Multinational Force C4ISR Operations Panel Report

C4ISR AWG
Architectures Working Group

11 December 1997

C4ISR Architecture Working Group

Multinational Forces C4ISR Operations

White Paper

Executive Summary

11 December 1997

In support of the C4ISR Architectures Working Group (AWG) a Multinational Forces (MnF) C4ISR Operations Panel was established to define, integrate, categorize and prioritize the inhibitors to restrict the successful execution of MnF C4ISR operations. Additionally, the panel was charged to develop recommendations to the AWG on how the DoD should proceed to ensure that the critical inhibitors were properly addressed and resolved.

Multinational Force C4ISR Operations

Executive Summary Report

Key Problem Areas and Recommended Solutions

Purpose

Since the mid-1980's the U.S. has strived to improve the integration of services and agencies functions to support joint operations and missions. A series of legislative and executive changes to include the 1986 DoD Reorganization Act began to build the foundation that produced today's defense organization and our emphases on "joint".

Our experiences in Operation DESERT STORM and U.S. participation in the numerous smaller scale contingency operations almost certainly suggest that we will operate in a MnF environment in the continuum of warfare from peacetime to regional conflict.

Ten years ago the Goldwater-Nichols Act was passed to address the problem of Service interest over defense roles and missions that often required joint preparation and action. There is no Goldwater-Nichols Act for MnF operations and top-down congressional actions such as this are not likely in the near term.

A central thrust of our National Security Strategy is adaptation and sustainment of US security relationships with key nations around the world. Implementation of these objectives clearly include: conducting combined training and exercises; coordinating military plans and preparations; sharing intelligence; and jointly developing new systems to include cooperative research and development programs.

General Shalikashvili, former Chairman, Joint Chiefs of Staff, declared in Joint Vision 2010 that it is not enough just to be joint when conducting future operations. He challenged that ***"we must find the most effective methods for integrating and improving interoperability with allied and coalition partners."*** Our participation in multinational operations is expected by JV2010 and the national security strategy. If our participation in these operations continues, General Shalikashvili professes that ***"our procedures, programs and planning must recognize this reality."***

This white paper executive summary represents the Unified Commands' concerns of MnF C4SR key issues. It is imperative that DoD takes top-down action to address MnF C4ISR interoperability before world events require costly, haphazard, and poorly designed implementation.

C4ISR Integration and Interoperability

The ASD(C3I) and the Joint Staff J6 chartered the C4ISR Architecture Working Group (AWG) to refine and extend the architectural work of the C4ISR Integration Task Force. The C4ISR AWG, composed of representatives from the Commands, Services, Defense Agencies, Joint Staff, OSD, and other DoD organizations established several panels to focus attention on specific components of C4ISR operations and the ways that architectures could help to resolve existing and future integration and interoperability problems. Panels were established to address mandated approaches to development of C4ISR architectures, specific ways to assess and improve interoperability, C4ISR roles and responsibility, and C4ISR interoperability with US allies. This document presents a high level summary of the C4ISR AWG findings in C4ISR interoperability with MnF partners and US allies.

Assumptions

Early in its deliberations, the C4ISR Architecture Working Group (AWG) Multinational Force (MnF) C4ISR Operations Panel made the following assumptions:

- Successful MnF C4ISR operations require integration and interoperability
- OSD, Services and Defense Agencies have traditionally focused their multinational concerns on NATO.
- A comprehensive statement of factors that inhibit interoperability from the Unified Commands and our MnF partners does not exist.
- A lack of a single Washington-based forum to integrate and address the interdependencies of the different MnF issues.

Inhibitors and Recommendations

The Panel, composed of Unified Command representatives, identified six major categories of inhibitors: 1) doctrine and policy, 2) acquisition and logistics, 3) information management, 4) technology, 5) cultural, and 6) training and exercises. The paragraphs below summarize these major categories of inhibitors to MnF C4ISR Operations and provide recommendations on approaches to resolve those inhibitors.

In order for any of these recommendations to be resolved, the panel believes that senior-level sponsorship from the Department is required. Leadership is needed to sponsor major policy and directives in support of Multinational Force Operations. Another working group or committee is not needed but rather an organization or agency with oversight authority to focus on all aspects of MnF operations, integrating and addressing the interdependencies of the different coalition efforts ongoing within DoD. It is important to note that a holistic approach be taken since some of the recommendations apply for all categories of inhibitors.

Doctrine and Policy. An overarching policy on the scale of the 1986 DoD Reorganization Act—Goldwater-Nichols—is needed to reform our strategy for Multinational Force Operations. Existing doctrine and policy should be revised to better

support MnF C4ISR operations as outlined in our National Security and Military Strategy and Joint Vision 2010. Our National Military Strategy calls for peacetime engagement where U.S. forces are actively involved in military-to-military contacts, humanitarian operations, and counterdrug and other peacetime engagement operations. There is a lack of policy initiatives to implement the MnF goals and objectives stated in our National Security Strategy and Joint Vision 2010. An all-encompassing policy is required to address MnF issues and concerns, such as the major inhibitors identified in this report. Overlapping peacetime engagement strategies from other Unified Commands can be confusing for multinational partners. Peacetime engagement strategies need to be reinforced to increase rapport and respect as well as bridge barriers.

