Campaigning *Chapter 3*

Campaigning

References: **Joint Pub 0-2, *Unified Action Armed Forces* (UNAAF)**
Joint Pub 1-02, *DOD Dictionary of Military and Associated Terms*
Joint Pub 2-0, *Doctrine for Intelligence Support to Joint Operations*
Joint Pub 3-0, *Doctrine for Joint Operations*
Joint Pub 5-0, *Doctrine for Planning Joint Operations*
CJSCM 3113.01A, *Theater Engagement Planning*
Joint Vision 2020 (JV2020)

300. INTRODUCTION. This chapter introduces the concepts of campaign planning and synchronization, focusing on key joint doctrine, command guidance, and current techniques of operational art guided by campaigning principles. The chapter offers a basic description of the concept of operational warfare, the CINC's role and responsibilities toward implementing national strategy into theater level actions, and the considerations taken into account by the joint force commander (JFC) for accomplishing actions in support of the national strategy.

The basic tool by which the combatant commander translates tactical actions into strategic results is the campaign. Campaigns represent the art of linking tactical battles and engagements in an operational design to accomplish strategic or operational objectives, which, in turn, achieve the strategic end within a given space and time. They are the CINC's vision of the sequence of operations needed to attain the strategic objectives assigned by higher authority. Campaigning orients on the adversary's centers of gravity; achieves unity of effort with all elements of power available; synchronizes the effects of land, sea, air, space and special forces; clearly defines what constitutes success; and serves as the basis for subordinate planning. The campaign plan is the operational extension of a combatant commander's theater strategy. It is the element of joint operation planning that bridges deliberate planning with crisis action planning. Campaign planning encompasses both the deliberate and crisis action planning processes (see **Figure 3-1**). If the scope of the contemplated operations requires it, campaign planning begins with or during deliberate planning. It continues through crisis action planning, thus unifies both processes. The campaign is conducted in theaters of war and subordinate theaters of operations; they are based on strategic estimates and their resulting theater strategies. Modern warfighting requires a common frame of reference within which operations of all Services and agencies are integrated and unified; that frame of reference is the joint campaign. To succeed in creating an effective campaign plan, the operational commander must consider and apply a myriad of considerations in its development. The talent for taking national guidance and Service resources and creating a coherent joint plan that achieves the strategic aim is called operational art.

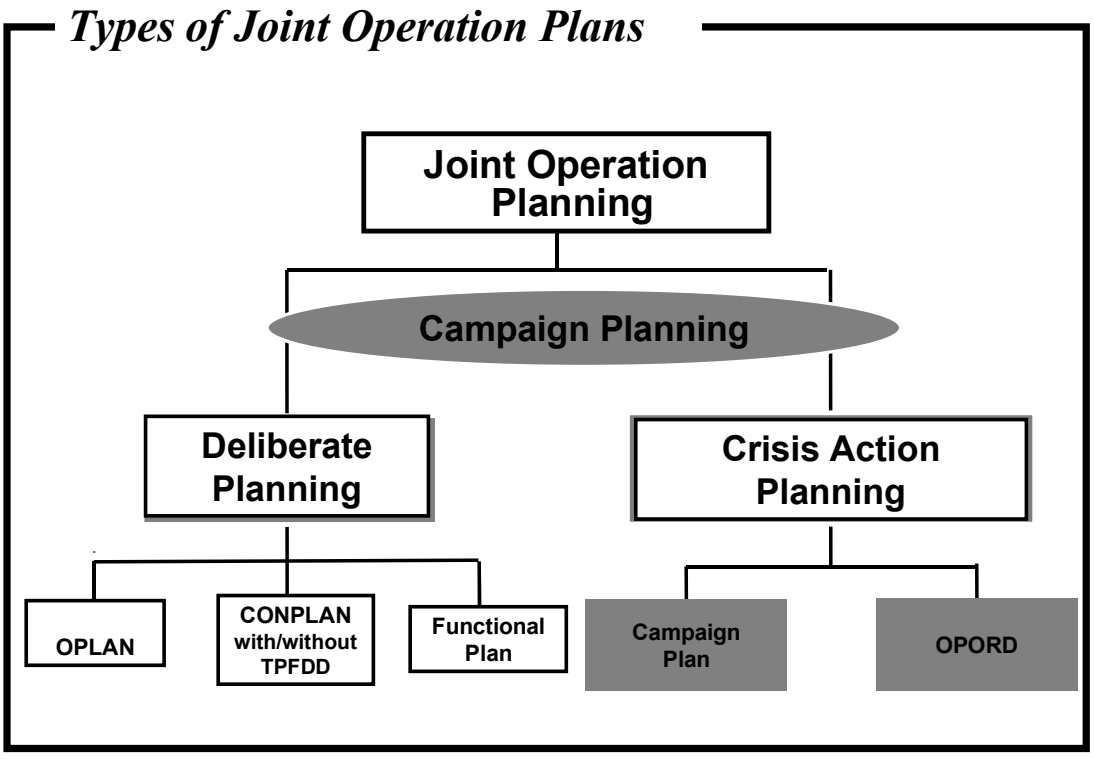

Figure 3-1

301. OPERATIONAL ART. Campaigning and the considerations that lead to effective campaign planning center on combatant commanders (CINCs) and their staffs. However, campaigning and the exercise of operational art are not solely the domain of the combatant commander, but are likewise exercised by designated subordinates, such as subunified commanders or commanders of joint task forces. In any discussion concerning operational art and campaigning, it should be understood that a number of levels of commanders could be involved; accordingly, the term joint force commander (JFC) will be used to refer to operational commanders who generate and/or execute campaign plans. When given a strategic or operational aim, the JFC must effectively employ military forces of all Services and coordinate any other available assets to attain strategic and/or operational objectives through the design, organization, integration, and conduct of strategies, campaigns, major engagements, and battles. Operational art translates the joint force commander's strategy into operational design and, ultimately, tactical action, by integrating key activities at all levels of war (**Figure 3-2**).

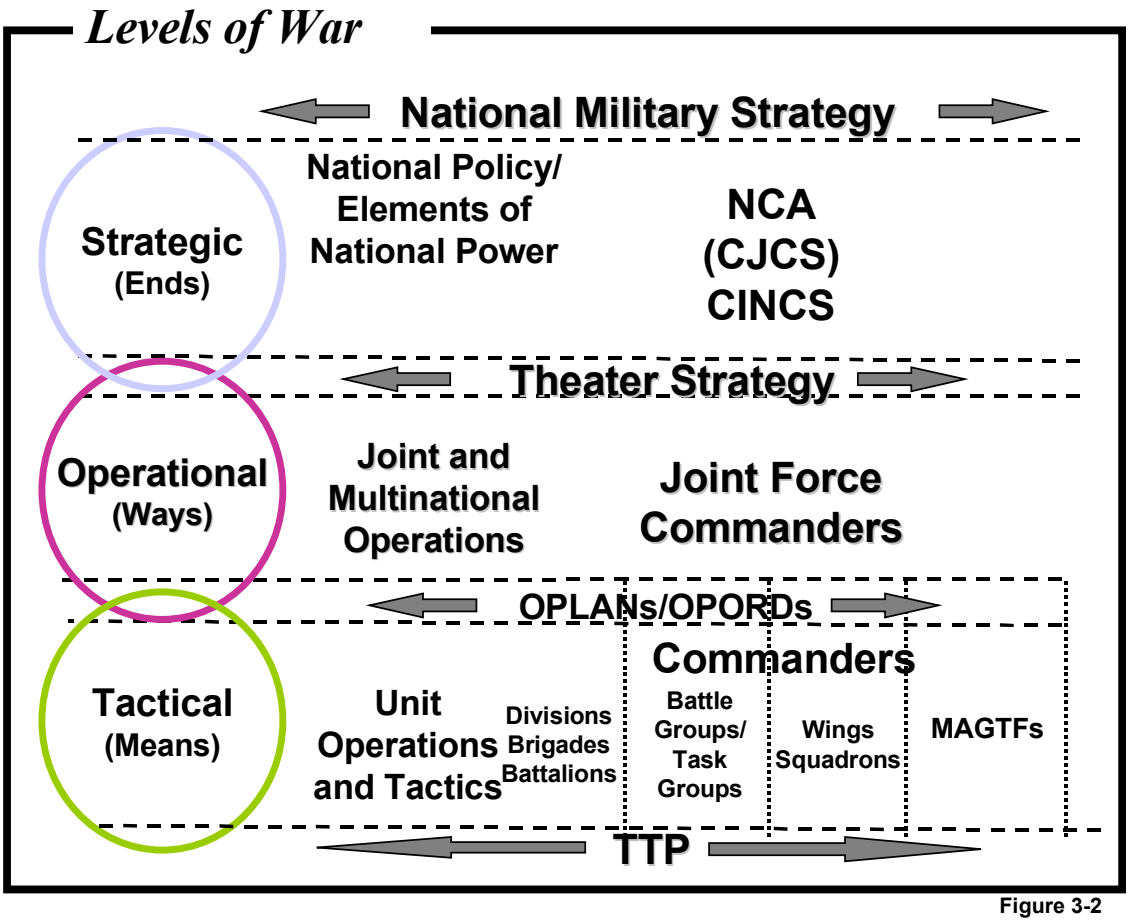

Figure 3-2

a. **The Heart of the Art**. When a joint force commander receives a mission from the National Command Authorities (NCA) or the unified commander that establishes a strategic aim or objective, the JFC is allocated resources through Service components with which to accomplish the mission. The "heart of the art" for the JFC is his ability to take these assets from disparate sources, and organize and direct them to effectively attain the strategic aim. The graphic representation of this challenge in **Figure 3-3** depicts the complexity of this process. The JFC is given strategic aims of the NCA based on U.S. National Security Strategy (NSS) and any Presidential Decision Documents (PDDs). JFC molds this guidance to conform to the National Military Strategy (NMS) and any additional inputs such as Contingency Planning Guidance (CPG) and Joint Strategic Capabilities (JSCP). To conduct the mission, the JFC employs forces manned, trained, and equipped by the Services. Consequently, in order to accomplish the mission, the JFC issues the necessary guidance for the employment and support of the provided forces. The degree to which the JFC effectively exercises operational art will be directly influence by the amount of friction that is generated by this process.

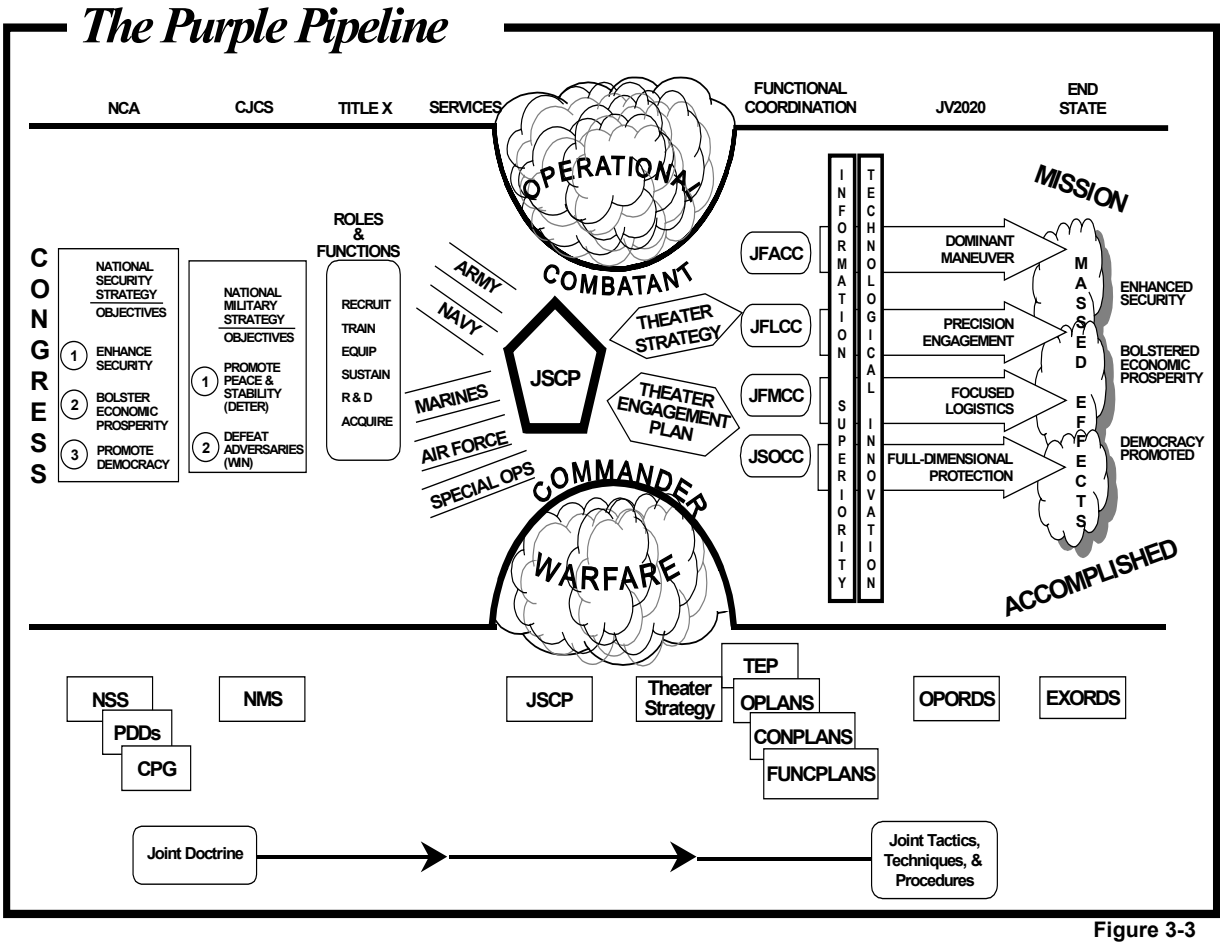

Figure 3-3

b. **Art or Science**. Although much of what the JFC accomplishes is based on doctrine and procedures, campaign design demands creativity of the commander and his staff. No two operational situations are the same, and each scenario will contain different factors, threats, and resource constraints. As the commander confronts the challenge of developing a coherent campaign, he performs the task much in the manner that an artist creates a painting. Just as an artist determines the scope of the landscape to be painted, the JFC determines the nature and size of his theater of operation. As an artist mentally visualizes the focal point of the painting, so does the JFC determine the enemy's centers of gravity. Like a painter, the JFC will create an operational design that best focuses on the centers of gravity and the resultant strategic aim. To do this the JFC will review and employ many principles and tenets of warfighting to determine which combination will best create the desired operational design: the campaign plan. To understand the manner in which the JFC practices this art, the following discussion will cover the points of operational art: the canvas (theater), the focal point (centers of gravity), the design (operational approach), and loading the palette (facets of operational art).

c. **The Canvas: The Theater**. The canvas upon which a JFC will "paint" his campaign plan will vary in size, type, and weight of importance. Understanding these very basic, yet key, considerations is vital for a staff supporting its commander in the development of a campaign plan. To assist in the coordination and deconfliction of joint action, JFCs may define operational areas or joint areas. The size of these areas and the types of forces employed within them depend on the scope and nature of the crisis and the projected duration of operations.

(1) **Theater Size**. When warranted, geographic combatant commanders may designate theaters of war and, if needed, subordinate theaters of operations for each major threat. Geographic combatant commanders can elect to directly control operations in the theater of war or theater of operations, or may establish subordinate joint forces for that purpose, allowing themselves to remain focused on the broader theater (area of responsibility, AOR).

(a) Theater of War. In time of war, the NCA may elect to define a theater of war across peacetime geographic boundaries or a geographic combatant commander may elect to define a theater of war within the geographic combatant commander's AOR. The theater of war is that area of air, land, and water that is, or may become, directly involved in the conduct of war. A theater of war does not necessarily encompass the entire AOR of the geographic combatant commander, and may contain more than one theater of operations. A theater of war should be associated with a strategic objective.

(b) Theater of Operations. The geographic combatant commander may further define one or more theaters of operations within the theater of war. Different theaters of operations within the same theater of war will normally be geographically separate and focused on different enemy forces. Theaters of operations are usually of significant size, allowing for operations over extended periods of time. Subordinate unified commanders and joint force commanders are typically assigned theaters of operations. Theater of operations should be associated with an operational objective.

(2) **Theater Nature**. Each theater is unique and may be viewed from a number of different perspectives. The theater may be viewed in a geographic context, by its associated predominant weather cycles, by an assessment of friendly and enemy situations, and by the degree to which its logistics infrastructure has been developed. These perspectives influence how operations in the theater are conducted. Military strategists often describe theaters as continental, maritime, or littoral, based on their dominant geographic and strategic characteristics. That view of a theater reflects the influence of geography in selecting the predominant type of military forces used, the strategic missions developed, and physical objectives pursued operationally in it. Continental theaters control land and associated air space. Maritime theaters focus on ensuring free use of seas and associated air space. A littoral theater is a combination of continental and maritime theaters, requiring balanced action between land, sea, and air forces. While each is different, they all depend on the synchronized effects of all Services for success.

(a) Continental Theater. Continental theaters emphasize protection of land vital to national security or the destruction of an opponent's means of exercising that same control. USEUCOM and USCENTCOM are examples of continental theaters where army and air forces usually predominate. Operations range from nation assistance activities to limited strike operations and major ground combat engagements with associated air and naval support.

(b) Maritime Theater. Maritime theaters furnish forward defense for the nation and ensure strategic reach of resources. USPACOM and to a large extent USJFCOM are maritime theaters. Naval forces usually predominate. Military actions in these theaters range from indirect support of political initiatives, such as port visits, to limited interventions and major naval engagements with associated support. Potential operations include actions to gain, extend, or maintain control of the seas; major operations to seize or defend land areas; and amphibious operations.

(c) Littoral Theater. Littoral theaters combine major aspects of both continental and maritime theaters and require closely synchronized action between land, sea, and air forces. Littoral theaters are not as well discussed as the previous two, but have been exercised in previous campaigns when the operational line parallels a coastline, or drives a campaign up a peninsula. General MacArthur's campaign for New Guinea in the Southwest Pacific during World War II is a classic example of a littoral theater.

(d) Theater Maturity. Another way to classify theaters is by assessing the existing infrastructure in theater. The mature theater is one able to sustain the initial phase of anticipated combat operations without significant augmentation or development of port facilities, airfields, ground transportation, communications networks, and municipal government functions. Maturity of a theater is often characterized by the presence of forward-deployed U.S. forces and significant host-nation support. Central Europe, the Republic of Korea, and Saudi Arabia are examples of mature theaters.

An immature theater is unable to sustain the initial phase of anticipated combat operations because of limited port facilities, limited ground transportation assets and/or roads, as well as little to no host-nation assistance. Increasingly commanders are being faced with the deployment of forces into states with no discernable government and where the limited infrastructure that existed is not functioning or has been destroyed. Examples of immature theaters are Haiti, Somalia, and much of Africa.

(3) **Theater Weight**. When numerous active theaters compete for limited resources, strategic planners consider them in relation to one another as theaters of focus, economy of force theaters, or deferred theaters. Although it would be rare for any commander to consider his theater anything but the theater of focus, it is important for both him and his staff to understand the overall strategic context and priority in which their theater competes. A theater of focus is the theater of main military effort and receives more political attention and a preponderance of the resources. Until recently, the European theater traditionally has been a theater of focus.

An economy of force theater merits a lesser level of both political significance and force allocation. An example of this dynamic was demonstrated when USSOUTHCOM, executing humanitarian assistance and disaster relief operations in the wake of Hurricane Mitch in Honduras and Nicaragua, had to compete with USEUCOM's pursuit of its campaign in the Balkans. A deferred theater receives the lowest priority for dedicated forces and resources. Strategists determine whether the risk in delaying the support to a particular theater is acceptable based on the current assessment of the threat. Increasingly, because of reduced force structure, certain elements of support to theaters are being deferred. This also becomes evident in the persistent use of dual-apportioned forces for nearly simultaneous major regional contingencies.

d. **The Focal Point: Centers of Gravity**. Just as a painter designs a painting to develop and support a focal point, so too does a JFC craft a campaign plan around the reduction of centers of gravity to achieve the strategic aim of the campaign. Centers of gravity are the foundation of capability, both friendly and enemy. Clausewitz identified the center of gravity as **"the hub of all power and movement on which everything depends … the point at which all our energies should be directed."** Centers of gravity are the characteristics, capabilities, or locations from which a military force derives its freedom of action, physical strength, or will to fight. At the strategic level, centers of gravity might include a military force, an alliance, a set of critical capabilities or functions, or national strategy itself. Accurate analysis of centers of gravity requires detailed knowledge and understanding of the enemy and the leaders and nation they serve.

