

S
L
D

SECOND LINE OF DEFENSE

Special report series www.SLDinfo.com

Shaping a Collaborative Maritime Strategy for the Pacific: The USCG Role

October 2009

Shaping a Collaborative Maritime Strategy for the Pacific: The USCG Role

The global changes induced by the war against terrorism with global means and the rise of key regional power centers are reshaping the maritime strategic environment. It is the coexistence of these two dynamics which is central for the period ahead.

The first will shape both unilateral and multilateral actions to pursue counter-terrorism. Some of counter-terrorism activities will involve events at sea -- piracy and maritime terrorism; some will be by use of navies to influence events ashore (shape foreign government's policies with regard to the presence of terrorist camps or to strike those camps directly).

The second will be the emergence of a blend of geo-politics of a new sort (the rise of the European Union) with a geo-politics of the quasi-traditional sort (the emergence of the new Asia).

The global challenge of dealing with the new terrorism affects maritime activities in a number of ways. New challenges for building a maritime security regime are emerging as a key requirement of the naval and related forces to provide for maritime security.

Among these challenges are the following:

- *Dependence on Maritime Trade Increasing.* In the next twenty years, maritime commerce will become a growing and increasingly important component of the global economy with greater dependence on just-in-time delivery of goods and services; reliance on large, containerized shipping; and the employment of mega-ports as destinations and transshipment points.
- *Growing Importance of Undersea Infrastructure.* Undersea critical infrastructure such as oil and gas pumping stations and telecommunications cables are an increasingly important part of the global economy.
- *Attacks from the Sea an Emerging Threat.* State and non-state groups will be capable of mounting UAV, short-range ballistic, and cruise missile attacks, possibly employing weapons of mass destruction, from U.S. waters.
- *Lack of Security Between the Ports a Growing Concern.* Smuggling by private craft with small payloads and delivered outside port facilities are extremely likely. Terrorists could employ these means to bypass U.S. security regimes.

- *Maritime Criminal Activity a Growing Problem.* Piracy, human trafficking, and drug smuggling will continue. Terrorists could mimic or partner with criminal enterprises.
- *Environmental Threats an Enduring Challenge.* There will be increased opportunities for infectious diseases and other environmental threats to be carried by seaborne traffic. In addition to the threats of bioterrorism and natural infectious disease outbreaks, health risks and economic damage can also be inflicted by the unintentional or deliberate introduction of non-indigenous species, including animals, plants, insects, and single-cell organism