Recommendation 1. *Implement a comprehensive program that parallels the Joint Program established under 1986 Goldwater/Nichols Act. This would ensure that MnF requirements receive the same level of direction that is required to improve MnF and Joint Interoperability requirements.*

Recommendation 2. *Existing doctrine, policy and TTPs (tactics, techniques and procedures) should be revised to address the realities of multinational force operations envisioned by the National Security Strategy, National Military Strategy and Joint Vision 2010.*

Recommendation 3. *Establish a foreign disclosure office structure for operations. A foreign disclosure office structure exist today for the intelligence-related releasability issues but there are releasability requirements outside the bounds of intelligence.*

Recommendation 3.1. *Reemphasize the role of the regional CINC as the primary coordinating body for peacetime military engagement. This type of activity fosters close operational relationship with friends and allies, serving as bridges to more effective operations.*

Acquisition and Logistics. Current practice of foreign military sales does not focus on enabling the successful execution of MnF C4ISR operations. Major end items are sold as separate entities rather than an integrated operational capability. Equipment is sold and delivered without consideration for interoperability for MnF operations or the ability of our MnF partners to use the equipment. DoD efforts to shape the international environment are production and sales-oriented, not oriented on enabling our partner to participate in an operational environment with us. Interoperability requirements are not considered early in the acquisition process, resulting in proprietary systems that cannot interface with U.S. C4ISR systems.

Recommendation 4. *MnF C4ISR integration should be an objective of foreign military sales (FMS). The overall business practice needs to be revamped to ensure that adequate and thorough coordination occurs at the Unified Commands, Joint Staff and OSD.*

Recommendation 5. *There should be increased funding to support burden-sharing as outlined in the National Security Strategy for... "jointly developing new systems to include cooperative research and development programs."*

Information Management. There is inconsistency and lack of uniformity within DoD and other government agencies on security labeling of information in electronic form. No standards have been applied to information residing in automated information systems. As a result, information of lower classification level is trapped in system-high networks. Until labeling problems are resolved there will be little progress that can be made with regards to the ongoing multi-level security efforts.

Recommendation 6. *Current methodology used for information exchange systems should be examined as an optimum process for information sharing, such as the Battlefield Information Collection and Exploitation System (BICES).*

Recommendation 7. *Worldwide web technology should continue to be utilized as an interface for smart push-warrior pull information exchange.*

Recommendation 8. *Establish policy and technical solutions for labeling—markings and data labeling. Focus on developing a global solution for true multilevel security releaseability. Establish agreed upon technical standards to be used in MnF C4ISR operations.*

Technology. Technology impacts interoperability, security, standards, and releasability. Technology advances should be demonstrated in training and exercise environment. Technological concerns cannot be easily separated from doctrinal, procedural, training/exercise and operational issues. USCINCPAC and USACOM believe that an underlying problem is that the Service specific acquisition fosters a stovepipe approach which does not support joint, much less MnF, requirements and this approach continues to create interoperability problems. Resolution of these problems can only occur if new systems are "Born Joint" as well as "Born MnF" with synchronized fielding among the Services.

Recommendation 9. *Increase the participation of MnF partners in Joint Warrior Interoperability Demonstrations (JWIDs) and Advanced Concepts and Technology Demonstrations (ACTDs). Integrate test and evaluation centers for MnF C4ISR systems.*

Recommendation 10. *"Born Joint" systems approach needs to be extended to include "Born MnF".*

Cultural. Each country has its own objectives (i.e. national strategy) for participating in MnF operations. Cultural identity--language, social and ethical values, religious practices, ethnic values--has significant implications for MnF operations. Draft Joint Publication 3-16, *Joint Doctrine for Multinational Operations*, describes 14 types/subcategories of Multinational Force (MnF) operations. The Panel concluded that cultural considerations

are pervasive to all 14 of these classifications. The panel concluded that potential MnF contributors often perceive a lack of U.S. understanding and failure to appreciate these differences, that the U.S. (not just the military) do not have a structured approach for addressing cultural differences during MnF operations, and that this can result in ineffective communications between MnF partners and impede the command and control (C2) process. Successful MnF operations must overcome these obstacles, and this is not possible if left until there is a requirement to execute MnF operations. Planning for success requires substantive and sustained peacetime engagement processes well before the actual requirements for operational actions. The potential for success in MnF operations is greatly enhanced by a continuos, long-term working arrangement with potential partners as a part of National Military Strategy of peacetime engagement.

