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JointCenter for Lessons
Learned (JCLL) has changed
to Joint Center for Operational
Analysis and Lessons
Learned (JCOA-LL).



Message From the Director

BG Robert W. Cone, USA Director, JCOA-LL

Welcome to the final edition of the Joint Center for Lessons Learned (JCLL) Bulletin. No, we are not going away, but in order to more adequately reflect our new and expanded mission, our name has been changed. Effective June 1, 2004, the JCLL became the Joint Center for Operational Analysis and Lessons Learned (JCOA-LL). Future issues of the Bulletin will be called the JCOA-LL Bulletin—same great lessons learned information under a new name.

This Bulletin is focused on the Joint Forces Command (JFCOM) Standing Joint Force Headquarters (Core Element) (SJFHQ (CE)). This important headquarters is the prototype for the SJFHQ elements being established at each of the combatant commands, which will provide a fully trained, fully operational joint headquarters staff capable of immediately deploying to operational requirements within a combatant commander's area of responsibility. Whether the operation involves disaster relief, humanitarian assistance, or a variety of combat operations, the SJFHQ(CE) is able to establish command and control immediately upon arrival.

Rear Admiral O'Hanlon, Commander SJFHQ(CE), introduces the series of Bulletin articles with an overview of the unit. This is followed by an article written by Major Chuck Cosenza, USA, titled *SJFHQ(CE): Its Origin, Implementation and Prospects for the Future*, which discusses the history of the SJFHQ(CE). The next article is SJFHQ(CE)Planning: Into The Future, in which Mr. John Eldridge, Political/Military Planner, details pre-crisis and crisis planning functions.

In the fourth article, *SJFHQ(CE) Operations Group*, LTC Tom Coleman, US Army, provides an overview of the organization and functions of the Operations Group, along with its roles and tasks. The next two articles provide information on the logistics function of the SJFHQ. In *The SJFHQ(CE) Logistics Organization*, Mr. Brad Jublou, Lead Logistics Planner, gives information on the organization, and pre-crisis and crisis planning. This is followed by



Logistics Common Relevant Operational Picture, by Mr. Ron Bullard, Logistics Operations Group Chief. AN OVERVIEW OF INTERNAL TRAINING, by Mr. William Barns, Internal Training Coordinator, is the seventh article. In it, Mr. Barns describes the internal training program developed to ensure the SJFHQ(CE) personnel are fully trained to perform their duties.

In the eighth Bulletin article, SJFHQ In the Political Military World, Mr. John Eldridge, discusses the function of the Joint Interagency Coordination Group and the political military planner. In Lessons Learned in SJFHQ(CE) Implementation: Knowledge Management, the ninth article, author Mr. Michael McGonagle, Knowledge Management Director, describes the lessons learned in obtaining decision superiority, and knowledge management principles and procedures. Next, LtCol Horttor, USAF, and LtCol Ed Schmoker, USAF (Ret.), provide the tenth article, Information Operations Lessons Learned in support of the Geographic Combatant Commanders and the Standing Joint Force Headquarters (SJFHQ), on the Joint Information Operation Center support to the SJFHQ.

The eleventh article, *SJFHQ INFORMATION SUPERIORITY GROUP*, by Mr. Ray Baker, Chief Information Superiority Group, describes the concept and organization of the Information Superiority Group, along with observations from recent operations. Finally, the last article discusses the *System of Systems Analysis (SoSA)* function within the SJFHQ(CE). Mr. Rick Wilson and Mr. Bob Kuth describe the SoSA approach to operational net assessment.

ROBERT W. CONE

Brigadier General, U.S. Army

Director, Joint Center for Operational Analysis

meter. Care

and Lessons Learned



JCOA-LL UPDATE

Mr. Mike Barker

JCOA-LL: Joint Center for Operational Analysis and Lessons Learned. As of 1 June, we have a new name for an expanded game. Lessons learned are still the focus, with active collection during a specific event being the means. Unlike the legacy Joint Center for Lessons Learned (JCLL), we now have the capability to support any combatant command/joint task force (COCOM/JTF) with an active collection team, and with a more robust analysis capability. Acting in the capacity of an "honest broker," our collection teams work for the commander where the team is embedded, collecting what he deems are HIS important issues or concerns. Currently, we have a team in Baghdad and Qatar observing the Iraqi transition for Operation IRAQI FREEDOM (OIF) and another team embedded in Southern Command (SOUTHCOM) observing the transition to the United Nations peacekeeping force in Haiti. In several weeks, a third team heads to Pacific Command (PACOM) for a short visit in support of the Global War on Terrorism, while a fourth team will visit Transportation Command (TRANSCOM). A fifth team is in final preparation to deploy to Iraq and Qatar to replace the current team. The team we currently have in Baghdad set a new precedence for the collection team's makeup, when for the first time the team deployed to a high threat zone with a mix of military and civilian personnel, including a female civilian. All of our collection teams, regardless of where they might deploy, will now have a military/civilian mix.

The next major event we are planning is the Worldwide Joint Lessons Learned Conference, scheduled for 13-14 July 2004. The focus of this conference is to brief and discuss the changes to the Joint Lessons Learned Program (JLLP); introduce the JCOA-LL to the joint and allied communities; discuss new or evolving policies and procedures that support the collection, analysis, integration, and distribution requirements of the Secretary of Defense and Chairman of the Joint Chiefs of Staff (CJCS); introduce the reports generated by

JCOA-LL that are already having an impact on the warfighter; and introduce the draft CJCS Instruction for the lessons learned program. Also, the functional/ regional commands, Services, and allies are being given the opportunity to brief their program in terms of successes and challenges. These briefs will be posted to our website after the conference. So far, over 100 people have signed up for the conference with three weeks to go. These attendees represent all the COCOMs, the Service lessons learned centers, Department of Defense (DOD) and non-DOD agencies, the Joint Staff, and several of our allies, to include the UK, Canada, Australia, and New Zealand. NATO's Joint Analysis and Lessons Learned Center (JALLC) will be participating, along with several "communities of practice" such as medical and information operations. The keynote speaker for the conference will be ADM Giambastiani, Commander Joint Forces Command, with BG Cone, Director JCOA-LL, and MajGen Catton, Director Joint Staff J7, also attending.

Between the Joint Staff and ourselves, we are pressing as hard as possible to get the draft JLLP instruction on the street. Release of the preliminary draft (PD) of the CJCS Instruction by the Joint Staff is due in the near future for first review and comments.

Finally, if you have any thoughts or suggestions for focus areas for future JCOA-LL Bulletins, please forward your idea(s) to us.

"It is far better to borrow experience than to buy it." Charles C. Colton, Lacon (1825)

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Rear Admiral Richard J. O'Hanlon United States Navy Commander, SJFHQ

For many years, America's crisis response involved hastily assembled, ad hoc joint task forces, whose staffs had little opportunity for joint training or advance situational awareness. These staffs were well versed in their own Services' jargon and procedures, but had to endure a learning curve to gain familiarity with jointness and the crisis situation itself. The Standing Joint Force Headquarters (Core Element) (SJFHQ(CE)) is the proactive solution to streamline the process and eliminate these difficulties.

The SJFHQ(CE) is a standing, coherent team of "joint generalists," led by a flag/general officer. Mission-tailorable, it incorporates extensive joint operations training and knowledge of joint operations, the combatant commander's area of responsibility, theater perspective, key issues, and regional players.

The SJFHQ(CE) is the organizational centerpiece of adaptive joint command and control for a rapid, decisive operation. In practical terms, the SJFHQ(CE) concept allows pre-crisis planning for the focus areas directed by combatant commanders. This capability is based on an improved, more timely situational awareness and understanding of the adversary, as well as of friendly forces. Inherent in the SJFHQ(CE) are established habitual relationships, through the combatant commanders, to the interagency community. Together with shared situational awareness, these relationships allow the Regional Combatant Commander (RCC) to apply the appropriate preemptive or follow-on actions using applicable national tools.



The SJFHQ(CE) also provides flexibility in the scale of application. The RCC's employment options for the SJFHQ include:

- SJFHQ(CE) serves as the core of a joint task force (JTF) headquarters
- SJFHQ(CE) augments a component or other headquarters designated as a JTF
- SJFHQ(CE) augments the combatant command headquarters or serves as its forward element when the combatant commander functions as the joint force commander.

The SJFHQ(CE) provides a Regional Combatant Commander with a fully functional command and control capability. But, it's not just the 58 members and six system of systems analysts (SOSA) staffing that brings the value added. It's the tools, techniques, technologies, and procedural enhancements, which facilitate the advantage. They know each other, how to coordinate with each other, and have a deep situational understanding before effective force employment begins. It's the operational net assessment (ONA), effects-based operations (EBO), Joint Interagency Coordination Group (JIACG), collaborative information environment (CIE), and networked knowledge that preserves our most precious resource: time. These are what give the RCC the ability to deter crises or defeat adversaries.

The ONA provides a comprehensive analysis of both friendly and adversary abilities and perspectives, and of the operational environment. The adversary is examined holistically, as an interdependent system-of-systems. This enables EBO, which administers action designed to change the state of a system, to achieve directed policy goals. This action can be selected from the full range of national power instruments, both military and non-military. The JIACG provides the expertise in non-military capabilities and options. The

CIE enables multiple participants, from diverse levels and locations, to interact, coordinate, and synergize together.

The articles in this bulletin explain the enabling concepts and the advantages they provide. As the SJFHQ(CE) concept is implemented, America's successful response in crisis situations will save time, physical resources, and lives. In short, the enabling concepts of the SJFHQ(CE) concept are the lessons learned.

Standing Joint Force Headquarters (Core Element):Its Origin, Implementation and Prospects for the Future

MAJ Charles W. Cosenza SOF Operations Officer

Historically, equipping and manning a joint task force (JTF) has been a time consuming process. Standing up the 10th Mountain Division (JTF 190) in Haiti and the XVIII ABN Corps (JTF 180) in Afghanistan are two recent examples where it took one to two months or more from JTF activation to full operational capability. By the time JTFs are stood up and fully mission capable, time critical to the resolution of a crisis may have elapsed. Moreover, unlike cohesive combat units, JTF headquarters (HQ) are frequently assembled ad-hoc and rarely have the opportunity to train the way they will fight. Efforts to correct these deficiencies have assumed increased importance since the initiation of the Global War on Terrorism (GWOT), where the ability to rapidly respond to an adaptive foe may mean the difference between mission success and failure. With an adaptive foe, there is little time to bring a staff "up to speed." Future conflicts will require rapid activation of staffs that are familiar with the specific joint area of operation and who are proficient with the collaborative tools and concepts of effects-based operations (EBO).

To formalize these requirements and decrease the time required to activate a fully functional JTF, in May 2002 the Secretary of Defense (SECDEF) issued Defense Planning Guidance (DPG) directing the establishment

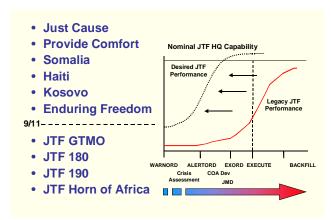


Diagram 1. Historical JTF Stand-ups

of a Standing Joint Force Headquarters (Core Element) [SJFHQ(CE)] in each Regional Combatant Command (RCC) by FY05.1 These SJFHQ(CE) units will serve as full-time, coherently joint headquarter staffs that will bring a trained and ready core to the fight. Armed with both commander's intent and a situational understanding of the adversary, the SJFHQ(CE) enables the RCC to rapidly transition from pre-crisis deliberate planning (DP) to crisis action planning (CAP). On 16 January 2002, Commander United States Joint Forces Command (USJFCOM) in Norfolk, VA, established a prototype 58 man SJFHQ(CE) (consisting of both civilian contractors and active duty military personnel) to serve as a template for subsequent RCC SJFHQ(CE) formation.² Among this cadre's specified tasks was to standardize SJFHQ(CE) procedures and tool sets across disparate areas of responsibility.



Diagram 2. SJFHQ(CE) – A Full Time Organization

What then is the SJFHQ(CE)? First and foremost, the SJFHQ(CE) is a weapon system that will improve the Regional Combatant Commander's ability to integrate land, sea, air, maritime, and special operations with the full range of diplomatic, information, military, and economic (DIME) elements of national power during contingency planning and execution. The SJFHQ(CE) is NOT a stand alone JTF HQ, but instead is a mission centric, cross-functional organization, whose personnel provide proven expertise in the areas of plans, operations, information superiority, knowledge management, and logistics. The SJFHQ(CE) is intended to meld into a Service HQ that is in the process of becoming a JTF HQ at a time and place of the commander's choosing, thus enhancing the Service

headquarters capability to become a JTF. It is designed to plan and integrate joint, interagency, and multinational operations with a "system of systems" understanding of the battle space geography throughout the full operational spectrum. The SJFHQ(CE) is value added to a Service HQ that is in the process of becoming a JTF HQ and not a substitute for the process.

Enabled by an established, collaborative network to increase communications efficiency, the RCC range of options to respond to crisis situations is improved by an order of magnitude. Not only does this technique save valuable planning time and resources, it also allows the SJFHQ(CE) to review and analyze other focus areas throughout the theater. This will increase the RCC ability to plan for and support the execution of additional contingencies within the theater of operation before they become a crisis. The SJFHQ(CE) leverages technology to "reach back" not only within the Department of Defense (DOD), but to interagency organizations and non-governmental centers of excellence (COE) and other "communities of purpose" (on-call expertise assembled for problem solution).3 This capability is being developed to allow each of the RCCs to employ tailorable, adaptive, mission planning tools that enhance the ability to operate within an adversary's decisionmaking cycle (OODA loop: observation, orientation, decision, action) and respond to changing battle space conditions.

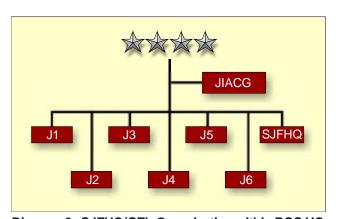


Diagram 3. SJFHQ(CE)—Organization within RCC HQ

In a November 2002 Guidance Memorandum, the Chairman of the Joint Chiefs of Staff directed USJFCOM to develop a prototype for the RCC to use as a baseline for implementing their SJFHQ(CE). To facilitate the rapid establishment and fielding of their SJFHQ(CE), USJFCOM Joint Experimentation, Joint Training, and Joint Integration Programs are providing each RCC with: a concept of employment; a draft

SJFHQ(CE) standard operating procedure (SOP); tactics, techniques, and procedures (TTP); and hands on training in effects-based planning (EBP) processes. Utilizing the EBP process from pre-crisis to crisis termination, the SJFHQ(CE) applies the exploitation of the information age communications, equipment, organization, and procedures (including the employment of advanced war fighting concepts) to provide a capability to execute command and control (C2) functions across the spectrum of conflict, effectively increasing the speed and, hopefully, the accuracy of the decision making cycle.



Diagram 4. SJFHQ(CE)-The Prototype

The establishment of the SJFHQ(CE) organization as a full-time additional staff directorate and functional C2 element within an RCC staff, that is focused on volatile and contentious high threat areas of the command, accomplishes several objectives. First, the SJFHQ(CE) has continuing situational awareness (SA) of knowing "what" is occurring within their specific RCC. By focusing on specific areas of interest, Regional Combatant Commander's develop a true situational understanding (SU) of not only knowing "what" is occurring but also "why" something occurs within an area of particular concern. This understanding begins with the utilization of systems of systems analysts (SoSA) who analyze potential adversaries from a systems perspective. SoSA analysts develop, update, and maintain an operational net assessment (ONA) database that identifies relationships between adversary key nodes and potential effects the RCC commanders can achieve by acting on those nodes.

ONA is the foundation for a coherent knowledge environment that enables effects-based operations (EBO). It serves as an operational support tool of

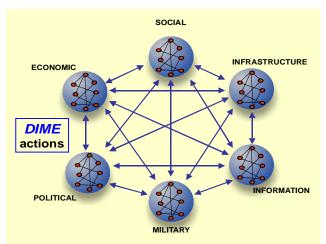


Diagram 5. Operational Net Assessment

interrelated systems that provides a JTF commander visibility of effects-to-task linkages based on a "system-of-systems" analysis of a potential adversary's political, military, economic, social, infrastructure, and information (PMESII) war making capabilities. Furthermore, the ONA informs decision-makers and correlates U.S. strategic through tactical level objectives regarding the complementary effects and supporting missions and tasks. All of this information can be considered before applying any of the elements of national power: diplomatic, information, military, and economic. Doing so offers deliberate contemplation in order to achieve specific effects on an adversary's will and capability in support of national objectives.

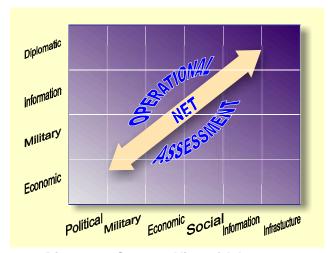


Diagram 6. Systems View of Adversary

Full implementation of SJFHQ(CE) capability requires collaborative technology that facilitates rapid, effective decision-making and execution. Increases in headquarters readiness requirements and implementation of an effective Collaborative Information Environment (CIE) have driven both C2 processes and the organization of



Diagram 7. IWS Entry

the SJFHQ(CE).

Existing joint C2 capabilities presently utilized to support RCCs and JTF HQs in joint and interagency operations include the Defense Collaborative Tool Suite (DCTS). DCTS is the DOD system of record. DOD has certified the collaborative tool suite Info Workspace (IWS) as a DCTS enhancement tool. IWS is a synchronous collaborative software application tool that is organized into "conference centers" and "places" that have buildings, floors, and rooms. The center and rooms are used for simultaneous collaborative presentations, discussions, and sharing of various forms of information to develop better C2 and coordinate policies, plans, and options for the decision-maker.

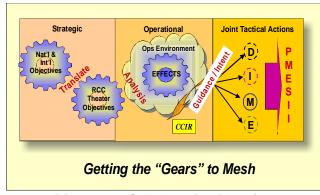


Diagram 8. Collaborative Planning

The SJFHQ(CE) provides enhanced joint C2 readiness and awareness capabilities by leveraging the latest technology to within a modern, interoperable CIE. The CIE is an established, standardized, collaborative network that increases the pace and quality of C2. It combines technology, process, people, and information in order to provide decision-makers across strategic to

tactical levels the means to achieve a common shared SA and SU of the battle space without today's time and space limitations. CIE consists of a web portal that integrates common C2, information, surveillance, and reconnaissance (ISR), and collaborative planning tools in a browser-based environment.