(1) Analysis of centers of gravity, both enemy and friendly (including allies), must be a continuous process throughout a campaign. An enemy may shift the weight of its attack, thus uncovering or relying on a previously unforeseen center of gravity. In similar fashion friendly forces may develop reliance on other capabilities or forces as the campaign progresses. Enemy centers of gravity will likely be well protected, just as friendly centers of gravity should likewise be well secured. The essence of operational art lies in being able to mass effects against the enemy's sources of power to destroy or neutralize its centers of gravity. In theory, destruction or neutralization of enemy centers of gravity is the most direct path to victory. However, since it is likely that the enemy will shield and protect its center of gravity, a commander may have to initiate indirect attacks until conditions permit a successful direct attack.

(2) Because it is the natural tendency of any force to identify and protect its own centers of gravity, an opposing force must conduct an analysis further to identify **decisive points**. By correctly identifying and controlling decisive points, a commander can gain a marked advantage over the enemy and greatly influence the outcome of an action. Decisive points are usually geographic, such as a chokepoint in a sea line of communication, a hill, a town, or an airbase. They could also include other critical elements such as command posts, critical boundaries, air and sea space, or communications capability. Many times, decisive points will be clustered or lead to a vital intersection or node. These **critical nodes**, once reduced, many times are the keys to exposing vulnerabilities in the center of gravity.

(3) At the strategic level of war, the commander of the theater of war may often see the center of gravity in complex and abstract forms, such as command and control, the will of the people, or the voice of the leadership. At the operational level of war, the JFC is likely to identify a center of gravity that is more concrete, as in a specific enemy unit, significant terrain feature, or base of capabilities. In some situations the commander may feel that he can reduce the center of gravity directly, but it is more likely that a series of engagements to reduce decisive points and critical nodes will be required, thus requiring a campaign design to coordinate the eventual reduction of the center of gravity.

e. **Operational Design**. The painter, having determined the focal point of the picture, its dimensions, and type of material on which to work, will next create the basic design in which to draw out the subject of the picture. The JFC is no different. The commander and his staff, having received strategic guidance and having assessed the nature of the theater as well as the vulnerabilities of their adversary, will next decide on the basic design of the campaign and the anticipated approach.

(1) **Operational Approach**. One of the fundamental purposes of a campaign plan is to achieve synchronized employment of all available land, sea, air, and special forces. To achieve this goal the JFC and staff must understand not only Service force capabilities and limitations, but also how the Services interrelate at the theater level.

(a) Symmetrical Relationships. The most familiar operations and those that each Service considers its first priority are to successfully counter an adversary that opposes them in their own operating sphere or environment: ground forces versus ground forces, sea forces versus sea forces, etc. (**Figure 3-4**). This is how most Services viewed warfare before World War II and is the relationship that military officers must first master–how to win in their own element.

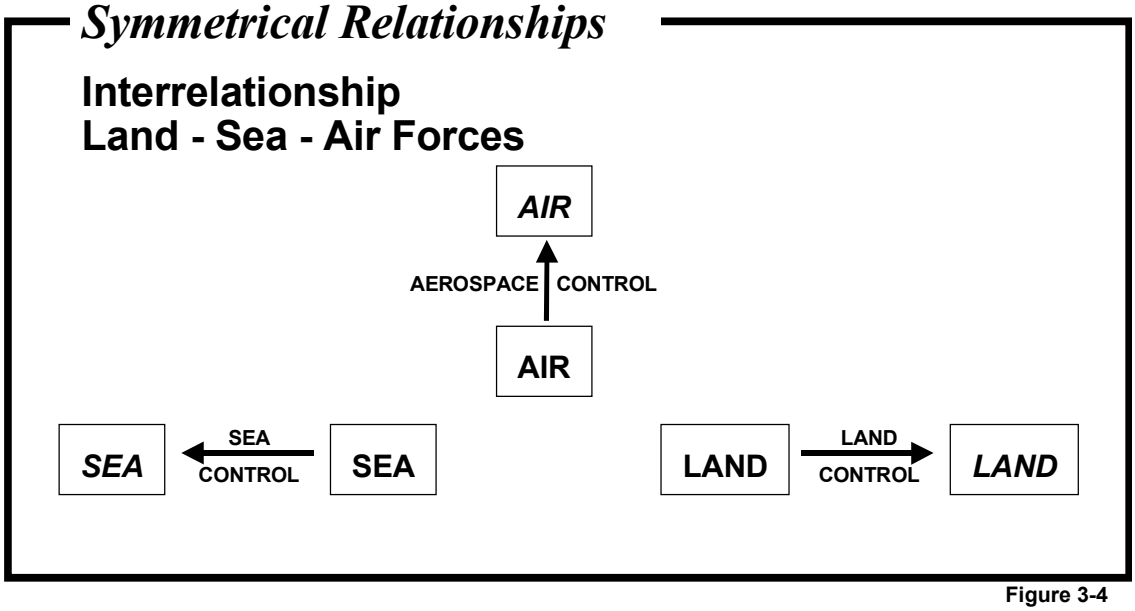

Figure 3-4

- Land versus land–Land Control Operations. Traditional ground combat was typified by the battles between Lee and Grant during the American Civil War or by the Allies and Central Powers in France during World War I.
- Sea versus sea–Sea Control Operations. Classic naval warfare was typified by the Battle of Jutland, the climactic naval battle in World War I that allowed the British to retain command of the sea and continue the blockade of Imperial Germany.
- Air versus air–Aerospace Control Operations. This direct relationship was well demonstrated during the early stages of the Battle of Britain.

Symmetrical relationships are the best understood, because it is in this manner that the military first masters its skills. It is the responsibility of the respective Services to ensure that their Service is master of its own environment. Failure to so prevents execution of the Services beyond this basic relationship.

(b) Mutually Supporting Relationships. Mutually supporting relationships are close operations with one Service in support of another that require detailed coordination to help the supported Service obtain control of its respective environment from its symmetric threat (**Figure 3-5**). With the advent of full-dimensional war of World War II, these mutually supporting relationships became better understood and widely practiced.

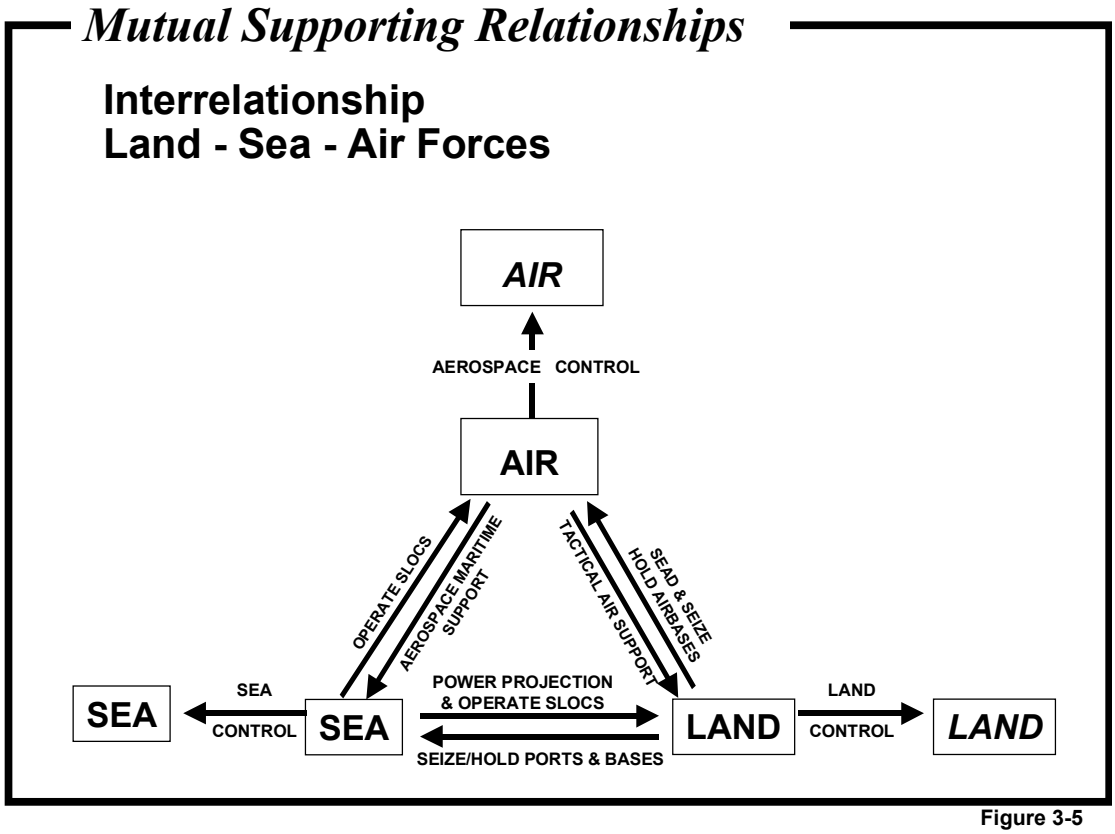

Figure 3-5

- Air support to Land–Tactical air support. This relationship includes all manner of air support furnished to land forces requiring close integration of effects (e.g., close air support, air reconnaissance, tactical airlift, etc.).
- Air support to Sea–Aerospace maritime support. Such support includes all manner of air support to assist and protect friendly naval forces and shipping (e.g., coastal air force operations in the Mediterranean protecting Allied convoys in 1942 or aerial refueling by Air Force of naval carrier air).
- Sea support to Land–Power projection and SLOC protection. This long-standing relationship includes supporting land campaigns using naval forces (e.g., carrier close air support, naval gunfire, amphibious assaults, sustainment of land forces, etc.).
- Sea support to Air–Naval support to air forces includes SLOC operations in the sustainment of air forces and naval air augmentation to air forces. Most air ordnance for sustained air operations comes by sea.
- Land support for Air–This includes ground forces' seizure and defense of air bases, and attacks to augment suppression of enemy air defenses (SEAD) (e.g., initial seizure of airfields in Operation JUST CAUSE, destruction of Egyptian air defense missile batteries by Israeli armor).
- Land support for Sea–This includes ground forces' seizure and defense of naval bases, ports, and SLOC chokepoints (e.g., U.S. Army securing the Panama Canal during Operation JUST CAUSE).

These mutually supporting relationships have evolved extensively since World War II and have frequently been the topic of aggressive debate between Services. Mutually supporting relationships tend to highlight points of contention in command and control, boundaries and control measures, and degree and duration of support, as well as the ability to communicate. Mutually supporting relationships can significantly strengthen the joint force, but also generate increased friction that must be managed.

(c) Asymmetrical Relationships. Asymmetrical relationships exist when opposing forces engage each other outside their generally accepted environments (**Figure 3-6**). These operations are designed to engage the adversary in a dimension that is unexpected and thus vulnerable, because it has not anticipated protecting its force from the threat outside the expected engagement environment. Normally asymmetrical relation ships are deep operations not requiring detailed coordination between Services and in which tremendous efficiency can be obtained due to the asymmetries. These operations can also be considered high risk in the event that the enemy has shielded itself properly from such an attack. Asymmetrical relationships permit the joint force commander to mass selective capabilities of his land, sea, air, and special forces, thus creating simultaneity and depth to the area of operations.

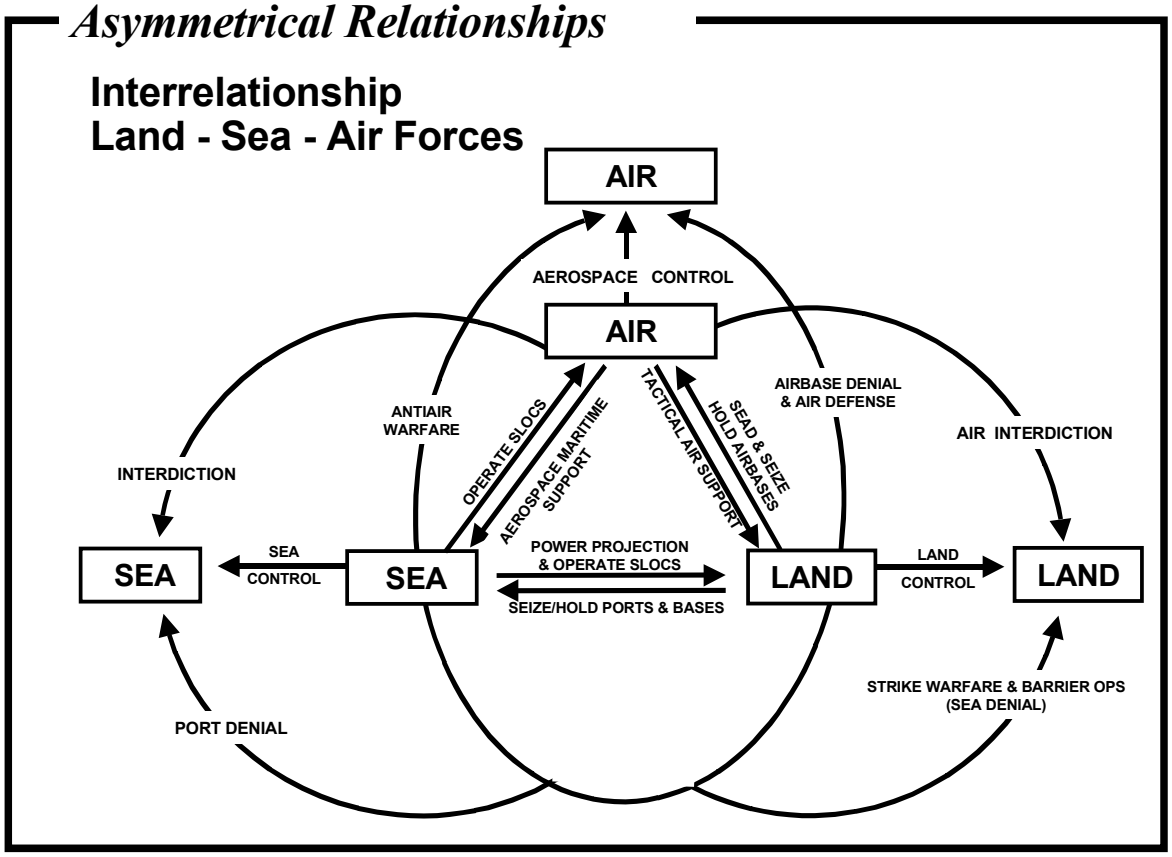

Figure 3-6

- Air versus Sea–Interdiction. This envisions friendly air forces reaching deep within the area of operations to engage enemy surface units or ports. During the Battle of the Bismarck Sea, the 5th U.S. Air Force under the command of General Kenney destroyed a Japanese naval troop convoy (seven transports and four destroyers). Other examples include long-range bombers armed with antiship missiles and mines.
- Air versus Ground–Air Interdiction. Air actions disrupt or destroy the enemy's ground military potential before it can be used effectively against friendly forces (e.g., air strikes against the Iraqis during the Persian Gulf War, or the Kosovo bombings in support of Balkan peacekeeping missions).
- Sea versus Land–Barrier and strike operations. Naval operations can be designed to achieve sea denial and isolate enemy ground forces or destroy enemy deep targets ashore (e.g., the neutralization and bypassing of the enemy ground forces in New Guinea, Truk, and Rabaul during the Southwest Pacific campaign).
- Sea versus Air–Antiair warfare. This relationship includes the destruction of enemy air platforms from naval surface, subsurface, and air elements (e.g., carrier air or cruise missile attacks on enemy air bases, as in the Persian Gulf War and the Kosovo conflict).

- Land versus Sea–Raids by ground forces against enemy naval bases, ports, and waterways constitute actions in this relationship (e.g., the elimination of German submarine bases in France in 1944 by Allied ground action or the capture of the British naval base at Singapore via land by the Japanese in 1942). Coastal defense gun and missile batteries by some nations adjacent to SLOC chokepoints should also be considered.
- Land versus Air–These may be raids by ground forces to destroy air defense installations and ensure air base denial (e.g., the seizure of Guadalcanal by the U.S. Marines in 1942 to deny the use of the island airfield to the Japanese or the destruction of key aircraft on the ground by special forces).

The JFC must select the forces that are capable of generating the effects that will accomplish the mission. There are often forces from more than one Service that offer a given capability. For example, defensive counter-air tasks may be performed by not only U.S. Air Force F-14 or F-16 fighters, but also U.S. Navy F-14s and F-18s as well as U.S. Marine aircraft. Likewise, fire support for land warfare may be furnished by either U.S. Army or U.S. Marine artillery, or by U.S. Navy surface fires support. In addition, deep ground interdiction missions can be effectively executed by all Services. Selecting the appropriate Service with the right capability for the effects needed to accomplish the mission is a demonstration of effective operational planning.

(2) **Lines of Operation**. A second consideration in designing the elements of a campaign is to analyze the lines of operation that both friendly and enemy forces are likely to take to achieve their respective strategic missions. Lines of operation define the directional orientation of a force in relation to the enemy. These lines connect the force with its base of operations with its strategic objective. Normally, a campaign has a single line of operation, although multiple lines are not uncommon. Classic military theory distinguishes between exterior and interior lines of operation.

- A force operates on interior lines when its operations diverge from a central point or base of operations. Interior lines generally benefit the weaker force by allowing it to shift the main effort laterally more rapidly than an enemy on exterior lines. Conceptually, a force is operating on interior lines if it has an operational mobility advantage over its opponent. This advantage can be achieved by the traditional means of geography, through better technology and transportation infrastructure, or by better training.

A force operates on exterior lines when its operations converge on the enemy. Successful operations on exterior lines require a stronger or more mobile force, but offer the opportunity to encircle and annihilate a weaker or less mobile opponent. Campaign planning must recognize advantages and vulnerabilities of working interior and/or external lines of operation, as well as recognizing the critical lines of operation to be protected or severed. In modern war, lines of operation attain a multidimensional aspect and pertain to more than just maneuver. JFCs use lines of operation to focus the effects of combat power to have impact on the strategic objective. JFCs apply combat power throughout

the dimensions of time, space, and networks in a logical synchronized design that integrates the capabilities of the joint force to converge on and defeat the enemy centers of gravity.

(3) **Operational Reach**. Operational reach is the distance over which military power can be concentrated and employed decisively. Reach is greatly influenced by geography surrounding and separating the opponents and is extended by locating forward forces, reserves, bases, and logistics. This in turn creates vulnerabilities that must be shielded or protected in order to sustain the reach. For any given operation there is a finite range beyond which the joint force cannot prudently operate, a point where the operational commander has extended the force and exposed vulnerabilities that the opposing force can exploit without putting its force at risk. Thus, forward presence of troops, basing, third nation support, and full-dimensional protection become key in the successful extension of operational reach and prevent culmination.

(4) **Culminating Point**. The culminating point is the point in time and space at which an attacker's combat power no longer exceeds that of the defender. Here the attacker greatly risks counterattack and defeat and continues the attack only at great risk. Culmination has both offensive and defensive application. In the offense, success in the attack at all levels is to secure the objective before reaching culmination. A defender reaches culmination when the defending force no longer has the capability to go on the counteroffensive or defend successfully. Success in the defense is to draw the attacker to culmination, then strike when the attacker has exhausted available resources and is ill disposed to defend successfully.

Synchronization of logistics with combat operations can forestall culmination and help commanders control the tempo of their operations. At both tactical and operational levels, theater logistics planners' forecast the drain on resources associated with conducting operations over extended distance and time. They respond by generating enough military resources at the right times and places to enable their commanders to achieve strategic objectives before reaching their culminating points. If the commanders cannot do so, they should rethink their concept of operations.

f. **Loading the Commander's Palette: Facets of Operational Art**. Once the artist has prepared the canvas, pictured the focal point, and designed the development of the masterpiece, he then loads the palette with the colors needed to bring the painting to life. For the JFC, the process is no different. Now that the campaign has been roughly outlined, he loads his palette with the principles and facets of operational art that will bring the campaign to life. No two commanders load their operational palette the same way, nor will they apply the principles and various considerations of warfare in the same manner. Listed below are some of the considerations with which a joint force commander will load the operational palette. They are presented in no particular order and reflect no priority. Detailed discussions of the considerations listed below can be found JP 3-0, Chapter III and Appendix A.

