Insights and Best Practices Focus Paper

Knowledge and Information Management

Third Edition

Deployable Training Division
Joint Staff J7

May 2018

Approved for public release

This is *the Third Edition of the Insights and Best Practices Focus Paper on Knowledge and Information Management (KM and IM).* It is written by the Deployable Training Division (DTD) of the Joint Staff J7 and released by the J7 Deputy Director for Joint Training.

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Scope:
- Addresses central role of the Commander in knowledge sharing as part of mission command.
- Addresses importance of operational design and problem framing to inform KM and IM.
- Recommends use of "Knowledge Management" (KM) to enable knowledge sharing.
- Provides information sharing and information management (IM) considerations.
- Adds a new section on suggested commander guidance for effective communications.
- Adds a new section on suggested use of liaison officers (LNOs) and liaison elements.
- Adds a new section on a proposed Commander and Chief of Staff checklist for KM and IM.

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Terminology and Acronyms: Numerous military acronyms and organizational names are used in this paper. They are defined in the glossary to improve readability in the body of the paper for the intended readership.

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Disclaimer: The views in this paper are those of the author and do not necessarily reflect the official policy or position of the Joint Staff, the Department of Defense (DOD), or the United States Government (USG).

Releasability: Approved for public release.

PREFACE

This paper shares insights and best practices related to improving management of knowledge sharing and information flow to enhance timely and effective decision making. We capture these insights and best practices from the planning and conduct of operations by joint headquarters.

This paper focuses on three primary audiences:
- Commanders at Combatant Command (CCMD) HQs, sub-unified commands, joint functional components, and JTF HQs to set conditions for sharing knowledge.
- Chiefs of Staff (COS) and staff directors as they direct HQ organization and processes to support the Commander's decision-making style and requirements.
- Joint Force HQ staff as they seek to understand how to better inform decision-makers.

Five considerations:
- Share how the commander wants to receive information and make decisions.
- Instill a culture of agile, flat, and fast information and knowledge sharing both within the HQs and with partners.
- Leverage Commander-led shared visualization sessions to enable mission command.
- Deliberately manage the sharing of knowledge through organizational constructs that effectively leverage people and processes in support of decision-making.
- Assign responsibility for the development and oversight of tools and structure (IM) to share data and information across mission partners and within the HQs.

This and other focus papers share observations and insights on joint force HQs observed by the Joint Staff J7 Deployable Training Division. The DTD gains insights on operational matters through regular contact and dialogue with Combatant Command and operational-level commanders and staffs as they plan, prepare for, and conduct operations and exercises. The DTD incorporates these insights in functionally based focus papers which are then refined through senior flag officer feedback. The papers are shared with the joint force and the joint lessons learned, joint doctrine, and future concepts communities. Four related focus papers to this document are *"Joint Headquarters Organization, Staff Integration, and Battle Rhythm;"* *"Commander's Critical Information Requirements (CCIRs);"* *"Mission Command;"* and *"Chief of Staff (COS) Roles and Functions at Joint Headquarters."* These papers are found on the site noted on the inside front cover.

Please send your thoughts, solutions, and best practices to the DTD's POC, COL (Ret) Mike Findlay, as you think, plan, and work your way through these challenges. See inside the front cover for POC contact information.

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1.0 EXECUTIVE SUMMARY. Information management and knowledge sharing directly enable one of the three attributes of mission command – shared understanding – and is essential to building trust and empowering subordinates to operate at the speed of the problem/challenge.

<u>Challenges</u>:

- Operational Design: Understanding the problem, stakeholders, and mission partners to determine the framework for knowledge and information management.
- Sharing information and knowledge at the right time and with the right people to stay ahead of an adaptive adversary.
- Understanding how the commander receives information, and supporting decision-making through clear terms of reference that codify senior leader portfolios, a commander-oriented battle rhythm, and information management.
- Clearly defining and leveraging Commander's Action Group (CAG) and Liaison Officer roles and responsibilities to support and amplify Commander-centric communications.
- Including and empowering coalition and interagency partners by not over-classifying information and effectively sharing with them.
- Efficient and effective use of the many available information sharing tools and networks.
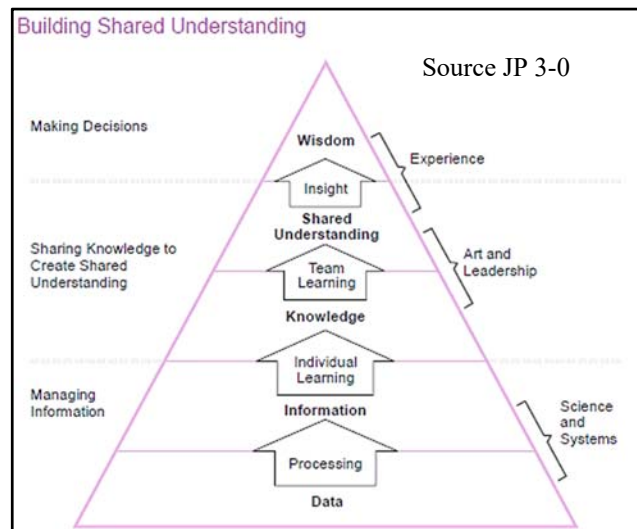
<u>Insights</u>:

- Provide <u>up front guidance</u> on how the commander wants to receive information to make decisions, including guidance on critical paths of information flow within the battle rhythm. This guidance is important during the forming stage of HQs when adhoc, trial and error development of organization and processes slow speed of decision support resulting in loss of initiative.
- Leverage <u>Commander-led</u> shared visualization sessions with partners, staff, and subordinates to open an exchange of ideas and enable mission command. These sessions go beyond traditional staff-led update briefs. Updates are often focused on historical information, not the proactive sharing of knowledge necessary for guidance, decisions, and empowerment.
- <u>Manage</u> the <u>sharing of knowledge</u> through a Knowledge Management (KM) construct that develops and oversees <u>roles and processes</u> to support decision-making. We find the COS is best postured to guide/manage knowledge sharing when he or she is personally invested in developing senior leader TOR and driving the battle rhythm. *[We advocate for the term "knowledge management" as the means to enable the doctrinal "knowledge sharing" term. KM is a term (and construct) widely used in the joint organizations we observe.]*
- Assign responsibility for IM - the development and disciplined management of <u>tools</u> and <u>schema</u> to share data and information across mission partners and within the HQs. Although IM is normally led by J6, the entire staff must collaboratively determine which tools to use and how those tools will be used.
- Provide clear guidance on the role of the CAG, LNOs, and staff communication practices including expectations for briefings, papers, and reports to share information and knowledge effectively and efficiently within a mission command construct.

2.0 COMMANDER PERSPECTIVES. Commanders emphasize the human dimension over technology (even as they recognize and leverage technology) when sharing the information and knowledge necessary for mission command and agile, timely decision-making.

Commanders have increased dialogue among the many mission partners and stakeholders to facilitate shared understanding. The varied perspectives, experiences, and expertise benefit each party better than stove-piped thinking and decisions.

The decision cycle (see figure) depicts the logical flow of how an operational commander makes decisions. Decision cycles of current operations, future operations, and future plans occur at different speeds based on their respective event horizon. A battle rhythm integrates all of these decision cycles together with functional critical path requirements (e.g., targeting) on a single time schedule to support the commander at the relevant, necessary speed.