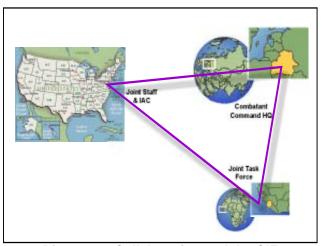


Diagram 9. Collaboration and the CIE

This virtual environment provides access to a "virtual warehouse" linking all of the information required by war fighters. From this resource, decision makers will tailor information displays that are relevant to their needs enhancing shared battle space awareness. CIE is also knowledge centric, effects-based, fully networked, and coherently joint. This is not only important but provides key ingredients for transforming joint C2 for planning and execution. The CIE drives processes and organizational changes requiring skill through training and experience. It is made up of common architectures with interoperable tools and procedures that includes years of JTF lessons learned with doctrinal changes in organization, procedures, technology, and training.

CIE virtually facilitates existing RCC boards, centers, and cells (BCC) that are used to communicate amongst all the components vertically as well as horizontally, and reduces this number of BCC to sixteen. This ability to work across echelons in a virtual environment allows the SJFHQ(CE) to establish habitual relationships within and between the combatant commanders' staff, external agencies, the combatant commanders' components, and other potential JTF HQ members, thus decreasing the time required to establish these relationships after a crisis erupts. The CIE facilitates this through the use of automated decision support tools, such as course of action analysis (COA) and effects analysis tools that allow planners to analyze many alternatives rapidly.



Diagram 10. Collaborative Information Environment

Future capabilities will improve the process by allowing decision makers to analyze alternatives through the modeling of mission execution much faster than real time. This capability will become particularly important when horizontal and vertical collaboration occurs simultaneously.

The RCC has three primary options to integrate the SJFHQ(CE) into the fight before events escalate.⁵ While the SJFHQ(CE) can serve as the nucleus or core of a joint task force staff, it is not manned to be a fully functional operational headquarters without broad augmentation. In a second option, the SJFHQ(CE) can provide key augmenting personnel to a JTF HQ, thus facilitating the rapid transition of a Service component headquarters to a JTF (such as with III Corps during Millennium Challenge 2002, which was one of the largest and most successful joint transformation experiments within DOD to date).

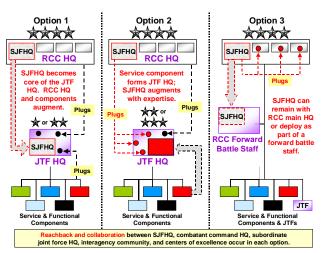


Diagram 11. SJFHQ(CE) Employment Options

Lastly, the SJFHQ(CE) can be retained at the RCC HQ. In this situation, the RCC forms a warfighting HQ executing operations through subordinate JTF(s) or Service components. The SJFHQ(CE) employed in any of the aforementioned scenarios provides the joint force commander (JFC) with a suitable, feasible, acceptable, and distinguishable plan based on EBO utilizing CIE to conduct "real time" horizontal and vertical planning.

So what can we expect in the near term? USJFCOM's first priority is to assist the RCCs in developing and fielding their SJFHQ(CE) to include assistance in standardizing joint command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) architectures.6 This will provide a common relevant operational picture (CROP) of the battle space for joint, coalition, and multinational forces. After RCC SJFHQ(CE) are established, USJFCOM will continue to test and prototype new technologies and concepts as they are developed, incorporating RCC recommendations for improvements into the process. When the SJFHQ(CE) are fully implemented, RCCs will be better prepared to decisively and rapidly defeat a threat by employing asymmetric strategies and capabilities, thus maximizing all of our nation's elements of national power. The operational additives the SJFHQ(CE) brings to the fight undoubtedly will assist the RCC and their staffs in planning and executing operations faster than our adversary can react, thus facilitating rapid and decisive campaign execution across the broad spectrum of conflict. The implementation of the SJFHQ(CE) within the RCCs will not only increase the readiness of a HO element, but is intended to reduce the ad hoc nature of today's JTF operations, and to facilitate the establishment of a more efficient and effective combat force.

"We took a small, fifty, fifty-five people group in this contingency – about right – they were focused, clear, and very useful...it doubles or triples the capacity of three-star headquarters in our DOD to go do things for us; so, it's a combat multiplier of the highest order. It doesn't threaten headquarters; it multiplies the utility of the headquarters."

> Lieutenant General B. B. Bell Commander III Corp

MC02 Finding-SJFHQ(CE) Works

Conclusion

It is difficult to address transformation of the United States military without reviewing the SJFHQ(CE) concept. The transformational concepts currently being tested and codified will allow the US government to execute rapid, decisive operations across the spectrum of conflict with an increasingly smaller footprint. Joint warfighting requires the implementation of the SJFHQ(CE) within the RCCs not only to increase the readiness of a HQ element, but also to reduce the ad hoc nature of today's JTF operations and to facilitate the establishment of more efficient and effective JTFs. The fundamental goals of joint doctrine, joint training, and joint integration into a coordinated "joint" warfighting effort will undoubtedly prove to be a vital part of the transformation process, and be critical for all future successful US military operations.

End Notes:

- ¹ DOD Defense Planning Guidance for Fiscal years 2004-2009, MAY 02.
- ² JWFC Doctrine Pamphlet 3, Doctrinal Implications of the Standing Joint Force Headquarters (SJFHQ), 16 JUN 2003.
- ³ SJFHQ Concept of Employment, dated 25 JUN 03.
- ⁴ Chairman of the Joint Chiefs of Staff Memorandum for Commander in Chief, US Joint Forces Command, 02 NOV 01.
- ⁵ JWFC Doctrine Pamphlet 3, Doctrinal Implications of the Standing Joint Force Headquarters (SJFHQ), 16 JUN 2003.
- ⁶ Standing Joint Force Headquarters Standing Operating Procedures Draft, Tactics, Techniques, and Procedures, 08 JAN 2004.

Credits:

Diagram 1. SJFHQ Overview Brief, dated 15 MAY 03.

Diagram 2. SJFHQ Information Superiority brief, dated 15 MAY 03.

Diagram 3. SJFHQ and its Enabling Capabilities-Overview of Transformation Brief, dated 08 OCT 02.

Diagram 4. JWFC Doctrine Pamphlet 3, Doctrinal Implications of the Standing Joint force Headquarters (SJFHQ), dated 16 JUN 03, p.8.

Diagram 5. SJFHQ CMO-EBO Brief, dated 15 NOV 03.

Diagram 6. SJFHQ CMO-EBO Brief, dated 15 NOV 03.

Diagram 7. IWS training Brief, dated 15 MAY 03

Diagram 8. SJFHQ Effects-based Operations-Planning Brief, dated 19 MAY 03.

Diagram 9. SJFHQ KM-CIE Brief, dated 15 MAY 03.

Diagram 10. SPPS Training Brief, dated 15 MAY 03

Diagram 11. JWFC Doctrine Pamphlet 3, Doctrinal Implications of the Standing Joint force Headquarters (SJFHQ), dated 16 JUN 03, p.10.

Diagram 12. Concept for Standing Joint Force Headquarters (SJFHQ) Brief, dated 04 MAR 02.

About the Author:

Charles Cosenza, MAJ, US Army – SOF Operations. Over 15 years SOF experience with 12 years in Special Forces commanding three ODA-Detachments in addition to serving as both a detachment XO and SF company XO. Last assignment was battalion S-2/S-3 within a civil affairs unit. Currently stationed at SOCJFCOM as an Information Operation team chief. Recent graduate of the Joint Forces Staff College-JPME-Level 2, Joint IO/IW Staff Officer Course, Joint IO Planners Course, and the Army Command and General Staff College.

Standing Joint Force Headquarters (Core Element) Planning: Into The Future

John Eldridge Political/Military Planner

The formation and fielding of Standing Joint Force Headquarters (Core Element) (SJFHQ(CE)) at each Regional Combatant Command (RCC) are integral parts of DOD's transformational efforts to strengthen joint operations and improve joint command and control (C2). Inherent in this transformation effort is changing how we plan for and conduct military operations.

One of the SJFHQ(CE) primary functions is to provide the RCC headquarters an organization with a full-time planning focus and assist in implementation of a command wide effects-based approach to planning and operations. This article captures some of the changes in the way members of the SJFHQ(CE) approach planning and lessons learned in implementing this approach.

Background

The SJFHQ(CE) is a standing C2 element. It provides the RCC commander a dedicated planning organization that can support the pre-crisis planning led by his J5 [Plans] planners and crisis response planning normally lead by the J3 [Operations]. Specifically, the SJFHQ(CE) planners bring the following to any crisis response:

- A standing, joint team with individual and collective skills in crisis response planning and operations.
- An understanding of the crisis from the RCC perspective.
- A systems approach to the operational environment, combined with the knowledge and ability to exploit vulnerabilities through the use of collaborative tools and processes.
- Habitual relationships with RCC staff, interagency organizations, and supporting commands.
- An effects-based approach to planning and operations.

It is this last area, an effects-based approach to problem solving that is the focus of this article.

Effects-Based Operations (EBO)

While the nature of 21st century warfare and its role in resolving international crises remain essentially unchanged, changes in our security objectives, the operational environment, technology, and threat have necessitated changes in the way we conduct military operations.² This requires changes in the way we view ourselves and the adversary, who we include in planning, and how we conduct planning and subsequent operations. It seeks to go beyond integration, to achieve a harmonization of all elements of national and international power to achieve common objectives. Many books and articles have been written about the complex, adaptive threat we face and the need to respond to that threat with a fully integrated joint, interagency, multinational force. No attempt will be made here to restate what is now the accepted threat analysis, other than to address the implications of this reality as it affects planning and operations.

Before proceeding further it is important to highlight two things.

One, EBO is not the sole domain of the SJFHQ(CE). It is an enhancement, not a replacement to the current Joint Operations Planning and Execution System (JOPES) planning process that is intended as part of a DOD-wide effort to improve the way we plan and conduct joint operations. SJFHQ(CE) is simply one group within a RCC headquarters designed to train, develop, and conduct EBO. To be successful, EBO must become the way RCCs and joint force headquarters *always* plan and conduct operations – even without an SJFHQ(CE).

Two, many of the aspects of EBO are not new, nor are they "tool" centric. EBO recognizes that America's unmatched success on the battlefield has forced our adversaries to rely on a broader range of methods to achieve their ends. This in turn requires us to formalize an equally broader, holistic approach to meeting these challenges.

Although much of EBO is not new, it builds on our success in joint planning and force modernization. EBO is primarily about thinking differently - formalizing a broader, more integrated approach to military operations and how they are planned and conducted, thus keeping the focus on the <u>strategic aim of our operations</u>.

Effects-Based Operations are defined as:

Operations that are planned, executed, assessed, and adapted based on a holistic understanding³ of the operational environment in order to influence or change system behavior or capabilities using the integrated application of selected instruments of power to achieve directed policy aims.⁴

EBO is characterized by synchronized, overlapping, near simultaneously executed actions conducted by an interdependent joint, multinational, interagency force to achieve theater and national objectives. EBO seek to blend offensive and defensive multi-dimensional operations into a seamless continuum of early, continuous actions, which capitalize on shared knowledge to fully integrate the complementary nature of joint fires, maneuver, and interagency capabilities. Equal, if not increased, emphasis is placed on the conditions and actions associated with crisis termination as on setting the conditions for decisive operations and the decisive operations themselves. This requires a more "global perspective of the battlespace, a noncontiguous approach to operations, and employment of a fully integrated joint force."5

Supporting Pre-crisis/Deliberate Planning

The SJFHQ(CE) supports RCC pre-crisis and crisis action planning as an integral part of the headquarters planning and operations process. It provides expertise, situational understanding, and "depth" to planning and operations. It also provides the RCC an increased capability to achieve continuity of effort in crisis response planning and operations by being able to directly embed RCC level situational understanding and planning into a joint force headquarters formed to conduct crisis response operations.

First, Pre-Crisis/Deliberate Planning.

The SJFHQ(CE) supports RCC level pre-crisis planning by developing knowledge and

understanding of potential crisis areas through active involvement in RCC training and exercise programs associated with those areas and development of a political, military, economic, social, infrastructure, and information (PMESII) systems perspective of the adversary and operational area. This systems perspective forms the basis of the operational net assessment (ONA). The ONA is a deliberate, integrated analytical operations and planning decision support process with products and database that identify key nodes and linkages within a focus area that allows planners the ability to gain detailed situational understanding of the focus area.

Many, if not all, of these inputs are developed within and through the use of a Collaborative Information Environment (CIE) to overcome the challenges of displacement and non-collocated personnel.

...the SJFHQ supports the development of operations plans/concept plans (OPLAN/CONPLAN) under the overall direction of the RCC J5. These OPLAN/CONPLAN include identification and development of crisis response objectives⁶, effects⁷ and a range of flexible deployment options (FDO) with associated measures of effectiveness (MOE)⁸ that will help influence, deter, and, if deterrence fails, shape the conditions for military operations.

Using the ONA, the planning team leads the SJFHQ(CE) effort in the RCC development of the effects-based plans.⁹

Second, Crisis Action Planning.

If the situation in a focus area develops into a crisis, SJFHQ(CE) pre-crisis situational understanding, ONA, RCC J2 [Intelligence] assessment and existing OPLAN/CONPLAN form the basis for the RCC initial assessment and actions to influence and deter the situation. This group reviews existing planning resources and updates them with new information as it develops. Detailed coordination is conducted with the Interagency Community (IAC) and regional partners on crisis termination criteria.

Throughout crisis response planning, information is exchanged via the CIE. The final product of this effort is a more precise application of an integrated National and theater response in the crisis development to influence/deter an adversary, and an execution order directing the RCC's crisis response, if required.¹⁰

Both of these sections of the SJFHQ(CE) Concept of Employment lead towards this conclusion statement:

The SJFHQ provides each RCC with a trained and equipped standing, joint command and control (C2) element specifically organized to reduce lag during crisis spin-up, to maintain a higher level of situational understanding of a specific region's area of responsibility (AOR), and to more rapidly resolve crisis situations when they develop. Should deterrence fail, this same capability provides a potential combined joint task force the ability to rapidly build an effective joint response team and terminate a crisis through precise, fully integrated decisive operations. It is the SJFHQ's coherent situational awareness and understanding of potential crises, use of collaborative tools, and in-place capability to integrate ONA development and effects-based operations (EBO) planning into a range of component or other headquarters designated to perform joint task force (JTF) functions that provides the RCC continuity in planning and operation from pre-crisis through execution and transition.¹¹

In a nutshell: SJFHQ(CE) planning uses a systems understanding of the operational environment, organized within an ONA, develops PMESII effects, and works with the entire RCC staff (enhanced by non-military inputs) to determine the actions required to produce the desired effects necessary to achieve theater and national objectives. By formalizing a broader, longer term view toward crisis resolution, SJFHQ(CE) planning has fully embraced aspects of the transformation initiative.

Lessons Learned

As JFCOM has assisted RCCs in establishing their SJFHQ(CE) and implementing effects-based planning and operations, several lessons have emerged.

- 1. Military operational planning alone is not enough. Successful resolution of a crisis situation requires trained, ready joint forces fully integrated with the other elements of national and international power diplomatic, informational, and economic to achieve *common* aims and objectives. Winning the fight does not necessarily equate to resolving the crisis, or address changing the conditions that lead to the crisis in the first place. While military commanders cannot direct the supported or supporting actions of US interagency and international organizations or many multinational effects, their operations must be fully integrated to achieve unity of effort and guided by a common long term purpose.
- 2. Diplomacy, information, and economic aspects of an operation and the associated planning are essential to success. They must be aggressively understood and fully integrated into all planning. This does not mean they are found just in the political military annex to an operations plan or order. These considerations, and the perspective they provide both in method and means used to attain success, must be integrated into the commander's mission statement, concept of operations, and tasks to subordinates. There are many challenges to achieving this lofty goal; however, the recognition that this critical integration must take place is generating several very positive solutions both at JFCOM and at RCC headquarters. One solution is the establishment of Joint Interagency Coordination Groups (JIACG). The vision for JIACG implementation is for each RCC to have a group of about 10 people, either current agency employees or other knowledgeable individuals, with a variety of non-military skills that will work directly for the RCC. The JIACG will bring day-to-day perspective and expertise (including diplomacy, infrastructure, justice, law enforcement) into the RCC, in support of the both RCC staff and SJFHQ(CE) planning efforts.
- 3. Understanding of the complex, interconnected operational environment is an essential part of all planning. The operational net assessment codifies this system understanding of the operational environment and is a key input into the planning process. As in any disciplined endeavor, you can only form good ideas if you have good information, and if that information is properly assessed. The effort required to develop an effective ONA can be anywhere from limited to exhaustive based on the time available to the planners. It can take weeks to understand the military aspects of a situation or of a belligerent's military capability. But, it can take months to gain a full understanding of the political, economic, social,

infrastructure, and informational systems at work in an operational area. Development of an ONA requires the integration of existing intelligence and operational information from military and non-military sources; planning efforts by a cross-functional planning team; and a database to link, store, and display that information. It has become clear, ONA development is only the first step – development must be followed by updates and reevaluation to keep it current. Additionally, one RCC may require several ONAs.