(1) **Principles of War**. The principles of war guide warfighting at the strategic, operational, and tactical levels. They are the enduring bedrock of U.S. military doctrine (**Figure 3-7**).

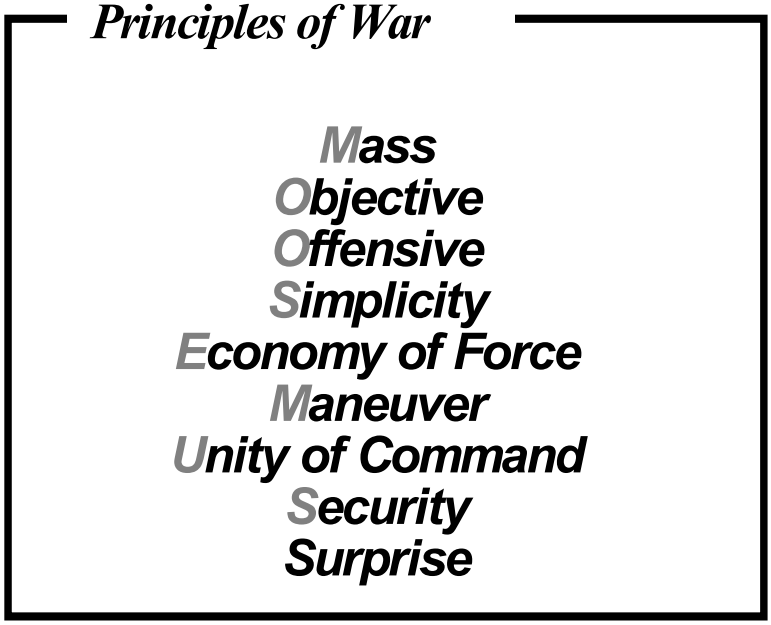

Figure 3-7

- **Objective**. The purpose of the objective is to direct every military operation toward a clearly defined, decisive, and attainable result. The objective of combat operations is the destruction of the enemy armed forces' capabilities and will to fight. The objective of an operation other than war might be more difficult to define; nonetheless, it too must be clear from the beginning. Objectives must directly, quickly, and economically contribute to the purpose of the operation. Each operation must contribute to strategic objectives. Actions that do not contribute directly to achieving the objective should be avoided.

- **Offensive**. The purpose of an offensive action is to seize, retain, and exploit the initiative. Offensive action is the most effective and decisive way to attain a clearly defined objective. Offensive operations are the means by which a military force seizes and holds the initiative while maintaining freedom of action and achieving decisive results. The importance of offensive action is fundamentally true across all levels of war. Commanders adopt the defensive only as a temporary expedient and must seek every opportunity to seize or retake the initiative. An offensive spirit must therefore be inherent in the conduct of all defensive operations.

- **Mass**. The purpose of mass is to concentrate the effects of combat power at a place and time that will permit the force to achieve decisive results. To achieve mass is to synchronize appropriate joint force capabilities where they will have

decisive effect in a short period of time. Mass often must be sustained to have the desired effect. Massing effects, rather than concentrating forces, can enable even numerically inferior forces to achieve decisive results and minimize human losses and waste of resources.

- **Economy of Force**. The purpose of economy of force is to allocate the minimal essential combat power to secondary efforts. Economy of force is the judicious employment and distribution of forces. It is the measured allocation of available combat power to such tasks as limited attacks, defense, delays, deception, or even retrograde operations in order to achieve mass elsewhere at the decisive point and time.

- **Maneuver**. The purpose of maneuver is to place the enemy in a position of disadvantage through the flexible application of combat power. Maneuver is the movement of forces in relation to the enemy to secure or retain positional advantage, usually in order to deliver – or threaten delivery of – the direct and indirect fires of the maneuvering force. Effective maneuver keeps the enemy off balance and thus also protects the friendly force. It contributes materially to exploiting successes, preserving freedom of action, and reducing vulnerability by continually posing new problems for the enemy.

- **Unity of Command**. The purpose of unity of command is to ensure unity of effort under one responsible commander for every objective. Unity of command means that all forces operate under a single commander with the requisite authority to direct all forces employed in pursuit of a common purpose. Unity of effort, however, requires coordination and cooperation among all forces toward a commonly recognized objective, although they are not necessarily part of the same command structure. In multinational and interagency operations, unity of command may not be possible, but the requirement for unity of effort becomes paramount. Unity of effort – coordination through cooperation and common interests – is an essential complement to unity of command.

- **Security**. The purpose of security is never to permit the enemy to acquire unexpected advantage. Security enhances freedom of action by reducing friendly vulnerability to hostile acts, influence, or surprise. It results from the measures taken by commanders to protect their forces. Staff planning and an understanding of enemy strategy, tactics, and doctrine will enhance security. Although risk is inherent in military operations, application of this principle includes prudent risk management, not undue caution. Protecting the force increases friendly combat power and preserves freedom of action.

- **Surprise**. The purpose of surprise is to strike the enemy at a time or place or in a manner for which it is unprepared. Surprise can help the commander shift the balance of combat power and thus achieve success well out of proportion to the effort expended. Factors contributing to surprise include speed in decision-making, information sharing, and force movement; effective intelligence; deception; application of unexpected combat power; OPSEC; and variations in tactics and methods of operation.

- **Simplicity**. The purpose of simplicity is to prepare clear, uncomplicated plans and concise orders to ensure thorough understanding. Simplicity contributes to successful operations because simple plans, and clear, concise orders minimize misunderstanding and confusion. When other factors are equal, the simplest plan is preferable, allowing better understanding and execution planning at all echelons. Simplicity and clarity of expression greatly facilitate mission execution in the stress, fatigue, and other complexities of modern combat and are especially critical to success in combined operations.

(2) **Principles of Operations Other than War (OOTW)** (**Figure 3-8**). Military operations other than war encompass a wide range of activities where the military instrument of national power is used for purposes other than the large-scale operations usually associated with war. These operations have become increasingly frequent as major conventional threats give way to asymmetric, transnational threats. Although half of these principles are the same as the original principles of war, additional aspects need to be considered by the JFC and staff.

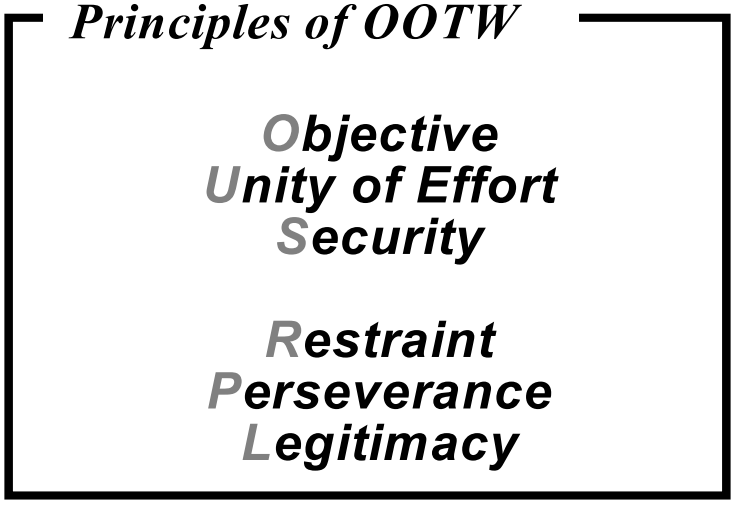

Figure 3-8

- **Objective**. Every military operation must be directed toward achieving a clearly defined, decisive, and attainable result. This principle of war applies also to operations other than war. A clearly defined and attainable objective–with a precise understanding of what constitutes success–is critical when the United States is involved in operations other than war. Military commanders should also understand what specific conditions could result in mission termination, as well as those that could fail. JFCs must also understand the strategic aims, set appropriate objectives, and ensure that these aims and objectives contribute to unity of effort with other agencies.

- **Unity of Effort**. Unity of effort must be sought in every operation. The principle of unity of command in war also applies to operations other than war; but, in operations other than war, this principle may be more difficult to attain. In those opera-

tions, other government agencies may often have the lead. Commanders may answer to a civilian chief, such as an ambassador, or may themselves employ the resources of a civilian agency. Command arrangements may often be only loosely defined and many times will not involve command authority as understood within the military. Such an arrangement may cause commanders to seek an atmosphere of cooperation to achieve objectives by unity of effort. Military commanders need to consider how their actions contribute to initiatives that are also diplomatic, economic, and informational. Because operations other than war will often be conducted at the small-unit level, it is important that all levels understand the military-civilian relationship to avoid unnecessary and counterproductive friction.

- **Security**. Hostile factions must never be permitted to acquire an unexpected advantage. In joint operations other than war, security deals principally with force protection against virtually any person, element, or group hostile to one's interests. These could include a terrorist, a group opposed to the operation, and even looters after a natural disaster. JFCs also should be ready constantly to counter activity that could bring significant harm to units or jeopardize mission accomplishment. Inherent in this responsibility is the need to be capable of rapid transition from a peaceful to a combat posture should the need arise. The inherent right of self-defense from the unit to the individual level applies to all operations.

- **Restraint**. Appropriate military capability must be applied prudently. The actions of military personnel and units are framed by the disciplined application of force, including specific ROE. In operations other than war, these ROE will often be more restrictive, detailed, and sensitive to political concerns than in war. Moreover, these rules may change frequently during operations. Restraints on weaponry, tactics, and levels of violence characterize the environment. The use of excessive force could adversely affect efforts to gain or maintain legitimacy and impede the attainment of both short- and long-term goals. This concept does not preclude the application of overwhelming force, when appropriate, to display U.S. resolve and commitment. The reasons for the restraint often need to be understood by the individual Service member because a single act could cause critical political consequences.

- **Perseverance**. Commanders must prepare for the measured, protracted application of military capability in support of strategic aims. Some operations other than war may be short while others protracted. Peacetime operations may require years to achieve the desired effects. Underlying causes of confrontation and conflict rarely have a clear beginning or a decisive resolution. It is important to assess crisis response options against their contribution to long-term strategic objectives. This assessment does not preclude decisive military action but does require careful, informed analysis to choose the right time and place for such action. Commanders balance their desire to attain objectives quickly with sensitivity for the long-term strategic aims and the restraints placed on operations. Therefore, the patient, resolute, and persistent pursuit of national goals and objectives, for as long as necessary to achieve them, is often the requirement for success.

- **Legitimacy**. Legitimacy is the willing acceptance by the people of the right of the government to govern or of a group or agency to make and carry out decisions. This principle focuses on internationally sanctioned standards, as well as the perception that authority of a government to govern is genuine, effective, and uses proper agencies for reasonable purposes. Joint force operations need to sustain the legitimacy of the operation and of the host government. During operations where a government does not exist, extreme caution should be used when dealing with individuals and organizations to avoid inadvertently legitimizing them. PSYOP can enhance both domestic and international perceptions of the legitimacy of an operation.

(3) **Facets of Operational Art**. The use of the principles of operations lays the foundation of the campaign, but the true distinctiveness of each campaign is defined through the use and style in applying the various fundamental elements of operational art to the planning process. Some of these elements have been referred to in the previous discussion on designing the campaign(**Figure 3-9**). Both those and the additional facets below should be considered when a JFC initially envisions a campaign (detailed discussion is found in JP 3-0, Chap III).

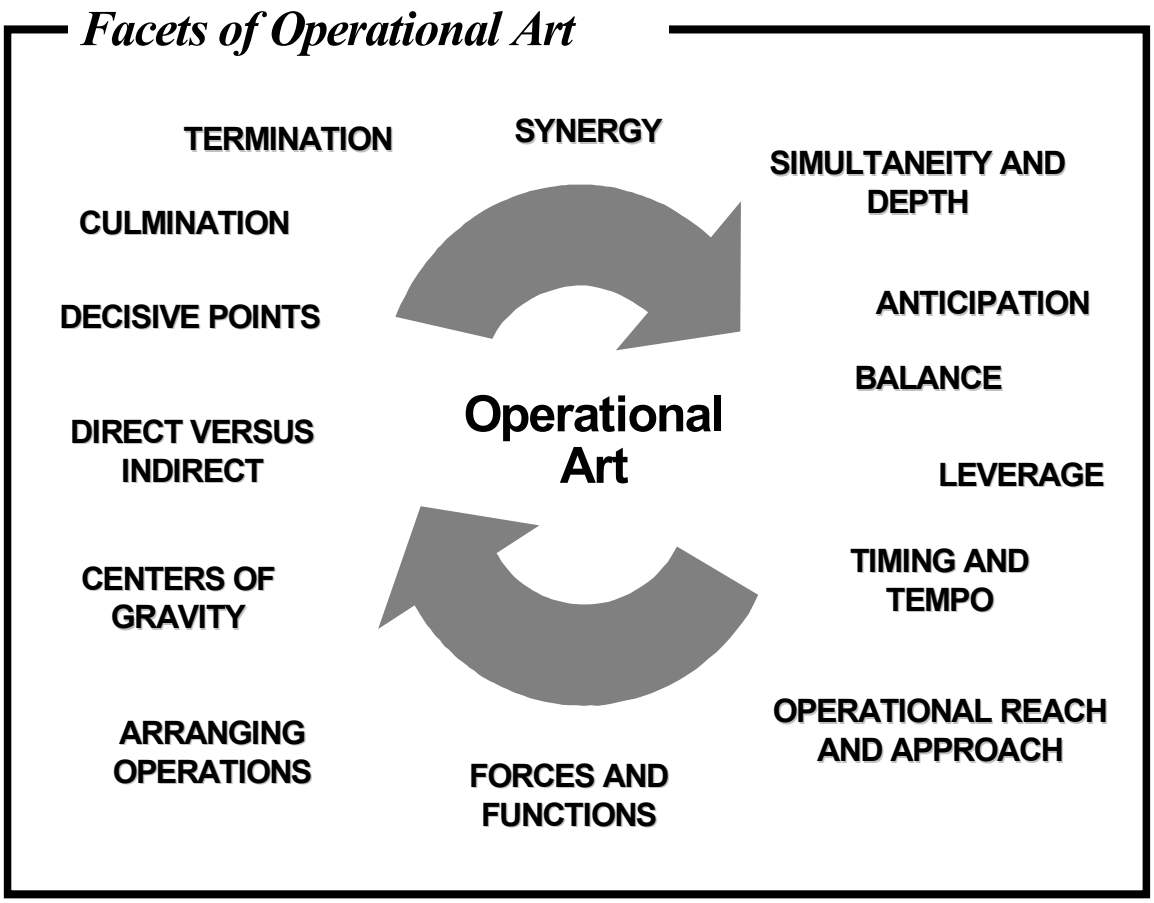

Figure 3-9

- **Synergy**. JFCs employ air, land, sea, space, and special operations forces in a wide variety of operations in war and in operations other than war. They not only attack the enemy's physical capabilities but also its morale and will. When required to employ force, JFCs seek combinations of forces and actions to achieve concentration in various dimensions, all culminating in attaining the assigned objectives in the shortest time possible and with minimal casualties. By arranging symmetrical and asymmetrical actions, JFCs take advantage of friendly strengths and enemy vulnerabilities and preserve freedom of action for future operations. The combination of these actions results in an impact on the enemy greater than if the actions were conducted individually. Furthermore, the synergy achieved by synchronizing the actions of air, land, sea, space, and special operations forces in joint operations and in multiple dimensions enables JFCs to project focused capabilities that present no seams or vulnerabilities for an enemy to exploit.

- **Simultaneity and Depth**. The concepts of simultaneity and depth are foundations of deep operations theory. The intent is to bring force to bear on the opponent's entire structure in a near-simultaneous manner that is within the decision-making cycle of the opponent. The goal is to overwhelm and cripple enemy capabilities and will to resist. Simultaneity refers to the simultaneous application of capability against the full array of enemy capabilities and sources of strength. In joint force operations it contributes directly to an enemy's collapse by placing more demands on enemy forces and functions than can be handled. Simultaneity also refers to the concurrent conduct of operations at the tactical, operational, and strategic levels. JFCs should not allow an enemy sanctuary or respite.

Joint force operations should be conducted across the full breadth and depth of the operational area, creating competing and simultaneous demands on enemy commanders and resources. Operations extended in depth, in time as well as space (geographically), shape future conditions and can disrupt an opponent's decision cycle. Depth contributes to protection of the force by destroying enemy potentials before its capabilities can be realized and employed.

- **Anticipation**. Anticipation is key to effective planning. JFCs should remain alert for the unexpected and for opportunities to exploit the situation. They continually gather information by personally observing and communicating with subordinates, higher headquarters, other forces in the operational area, and allies and coalition members. To avoid surprise, JFCs monitor operations as they unfold and signal to their staff and subordinate units the actions they are to take to stay in control of events as much as possible. Monitoring assures situational awareness, a prerequisite for commanders and planners to be able to anticipate opportunities and challenges. Intelligence preparation of the battlespace (IPB) can assist JFCs in defining likely or potential enemy COAs, as well as the indicators that suggest the enemy has embarked on a specific COA. JFCs also anticipate the impact of operations and prepare for their results, such as the surrender of large numbers of opposing forces. Commanders and planners should carefully consider

the information upon which decisions are being based. Where possible, multiple or redundant sources of information from various dimensions should be employed in the decision-making process.

- **Balance**. Balance is the maintenance of the force, its capabilities, and its operations in such a manner as to contribute to freedom of action and responsiveness. Balance refers to the appropriate mix of forces and capabilities within the joint force as well as the nature and timing of operations conducted. JFCs strive to maintain friendly force balance while aggressively seeking to disrupt an enemy's balance by striking with powerful blows from unexpected directions or dimensions and pressing the fight (operational reach).

Even as it defeats one enemy force, the joint force prepares to turn and strike another. Preserving the responsiveness of component capabilities is central to operational art. For that reason combinations of operations and organization of the joint force should maintain or expand force responsiveness. Decentralization of authority can contribute to responsiveness by reducing the distance in time and space between decision-makers. To assist in maintaining the balance of the force, JFCs designate priority efforts and establish appropriate command relationships.

- **Leverage**. JFCs gain decisive advantage over the enemy through leverage, which can be achieved in a variety of ways. For example, JFCs arrange symmetrical and asymmetrical actions to take advantage of friendly strengths and enemy vulnerabilities and to preserve freedom of action for future operations. Asymmetrical actions that pit joint force strengths against enemy weaknesses and maneuver in time and space can provide decisive advantage. In addition, synergy from the concentration and integration of joint force actions also gives JFCs decisive advantage. Leverage thus allows JFCs to impose their will on the enemy, increase the enemy's dilemma, and maintain the initiative. Finally, dimensional superiority, isolation of the enemy, and attack on enemy strategic centers of gravity can contribute to joint force leverage.

- **Timing and Tempo**. The joint force should conduct operations at a tempo and time that best exploit friendly capabilities and inhibit the enemy. As technological advancements and innovative doctrines have been applied to military requirements, the tempo of warfare has increased over time. JFCs may also vary the tempo of operations. For instance, during selected phases of a campaign, JFCs may elect to reduce the pace of operations, frustrating enemy commanders while buying time to build a decisive force or tend to other priorities in the operational area such as relief to displaced persons. During other phases, by contrast, JFCs may conduct high-tempo operations designed specifically to exceed enemy capabilities.

While JFCs may have substantial capabilities available, they selectively apply them in a manner that synchronizes their application in time, space, and purpose. With proper timing, JFCs can dominate the action, remain unpredictable, and operate beyond the enemy's ability to react. Defining priorities assists in the timing of operations, which refers to the effects achieved as well as to the application of force. JFCs plan and conduct operations in a manner that synchronizes the effects of operations, so that the maximum benefit of their contributions is exerted on the opponent at the desired time. Although some operations of the joint force can achieve near-immediate effects, JFCs may elect to delay their application until the contributions of other elements can be brought to bear in a synchronized manner.

- **Forces and Functions**. Commanders and planners can design campaigns and operations that focus on defeating either enemy forces or functions, or a combination of both. Typically, JFCs structure operations to attack both enemy forces and functions concurrently in order to create the greatest possible contact area between friendly and enemy forces and capabilities. These types of operations are especially appropriate when friendly forces enjoy technological and/or numerical superiority over an opponent. Even without that advantage, JFCs can focus on destroying and disrupting critical enemy functions such as C2, supply, and air defense. Such an attack is normally intended to destroy enemy balance, thereby creating vulnerabilities to be exploited. Destruction or disruption of critical enemy functions can create uncertainty, confusion, and even panic in enemy leadership and forces and may contribute directly to the collapse of enemy capability and will.