Challenges:

- Operating at the speed of the challenges during times of uncertainty, ambiguity, and friction.
- Orienting on a future-event time horizon and resisting a current operations focus.
- Creating agile, commander-centric decision-support processes.
- Making time for reflection (and anticipation) in the battle rhythm.
- Sharing information with coalition and interagency partners.

Insights:

- Commander-led HQs outperform staff-centric HQs. Instill commander-to-commander dialogue to better share knowledge, understanding, and intent. Interact up, down, and across with leaders and staff.
- Gaining and sharing knowledge and information are aspects of behavior, not a tool or technology. Embrace a people-centric culture of sharing information and knowledge.
- Reach out to the many partners and stakeholders, both within and external to the HQs, to gain and share the knowledge needed for informed decisions.
- Share with the staff and subordinates how the commander receives information and makes decisions to focus information and avoid confusion.

- The enemy gets a vote; build a decision-making framework/architecture that facilitates speed and agility. Focus the battle rhythm on the commander's requirements; do not let it become a staff-centric, bureaucratic impediment.
- Leverage the CAG and LNOs to augment and speed commander-centric communications.
- Use commander's shared visualization forums to empower staff and subordinates.
- Share information that keeps the commander looking ahead.
- Use Commander's Critical Information Requirements (CCIRs) to communicate the needs of the Commander, focus staff efforts, reduce data overload, and enhance decision-making.
- Instill a climate of uninhibited knowledge and information sharing by continually asking, "what do we know;" who needs to know it;" and "have I told them/do they know it?"
- Lead a command culture of inclusiveness. "Write for release."

3.0 KNOWLEDGE MANAGEMENT (People/Roles). The <u>first aspect</u> of KM is the delineation of <u>key roles and responsibilities</u> to better gain and share information and knowledge.

The figure and subsequent paragraphs describe suggested roles and functions ranging across the informational spectrum (from transitioning raw data to actionable knowledge).
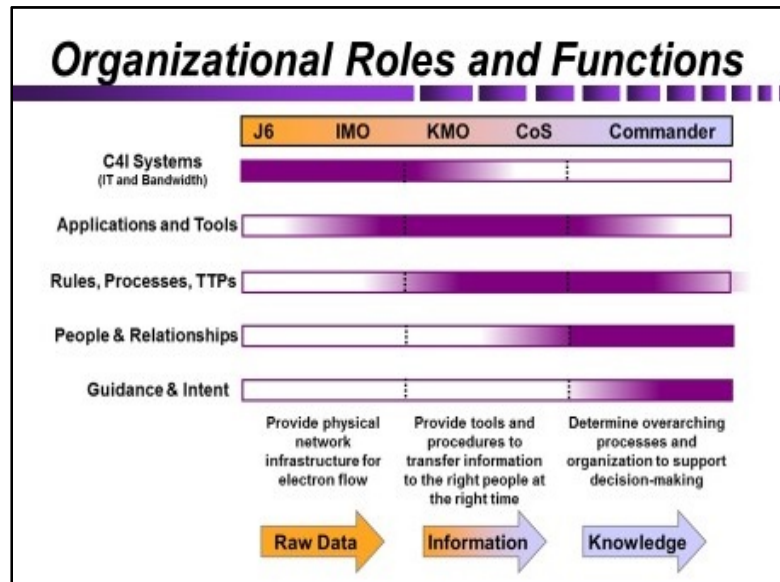
Commander. The commander instills a culture for agile/responsive information and knowledge sharing. Commander's guidance sets the dissemination policy and requirements for fast and flat information flow throughout the organization and amongst the staff. The commander shares his/her vision regarding relevant stakeholders and the need for inclusion with these stakeholders. The commander also provides guidance on: how he or she wants to receive information and make decisions; the roles and authorities of the Deputy Commander and Chief of Staff using Terms of Reference (TOR); CCIR; and desired degree of technology to support KM and IM.

Chief of Staff (COS). The COS is the staff synchronizer responsible for effectively integrating the staff and processes to support the commander's decision-making requirements. Most joint commanders task their COS with this "KM" responsibility. The COS focuses on tailoring the organizational structure, terms of reference, and a battle rhythm and supporting processes (e.g., assessing, planning, fires) to support the commander. The Deputy COS and KMO support the COS in performing these tasks (See the COS Focus Paper).

J-codes Directors. Directors play a key supporting role in the KM/IM organization by determining KM and IM requirements peculiar to their staff functions. Each director identifies and interacts with relevant external stakeholders to gain and share knowledge and information. Directors often assign Knowledge Management Representatives (KMRs) to assist in their KM and IM responsibilities and enforce KM and IM policies in their staff directorates. The J6 provides the C4I systems and provides technical recommendations on applications and tools to facilitate information and knowledge sharing.

Commander's Action Group (CAG). Joint force commanders are increasingly using their CAG to support them in enhancing commander-centric communications with HHQ and key mission partners. Most CAGs focus on the CAG's "action" function, assisting with commander correspondence and "messaging", performing scribe activities, personalizing campaign assessments, and taking a lead role in engagements and key visitor updates. We have seen commanders limiting the "initiatives" aspect of the CAG (i.e., not employing them as a Commander's Initiative Group - CIG), opting to retain this function in the J5. High performing CAGs keep the Chief of Staff fully informed of their activities and maintain open communications with the J-Dirs to prevent confusion in support of the Commander.

Liaison Officers. Exchanging LNO teams is the most commonly employed technique for establishing close, continuous, and physical communications among organizations. Establish LNOs with higher commands, supported units, and key mission partners. Consider dispatching LNO teams to multinational forces and coalition partners, the host nation, specific Embassy or Embassies, and interorganizational entities. Request LNO teams from subordinates and supporting forces at the earliest opportunity. LNOs should have the right maturity and instincts to develop trust and relationships at their deployed location. (See section 8 on use of LNOs.)

Knowledge Management Officer (KMO). Assists the COS in establishing and disseminating KM policy and guidance. The KMO makes recommendations to the COS on staff organization and processes, develops the KM Plan (KMP), integrates the public and foreign disclosure process, and exercises coordination authority over the staff KMRs. Organizations who assign a KMO under the oversight of the COS tend to be most successful in enhancing information and knowledge flow to support decision-making. Assign the KMO position as a primary duty billet rather than an additional duty. Although rank is not necessarily a primary consideration, KMO responsibilities routinely require engagement at all levels and direct backing from the COS to enforce the command's KM policies. The KMO should have operational experience and an understanding of the command's staff functions, reporting requirements, and information technology (IT) capabilities.
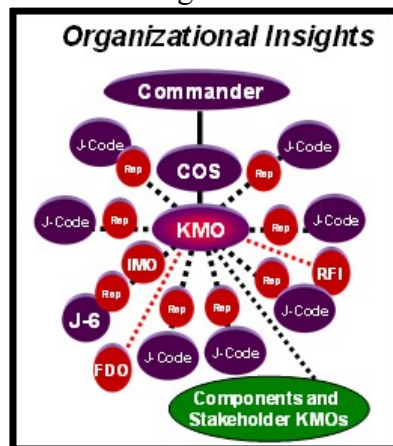
Information Management Officer (IMO). The IMO develops the Information Management Plan (IMP) and manages the rules, procedures, applications, and tools that support IMP implementation. The IMO normally works for the J6 in determining required applications and tools, provides IM recommendations for J6 and COS decision, and oversees use of information technology. We recommend the IMO be IT-focused, and part of the J6.