- 4. Today's planning and operations require a command climate and organizational capability that allows a timely, effective exchange of information and ideas. A fully integrated CIE is an essential part of that operational capability.
 - Even though the JIACG will bring a level of agency expertise into the RCC, effective and timely ties to the subordinate and supporting organizations and agencies, without the constraints of time and space, are absolutely vital. Planning must move from parallel, to a fully integrated collaborative effort, which fully integrates the supported headquarters, subordinates, and supporting agencies and organizations.
 - Collaboration has gone well beyond conference calls, email, and video teleconferencing. Compatible computer based systems have proven eminently effective in allowing accurate and timely interaction among a variety of geographically dispersed players.
 - Compatibility within DOD is not nearly enough.
 With dozens of agencies, organizations, and groups
 available to add value to the planning process,
 collaborative applications must be interoperable
 throughout all agencies required to participate.
 - Effective interaction will enable planners from anywhere in the network to assemble in a common internet location while remaining at their daily work location. Participants can bring their expertise or take away new knowledge simply by being at a compatible computer terminal. No travel, no expense.
- 5. Effects are not "Blue" actions or targets. Many make attempts to describe effects in terms of "Blue" or friendly actions rather than a physical or behavioral state of a PMESII system essentially descriptions of "Red" systems. Once effects become Blue actions, the focus

almost always shifts to assessing tactical actions - rather than a focus on whether we are shaping the operational environment to achieve our objectives. We have also seen that effects and targets are used interchangeably – focusing on "little effects" – the affect of weapons systems rather than on PMESII systems. This becomes effects-based targeting. While effects need to influence the selection of targets and weapons systems employed, effects by definition address PMESII rather than weapons system outcomes.

- 6. Planners must take the long term perspective to crisis resolution. Along every step of the way, the view must be towards enduring stability, maintained neither by outside forces nor coercive influence, but by dedicated cooperation among individuals, groups, and nations. Destroying a bridge may stop foot soldiers and tanks. But it also stops ambulances, fire trucks, and school buses. Alternatives to destruction, prudently considered in the light of additional risks, can bring significant value to the transition to stability. This requires insuring the means used during decisive operations support the long-term stability, and support operations required of transition and crisis resolution. This long term, holistic view is enabled through an effects-based approach that builds on an understanding of adversary and third party systems influences and interactions.
- 7. Effects-based operations are essentially an operational level approach to joint warfighting. The objectives – effects – action linkage central to EBO has application at all levels of a campaign, but there is only one campaign plan - developed by the theater commander - with a single set of crisis response objectives that should incorporate all elements of national and international power. Assessment of the state of the campaign can only effectively be done by the RCC commander and staff, with collaboration with supported and supporting command input – to include the interagency community. Because of the very nature of effects, assessing them is essentially an RCC/JTF job. JTF component commanders and their subordinates should develop and articulate their supporting end states to describe the means to measure their military contributions to effects and objective accomplishment. Equally important, they should not attempt to assign their subordinate tactical headquarters individual effects. Rather, subordinates should be assigned task(s), purpose, and the associated effect(s) their actions are intended to attain - most PMESII effects can only be attained by the integration of DIME (diplomatic, information, military, economic) actions. Assigning

military tasks that have their basis in creating desired effects provides clarity to their purpose and clear direction in how they should be accomplished. Tasking tactical level commands with effects has generally resulted in confusion and frustration by these commanders.

Conclusion

Strengthening joint operations through improved joint command and control and better integration of the full range of capabilities that a joint, interagency, multinational force can bring to crisis resolution is central to DOD transformation efforts. Effects-based planning and operations are integral to this effort. Embedded in the current National Security Strategy, is this succinct paragraph that is a well-defined measuring stick of how planning in the future should progress.

Every agency of the United States Government shares the challenge. We can build fruitful habits of consultation, quiet argument, sober analysis, and common action. In the long-term, these are the practices that will sustain the supremacy of our common principles and keep open the path of progress.¹²

Evaluating these comments in light of a broad effort to move toward an effects-based approach to planning indicates:

- Every agency not just a military solution or single agency solution to crisis resolution.
- Fruitful habits of consultation implies that the agencies and organizations will work together.
- Sober analysis is very well achieved by the ONA process.
- Common action tells us to have a plan that works together.

Summary

The SJFHQ(CE) concept and the associated operational capabilities of EBO, ONA, CIE, and JIACG continue to develop as RCCs "touch" and use them. The planning process continues to be refined and clarified. It is both interesting and frustrating that after over 235 years of our nation's history, technology has not yet brought all areas of national power into clear, cohesive focus.

History has shown that behind all national endeavors is the power to enforce national decisions. And, history has also shown that this power is most forcefully manifested in the ability to defend yourself or to defeat your enemy.

But, there are other ways. The Organization of Petroleum Exporting Countries (OPEC) wields power through the flow and pricing of crude oil. France wields power through diplomacy. Switzerland wields power through autonomy and financial influence. The United Kingdom wields power by standing behind its decisions. And the United States wields power through economic strength along with diplomacy backed up by military power. All of these are effective to some degree. And all should be considered available to the military and non-military planner(s).

Today, military and non-military planning must be accomplished by individuals who are experts in all areas. While this is still more a goal then fact, it is coming. Until it does, and most assuredly even after it arrives, SJFHQ(CE) and effects-based planning will be central to any final solution.

End Notes:

- ¹ Strategic Planning Guidance, Fiscal Years 2006-2011, 15 March 2004, p. 25.
- ² Joint Operations Concepts, JCS Version 1.0 for 2003, 3 Oct 2003, p. 6.
- ³ This holistic understanding is achieved by using a PMESII construct to analyze the operational environment political, military, economic, social, information, and infrastructure. This construct seeks, for analysis purposes, to break the operational environment into six manageable subsystems. Through analysis of these subsystems, we attempt to understand and identify the key nodes and relationships within and across these systems to better identify the areas that must be affected to change adversary behavior or capability.
- ⁴ Standing Joint Forces Headquarters Prototype, Concept of Employment, 25 June 2003, p. E-2.
- ⁵ Joint Operations Concept, JDC Version 1.0 for 2003, October 2003, p. 6.
- ⁶ Objectives: "Clearly defined, decisive, and attainable goals towards which all operations are directed." This is broadened use of the term "objective" as defined in JP-1-02; removal of the word "military" is important to ensure that military operations are tied to

the overall national intent of the operation by establishing a set of objectives that are common to all. Objectives are not stated as "Blue" actions, which is too often the case.

- ⁷ Effects: "The physical and/or behavioral state of a PMESII system that results from a military or non-military action or set of actions (DIME)." SJFHQ Concept of Employment. Effects are not descriptions of friendly action or individual targets. They address the impact of actions and operations as they affect PMESII systems, not individual targets.
- ⁸ MOE Criteria used to evaluate how actions have affected system behavior or capabilities; MOE are tied to effects and effects assessment. They are indicators of the outcome of Blue actions on operational environment systems. MOE articulate where to look and what to look for in order to determine if the desired

effect has been achieved.

- ⁹ Concept of Employment, op. cit., p. 3-2 excerpts.
- ¹⁰ Ibid, p. 3-4 excerpts.
- ¹¹ Ibid, p. 3-6.
- ¹² The National Security Strategy of the United States of America, September 2002, 28.

About the Author:

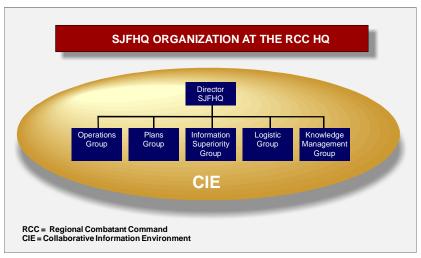
John Eldridge – Political/Military Planner. Retired 01 Jul 01 after 30 years, USN O-6, submarines. Most recent billet: SACLANT Director of Policy. At sea: CO USS Rhode Island (SSBN 740); CO USS Los Angeles (SSN 688). Staff: JSO, Joint Staff (J3 Nuclear Operations), SUBLANT (Tactical Development/Doctrine). U. S. Naval Academy 1971 BSEE; National War College 1991.

Standing Joint Force Headquarters (Core Element) Operations Group

LTC Tom Coleman, US Army

Introduction

The Standing Joint Force Headquarters (Core Element) (SJFHQ(CE)) is organized into five administrative groups (plans, operations, information superiority (IS), knowledge management (KM), and logistics) and a command element. This article will focus on the operations group. In the future we will be required to activate staffs that must rapidly become operational and conduct rapid decision operations, using enabling tools that will achieve decision superiority. The SJFHQ(CE) is a command and control (C2) element that each Regional Component Command (RCC) will have residing at the headquarters, which will decrease the time required to get staffs or joint task forces (JTF) operational. We must transform our thinking, and C2 procedures, to function as joint military operators that maximize the use of joint forces. The SJFHQ(CE), and its enabling concepts, allow us to operate in order to meet the unique needs of the RCC; and the Operations Group focus is on execution.



The Operations Group uses effects-based planning/operations along with the other SJFHQ(CE) groups. The purpose of this group is to maximize the operational efficiency of the combatant commander and decrease the time needed to get an organization formed and operational. The SJFHQ (CE) will utilize all elements of national power to achieve the desired effects.

The Operations Group, like the other groups in the SJFHQ(CE) organization, maintains administrative responsibility for its functional area and provides support to the SJFHQ(CE)'s four cross functional teams (Operations Team, Plans Team, IS Team, KM Team). While in-garrison in a pre-crisis situation, the Operations Group personnel will be involved with planning. Members of the Operations Group will be on teams that collaborate with members from other groups forming "cross functional teams." This facilitates planning and operations when in the execution phase. The relationships established among the teams, and the situational understanding (SU) and situational awareness (SA) that results from their interaction, will greatly reduce the time required to stand up an organization when a crisis develops.

Although involved with the other cross-functional teams, the Operations Group focus is primarily on the Operations Team. The Operations and Information Superiority Teams establish SU and SA by monitoring current events, and working with the RCC Joint Operations and Joint Intelligence Centers (JOC and JIC). All SJFHQ(CE) teams apply their expertise to RCC training throughout the RCC's area of responsibility (AOR), and they develop habitual relationships which are critical to reducing the time required to stand up a staff. These relationships are developed with the RCC

staff, components, external centers of excellence (COE), and governmental and non-governmental agencies.

The Operations Team consists of personnel from: operations; intelligence; intelligence, surveillance, and reconnaissance (ISR); logistics; and information operations (IO). And, it operates within a knowledge-based environment to conduct cross-functional collaboration between the teams, the combatant command staff, the components, and other external military and civilian agencies (multinational (MN) coalition members, academic

institutions, COE, etc.). The team stays abreast of current operations, and assists in development and update of the operational net assessment (ONA) – effects assessment, plan development/updating, and insuring integration and synchronization of plans. The Operations Team provides continuity in pre-crisis planning, SA, and effects-based planning (EBP). When

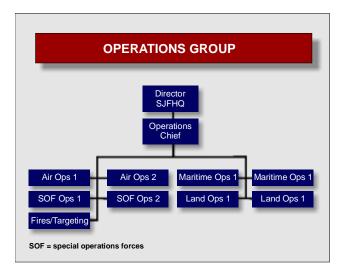
transitioned to a JTF HQ or in crisis action team/crisis action planning (CAT/CAP) mode, the team's primary responsibility is in the joint operations center (JOC). The team's joint experience, collective SA, and knowledge of the commander's intent will optimize execution of current operations, while also being a major contributor to the planning effort.

Organization

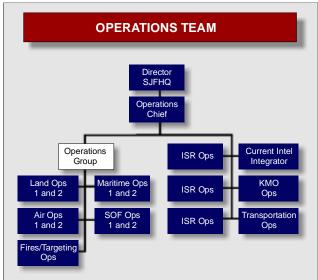
SJFHQ(CE) operations are comprised of an operations Group and an Operations Team.

Operations Group. The SJFHQ(CE) is organized into administrative groups. These groups are the day-to-day in-garrison organizations that maintain administrative responsibility (scheduling, budgeting, etc.). For example, they coordinate individual training/support, provide document review and procedure development, and provide support to SJFHQ(CE)'s cross-functional teams.

The operations chief is the group lead for the operations group. He will consider current requirements within the group and assign personnel to support the cross functional teams. If the mission dictates, the operations chief will shift assets within the operations group or team to meet operational needs as required.



Operations Team. An operations team is a taskorganized, cross-functional team designed to accomplish daily mission requirements, and is composed of members from the operations group and appropriate members of other groups. It is centered on the managed flow of information within a broader operational context that includes all elements of national power. It seeks to mitigate drawbacks associated with functional organizations that develop information stovepipes. The Operations Team works closely with RCC J2 [intelligence], J3 [operations], and the crisis action team (CAT) to maintain and improve SA and SU. It plans and coordinates internal and external training, supports expanded planning efforts of the RCC staff, works with the ONA working group to refine and update the ONA, monitors RCC responses and any flexible deterrent options (FDO) implemented, assists the J3 staff in evaluation of the effects of FDO, monitors ISR activity and crisis-related intelligence efforts, refines effects-based planning, and assists in the preparation of execution orders.



Operations Roles and Tasks

During pre-crisis/crisis, the SJFHQ(CE) builds and maintains relationships (physical and virtual) with staff, components, interagency (Joint Interagency Control Group (JIACG)), COE (academia, industry, nongovernmental organizations (NGO)), and subject matter experts (SME). The SJFHQ(CE) Operations Group is responsible for individual and collective skills training; participates in training and exercises; provides tactics, techniques, and procedures (TTP); standard operating procedures (SOP) update reviews; and, operates within an operational Collaborative Information Environment (CIE).

Operations Team (Pre-Crisis)

The Operations Team primarily concerns itself with SA and SU. It forms the lead for SJFHQ(CE) internal/

external training, exercises, training support, and support to J7 [operational plans] for RCC exercises. Pre-crisis, the Operations Team works on ONA development and updating linkages, actions, and resources. It also tracks "blue" readiness, to include potential response forces. The SJFHQ(CE) mission begins well before a crisis develops. When appropriate, the commander will assign a focus area or region to the SJFHQ(CE). The area is modeled via nodes, which represent all the adversary's PMESII (political, military, economic, social, informational, and infrastructure) systems. The nodal relationships and interdependencies are recorded in the ONA and potential effects, nodes, actions, and resources are linked. This information, obtained during pre-crisis, is gathered in a coordinated process that may take several months to fully develop. Centers of excellence – academic, industry, think tanks, etc. – and the habitual relationships the SJFHQ(CE) develops with them is critical to getting a complete understanding of the adversary. This reachback utilization gives the joint force information superiority. The Operations Team uses this fully developed knowledge to execute actions designed to achieve the desired effects. By utilizing superior information, we minimize risk and optimize our results.

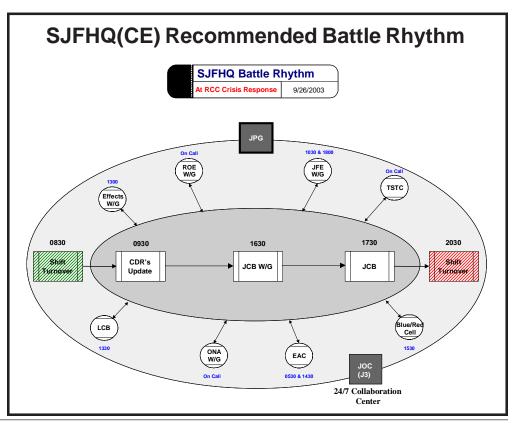
CAT. It supports FDO and force enhancement execution. The team uses the ONA, and coordinates training with the joint task force as required. In precrisis, the SJFHQ(CE) concentrated on five essential tasks: conducting EBP, maintaining SU, leveraging the CIE to enhance C2 capabilities, building and maintaining the ONA, and participating in training and exercises. Now as the crisis has developed, the SJFHQ(CE) focuses its five essential task areas on related events. The SJFHQ(CE) can implement integrated actions to affect the containment, modification, or reversal of the crisis situation. The Operations Team can augment the JOC and/or JIC by monitoring developments via virtual or physical presence, and prepare to deploy with the JTF if required. The SJFHQ(CE) has several deployment options and the Operations Team will support the operation in any mode from fully deployed with a JTF (or as a JTF), to not deploying and remaining at the RCC HQ. The CIE enables the team to provide support from remote locations and reduce the footprint of the joint force, if desired. Also, the habitual relationships the Operations Team has within the RCC staff allows for reachback to COE via the CIE. The Operations Team, and the entire SJFHQ(CE), brings invaluable assets to the joint force via its enabling concepts, tools, experience, and expertise.

This process supports course of action (COA)

development and selection, which leads to the final product of the effects tasking order The ETO (ETO). includes a prioritized effects list (PEL) and operations plan or order (OPLAN/OPORD). The Operations Team now has the ONA and ETO products ready for use when the situation escalates into a crisis development or response situation.

Operations Team (Crisis Development)

The team facilitates initial SU in support of the RCC CAP and the



Key Terms:1

- Effects Tasking Order (ETO): In the context of EBO (effects-based operations), the ETO is the formal mechanism through which JTF orders are issued. The ETO identifies the JTF's prioritized desired effects, and assigns responsibility for their attainment to JTF components. The ETO is the primary output of collaborative planning and the vehicle for dissemination of synchronized action and orders.
- 2. Measures of Performance (MOP): MOP are developed by each JTF component and are the textual statements of how each component assesses its accomplishments of ETO assigned actions.
- 3. Measures of Effectiveness (MOE): MOE are expressions of operational-level intentions pertaining to each commander, joint task force (CJTF) identified desired effect.
- 4. Operational Net Assessment (ONA): ONA is detailed information on the PMESII system of the adversary country, as well as a detailed analysis of the interrelation of specific nodes contained within these systems. This analysis includes evaluating the contributory value of targeting a node in achieving the desires effect.

When appropriate, such as when the Operations Team is embedded in a JTF, or during crisis action planning, the team will participate in various boards, centers, and cells. The recommended SJFHQ(CE) boards, centers, and cells that incorporate Operations Team membership include:

Joint Planning Group (JPG)

The JPG leads the RCC crisis action planning and coordinates the planning within the headquarters to include current operations, order development, and planning for future operations in coordination with J5 for future planning. The JPG Operations Team members are: land operations, maritime operations, SOF operations, and air operations. The JPG produces mission analysis, planning guidance, COA development, ETO development, and coordinates recommendations with the joint coordination board.

Joint Coordination Board (JCB)

The purpose of the JCB is to review execution assessment, and provide guidance and priorities for JPG

future operations planning and current operations execution. The JCB is the commander's primary decision support agency (normally a JTF-level board). The JCB Operations Team members are: fires/targeting officer, land operations, maritime operations, SOF operations, and air operations. The JCB produces recommendations for COA, approval for ETO, follow-on prioritized effects list (PEL), engagement and targeting guidance, apportionment and allocation, and battlespace coordination measures.