- **Arranging Operations**. For major operations, JFCs must determine the best arrangement, which will often be a combination of simultaneous and sequential operations to achieve the desired end state quickly with the least cost in personnel and other resources. The dynamic nature of modern warfare that includes projection of forces complicates decisions concerning how to best arrange operations. During force projection operations, for example, a rapidly changing enemy situation may cause the commander to alter the planned arrangement of operations even as forces are deploying. The arrangement the commander chooses should not foreclose future options. Thus commanders consider a variety of factors, including geography of the operational area, available strategic lift, changes in command structure, logistic buildup and consumption rates, enemy reinforcement capabilities, and public opinion.

Analysis and design of the best arrangement helps determine tempo of activities in time and space. To assist in arranging operations most campaigns and their operations are commonly broken into five **phases**: prehostilities, **lodgment**, **decisive combat operations**, **follow-through**, and **transition/redeployment**. Phasing may be sequential, concurrent, or overlapping. Since logistics is crucial to phasing, joint force planners consider establishing logistics bases, opening and maintaining LOCs, establishing intermediate logistics bases to support new phases, and defining priorities for services and support. Key to arranging the operations of campaigns, logistics should be planned and executed as a joint responsibility. Because changes in phases at any level can represent a period of

vulnerability for the force, missions and task organizations must then also often change. The careful planning of branches and sequels, however, can reduce the risk associated with transition between phases.

- **Branches and Sequels**. No plan can be projected with confidence much beyond the initial stages of an operation. Commanders thus build flexibility into their plans to preserve freedom of action in rapidly changing conditions. The use of branches and sequels, which directly relate to the concept of phasing, can add flexibility to a campaign or major operation plan.

Branches are options built into the basic plan and may include shifting priorities, changing unit organization and command relationships, or changing the very nature of the joint operation itself. They add flexibility to plans by anticipating situations that could alter the basic plan. **Sequels** are subsequent operations based on the possible outcomes of the current operation–victory, defeat, or stalemate. At the campaign level, phases can be viewed as the sequels to the basic plan.

- **Direct versus Indirect**. To the extent possible, JFCs attack enemy centers of gravity directly. But when direct attack means attacking into an opponent's strength, JFCs should seek an indirect approach. For example, if the center of gravity is a large enemy force, the joint force may attack it indirectly by isolating it from its C2, severing its LOCs (including resupply), and defeating or degrading its air defense and indirect fire capability. When vulnerable, the enemy force can be attacked directly by appropriate elements of the joint force. In that way, JFCs will employ a synchronized combination of operations to expose and attack enemy centers of gravity through weak or vulnerable points–seams, flanks, specific forces or military capabilities, rear areas, and even military even military morale and public opinion or support.

- **Termination**. Knowing when to terminate military operations and how to preserve achieved advantages is a component of strategy and operational art. Before forces are committed, JFCs must know how the NCA intend to terminate the operation and ensure that its outcomes endure, and then determine how to implement that strategic design at the operational level. In war, termination design is driven in part by the nature of the war itself. Wars over territorial disputes or economic advantage tend to be interest-based and lend themselves to negotiation, persuasion, and coercion. Wars fought in the name of ideology, ethnicity, or religious or cultural primacy tend to be value-based and reflect demands that are seldom negotiable.

Often, though, wars are a result of both value and interest-based differences. The underlying causes of a particular war–such as cultural, religious, territorial, or hegemonic differences–must influence the understanding of conditions needed to terminate hostilities and resolve the conflict. JFCs and their subordinate commanders consider the conditions necessary to bring operations to a favorable end. They translate political aims into strategy and operational design then give decision-makers critical information on enemy intent, objectives, strategy, and chances of success in obtaining desired goals. Ideally,

national and allied or coalition decision-makers will seek the advice of senior military leaders concerning how and when to end combat operations. Military operations typically conclude with attainment of the strategic ends for which the NCA committed forces.

The joint force commander's palette is now loaded with many of the colors needed to create the campaign plan. Commanders all organize, design, and paint their campaigns differently. Some use each principle and element of operational art on their palettes while others use some colors sparingly, others more generously. Not all the considerations that may influence a campaign have been discussed in these few pages; however, many of the predominant considerations have been identified. In summary, the development of operational plans is a dynamic and creative art that varies not only due to differing situations, but also according to the uniqueness of the commanders and their planners.

302. THEATER STRATEGY. One of the first and most elementary steps in exercising operational art is the establishment of a theater strategy. The combatant commander, having received basic strategic guidance in the forms of the National Security Strategy and the National Military Strategy as well as specific tasking from the Joint Strategic Capabilities Plan (JSCP). The commander adapts that strategy to his specific theater and incorporates his concept and priority of effort to attain specific strategic objectives throughout the operational continuum, from war to preserving the peace.

Theater Strategy. The art and science of developing integrated strategic concepts and course of action directed toward securing the objectives of national and alliance or coalition security policy and strategy by the use of force, threatened use of force, or operations not involving the use of force within a theater. (**JP 1-02**)

The CINCs translate national and alliance strategic tasks, objectives, and authoritative direction into theater strategy. The theater strategy incorporates each CINC's strategic estimate (theater assessment) and is expressed as strategic concepts and broad courses of action for the accomplishment of specified or implied missions. The theater strategy is the basis of wartime campaign planning within the theater.

a. **Foundations of Theater Strategy**. As previously mentioned, the theater strategy is based on the NSS, NMS, and JSCP tasking. In addition, the combatant commander must consider applicable Presidential Decision Documents (PDD), public statements of policy by the Administration and Congress, the Joint Strategic Review and other applicable assessments, theater treaty obligations, and multinational support agreements, as well as the various mission planning statements of the U.S. ambassadors within the theater. The theater strategy, although captured in a written form, is not a static document. It must be continually reviewed in relation to the ever-changing operational environment in-theater to ensure that it adequately translates national strategic aims into attainable objectives in the way the combatant commander chooses to attain them.

b. **Elements of Theater Strategy**. In very basic terms a combatant commander's theater strategy is a means of articulating how (*ways*) the CINC intends to achieve strategic objectives (*ends*) with the resources that are available in the theater (*means*). In doing so the CINC publishes a strategic vision in the commander's intent that guides all elements of the command through peace, crisis, and war. In addition, the theater strategy should contain guidance for interagency coordination, and multinational and nongovernmental organization (NGO) cooperation, as well as establish fiscal programming priorities for component forces in-theater and for security assistance initiatives (**Figure 3-10**). A list of possible considerations in developing a theater strategy follows:

- Based on a continuous theater estimate
- Publishes CINC's strategic vision and intent
- Written in terms of *Ends*, *Ways*, and *Means*
- Guides entire command throughout the operational continuum
- Protects and supports national and alliance interests
- Responds to transnational and nontraditional threats
- Provides concepts and prioritizes peacetime engagement activities
- Furnishes deterrence measures and options
- Outlines concepts for regional war and small-scale contingencies
- Considers resolution of conflict
- Serves as basis for programming and budget decisions

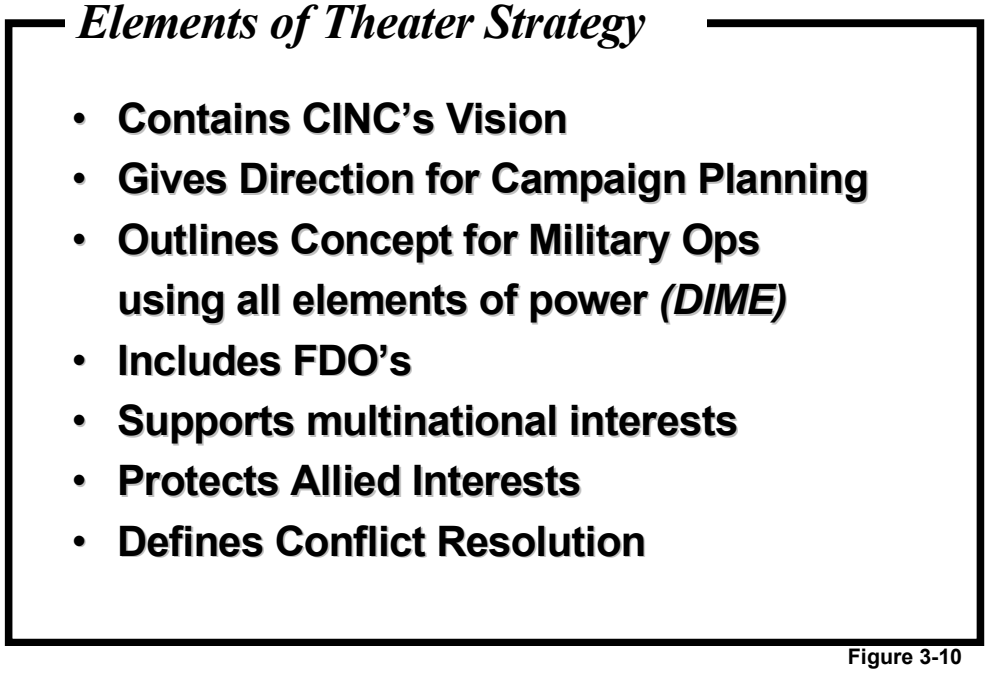

Figure 3-10

- Establishes concepts for interagency cooperation and for supporting other combatant commanders
- Contains strategic direction for further theater planning

To effectively craft the theater strategy it is necessary to understand in depth the context of the theater where the strategy is to be implemented. The vehicle for assessing the theater is the theater estimate.

c. **Theater Estimate**. The estimate process is central to formulating and updating military action to meet the requirements of any situation. The strategic estimate is the process by which a theater commander assesses the broad strategic factors that influence the theater strategic environment, thus further determining the missions, objectives, and courses of action throughout their theaters. A continuous process, it is based on strategic direction received from the NCA that leads to the formulation of a theater strategy. Commanders and staffs at all levels use the estimate process. Though its central framework for organizing inquiry and decision is essentially the same for any level of command, specific detailed questions within each part will vary depending on the level and type of operation. The framework presented below is outlined in JP 3-0, Appendix B. Specific material appropriate to joint force operations, especially for theaters of war and theaters of operations, has been added to flesh out the basic framework.

(1) **Mission**. As in any decision process, defining the problem, task, or job to be done is vital. Although tasks are received from higher authorities, a command should not consider having received a mission until the commander and staff have analyzed it and has been restated, tailored, and oriented with purpose.

- **Mission Analysis**. The commander and staff must determine the higher command's purpose. They analyze national security and national military strategic direction as well as appropriate guidance in alliance and coalition directions, including long- and short-term objectives for conflict termination. Conflict termination objectives should include the military objectives that will be the basis for realizing the political aim regardless of whether an imposed or negotiated termination is sought. Most critical to this process is to determine specified and implied tasks. If there are multiple tasks, priority and weight of effort must be determined.

- **Mission Statement**. Once the mission has been thoroughly analyzed, the commander must articulate it in a clear, concise statement of the essential tasks to be accomplished and the purpose to be achieved. The statement must be expressed in terms of who, what, when, where (task parameters), and why (purpose).

(2) **Situation and Courses of Action (COA)**. Once the mission has been articulated, the various contexts within the theater in which it must be accomplished are reviewed. The contextual review sets parameters within which to frame the various COAs.

- **Situation Analysis**

•• The Geo-strategic context is viewed from domestic and international perspectives reviewing pertinent information concerning the following topics:

••• political and/or diplomatic long- and short-term causes of conflict

••• domestic influences, including public will, competing demands for resources, and political, economic, legal, and moral constraints

••• international interests (reinforcing or conflicting with U.S. interests, including positions of parties neutral to the conflict), international law, positions of international organizations, and other competing or distracting international situations

•• Characteristics of the operational area, including the following:

••• military geography (topography, hydrography, climate, and weather)

••• transportation

••• telecommunications

••• economics (organization, industrial base, mobilization capacity)

••• social conditions, science and technology factors affecting the operational area

•• Analysis of the Enemy. The enemy situation, including capabilities and vulnerabilities, is reviewed to an appropriate level of detail with the understanding that operational-level commanders will normally have available a formal intelligence estimate. Topics typically covered in the estimate include the following:

••• Broad military COAs being taken and available in the future

••• Political and military intentions and objectives (to extent known)

••• Military strategic and operational advantages and limitations

••• Possible external military support

••• Centers of gravity (strategic and operational)

Specific operational characteristics: strength, composition, location and disposition, reinforcements, logistics, time and space factors (including basing used and available), and combat efficiency (including proficiency in joint operations)

•• Friendly Situation. A review of the friendly forces should follow the same pattern used for the analysis of the enemy. At the theater level, commanders normally have available specific supporting estimates, including personnel, logistics, and C4 estimates. In the likely event that operations may include forces from other nations, such multinational operations require specific analysis of alliance or coalition partners' objectives, capabilities, and vulnerabilities.

•• Limitations. Given guidance from NCA, coalition, or host-nation authorities, the operational commander may receive limitations in the form of constraints, restraints, or restrictions. Constraints limit the commander because they direct what will

be accomplished (e.g., prevent the destruction of the airfield). Restraints limit the amount of force that the commander may use, even though more force is available (e.g., the impact of all indirect fire weapons must be observed). Restrictions prohibit the use of a particular type of force and/or limit where it can be used geographically (e.g., the force will not maneuver or direct fires within the city limits of city XYZ). These limitations on the use (or threat of use) of force that are imposed may be necessary to support other worldwide strategic requirements and associated diplomatic, economic, and informational efforts.

•• Assumptions. Valid assumptions are vital to an effective planning process. An assumption normally covers the issues over which the commander has no control and is used to fill a gap in knowledge so planning can continue. It is stated as if it were a fact. Assumptions should be limited to as few as possible to keep the planning process moving forward. A valid assumption has three characteristics: it is logical, realistic, and essential for the planning to continue (See paragraph 409. Planning Guidance).

•• Deductions. Deductions from the preceding analysis should yield estimates of relative combat power, including enemy capabilities that can affect mission accomplishment.

- **Courses of Action (COA) Analysis**. Based on the preceding analysis and a creative determination of how the mission can be accomplished, COAs are developed. Each COA must be adequate, feasible, and acceptable (detailed discussion concerning COAs is in Chapter 4, paragraph 409, **Figure 4-28**). State all practical COAs open to the commander that, if successful, will accomplish the mission. Generally, at the theater level, each COA will constitute a theater strategic or operational concept and should outline the following:

•• Major strategic and operational tasks to be accomplished
•• In sequence or phasing of major tasks to be accomplished
•• Forces required
•• Logistics concept
•• Deployment concept
•• Estimate of time required to reach termination objectives
•• Concept for maintaining a theater reserve

(3) **Analysis of Opposing COA**. Commanders must determine the probable effect of possible enemy COAs on the success of each friendly COA. **Caution**: Planners must not compare friendly COAs against each other at this point, but analyze them against possible enemy capabilities. The analysis must be conducted in an orderly manner by time phasing, geographic location, and functional event. The analysis of opposing courses should take into account the following considerations:

- Potential actions of subordinates two echelons down
- Conflict termination issues, thinking through own action, enemy reaction, counterreaction
- Finally, revalidation of suitability, adequacy, and feasibility; determination of additional requirements, if any; required modifications; advantages and disadvantages of each COA

(4) **Comparison of Own COA**. Planners then evaluate the advantages and disadvantages of each COA by performing the following actions:

- Identifying governing factors (factors, functions, or characteristics that are not common among the COAs, e.g., speed, cost, security, flexibility, mass, etc.)
- Comparing COAs with respect to governing factors using some form of evaluative format and weighting the various governing factors as desired in some situations
- Considering other nonmilitary factors (e.g., political constraints, multinational factors, impact of media/public perception, etc.)
- Revalidating the comparison by ensuring consensus on definitions of governing factors used and verifying that each is still adequate, feasible, and acceptable

(5) **Decision**. Planners then translate the selected COA into a concise statement of what the force, as a whole, is to do and explain, as may be appropriate, when, where, how, and why.

303. THEATER ENGAGEMENT PLAN. A geographic CINC, having conducted a thorough analysis of his theater and having decided how he wants to implement national strategy, translates this strategy into documents. Common practice is to publish the basic elements of a CINC's theater strategy in an unclassified version for relatively wide distribution. The manner and substance of these strategies are unique to each CINC and have varied over the years in content and frequency of publication. Because of the differing approaches of the CINCs and the increasing demand for multiuse forces in all theaters for engagement, CJCS initiated a standardized planning requirement for geographic CINCs: Theater Engagement Plan (TEP) developed by each geographic commander over a two year period.

a. **Origins of the TEP**. The TEP is primarily a strategic planning process intended to link CINC-planned regional engagement activities with national strategic objectives. In short, it is the way the CINC shape*s* the theater. The TEP is based on planning guidance issued in the CPG Annex A and tasks assigned by JSCP, Enclosure E. In addition to the CINC-planned and -supported military operations, the TEP is an instrument used to prioritize peacetime military engagement activities. Prioritizing ensures that all efforts in the theater focus on activities that are of greatest importance without sacrificing warfighting capability.

b. **TEP Planning Process**. (See CJCSM 3113.01A.) The TEP provides guidance for the year of execution and the next seven fiscal years. It is developed into two products: the TEP Strategic Concept and the TEP with completed Activity Annexes. Although TEP planning is continuous, the development of the TEP strategic concept is on a biennial cycle, while submissions of the TEP Annexes are on an annual cycle. The TEP development process is conducted in four phases (**Figure 3-11**).

(1) **Phase I. Initiation**. The starting point for each TEP planning cycle is the JSCP, which assigns tasks to geographic CINCs to create their TEP strategic concepts for publication biennially in April (of each odd year) and TEP Activity Annexes (the completed TEP for each year) annually in October. The JSCP, JSPS documents (NSS, NMS, CPG), and Service planning documents contain strategic guidance, intelligence, and resources available for planning. The JSCP directs that CINC planners use assigned forces (from the "Forces For" document), those temporarily deployed to theater, and those that have historically been temporarily deployed into theater to support engagement activity requirements.

(2) **Phase II. Strategic Concept Development**. In the TEP Strategic Concept, CINCs identify factors affecting engagement in their assigned theaters. They develop prioritized objectives derived from the JSCP regional objectives and other national policy documents. In addition, they outline a supporting framework of peacetime military engagement activities needed to progress toward established objectives. Below are the basic steps that form the TEP Strategic Concept:

(a) Mission Analysis. The CINC develops objectives from prioritized regional objectives in the JSCP and guidance from other national-level guidance.

(b) Planning Guidance. Information in this planning guidance includes the political, military, and economic environments; threats to security and stability in the theater; opportunities within theater to be pursued; assumptions; and planning schedule. Each category of engagement activity should be included: operational, combined exercises, security assistance, combined training, combined education, military contracts, humanitarian assistance, and other engagement activities.

(c) Staff Planning. Staff planning should consider all probable actions, options, and activities that could be brought to bear to meet the mission. This includes inputs and considerations from a wide range of participants, including Service component commands, Theater Special Operations Command, Defense Attaché officers, security assistance officers, military-technical advisers, and supporting CINCs.

(d) TEP Strategic Concept. The TEP Strategic Concept is a narrative statement of how engagement activities will be employed to support theater objectives. This narrative becomes the foundation of the TEP and includes the commander's intent, prioritized objectives, and a general discussion of the engagement and activities and the resources/forces required to accomplish the regional objectives.