Knowledge Management Representatives (KMRs). KMRs are responsible for day-to-day implementation of the KMP and IMP within their respective directorates. KMRs train their respective J-code's staff and represent their directors at HQ KM meetings.

Foreign Disclosure Officer (FDO). A key official in sharing information with coalition partners, the FDO processes classified information nominated for release to non-US personnel. The FDO serves in an advisory role to the Knowledge Management Working Group (KMWG) to integrate clear understanding of foreign disclosure processes into the KMP. The FDO cannot change classification of a document; they review documents and mark them for release. Maintain a sufficient number of FDOs/FDRs to meet review and release requirements during 24/7 operations when reviewing documents for wider distribution is particularly fast-paced and challenging.

Foreign Disclosure Representative (FDR). FDRs prepare material for processing by the FDO and are typically assigned within individual directorates. To maximize partner sharing and maintain a timely flow of information throughout the HQ, consider assigning FDRs throughout the staff and ensuring trained FDRs are in each functional area.

Public Affairs Officer (PAO). The PAO is responsible for the public disclosure of knowledge and information. Works with the FDO on public disclosure.

Request for Information (RFI) Manager. The RFI manager typically operates on the Joint Operations Center (JOC) floor, and receives, assigns, and tracks the status of RFIs among the staff, subordinate units, and HHQ. The RFI management process is key to the flow of information beyond the organization; therefore, the RFI manager serves in an advisory role to the KMWG to integrate the RFI process into the KMP. We normally see the J2 maintaining a separate intelligence-oriented RFI process. Account for RFI management with interorganizational partners.

Every Member of the HQ. KM and IM are everyone's responsibilities as both support the commander's decision-making and the staff's shared understanding. Done correctly, knowledge and information management can become habits that enhance effectiveness; done poorly, it can cause confusion and even damage.

Allies and Partners. Sharing information effectively does not solely rely on technology or systems; it requires an inclusive attitude/mindset. Inculcating a bias for sharing is critical to expanding and improving information and intelligence among allies and partners. Shared intelligence leads to shared information, knowledge, and awareness that informs decisions and enables empowerment and decentralized operations. Fighting as a coalition requires transparency at all levels and in every phase of operations. Continue to pursue technological interoperability while also enhancing the human dimension of interoperability through shared visualization and trust.

Insights:
- Empower the COS as the HQ's primary staff synchronizer with oversight of IM through the J6 and lead responsibility for KM. The COS should consider designating an operationally focused KMO who works for the COS or deputy COS and supports KM. The COS should also consider designating an IMO who works for the J6 and oversees IM in the HQ.
- Develop and share the terms of reference for key leaders and personnel (e.g., J-Dir, CAG) to inform everyone of their portfolios and functional responsibilities. (See figure and COS Focus Paper for information)

CJTF Senior Leader TOR - Sample Template -				
Leadership Position	CJTF Commander	Deputy CJTF Commander	CSEL	COS
HQ Locn, Key Functions and Oversight	: :	: :	: :	: :
Engagement Responsibilities - Up and Out	: :	: :	: :	: :
Authorities & BR event responsibilities	: :	: :	: :	: :
Oversight of Supporting & Subordinate Orgs	: :	: :	: :	: :

- Recognize the importance of LNO teams and fully integrate them into the battle rhythm, staff processes, and knowledge and information sharing. (See section 7 on LNOs)
- Leverage a CAG to support commander-centric communications and knowledge sharing with HHQ and mission partners.
- Invest the resources to develop effective and efficient public and foreign disclosure processes and capability.
- Ensure the command plans for and maintains sufficient (and <u>vetted</u>) interpreter support to enable effective communication in multinational operations and with the host nation.

4.0 KNOWLEDGE MANAGEMENT (Processes). The <u>second aspect</u> of KM is the development and oversight of processes that enable and improve knowledge and information sharing. The key process is the battle rhythm, which provides structure and sequencing of actions and events within a time schedule to support the commander's decision requirements.

<u>*Commander's Decision Cycle.*</u> The decision cycle noted earlier provides a simplistic depiction of how a commander makes decisions. As noted earlier, the staff supports the commander's decision requirements across three event horizons while also gaining commander decisions within the critical paths of various joint functions such as targeting and sustainment (see figure).
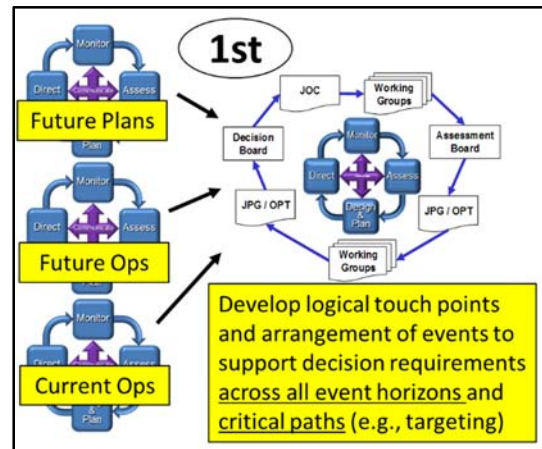

<u>*Battle Rhythm.*</u> The battle rhythm arranges key events (see figure) within a time schedule nested with external partners and focused on supporting decision requirements. A battle rhythm provides the structure for managing one of the most important resources – the time of the commander and the staff. The battle rhythm is not simply a calendar, but a coordinated, logically sequenced progression of events that supports commander's decision requirements. Nest the battle rhythm with HHQ and ensure each battle rhythm event has a defined purpose. All events should support the commander in gaining and sharing knowledge, providing guidance, and making decisions.
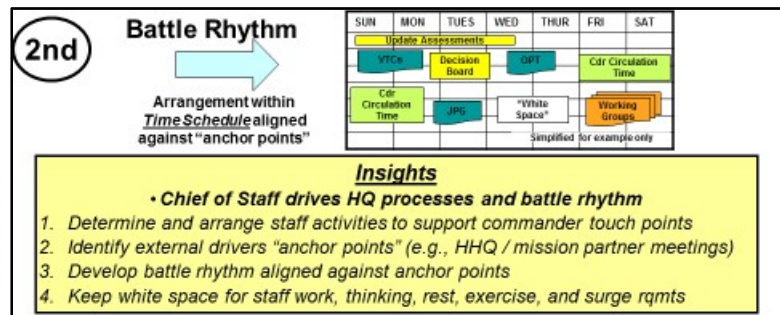
White space is an important aspect of battle rhythm. Without a conscious effort to preserve valuable time for both the commander and staff to think, work, rest, exercise, and eat, the battle rhythm can become overwhelming and counterproductive (see human performance figure) and degrade decision-making.