Recommendation 11. *Joint publication 3-16, "Joint Doctrine for Multinational Operations" should address more comprehensively cultural values and their implications.*

Recommendations 12. *Development of a Joint Mission Essential Task List (JMETL) to supplement and support the Universal Joint Task List (UJTL), Operational Task List OP5.7, "Coordinate and Integrate Joint/Multinational and Interagency Support." The panel also recommends the development of Combined JMETLs down to the Combined/Joint Task Force (CJTF) level.*

Training and Exercises. Training and exercise with multinational partners should be more realistic, particularly with evaluation of technological differences and training objectives for each participant. Interoperability in exercises is often better than real-world operations. Strengths of our partners are often overlooked. The lack of a common language and doctrine in multinational training and exercises continues to cause interoperability concerns. The command arrangements often found in multinational partner training and exercises are cumbersome and highly decentralized at the strategic and operational level, but heavily centralized in the arena of C4ISR relationships.

Recommendation 13. *Use training and exercise to validate new security technology. For example, USACOM's Joint Training and Analysis and Simlulation Center (JTASC) users constructive and virtual simulation to conduct battle laboratory assessments of current readiness and doctrine, and to conduct crisis rehearsals. Use and improve existing centralized databases for ready access to multinational lessons learned.*

Recommendation 14. *Funding for training and exercises should increase. Evaluate MnF technologies in training and exercises to ensure that interoperability exists, allowing information sharing in a timely manner.*

Recommendation 15. *Training for joint/combined operations should be interwoven, e.g., the JBC should become a Combined Battle Center. These actions would reinforce the Commanders in Chief (CINCs) peacetime engagement strategies and bridge barriers of understanding between U.S. military and potential MNF contributors.*

In order to ensure that C4ISR information can be exchanged in a multi-national environment, we must begin to put in place such capabilities in peacetime to preclude ad hoc arrangements during crisis and war. There continues to be way too many unilateral efforts, which have a limited focus for a seamless C4I for the Warrior, and MnF partners. Success of future MnF C4ISR operations depends on U.S. ability to maximize interoperability by using one of or all three approaches, such as working down to our MnF partner technological level; providing, selling or loaning U.S. technology; or using a coupling mechanism. The coupling mechanism can be human, mechanical or electrical. In some cases, the best coupler might be the linguist with the proper equipment to access the higher headquarters.

In summary, MnF interoperability and integration is fragmented and the Department's policy and efforts are inconsistently applied to all our efforts. Additional, there are multiple OSD organizational responsibilities, inadequate Joint Staff support and stovepipe efforts with the CINC/Services and Agencies with no effective coordination mechanism.

C4ISR Architecture Working Group

Multinational Force C4ISR Operations

White Paper

11 December 1997

Preparation of the White Paper

A commitment to publish a white paper on Multinational Force C4ISR Operations was an important element in the Architectures Working Group agenda. It was agreed that the concerns from the Unified Commands be voiced to the members of the Architectures Working Group (AWG). The Unified Command representatives believed that a focused elevation of the Unified Commands' and components' coalition issues and problems to a very select senior level of Department officials could be resolved. Particularly when these officials have, both individually and collectively, the influence, the authority, and the resources to make change come about.

Scope and Format

In presenting this white paper, we have sought as a working group to provide as comprehensive a survey of issues that need to be addressed for implementing the vision and strategies outlined in Joint Vision 2010. The white paper examines inhibitors from a number of perspectives, but mostly from those who fight the battle and are expected to carry out working arrangements with our allies as instructed by the national command authority.

Table of Contents

Multinational Force (MnF) C4ISR Operations

White Paper

1.0 Introduction

The US, like all countries, interacts with other nations in a manner consistent with achieving its national goals. In addition to stated national goals, however, there are some basic tenets governing the US's interaction with other nations that exist as a result of our history and culture. These tenets transcend and encompass any Administration's particular goals and are at the very core of our nation's "character." The following paragraphs provide a snapshot of both these tenets and the current Administration's stated national goals.

The Clinton Administration has outlined its strategy in a document entitled the *US National Security Strategy of 1996*. This document states that, in order to achieve US national goals, the "*three central components of our strategy of engagement and enlargement are: (1) our efforts to enhance our security by maintaining a strong defense capability and employing effective diplomacy to promote cooperative security measures; (2) our work to open foreign markets and spur global economic growth; and (3) our promotion of democracy abroad."*

The document further states that, in general, the US will execute its strategy of engagement and enlargement by "*being willing to act unilaterally when our direct national interests are most at stake; in alliance and partnership when our interests are shared by others; and multilaterally when our interests are more general and the problems are best addressed by the international community."*

The *US National Security Strategy of 1996* also embodies the basic cultural/historical tenets governing US interaction with other nations. The following quotations, extracted from various portions of the document, highlight some of these basic tenets – specifically those that govern the use of the US military in multinational environments:

"We will act with others when we can, but alone when we must."

"We therefore will send American troops abroad only when our interests and our values are sufficiently at stake."