Joint Fires Element (JFE) Working Group

The purpose of the JFE is to update and develop the PEL, develop engagement and targeting guidance, select ONA-derived critical nodes and vulnerabilities, and provide joint integrated prioritized target list (JIPTL) oversight at the JTF. The JFE consists of the following Operations Team members: fires/targeting officer, land operations, maritime operations, SOF operations, and air operations.

Time-Sensitive Targeting (TST) Cell

The TST cell is a virtual network managed by the JTF, which links components, the JTF, and reach-back agencies. TSTs are those targets that either: pose, or will soon pose, a danger to friendly forces; or are highly lucrative, fleeting "targets of opportunity." The Operations Team members are: operations chief, fires/targeting officer, land operations, maritime operations, SOF operations, and air operations. The TST cell recommends TSTs, prioritization, and engagement/planning guidance for the commander's approval in the JCB.

Rules of Engagement (ROE) Working Group

The ROE working group is a virtual network of SME responsible for ROE planning, ROE recommendations for input to the ETO for current and future operations, and subsequent ROE modifications and supplemental measures. The Operations Team members are: operations chief, fires/targeting officer, land operations, maritime operations, SOF operations, and air operations.

Effects Assessment (EA) Cell

The EA cell assesses EBO actions executed through the ETO. It fuses effects assessment data to provide an EA summary, predictive EA analysis, and recommendations on desired effect modification and associated operational considerations. The EA summary is provided to the JCB working group. The Operations Team member is: fires/targeting officer.

Effects Working Group

The effects working group develops operations, in support of the commander's objectives expressed as MOE, and recommends effects for inclusion in the ETO. This group may also develop the initial PEL. The Operations Team members are: fires/targeting officer, land operations, maritime operations, SOF operations, and air operations.

Operational Net Assessment (ONA) Working Group

The ONA working group modifies baseline ONA by: linking nodes to effects; identifying diplomatic, information, military, and economic (DIME) options; secondary and unintended consequences; applies resources to effect-node-action-resource (ENAR) links; updates ONA; and supports the RCC JPG. The Operations Team members are: operations chief, fires/targeting officer, land operations, maritime operations, SOF operations, and air operations.

CONCLUSION

Future operations will often require the use of joint, interagency, and multinational capabilities. Transformation, and the use of a SJFHQ (CE), is a way to more effective operations and utilization of our capabilities. SJFHQ(CE) integrates key enabling concepts and increases our command and control readiness, giving us better, faster, and more effective

options to deal with the many missions the RCC encounters. The Operations Group of the SJFHQ(CE) provides the operational capability to the theater strategic headquarters. This "commander centric" design emphasizes jointness. The SJFHQ(CE) Operations Group's knowledge-centric, crossfunctionally organized joint team concept is a key to the success of future operations. With fewer resources, we must synchronize and integrate the joint force Service component strengths in order to maximize effectiveness and minimize risk. Time is a critical factor and we often must do our mission faster. This new model for visualizing enemy engagement, which seeks continual focus on the full range of our national advantages, will be an effective combat multiplier in future conflicts. The SJFHQ(CE) intends to rapidly field capabilities to improve joint warfighting.

End Note

¹ Mr. David B. Collins, "Effects Assessment – Millenium Challenge '02 and Beyond," JCLL Bulletin Volume V, Issue 3 (June 2003): p 1. (paraphrased)

About the Author

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The Standing Joint Force Headquarters (Core Element) Logistics Organization

Brad Jublou Logistics Planner Lead

Introduction

The Standing Joint Force Headquarters (Core Element) (SJFHQ(CE)) organization has both functional and cross-functional characteristics. That is, its internal organization is a hybrid, made up of groups and teams; the groups are *functional* and *administrative* in nature, and the teams are *cross-functional* and *operational*.

The SJFHQ(CE) groups are "functional" in that the groups are charged with providing expertise in their particular functional area to the rest of the SJFHQ(CE), whether that expertise is in planning, operations, logistics, information superiority, or knowledge management. "Administrative" refers to the normal housekeeping-type tasks routinely performed in the course of events, such as ensuring that the group's personnel are present for duty, that they are properly trained, etc. The group chiefs have administrative accountability for their people to the chain of command, and a responsibility to the director for all issues pertaining to their functional areas.

The SJFHQ(CE) team structure, on the other hand, is where the "rubber meets the road." Most day-to-day operational tasks are carried out by the teams while the SJFHQ(CE) is working in-garrison at the Regional Combatant Command (RCC). These consist of the

planning team, the operations team, the information superiority team, and the knowledge management team. These teams are cross-functional in that their membership consists of personnel from two or more groups, combining a mixture of functional expertise; they address complex problems from an inherently broad perspective that incorporates the expertise of several functional areas. The team chiefs are responsible to the SJFHQ(CE) Director for the performance of their teams during operational and planning activities.

This hybrid structure therefore combines the best aspects of both functional and cross-functional organizations: the groups have the charter and the wherewithal to develop and maintain a high degree of proficiency in their functional areas of expertise, but this expertise is actually *employed* in cross-functional teams, minimizing the information "stove piping" problems that strictly functionally oriented organizations, such as those typically referred to as "Napoleonic staffs" or "J-codes," routinely encounter.

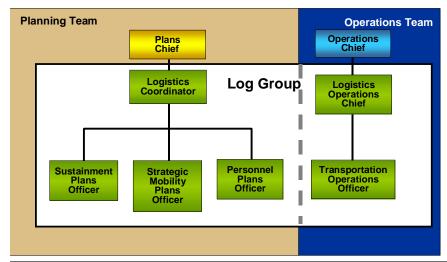
The Logistics Organization

The effects of this unique internal structure are particularly evident in the way the logistics functional area is organized and employed in the SJFHQ(CE). There is a logistics group, but no logistics team: instead, all of the SJFHQ(CE) logisticians are integrated into the planning team and the operations team, as shown in the following illustration:

Although logistics personnel are fully integrated into the team structure, the logistics (Log) group still has its own functional identity; the logistics area is not hidden or subsumed. And there is still an administrative path for

logistics issues to be raised to the attention of the director through the chief of staff, just as there is in legacy organizations.

In order to execute their team responsibilities, the log group is divided into two sections: the logistics plans section is seen on the left in the illustration, and the logistics operations section is on the right. The logistics operations chief directs the logistics group overall, as well as the log ops section; the logistics coordinator is the lead log planner



in the log group, and directs the efforts of the log plans section.

Although the operational and planning tasks are handed down through the team structure, the SJFHQ(CE) logisticians still work logistics issues as a group when necessary. But there is a division of labor and responsibilities in the log group that follows along team lines. For example, the log ops section has the responsibility to plan and manage log-related training, and maintain current situational awareness, reflecting the ops team's overall responsibility for those areas in the SJFHQ(CE). On the other hand, although the log plans section is principally responsible for logistics planning, everyone in the log group contributes to the pre-crisis planning process. This is a reflection of the flexibility the logisticians have in this organizational structure, which allows intellectual resources to be shifted as required to address the tasks at hand. In fact, due to its small size and distribution of specialized knowledge across both the log ops and the log plans sections, staffing across team lines is a necessity.

In addition to their membership in the two crossfunctional teams already mentioned, logistics group personnel also have membership in the operational net assessment (ONA) working group, the cross-functional organization that develops the SJFHQ(CE) ONA.

This hybrid organization with full integration of logistics group expertise into the cross-functional teams has several advantages:

- Logisticians have full and complete visibility of the operation from the very beginning of the planning process all the way through execution, giving them a more thorough understanding of the operations requirements, and enabling the logisticians to better support both the planning effort and the execution.
- There is early attention to logistics issues in the planning process. Unsupportable courses of action (COA) can be identified and discarded earlier in the process, preventing planners from expending time and energy on COA that can't work.
- More timely, credible, and comprehensive logistics estimates and feasibility analyses.
- It facilitates a more thorough and complete synchronization and integration of all considerations

during both planning and execution; operational, logistic, and deployment concerns can be staffed more rapidly and effectively, potentially resulting in a better plan sooner.

As mentioned previously, the SJFHQ(CE) Logistics Group's small size limits its capability, and dictates the necessity for the logisticians in both the planning team and the operations team to work closely together, as a functional group, to accomplish many of their responsibilities in the SJFHQ(CE) organization. Similarly, the log group's small size and limited breadth of expertise means that their habitual relationships with the RCC J-4 [logistics] directorate are crucial as well. For example, the SJFHQ(CE) has no civil engineering expertise; so, if civil engineering-related planning products (such as a civil engineering support plan) are required for a concept plan (CONPLAN) being developed for a contingency in the SJFHQ(CE) focus area, these will still have to come from the RCC J-4. In fact, it should be noted that the existence of an SJFHQ(CE) does not remove responsibility for planning products from the various RCC directorates. Instead, the SJFHQ(CE) serves as a coordinator and a focal point for planning activities in support of the J-5 [plans] and other directorates for plans developed pre-crisis in the SJFHQ(CE)'s focus area.

A brief description of how the logistics group operates while in garrison at the RCC, in both the pre-crisis and crisis timeframes, is provided below, as extracted and modified from the SJFHQ(CE)'s Concept of Employment.

The SJFHQ(CE) Logistics Group Pre-Crisis

During the deliberate planning cycle, the SJFHQ(CE) Logistics Group participates in the logistics planning effort led by the RCC J4 directorate. When planning for a designated focus area is initiated, the logistics planners contribute their expertise and knowledge of the theater to the cross-functional planning process. Logistics plans personnel bring the planning requirements generated by the planning team to the logistics group, leveraging the logistics operations personnel's additional specialty areas and perspective for in-depth functional staffing.

Prior to and throughout the planning process, the logistics operations section of the logistics group conducts detailed analyses of theater resources, infrastructure,

existing intelligence products, and the ongoing ONA build, maintaining this information in a continuously updated logistics common relevant operational picture (Log CROP). The Log CROP is a "virtual warehouse" of information that provides real-time access to timely, fused, actionable, and relevant logistics information that can be tailored to meet the requirements of the joint force, and it is described more fully elsewhere in this issue. Logistics operations section personnel monitor events in the area of responsibility (AOR) and contribute to the development of the ONA, bringing their situational awareness and situational understanding of the focus areas to the planning process.

The logistics group assists in the development of the required logistics-related annexes and appendices for those designated plans in the SJFHQ(CE) focus areas, and the log group contributes detailed knowledge of the resulting support plans to the operations and planning teams. Close coordination and functional staffing with the RCC J4, logisticians in the RCC Service components, United States Transportation Command (USTRANSCOM), and the Defense Logistics Agency is performed in order to ensure that the plan's concept of support is feasible from a national, theater, and Service perspective.

The SJFHQ(CE) Logistics Group during Crisis Action Planning

An integral part of the crisis response is the development of a concept of logistics support that ensures effective sustainment of the force. While logistics is a Service and national responsibility, its impact on development of viable COA, its supportability, determination of force closure rates, and the potential for common-user support to the contingency response force requires that logisticians play an early, integral part in all crisis action planning activities. Continuous analysis of infrastructure and resources in the selected focus areas, review of operations plans (OPLAN) and CONPLAN, and initiation of the logistics sustainment necessary to support flexible deterrent options (FDO) and the joint task force (JTF), facilitate the planning and execution process and enable rapid and effective logistics support for effects-based operations (EBO). The logisticians in the SJFHQ(CE) Logistics Group, RCC J4, Service components, and the JTF staff (if established at this point for planning) collaboratively develop the concept of support, which, after COA selection, will be refined in the RCC's effects tasking order (ETO). Logistics

group members contribute the in-depth knowledge of the resulting support plan to their cross-functional planning and operations teams, creating a baseline of shared awareness of theater and Service resources matched to the joint force's requirements

As the crisis continues to develop, and the JTF is established for operations, SJFHQ(CE) logisticians may integrate into the JTF, taking with them habitual relationships with USTRANSCOM; detailed knowledge of the theater; established links to the RCC J4, supporting combatant commands and agencies; expertise in the collaborative process; and an intimate familiarity with the RCC's campaign plan and associated logistics concept of support from inception to execution. The Log CROP will play a central role by sharing a wide range of support-related information and component readiness data throughout the force.

JTF Staff headquarters Integration

When deploying to a Service staff when forming a JTF headquarters, as in SJFHQ(CE) Employment Option 2, the SJFHQ(CE) log personnel can fit into whatever JTF staff organization the commander dictates. If the JTF is organized along the lines of the SJFHQ(CE), the logisticians will be integrated into the familiar group/ team structure. If the JTF staff is organized in legacy J-codes, the SJFHQ(CE) logisticians would in all likelihood be assigned administratively to the J-4 directorate. In any event, the logisticians will still carry out their operational business in the cross-functional board, center, and cell structure already established in today's joint doctrine and used routinely in operations. Log operations section personnel would probably man the J-4's logistics readiness center (LRC), the joint movement center, and/or the J-3's [operations] joint operations center (JOC); log plans personnel would likely integrate into the J-5's joint planning group (JPG), or J-3's operational planning team (OPT).

Summary

The SJFHQ(CE) uses a hybrid organizational structure to take advantage of the inherent strengths of both functional groups and cross-functional teams. Within this construct, the SJFHQ(CE) Logistics Group provides expertise in logistics planning and operations to the SJFHQ(CE) (when at a Regional Combatant Commander's headquarters) and a JTF (when deployed). The logistics group uses this cross-

functional organization, its habitual relationships with the RCC J4, component logisticians and supporting commands, and the full range of the SJFHQ(CE) transformational capabilities to improve the flow of logistics information, synchronize a wide range of logistics efforts, and help create a logistics community throughout the joint force with the ultimate goal of better overall support to the joint warfighter.

About the Author

Brad Jublou is the lead logistics planner in the SJFHQ (Core Element). A retired naval officer, Mr. Jublou is the SJFHQ (CE) Program Manager for Alion Science and Technology and has been involved in SJFHQ(CE) prototyping and Joint Experimentation for over three years.

Logistics Common Relevant Operational Picture

Mr. Ronald (Ron) S. Bullard Logistics Operations Group Chief

In preparation for Millennium Challenge 2002 (MC02), U.S. Joint Forces Command (USJFCOM) developed a logistics concept to enhance logistical situational awareness (SA), and improve information management and sharing of operational planning information for all logisticians throughout a joint force. During the MC02 experiment, this concept was refined and tested; the logistics common relevant operational picture, commonly referred to as Log CROP, emerged.

As part of the 2002 Defense Planning Guidance (DPG), the Secretary of Defense directed the fielding of a Standing Joint Force Headquarters (Core Element) (SJFHQ(CE)) in each Regional/Geographic Combatant Command. The DPG further included the requirement to provide these SJFHQ(CE) with MC02-like capabilities (such as the Log CROP).

As part of the SJFHQ(CE) implementation effort, the Regional Combatant Commands (RCC) receive a Microsoft share point portal server (SPPS) software package, which is used as the web portal. The SPPS software package allows the SJFHQ (CE) to tailor and build a Log CROP portal relevant to their theater environment, and specific to their planning/operational needs. The software allows people to post, edit, and manage information on the web. Being able to post your own information leads to greater use of web-based information for collaboration

The Log CROP provides a virtual view and access to timely, fused, accurate, and relevant logistics information. This information can be tailored to any level to meet the requirements of the joint force, which is common to subordinate and supporting organizations. The portal allows planners to gain SA and situational understanding (SU) both vertically and horizontally (across echelons and functions). The Log CROP allows deployment, employment, and sustainment (DES) planners to build a web based information portal that facilitates quick access to relevant logistical information on a single web portal page. The intent is to allow the user to access required information or tools with no more than two clicks of a computer mouse button.

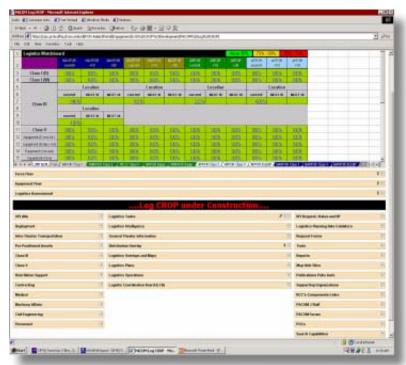
The goal of the Log CROP is to insure the logistician has near real-time information early in the planning process, during crisis response planning, and in execution. Sophisticated information management and dissemination capabilities will enable near real-time access to both raw data and fused information, and will ensure a CROP regardless of level of command or physical location of the user.

The Log CROP is developed by the SJFHQ(CE) for a focus area, updated continually and provided to the joint task force (JTF) headquarters for their refinement and use. As a web based product, each segment of the Log CROP can be updated as necessary by the component, staff, or supporting organization responsible for the information. This widespread visibility of logistics information from the RCC and its components, through the JTF staff, and down to the JTF components, bridges the strategic, operational, and tactical levels and can help logisticians achieve the goal of optimized factory-to-foxhole focused logistics.

The Log CROP concept allows planners/operators prior to and during crisis action planning (CAP) to gain SA of their area of responsibility (AOR) and develop a SU of their commander-designated focus areas. The Log CROP allows DES planners at all levels to more rapidly develop a feasible logistical concept plan (CONPLAN) or concept of operations (CONOPS) in support of effects-based planning (EBP) for a commander-directed focus area.

In conjunction with collaborative tools such as the Defense Collaborative Tool Suite's (DCTS) Microsoft Net Meeting, or its approved enhancement, Info Work Space (IWS), the DES planners collaborate virtually in a horizontal and vertical planning environment, sharing important DES information. The display of relevant information and the user's ability to quickly link to current status, tools, maps, and planning documents, helps the Log CROP to enhance and facilitate all aspects of deployment, employment, and sustainment planning. The following illustration represents a generic Log CROP display. The display is completely tailorable to the user's requirements. (See the generic Log CROP display on the next page.)

The Log CROP is not a system. The Log CROP is simply a log-focused portal web page using the SPPS application. Global Combat Support System – Joint



(GCSS-J) is the joint system of record, and the Joint Chiefs of Staff (JCS) J4 [logistics], Defense Information Systems Agency (DISA), and the combatant commanders continue their efforts to build the system using the tools and information environment from the 129 identified, and 57 approved, 1999 Commander in Chief logistical information capability requirements identified for inclusion in GCSS-J.