Battle rhythm management is a function normally led by the COS or designee (e.g., a DCOS with a KMO) due to the direct effect it has on timely decisions and accurate assessments. We are seeing more KMO involvement in assisting the COS and DCOS organize and integrate the elements of a battle rhythm. While we advocate for COS/DCOS ownership and management of the battle rhythm, we frequently see a J30 in charge of battle rhythm management during crisis and execution due to the capacity of the J30 to manage dynamic schedule changes. However, the COS must still
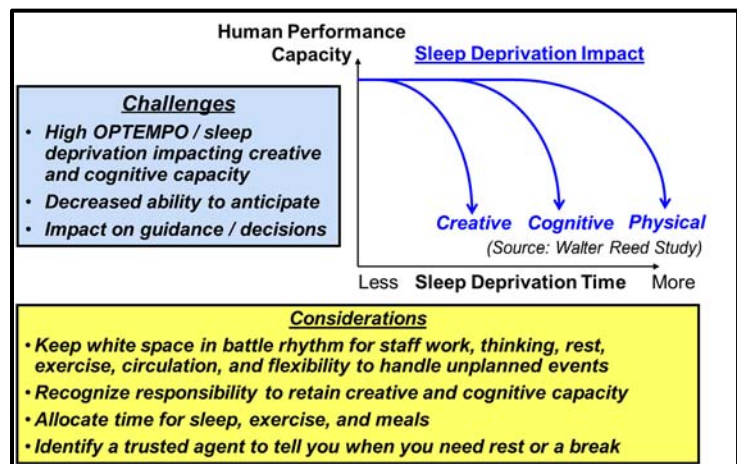
oversee this task to ensure the entire staff, not just the J3, are best serving the Commander and maintaining situational understanding.

The KM structure supports discipline of the battle rhythm by orchestrating the development and enforcement of each event within the battle rhythm through use of an event charter (or 7-minute drill). See figure. Charters/7-minute drills are typically used to establish the foundation and purpose (who, what, where, when, how, and why) of each event. The 7-minute drill also provides a means to vet the need for the event. *(The term "seven-minute drill" came from one COS's direction that the event proponent had seven minutes using a simple format, the 7 min drill,*

Battle Rhythm Events: Charter, Inputs, and Outputs

to convince the COS or designated battle rhythm manager that the event was required in the battle rhythm.)
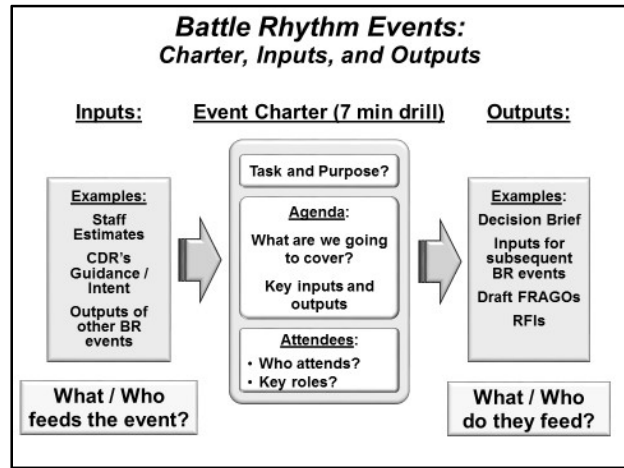
Information Flow Process and Messages. We are finding that those organizations who focus on flat and fast communications across the network (similar to the omni-directional figure) enhance understanding, speed, and ability to make informed decisions. Flat information exchange/collaboration, combined with the use of the traditional hierarchical structure (see figure) for decision, authority, and accountability lines, is key to success.

Info Sharing and Collaboration and Decision Lines
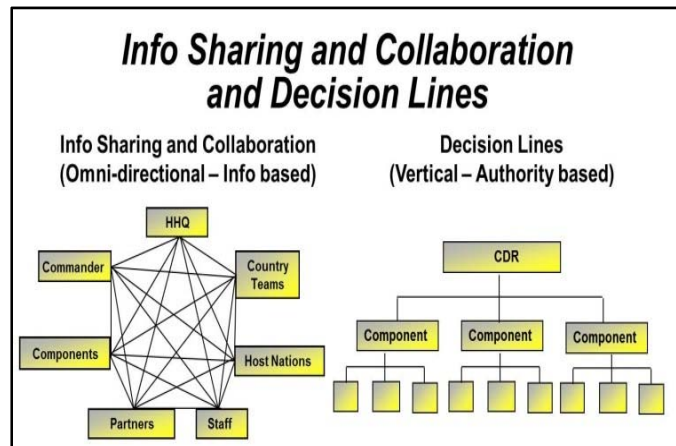
The well-known *top-down guidance and bottom-up refinement* concept complements this information flow discussion, and is another trait of successful organizations. This concept takes advantage of the information sharing and collaboration network to enhance understanding, enabling top-down guidance and intent, while allowing subordinates to develop/refine the best way to implement the guidance.

Within this construct, we find many commanders release daily FRAGOs or Intentions messages, which codify the results of this fast and flat information flow. FRAGOs share commander's guidance and intent, changes to guidance and intent, and decisions. The use of a FRAGO has benefits in reducing meeting time, enhancing coordination, and providing a record of HQ guidance and directed actions.

The COS, DCOS, and the J-code directors are directly involved in developing and refining the HQ organization and battle rhythm (See the *Joint Headquarters Organization, Staff Integration, and Battle Rhythm Focus Paper* for additional information).

Key Battle Rhythm Events:

Commander Shared Visualization Sessions (CSV). Commanders recognize the importance of sharing their visualization to empower their leaders and increase agility. They are using these commander-centric sessions to share visualization directly with higher, subordinates, and mission partners to cut through potential staff friction, and enable mission command. The sessions focus on commander dialogue, with commanders sharing their own mission and visualization of the environment to "co-create context" (using General (Ret) Dempsey's term). Shared visualization allows for empowerment of subordinates and partners, supporting decentralization of operations. The commander is then able to focus up, out, and to the future to engage, coordinate, anticipate, and set conditions for mission success.

Commander Update Briefs/Assessments (CUB/CUA). CUBs provide an example of a recurring commander touchpoint with the staff. In some cases, update briefs tend to be informational, providing a recap of past events. Ideally, briefers should ensure the information provided to the commander is relevant, gives an analysis or assessment, and shares the "so what." Touchpoints with this shift in focus to a "so what" are frequently known as a Commander Update Assessment (CUA). The commander often uses these opportunities to provide guidance, intent, and decisions across the force.

Assessment Boards. These boards focus on the progress made toward mission objectives and are another opportunity to share visualization. The introspective nature of an assessment board provides the commander an opportunity to step out from current operations into deepening understanding of the environment and progress in the broader campaign. We find that commanders leverage their subordinates, mission partners, their battlefield circulation, and their own staff (particularly the assessment staff) to gain this broader perspective. Several commanders spend personal time developing strategic (or operational) questions to help drive this assessment. A key output of an assessment board is planning guidance and commander's intent to redirect efforts as necessary.

Deep Dives. We noted earlier that time for reflection is one of the top challenges facing operational commanders. Deep dives on specific topics (e.g., the adversary, red teaming, population, power brokers, and specific challenge areas) provide the opportunity to reflect and gain commander's guidance. Deep dives are not decision forums. They focus on the reflection and thinking necessary to drive subsequent planning, assessment, or decision boards.