"Under no circumstances will the President ever relinquish his command authority over U.S. forces."

"In all cases, the nature of our response must depend on what best serves our own long-term national interests."

When conducting multinational force operations, we must recognize that each nation involved in a multinational endeavor comes into the situation in order to achieve its own national goals and bases its interaction with other nations on "tenets" or "characteristics" derived from its own history and culture. Given any group of nations, the probability that all national goals are consistent and that the cultural/historical "tenets" governing interaction will be commonly understood up-front is virtually zero. Thus, there will always be limits on how effectively US military forces can interact and interoperate with other nations' forces in any multinational environment.

However, the Department of Defense has stepped up to the challenge and is in the process of building into US military forces the flexibility necessary to conduct effective multinational force operations – i.e., removing any limits to multinational force operations that are within DoD's span of control.

1.1 The Vision

General Shalikashvili declared in Joint Vision 2010 that it is not enough just to be joint when conducting future operations. He challenged that ***"we must find the most effective methods for integrating and improving interoperability with allied and coalition partners."*** Our participation in multinational operations is expected by JV2010 and the national security strategy. If our participation in multinational force operations continues, General Shalikashvili professes that ***"our procedures, programs and planning must recognize this reality."***

1.2 The Need

DoD's current procedures, programs, and planning processes generally address multinational force operations on a reactionary basis. In order to establish a more pro-active multinational force operations planning process, DoD must overcome some key obstacles, for example:

- OSD, Service, and Defense Agency planners have traditionally focused their multi-national concerns on the NATO environment. DoD must expand this focus to encompass the full spectrum of possible multinational relationships -- bilateral agreements, mission-specific coalitions, and treatied alliances.

- There is no mechanism to define and address the cross-Government organizational interdependencies (e.g., DoD, State Department) required for the successful conduct of multinational force operations.

- There is no comprehensive, cross-DoD understanding of the specific inhibitors to multinational force operations.

- There is no comprehensive strategy for addressing integration and interoperability with respect to multinational force operations.

In order to realize its vision, DoD must fully incorporate multinational force operations considerations into every step of its planning process. The initial steps toward realizing the DoD vision must, at minimum, address the needs identified above. With these needs in mind, the C4ISR Architecture Working Group established the C4ISR Coalition Architectures Panel on 21 May 1997.

1.3 Panel Objective

The C4ISR Coalition Architectures Panel, later renamed the Multinational Force (MnF) C4ISR Operations Panel, was tasked to document the key inhibitors (i.e. policy/doctrine, training, systems, etc.) that restrict effective multinational force C4ISR operations and to provide recommendations to the AWG regarding resolution of the key inhibitors.

1.4 Purpose of This White Paper

This white paper presents the findings of the C4ISR AWG's Multinational Force C4ISR Operations Panel which met from 8-10 July at the Joint Battle Center, Suffolk, Virginia. This white paper and an executive summary of this paper was forwarded to the Architectures Working Group (AWG) for endorsement during the November 1997 AWG meeting.

1.5 Scope

The Multinational Force C4ISR Operations Panel recommendations are offered from the point of view of those who are responsible to perform multinational force operations -- the Unified Commands. The Panel findings specifically address one of the key needs shown above – an understanding of the specific inhibitors to multinational force operations.

2.0 MnF Operations Inhibitors and Recommendations

2.1 Doctrine and Policy.

Overall, the Panel believes that the policies that are related to MnF C4ISR Operations are outdated or need to be revised. Doctrine and policy today has not kept up with

changes in technology nor with the way MnF C4ISR Operations are executed. Existing doctrine should be reviewed and revised to better support MnF operations as outlined in our National Security Strategy and National Military Strategy as well as JV 2010. In some cases, new policy will have to be established. The panel supports a major policy restructuring on the scale of the 1986 DoD Reorganization Act, commonly referred to as the Goldwater-Nichols Act. This act was passed to engender more cooperation and jointness between the armed services. Panel noted that while tactics, techniques and procedures (TTPs) for intelligence support for combined operations have been produced by some commands, TTPs documents need to be expanded and developed across other command directorates (i.e. J3 and J6). Joint Vision 2010 lays out a vision for multinational operations but panel members pointed out that current doctrine is insufficient in realizing the JV 2010 goal. C4 tasks, such as bandwidth management, system integration, etc., require detailed management during crises. The approach today for MnF C4ISR Operations is ad hoc in nature rather than being well-planned or funded.