Another outcome of MC02 was the log watchboard (logistics situation report) displayed in the Log CROP. The log watchboard emulated a real-time reporting system. Though technologically limited at that time, the conceptual watchboard requirement was validated. (A notional watchboard is also included in the display above.)

The U.S. Pacific Command (USPACOM) J4 recently tested the Log CROP at the theater level during Exercise TERMINAL FURY 2004 (TF 04). The J4 was the only USPACOM directorate to employ SPPS, as well as IWS, during the exercise. Feedback to USJFCOM on the use of the collaborative information environment (CIE) in general, and the Log CROP in particular, were distributed in January 2004.

USPACOM J4 is now exclusively using their SPPS SECRET Internet Protocol Router Network web site. Info related to in-transit visibility, automation tools, and

information management is posted on the J41-log systems web page. In their TF 04 Log CROP observations message, USPACOM J4 stated: "Overall, J4 finds the CIE tools valuable and with great potential for future collaborative efforts. Our findings as we look at the watchboard will be fed to DISA and joint staff to incorporate in the GCSS watchboard."

Based on validation of the developmental work, the watchboard is now being incorporated into future releases of GCSS-J. It is hoped that during the future development of the Log CROP concept and future prototyping activities, USJFCOM efforts will contribute to enhancing future developments in GCSS-J.

In USJFCOM, the Joint Logistics
Transformation Center of the Joint

Experimentation Directorate (J9) has responsibility for furthering the development of the Log CROP concept and CONOPS.

Logistics personnel from USJFCOM J3/4, J7 [operational plans], J9, and the SJFHQ(CE) Logistics Group work together to synchronize the developmental activities related to Log CROP, and determine its impact on future doctrine, organization, training, materiel, leadership, personnel, and facilities (DOTMLP-F). USJFCOM will continue to work with JCS J4, DISA, and the combatant commanders to stay abreast of the changing logistical information requirements, and that will in turn help to develop the technological enhancements that will better support the warfighters in future operations.

About the Author

Ron Bullard is the Logistics Operations Group Chief for the Standing Joint Force Headquarters (Core Element). He is a retired Army Ordnance Officer with nearly 30 years of active duty service. He is a graduate of the Army Command and General Staff College and the Industrial College of the Armed Forces. He possesses a BS in Business Administration, MA in Management and a MS in National Resource Strategy.

An Overview of Internal Training: Maintaining Individual Proficiency Within the SJFHQ (CE)

William F. Barns
Maritime Operations Officer/Internal Training
Coordinator

"Continuous training and exercise support is essential to the success of the Regional Combatant Commander's C2 readiness and SJFHQ operations. Internal and external training focuses on applying lessons learned, improving use of collaboration and decision support tools, understanding command relationships, and improving lines of communication."

Standing Joint Force Headquarters Prototype
 Concept of Employment, pg. 2-5, 25 JUN 03

In his landmark book, The Seven Habits of Highly Successful People, Stephen Covey identified "sharpen the saw" as a necessary practice in order to maintain one's edge during daily life and work.1 Duty within the Standing Joint Force Headquarters (Core Element)(SJFHQ (CE)) demands similar discipline: conducting effects-based planning, maintaining day-today situational understanding, fully leveraging a collaborative information environment (CIE) to enhance command and control (C2) capabilities, building and maintaining operational net assessment (ONA) products, and conducting/participating in training and exercises - all daunting tasks - (not to mention numerous collateral assignments), can fill one's calendar with minimal remaining white space. In many ways, establishing proficiency with these transformational, enabling capabilities is similar to learning a new language and vocabulary. Additionally, these skills are perishable; they require periodic refreshing, or "sharpening" for the user to be proficient and relevant. Unlike the woodsman that Covey describes as too busy to take time to sharpen his dull implement and continues to labor to the point of exhaustion, a comprehensive training strategy, complete with necessary rigor, is in place within the SJFHQ(CE) to maintain its organizational edge. This useful approach is contained in the (Draft) SJFHQ(CE) Standard Operating Procedure (draft SOP) and identifies

the essential components to attain and maintain competence.² Self-study, peer instruction and on-the-job training, and participation in training and exercises are essential elements of this stratagem, and can be useful to achieve this end. This article provides a brief overview of each of these basics and their interrelationships.

Self-Study

The Required Reading Program. Orientation and proficiency training commences when the SJFHQ(CE) welcomes a new team member onboard. Prompt completion of a comprehensive required reading program by each individual is imperative: it is the primary means to promote familiarity with the enabling capabilities and serves as a foundation for all that follows. Through the process of reading, comprehending, questioning, and then relating the functional set pieces to their appropriate joint context,³ the reader can begin to appreciate their relevance immediately. Sample assignments from this program include reading and understanding the concept of employment (CONEMP) and standard operating procedure (SOP). The first two publications, the CONEMP and draft SOP, are the initial installments in a family of documents that make up the organization's doctrinal underpinnings; the first of the SJFHQ(CE) tactics, techniques, and procedures (TTP). These are complemented by the USJFCOM (J9) Joint Concept Development and Experimentation concept primers on Standing Joint Force Headquarters (SJFHQ), collaborative information environment (CIE), effectsbased operations (EBO), operational net assessment (ONA), Joint Interagency Coordination Group (JIACG), and others; and offer a concise explanation of these enabling capabilities in logical, comprehensive formats.⁴ In addition to being appropriate scene-setters, these documents are consulted periodically as reference material and are available electronically.

Use of the Web Portal. Another viable means to continue one's self-education is by asynchronous collaboration; i.e., through use of the web portal. Here briefings, documents, working papers, and other items are posted and provide a gateway to numerous useful information resources. The material located here can be accessed on-demand by an individual; as the need for research arises, or an opportunity to conduct refresher training emerges, this technique is available to accomplish the mission. Offering flexibility and ease

of retrieval for a variety of information, mastering this method is a prerequisite for success in the SFJHQ(CE). Familiarizing oneself with the postings, navigating through the pages, and managing content can improve one's situational awareness; situational understanding can be likewise reinforced.

The SJFHQ(CE) site is located on the SJPRNET at: https://sps.pc4i.sjfhq.jfcom.smil.mil/PC4I-Admin/Portal/Engagement/Training

Directions to request password/access are available through the account request selection option.⁵ Once established, this account becomes a literal knowledge portal offering the user an essential glimpse into untold references and links. Figure 1 below shows an extract from this site and its topic areas.

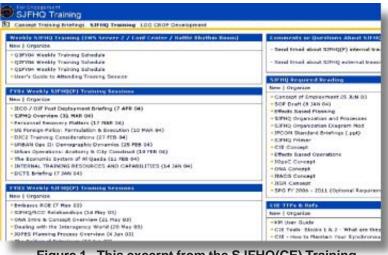


Figure 1. This excerpt from the SJFHQ(CE) Training Page demonstrates the wealth of information available upon access.

One of the most practical and user-friendly features of this site is the "how-to" substance contained in the CIE TTP and references web part. In addition to such features as an explanation of the CIE block I and II tools and the Knowledge Management (KM) User's Guide, step-by-step instruction is also contained on document check-in/check-out and sharing, desktop screen management, etc. These lessons learned are particularly useful when preparing to participate in collaborative meetings, extract information, or to establish and/or maintain one's presence in the CIE.

Additionally, both past and future training schedules are maintained in this location. By accessing this page a user has the ability to pull down the long-range agenda, then has knowledge of a future training session, and can plan accordingly to join in. Finally, there is an email address to provide feedback and/or submit questions to the internal and external training coordinators.

Peer Instruction and On-the-Job Training

Daily CIE Operation. To further increase individual aptitude and technique, daily skill enhancement occurs while operating in the CIE. Proficiency is developed in tandem: by learning from one's peers, as well as through on-the-job training. Duty in the SJFHQ(CE) provides abundant opportunity to accomplish both. For example, through synchronous and asynchronous collaboration, navigation, document and file management, communications – and more importantly – collaborative

performance improves. With each successive file transfer, document extraction, web access, etc., the power of collaboration is simultaneously demonstrated and reinforced. Individual readiness improves and, as a result, organizational effectiveness is enhanced. Users are encouraged to maintain their presence in the CIE so that they may be invited to participate in brief working sessions as their expertise is required (i.e., "on demand"), while adhering to their daily routine, and then returning to performance of other functions.

Similarly, at least three times weekly, staff briefings are conducted in a virtual environment. Preparation for these events is enabled by one's peers and through

hands-on instruction. Updating information, slide preparation, and coordination for sequence of presentation along with other tasks — individually and collectively — promotes one's competency in the CIE. During updates to the director, the deputy, and others, the senior leadership is briefed, information exchanged, guidance provided, and decisions made – efficiently and effectively. As a result, each participant in the meeting is able to boost his or her professional awareness and level of knowledge of collaborative tool use, as well as protocols.

Group meetings for working level tasks provide an ideal training venue for practical skill development and improvement. For instance, the operations chief may choose to hold a working meeting to discuss adding content to the operations web portal. He would choose the collaborative tool (e.g., InfoWorkSpace (IWS), or the Defense Collaborative Tool Suite (DCTS)), announce the meeting, appoint a moderator and note taker, and then get to work. The respective operations officers (air, land, maritime, special operations (SOF), and fires), in turn would be responsible for holding the necessary instruction for those who require it to access the system, conduct communications checks, brush-up on tool use, obtain the appropriate reference material, and contribute! Through peer instruction and individual assistance, training and (more importantly) learning, has been accomplished.

Participation in Training Exercises

People learn in a variety of ways. Some can read a complex, technical document and gain a precise understanding of the material at first glance. Others can listen carefully to demanding instructions, mastering the subject matter by exposure alone. Still others require hands-on reinforcement in order to gain full comprehension. Learning in a collaborative environment is enhanced by all of these diverse methods in order to ensure that a particular training objective is reinforced. By participating in training and exercises, these concepts and capabilities are formalized as part of a comprehensive training strategy.

Standardized Weekly Training. Regular weekly training for all hands is a pivotal component of the formal training program. Periodic refresher instruction is required in order to support sharing information and experiences among a wide audience as the SJFHQ(CE) enabling and transformational capabilities are implemented. This habitual training moves to paramount importance as the impact of personnel turnover is felt, due both to planned rotation and in response to unforeseen operational requirements. Conversely, as individual skills atrophy, preventive and/ or corrective measures may be put in place. A quarterly training agenda is an effective means to efficiently manage this plan and execute the program. Weekly 90-minute sessions, facilitated by in-house or external subject matter experts (SME), are appropriate to meet these objectives. Underscoring support for this means of instruction, the Director of the SJFHQ(CE) recently communicated an additional benefit to his counterparts: "I am committed to providing forums for continuing education in SJFHQ(CE) disciplines in collaborative sessions like these. We can use these forums to exchange good ideas as experience with this weapons system grows."

Representative topics from the previous quarter's weekly sessions (which are by no means limited) are included in Figure 2. Originally derived from an exercise after action review that identified areas requiring additional training, the training program was developed. This orientation's basic design promotes sequential exposure to, and understanding of, the enabling capabilities. As an example, the quarter begins for the training audience with: a collaborative tool's capabilities (in this case DCTS); review of a suggested approach to training and skill development (resources and capabilities); exposing the group to interagency and other considerations (economic system, urban operations parts

<u>Topic</u>	Facilitated by	Date
Defense Collaborative Tool Suite	Dean Worster	1/07
Training Resources & Capabilities	Bill Barns	1/14
New World Disorder	Curt Morris	1/21
Self-Study	Jim Beck	1/28
Collaborative Rules & Practices	Mike McGongagle	2/04
Economic System of Al Qaeda	Rafael Fermoselle	2/11
Urban Operations (Part I)	Houston Tucker	2/18
Urban Operations (Part II)	Houston Tucker	2/25
Collaborative Planning Demo	Steve Roth	3/03
ONA Database & Plng. Tool	Cecil Johnson / Mark Seeley	3/10
Personnel Recovery Matters	RB Braunhardt	3/17
Semi-Annual Trng. Event	Bill Barns	3/24

Figure 2. Sample Table of Quarterly Training Schedule
This is a sample of the training actually scheduled and conducted for the
second quarter FY 2004. SME from the SJFHQ(CE) and Blue Cell facilitate the
discussions each week. Sessions are conducted in a virtual auditorium and
then stored for future reference and review.

I and II); and conducting a simulated planning session (collaborative planning demonstration).

The sessions are conducted in a "virtual auditorium" using the collaborative tool IWS. Holding training in this sort of environment has several incentives for the participants. First, as with a physical meeting, a large group may obtain briefing material simultaneously; this ensures that everyone receives the same transmission as the speaker intended. Next, real-time feedback may be provided to the presenter; questions about the presentation or discussions on a related matter may be posed and answered interactively. Finally, just as a physical briefing may be recorded, a virtual set of slides and audio files can be constructed as well. Whether one could not attend the original presentation, or wishes to review one of the previously conducted sessions at a later time, the presentations are catalogued ("searchable" also) and made available through the web portal.

The aim of training and exercise participation is to increase the training audience's familiarity and conceptual understanding of SJFHQ(CE) enabling capabilities. Whether enhancing skills at the individual watch station, facilitating the organization's operational efficacy at the Regional Combatant Command (RCC) or joint task force (JTF), or sharing information with a center of excellence, opportunities abound to promote general knowledge enhancement while refining practices and procedures. Recent participation from personnel assigned to SJFHQ(CE) in "the field" has added significant realism and relevance to the instruction.

Semi-Annual Training Events. The final component of the training program in the SJFHQ(CE) is the design and execution of semi-annual exercises. In an effort to maintain individual and collective proficiency and integrate new concepts, a semi-annual training event along the lines of a spiral or limited objective experiment is necessary.⁸ Figure 3 identifies guidelines for fundamental

Semi-Annual Event Training Objectives

Practice SJFHQ(CE) staff processes at the RCC level Transition from in-garrison status to forming as a core of a JTF Exercise Effects Task Order creation methodology Refine ONA procedures Exercise Effects-Based Planning constructs

Exercise CIE processes

Figure 3.Sample Training Objectives for a Semi-Annual exercise designed to flex the SJFHQ(CE) training audience.

training objectives for this type of event; naturally others can be added in order to stress a particular functional area, or emphasize a specific concept.

Past exercises have involved maturation of the capability an SJFHQ(CE) integrates into a commander's organization. In March 2003 for instance, the SJFHQ(CE) conducted a mission analysis and course of action selection against the backdrop of a complicated operational scenario as a directorate on the RCC staff. In September that same year, in a limited objective experiment centered on CIE (prototype) tools, the SJFHQ(CE) provided an inclusive look at several experimental tools in the execution of its mission at the RCC. The March 2004 event was centered on ONA instruction for those personnel newly reported, while future events will focus on the transition to a JTF and redeployment, along with adaptation of lessons learned to TTP as experience with forming the organizations is gained. As interactive, computer-based instruction for the SJFHQ(CE) enabling capabilities develop, overall level of knowledge will grow while efficiency and diversity in exercise possibilities will increase correspondingly.

Conclusion

It is clear from recent events that joint operations take place in complex operational environments. The complexity of these operations deepens as multinational coalitions form and interagency community partners are called to participate. The truth of the matter is that it is incumbent upon those who plan, and ultimately carry out joint, combined, and interagency operations, to have a full understanding of a systems approach to the battle space. That understanding comes through improved situational awareness, followed by true situational understanding, rigorous mission rehearsal, and in-depth knowledge of the commander's designated focus area prior to a crisis unfolding. Recognizing which potential collaborative partners can and should be included in

the effort is essential as well.

Training is the key to mission success in these instances, as with all operational requirements. Establishing a disciplined approach and a comprehensive training strategy that allows individual and collective talent, both resident in and external to the Standing Joint Force Headquarters, to flourish is an investment that will yield considerable and positive dividends.

End Notes:

- ¹ Covey, Stephen R., The Seven Habits of Highly Successful People, Fireside: New York, 1989.
- ² (Draft) Standing Joint Force Headquarters Standard Operating Procedure, Tactics, Techniques & Procedures, 8 January 2004.
- ³ By extension this notion would apply to combined and interagency operations and exercises as well.
- ⁴ The actual reading order is: Primers on SJFHQ, EBO, CIE, ONA, JIACG, followed by Rapid Decisive Operations White Paper, SJFHQ CONEMP, EBO White paper, EBP TTP, ONA CONOPS for MC02, Interagency Operations in Support of Rapid Decisive Operations (4/10/01).
- ⁵ Click on CIE Guide to request a new user account.
- ⁶ This example was written using the Operations Group; it could also apply to the Plans, Knowledge Management, Information Superiority, or Logistics Groups as well.
- ⁷ RDML Richard O'Hanlon, USN, Director, Standing Joint Force Headquarters e-mail to the field, 26 FEB 04.
- ⁸ Draft SOP, pg. 3-12. A bonus advantage of the training program is the improved staff relationships and attendant

interaction that result. With successive iterations of these events, a number of opportunities are presented to train the internal staff of the SJFHQ(CE) on techniques and procedures for deliberate and crisis action planning, ONA development and use, integration with a JTF and execution of military operations.

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Standing Joint Force Headquarters In the Political Military World

John Eldridge Political/Military Planner

From its inception, the development of the Standing Joint Forces Headquarters (Core Element)(SJFHQ(CE)) has recognized the need for the planning process to go beyond the traditional military lines. In today's environment, national endeavor seems to always aim well beyond any straightforward defeat of an enemy. A description of how this is being addressed follows.

There is a strong tendency for people to seek clear-cut depictions of how historical events occur. Of particular application are the events we recall as VE [Victory Europe] Day and VJ [Victory Japan] Day. Both give us a feeling of those memorable days when the European and Pacific aspects of World War II came to an end. War is over, hostilities stop, troops come home, and peace is everywhere. We remember those events as significant, important, and conclusive. However, bringing hostilities to a conclusion did not guarantee what the future would bring. It was the lengthy and combined efforts of the Marshall Plan in Europe, and of General Macarthur and his staff in Japan, that set the stage for remarkable stability and prosperity.