Plans Updates. Plans updates to the commander preserve a commander-led design and planning culture within the HQ. These updates enable the commander to gain staff and mission partner insights and recommendations while allowing the commander an opportunity to provide planning guidance, decisions, and prioritization for the way ahead. The formal plans updates coupled with informal commander meetings with the planning team keep the planning process truly commander-centric and operating at the speed of the challenges.

Targeting or Effects Boards. These decision boards provide guidance on desired effects, and integration of both kinetic and non-kinetic fires. These boards provide direction to target development, intelligence collection, approval, and force allocation – all to ensure fires are in alignment with overall objectives. They also have responsibility for interagency and coalition vetting to reduce potential for friction.

> "Plans updates are where the Commander makes a difference – in anticipating opportunities, creating shared understanding, questioning assumptions, sharing visualization, and discussing risk."
> *- Senior Flag Officer*

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Collection Management Boards. These are decision boards on intelligence collection management. The boards have transitioned from a solely J2-led event to a J2/J3-led event in order to ensure better collection are supporting operations.

Key Leader Engagements and Battlefield Circulation. KLEs and battlefield circulation are critical mechanisms for the commander, deputy commander, command senior enlisted leader, and other senior staff leaders to gain insights and assessments regarding the area of responsibility (AOR), joint operations area (JOA), or ongoing operations. The information exchanged during KLEs is typically limited to the few senior staff leaders in attendance. A deliberate process that effectively captures and disseminates information garnered from KLEs can prevent inadvertent "information fratricide" or other mistakes resulting from lack of awareness.

KM Insights:

- Stay focused on ensuring speed and agility in HQ processes to operate at the speed of the challenges.
- Develop and actively manage the battle rhythm. Logically arrange necessary battle rhythm events to support the commander's decision cycle. Each event should have a defined purpose and agenda, input requirements, output products, attendees, and 'linkages' to other events and organizations defined in their respective charters/seven-minute drills. Incorporate deep dives to focus on reflection.
- Use CCIRs to guide and prioritize information flow. CCIRs focus the staff and its limited resources to provide relevant information to support decision-making.
- Include mission and coalition partners to enrich shared understanding and enhance operational effectiveness.
- Continue to include open source and social media information in decision support processes.
- Develop a mechanism to capture and disseminate commander's intent and guidance resulting from daily update briefings, KLEs, and battlefield circulation.
- Insert white space into the battle rhythm; limit the number of working groups and decision brief events, both physical and virtual, to ensure time is available.

> One organization records and provides a written record of key battle rhythm events within two hours of the event. They post the record on the portal and email it to external partners.

5.0 INFORMATION MANAGEMENT (Tools). IM focuses on the applications, tools, schema/structure, and business rules, which support information sharing in order to optimize access to data or right to information. Tools and technology can improve IM support to the commander and staff.

Determination of the networks, databases, and software applications to be employed is important and normally a theater-level (or higher) decision. Centralization supports: interoperability across the joint force, the coalition, and with our partners; common fielding; pre-mission training; development of procedures and rules; and ease of use in the force.

Information Sharing Considerations. There is a wide gap in perception between the US and its interorganizational and coalition partners regarding the amount and quality of information we share. While every country has their own sharing caveats, the US often has responsibilities due to its common role as a lead nation. Consider these introspective questions for sharing information:

- What do we need/choose to share?
- What can we share?
- How do we share information?

Consider risk to mission and risk to force from the start of design and planning through execution.

*Networks with interagency, multinational partners, and NGOs.* Many of our partners have their own virtual networks and may not have access to U.S. military networks such as JWICS, SIPRNET, and CAC-enabled NIPRNET systems. BICES and CENTRIX enhance sharing across the military and some of our interagency partners. However, we still have some challenges in sharing information with stakeholders such as NGOs. Other agencies may not always accept US military-developed online collaboration and sharing tools such as APAN, because they have their own systems. We find that the best means to share unclassified information with these organizations is often through their own systems that may have broader acceptance across their peer organizations – so we use them.

Write for Release. As noted earlier, one of the greatest information sharing concerns in a coalition or interagency environment is the tendency to over-classify documents. This delays or prevents the release of critical information to our partners. One of the most effective methods for mitigating these information-sharing concerns is writing for release. Writing to our partners' level of classification and, if required, segregating higher classification information, gives the ability to "tear off" the releasable information for dissemination to coalition and interagency partners. Include the FDO during product development to promote rapid information sharing.

Requests for Information (RFIs). We find excellent results when the J2 manages intelligence RFIs while the JOC manages all other command operational RFIs. Use of a SharePoint portal page to manage RFIs improves shared understanding by providing visibility on what has been asked/answered (and who is asking/answering) to the broader organization. Assign a priority to each RFI submitted. Many staffs find that tracking the commander's RFIs through this same system is effective. RFIs should not take the place of routine staff coordination.
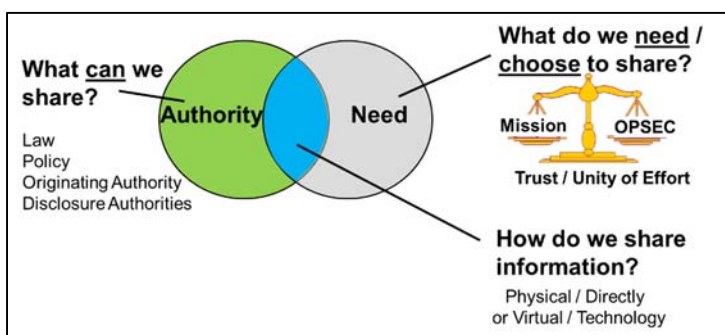
We see success when commanders emphasize an atmosphere of inclusivity and collaboration in sharing information (see figure to the right). Incorporating the unique perspectives and assumptions of coalition members, interagency partners, and sources outside military channels (such as industry and academia) can lead to a better understanding of the complex environment and the development of better solutions.
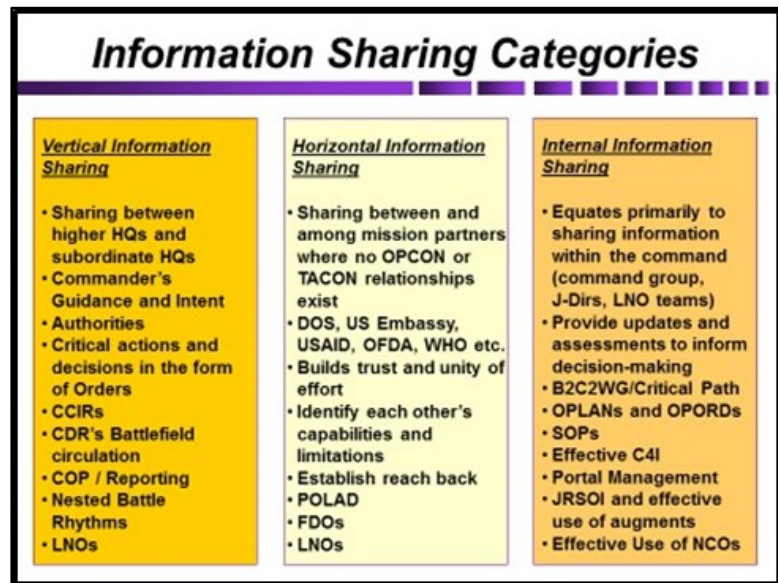
DOD has seen very dynamic growth in the development, refinement, and active use of collaborative tools. However, while new technology can provide distinct benefits, successful