Panel members have experienced inconsistent or a lack of policy guidance and recommend a broad policy review to include interagency coordination efforts to ensure enhanced MnF operations. Information security is just one policy issue emphasized during the workshop. Panel members believes the accreditation process should be refined; the process should be integrated early in the developmental stages of the project to ensure security requirements have been satisfied, vice the inconsistent practice of conducting testing and evaluation after system development has been completed. Another example highlighted was the information sharing policy; releasability of information, particularly information outside the realm of intelligence. The Intelligence community has a foreign disclosure officer but no such position is identified elsewhere in the Command. As stated earlier, the command representatives believe a coherent peacetime engagement strategy is essential. The difficulty lies in deconflicting multiple strategies conducted by more than one CINC. The panel recommends re-emphasizing the role of the regional CINC as the key coordinating body for peacetime military engagements. Examples included ongoing efforts with USEUCOM's partners for peace. Overlapping peacetime engagement strategies from other Unified Commands can be confusing for multinational partners. Peacetime engagement strategies need to be reinforced to increase rapport and respect and the bridge barriers.

Recommendation 1. *Implement a comprehensive program that parallels the Joint program established under Goldwater/Nichols Act. This would ensure that MnF requirements receive the same level of direction that is required to improve MnF and Joint Interoperability requirements. The Joint Mission Essential Task List (JMETL) process should incorporate a combined JMETL down to the Combined Joint Task Force (CJTF) level.*

Recommendation 2. *Existing doctrine, policy, and tactics, techniques and procedures (TTPs) should be developed or where necessary, revised to address the realities of*

multinational force operations envisioned by the National Security Strategy, the National Military Strategy and Joint Vision 2010.

Recommendation 3. *Establish a foreign disclosure office structure similar to that on the Intelligence Community. The foreign disclosure officer for intelligence is often called upon to provide that role and responsibility for releasability of information, particularly during crises.*

2.2 Acquisition and Logistics.

Current practice of foreign military sales does not focus on enabling the successful execution of MnF C4ISR operations. Today's strategy for foreign military sales does not focus on enabling the successful execution of MnF operations through interoperable C4ISR systems. Far too often, the US sells major end items as separate stand-alone entities rather than selling an integrated, operational capability. Today's practice isolates major end item weapon platforms with separate C4ISR systems. This results in a need to develop interfaces between C4ISR architectures because commercial vendors sometime sell without consideration of interoperability for MnF operations. A revision to this practice would begin after request for an equipment or capability where the CINC/Service/Agencies would develop a strategy and architecture to ensure interoperability and releasability requirements are met. Additionally, internal DoD processing (e.g. DSAA, SAF/IA, General Counsel) is time consuming and inconsistent with other policies and too often neglects long-term alliances. The working group recommends making MnF C4ISR integration an integral part of all FMS sales and attempt to involve commercial sales in the planning. Additionally, the panel highly recommends that the overall business practice needs to be modified to ensure that adequate and thorough coordination occurs at the Unified Command and within the department, joint staff and services, resulting in a consolidated response. More importantly, funding for the international armaments cooperative policy should be increased, emphasizing more burden-sharing of the research and development cost.

Recommendation 4. *MnF C4ISR integration should be an objective of foreign military sales (FMS). The overall business practice needs to be revamped to ensure that adequate and thorough coordination occurs at the Unified Commands as well as within the services, Joint Staff and OSD, and that FMS cases fit within the CINC's theater or sub-regional MnF strategies. Requirement in the DoD 5000.2R should be expanded to require the development of a Joint MnF C4ISR support plan for each major acquisition program.*

Recommendation 5. *There is a lack of financial support for the existing OSD policy on international armaments cooperative policy. Recommend increased funding to support burden-sharing as outlined in the National Security Strategy for... "jointly developing new systems to include cooperative research and development programs."*

2.3 Information Management and Labeling

Information management, particularly with regards to handling and safeguarding classified information should be examined to adequately support training and exercises. A joint lesson learned database, specifically tailored to coalition lesson learned should be centralized and readily accessible. Another area addressed by this working group was security labeling. There was much concern with the inconsistency or lack of guidance on labeling of information in electronic form. There has not been any standards applied to information residing in automated information systems. As a result, information of lower classification level is trapped in "system-high" networks. Current methodology used for information exchange such as the Battlefield Information Collection and Exploitation System (BICES) should also be explored as potential solutions for other MnF C4ISR Operations. The world-wide web technology should also be embraced as a potential interface for smart push-warrior pull information. International standards should also be adopted along the lines of the Joint Technical Architecture. The Information Management working group strongly recommends information management for MnF C4ISR Operations be better addressed at ACTDs, JWIDs and through JWCA process. Many areas addressed in information management are closely tied to issues identified by the technology working group. These issues include identification and authentication and security.

Mr. John Apinis, Controlled Access Program Coordination Office, Community Management Staff, presented the data security markings issue within the Intelligence Community. The various classification guides for the different intelligence disciplines have been developed heretofore largely independent of the others. This, and the lack of government wide standards for data security markings, has led to a proliferation in markings and many inconsistencies when looked at together. For example, there are more than one hundred different security markings now in use just on INTELINK. As long as our communications operate on a the system-high principle, the inconsistencies in markings do not matter since the systems do not use them, and consumers understand most of them in context. Unfortunately this approach has major drawbacks. With no marking standards, automated information system interconnectivity and automated information flow is not possible except in the most restrictive cases. Most of the networks are electronically isolated, and require operators to shift data across air gaps. Often information at lower classification levels remains in systems at a higher classification level. Transmission of information to multinational partners often requires considerable manual work.