Today's world is no different. Combat is avoided as long as possible... but once combat occurs, the common practice is to think that getting the shooting to stop wins the conflict. The SJFHQ(CE) incorporation of effects-based planning tries to look beyond just the combat aspects of national influence and seeks to find those non-combat areas of influence, which will cause a belligerent to respond as desired. And this desired response may be prior to, during, and subsequent to any combat operations.

The political military planner (PMP) billet was included with the 58 personnel considered in the SJFHQ(CE) initial manning. Hopefully, the PMP can bring in appropriate aspects of the non-military capabilities that are available to the nation. By including such aspects, the military considerations will become part of a larger, more complete, and more integrated national endeavor.

However, no matter how talented or experienced such an individual may be, one person cannot adequately address the multitude and variety of capabilities that exist among outside organizations. To put this into perspective, these outside organizations, commonly known as the "interagency community," include cabinet level organizations, subordinate agencies, nongovernmental organizations, international organizations, and private organizations. In fact, just about any group that can bring expertise, advice, and assets to the effort should be included.

Independent of the SJFHQ(CE) was an effort to bring the non-military capabilities and non-military considerations into the operational planning process. This effort produced the Joint Interagency Coordination Group (JIACG) concept. As currently envisioned, such a group would be present at each of the five Regional Combatant Commands (RCC) – North, South, Central, Europe, and Pacific. The group would be made up of about eight individuals representing a cross section of the agencies. Supplementing this group would be additional experts available on a temporary basis to bring specific knowledge to an exercise, planning session, or operation.

The availability of a JIACG present at the RCC on a day-to-day basis would fulfill a previously unmet aspect of the military planning process. It would provide both agency requirements and agency capabilities to the military planners throughout the planning process.

The political military planner is the main liaison between the SJFHQ(CE) and the JIACG. The PMP is in no way to be viewed as the exclusive conduit for interaction. In fact, specific members of the JIACG would be requested (as individuals or in groups) to participate in several aspects of the SJFHQ(CE) effects-based planning process. It is a big step in the right direction.

We have already learned several things from the SJFHQ(CE)/JIACG/Agency/Organization association:

First, organizations have their own arrangements as far as internal structure and how they view the world. For example, the five RCCs are responsible for regions that may not match specific regions used by other organizations. As a result, the internal personnel structure will reflect the overall regional divisions, causing a mismatch among individuals responsible for specific areas.

Second, the military can easily shift from the unclassified into the classified mode. Most military personnel have a security clearance and the planning effort gets classified at an early stage. However, most of the agencies work at the unclassified level, which brings security aspects into any collaboration effort.

Third, the agencies have an immense amount of talent and expertise... particularly in those areas where the military has none. Examples include: establishing a monetary system, setting up an interim government, and running elections. The goal is to bring such considerations into the planning process as early as possible...so that if the need for combat operations arises, there are minimum effects on the post combat recovery.

Finally, organizations and agencies aren't operating in idle – just waiting to be tasked. They are fully employed in pursuit of their own tasks. The military has similar tasks, but enjoys the benefits of being able to shift priorities and personnel fairly easily. Agencies are not quite as flexible due to their size and the nature of their ongoing work. However, the ability to collaborate via computer technology (a significant improvement over video teleconferencing) enables the agencies to actively

participate in planning sessions without relocating to a physical meeting. This technology will allow the JIACG to bring in additional experts in a timely and cost effective manner.

In summary, combat operations are great for stopping whatever is happening that is contrary to national imperatives. However, the termination of combat operations does not guarantee the future. Careful, early, and insightful merging of the political and military processes offers the best chance for enduring stability. The political military planner, linked to the JIACG, should bring this merged process into the SJFHQ(CE).

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Lessons Learned in SJFHQ(CE) Implementation: Knowledge Management

Michael McGonagle Knowledge Management Director

Introduction

Information overload stresses decision makers while they work to plan and control operations – this stress degrades the ability of the senior leaders to make informed decisions in a timely manner. In order to reduce information overload and achieve decision superiority, knowledge management principles and procedures must be applied.

It is important to define knowledge and knowledge management (KM), particularly in regards to military operations, before we go further.

- 1. Knowledge is not the same as information.
- 2. Knowledge cannot be posted or stored information can be.
- 3. Achieving knowledge requires the acquisition of data and conversion of that data to information. When combined with judgment and experience, information becomes knowledge. Beyond knowledge we can achieve wisdom (understanding with insight) knowing why something happens, not just what happens.
- 4. KM is an operational discipline, not a technical or communications function. Knowledge managers are similar to battle captains or tactical action officers not communications officers. KM is focused on providing actionable information to key decision makers. In short, providing the right information to commanders and key decision makers at the right time and in an understandable and usable (actionable) format.
- 5. KM is more than information management. The primary concern in information management is making sure the right information gets to the right person at the right time. KM goes a step beyond information management by placing the information in the right context to make the information usable

- to the decision maker; converting raw information into actionable information.
- 6. KM includes all processes involved in the creation, receipt, collection, control, dissemination/sharing, storage, retrieval, protection, and disposition of information. KM also includes processes used to organize information and determine its applicability to a specific person, element, or larger process.

Knowledge Management and Knowledge Management Officers

The purpose of knowledge management, particularly in military operations, is to:

- Assist the Commander and key decision makers in knowledge discovery efforts to achieve situational awareness (SA) and understanding (SU), and information superiority.
- Continue coordination amongst headquarters (HQ) elements to facilitate free flow of knowledge (breaking organizational stovepipes).
- Prevent anarchy (provide discipline) in the collaborative information environment (CIE).
- Eliminate (or reduce) information stovepipes.
- Provide net control and discipline.
- Reduce redundant knowledge requests.
- Control bandwidth optimization (through operational processes and procedures).
- Process codification.
- Train the HQ and component staffs.

One of the keys to successfully achieving this purpose is written guidance that defines the information flow processes and exchange procedures. Publishing this guidance in a clearly stated and detailed knowledge management plan (KMP), as a directive from the commander, is crucial to successful KM. Unlike a traditional information management plan, the KMP applies to all information collection, storage, and sharing across the joint force, throughout the spectrum of operations – from pre-crisis through crisis resolution.

A comprehensive KMP reduces the risk of introduced uncertainty and ambiguity in decision-making by documenting effective processes and procedures. Its development is the result of a combined effort by the entire staff; it covers those procedures, pathways, and systems that support information needs of the entire command.

The primary annex to the KMP is the collaborative rules and practices (CRandP) (formerly called business rules). The CRandP cover templates for files, file naming conventions, log-in naming conventions, file storage taxonomy, and distributed collaborative meeting instructions.

The CRandP also specify fallback procedures in case of system failure. These procedures outline secondary and tertiary collaborative tools, as well as the expected degradation in collaborative capability if we are required to move to those positions. The procedures also lay out the decision criteria for movement to these fallbacks, and the notification procedures to ensure all participants are aware of the fallback.

The chief of staff is the senior official charged by the commander with directing, synchronizing, and supervising the staff; as such he is principally responsible for KM within the headquarters. The chief of staff cannot accomplish this mission alone and thus uses knowledge management officers (KMO) as his primary KM practitioners.

The primary focus of the KMO is keeping the commander and key decision makers, across the command, informed. They must continually work to ensure that information stovepipes are broken down and that information freely flows throughout the joint force. To accomplish this mission, KMO understand the joint force mission and commander's intent, as well as the joint doctrine supporting the operations. They must also be familiar with the technological systems used for obtaining, storing, and conveying information.

Collaboration - Purposes and Means

Collaboration is a critical component of KM. Since knowledge cannot be stored on a webpage or hard drive, we must collaborate to share information to achieve knowledge. Webster's Dictionary defines collaboration as a process of working jointly. We define collaboration

through its purpose. Practical examples of these purposes are:

Sharing of ideas and information

- Course of action development
- Wargaming a course of action

Issuing guidance and intent

- Issuance of planning guidance
- Issuance of the commander's intent

Expert evaluation of issues

- Coordinated response to time-sensitive targets
- Knowledge requests

Rapid transfer of data, information, and knowledge

- Component reporting to the headquarters
- Notification of alert information (tactical ballistic missile (TBM) launch information)

There are two basic types of collaboration: synchronous and asynchronous. Synchronous collaboration is most often characterized as a conversation. It is the sharing of ideas with instantaneous feedback from the audience or other participants.

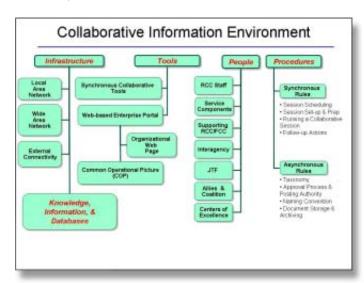
Asynchronous collaboration allows you to reach out to a much broader group of participants, and allows for much greater detail in the collaboration. You must however, wait for delayed feedback to complete the collaboration. Web-posting of information and e-mail are examples of asynchronous collaboration.

You will probably use a combination of these collaboration types to accomplish your missions. You may begin by holding a synchronous collaborative session to initially develop a product. Participants may then take that product back to their own organizations for review and comment; this delayed feedback provides a more thoughtful review, but requires time.

We have seen that when we speak of collaboration in military operations, people at the regional commands instantly focus on synchronous collaboration. They focus on the synchronous tools available and the capabilities of those tools. What they often overlook is that some of the processes and procedures for asynchronous collaboration they practice on a daily basis are still applicable, and serve their needs far better than any synchronous tool could.

The Collaborative Information Environment

The CIE is much more than a set of tools and associated infrastructure. The CIE is comprised of five basic elements: infrastructure, tools, information, people, and processes. These elements must all be in place (or available) for an active CIE to exist.



The CIE allows the warfighter to share information and ideas, while developing plans with components and higher headquarters. Planning in this collaborative environment will result in a better understanding of the commander's intent and a greater consensus in the plan since the components were directly involved in the plan development. Dynamic planning in the CIE will significantly reduce the planning timeline.

Planning and Operations in a Distributed Collaborative Environment

There is a huge difference between general collaboration and conducting military planning and operations in a distributed collaborative environment. General collaboration allows for the sharing of ideas without the physical gathering of people. A distributed collaborative planning and operations environment requires the ability for potentially large numbers of personnel from varied locations, some possibly thousands of miles apart, to have access to the collaborative toolset.

In a distributed environment, true participation is not limited to those in close physical proximity to the HQ. We have access to key decision makers and senior leaders much earlier in the planning process. We share (rather than disseminate) information, thus increasing the

level of situational awareness (and potentially situational understanding) of the entire command. And, we enable horizontal collaboration amongst the components.

These capabilities also allow us to rethink the entire planning process, to get away from the sequential planning we have used for years, and move towards a more

integrated and simultaneous planning process. We are able to involve the combatant command staff and the staffs of the Service components, supporting functional combatant commands, and US Government departments and agencies. When a JTF is formed, the commander can involve his functional components, his higher headquarters, and can reach back to national departments and agencies. This distributed collaborative capability provides for more insightful and detailed plans; it allows the involvement of centers of excellence—both public and private; and it provides the potential for a reduction in the operational planning timeline.

Knowledge Management Implementation and Lessons Learned

Our efforts in the implementation of KM principles have been focused on several areas. Ideally, we would start with a "process site survey" to access the information exchange and flow requirements and current processes/procedures. During this site survey we would help to identify the roadblocks or constrictors to information flow. Our next step would be to identify probable process improvements. Only after this process survey step would we consider the integration of new technologies.

As we implement the SJFHQ(CE) at each Regional Combatant Command (RCC), we are finding that many have either no CIE or, at best, a partial CIE. To establish a baseline set for collaborative capabilities, we are fielding the block I CIE (formerly referred to as the Millennium Challenge 02 CIE) to each RCC. Included in that CIE is a draft knowledge management plan/CIE standard operating procedures (this document is draft because it is written as a generic KMP and may require theater specific adjustments before implementation).

A second area we are working in implementation is the establishment of a KM team. This has been particularly challenging because of the newness of KM to the military. There are no trained KMO in the military – at least none that are recognized by assignments personnel. In every combatant command we see the automatic

assignment of signal or communications specialty personnel to the KM teams. Over time and after an exercise/operation, the realization that they have assigned the wrong "kind" of people to KM becomes evident.

The third area we are working is implementation of the KM tenets and principles across the entire HQ – not just in the SJFHQ(CE). We have recommended that the chief information officer function be broken out of the J-6 and refocused from technology to KM, thus creating a chief knowledge officer (CKO) for the command. We believe this CKO should work directly for the chief of staff to ensure the promulgation of KM tenets and principles across the staff.

Our efforts to implement KM practices have not been without challenge. These challenges were not roadblocks, they were in fact opportunities to expand and advance the concept.

The first challenge we faced was a lack of understanding of the importance of KM and of the role of the KMO. The duties, responsibilities, and role of the KMO were defined in advance, but that role was not always accepted. The guidance and instruction given stated that KMO were not assigned for administrative or technical support to the headquarters; their role was to facilitate collaboration and assist in information/knowledge flow.

Another challenge was an identified need to rework the knowledge requests (KR) (formerly known as request for information (RFI)) process and define who manages that process. Our initial thought was that collaboration would so reduce the number of formal knowledge requests that we could eliminate the traditional RFI manager.

Our intent was to answer as many KR as possible in collaboration as "informal" requests, and only forward to the higher HQ as "formal" requests those that we could not answer in collaboration. The challenge came in tracking these requests, determining which ones needed to be forwarded for answers, and recording the informal requests for future reference. As a result, we reworked our KR process and tool to better support our intent. We also found that the management of these requests would require a full-time effort, not the additional duty focus of the KMO we had anticipated.

Similar to the KR challenges were the challenges regarding maintenance and management of our common operational picture (COP). The COP manager and his GCCS (Global Command and Control System) operators provide information to all elements of the joint force, but the concept of a truly integrated and synchronized COP is far from mature. Having a situational awareness tool at each workstation that gives the individual staff officer the ability to tailor his view of the COP is a requirement. The challenges come in making sure the GCCS data feed to that picture is updated and accurate.

We are continually challenged by a requirement to train and re-train on CIE tools and processes (skills become stale due to lack of practice or because of changes to systems/ tools used). Along with the tools training, we continually worked to enforce the CRandP. The CRandP provide guidelines to facilitate collaboration and the free flow of knowledge, and details format requirements to reduce bandwidth usage (in a frequently bandwidth constrained environment).

Summary

Knowledge management is focused on the commander's needs. Collaboration, both inside and outside the HQ, is a capability to assist in meeting these needs. The collaborative networks of the headquarters continually feed information to, and draw information from, the commander – as well as each other.

Additionally, the knowledge management officers working with each cross-functional team of the HQ constantly collaborate to satisfy the knowledge requirements of the HQ, and maintain the situational awareness of the key decision makers.

As we have continued our efforts to implement KM principles in military organizations and operations, we continually learn from the KM practitioners in the field, and have instituted a regular collaborative meeting for KMO from all the combatant commands. This in-process review (IPR), conducted in a virtual environment using distributed collaborative capabilities, allows the KMO from each combatant command to raise issues and concerns, and to hear how other KMO are working through similar issues.

About the Author

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Information Operations Lessons Learned in support of the Geographic Combatant Commanders and the Standing Joint Force Headquarters (SJFHQ)

Lt Col Daun "Hook" Horttor, USAF Lt Col Oliver "Ed" Schmoker, USAF (Ret)

Information Operations (IO) are critical factors in the joint force commander's (JFC) capability to achieve and sustain the level of information superiority required for decisive joint operations. The Joint Information Operations Center (JIOC), a subordinate of US Strategic Command (STRATCOM), is the joint center of excellence for IO. The IO planners at the JIOC plan, integrate, and synchronize comprehensive IO in support of JFC and national level objectives. In this article, we will examine how the JIOC is able to enhance IO while directly supporting JFCs and Standing Joint Force Headquarters (SJFHQ) Element.

The SJFHQ is the newest subordinate unified command organization to be assigned to a geographic combatant commander (GCC). According to Joint Forces Command (JFCOM), the SJFHQ's core element is a team of operational planners and information command and control specialists. This team of experts forms the backbone of the joint task force command structure. During day-to-day operations, or when a contingency requires the establishment of a joint task force, all or part of the SJFHQ element is assigned to a combatant commander and is embedded in his staff. The SJFHQ is not designed as a standing joint task force but as a

standing element that focuses on a combatant commander's operational trouble spots. The SJFHQ is the highest priority of the Chairman of the Joint Chiefs of Staff for joint concept development and experimentation. The SJFHQ staffing can be completed when the joint manning document (JMD) for each JFC is finalized. (Ref 1, more details can be found at: http://www.jfcom.mil/about/fact_sjfhq.htm on SIPRNET) Next we will take a more in-depth look at the JIOC and further define IO.

The JIOC has individual teams dedicated to the combatant commanders that provide direct support (planning and observer/trainer expertise) to the unified commanders and their appointed subordinate commanders in the planning and execution of IO. The Secretary of Defense (SECDEF) recently signed the Department of Defense (DOD) IO Roadmap which defines IO as: "The integrated employment of the core capabilities of electronic warfare (EW), computer network operations (CNO), psychological operations (PSYOP), military deception, and operations security (OPSEC), in concert with specified supporting and related capabilities, to influence, disrupt, corrupt, or usurp adversarial human and automated decision-making while protecting our own." They apply across all phases of an operation, the range of military operations, and at every level of war. (Ref 2, p. 11)

We emphasize our support on the major capabilities of IO detailed in Joint Publication (JP) 3-13 (Ref 3) which include: EW, military deception, PSYOP, OPSEC, and CNO. The IO related activities of civil affairs and public affairs are also analyzed as required. Many non-IO related activities such as communications, space, intelligence, and logistics provide significant support to IO in conjunction with other operations. While the teams are supporting the commanders' planning efforts, they discover shortfalls as well as best practices. These are captured through our IO lessons learned branch when the teams return. The next section will cover how we conduct our operational analysis and acquire the lessons learned.