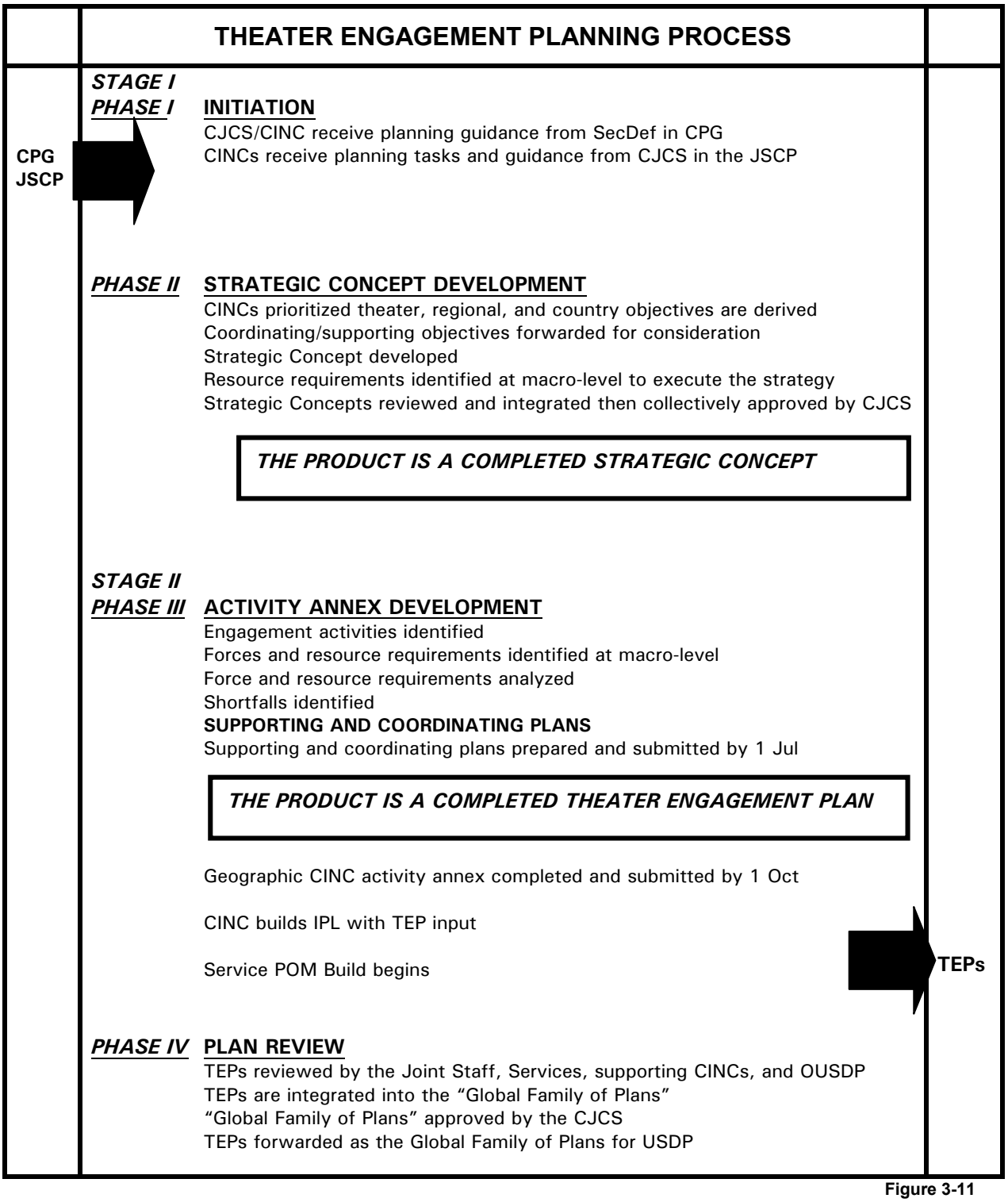
THEATER ENGAGEMENT PLANNING PROCESS
STAGE I
PHASE I
INITIATION
CJCS/CINC receive planning guidance from SecDef in CPG
CINCs receive planning tasks and guidance from CJCS in the JSCP
CPG
JSCP
PHASE II
STRATEGIC CONCEPT DEVELOPMENT
CINCs prioritized theater, regional, and country objectives are derived
Coordinating/supporting objectives forwarded for consideration
Strategic Concept developed
Resource requirements identified at macro-level to execute the strategy
Strategic Concepts reviewed and integrated then collectively approved by CJCS
THE PRODUCT IS A COMPLETED STRATEGIC CONCEPT
STAGE II
PHASE III
ACTIVITY ANNEX DEVELOPMENT
Engagement activities identified
Forces and resource requirements identified at macro-level
Force and resource requirements analyzed
Shortfalls identified
SUPPORTING AND COORDINATING PLANS
Supporting and coordinating plans prepared and submitted by 1 Jul
THE PRODUCT IS A COMPLETED THEATER ENGAGEMENT PLAN
Geographic CINC activity annex completed and submitted by 1 Oct
CINC builds IPL with TEP input
Service POM Build begins
TEPs
PHASE IV
PLAN REVIEW
TEPs reviewed by the Joint Staff, Services, supporting CINCs, and OUSDP
TEPs are integrated into the "Global Family of Plans"
"Global Family of Plans" approved by the CJCS
TEPs forwarded as the Global Family of Plans for USDP

Figure 3-11

(e) TEP Strategic Concept Review. The TEP Strategic Concept is then forwarded to CJCS for review, in the format prescribed by CJCSM 3113.01A Enclosure C. The Joint Staff leads a review of the TEP Strategic Concepts from each theater and integrates them into a global family of engagement plans. That review is completed before developing detailed TEP Activity Annexes.

(3) **Phase III. Annex Development**. In this phase, the CINCs develop detailed TEP Activity Annexes for each year of the TEP covering all the areas prescribed in the TEP Strategic Concept (**Figure 3-12**). Resources to accomplish each activity are identified and, if shortfalls are known, they are also identified. Resources for each activity identified in the TEP Activity Annex should identify active and reserve forces, time and duration of force commitment, transportation requirements, and funding (where applicable). These annexes are updated annually.

(4) **Phase IV. Plan Review**. CINCs submit their completed Theater Engagement Plans electronically to the Joint Staff J-7, which has primary responsibility for conducting the review. The Joint Staff, Services, designated CINCs, and appropriate Defense agencies review the Theater Engagement Plans for adequacy, feasibility, and acceptability.

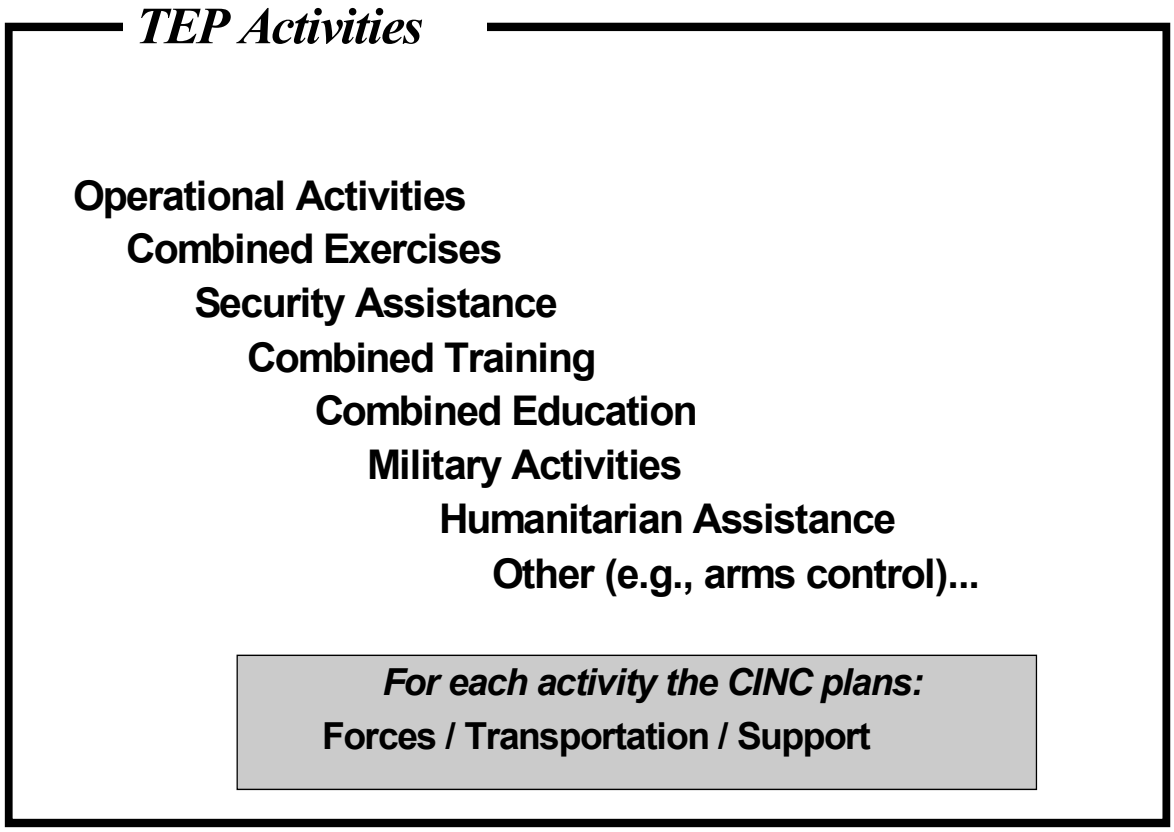

Figure 3-12

304. SYNCHRONIZATION. This is defined as the arrangement of military actions in time, space, and purpose to produce maximum relative combat power at a decisive place and time (JP 1-02). Synchronization ensures that all elements of the operational force are efficiently employed to maximize the sum of their effects beyond the sum of their individual capabilities–synergy. It is this technique that permits the operational commander to take the initiative, get inside his adversary's decision cycle, and defeat its forces. JFCs use campaign plans to arrange the synchronized and phased allocation of resources to subordinate commands in coordination with the use of other elements of nonmilitary power within theater to attain strategic objectives. Synchronization is the technique the JFC uses to employ forces in consonance with his sense of operational art to achieve the strategic aim.

a. **Joint Vision Operational Concepts**. Joint Visions 2010 and 2020 describe the conceptual template for how future joint force commanders will channel their forces to achieve new levels of effectiveness and attain full-spectrum dominance. This vision of innovative warfighting embodies improved intelligence and command and control available in the information age and goes on to develop four operational concepts: dominant maneuver, precision engagement, full-dimensional protection, and focused logistics. These operational concepts, enhanced through information superiority and innovation, are the theater operating systems that must be synchronized for the JFC to dominate the battlespace of tomorrow (**Figure 3-13**).

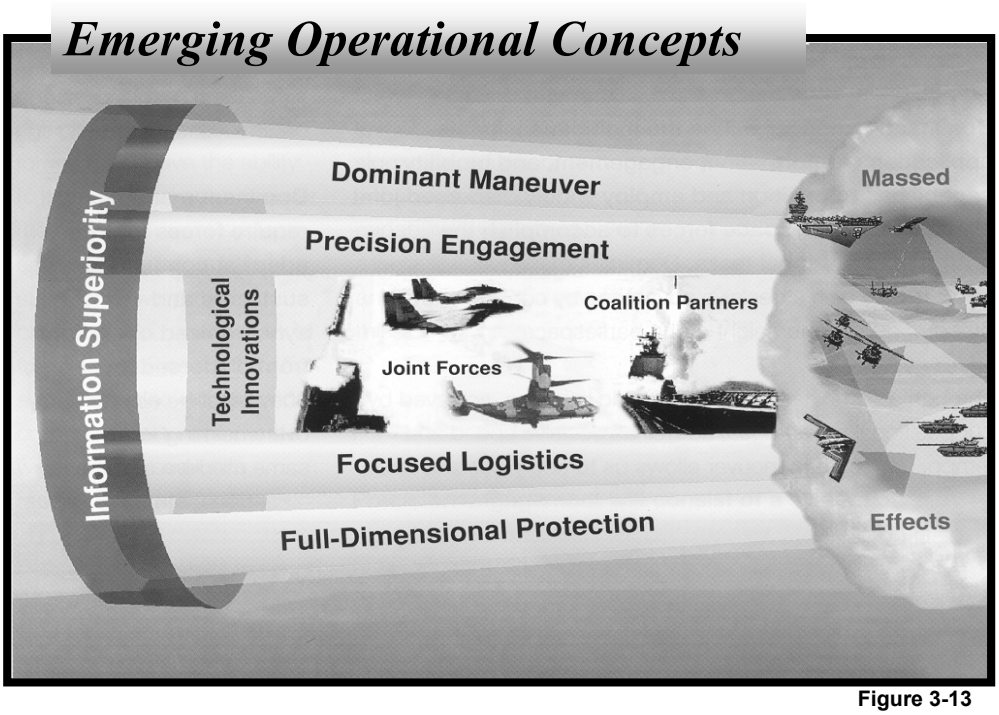

Figure 3-13

(1) **Dominant Maneuver**. Dominant maneuver is the ability of joint forces to gain positional advantage with decisive speed and overwhelming operational tempo in the achievement of assigned military tasks. Widely dispersed joint land, air, sea, amphibious, special operations, and space forces (capable of scaling and massing force– and/or the effects of fires for either combat or noncombat operations), will secure advantage across the range of military operations through the application of information, deception, engagement, mobility, and countermobility capabilities.

(2) **Precision Engagement**. Precision Engagement is the ability of joint forces to locate, observe, discern, and track objectives or targets; select, organize, and use the correct systems; generate desired effects; assess results; and rearrange with decisive speed and overwhelming operational tempo as required, throughout the full range of military objectives.

(3) **Focused Logistics**. Focused Logistics is the ability to provide the joint force with the right personnel, equipment, and supplies in the right place, at the right time, and in the right quantity, across the full range of military operations. This will be made possible through a real-time, web-based information system providing total asset visibility as a part of a common relevant operational picture, effectively linking the operator and logistician across Services and support agencies. Through transformational innovations to organizations and processes, focused logistics will provide the joint warfighter with support for all functions.

(4) **Full-dimensional Protection**. Full-dimensional Protection is the ability of the joint force to protect its personnel and other assets required to decisively execute assigned tasks. It is achieved through the tailored selection and application of multilayered active and passive measures, within the domains of land, air, sea, space, and information, across the range of military operations with an acceptable level of risk.

b. **Unified Action**. Whereas the term "joint operations" is primarily concerned with the coordinated actions of the Armed Forces of the United States, the term "unified action" has a broader connotation. Unified action is a broad generic term that describes the wide scope of actions (including the synchronization of activities with governmental and nongovernmental agencies) taking place within unified commands, subordinate unified commands, or joint task forces under the overall direction of their commanders (JP 1-02). The concept of unified action (sometimes referred to as unified operations) is illustrated in **Figure 3-14** and highlights the synchronized application of all of the instruments of national and multinational power, including the actions of nonmilitary organizations as well as military forces.

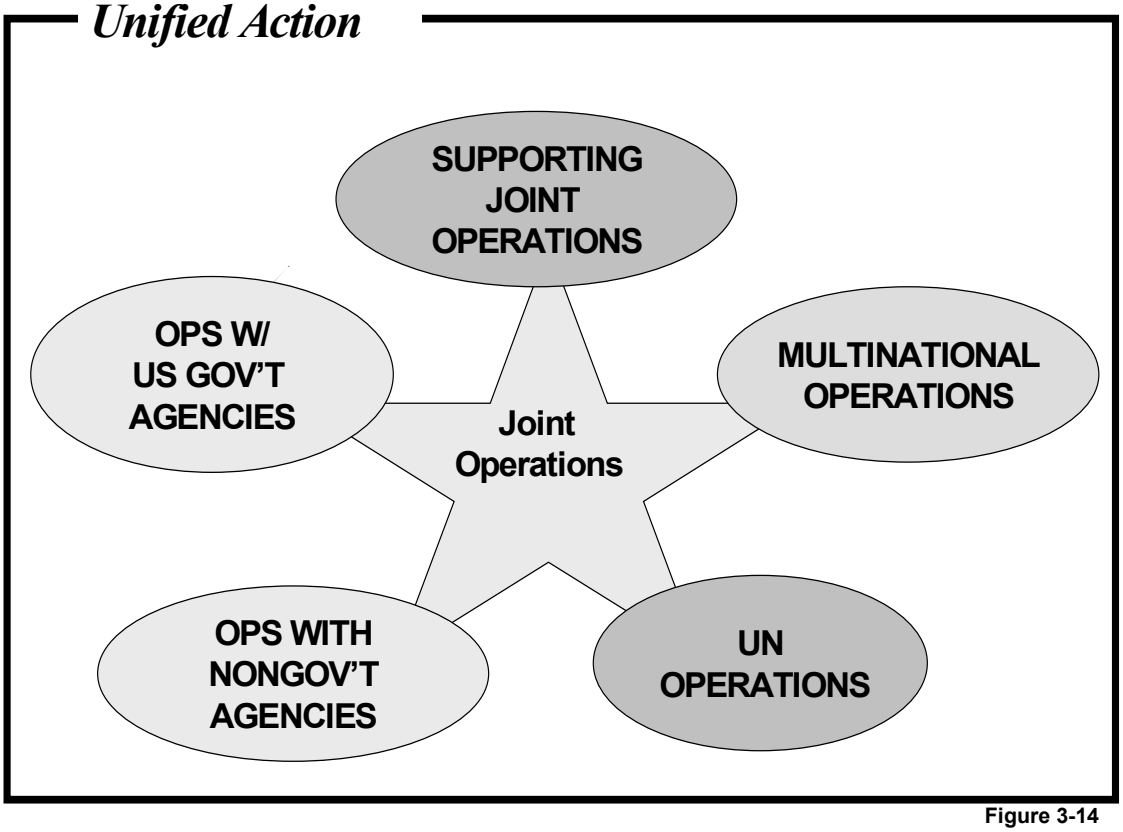

Figure 3-14

All JFCs are responsible for unified actions planned and conducted under the guidance and direction of senior authorities (i.e., NCA, alliance or coalition leadership, superior commander). JFCs should ensure that their joint operations are synchronized in time, space, and purpose with the actions of other military forces (multinational operations) and nonmilitary organizations (government agencies such as the Agency for International Development (AID)). In addition, (and increasingly during operations other than war), JFCs must coordinate and synchronize, if possible, with nongovernmental organizations (such as religious relief agencies), corporations, international agencies (such as the International Red Cross), and possibly even the United Nations. Activities and operations with such nonmilitary organizations can be complex and may require considerable effort by JFCs, their staffs, and subordinate commanders, especially during operations other than war. Combatant commanders typically play a pivotal role in unifying actions (all of the elements and actions that comprise unified actions are normally present at the CINC's level). Subordinate JFCs also synchronize their operations directly with the activities and operations of other military forces and nonmilitary organizations in the operational area.

c. **Synchronization Matrix**. A tool often used by the JTF planners to effect coordination and cooperation in these complex contingencies is the synchronization matrix. Creating a planning tool such as a matrix allows the JFC and his staff to display many of the known activities of their operation by phases, functional area, and operating systems. There is no prescribed way to do this, for it will vary depending on the commander, the operation, and the resources available; however, an example format is at **Figure 3-15**.

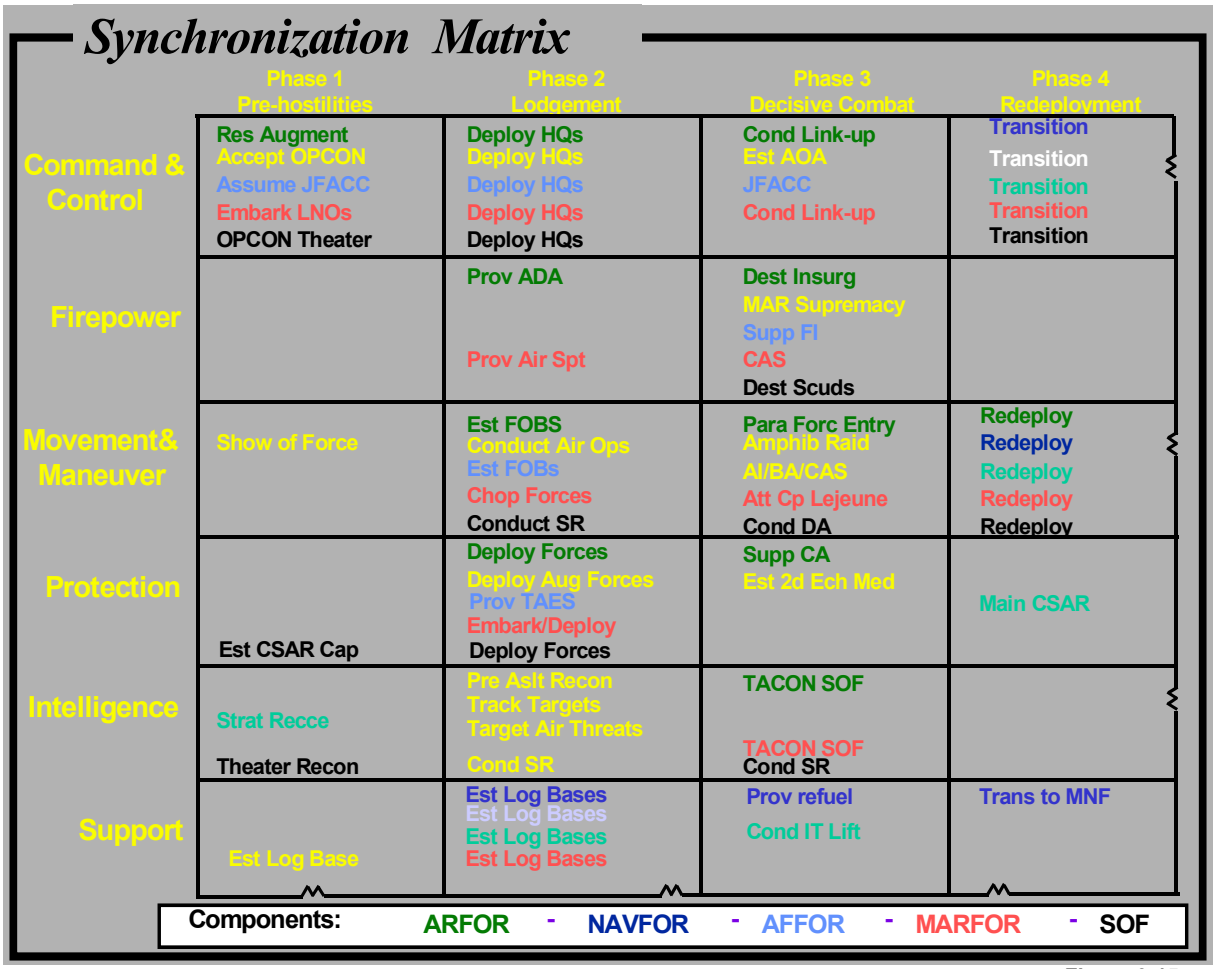

Figure 3-15

The value in exercising this technique lies in its highlighting critical points of coordination among components of the command, identifying shortfalls in activity by phase or function, and using this format with which to analyze potential branches and sequels in detail. Although they involve a tedious and somewhat lengthy process, synchronization matrices greatly enhance a staff's ability to identify critical nodes in the commander's operation.