Information Sharing Categories

Vertical Information Sharing	Horizontal Information Sharing	Internal Information Sharing
• Sharing between higher HQs and subordinate HQs • Commander's Guidance and Intent • Authorities • Critical actions and decisions in the form of Orders • CCIRs • CDR's Battlefield circulation • COP / Reporting • Nested Battle Rhythms • LNOs	• Sharing between and among mission partners where no OPCON or TACON relationships exist • DOS, US Embassy, USAID, OFDA, WHO etc. • Builds trust and unity of effort • Identify each other's capabilities and limitations • Establish reach back • POLAD • FDOs • LNOs	• Equates primarily to sharing information within the command (command group, J-Dirs, LNO teams) • Provide updates and assessments to inform decision-making • B2C2WG/Critical Path • OPLANs and OPORDs • SOPs • Effective C4I • Portal Management • JRSOI and effective use of augments • Effective Use of NCOs

commanders continue to focus on relationship building through personal interaction using traditional collaboration means (e.g., physical meetings, LNOs, and phones).

Machine Learning. Leverage machine learning to reduce analyst workload.

Physical Means. Schedule physical meetings with a purpose and an agenda. B2C2WG chairs provide read-ahead information, set clear objectives, control the meetings, and publish results. We recognize time is a precious resource; deliberately assigning a meeting proponent can help protect this resource. Participants must have time to prepare and to act on new information rather than going from meeting to meeting with little or no time in between. To maximize time for each scheduled battle rhythm event: post the agenda and previous minutes on the portal; assign a scribe to take notes and read back any decisions and/or new tasks for clarification; and identify an Office of Primary Responsibility (OPR), deliverable product(s), and suspense date for all tasks.
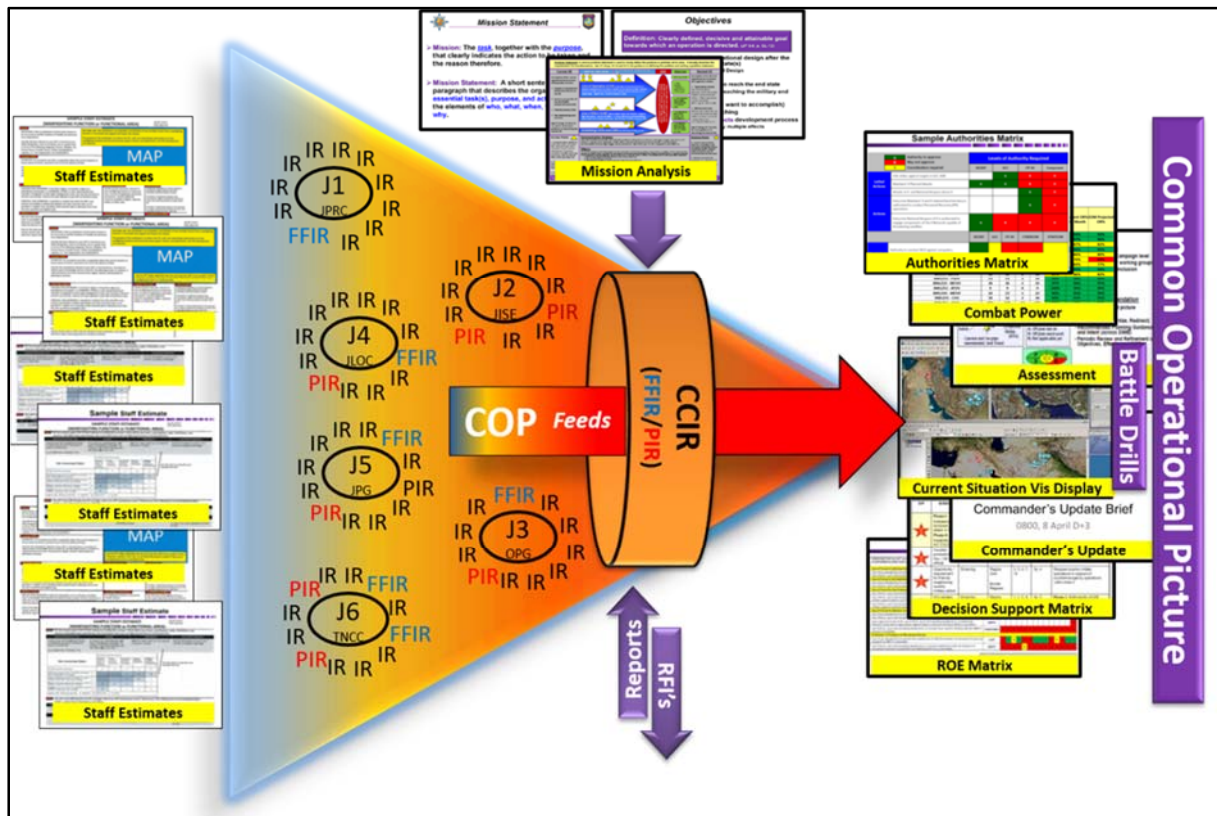
Virtual Means. Virtual collaboration augments physical collaboration by allowing geographically separated participants to work together. While traditional virtual collaboration tools such as phones and radios are familiar forms of communication, other virtual collaboration tools provide increased functionality. In the information age, commanders are taking full advantage to gain knowledge and information without having to rely on the physical presence of meeting participants.

The Common Operational Picture (COP). Joint Pub 3-0 defines the COP as *"A single identical display of relevant information shared by more than one command that facilitates collaborative planning and assists all echelons to achieve situational awareness."* Almost every staff directorate maintains some form of COP derivative (often in the form of PowerPoint slides) which

Common Operational Picture (COP) Requirements:
• What decisions do I need to make?
• What info is needed?
• How is it displayed?
- Senior General Officer

depicts functionally relevant data. When utilized HQ wide, a COP can help decision makers and action officers visualize, plan, and de-conflict operations in the battlespace in near real time. We find that CCIR can provide a focus for the COP as noted by the senior officer in the box above and the illustrative figure below. Encourage a shared approach to designing the COP and codify it in an SOP. Rehearse procedures for drilling down into the COP to support contingencies such as natural disasters, migrant flows, noncombatant evacuation operations, flight tracking, missile launches, etc. Considering the recent emphasis on globally integrated operations, it becomes incumbent on CCMDs to identify procedures for sharing their "Top COP" with other CCMD, Joint Staff, and subordinate echelons.


Web Portals. Web portals have become the primary means for rapid and effective collaboration. Consistency and uniformity across pages provide easier understanding and use. Individual functional areas should also have a limited ability within the broader construct to modify web pages based on specific functional requirements. Many SharePoint portals reside on different domains and may not be accessible to external users; account for this in the IM plan. Provide a means to share drafts in a collaborative folder, but separate drafts from approved products. Avoid use of shared drives; these prevent external users from accessing data.