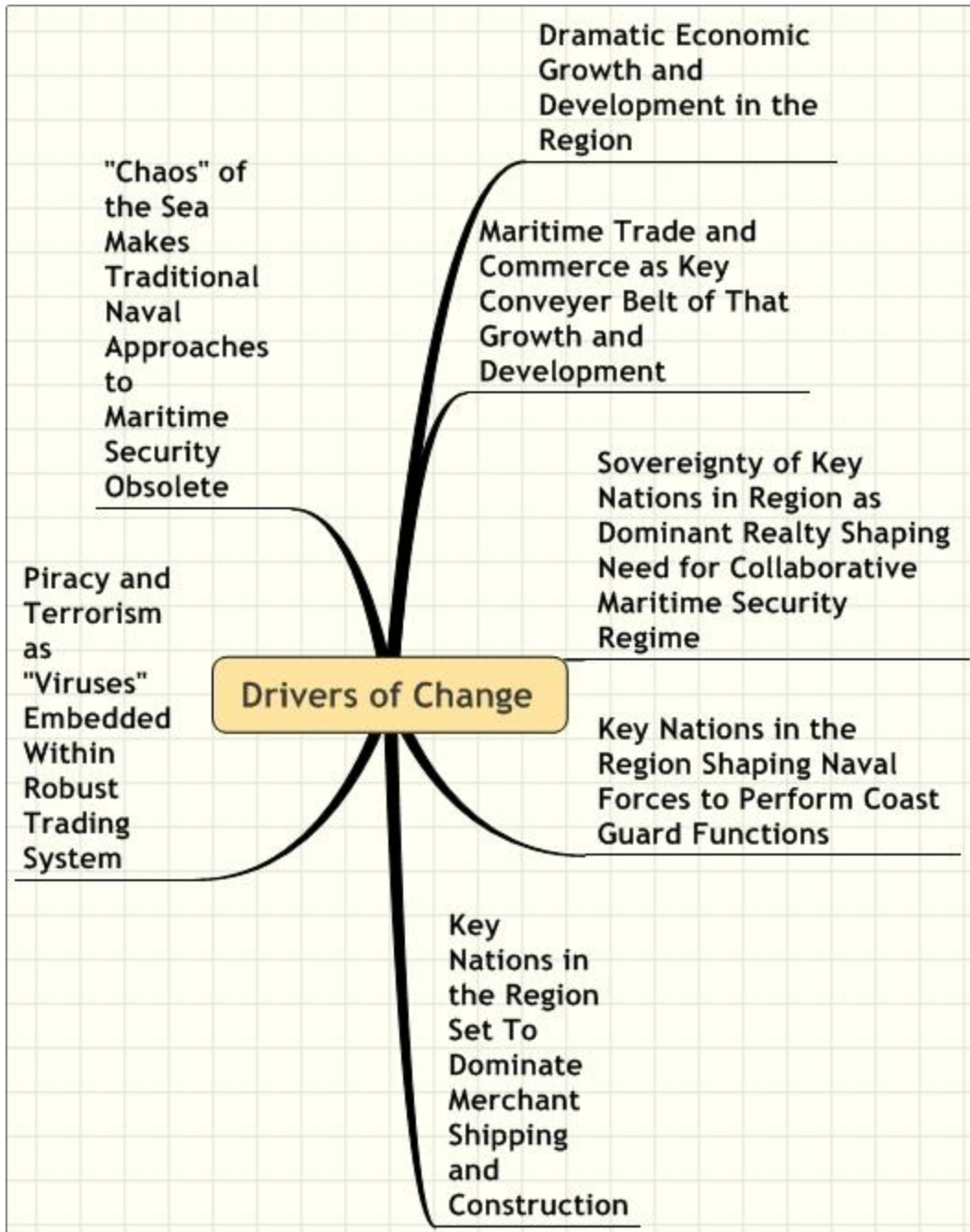
Key Questions

This assessment looks at key factors driving change in the Pacific area which will shape strategy over the next 20 years. This assessment provides an understanding of how to think about the framework shaping change.

- What drivers for change are becoming most significant in shaping what the USCG needs to do as a priority over the next twenty years?
- What do U.S. decision makers need to consider as crucial for the USCG to be able meet the most central requirements for U.S. security in the Pacific area over the next 20 years?
- How will the USCG be able to meet these requirements in the years ahead?

Overview

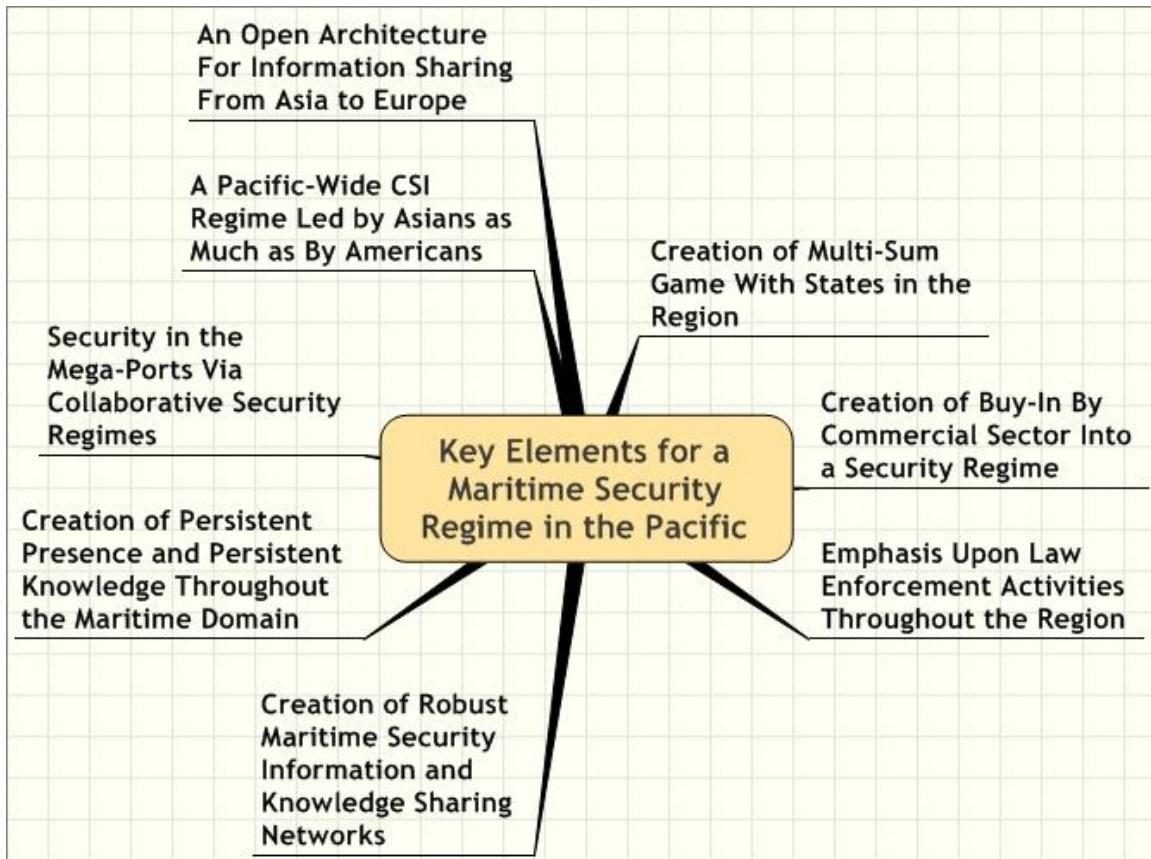
The drivers of change are making traditional balance of power maritime politics insufficient for the creation of a maritime security regime in an age of the threat of maritime terrorism. The dramatic growth in the power and significance of the nations in the region, on the one hand, and the “chaos” of the sea making the management of maritime trade so challenging, on the other, form the parameters of the strategic challenge facing the United States in the region.



For U.S. security to be met in the maritime domain of the Pacific, the USCG will be transformed, in effect, into the lead agency in creating a maritime security regime. This effort will require the collaboration of the various stakeholders in maritime trade, commerce, and security. The USN will play a key, but supporting role, to the USCG which will undergo all but a change of name in playing out this role.

The challenge of creating a collaborative security regime in the Pacific which, in fact, would extend from the Pacific to the rest of the world, rests upon commercial collaboration and law enforcement cooperation. It is not a military activity as such.