305. TOOLS OF THE JFC. Campaigning is a necessary though complex process through which a commander directs his forces in a style that is uniquely his own. The numerous subtleties and nuances of operational art require that the JFC and staff use the various tools available to adequately express the commanders will. Although it is beyond the scope of this manual to discuss comprehensively all the tools available, some of the more significant tools are presented below.

a. **Commander's Intent**. The commander's intent describes the desired end state of the campaign. A concise expression of the purpose of the operation, but not a summary of the concept of operations, it may include how the posture of units at that end state facilitates transition to future operations. It may also include the commander's assessment of the enemy commander's intent. JFCs begin to form their intent as they analyze the mission assigned by a superior commander. Together with the higher headquarters' order, the JFC's intent is the initial impetus to begin the entire planning process. JFCs first express their intent vocally to the staff with the restated mission and planning guidance, then refine their intent as they consider staff estimates and complete the Commander's Estimate. The intent statement may also contain an assessment of where and how the commander will accept risk during the operation. Helping subordinates pursue the desired end state without further orders, even when operations do not unfold as planned, the commander's intent provides focus for all subordinate elements. The intent statement is usually written, but could be vocal when time is short. It should be concise and clear, and should be able to focus subordinate commanders on the purpose of the operation and describe how it relates to future operations. A JFC's order should contain the intent statement of the next senior commander in the chain of command (**Figure 3-16**).

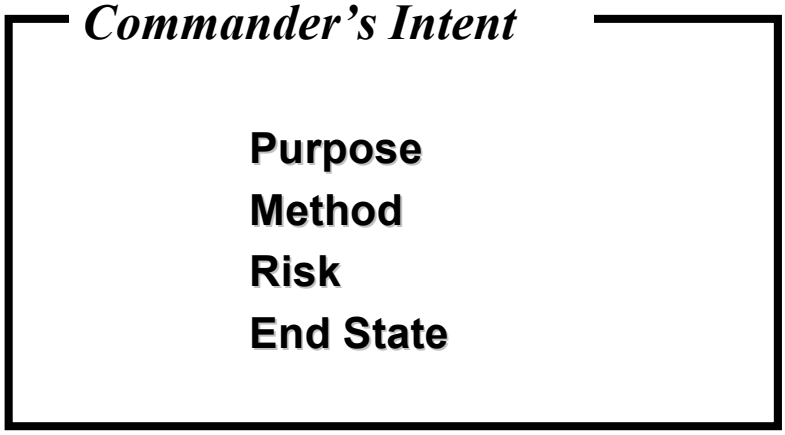

Figure 3-16

b. **Battlespace Geometry**. For the JFC to establish order within the battlespace, the operational area needs to be organized and labeled with a common lexicon so that all players can have a standard reference. To assist in the coordination and deconfliction of joint action, JFCs may define operational areas or joint areas. Their size and the types of forces employed within them depend on the scope and nature of the crisis and the projected duration of operations. For operations somewhat limited in scope and duration, geographic combatant commanders can employ the following operational areas (illustrated in **Figure 3-17**):

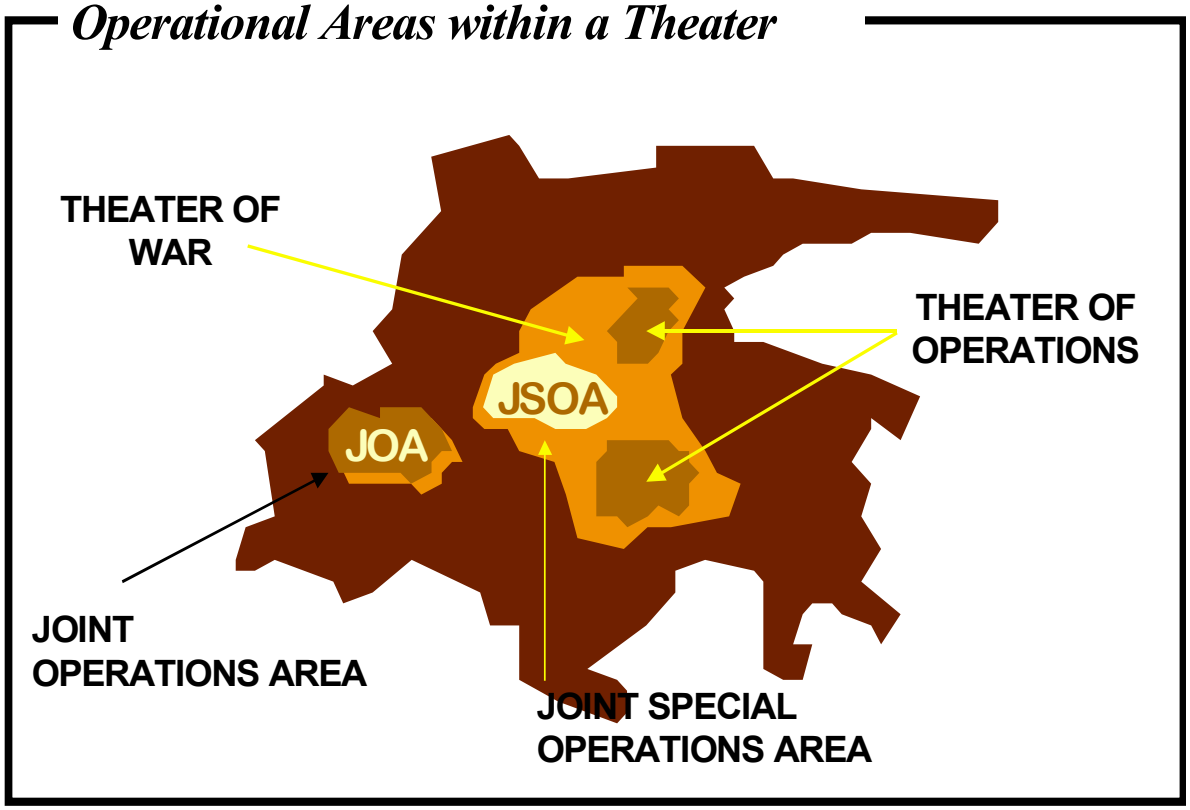

Figure 3-17

- **Joint Operations Area (JOA)**. A JOA is an area of land, sea, and airspace defined by a geographic combatant commander or subordinate unified commander in which a JFC (normally a JTF commander) conducts military operations to accomplish a specific mission. JOAs are particularly useful when operations are limited in scope and geo-graphic area. They are also appropriate when operations are to be conducted on the boundaries between theaters.

- **Joint Special Operations Area (JSOA)**. A JSOA is an area of land, sea, and airspace defined by a JFC who has geographic responsibilities for use by a joint special operations component or joint special operations task force for the conduct of special

operations. JFCs may use a JSOA to delineate and facilitate simultaneous conventional and special operations in the same general operational area.

- **Joint Rear Area (JRA)**. The JRA facilitates the protection and operation of bases, installations, and forces that support combat operations. They are not necessarily contiguous with areas actively engaged in combat, but may include intermediate support bases and other support facilities intermixed with combat elements. The JRA is particularly useful in nonlinear combat situations.

- **Amphibious Objective Area**. The amphibious objective area includes the objectives to be secured by an amphibious task force. It needs to be large enough for conducting necessary sea, air, land, and special operations. Joint Pub 3-02, "Joint Doctrine for Amphibious Operations," contains further information and guidance.

- **Area of Operations**. JFCs may define areas of operations (AO) for land and naval forces. AOs do not typically encompass the entire operational area of the JFC, but should be large enough for component commanders to accomplish their missions and protect their forces. Component commanders with AOs typically designate subordinate AOs within which their subordinate forces operate. These commanders employ the full range of joint and Service doctrinal control measures and graphics to delineate responsibilities, deconflict operations, and promote unity of effort.

- **Area of Interest (AI)**. JFCs at all levels can designate AIs to monitor enemy activities outside the operations area. An AI is usually larger than the operational area and encompasses areas from which the enemy can act to affect current or future friendly operations.

- **Combat and Communications Zones (COMMZ)** (**Figure 3-18**). Geographic combatant commanders may also establish combat zones and COMMZs. The combat zone is an area required by forces to conduct large-scale combat operations, normally extending forward from the land force rear boundary. The COMMZ contains the theater organizations, lines of communication (LOCs), and other agencies required to support and sustain combat forces. It usually includes the rear portions of the theaters of operations and theater of war and reaches back to the CONUS base or perhaps to a combatant commander's AOR. The COMMZ includes airports and seaports that support the flow of forces and logistics into the operational area. It is usually contiguous to the combat zone but may be separate–connected only by thin LOCs–in very fluid, dynamic situations.

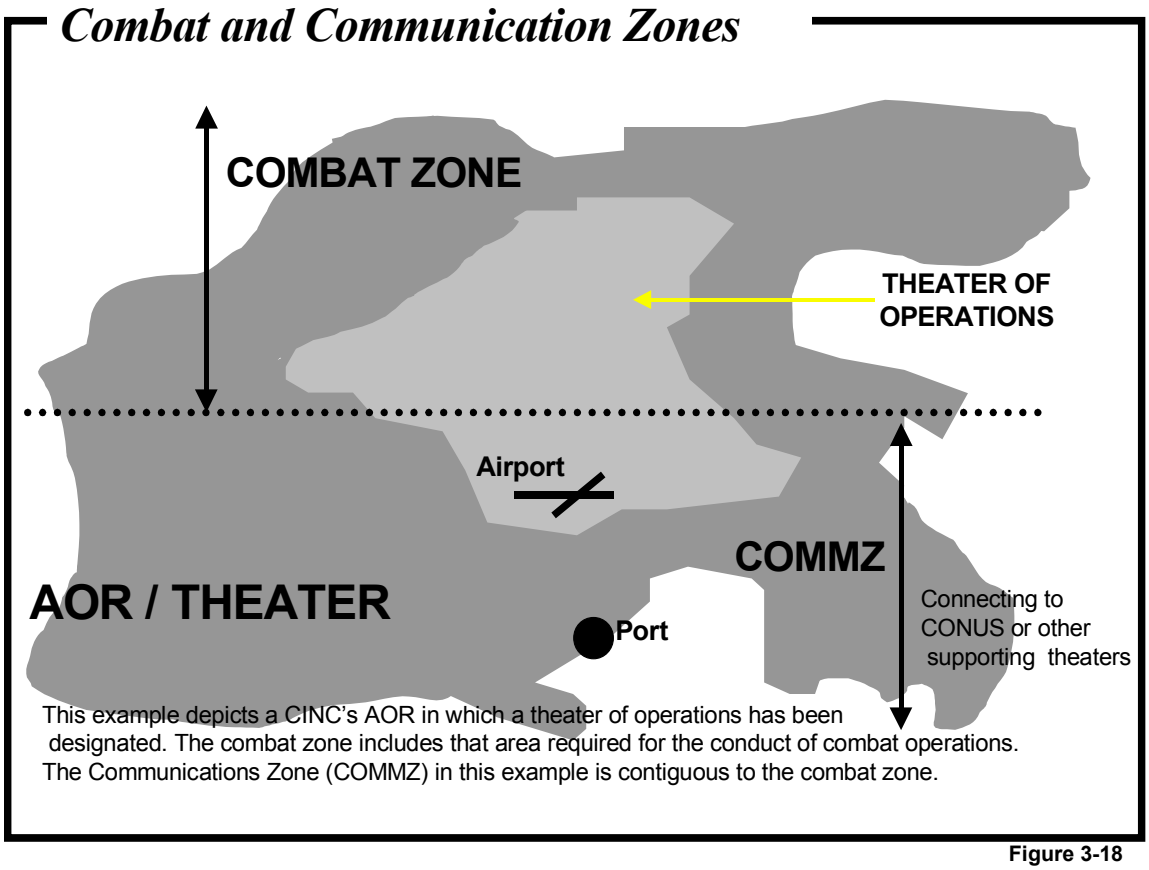

Figure 3-18

306. COMMAND, CONTROL, COMMUNICATIONS AND COMPUTERS (C4) SYSTEMS. Historically, great military victories are often attributed to superior mobility, firepower, intelligence, or logistics. But superior command and control (C2) capabilities have often been what enabled commanders to maintain the unity of effort to apply those capabilities at the critical time and place to win. Today improved technology in mobility, weapons, sensors, and C4 systems, and increased and increasingly sustained operation tempo, generate voluminous amounts of information. Information overload, if not managed, can adversely affect the outcome of a conflict. Properly employed, C4 systems can be the key to successful information management and military operations.

a. **Basic Doctrine**

(1) An unbroken chain of communications must extend from the NCA, through CJCS, to the combatant commanders, component commanders, and commanders of subordinate and supporting commands.

(2) CJCS, through the combatant commands, Defense Information Systems Agency (DISA), and the Services, ensures that commanders at each echelon have the communications necessary to accomplish their assigned missions. The required commu-

nications capability may come from the Defense Communications System (DCS), the Global Command and Control System (GCCS), other National Communications System (NCS) operating agencies' systems, organic force communications systems, or commercial communications systems. This multiplicity of C4 systems ensures communications support during all phases of military operations.

(3) Current C4 capabilities will evolve to the Global Information Grid (GIG) – a concept and vision set forward by the DOD to achieve information superiority (IS) in the future.

b. **C4 Systems Principles**. Experience has demonstrated that the C4 planner should be brought in at the beginning of the planning process and involved throughout the planning evolution. To achieve operational objectives, C4 principles should be applied during all phases of the operation. Joint Pub 6-0 identifies principles common to Service, joint, and combined C4 activities.

c. **National Communications System (NCS)**. The NCS is an interagency group that coordinates the telecommunications assets of 23 Federal departments and agencies to ensure compatibility and interoperability during emergencies without compromising day-to-day operations.

(1) The purpose of the NCS is to assist the President, National Security Council, Office of Science and Technology Policy, and Office of Management and Budget to exercise their wartime and nonwartime emergency functions and their planning and oversight responsibilities, and coordinate the planning for national security and emergency preparedness communications for the Government under all circumstances.

(2) The Secretary of Defense is the Executive Agent for the NCS. The principal adviser for NCS matters is the Assistant Secretary of Defense for Command, Control, Communications, and Intelligence (ASD/C3I). The Director, Defense Information Systems Agency (DISA), is the Manager, NCS.

d. **Defense Communications System (DCS)**. The Defense Communications System (DCS) is a composite of certain DOD communications systems and networks under the management control and direction of DISA. It administers the C2 requirements of DOD and civil agencies directly concerned with national security or other critical emergency requirements. The objective is to organize the complex of DOD communications networks, equipment, control centers, and resources to furnish an effective, responsive, survivable worldwide communications system.

e. **Information Superiority (IS)**. A major goal of the DOD is to achieve information superiority in support of Joint Vision (JV) 2010 and 2020. Information Superiority is defined as:

"…the capability to collect, process, and disseminate an uninterrupted flow of information while exploiting or denying an adversary's ability to do the same."

- Joint Vision 2010

(1) The focus of Information Superiority (IS) is providing the future Joint Task Force (JTF) Commander with an understandable, multidimensional, real-time, fused view of the battlespace to support the full range of military operations: humanitarian assistance, peace operations, up to and into the highest intensity conflict. Information Superiority is the key enabler of the operational concepts of Precision Engagement, Dominant Maneuver, Focused Logistics, and Full Dimensional Protection.

(2) Information Superiority (IS) is not a static, pre-determined, quantifiable capability. It is intricately tied to the specific situation and is determined by the mission, environment, and current need for information.

f. **The Global Information Grid (GIG)**

(1) Over the past 10 years the nature of the actions involving U.S. forces has been varied and the response times have been decreasing. If the U.S. and its Allies are given time, they will place an unbeatable force in the area of conflict. Consequently, our response times are being whittled down dramatically. Also, there are more short notice JTF requirements for natural disaster response forces needing interoperability with non-DOD agencies and host nations not on our standard list of Allied or Coalition partners.

(2) The GIG is the vision of the Assistant Secretary of Defense for Command, Control, Communications, Computers, and Intelligence (ASD/C3I) for achieving IS. The GIG is focused on the warfighters' needs for IS plus the critical concerns of frequency spectrum and improving the management of the information infrastructure investment along with the coevolution of DOTMLPF (Doctrine, Organization, Training and Education, Materiel, Leadership, Personnel, and Facilities).

(3) The September 22, 1999, Office of the Assistant Secretary of Defense Director, Command, Control, Communications and Intelligence Systems (ASD/C3I) memorandum, Global Information Grid, defines the Global Information Grid (GIG) as:

"*The globally interconnected, end-to-end set of information capabilities, associated processes and personnel for collecting, processing, storing, disseminating and managing information on demand to warfighters, policy makers, and support personnel. The GIG includes all owned and leased communications and computing systems and services, software (including applications), data, security services and other associated services necessary to achieve Information Superiority. It also includes National Security Systems as defined in section 5142 of the Clinger-Cohen Act of 1996. The GIG supports all Department of Defense, National Security, and related Intelligence Community missions and func-*

tions (strategic, operational, tactical and business), in war and in peace. The GIG provides capabilities from all operating locations (bases, posts, camps, stations, facilities, mobile platforms and deployed sites). The GIG provides interfaces to coalition, allied, and non-DOD users and systems."

(4) The GIG is not a "new start" program; it will build upon the existing Defense Information Infrastructure (DII) Common Operating Environment (DII COE). The building blocks of Joint Technical Architecture, Joint Operational Architecture, Joint Systems Architecture, a shared data environment, the migration of legacy systems, and adherence to commercial standards provide the necessary structure for the GIG.

(5) The key to achieving Information Superiority lies in implementing a standards based, metric-oriented, end-to-end integrated Global Information Grid. The concept of IS may be situational but the GIG, which will implement IS, is quantifiable. Important initiatives to implement the GIG are described below.

(6) The Global Information Grid is the unifying theme that will enable the Department of Defense to develop, acquire, field, and operate the applications, communications and computing capability necessary to assure mission success in an integrated, synchronized fashion. The GIG will permit:

- battlespace awareness through a common operational picture,
- collaborative planning of dispersed, multi-functional operational teams,
- employment of massed effects rather than massed forces,
- in-flight retargeting of precision-guided munitions, and
- fused sensor-to-decision maker-to-shooter capability.

g. **GIG Efforts for Achieving Information Superiority (IS)**

(1) To achieve Information Superiority through the GIG, various organizational, procedural, and doctrinal changes are occurring. They are inextricably linked to the vast advancements in information technology. The goal for these changes is to enable warfighter's concepts and efficiently support the business functions of the Department of Defense.