IM Insights:

- Clearly identify critical stakeholders and information flows to identify necessary networks and best suited IM tools.
- Leverage flat, transparent networks to share and retain information while maintaining clear lines of authority for decision-making and responsibility.
- Identify and promulgate the primary communications network for use by the command (e.g., CENTRIXS, SIPRNET, NIPRNET, or JWICS). Alert users when passing critical information on another network. Develop processes to share information with interagency and coalition partners who are not on your communication networks.

Numerous Web Pages, Networks, and Systems

- Along with a primary network, designate the suite of software applications (IM tools) for use on the network to ensure effective sharing. These tools need to be interoperable across the network, both within the HQ and with HHQ, stakeholders, and subordinates.
- Carefully select technology and software applications that are simple and user-friendly. Account for interoperability, fielding and training requirements, and the impact of personnel turnover within the force. An adequate but well understood IT tool is more effective than a newer/complex/continually changing IT tool.
- Use an operator-friendly web page/portal as the primary digital means to share information. Combine it with simple "push and pull" information protocols remembering that posting information does not guarantee reception of that information.
- If use of multiple portals and domains is required, use link features and functions from one to the other(s), but keep one authoritative repository for specific information. Codify business rules in the IM Plan.
- Incorporate tagging and standard file naming conventions for better searchability.
- Use real-time tools to include continuous Chat collaboration for monitoring ongoing operations, situational awareness, and time-sensitive events.
- Do not use collaborative tools as the location to store record files or data. Store these key files on your web portal to ensure ease of access.
- Do not over rely on e-mail for sharing information. An e-mail-only environment may become an exclusive, stove-piped approach to information sharing and decision-making. Key stakeholders may not get e-mails or follow-on e-mails resulting in disparity in common knowledge. (See section 7 on communications)
- Provide IM tools training to the staff and enforce standard business practices.
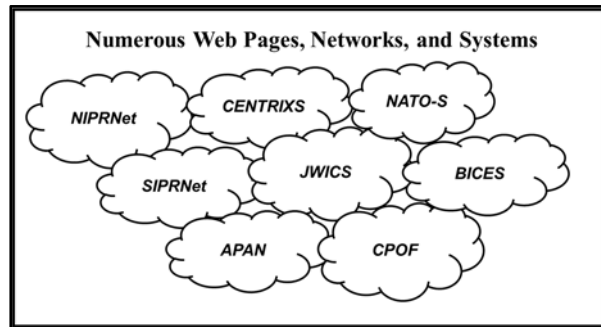
6.0 KM/IM PLANS. KM and IM plans codify information-related procedures within an authoritative document. These plans articulate not just the processes that exist (i.e., KM), but also the means/tools by which the command will perform those processes (i.e., IM). Units that invest the time and rigor to determine and codify their processes and supporting tools up front in a KM and IM plan enable more effective and efficient information flow.

Insights:

Knowledge Management Plans (KMP):
- Design the KMP to be agile and flexible to keep pace with the needs of the commander, the COS, and the changing environment.
- Be prepared for change – do not allow the KMP to become stagnant and lag behind requirements.
- Codify roles and functions of key leaders within the organization.
- Design the KMP to: gain and maintain situational awareness and understanding; share information; and collaborate with higher, lower, adjacent, and supporting organizations throughout the commander's decision cycle.
- Codify information sharing requirements and general procedures including COP management, CCIR development and refinement, and employment of LNOs (Section 8).
- Codify battle rhythm development and refinement.
- Define a procedure for maintaining battle rhythm charters/7-minute drills.
- Codify the public and foreign disclosure management process.
- Codify billet turnover procedures.
- Use working groups (i.e., KMWG/IMWG) as means to periodically review both KM, IM, and their respective plans.
- Provide training and implement procedures to enforce KM guidance and to achieve KM proficiency throughout the organization.

Information Management Plans:
- Codify information systems tools and procedures (to include collaborative planning tools).
- Codify roles and responsibilities for use of collaboration tools.
- Provide communication skills guidance (see section 7).
- Address information sharing and collaboration requirements with interorganizational agencies, coalition, and mission partners. Codify processes to gain and share information with all stakeholders who are not on your communications network.
- Codify RFI management procedures.
- Address system recovery and outage mitigation procedures.
- Codify standard business rules data and information management (file naming, etc.).
- Identify information assurance requirements and procedures.
- IMP examples are located in JP 3-33, Joint Task Force Headquarters, Appendix D. Leverage the JECC for additional examples and ideas.

7.0 SUGGESTED GUIDANCE ON EFFECTIVE COMMUNICATIONS FOR A JF HQ.

Up front: Ensure the staff and subordinates know how the commander receives information, makes decisions, and the expectations for the staff to communicate effectively.

Overarching Guidance:
- Provide a Bottom Line Up Front (BLUF). Place the main point up front – the "so what."
- Take the time and thought to determine what to say. Provide the right level of information.
- Writing must be understandable in one "quick read"- a single, rapid reading.
- Use concise communications to enhance the triage of emails, briefings, and other reports. Many people have multiple computer accounts with many emails on each system every day.
- Focus on information content of briefings, situation reports, and emails; not extraneous data.
- Write for release while understanding caveats/OPSEC considerations. Keep it a team fight.
- Rapidly move information, make decisions, and provide guidance. Develop the ability to respond quickly and with accurate information in the first report. If more time is needed to respond with accurate information, send a short response email to explain the delay. Avoid keeping people in the dark and guessing.
- Apply the three rules: "What do I know; who else needs to know it; how do I get it to them?"
- Know counterparts at other organizations; establish and maintain networks.

Guidance for Email:
- The "To" line usually includes one person -the person who needs to respond to the email.
- The "Cc" line is for everyone else, all those people in the "who else needs to know" list.
- Clearly state the "Subject" (in the subject line). Accurately describe the topic.
- In the first line of an email, clearly specify the purpose (e.g., this is for decision).
- Many people will not read a long email. Put the main point in the first line or two.
- Clearly separate key information from other information. (e.g., "above the signature block" format).
- If a document is attached, summarize the attachment in the email body in a few sentences.
- Signature blocks require name, rank, duty title, organization, and contact information.

Executive Summaries and SITREPs:
- Summaries: Limit to one or two pages. Include enough information necessary to understand the problem, provide guidance, or make decisions. Coordinate with others before release.
- SITREPS: Know and plan for the impact of a SITREP -- where will the information go, what actions or decisions will it initiate, and what is its potential impact on trust and relationships.

VTCs:
- Have a clear purpose and agenda for a VTC. A professionally run VTC garners trust.
- Build trust, credibility, and relationships through VTC conduct. Assume everyone is visible to the other participants of a VTC. Mute microphone when not speaking.

Briefings:
- Construct and execute the brief with the purpose in mind. Work to keep slides simple.
- Consider what the 3 or 4 most important things an audience should remember from a brief.
- Provide the information/knowledge in a short amount of time. Rehearse the briefing.
- Do not place classification markings on 'master' slides, place directly on each slide.
- Insert "current as of (CAO)" time, POC full name, email, and phone number on each slide.
- While briefing, provide details one or two levels below the info on the slide.
- Do not read a slide or a script to the audience.

8.0 POTENTIAL GUIDANCE FOR USE OF LIAISON OFFICERS/ELEMENTS.

Up front: Credibility is paramount! LNOs directly represent the "sending" commander while assisting the "gaining" command. LNOs know and share commander's intent, priorities, capabilities of their home organization, while relaying the atmospherics (i.e., concerns, problems, intentions) of the gaining commander. Trust equals access. LNOs must have access to the key leaders and the staff.