Security is a multiple-sum game, not a zero-sum game. It is not an activity which states can create by themselves, but requires the commercial sectors full participation but runs up against the challenges of managing the “chaos” of the sea. It is crucial for American decision-makers to understand how different the security domain is from the classic military domain. The creation of a maritime security regime is an enterprise which must blends the activities of the commercial, civilian, law enforcement, and quasi-military domains.



For the USCG to play the lead role in shaping a maritime security regime, it needs a significant bolstering of its resources and capabilities. The USCG started its life in the late 18th Century as the *Revenue Cutter Service*. It is now becoming in the 21st Century, in effect, the *Maritime Security Service*. The special qualities of the Pacific region require the USCG to have assets which have greater endurance, range and survivability than assets in other AORs. New physical assets are required and new operational capabilities as well.

Notably, the USCG needs to have a key role in working with states in the region. This is necessary both for collaboration on port security as well as for participation in the fundamental rethinking and reshaping of maritime forces and capabilities in the region to play the new collaborative maritime security role. The challenge is formidable; the needs are as well.

Drivers of Change

The first, and most compelling driver of change, in the Pacific is the enhanced economic role of the Asian powers in the global economy. Japan has been a major factor in the U.S. economy since the 1960s, but now China, India and other Asian economies are becoming key forces as well. China has become or is becoming the number one trade partner of the United States, Japan, Korea and Europe, to name the most significant economic players. India is on the ascendancy as well.

For the purpose of this assessment, two key factors stand out. Enhanced growth and development will drive further growth, in turn, of maritime trade and commerce and the need for energy and other resources to be acquired and moved by sea. And the growth in the significance of national powers in the region will affect their willingness or lack thereof to support an American dictated maritime security agenda. It will be crucial to develop a multiple-sum or collaborative approach to maritime security *now* as a bedrock to protect future U.S. interests over the next twenty years. Well thought-out policy *crafted now* is a down payment on a more secure future.

The second broad driver of change is the conjunction of the growth in maritime trade with changes in the character of that trade and with the global economic development processes.

Shipping is at the heart of global trade. Most international trade – about 80% of the total by volume – is carried by sea. About half of the world's trade by value and 90% of the general cargo is now transported in containers. The containerization of cargos and the growth in the size of the cargo ships are important forces for change as well.

Containerization has been both cause and consequence of a shift in the nature of the global supply chain. Logistic supply chains that feed components and finished products to users on a just-in-time and just-enough basis have become critical to modern manufacturing and service industries. Seaborne trade and its land connections in the global supply chain have become increasingly efficient, large-scale and thus open.

Also part of the containerization phenomenon has been the rise of the megaports. The top container terminals such as Hong Kong, Singapore and four other East Asian ports, accounted for nearly 60% of world sea container throughput.

The *conjunction* of a dramatic increase in the volume of trade, a shift towards containerization, the shift in manufacturing and production models and the rise of the mega-ports has created a new maritime security situation. With the insertion not only of the threat of piracy but of terrorists able to gain access to weapons of mass destruction, the nature of that maritime security challenge has been transformed.

Asia is at the heart of all of these maritime developments: dynamic economic growth and development leading to greater reliance on shipping, containerization, mega-ports and crucial interdependencies with the United States and Europe.

A virtual conveyer belt of goods is moving from Asia to the United States, and a significant portion of those goods are transhipped across the United States, to be sent to Europe. Whether as the final destination or middle man, the United States is a key node in the Asian maritime commercial system. Building an effective maritime security system must start with the challenge of security for the conveyer belt.

Asia is crucial in another way. Asia already dominates the merchant shipping construction business, and will increase its dominance in the years ahead.

Asians are clearly concerned about maritime security and, in many, cases are reshaping their maritime forces to address maritime or “homeland” security issues. Maritime domain awareness is an inevitable consequence of this concern and of this effort, but building collaborative networks is crucial to success.

But two key realities of dealing with the sea confront and confound efforts at maritime security.

First, there is the ongoing nature of piracy in the region and the ability of terrorists to mimic the behavior of pirates as well as of traditional ship-owners flying under flags of convenience.

Port security and countering maritime piracy and terrorism are key concerns in shaping Asian maritime security policy for the future. Piracy is a growing problem in Asia which requires better extended homeland security operations. The straits of Malacca pose a special security risk for maritime trade and require close cooperation among the maritime powers in the region.

Second, there is the broad challenge of what one perceptive analyst called the “anarchy” or “chaos” of the sea.

The sea is eternally restless. At all depths in all places it is constantly on the move in an inter-play so large and complex that it has yet to be fully described, let alone understood in its effects. The point remains that the ocean is a fluid. And when a ship passes by, temporarily displacing some of its molecules, the surface immediately closes in behind and erases the trail.

This leaves anyone hunting for a ship to face the ocean's other simple fact -- its surface expanse. The Indian Ocean alone spreads across more than twenty-eight million square miles, an area that is nearly twenty-eight times the size of India itself, more than seven times the size of the United States, and indeed seven million square miles larger than all of Eurasia. The

Indian Ocean's western neighbor, the Atlantic, encompasses more than thirty-three million square miles -- roughly the size of all the world's landmasses combined -- while its eastern neighbor, the Pacific, is twice again as large. Of course, you don't have to search the whole ocean to find a fugitive ship, but searching even the relevant parts can be a daunting task. Patrol airplanes are expensive to fly and of limited endurance, and though the view they offer may stretch a hundred miles or more, against the scale of the ocean it is still a paltry thing.¹

Part of the problem of the “anarchy” of the sea is the flag of convenience problem. Currently, there is virtually no relationship between the genuine ownership and control of a ship and the flag it flies.