JIOC Lessons Learned Operations Analysis

The JIOC analytic process is modeled on the Joint Center for Lessons Learned (JCLL) legacy Joint Lessons Learned Program (JLLP) and is compatible with their new Joint Lessons Learned Integration (JLLI). The JIOC conducts its JLLP operational analysis from

its information collection, analytic review, and evaluation resulting in archiving and dissemination of the results.

Collection: Our first step in the process is collection. Observations/lessons learned/issues (OLI) are collected and documented through: 1) web-based entry, 2) interviews with JIOC travelers, and 3) direct observation. Passive collection involves our collecting after action reports and lessons learned inputs from individual organizations after operations/training occurs. Our active collection is on location during execution in a coordinated effort to gather significant and IO relevant information. After we collect the OLI, we then analyze what we have gathered.

Analysis: In step two, JIOC lessons learned are developed from reviewing after action reports or collected observations during operations or exercises. From this analysis, determinations are made based on whether issues are caused by problems in doctrine, deficiencies in tactics, techniques, and procedures (TTP) and training; or as a result of operational employment. We conduct trend analysis by reviewing accumulated OLI to identify recurring lessons. The third step is to evaluate what we learned in step two.

Evaluation: The JIOC evaluation objectives are to develop IO concepts resulting from the analysis. IO concept development includes identifying "best practices" which we define as events that are not only good ideas, but have been proven in exercises or operations. We also identify "areas for improvement" as those deficient events that occur frequently (three or more), or have been highlighted as critical (joint mission essential tasks (JMET) impact) during trend analysis. Identified "best practices" and "areas for improvement" are the results of concepts tested and serve as the basis for IO training, education, and doctrine development. The final step is to store the lessons learned, making them available for teams before deployment and to others for retrieval.

Archive and Dissemination: We maintain the OLI in our database for long-term storage and retrieval. This relational database allows users to tailor search queries for specific requirements. There are several dissemination methods we use to deliver information in a form that is most usable to meet requirements; these include quarterly briefings, special briefings, publishing articles, special reports, database postings, and briefings for our teams before deployment.

As noted, we find that the new JLLI is flexible and compatible with the legacy JLLP. In response to the Chairman of the Joint Chiefs of Staff (CJCS) request (CJCS message 311435Z OCT 03, Subject: Operation Iraqi Freedom and the War on Terrorism Interoperability Lessons) for "high payoff lessons learned," the JIOC contributed two lessons learned as the IO input to STRATCOM's reply. These two lessons learned submitted to the Joint Requirements Oversight Committee have applicability for improving the IO activities of the GCC and the SJFHQ. These were developed from earlier lessons archived in the JIOC lessons learned database, which is modeled on the JCLL legacy program. As of 4 March 2004, the two lessons had the following status:

- STRATCOM-0008, Information Operations Enables Effects-Based Targeting: Active
- STRATCOM-0009, Qualified Personnel Essential for Effective Information Operations: J8 review and combined with CENTCOM-0005.

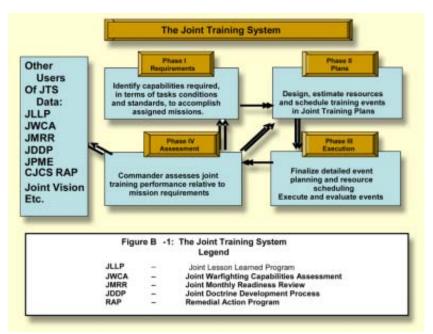
The above are just two of our 490 lessons learned held in our database.

We've discussed our lesson learned retrieval and storage process, but how do we use these lessons learned to improve our operations? We improve through training, so let's look at how the lessons learned fit into the Joint Training System and why this is important.

IO Development through Lessons Learned Contributions to the SJFHQ and JFC

As the JIOC teams deploy in direct support of the theater JFC and SJFHQ, the Center is able to enhance IO through the Joint Training System model. This process begins when the team members collect and report observations, lessons learned, and issues to identify shortfalls and best practices regarding IO. The collected best practices then serve as eligible input to doctrine and training. The shortfalls may also serve as the basis for defining required capabilities, material or nonmaterial; refining operational plans; tactics, techniques and procedures (TTP); or new training requirements. The combatant commands process the majority of these through JFCOM's legacy program based in CJCS Instruction 3150.25A "Joint Lessons Learned Program" (Ref. 4).

It's important for us to identify the shortfalls, deficiencies, trends, best practices, and proposed solutions since this is what we use to improve our training, education, doctrine, and TTP. These improvements, in turn, enhance our IO capability. Our process is to follow the four phases modeled below in the Joint Training System (Ref 7).



Phase I, Requirements. In this phase, we define the needed capabilities in terms of standards, tasks, conditions, and organizations. Each geographic combatant commander defines his own requirements based on Unified Command Plan and Joint Strategic Capabilities Plan responsibilities and guidance. The result is a list of specified and implied tasks that are translated into a mission task list using the common language in the CJCS Manual 3500.04C, Universal Joint Task List (UJTL) (Ref 5). Here are some examples from the UJTL of IO related tasks that support the SJFHQ and the JFC:

ST 5.4 Provide strategic direction to theater forces ST 5.5 Conduct Theater-Wide Information Operations (IO)

OP 3.2.2.1 Employ PSYOP in the Joint Operating Area (JOA)

OP 3.2.2.2 Employ electronic attack in the JOA

OP 3.2.2.3 Employ information attack in the JOA

OP 5.6 Coordinate Operational Information Operations OP 5.6.1 Integrate Operational Information Operations OP 6.4 Conduct military deception in support of

subordinate campaigns and major operations

This list is then further reduced to essential tasks that are indispensable to mission success. These requirements are identified as JMETs. The GCC then determines conditions, standards, and responsible organizations that are matched with each task; this list becomes the command JMET list (JMETL). The JIOC looks at the

GCC JMETL and creates our own JMETL so we can train appropriately to meet the needs of the GCC.

Phase II. Plans. Education and training requirements are developed to satisfy the needed capabilities defined in the JMETL. The appropriate training methodology is then determined and put in a joint training plan (JTP). The JIOC has developed two courses, the JIOC Introduction Course and the JIOC Joint Planners Course (JJPC), that our personnel attend to satisfy the training and education requirements. Additionally, we schedule training classes from external sources so that we can effectively support the combatant commands.

Phase III, Execution. During this phase, detailed event planning and resource scheduling are finalized and planned events are conducted, evaluated, and the results reported. The JIOC executes the two courses listed above in garrison. We also have begun taking a mobile training team to present our JJPC to the GCC, which helps them satisfy their JTP. Observations, lessons learned, and issues are then actively collected and documented by the JIOC during our training and operational events.

Phase IV, Assessment. The final phase looks at the performance of joint training, operations, and exercises. They are reviewed relative to requirements to produce mission, task, and education and training assessments. The JIOC and combatant command assessments influence JTP adjustments, and other users' supporting programs including the Joint Doctrine Development Program, Joint Lessons Learned Program, Joint Warfighting Capabilities Assessment, the professional military education system, and the Remedial Action Program.

As you can see, the JTS provides a systematic approach to training, and lessons learned plays an important role. Up to this point, we have looked at what IO is, what the JIOC and SJFHQ do, and how lessons learned fit into the JTS. We will now turn our attention to what the JIOC team members have experienced with different SJFHQ structures.

General Observations of IO at the SJFHQ

When the JIOC contributes IO expertise, it is the result of training developed from the JTS model and firsthand experience. The direct support is provided to the unified commands, joint task forces, and subordinate combat commanders as required. JIOC team members have experienced varied implementations of the SJFHQ structure while assisting the different GCCs. The SJFHQ structure detailed in JFCOM's Standing Joint Force Headquarters, Standard Operating Procedure and Tactics, Techniques, and Procedures, 8 Jan 04 (DRAFT) provides a working framework for IO under the information security group (Ref. 6). As we are looking at each of the commands, we aren't trying to compare what they are doing. We are simply trying to give them an idea of where they are currently and any roadblocks they have encountered while standing up a SJFHQ. The first command we will look at is SOUTHCOM.

- **SOUTHCOM**. JIOC personnel have recently supported SOUTHCOM during BLUE ADVANCE 04 at the headquarters and the SJFHQ, which is developing as the SCJ7. As a separate standing organization, the SJFHQ maintained good continuity with the main headquarters, operational synergy, and focus during the exercise. The IO cell within SJFHQ's Information Superiority Group was staffed with half of the positions identified in the draft JFCOM SJFHQ standard operating procedures. Further assistance is being provided in the development of the Operational Net Assessment knowledge base to support effects-based planning and operations.
- PACOM. Our most recent experience with PACOM was during exercise TERMINAL FURY.
 The SJFHQ is physically separate from HQ PACOM and is staffed at less than half of the planned level. The joint manning document (JMD) is still in development so the SJFHQ is currently staffed "out of hide." Currently, the IO cell has

two personnel and is looking to further integrate with the headquarters.

- EUCOM. EUCOM has not formally established the SJFHQ. They are currently reviewing the implementation plans that include the JMD. The focal point operations center, which is collocated with the joint operations center, provides focus on supporting high priority operations as determined by the EUCOM Commander. This should provide valuable experience when the SJFHQ is formally established.
- CENTCOM. This command has a waiver on the implementation of the SJFHQ due to ongoing operations. When the theater situation permits the establishment of the SJFHQ, many experiences from the current forward headquarters can be applied in the planning. The JIOC support has been provided at HQ USCENTCOM (main and forward) and other JTF locations within the area of responsibility.

It is apparent from these observations that each command has varying degrees of experience with the SJFHQ. However, the bottom line for all commands is that the SJFHQ may not realize its full potential until the JMDs are complete for personnel requisition rather than staffing "out-of-hide."

Conclusion

As the SJFHQ and JFC evolve, the JIOC will be prepared to provide the necessary support to each GCC based upon the new lessons that emerge along the course of development. It is through the legacy JLLP, and new initiatives such as the JLLI, which will ensure IO provides the full range of capabilities needed to accomplish the commander's objectives.

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For more information about JIOC lessons learned visit the SIPRNET website at: www.jioc.smil.mil; or e-mail: lessons_learned@jioc.smil.mil.

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SJFHQ Information Superiority Group

Ray Baker Chief Information Superiority Group

Introduction

This article examines one portion of the Standing Joint Force Headquarters (Core Element) (SJFHQ(CE)), the Information Superiority Group, and its role within the overall concept of effects-based operations (EBO). The following sections provide an introduction to the concept of information superiority (IS), a brief look at the organization for IS within the SJFHQ(CE), a short description of how the IS staff within the SJFHQ(CE) utilizes EBO, and a discussion of observations derived from SJFHQ(CE) implementation conducted to date at the Regional Combatant Commands (RCC).

Information Superiority—the Concept

What is "information superiority?" It's not new—there have been discussions in print about information superiority for years, and U.S. Joint Forces Command (USJFCOM)/J9 [experimentation] addressed the subject as far back as early 2000. Within the greater joint community, Joint Vision (JV) 2010 examined the concept, and JV2020 continued the discussion.

Figure 1 below is a one-over-the-world view of the concept at its most fundamental level.

Preserve
Protect
Degrade Disrupt
Destroy Deceive
Fecus
Protect
Information
Environment
Superiority Activities
Superiority

Figure 1. Information Superiority Concept

The left set of bars in Figure 1 represents a notional "as is" state of the information environment for a possible contingency involving the adversary country of Red. In this example, Blue (the U.S. and coalition forces) has better global command and control (C2); however, Red has better knowledge of its own country (represented in these graphs by intelligence, surveillance, and reconnaissance (ISR)). This notional state of the information environment would seem to be a reasonable depiction of an area prior to detailed US defense planning. The United States has, arguably, the best military C2 capability in the world. Red's knowledge of their own country (depicted by Red ISR), however, could very well be better than ours, particularly if Red has not been a focus of Blue collection activity.

The center set of bars show the application of "information superiority activities." What are those activities? Depending on your military specialty, you can probably come up with a number of actions that, if directed against or used to protect an information node or link, could be classified as information superiority activities. In addition to activities taken to observe Red and thus improve our own situational awareness (SA), what type of actions might Blue use to degrade Red C2? Dropping bombs on Red's C2 infrastructure comes immediately to mind, but other actions could also be taken. Any of a number of information operations (IO) capabilities are candidates for degrading, disrupting, and/or destroying Red's C2. Additionally, within the context of EBO, Blue might employ other instruments of national power in addition to strictly military or informational activities. For example, Blue could use

economic pressure to influence the commercial satellite companies that provide communications support to Red. Blue diplomats might work to convince neighboring states to cut off landline communications. Similarly, selected diplomatic, informational, military, and economic (DIME) actions could be taken as part of a coordinated campaign to decrease Red's ISR (knowledge) capability.

At the same time Blue is attacking Red's information capabilities, it is protecting and enhancing its own. Information protect and information assurance activities protect both Blue's C2 and ISR (knowledge).

Redirection of space-borne, airborne, and terrestrial assets will enhance C2. Redirection of intelligence gathering and processing assets will increase Blue's knowledge of Red.

The result of all these collective offensive and defensive information superiority-related activities is a change in the notional state. The set of bars on the right side of Figure 1 depicts the hoped-for outcome—Blue is now better and Red is worse. The delta between Blue and Red represents a level of information superiority.

That's the broad notion of information superiority. It's important to note, however, that information superiority, like air superiority, is a means to an end. In the case of IS, that end is decision superiority – a linkage clearly articulated in JV 2020:

"Information superiority provides the joint force a competitive advantage only when it is effectively translated into superior knowledge and decisions. The joint force must be able to take advantage of superior information converted to superior knowledge to achieve 'decision superiority'—better decisions arrived at and implemented faster than an opponent can react, or in a noncombat situation, at a tempo that allows the force to shape the situation or react to changes and accomplish its mission. Decision superiority does not automatically result from information superiority. Organizational and doctrinal adaptation, relevant training and experience, and the proper command and control mechanisms and tools are equally necessary." (*Joint Vision 2020*, p. 8)

More recently, The Department of Defense Joint Operations Concepts (JOpsC) contained extensive references to information and decision superiority, describing decision superiority as one of the core capabilities required of the future joint force:

"The objective of decision superiority is to turn an information advantage, i.e. information superiority, into a competitive advantage. Decision superiority uses a superior information position to create and enable highly effective actions, tactics, techniques, and procedures (TTP) or relationships that would not otherwise be possible. To facilitate decision superiority, the joint force must gain and maintain information superiority by applying joint capabilities developed *in information operations*, *in the collaborative information environment, through shared situational awareness*,

and through intelligence, surveillance, and reconnaissance (ISR)." (emphasis added) (Joint Operations Concepts, p. 17)

The JOpsC contains guidance for the organization and functions that contribute to information superiority and its supported goal—decision superiority. The organizational structure for information superiority utilized by the SJFHQ(CE) operationalizes this concept.

Organizing for Information Superiority

The original USJFCOM/J9 organization that evolved into the SJFHQ (CE) was commander centric and composed of two principal groups—plans and operations, supported by a knowledge management cell. Lessons learned from Unified Vision (UV) 2001 led to the establishment of separate information superiority and knowledge management groups. In the case of information superiority, the change was made in an attempt to focus more attention on the JV goal of achieving information superiority.

The SJFHQ(CE) has both an administrative and an operational organization. Administratively, the SJFHQ(CE) is organized into groups; operationally, it operates in cross-functional teams. The administrative organization for information superiority is called the Information Superiority Group (ISG), and its makeup is shown in Figure 2.

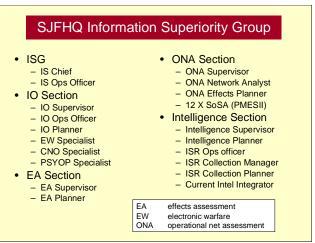


Figure 2. SJFHQ(CE) Information Superiority Group.

ISG leadership consists of a chief and an operations officer. They are responsible for coordinating all ISG activity and report to the SJFHQ(CE) Chief of Staff. The four sections in the ISG are staffed with subject

matter experts (SME) in four disciplines: information operations, effects assessment (EA), operational net assessment, and intelligence. Each section lead is responsible for administrative oversight of the section SME. In conjunction with the IS chief and ops officer, the section leads manage issues such as scheduling, budgeting, coordination of individual and group training, procedure development, and the standard staff actions applicable to any portion of the USJFCOM staff. If you refer back to the emphasized portion of the joint operations concepts definition of decision superiority, you'll see that each section of the ISG has a major role to play in that concept: IO section—information operations; effects assessment section—situational awareness; operational net assessment (ONA) section—situational awareness; and intelligence section—situational awareness and joint ISR. Moreover, all sections rely on the collaborative information environment (CIE) to accomplish their assigned tasks.

SJFHQ(CE) IS in EBO

Although the SJFHQ(CE) is administratively organized into groups, the real "work" of planning for potential contingencies in garrison is accomplished by crossfunctional, matrixed teams. These teams are formed as necessary depending on the function to be completed, and are headed by experts from the SJFHQ(CE) groups. The SJFHQ(CE) has conceived and established a number of these teams to work various issues associated with effects-based operations, and these teams are discussed in detail in the SJFHQ(CE) Standard Operating Procedures (SOP). IS personnel are assigned to both the plans and operations teams, and support all aspects of effects-based planning (EBP) and operations. In addition to providing SME to teams headed by plans and operations, the ISG is responsible for forming a team tasked with a number of specific roles in support of EBO: ONA management; effects assessment; situational awareness (SA)/situational understanding (SU); intelligence support to SJFHQ(CE) processes; and, IO planning support. The presence of IS SME on SJFHQ(CE) cross functional teams ensures that information superiority is integrated into all planning from the outset.

IS Teams

Three major variations of the basic IS team are the IS team for ONA, the IS team for EA, and the IS team

for collection management. As an example of one of these specialized IS teams, let's look at the one formed for ONA.

One of the primary roles of the SJFHQ(CE) in precrisis is operational net assessment. The IS team for ONA is the focal point for SJFHQ(CE) ONA work, and it provides the cross-functional forum required to transform a system-of-systems data base into an operationally relevant planning capability. The SJFHQ(CE) IS team for ONA is shown in Figure 3; this IS team, under the leadership of the ONA supervisor, manages the build of an ONA for the focus area assigned by the commander.