(2) In order to achieve this goal, the GIG must be dynamic and adaptable to changes in the operational environment, flexible and secure for adding and removing users, and support the JV2020 operational capabilities of Focused Logistics, Dominant Maneuver, Precision Engagement, and Full Dimension Protection. The GIG must provide end-to-end visibility, control, and support to manage and protect networks and the information they carry. To maintain the integral capabilities, the GIG must be scalable, resourced, and upgraded as required. Key to the warfighting environment, it must be Allied, Coalition, and non-DOD Agency friendly.

(a) Dominant Maneuver (DM) depends upon IS to enable the multidimensional application of information, engagement, and mobility capabilities to position and employ widely dispersed joint air, land, sea, and space forces to accomplish operational tasks. IS will allow our forces to gain a decisive advantage by controlling the breadth, depth, and height of the battlespace through assured, real-time battlespace awareness. The GIG will ensure warfighters can coordinate widely dispersed units, receive accurate and timely feedback, and execute more precision requirements.

(b) Precision Engagement (PE) requires services and capabilities that enable forces to locate the objective or target, provide responsive command and control, generate the desired effect, assess the level of success, and retain the flexibility to reengage with precision. Precision Engagement will allow us to shape the battlespace and enhance force protection. Information Superiority will enable high fidelity target acquisition, prioritized requirements, command and control of joint forces within the battlespace, and minimizing collateral damage.

(c) Full-Dimensional Protection (FDP) will enable the effective employment of our forces while degrading the enemy's abilities to do the same. "Full-dimensional protection will be built upon information superiority which will provide multidimensional awareness and assessment, as well as identification of all forces in the battlespace."

(d) Focused Logistics (FL) will be achieved through a fusion of technological, organizational and process innovations. Information Superiority is key to enabling the fusion to achieve FL objectives of total asset visibility, intransit visibility, right-sizing of the logistics footprint, and the merging of logistics information into the common operational picture to meet CINC and JTF Commander priorities. IS goals are providing the interoperability, collaborative planning, and information processing capabilities essential to effective Joint Force logistics.

h. **Seven Components of the GIG**. The GIG focuses on seven components to provide these capabilities: Warrior, Global Applications, Communications, Computing, Network Operations, Information Management, and Foundation.

(1) **Warrior Component**

(a) The GIG supports the sensor – decision maker- shooter – target structure critical to combat operations. During Allied Force, the entire spectrum of operations, including battle management, battlefield air interdiction, intelligence, surveillance, and reconnaissance, and air campaign planning were required by NATO commanders to operate and maneuver its tanks within the adversary's decision cycle. The current C4ISR capabilities were enhanced when creative commanders on the ground developed new ways to use Unmanned Aerial Vehicles and airborne forward air controllers to conduct flex targeting and filming of battle damage.

(b) Providing battlespace awareness to warfighters across the Joint force with accuracy and timeliness requires that data and information from multiple sources be collected, processed (analyzed when necessary), transported, fused, placed in appropriate contexts, and presented in ways that facilitate rapid and accurate decision making.

(2) **Global Applications Component**

(a) The Global Applications component covers such diverse areas as medical, weather, electronic commerce, Global Combat Support System (GCSS), DOD Intelligence Information System, Global Command and Control System (GCCS). GCSS and GCCS are two critical applications support Joint command and control and operational concepts by providing for the information needs of the warfighters.

(b) The Global Combat Support System (GCSS) will provide the logistics, accounting and finance, personnel, and medical information needed to plan, deploy, sustain, and redeploy forces key to Focused Logistics. It will provide interoperability across combat support functions, as well as between combat support and command and control. GCSS will provide the joint warfighter access to all data and applications for total asset visibility.

(c) The Global Command and Control System (GCCS) is a comprehensive worldwide capability to provide information processing and dissemination end-to-end. It supports situational awareness, readiness assessments, course of action development, imagery exploitation, and planning. The development of a coherent set of Battlespace Awareness capabilities for Information Superiority will result from the continued enhancement of the GCCS Common Operational Picture. Additional information on GCCS tasks, purpose, and current and future mission applications is provided in paragraph m below.

(3) **Communications Component**

(a) To support the Joint Warfighter of today as well as 2010 and beyond, interoperable, assured, end-to-end networks for information and C2 transport and processing are vital. All information and data are required to be available end-to end to support whatever mission requirements exist regardless of environment. Doctrine and policy will dictate access, but the information and data will be available for push or pull.

(b) The Communications Component of the Grid extends from the post, camp, station, through the strategic networks, to the “last tactical mile.” The last tactical mile extends to the Service weapons and sensor platforms. The bridge between the strategic and tactical communications networks will be the DOD Teleport. Teleports will provide deployed communications networks access to strategic networks, and the services and data that those networks have to offer, e.g. secure and nonsecure telephone, data, and video teleconferencing networks. This will allow the deployed warfighter in a Navy ship, Army division, Air Force wing, or Marine task force access to data stored on these

strategic networks, and provide a means to push information to strategic planners. As the more forward "networked sensors" need to move data and information in real-time, it makes the Communications Component more critical to operational success.

(4) **Computing Component**

(a) The GIG's Computing Component consists of hardware, software, capabilities, and processes. It includes megacenter services, shared data warehouses for storage/access, software distribution from central locations, shared mapping services, licensing services, electronic mail delivery, web services, collaboration services to share information and ideas, common directories, and search services. These computing services will "…provide an uninterrupted distribution of information to U.S. forces, with the knowledge to use the information, while denying the enemy the ability to do the same."

(b) The Defense Information Systems Agency (DISA) is crafting a computing infrastructure to "…support all DOD missions, including command and control, combat support, and intelligence…", which is evolvable, interoperable, features reuse of data, and security to support information superiority. DISA's DII Common Operating Environment (DII COE) provides a set of integrated support services for mission area applications and the Shared data Engineering (SHADE) provides for the interoperability of functional applications at the data level among the functional areas needed to provide fused battlespace awareness. SHADE will ensure cross-functional integration of applications so data from one functional community can be used by applications belonging to another functional community.

(5) **Network Operations (NETOPS) Component**. NETOPS will provide collaborative integrated and seamless end-to-end management of networks, global applications, and services across the GIG by Unified Combatant Command commanders (CINCs), Services, and Agencies.

(a) **Network Management** will provide visibility of extent and intensity of activity, traffic load, and throughput potential. It will enable dynamic rerouting based on priority, system status and capacity. The effects of disruptions and intrusions will be minimized through allocation of traffic to unaffected available network paths. Network management, as one component of NETOPS, plays a key role in successful implementation of the GIG. Having end-to-end awareness of the networks comprising the GIG and then properly managing those networks from the strategic to the tactical level, whether fixed station or deployed, is a critical part of synchronizing our forces in peacetime or war. Interoperability between these network management systems is crucial in provide true end-to-end service to the Warfighter and DOD's crucial business functions. Network management will provide commanders with the ability to view and manage their networks just like other resources. Commanders will be able to visualize the networks that support their on-going operations and adjust or reallocate capabilities as the situation changes.

(b) **Information Dissemination Management (IDM)** will provide improved awareness, access, and delivery of information and will provide direction for information flows based on Commander's priorities that can then be executed by network management. IDM seeks to achieve the right information, arriving at the right place, at the right time, in a useable format through the processes, services, and applications to Warfighters at all levels (Strategic, Operational, and Tactical) and other users of information. IDM will provide awareness of relevant, accurate information, automated access to newly discovered or reoccurring information, and timely, efficient delivery of that information. Key to this uninterrupted flow and making the most efficient use of the networks is providing awareness of information within a commander's Area Of Responsibility (AOR) and providing the capability to dynamically adjust the priority of information flow based on the current operational environment. IDM must work hand-in-hand with network management allowing the commander's dissemination policies to be executed while maintaining priority schemas established within specific AORs. These capabilities will become an integrated part of the Defense Integrated Infrastructure Common Operating Environment (DII COE) and will be applied to the entire GIG with a goal of making all information on the Grid available to those who are "plugged in".

(c) **Information Assurance (IA)** will provide the vital element of NETOPS that minimizes our systems and information vulnerabilities. Through a *DEFENSE IN DEPTH* approach of tactics, techniques, and procedures, IA will protect and defend the information, data, systems, and networks. Our armed forces increasingly rely on critical digital electronic information capabilities to store, process and move essential data in planning, directing, coordinating and executing operations of all types. However, many of these systems have security weaknesses that can be exploited by powerful and sophisticated deep-attack threats – events or circumstances that can cause unauthorized access, destruction, disclosure, modification of data, or denial of service – and increasing interoperability and network integration increase vulnerabilities. With deep, layered defenses we can eliminate vulnerabilities and deter, defeat, and recover from sustained, skillful and penetrating assaults. The integrated, network-centric nature of the GIG requires that assurance measures be applied throughout because the assurance of the entire GIG is dependent upon the assurance of all its individual elements. With one's adversaries having potentially increased visibility into our deliberation, decision-making processes, preparations, and operations, there is an increased risk of being outflanked or disrupted. In one sense the situation actually becomes more like chess, where everyone gets the same pieces and sees the same battlespace. The winner, of course, is the one who can make the best use of the pieces. A solid investment in Information Assurance and its training, doctrine, and policy are required now, in order to be prepared for the GIG environment.

(6) **Information Management Component**

(a) Information Management is defined as "the planning, budgeting, manipulating, controlling of information throughout its life cycle (e.g., creation or collection, processing, dissemination, use, storage, and disposition.)"

(b) The Information Management component will enable the warfighter to access needed databases with appropriate permissions, anywhere in the world. It is essential for real-time decision support and knowledge management necessary to decrease response time, enable a more rapid transition from deployment to full operational capability and support flexible organizations essential to dynamic future joint operations. Information Management provides joint warfighters with the critical ability to dynamically tailor and prioritize their information requirements to support the mission and environment. This flexibility will ensure real-time, relevant information and Battlespace Awareness.

(c) Greater networking can quickly lead to information overload – we must ensure our data works for us. IM is a means of prioritizing information through electronic labeling to ensure that highly critical mission information proceeds across the networks prior to less important planning or administrative information.

(7) **Foundation Component**

(a) The Foundation of the GIG is solidly grounded in doctrine, policy, governance, training, engineering, resourcing, compliance, standards, architectures, and testing. These elements have been proven over time to be the strength of every successful endeavor and the downfall if they are not properly addressed.

(b) The foundation is all those "transforming" activities that must happen involving people and organizations in order to make the GIG a reality. It involves changing from the way we think today – more than individual networks and systems to being able to access information, at anytime, in any location by tapping into the Global Information Grid.

(c) The ability to provide assured awareness across the Joint force with accuracy and timeliness requires that data and information from multiple sources be collected, processed, transported, fused, placed in appropriate contexts, and presented in ways that ensure rapid and accurate understanding. It also requires that modeling and simulation (M&S) and decision support systems become integral parts of the decision making process. M&S will be critical to synchronized, integrated employment and implementation of the GIG.

i. **Network Warfare Simulation (NETWARS)**

(1) NETWARS is a modeling and simulation capability to analyze joint communications systems capacity and performance. It assures the JTF Commander and the CINC that they have the right network resources to support the fight or if these resources must be prioritized as other warfighting resources during certain phases of the operation. The NETWARS communications model is being developed to satisfy compelling needs to: (1) conduct C4 contingency planning; (2) conduct communications burden analysis of new and existing networks; (3) evaluate emerging technologies; and (4) justify joint C4 investments.

(2) NETWARS will provide results such as network and circuit utilization rates, speed of service, and message perishability with enough technical accuracy and precision to quantify the network loading delays and bottlenecks. The NETWARS model and simulation tool will help the C4 planner predict network problems and solve them during the planning phase, before they have a negative operational impact. In addition, NETWARS will justify investment strategies to help evolve the GIG.

(3) NETWARS is being developed in a modular way with each Service to facilitate and reduce the time required to perform these studies. This process will take advantage of economies of scale by sharing data and models among all Services and Agencies, provide a Joint modeling environment, and be the primary network-modeling tool for the Services in the future.

j. **Spectrum Management**

(1) Solving spectrum management issues is key to the ability to implement the real-time, assured, integrated GIG needed for successful Focused Logistics, Dominant Maneuver, Precision Engagement, Full Dimension Protection focuses on. Conflicting commercial spectrum needs domestically and internationally pose serious threats to military communications access.

(2) CINCs desire assured spectrum access for the warfighter for domestic defense and international operations, without today's diverging allocation tables. We need to achieve "stable allocation tables" in order to:

- Procure/acquire future weapons systems,
- Train with current warfighting equipment capabilities, and
- Minimize modifications and thereby costs

(3) DOD faces increased "competition" for access to frequencies because the 1980s significant increases of technology and 1990s considerable commercially driven interests. The 2000s will see an expansion of the dependence on wireless requirements for civilian and military needs.

k. **Allied and Coalition Interoperability**

(1) Operations Allied Force and Noble Anvil have provided a real world laboratory for Command, Control, Communications, and Computers (C4) interoperability and its effects on the joint warfighting environment. "NATO commanders used video teleconferencing for the first time as a major instrument for exercising command and control…these commanders' video teleconferences spanned the strategic, operational, and tactical levels of command, thus greatly compressing normal command and control processes." However, problems in communications interoperability, "…persisted throughout the campaign."

(2) International standards, policies, doctrines, and procedures affect the critical need for C4 interoperability along with hardware and software inequities. The capabilities envisioned by the GIG will ensure applicable standards, hardware, and software compatibilities while providing the flexibility to support evolving policies, doctrines, and procedures.

l. **Coevolution**

(1) Doctrine, policy, and organizations will need to coevolve to take full advantage of the enhanced capabilities provided by the GIG. Coevolution of the elements of the GIG's Foundation Component will provide increased connectivity and interoperability. With the GIG capabilities and JV2010 operational capabilities, warfighters and their staffs are likely to coevolve innovative ways of fighting yet in vented or observed.

(2) As networks, applications, software, systems, and transmission mediums become more interoperable and assured, they provide the warfighter as well as the business process owners of the DOD an opportunity to take full advantage of capabilities at all levels to visualize their current situation. They can then use this fused data to plan their specific mission, within the context of the global situation. Increased battlespace visualization will provide the joint warfighter with real-time and simulated information into the impact of mission planning on overall resources available allowing optimization based on operational constraints.

m. **The Global Command and Control System (GCCS)**. GCCS became the Joint Command and Control System of Record on 30 August 1996.

(1) **GCCS Tasks**. GCCS provides the Warfighter (joint task force, functional service components, and supporting CINCs) to the NCA information technology (IT)-enabled C2 capabilities incorporating core elements of mission-essential tasks enabling the commanders to better respond to unexpected conditions. GCCS provides these capabilities supporting a wide range of military operations from the strategic national level down to the service component level and throughout the spectrum of possible operations. GCCS supports decision-making processes in environments that may or may not provide

all necessary information. In addition, the information exchange environment provided by GCCS must also make it easy for the JFC to request and assimilate relevant information about support to the joint force plans and operations. While it is the responsibility of the Global Combat Support System (GCSS) to provide support information, GCCS must accommodate integration and presentation of that information to the commander. GCCS must meet the readiness support requirements of the Services; provide a real-time collaborative environment with decision support tools greatly reducing the decision cycle, and must provide the joint Warfighter a modern, open systems architecture, scaleable in both size and capability to meet the spectrum of the Warfighter's needs (See **Figure 3-19**).

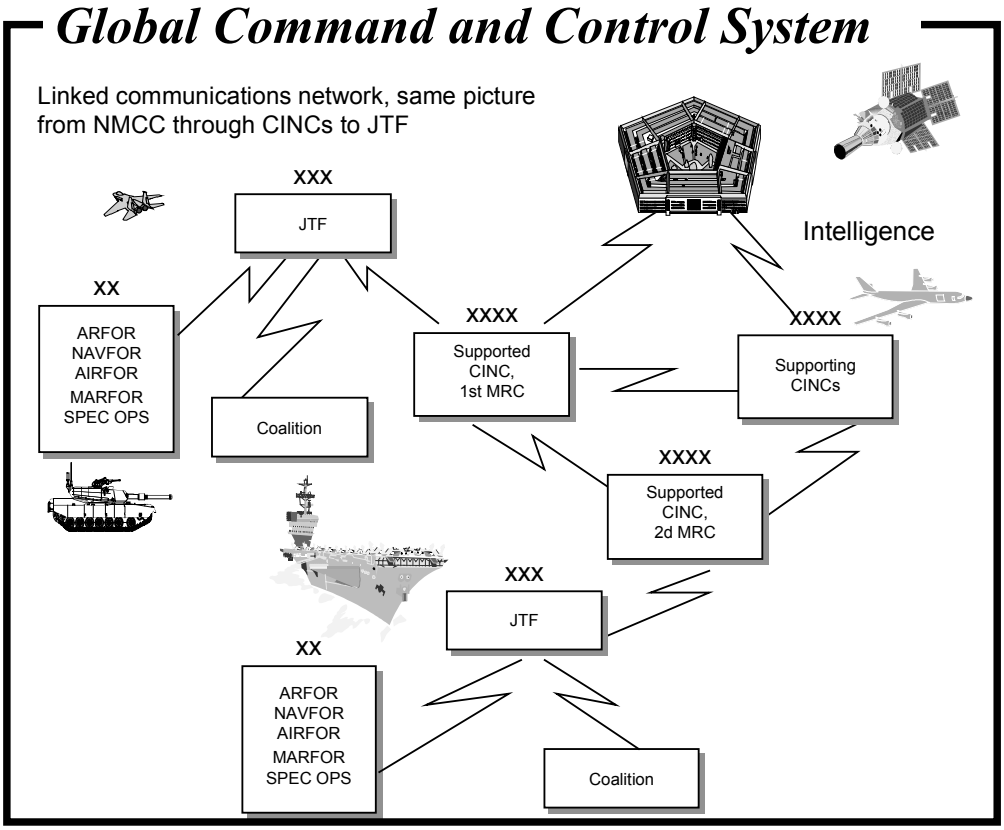

Figure 3-19

(2) **GCCS Purpose**. The purpose of the GCCS is to provide a system the National Command Authorities (NCA) and subordinate elements can use in the generation and application of national military power. The system must be highly flexible, be able to collect, process, disseminate and protect information, and support the C2 decision-making process. The process of C2 is comprised of those methodologies enabling the JFC to gain and maintain dominant advantages of timing and tempo over opposing forces or adversaries. These methodologies fall into three broad areas: planning, preparation, and execution. The C2 methodologies in operation in each of these areas are fueled by

information. Information is an essential fundamental element of C2. However, control of information and the synthesis of information usable to the commander and staff are the most severe challenges to effective C2.

(3) **GCCS Defined**

(a) GCCS is the Information Technology/Information Technology Management (IT/ITM) based system, policies, and procedures supporting the exercise of joint C2 from the NCA to the service component level. C2 is defined as: "The exercise of authority and direction by a properly designated commander over assigned and attached forces in the accomplishment of the mission. Command and control functions are performed through an arrangement of personnel, equipment, communications, facilities, and procedures employed by a commander in planning, directing, coordinating, and controlling forces and operations in the accomplishment of the mission. Also called C2." (*Joint Publication (JP) 1-02*).

(b) GCCS is used over the spectrum of command from the NCA to the service component level. Of special note, GCCS gives the joint force commander (JFC) the means to exercise authority and direct assigned and attached forces in the accomplishment of the mission. C2 enables joint force commanders to form an understanding of the situation, decide what action is required, transmit instructions to subordinate commanders, and get feedback on the results of the action in relation to the JFC's desired outcome (intent). This C2 cycle begins at the moment the JFC is ordered to execute a mission, and functions until the JFC is ordered to cease operations and stand down. The JFC uses information to support decision making and coordinate actions influencing friendly and enemy forces to the JFC's advantage. GCCS provides information to integrate joint force components, allowing them to function rapidly and effectively across vast distances. In short, the joint force must have information to operate. This information should be relevant, essential, timely, and processed in a form that warriors quickly understand and can use. GCCS is the JFC's principal information technology/ information technology management (IT/ITM) tool used to collect, transport, process, and disseminate this information supporting the spectrum of operations.