The piracy, flag of convenience and terrorism threat converge in creating the maritime security problem for the 21st century.

The Impact of the Rise of Regional Power Centers

The rise of the regional power centers is significant as well in shaping the maritime security challenge to creating an effective regime. Notably, in Asia, China, Japan, Australia, Korea, and India are all on pathways to increase significantly their maritime capabilities in the next two decades. The twin aspects of shifting geo-political power to Asia and the continuation of a new globalization process – less Western and less dominated by the Americans – will shape the maritime security environment as well.

The growing capabilities of the regional Asian navies will mean that they will have greater ability to project power and to shape networking strategies in the Asia Pacific Region. These will inevitably force the question of the relationship with the USN and the relationships among the Korean, Japanese, Chinese, Taiwanese, and Australian maritime capabilities as well. It is maritime capabilities in terms of ships as the point of the spear supported by ISR, C² and land and air strike weapons as well.

The key Asian navies are engaged in a significant upgrade of their capabilities as part of the geo-political dynamics of change in the region. The growth of maritime and military power in the region could undercut the globalization interests of the Asian powers, or at a very least, there is dialectic of change afoot between the current phase of Western domination of globalization and the rise of Asian power

For the Chinese, the integration of maritime power with land and air base missile capabilities integrated into a network is the key to projecting power into the region, and to countering the United States Navy. The challenge in dealing with China is to engage them in the creation of a multiple-sum maritime security regime, which is clearly in their

¹ William Langewiesche, *The Outlaw Sea: The World of Freedom, Chaos, and Crime* (New York: North Point Press, 2004), pp. 61-62.

commercial interest, while deflecting the ability of the regime to strengthen its maritime forces directed against U.S. interests.

For the Japanese, the growth in maritime capabilities has been built on the back of its relationship with the United States, and its close relationship with the USN. But growing concern about China and the reliability of the United States in the region could lead to a more independent role in the region based on the integration of its maritime assets with space and air assets.²

For South Korea, combining its commercial maritime power with a growing military maritime capability could well be a pathway to the future. The growing capabilities of the South Korean navy are linked with its relationship with the USN,³ but the economic weight of South Korea might well allow for a more independent path as well.⁴

For the Australians, there is a growing commitment to military transformation whereby joint maritime capabilities are funded and a networked force would emerge. Maritime surveillance via space and the use of UAVs would be integrated with air strike capabilities of the JSF and the modernization of the Australian fleet.

For the Indians, the coastal navy is growing into a fleet able to operate further from Indian shores. A shifting Indian strategic doctrine in favor of more assertive presence in the APR is correlated with a growth in Indian maritime power. And indeed, India has adopted a maritime strategy commensurate with its regional and global ambitions.

In short, the Asian dynamics of change underscore the dialectics of globalization and geo-politics. Globalization is dramatically shifting the context within which requirements are generated and decision-making can be framed. Maritime needs are to protect the sea lanes, ocean commerce, sea resources, etc. These are global in character, and increasingly commercial maritime interests do not follow the national flag.

Yet nationalism remains the key framework within which security decisions are made and naval and military forces built. How to have a framework within which multinational cooperation is possible to deal with multiple sum choices and at the same time have national tools to protect interests not provided for by the public good generated by multi-nationality?

² On the changing Japanese dynamic see, Tetsuo Maeda, *The Hidden Army* (Chicago: Edition Q, Inc., 1995) and Robert Karniol, "Reaching Out," *Jane's Defence Weekly* (May 28, 2003).

³ For example, see Richard Scott, "South Korea Selects Aegis for KDX-3 Destroyer," *Jane's Defence Weekly* (July 31, 2002).

⁴ See for example, Robert Karniol, "South Korean Industry: Learning Curve," *Jane's Defence Weekly*, (October 22, 2003).