Employment/Placement of LNOs/elements:
- Select and place LNOs/elements to increase harmony with HHQ and mission partners.
- LNOs can help prioritize and synchronize the actions of HQ (LNOs often work for the J3).
- LNOs enable critical information (such as needed decisions) to move quickly between HQs.
- Select LNOs carefully. They should best represent their home command while advising on atmospherics, considerations, reactions, and perceptions of both commands.
- Request LNOs from subordinates and supporting organizations to increase synergy.

The importance of credibility:
- Credibility is the product of proven effectiveness, integrity, and relationships.
- LNOs represent their commander; their foremost duty is to protect their unit's credibility.
- Personal reputation is important and often measured by the willing cooperation given by the gaining HQ. If LNOs find they only get information or responses when they say "my commander wants," then their personal credibility may be less than desired.

 Access (*trust equals access*):
- Success often hinges upon access to decision makers at the gaining unit. Do not become relegated to staff bureaucracy and be caught up in staff churn.
- LNOs should have access to the commander's office. Marginalized LNOs are failing and must act to fix the situation. The "gaining commander" should feel uncomfortable holding a meeting without LNOs; they should be a great source of critical information.
- Work with the staff. The principal and other key staff at the gaining HQs are essential to maintaining/sustaining the network. Make friendships; they serve as a natural catalyst of information flow—friendships feed the atmospheric reporting needed by the sending HQ.

Specific LNO Guidance:
- Understand what to share and what to not share. Properly handle sensitive information.
- Develop and maintain networks, friendships, and trusted contacts.
- Pessimism is harmful; optimism is helpful. Maintain the correct operational attitude.
- Know the CCIRs—what has to be reported, to whom, by whom, and how soon.
- Provide information; it is part of gaining trust. Be relevant, timely, and understandable.
- LNOs operate away from their HQ. Maintain professionalism in representing your unit.
- Routinely communicate with both HQ staffs. Keep them informed, all the time.
- An LNO is also a staff officer. "Office work" is part of the job. Make recommendations.
- Do not become a JOC watch officer at the gaining HQs.
- LNOs are often "problem solvers" and should focus on solving the right problems.
- LNO work is difficult; do not lapse into a bureaucratic mindset. Maintain the edge.

HQ Staff Guidance (relative to LNOs):
- Staff personnel must interact with their staff counterparts at other HQs. LNOs are not JOC desk officers nor substitutes for expected staff-to-staff coordination.
- Over-reliance on the LNO can create an environment where staff personnel do not know their counterparts at other places. This will cause information and knowledge gaps.

9.0 COMMANDER/CHIEF OF STAFF CHECKLIST -- Design, KM, IM.

Up front: This is at best a guide/memory check in providing necessary guidance.

Design:
1. Frame and share understanding of the problem.
2. Discern key stakeholders and mission partners.
3. Identify what success looks like. Provide key questions to guide assessment.
4. Develop and share the operational approach.
5. Develop CCIR.
6. Discern critical functions the HQs will perform.

KM:
1. Commander: Provide guidance on how he/she receives information and makes decisions.
   a. Commander-centric focus.
   b. Requirement for speed and agility – both within the HQ and with partners.
   c. Preference of large or small groups for key decision-making.
   d. The commander's desired periods for KLE, circulation, and feedback requirements.
   e. Direction on white space for rest, thinking, and exercise for the leaders and staff.
   f. Relative use of slides versus discourse in sharing understanding.
   g. Access to staff (e.g., open, closed, through COS/BR).
   h. Guidance on staff communications (section 7)
2. Terms of Reference (TOR):
   a. Use of Deputy Commanders and the COS. Role of KMO.
   b. Role, manning, and authorities of the CAG.
   c. Expectations of LNOs (section 8).
3. Inclusivity with HHQ and partners:
   a. Anchor points with HHQ and Supported Commanders.
   b. OPSEC/Write for Release.
   c. Primary network for sharing (e.g., JWICS, SIPRNET…)
4. Critical function and critical paths for information flow:
   a. Feedback from circulation and KLEs: Use of scribes and post meeting minutes.
   b. Intelligence: PIR, ISR, Collection Management, Support to Targeting.
   c. Plans: Use of planner huddles, steering and decision venues.
   d. Targeting and Fires: Concept of kinetic/lethal and nonkinetic/nonlethal fires and effects. Linkage to Planning and Collection management.
   e. Communication Strategy and the Narrative – alignment with HHQ, and role/coordination requirements for PA and IO.
   f. Assessment: Campaign and operational assessment.
   g. Sustainment: Logistics, personnel, engineer, and medical support.

IM:
1. Role of IMO and J6, and authorities and responsibilities.
2. Tools - in the JOC.
3. Portal construct and usage.
4. RFI procedures.
5. Use of email.
6. Cross-domain tools and reduction of cross-domain violations.
7. Collaboration tools.

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Glossary
Abbreviations and Acronyms

ACOS – Assistant Chief of Staff
AMN – Afghan Mission Network
APAN – All Partners Access Network
BR – Battle Rhythm
B2C2WG – Boards, Bureaus, Centers, Cells, and Working Groups
C2 – Command and Control
CCIR – Commander's Critical Information Requirement
CDR TP – Commander's Touchpoint
CENTRIXS – Combined Enterprise Regional Information Exchange System
COP – Common Operational Picture
COOP – Continuity of Operations
COS – Chief of Staff
CP – Command Post
CPN – CENTCOM Partner Network
CUA – Commander's Update Assessment
CUB – Commander's Update Brief
DCO – Defense Connect Online
DCOS – Deputy Chief of Staff
DCS – Defense Collaboration Service
DIRLAUTH – Direct Liaison Authorized
DISA – Defense Information Systems Agency
DROE – Digital Rules of Engagement
FDO – Foreign Disclosure Officer
FDR – Foreign Disclosure Representative
FRAGO – Fragmentary Order
HHQ – Higher Headquarters
HQ – Headquarters
IM – Information Management
IMO – Information Management Officer
IMP – Information Management Plan
IT – Information Technology
JOC – Joint Operations Center
JTB – Joint Training Branch
JWICS – Joint Worldwide Intelligence Communication System
KLE – Key Leader Engagement
KM – Knowledge Management
KMB – Knowledge Management Board
KMO – Knowledge Management Officer
KMP – Knowledge Management Plan

KMR – Knowledge Management Representative
KMWG – Knowledge Management Working Group
LNO – Liaison Officer
MPE – Mission Partner Environment
MTE – Man, Train, & Equip
NGO – Non-governmental Organization
NIPRNET – Non-classified Internet Protocol Router Network
NOFORN – No Foreign
OPR – Office of Primary Responsibility
OPT – Operational Planning Team
PR – Personnel Recovery
RFI – Request for Information
SIGACT – Significant Activity
SIPRNET – Secret Internet Protocol Router Network
SOP – Standing Operating Procedure
SVTC – Secure Video Teleconference
TMM – Transregional, Multi-domain, Multi-functional
USTRANSCOM – United States Transportation Command
VTC – Video Teleconferencing

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