Information Superiority Team for Operational Net Assessment

- ONA Supervisor
- ONA Network Analyst
- ONA Effects Planner
- SoSA (6)**
- IO Supervisor
- IO Specialists (2)
- KMOIS
- Land Ops
- Maritime OpsAerospace Ops
- Special Ops Force (SOF) Ops
- Logistics Ops
- Logistics Coordinator

- Logistics Sustainment Planner
- Fires/Target Ops
- Planners (3)
- · Effects Assessment Planner
- Blue / Red Planner
- · Political / Military Planner
- Force Protection Planner (TBM/WME)

Figure 3. IS team for ONA

Operational net assessment is a process, based on a system-of-systems analysis (SoSA) of a potential adversary or issue, which results in a database and other products that are used by planners to produce effects-based plans and orders. The IS team for ONA, in collaboration with other RCC staff agencies, the components, and other DOD and interagency representatives, builds the baseline ONA.

The IS teams formed for effects assessment, collection management, or any of the other specific roles assigned to IS, are similarly cross-functional and task organized. It is important to note that while IS provides the focus and venue for these activities; none of them can be successfully conducted without the active participation and collaboration of planners, operators, and SME from throughout the SJFHQ(CE) and RCC staffs. The criticality of cross functional participation in effects planning and assessment activities has been demonstrated in numerous exercises – most recently by U.S. Pacific Command (USPACOM) during

exercise TERMINAL FURY. The organization and operation of the IS team, as well as lessons learned from TERMINAL FURY, BLUE ADVANCE, and other Joint Chiefs of Staff (JCS) exercises are major topics examined during the process that the SJFHQ(CE) uses to assist the combatant commanders in establishing their own SJFHQ(CE).

Observations During Recent Events

During the past 15 months, the USJFCOM SJFHQ(CE) has engaged all the regional and functional combatant commands in support of the SJFHQ(CE) implementation program. Of those commands, USPACOM, USEUCOM, USSOUTHCOM, and USNORTHCOM have already begun the process of forming SJFHQ(CE) staffs. The USJFCOM SJFHQ(CE) has had significant interaction with the SJFHQ(CE) of these four commands, as well as with an element formed in early 2003 at USCENTCOM.

General Observations

The SJFHQ(CE) adds value to the RCC staff. The value that an SJFHQ(CE) provides to the RCC – a coherently joint team focused full-time on potential contingencies designated by the commander - has already been demonstrated in two recent JCS sponsored exercises conducted outside USJFCOM. During exercise TERMINAL FURY 04, U.S. Pacific Command's SJFHQ(CE) IS Team developed an ONA and applied the principles of effects-based planning and assessment at both the Tier 1 and Tier 2 joint task force headquarters (JTF HQ) levels. Though conducted primarily as a demonstration, EA was utilized not only to focus future planning efforts, but also as a means to drive key campaign decision points. Moreover, the USPACOM and JTF staffs utilized the ONA as a means to not only identify key adversary system nodes for JTF actions, but also as a tool to identify key nodes for focusing limited Blue ISR assets - an innovation not previously utilized by the USJFCOM prototype SJFHQ(CE). Lessons learned from TERMINAL FURY, as well as USSOUTHCOM's BLUE ADVANCE and other RCC exercises, are being incorporated by USJFCOM into SJFHQ(CE) SOP and TTP to assist other RCCs as they implement their own SJFHQ(CE).

ONA is a cross-functional effort that requires the participation of the entire SJFHQ(CE). The ONA

has proven to be an invaluable tool in operationalizing a systems-based analysis of the adversary—the cornerstone of EBO. Building an ONA, however, requires dedicated effort from a broad range of expertise (both within the SJFHQ(CE) and across the RCC and component staffs) from the beginning of the analysis effort in order to provide maximum value added. An incomplete, late developing, or changed articulation of focus area and understanding of commander's objectives can collapse timelines for ONA baseline development and make the process less crossfunctional. To date, the ISG in general, and the ONA Section (including SoSA) in particular, have assumed the bulk of the responsibility in ONA development. Increased emphasis on a broader range of participation in ONA development will increase the benefits that the ONA can provide in focusing planning efforts.

J2/Joint Intelligence Center (JIC) involvement in support of the ONA process is critical. System-of-systems analysis is an area where the SJFHQ(CE) will rely heavily on reach back support. One of the key, and perhaps the major, reach back centers for such support lies in the RCC intelligence community. Early in the SJFHQ(CE) implementation process, we observed only limited J2/JIC involvement with SJFHQ(CE) processes; however, as the SJFHQ(CE) implementation within the RCC has progressed, we are seeing positive steps taken to forge partnerships between the SJFHQ(CE) and the RCC intelligence organizations.

SJFHQ(CE) and its enabling capabilities require changes in doctrine, organization, training, materiel, leadership and education, personnel, and facilities (DOTMLPF). Like any change within DOD, implementation of the SJFHQ(CE) will require supporting changes across the DOTMLPF spectrum. Using DOTMLPF as an organizational theme, a number of additional observations are listed below:

Doctrine

Transformation cannot wait for published Joint Doctrine. At virtually every training venue one of the first comments from the training audience has been that SJFHQ(CE) and its enabling capabilities are not codified in joint doctrine. While this is in large part true, it is important to note that implementation of the SJFHQ(CE) and its enabling capabilities is a Secretary of Defense (SECDEF) mandated transformational step,

and transformation is, by its very nature, revolutionary. The joint doctrine process, for good reasons, is evolutionary. Fundamentally, doctrine is what we think about the way we will fight, and, using that broad definition, SJFHQ(CE) is codified in doctrine. There have been numerous working documents published by USJFCOM that describe the SJFHQ(CE) and its enabling capabilities, and USJFCOM/J7 has published: Joint Warfighting Center, Joint Doctrine Series Pamphlet 3, Doctrinal Implications of the Standing Joint Force Headquarters (SJFHQ); and Joint Warfighting Center, Joint Doctrine Series Pamphlet 4, Doctrinal Implications of Operational Net Assessment (ONA), as the first formal joint doctrine documents on SJFHQ(CE). Additionally, USJFCOM is in the process of incorporating SJFHQ(CE) into the JTF SOP and other joint doctrine publications. The process of codifying SJFHQ(CE) within formal doctrinal publications has been on-going for over a year, and will continue as the RCC implement this capability.

The Combatant Commands want a handbook on Information Superiority. At some point during every implementation process thus far underway, the question of documentation covering information superiority has come up. USJFCOM/J9 published white papers and/ or concept papers for many of the capabilities associated with SJFHQ(CE), but no such paper has yet been published for information superiority. Joint Vision 2010, Joint Vision 2020, and the joint operations concepts address IS (and decision superiority) in some detail, but none of these publications go into the level of detail that planners and operators want and need. The JOpsC states: "The power of superiority in the information domain mandates that the United States fight for it as a *first priority* even before hostilities begin." (emphasis added) (Joint Operations Concepts, p. 17) For a first priority, little formal guidance appears to be available. The USJFCOM SJFHQ(CE) has been in coordination with USJFCOM/J9 on this issue, and we are awaiting further developments.

Organization

The SJFHQ(CE) structure and manning facilitate integration of Information Operations into operational planning. Integration of information operations with the commander's overall plan was for many years a difficult and often unachieved planning objective. IO tended to be a series of bolt on actions that

were often provided too late to be fully integrated into the commander's campaign plan. Recent operations, most notably IRAQI FREEDOM, demonstrate the progress that has been made in integrating IO into the planning process early on. The ONA offers further opportunities for integrating IO planning and provides a vehicle for early consideration of IO capabilities. ONA development efforts, such as the one undertaken by U.S Southern Command for Exercise BLUE ADVANCE, have reflected an increased emphasis on IO actions when creating effect-node-action linkages in the ONA database—reducing the "stove piping" often associated with IO planning efforts. With IO options already researched and linked to key nodes, planners employing the ONA database are provided IO options at the very outset of the planning effort. This is particularly useful during the early stages of a potential crisis when viable flexible deterrent options are being considered, and actions other than force-on-force are sought. The SoSA methodology employed by the ONA also lends itself effectively to existing IO planning tools, such as influence models (e.g., Situational Influence Assessment Model – "SIAM") or electronic network modeling tools (e.g., TELSCOPE). In a similar fashion, the ONA has been recognized as mutually supportive of the U.S. Strategic Command's evolving Joint Integrative Analysis and Planning Capability (JIAPC). The JIAPC draft concept of operations addresses the ONA at length and outlines effectively the benefits an ONA brings to IO planning and execution.

Training

SJFHQ(CE) and enabling capability training must be expanded horizontally (to the RCC staff) and vertically (up and down) in order to facilitate EBO and ONA. A fundamental tenet of both EBO and ONA is their dependence on collaborative planning. As the SJFHQ(CE) began executing its implementation tasks, it quickly became obvious that the training audience extends well beyond the relatively small SJFHQ(CE) cadre. At a minimum, the rest of the RCC staff, component staffs, and outside centers of excellence must be intimately involved in EBO and ONA activity. Consequently, they must become part of the training audience. The USJFCOM SJFHQ(CE) has identified this need and, as resources allow, has begun expanding the training it offers. As the RCC SJFHQ(CE) reach full capability, much of the responsibility for training within the RCC and components will shift to them.

Proficiency in SJFHQ(CE) enabling skills is highly perishable. Whether due to insufficient manning levels or high personnel turnover in the SJFHQ(CE), there is a need for recurring enabler training to establish and maintain proficiency. This training involves skills associated with applications and procedures such as collaborative tools, the ONA database and application tool suite, and ONA supplementary analytical tools/software, as well as recurring training in TTP.

Materiel

SJFHQ(CE)-related software and hardware are often not part of a command's approved IT inventory. The issue of collaborative tool resourcing has been raised at most, if not all, commands. The SJFHQ(CE) uses InfoWorkSpace (IWS) as its preferred collaborative tool suite. IWS is an approved addition to the Defense Collaboration Tool Suite (DCTS); however, it is an "option" that requires resourcing. In several commands, the decision has been made to stick with the standard DCTS without IWS. In addition to establishing a collaborative network, the ONA application (which rides on a sequel (SQL) server) must also be resourced and accredited. Both of these issues (IWS and ONA tools) are being resolved. In the case of the collaborative tool, the SJFHQ(CE) has successfully worked implementation USSOUTHCOM using DCTS, and, thus far, the ONA tool accreditation issue has been resolved at each command.

Leadership and Education

Implementation of SJFHQ(CE) and its enabling capabilities requires commander buy-in. Any change not supported by the top of the chain of command meets resistance at the bottom. In each command, enthusiastic acceptance of the SJFHQ(CE) and its enabling capabilities has been the direct result of senior staff buy-in. In order to ensure top-down support early in the implementation process, the USJFCOM SJFHQ(CE) kicks-off implementation training at each command with a one day senior leadership seminar.

Information on SJFHQ(CE) and its enabling capabilities needs to be added to all levels of Joint Professional Military Education (JPME). CAPSTONE, and the newly established PINNACLE, include introductions to SJFHQ(CE). Similar

information needs to be added to all aspects of JPME. Instruction in SJFHQ(CE) and its enabling capabilities must become a standard part of JPME in order to prepare officers for service at joint commands where the SJFHQ(CE) has been established and effects-based operations are being planned. In the case of information superiority, such training, at a minimum, needs to focus on ONA and EA.

Personnel

Manning to standard is a critical aspect of SJFHQ(CE) stand up. In many cases at the RCC there has been insufficient manning of Information Superiority Group positions to adequately handle crossfunctional processes. A particularly troublesome issue has been grade/rank mismatches and training proficiency. The SJFHQ(CE) structure calls for an experienced staff of field grade officers trained in the Joint Operation Planning and Execution System (JOPES). Experience to date has been that officers of the appropriate rank and experience are often in very short supply. The manning issue has been exacerbated by instances of high SJFHQ(CE) personnel turnover following major implementation events; however, each of these issues is being resolved as SJFHQ(CE) billets are formally added to command joint manning documents.

Facilities

Implementation of SJFHQ(CE) at a joint command has associated facility costs. Standing up a 60-plus person staff entity at a joint headquarters requires the identification and configuration of adequate work space. In addition to work stations, SJFHQ(CE) requirements include space for servers supporting the CIE and ONA. In the cases of USPACOM and USSOUTHCOM, the commands used new space to house the new organization. USEUCOM and USNORTHCOM integrated the SJFHQ(CE) work space into exiting facilities. Whether existing space is converted, or new space is acquired, facilities equipped with requisite C2 capabilities are necessary.

Conclusion

The Information Superiority Group, while a key element used to focus the first fight for information superiority, is just one of the tools the SJFHQ(CE) brings to bear to help the commander achieve decision superiority.

Planning to win that fight requires the active participation not only of planners and operators from within the SJFHQ(CE), but also staff from across the RCC headquarters and the components in order to incorporate decision superiority as a warfighting enabler from the outset of any planning effort. To date, the SJFHQ(CE) implementation process has been in a constant state of refinement, and several of the commands that have entered into partnership with USJFCOM in the process have already realized benefits.

About the Author

Ray Baker is the Information Superiority Chief in the USJFCOM SJFHQ(CE). Ray, a division manager for Alion Science and Technology, retired from the Air Force in 2000 after more than 30 years of service. Immediately after retirement, he joined the USJFCOM/J9 staff as a contractor in the Blue Cell, the SJFHQ(CE) precursor, and has been assigned to the SJFHQ(CE) since its inception.

System of Systems Analysis (SoSA)

Rick Wilson, ONA Effects Planner Bob Kuth, ONA Supervisor

Fundamental to the development of the operational net assessment (ONA) is system of systems analysis (SoSA), an analytic framework and process which examines potential adversaries within a combatant commander's designated focus area (a nation, region, entity, or contingency). This examination has a holistic perspective and views an adversary as a complex, integrated, adaptive system comprised of interrelated subsystems. SoSA may also examine friendly systems.

- A holistic systems perspective distinguishes itself from the more traditional analytical approach by not only identifying the nature and capabilities of the component parts that comprise a system, but also and more importantly, by examining the properties and behaviors exhibited by the organization of the system.
- SoSA analysts focus on the connections, interactions, and interdependencies between the different components of a system in order to identify system strengths and exploitable vulnerabilities as well-related leverage points, that is nodes, within each subsystem that may influence multiple subsystems and the system as a whole.

There are two major SoSA processes: (1) individual systems analysis, and (2) integrated systems analysis. Individual systems analysis is composed of five subprocesses: basic research, analysis, vulnerability identification, potential node identification, and nodal analysis. Whereas the principal product of individual system analysis is the identification of nodes within each system, integrated systems analysis uses similar subprocesses to examine the interrelationships and interdependencies of nodes, in order to identify nodal relationships between and among systems and subsystems. For the purposes of ONA, these nodes represent key leverage points within and across systems that can be influenced using diplomatic, information, military, and economic (DIME) options (incentives, as well as coercive actions) to affect adversary behavior, capabilities, and coherency of power.

Over the past three years, the US Joint Forces Command, several Regional Combatant Commands (RCC) and various multinational partners have experimented with the SoSA process, to include its application for real-world contingencies. Following are some of the key lessons learned from those endeavors:

An adversary can be analyzed holistically as an interrelated system of political, military, economic, social, infrastructure, and information (PMESII) systems. From an ONA perspective, the PMESII systems represent an adversary's sources of national power.

- Use of the PMESII systems approach facilitates initial division of the SoSA analyst workload into manageable segments, and the identification of specific skill sets needed within the team. Although individual PMESII systems may constitute "lanes in the road" for individual systems analysis, PMESII system boundaries often overlap. Integrated systems analysis examines where systems merge.
- SoSA requires a thorough understanding of the adversary's culture, social influences, government, religion, and other intangible factors which traditional intelligence estimates do not address. The sophisticated nature of SoSA requires a workforce that has an unusually broad and deep understanding of the focus area and potential adversary. Traditional skill sets that identify intelligence analysts in functionally specific specialties (e.g., imagery analysts) are not appropriate for SoSA. Regional experts, economists, political scientists, sociologists, communications specialists, and engineers are examples of required specialties.
- SoSA analysts are not intelligence collectors or producers. They rely heavily on pre-analyzed, validated information and intelligence produced by credible sources. SoSA analysts are principally responsible for synthesizing vast quantities of information from all available sources into actionable knowledge that can be properly formatted in an ONA database to expedite operational planning.
- Products prepared by SoSA analysts in support of effects-based planning (EBP) do not replicate intelligence production (e.g., current or situational

intelligence, area studies, order of battle, or center of gravity summaries). SoSA products focus on the behavioral characteristics, interdependencies, and, when appropriate, changes relating to the PMESII systems.

- The information necessary to develop the level of understanding required for SoSA is drawn from diverse centers of excellence (COE) and subject matter experts (SME). Besides intelligence, COE and SME may include government interagency, academia, industry, the public domain, and other non-traditional sources. Synthesizing the information from these sources requires sophisticated collaboration techniques and tools that are not readily available today.
- The ONA database provides users with an extremely large volume of data compiled in record entries for pre-determined data sets. SoSA analysts must follow strict business rules for entering records. Similarly, users of the database are acquainted with these business rules to improve their effectiveness in manipulating the database.
- Techniques such as link analysis, structured argumentation, network analysis, and influence modeling have applicability to depicting adversary systems. Analytic tools and applications that address tangible, physically based systems (e.g., electrical power grid) are well within current analysis and modeling capabilities. Applications that examine intangible systems (e.g., social, political, or religious systems), remain a challenge to both DOD and industry.
- Automated tools are also needed to provide multilevel information security and information assurance and to enable information exchange between diverse national databases and security domains.
- SoSA is a continuous, collaborative process that begins when the regional combatant commander designates a focus area and tasks the SJFHQ(CE) to develop an ONA. Ideally this occurs in pre-

- crisis and must continue throughout the ONA life cycle to remain relevant through all phases of a campaign. During crisis response, SoSA analysts must update and maintain their analysis at a rate at least equal to the adversary's ability to adapt. SoSA is manpower intensive and time-consuming.
- SoSA analysts must be well versed in the ONA and EBP processes because they are required to collaborate extensively within the Standing Joint Force Headquarters (Core Element), RCC staff, components, and other collaborative partners.

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