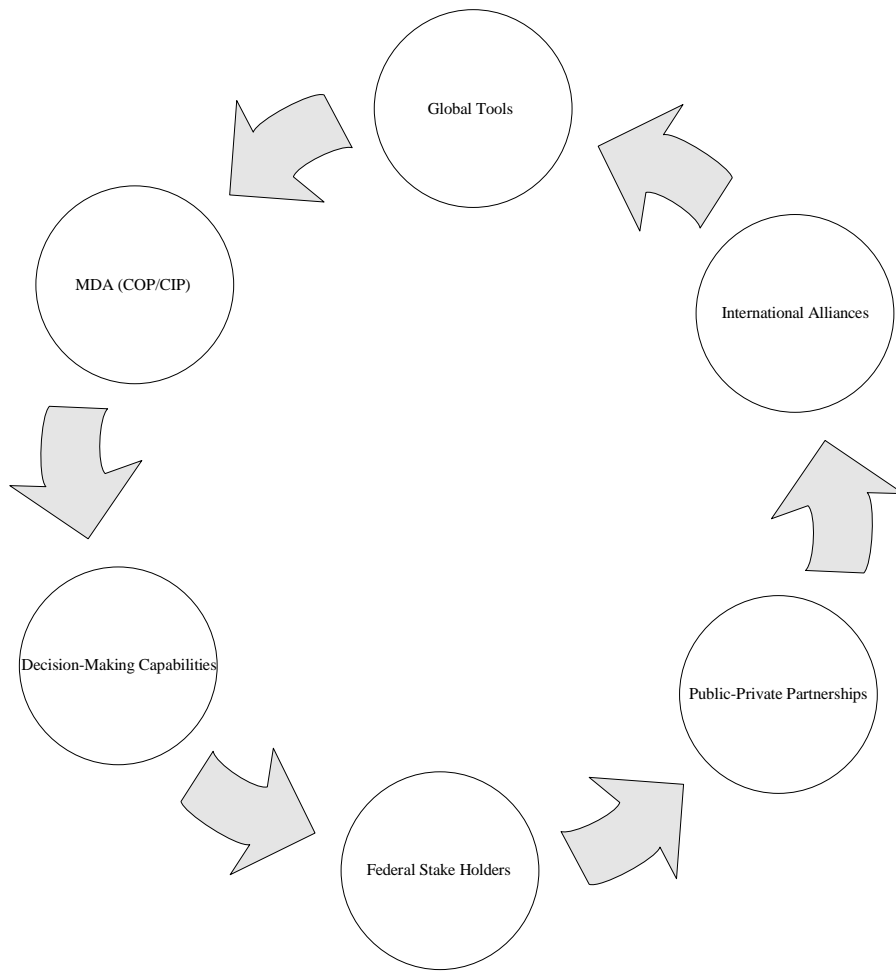
Key Considerations

A new approach to maritime security which provides for layered defense of the American homeland built around maritime domain awareness is viewed as a crucial effort in the United States. To build capabilities for the new approach requires redirecting U.S. maritime capabilities away from a pure emphasis on overseas presence and strike to participating in extended homeland defense missions. An emphasis on security vice defense requires new tools and approaches to engaging federal entities in maritime security. At the same time, it requires engaging allies in building maritime data tools and situational awareness through such programs as the container security initiative. This is a “network-centric” approach but directed towards extended homeland defense.

The pillars of an effective maritime security regime for the 21st Century will be built on the following foundation:

- The United States needs to build a common operating picture (COP) to assess the dynamics of maritime commerce and activity beyond the borders and internal U.S. waterways and ports.
- The United States needs to build an effective decision-making system which can act selectively with regard to the information gained from a COP and to target as effectively as possible real threats to U.S. maritime interests.
- As a federal system, the United States must create an effective stakeholder structure among the levels of government involved in maritime security.
- Because U.S. infrastructure is largely in private sector hands, public-private partnerships need to be constructed which maximizes effective cooperation and minimize disruption to trade and commerce.
- Because maritime commerce is a key part of the global economy working out the most effective means to ensure international cooperation and support for U.S. maritime interests is crucial to success

In other words, the creation of a maritime security regime will require building a strong “system-of-systems” enterprise with strong domestic and foreign linkages. The pillars of an effective maritime security system can be thought of an interactive cycle of capabilities which needs to feed one another to enhance the overall maritime security enterprise.



Leveraging Commercial Trade to Protect the Conveyor Belt

For the USCG operating in the Pacific involves an extremely complex set of tactical and operational interactions. The meshing of political, economic and environmental activities must be carefully drawn apart so as to discern the overarching strategic imperatives and approach necessary for formulating the Coast Guard’s role in the global enterprise. It is essential that missions and operations are not confused with strategy; for example, preventing terrorism and maintaining good order at sea are objectives that should result from a top-level strategy.

The breadth of Coast Guard missions, juxtaposed with those of the US Navy complicate the development of a strategy, as missions, tactics and operations overlap, in some cases nearly seamlessly. Further, the USN’s ongoing examination of transformation and redefinition of its global role makes the areas of intersection and overlap subject to rapid change.

Thus it is necessary to identify the major elements of the Pacific Theater that shape and impinge upon US national interests.

When viewed at the most broad level, there are three major forces in the Pacific Theater: Politics, Commerce, and Law Enforcement. Put simply:

- Politics – The manifestation of the sovereignty of nations;
- Commerce – The mechanism of national and global economies;
- Law Enforcement – The maintenance of accepted national order.

Casting these major forces as specific domains within the Pacific Theater of Operation can reveal a framework for strategy development. From this view, the USCG has the primary role in the Domains of Commerce and Law Enforcement, while the USN and others have supporting roles. The USN is the mechanism by which diplomacy is accomplished, that is the maintenance and resolution of global political order as it affects US sovereignty. As such, in terms of the political forces in the Pacific Theater of Operations, there is a Military Domain in which the USN and others have the primary role.