The development of security markings standards is not an end in itself but a necessary step toward automated information flow. For that reason the Controlled Access Program Coordination Office (CAPCO) of the Director, Central Intelligence, Community Management Staff, in partnership with the Security Policy Board Staff is leading an effort

to develop one standard list of data markings to be used by such systems as Defense Message System (DMS), Opintel workstation, and Intelink network. The Senate Select Committee on Intelligence Report on the Intelligence Authorization Act for FY1998 recognizes these problems, and is fully supportive of this project. It notes the contribution it will make toward interoperability among automated information systems, and urges that resources and priority attention be assigned to completion of a unified list of compatible markings.

Recommendation 6. *Current methodology used for information exchange should be examined as an optimum process for information sharing, such as the Battlefield Information Collection and Exploitation System (BICES).*

Recommendation 7. *World-wide web technology should continue to be utilized as an interface for smart push-warrior pull information exchange.*

Recommendation 8. *Establish policy on labeling, to include classification markings for data labeling. Labeling and the trusted workstation is the linchpin for true multilevel security. Labeling remains the foundation for the development of a trusted workstation.*

2.4 Technology.

The technology working group focused on interoperability, security, foreign technology capabilities, advanced technology, and releasability. Similarly, the technology working group endorses an increased participation of MnF partners in JWID/ATDs and ACTDs. Web technology should also be pursued. A database to assess the C4ISR capabilities of our potential MnF partners should be developed. This database should include C4I infrastructure as well as transportation, and logistics infrastructure information. Knowing what's incompatible is essential in the planning phase. This knowledge will enhance the deployment of U.S. forces abroad as well as USTRANSCOM's requirement for the movement of MnF.

Security inhibitors include identification and authentication, specifically policy, requirements and standardization issues. Other security inhibitors include offensive and defensive information operations and security firewalls. Technology inhibitors focuses on networks, platforms, applications and security. Technology impacts connectivity, interoperability, security, standards, and releasability. Advances in technology should be demonstrated in training and exercise environment. Just as we are placing emphasis on "born joint" systems we should extend that to "born MnF" systems as well. Both USCINCPAC and USACOM believe that an underlying problem is that the service specific acquisition system fosters a stovepipe approach which does not support joint requirements, much less MnF, and continues to create interoperability issues. Resolution of these problems can only occur if new systems are "born joint" as well as "born MnF"

with synchronized fielding among the services. There should be an integrated test and evaluation center for MnF C4ISR systems. A DII/COE engineering approach should also be applied to MnF C4ISR systems. There is a dire need to establish a database capability regarding the infrastructure--C4ISR, telecommunications, rail, road, water and power networks--of friendly nation states.

Recommendation 9. *Increase the participation of MnF partners in Joint Warrior Interoperability Demonstrations (JWIDs) and Advanced Concepts and Technology Demonstrations (ACTDs). Integrate test and evaluation centers for MnF C4ISR systems.*

Recommendation 10. *Service specific acquisition fosters a stovepipe approach which does not joint requirements, much less MnF, and continues to create interoperability issues. "Born Joint" systems approach needs to be extended to include "Born MnF."*

2.5 Cultural.

Each country has its own objectives (i.e. national strategy) for participating in MnF operations. Cultural identity--language, social and ethic values, religious practices, and ethnic values--has significant implications for MnF operations. Some examples highlighted by the work team included: Perceptions of authority and social standing; male dominated MnF partners may find it offensive to accept a female's advice of assistance; religious observances and taboos impact activities and locations of MnF operations; reluctance to sign formal agreements precludes the development of MnF MOU/MOA agreements; even simple dietary differences may have drastic impact on MnF operations; and differences in how nations view force protection.

There were three major inhibitors identified. First, U.S. government agencies do not have a structured approach for addressing cultural differences adequately for MnF operations. Potential MnF contributors perceive a lack of U.S. understanding and failure to appreciate their cultural differences. Second, the inability to rapidly and effectively communicate, particularly cross culturally, between MnF members severely impacts on all aspects of C4ISR operations. Third, an overarching cross-government policy on MnF C4ISR operations.

