgency Journal*, Vol. 1, Issue 1, Fall 2010, pp.46–54.

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