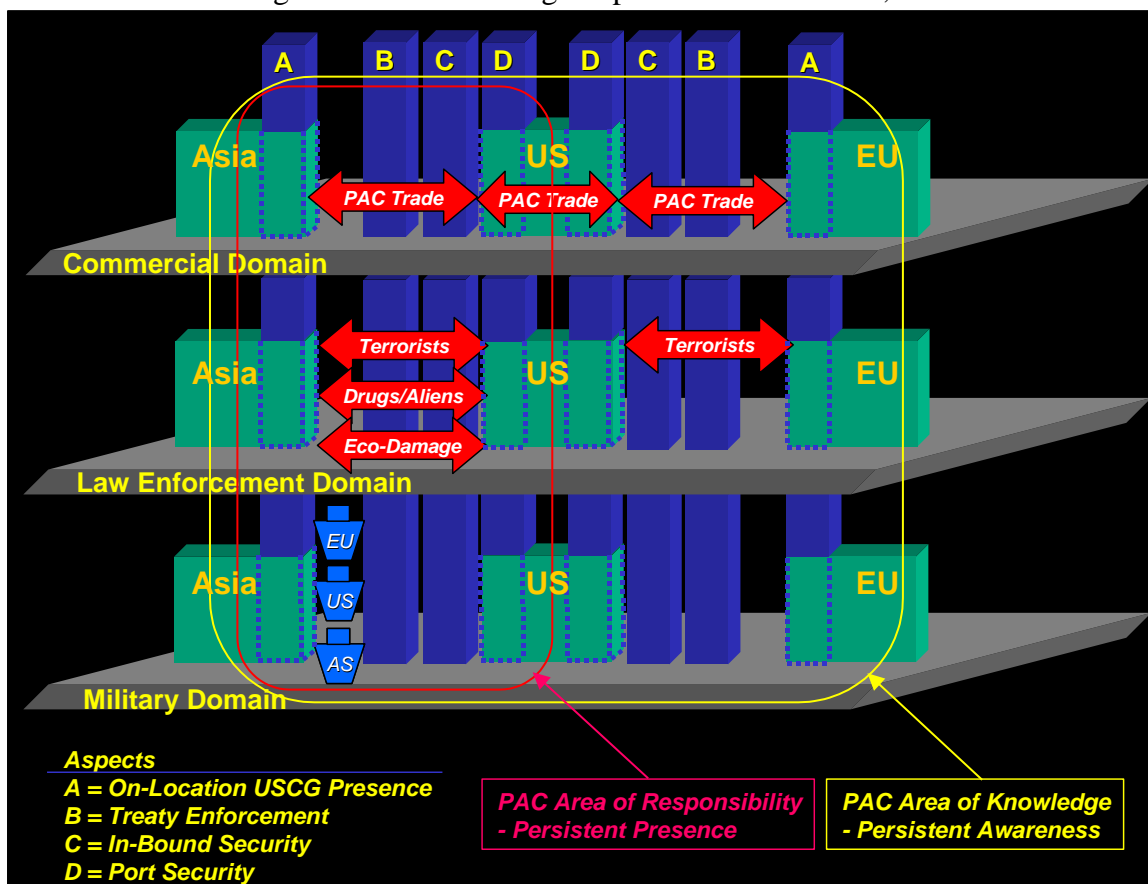
US Coast Guard Missions
Maritime Safety
Search and Rescue
Marine Safety
Recreational Boating Safety
International Ice Patrol
Maritime Mobility
Aids to Navigation
Icebreaking Services
Vessel Traffic & Waterways Management
Bridge Administration
Maritime Security
Drug Interdiction
Alien Migrant Interdiction
EEZ & Living Marine Resource
General Maritime Law Enforcement
Law & Treaty Enforcement
National Defense
General Defense Duties
Homeland Security
Port and Waterways Security
Polar Icebreaking
Protection of Natural Resources
Marine Pollution Education, Prevention, Response & Enforcement
Foreign Vessel Inspections
Living Marine Resources Protection
Marine and Environmental Science

The USCG PACAREA strategic imperative is to maintain a brisk flow of commerce. This will, in turn, drive the overarching Concept of Operations, the need for resources and their geographic positioning. While the USCG will continue to have many operational obligations and requirements that must be achieved, the recognition of the Commercial and Law Enforcement Domains must be key focus for USCG pacific area operations.

As can be seen in the graphic below, the Pacific Theater can be decomposed into three domains; Commercial, Law Enforcement and Military. Perhaps the most important feature of this depiction is the trade arising from the increasing commercial might of Asia. Goods are being produced and exported at an ever-increasing rate. At the same time, Asia is a net importer of raw materials and energy.

Of equal importance is the overall flow of goods. While the EU is now China's largest trading partner, the flow of goods, for reasons of commercial efficiency, are nevertheless first arriving at US West Coast ports. These goods are then trans-shipment across the continent and subsequent re-embarkation in US East Coast ports to their final destination in EU ports. *This nature of this trade corridor must drive our thinking about where the USCG must operate and what information must be available for decision-making.*

Naturally, with the rise of commerce comes the need for increasing law enforcement operations. Interdiction of illicit drugs and illegal migrants will continue to be a major priority. Additionally, it is essential that standards of operation that affect the ecology and therefore the commercial viability of the seas and waterways be controlled and enforced. However, the rise of global terrorism is, by far, the greatest threat to the stability of our economy. The stakes are high as the loss of one or more key ports, even temporarily, would cost our economy up to \$10 billion per day, potentially threatening our entire way of life. The treatment of global terrorism along the pacific trade corridor, a virtual



“Conveyor Belt”, requires persistent presence of law enforcement assets as well as persistent and persistent awareness of all the information needed to achieve effective law enforcement.

There are geographic aspects to the three Domains that when viewed top-down help describe the Maritime Security Regime and therefore assist in the development of an overarching strategy. The “Conveyor Belt” has end-points in Asia, e.g. the port of Singapore and Europe, e.g. the Port of Le Havre, France's largest port facility with interim drop points in Los Angeles/Long Beach and the Ports of New York/New Jersey. Therefore persistent presence along the “Conveyor Belt” requires forward deployed personnel and assets (Domain Aspect “A”), in-route management (Domain Aspects “B” and “C”) as well as US Port Security capabilities (Domain Aspect “D”).

Resources must be appropriately deployed to each of these Domain Aspects: Domain Aspect A – the management of the goods placed on the “Conveyor Belt” must involve the totality of commodities that transit the trade corridor. Forward deployed diplomatic presence (including the USN) and Container Security is not enough. It is essential that bulk cargo, including the shipment of energy resources must also be monitored and controlled.