The panel's recommendation is to develop, coordinate and implement an overarching, all encompassing MnF program that parallels the Joint program on the scale of Goldwater-Nichols. Policy on MnF operations needs to include other agencies and departments that provide support to the Departments of State and Defense. Specifically, the panel stressed the need for an interdepartmental policy on planning for MnF operations, focusing on cultural identity. The forthcoming joint publication 3-16, entitled "Joint Doctrine for Multinational Operations" offers a near-term opportunity to comprehensively address cultural identity factors and related potential inhibitors, including language, social values/outlooks, religious practices, political correctness, values,

economic and ethic values. Commanders need to be apprised of those cultural values which are important to multinational partners as well as U.S. military members. Panel highly recommends the development of a Joint Mission Essential Task List (JMETL) to supplement and support the Universal Joint Task List (UJTL), (i.e. Operational Task List OP5.7 Coordinate and Integrate Joint/Multinational and Interagency Support.) Panel members also emphasized the CINC's role in developing and executing the peacetime engagement strategy. It is through day-to-day engagement activities that the Unified Commands have the opportunity to establish rapport, build respect and bridge barriers with potential MnF contributors. Cultural inhibitors, which are often overlooked, are the key determinant factor in planning and executing MnF operations. To participate in MnF operations, each country must reach a mutual cultural accommodation for the common good--diplomatic or political decision. The potential for success in MnF operations is greatly enhanced by a continuos, long-term working arrangement with potential member nations as a part of peacetime engagement strategy.

Recommendation 11. *Joint publication 3-16 entitled, "Joint Doctrine for Multinational Operations" should address more comprehensively cultural values and their implications for conducting MnF C4ISR Operations. The U.S. military has no structured approach regarding how to address cultural differences during the conduct of MnF operations.*

Recommendation 12. *Development of a Joint Mission Essential Task List (JMETL) to supplement and support the Universal Joint Task List (UJTL), Operational Task List OP5.7, "Coordinate and Integrate Joint/Multinational and Interagency Support." The panel also recommends the development of Combined JMETLs down to the Combined/Joint Task Force (CJTF) level.*

2.6 Training and Exercise.

Training with MnF may be easier to conduct than real-world operations but often results in unrealistic scenarios that are not very beneficial in the end. While training is easier, it can be more difficult from a standpoint of security standards which are more restrictive since policy exemptions are not normally granted. Cultural issues, particularly language is barrier that will require at a minimum language specialist to deploy with MnF maneuver units. The command arrangements found in multinational partner training and exercises are cumbersome and highly decentralized at the strategic and operational level, but heavily centralized in terms of C4ISR relationships. Training and exercises should develop competence in using C4ISR equipment and tools. The lack of interagency interface during training and exercises hinders our ability to train as we will fight. Technology must be evaluated, striving for a common technical denominator which in some cases may require equipment being loaned to the deploying liaison support teams. Related to technology is the issue of logistics. Our multinational partners may not have the adequate logistics capacity to sustain themselves let alone provide necessary training. The budget for training and exercise support continues to diminish. This decline needs to end with the

panel favoring an increase to establish close cooperation with MnF. Training and exercises should provide the opportunity to validate new security technology. As the DoD C4ISR Architecture Framework evolves, efforts should be made to include MnF C4ISR operations. Training and exercise with multinational partners should be more realistic, particularly with evaluation of technological differences and training objectives for each participant. Interoperability in exercise play is often better than real-world operations while the strengths of our partners are overlooked. The lack of a common language and doctrine in multinational training and exercises continues to cause problems. Policy and doctrine of our MnF partners differ radically from U.S. practices.

Recommendation 13. *Use training and exercises to validate new security technology. For example, USACOM's Joint Training and Analysis and Simulation Center (JTASC) uses constructive and virtual simulation to conduct battle laboratory assessments of current readiness and doctrine, and to conduct crisis rehearsals. Use and improve existing centralized databases for ready access to multinational lessons learned.*

Recommendation 14. *Increase funding for MnF training and exercises. Joint Vision 2010 emphasizes that joint, MnF and combined training and exercises have improved our interoperability and understanding of the strengths of each individual service as well as with our allies and MnF partners. Evaluate MnF technologies in training and exercises to ensure that interoperability exists, allowing information sharing in a timely manner.*

Recommendation 15. *Training for joint/combined operations should be interwoven, (e.g. the Joint Battle Center should include Combined training). Training and exercises would reinforce the CINC's peacetime engagements strategies as well as bridging the barriers of understanding between U.S. military and potential MnF contributors. Include Department of State in our training and exercises to simulate real-world activities.*

Recommendation 16. *Emphasize strengths of partners to enhance participation and teamwork as well as to improve multinational operational weaknesses. Successful multinational operations require an understanding of the definition of success.*

Recommendation 17. *International standards for communications, including language qualifications, a core multinational dictionary and basic doctrine, which are widely published, and a rigorous training program with our multinational partners.*

Recommendation 18. *The time-tested technique of multinational teams to coordinate specific functions (e.g. political, logistics) remain valuable and should be expanded to include MnF C4ISR operations.*

3.0 Summary

3.1 General Findings

Overall, the panel believed that many of today's efforts are fragmented and do not provide interoperability and data sharing capabilities. While the CINCs/Services and Agencies have implemented ad hoc multinational force C4ISR architectures, more would be gained if everyone worked towards building a MnF C4ISR architecture based on the DoD architecture framework. A MnF C4ISR framework should be focused towards common data or information and one that implements multilevel security (MLS) products, resulting an integrated solution for the warfighter.