(c) GCCS provides a continuous flow of data to provide real time battlespace information anywhere and anytime. GCCS has the capability to provide both information pull on demand and information push. While remaining within the mandates of the Joint Technical Architecture (JTA), GCCS should not be limited in definition in terms of infrastructure or hardware. Within GCCS are a suite of core C2 capabilities providing planning, execution, collaboration, and monitoring tools for the mission-essential tasks of force generation, force employment, force protection, intelligence, and situational awareness. These are essential capabilities required by the combatant commanders and their subordinate JFCs to accomplish their mission. In support of these major mission-essential tasks are a set of office automation tools, collaboration tools, modeling and simulation tools, shared data bases, and assessment tools.

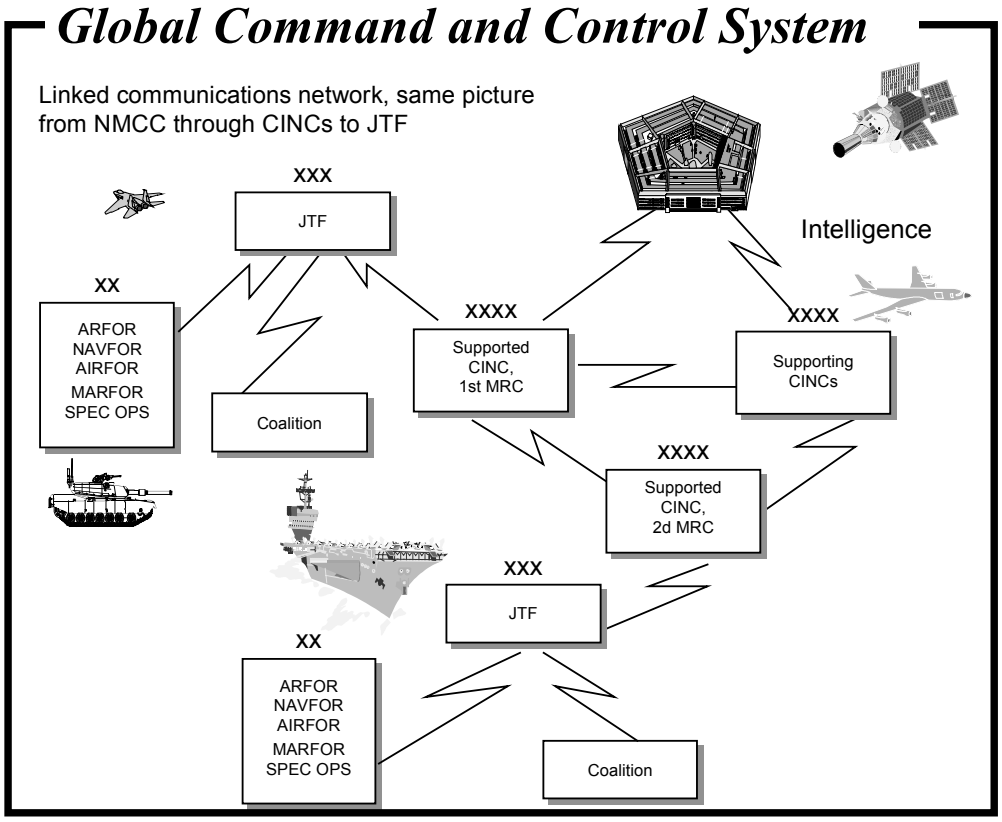

Figure 3-19

(4) **GCCS Current Mission Applications**

(a) **Joint Operation Planning and Execution System (JOPES)** is the integrated command and control system used to plan and execute joint military operations. It is a combination of joint policies, procedures, personnel, training and a reporting structure supported by automated data processing on GCCS. The capabilities of the JOPES mission applications support translation of the National Command Authority's policy decisions into planning and execution of joint military operations. JOPES applications include:

- Requirements Development and Analysis (RDA) creates, analyzes and edits Time Phased Force and Deployment Data (TPFDD).
- Scheduling and Movement (S&M) handles command and control information on deployment activity and status. It functions as a vehicle for the scheduling and tracking movement of TPFDD requirements.
- Logistics Sustainment Analysis and Feasibility Estimator (LOGSAFE) assists logistics planners in determining sustained movement requirements during deliberate and crisis action planning.

- Non Unit Personnel Generator (NPG) functions are to assist in determining quantities of replacement and filler personnel.
- Systems Support functions as the JOPES core database management subsystem for functional managers.

(b) **JOPES Editing Tool (JET)**: JET provides the capability to create, add, modify, delete, and generate deployment-related information contained in an Operation Plan (OPLAN) Time Phased Force Deployment Data (TPFDD). Although JET is focused on time-sensitive or Crisis Action Planning (CAP), it is also an excellent tool for the deliberate planner. JET has two segments, JOPES Editing Tool (JET) and JET DB Server (JETSRV). JET provides the user with a rapid, user friendly approach to developing and maintaining JOPES TPFDD. JET achieves its speed from code modularity, streamlined screen navigation and the use of a low overhead software language. The user friendly aspects are derived from close coordination in development with the JOPES user community. Specifically, functionality is driven by the JS/J3CSOD designated single point of contact at FORSCOM. JET will support "remote users" over low baud rate dial-up phone lines using STU IIIs. JET is expected to replace the JOPES Requirements Development & Analysis (RDA) application. JET development is planned in a series of "Builds". The initial focus is routine single edit functions expanding to more complicated tasks such as mass edits, force module processing, and OPLAN merges in later builds. JETSRV is the database server segment for the JET application. It creates the Oracle objects (including the JET_USER role) necessary for the operation of JET. It also provides scripts which are used to add/remove users as JET users.

(c) **Rapid Query Tool (RQT)**: The Rapid Query Tool (RQT) is a prototype. It consists of one segment, the RQT Client. No RQT specific database segment is required. It is intended to perform all the critical functions of legacy JOPES Ad Hoc Query (AHQ), but at a much higher speed. It is a rapid Operation Plan (OPLAN) query tool. It uses a new approach that provides a fast, flexible, and complete solution to a user's OPLAN query needs. RQT provides a wide range of user-defined data representation and format options for viewing and printing OPLAN data. RQT creates a "snapshot" of OPLAN data through rapid retrieval using parallel processing. This snapshot is saved on the Client workstation and is used when generating reports. This approach allows report tailoring "on the fly" and greatly reduces the number of times the GCCS Oracle database is accessed. RQT provides the user with a comprehensive JOPES data retrieval, analysis, and output tool. The primary goal in the development of RQT is providing the JOPES user community with a total OPLAN data analysis tool with the absolute maximum performance. Speed does not come without the application of processing power. RQT does this by taking advantage the database server's capability to manage multiple processors and processes. RQT creates multiple processes to extract data, thus eliminating the time-consuming bottleneck of multiple ORACLE table joins. After the data is retrieved it is then merged into a single "snapshot" for analysis. The multiple processes are prioritized and managed by the database server operating system in consideration of server demands to perform other tasks. It is to the user's advantage that the operating system puts as much computing power as available to accomplish the retrievals and

merge the data. This is done quickly and efficiently as opposed to long term, slow processes that tend to bog the system down.

(d) **COMPASS**: COMPASS is a set of Government Off-The-Shelf (GOTS) and Commercial Off-The-Shelf (COTS) software services. COMPASS provides a non-intrusive middleware approach that facilitates Collaborative Planning, Modeling & Simulation (CPM&S) access as well as Distributed Collaborative Planning (DCP) to the Joint-Combined Arms environment. COMPASS allows planners using disparate mission planning systems to move between local planning, collaborative planning, analysis, and simulation-based rehearsal modes. COMPASS capabilities include a client-server architecture with session management (SMGT) tools, a shared overlay manager (SOM), a composite route preview (CRP) capability, COTS DCP tools, GOTS DCP server tools, and the ability to observe external M&S products on host C4I and mission planning systems.

(e) **MAT**: MAT is a medical planner's tool that provides a requirements generator (MAT-RG) and a course of action analysis (MAT-COAA) module. Previously, two separate models performed these functions. MAT combines these two functions into a single environment and provides interfaces between them and to other data sources and automated tools.

(f) **Global Reconnaissance Information System (GRIS)**: GRIS supports the planning and scheduling of monthly sensitive reconnaissance operations (SRO) theater requests. The Joint Staff staffs these requests through the office of the Secretary of Defense, Central Intelligence Agency, and State Department for National Security Council approval. Incoming RECON 1/2/3/4 formatted messages are received by an automated message handling system, validated, and passed to the GRIS application for automated processing and database update. GRIS generates all RECON messages and also monitors the monthly execution of theater commands exercising operational control (OPCON) over airborne reconnaissance assets.

(g) **Evacuation System (EVAC)**: EVAC collects and displays information about U.S. citizens located outside the United States as collected by U.S. State Department embassies and consulates. It accesses the database server via TELNET operation from a GCCS compatible client.

(h) **Global Status of Resources and Training (GSORTS)**: GSORTS provides information on status of units with respect to personnel, equipment and training. Query and display capabilities include: categories of units (ships, fighter aircraft, ground forces, etc.); specific types of units (frigates, armor battalions, F-15's, etc.); and by specific unit (displays detailed status information).

(i) **Global Status of Resources and Training (Enhanced) GSORTS (E)**: GSORTS is made up of two segments: RASINP and RASSRV. RASINP client in-

terface will provide the GCCS user a means for on-line registration and entry of unit readiness data into the Global Status Resources and Training System, Sorts database.

(j) **Joint Deployable Intelligence Support System (JDISS)**: JDISS applications provide the intelligence window to access national, theater, and tactical intelligence sources through the joint architecture for intelligence. It provides connectivity and interoperability with intelligence systems required to support forces during peacetime, crisis, and war. JDISS includes INTELINK at the Secret classification level (INTELINK-S). It is an intelligence dissemination service which enhances the sharing of intelligence information electronically over the SIPRNET. INTELINK provides intelligence dissemination using networked information discovery, retrieval, and browsing services. Its point and click technology makes intelligence products widely available to both users and producers of intelligence.

(k) **Common Operational Picture (COP)**: The DII-COE COP provides an integrated tactical display of TADIL, Intel, and sensor data while providing a common geospacial processing & visualization to all C4I & C2 programs.

(l) **Global Transportation Network (GTN)** is an operational prototype that furnishes the automated command and control support needed for USTRANSCOM to carry out its mission of global transportation management for DOD. GTN also supports USTRANSCOM in accomplishing its task to integrate deployment-related ADP systems and to furnish centralized traffic management in peace and war.

- GTN accesses current transportation information from diverse sources, integrates that information, and gives it to users in a useful form. Information is integrated into a central database to cross-reference supply, cargo, forces, passenger, and patient requirements and movements with airlift, air refueling, aeromedical, and sealift schedules and movement. Success will be directly related to the quality of the data, response time to a query, number of users able to access the database at one time, and ability to keep the database operational under all conditions.

- DESERT SHIELD/STORM highlighted the need for integrated transportation information. One of the key problems experienced was inaccurate movement requirements. JOPES gave a general forecast of requirements to schedule lift against, but some units took more or less equipment than the JOPES database held for them, or they weren't ready to embark lift assets at times indicated in the JOPES database. This sometimes resulted in scheduling the wrong lift assets for the wrong loads at the wrong times. Another problem was lack of in-transit visibility; once passengers and cargo were loaded on a lift asset, they could not be tracked until accounted for at the receiving end. The customers in the field did not know where critical items were in the pipeline, so duplicate and triplicate requisitions were sometimes submitted, and lift that could have been used more efficiently for something else was used to move the extra items. Containers remained in ports because nobody knew what they contained or where to send them. In-transit visibility, a primary benefit of GTN, solves or ameliorates such deficiencies.

- GTN gives users the ability to do the following things, as depicted in **Figure 3 -20**:

  - locate items in transit
  - forecast port workload
  - assess unit deployment status
  - determine onward movement requirements
  - confirm requisition movement
  - determine container and pallet contents
  - obtain current aircraft and ship schedules

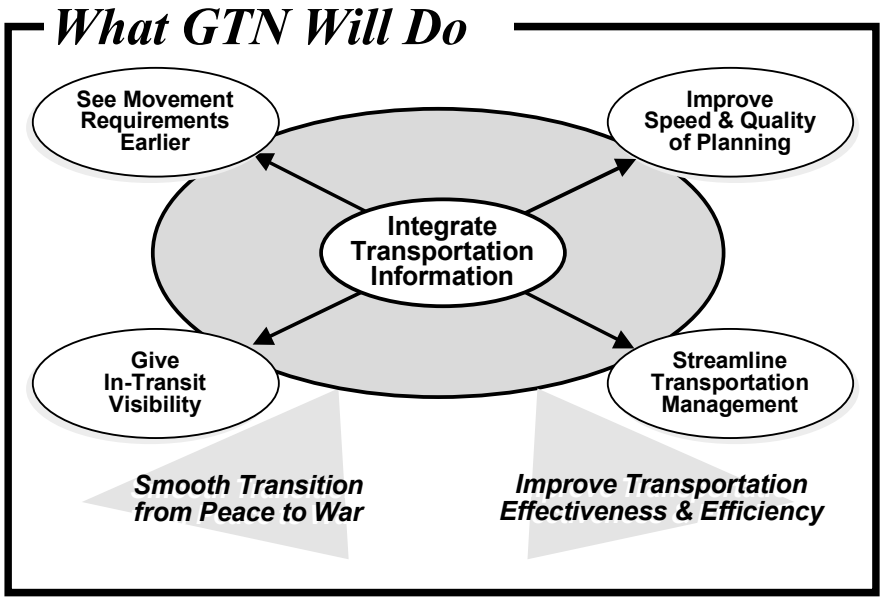

Figure 3-20

(m) **Scheduling and Movement (S&M)** is the focus within JOPES for command and control information on deployment activity and status. It functions as a vehicle to report and track movement of TPFDD requirements. S&M allows the user to review, update, schedule, and create manifests of both Transportation Component Command (TCC) carrier and organic movement data, before and during deployment. It offers the capability to review and analyze an extensive variety of source requirements. The Global Transportation Network (GTN) supplies TCC air carrier information. Multiple reports concerning transportation analysis are available. Major new functions in S&M include the following:

- maintaining both allocation (planned) and manifested (actual) movement data
- permitting "shuttles" through same geographic location
- furnishing carrier support for more than one OPLAN

(n) **Air Tasking Order (ATO)** offers the capability to view and print selected parts of air tasking orders. A query function allows the user to tailor requested information contained in a specific order for viewing. The query function also supports display of color-coded ground tracks for selected parts of the order. ATO interfaces with the Contingency Tactical Air Planning System (CTAPS).

(o) **Fuel Resource Accounting System (FRAS)** gives fuel planners an automated capability for determining the supportability of a deliberate or crisis action plan and for generating the time-phased bulk petroleum required to support an OPLAN. FRAS facilitates the review of the fuel requirements of a proposed, new, or revised OPLAN and assesses the adequacy of available resources to support crisis action planning. Two or more OPLANs can be combined into a single OPLAN for analysis. The requirements generated can be varied through the use of intensity tables and consumption data extracted from the Logistics Factors File (LFF) or with Service-supplied data. Principal users are the Joint Staff, CINCs, Services, and Defense Fuel Supply Center.

(5) **GCCS Future Mission Applications**

(a) **IDM**: IDM is an integrating segment for the Information Dissemination Management (IDM) collection of tools and services. IDM tools and services assist in the identification and characterization of appropriate information and in its retrieval and delivery to appropriate users while accommodating heterogeneous communications networks with intermittent availability. The IDM segment assists an administrator in configuring previously installed segments to provide integrated IDM tools and services and facilitates subsequent administration of the tools and services. The segment also enhances the functionality of services provided by the other segments and provides a level of integration between other segments in order to improve IDM tools and services.

(b) **NetMeeting**: The Microsoft NetMeeting segment provides real-time conferencing along with several additional features such as communication with both audio and video, collaboration on Windows-based applications, exchange of graphics using an electronic whiteboard, file transfers and a text-based chart program. This segment is a partial segment that verifies that the Microsoft NetMeeting software has been installed on the PC.

(c) **Joint Forces Requirements Generator (JFRG) II**: Joint Forces Requirements Generator (JFRG) II is a PC application to support remote and forward deployed users in generating Time Phased Force Deployment Data (TPFDD). JFRG provides a unit-level deployable, microcomputer-based deployment planning tool for the Joint community. JFRG accelerates the development, sourcing, analysis, and refinement of plans and deployment databases resulting in executable JOPES TPFDD. It will provide a bridge between JOPES and the TCAIMS II system, and reduce response time by more efficiently creating and refining plans that can be accomplished directly in JOPES. JFRG prepares timely initial estimates through the use of standard reference data and analysis tools. It facilitates identification of accurate unit data down to the unit personnel

and Level 4 cargo detail. It consolidates joint and service-specific reference information and codes from numerous sources. JFRG can produce JOPES executable TPFDDs; it can produce a JOPES transaction file for modifications to an existing OPLAN database; and can download existing JOPES plans.

(d) **Integrated Imagery and Intelligence (I3)**: I3 is a tool that overlays Defense Intelligence Agency data, Order of Battle, targets, on imagery using Joint Mapping Tool Kit (JMTK). The GCCS Integrated Intelligence and Imagery will enhance GCCS with the ability to access military intelligence imagery assets. I3 provides necessary intelligence features to the Warfighter. It consists of approximately 49 segments which comprise several key databases and activities.

(e) **GRIS Web Interface (GRISWI)**: The GRIS Web Interface (GRISWI) is a Joint Mission Application Software (JMAS) segment. It is used by the Joint Reconnaissance Centers (JRCs) at designated Unified Command sites. GRISWI provides automated support in planning, scheduling, reporting, and monitoring reconnaissance activities under the Sensitive Reconnaissance Operations (SRO) program. GRISWI maintains a near real-time status of all SRO missions and provides immediate on-line retrieval of mission, track, and message data. To accomplish this, GRISWI provides automated real-time capture and processing of Reconnaissance Information Processing System (RIPS) format messages, and maintains a mission and track database containing schedule and resultant information. GRISWI generates and releases outgoing SRO messages to the Automated Digital Network (AUTODIN) and provides on-line query and report capabilities detailing message, mission status, and scheduling information. It is used to maintain current Track Dictionary data and to generate the master copy of each new dictionary or set of change pages. GRISWI has external interfaces with the GCCS Automated Message Handling System (AMHS), and the Joint Mapping Toolkit (JMTK).

307. SUMMARY OF CAMPAIGN PLANNING. This chapter on campaigning describes the concept of the campaign plan, which is the basic tool for the commander to use in linking tactical actions to achieve strategic objectives. This linkage of tactical engagements cannot be mere coincidence because it is possible for the commander to win all the battles but still lose the war. To effectively create this linkage, the joint force commander uses all the aspects of operational art to focus the capabilities of his forces on the accomplishment of tactical actions that will lead to operational and ultimately strategic success. For the linkage of tactical actions to the strategic aim to be effective, the commander analyzes his adversary, orient on the enemy's vulnerabilities and centers of gravity, determine to what end he has been tasked to fight, and aggressively carry out his plan. The process of initiating military action is viewed as an attempt to rob the initiative from the enemy, while linking tactical actions to strategic ends must be viewed continually with the end state in mind.

a. **Operational Thinking**. The main purpose of exercising the numerous aspects of operational art is to keep the enemy off balance and to "get inside its decision cycle." The creation of leverage, striking with surprise and strength in simultaneous manner throughout the depth of the battlespace, in all functional environments, forces the enemy to become reactive, thus placing the initiative in the hands of the friendly commander. Armed with the product of strategic art (i.e., end state) the JFC exercises his talent to possess the product of the process of operational art (i.e., initiative). The result is the attainment of operational and subsequently strategic objectives.

b. **Commanders' Queries**. The art of campaigning and the implementation of operational art are detailed and complex. Not only is the commander confronted with a myriad of principles, concepts, and elements with which to frame his operation, but concurrently he will be bombarded with all forms of data and demands for his time and for decisions. In the midst of the "fog and friction" of war it is imperative that the commander and his staff keep focused on five basic questions for operational success:

- **What am I being asked to do? (*Mission)***
- **What forces will I need to do it? (*Force Planning)***
- **How will I get the forces there? (*Transportation Planning)***
- **What will it take to sustain them? (*Support Planning)***
- **How will I know I am successful? (*End State*)**

"Those who know when to fight and when not to fight are victorious. Those who discern when to use many or few troops are victorious. Those whose upper and lower ranks have the same desire are victorious. Those who face the unprepared with preparation are victorious. Those whose generals are able and are not constrained by their governments are victorious."

- Sun Tzu