- Domain Aspect B - along the continuum of the “Conveyor Belt” there is a region that involves the enforcement of international treaties, such as the International Convention for the Safety of Life at Sea (SOLAS), and the United Nations Law of the Sea Convention (UNCLOS). This region is important to assure that the goods traveling along the “Conveyor Belt” are neither compromised (loss of life, ecological damage, piracy, etc.) nor contaminated (the addition of illegal aliens, illicit drugs, Weapons of Mass Destruction/Disruption, etc.).
- Domain Aspect C - this area has gained particular attention in the post 9/11 environment, that is the area bounded by the required Advanced Notice of Arrival (ANOA or the “96-hour rule”) including the 200 mile Exclusive Economic Zone (EEZ) and 12-mile Territorial Limit. While a great deal of attention has been applied to this Domain Aspect, there is more work to be done in better controlling who and what reaches our shores. From the macro view, it is clear that the ANOA is not enough as the Great Circle Route places the “Conveyor Belt” well into the US EEZ even 96 hours before arrival
- Domain Aspect D – the ports, amongst the nation’s oldest economic entities, have been designed for rapid throughput and involve movements of vast amounts of goods and people. As such, there is a huge opportunity for improving control of shipping both near to and inside the port environment. Ports are not only coincident with major population centers, but our lives depend on them for basic commodities such as food, fuel, and raw and finished materials. When juxtaposed with the national air traffic management system, the significant opportunity to improve physical controls is obvious.

The top-level strategy for US maritime forces in the Pacific must involve, as a primary Homeland Security objective, the management of the “Conveyor Belt”.

Persistent presence is key but only a part of achieving a Maritime Security Regime. Persistent knowledge regarding the potential terrorist threat is necessary across the entire range of the “Conveyor Belt”. This can be developed as a combination of a wide-ranging view of events in terms of time (e.g. recent history, present, and projected future) and location (e.g. across each of the Domains and Domain Aspects; local, regional, national and international). Establishing clear organizational relationships, including supporting and supported relationships for each task area as well as the communications links will be keys to success. This sets the stage for connectivity, i.e., having an accepted playbook leads to successful execution of football plays.

Preparedness and prevention are realized through clear organizational relationships. The hallmarks of clear relationships are unambiguous agency roles and responsibilities, sufficient training, coordination, planning, and readiness. Response to potential threats and recovery from incidents require the seamless flow of information and coordination of assets. These high-level goals are more readily achievable through development of a common command structure. Such a structure facilitates operating plans, policies, standards, architectures, information flow, a command and control system-of-systems, and communications connectivity. The most critical policies are those that determine command and supporting / supported relationships.

A Common Operating Picture (COP) is not nearly enough to achieve persistent knowledge. The COP is primarily a decision-support tool requiring broad operating data sharing across all participating entities. Its function is to deliver situational awareness, which leads to better planning, resource allocation, and decision-making. A Common Intelligence Picture (CIP) is essential to providing relevant information across the enterprise with dissemination safeguards based on need-to-know and defined distribution rules. It will provide critical intelligence support to the entire enterprise, from senior decision makers down to first responders. Thus the combination of a COP and a CIP to form a Common Relevant Operating Picture (CROP) is necessary to achieving and disseminating knowledge across the broad geographic range of all Domain Aspects. Persistent knowledge will provide relationships between seemingly dissimilar information, information on emerging situations requiring attention and choices for the most effective assignment of resources.

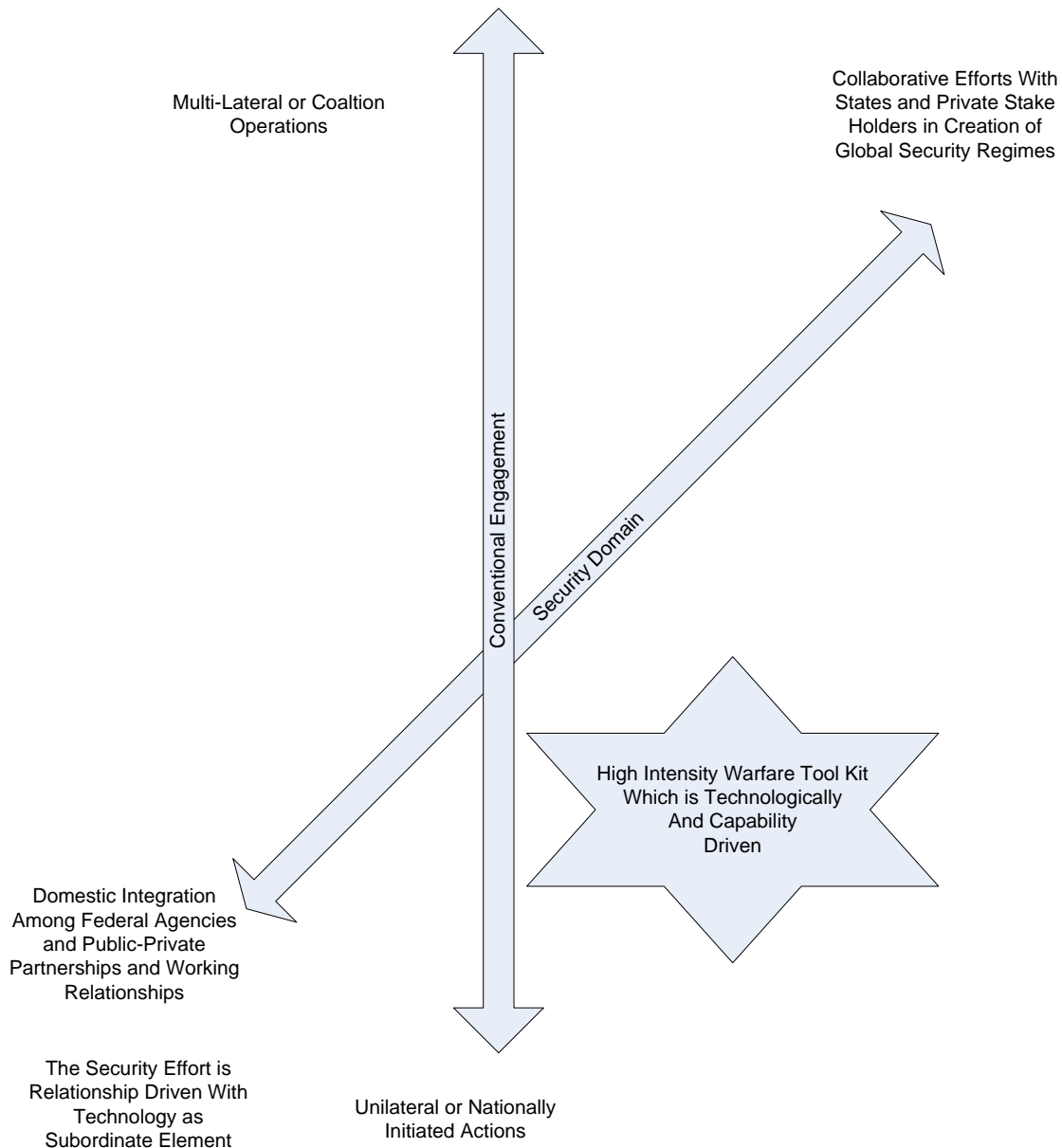
Rethinking the Policy Continuum With Regard to U.S. Maritime Capabilities