The panel believes there are sufficient numbers of working groups, panels, and IPTs addressing the issue of multinational force operations, however, their efforts should be better focused and integrated. The panel recommends a senior-level office to provide oversight as well as to integrate all the interdependencies related to MnF C4ISR Operations. The panel would like to see stronger Department sponsorship.

While the panel identified six major categories of inhibitors that effect MnF operations, the panel concluded that several recommendations overlap each category. For example, while an overarching policy is needed for interdepartmental coordination effort for MnF C4ISR Operations, specific policy needs to be developed or adjusted for the remaining categories. Similarly, advances in technology could solve the inhibitors identified in training/exercise, information management , acquisition/logistics and cultural categories. Therefore, the panel stressed the need to take a holistic approach in evaluating solutions for MnF C4ISR Operations. Joint Vision 2010 and the Quadrennial Defense Review (QDR) lays out a vision that includes multinational force operations. The panel believes existing guidance (i.e. policy, programming and procedures) should be adjusted to fulfill this goal as stated in JV-2010. From hereon, the panel recommends multinational requirements be incorporated when stating joint requirements. Unified Commands are encouraged to document their multinational requirements in JMMRs and IPLs reports.

The ability to exchange information rapidly and accurately in a distributed coalition environment is absolutely essential for a mission's success. Technological issues cannot be easily divorced from doctrinal, procedural, training and operational issues. Without an informative doctrine, a sound Concept of Operations, and a fully developed set of techniques, tactics and procedures (TTPs), it is unlikely that balanced assessments of new C2 technologies can be made. The technology exists to solve problems encountered in seamless coalition operations, but the doctrine hasn't caught up with technology. TTPs need to be developed at the national level but they also need to be developed at the CINC level as it pertains to that particular AOR. Increased resources and initiatives are needed if we are to achieve the objectives stated in our national security strategy and JV 2010.

Finally, in order to ensure that C4ISR information can be exchanged in a Multinational environment, we must begin to put in place capabilities in peacetime to preclude ad hoc arrangements during crisis or war. Success of future MnF C4ISR Operations depends on U.S. ability to maximize interoperability by using one of or all three approaches outlined below. First, working down to our MnF partner's technological level. Two, providing, selling or loaning U.S. technology; and finally, using a coupling mechanism. This coupling mechanism can be human, mechanical, or electrical. In some situations, the best coupler might be the linguist with the proper equipment to contact the higher headquarters.

4.0 Appendix

Methodology

4.1 MnF Panel Composition

The MnF C4ISR Operations Panel, chaired by Mr. Russ Myers, consisted of 9 Unified Command representatives. Mr. Myers has since retired from government this past summer. He was a senior intelligence professional (SIP) from USACOM/J29, where he served as the C4I systems advisor in the J2 and J6 directorates. Panel members are identified below:
CDR Dave Paschall, USACOM
Col. Dan Clark, USCENTCOM
Capt Dave Bassett, USEUCOM
Mr. Mike Shimamoto, USPACOM
Mr. Terry Wiand, CISA CIAP (Command Integrated Architectures Program) command architect for USSOUTHCOM
LTCOL Dave Miller, USSOCOM
LTC Jim Neary, CISA CIAP command architect for USSPACECOM
Mr. Truman Parmele, CISA CIAP command architect for USSTRATCOM
Capt Andy Pears, USTRANSCOM

4.2 MnF Panel Approach

The C4ISR AWG established and strongly endorsed the Coalition Architectures Panel (CAP) on 21 May 1997. The Coalition Panel was chartered to document an integrated list of coalition inhibitors and to develop recommendations in resolving these inhibitors.

During June 1997, the MnF Panel conducted data-gathering efforts across the Unified Commands. The Panel met from 8-11 July 1997 with the primary objective of identifying and categorizing the key inhibitors to multinational force operations and offering some key recommendations for resolving these inhibitors. The panel agreed that the term "coalition" was too narrowly focused to address the spectrum of possible international operations scenarios. Coalitions are defined as ad hoc arrangements and do not normally include alliances wherein the US has maintained long-standing defense agreements. The Panel agreed to use the term "multinational force operations" to define the spectrum of scenarios to which their recommendations would apply. The term multinational force operations is also consistent with current joint doctrine publications. MnF operations encompasses the breadth of activities ranging from military operations other than war (MOOTW) to major theater of war (MTW) operations.

In order to focus its efforts, the MnF C4ISR Operations Panel then identified 6 major categories of inhibitors that hinder the Unified Commands in executing MnF C4ISR Operations. The inhibitor categories are: doctrine and policy; acquisition and logistics; information management and labeling; technology; cultural; and training and exercises. The Panel broke into work teams, each led by a Unified Command representative, based on the inhibitor categories. The teams then defined, for each category, the critical issues, the inhibitors to multinational force C4ISR operations, and recommended solutions.