At the heart of a strategic rethink in building a U.S. Pacific maritime security strategy is coming to terms with the differences between the security and military domains. The security domain is based on multiple-sum actions; military activity is by its very nature rooted in unilateral action. If one starts with the military side of the equation and then defines the characteristics of a maritime security equation the formula is skewed towards unilateral action against multiple-sum activity.

But there is another aspect of change as well. Increasingly, the United States is rethinking its overall defense policy. A shift is underway toward preparing its forces for global operations for conventional engagement in flexible conditions. Conventional engagement is built on a sliding scale from insertion of forces to achieve political effect to the use of high intensity sledge hammer capabilities. The utility of high-tech, high intensity warfare capabilities for the majority of conventional engagement missions is increasingly questioned by policymakers and specialists alike.

The classic look at the relationship between the USCG and the USN is rooted in a sliding scale on level of violence. This classic look needs to be replaced by a new look which emphasizes the intersection between security operations and conventional engagement, with high intensity capabilities as an escalatory tool.

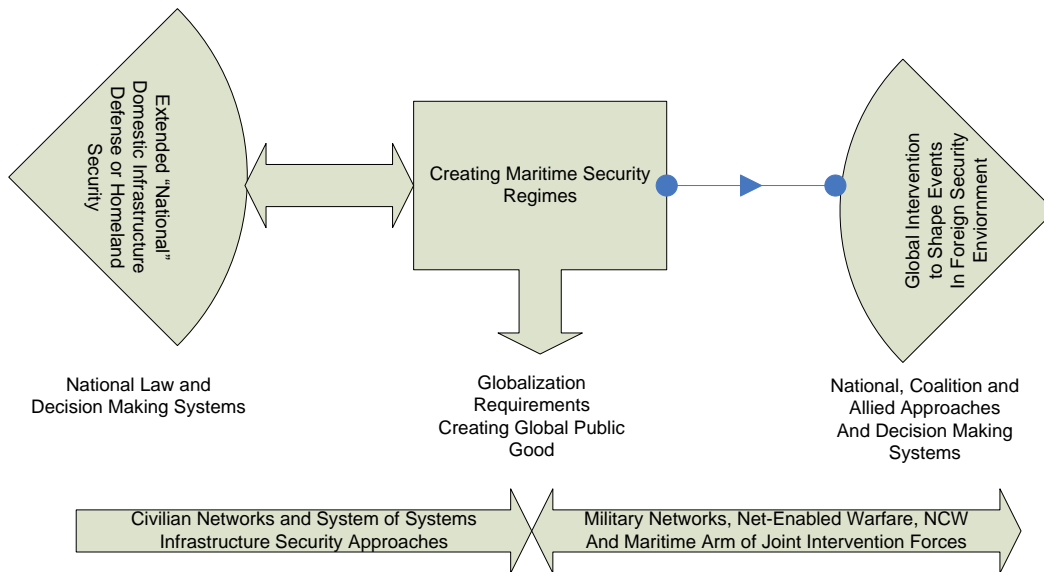
The new look would emphasize the interconnection between the collaborative efforts in the security domain with those in the conventional engagement domain. High intensity warfare would be a tool kit driven by technology and evolving capabilities available to shape successful outcomes to the conventional engagement and security domains on a need to use basis.



Constructing Networks for the Maritime Security Enterprise

At the heart of the challenge will be to construct networks within which the USCG can play a central role in defining and managing actions necessary to promote maritime security. The networks central to such an effort are grounded in commercial activities and collaboration with foreign governments; this is in significant contrast, the networks which the USN and the US military are building for littoral warfare. Their clearly needs to be overlaps but these are distinctive activities.

MARITIME SECURITY IN THE 21ST
CENTURY:
A BLENDED PRODUCT



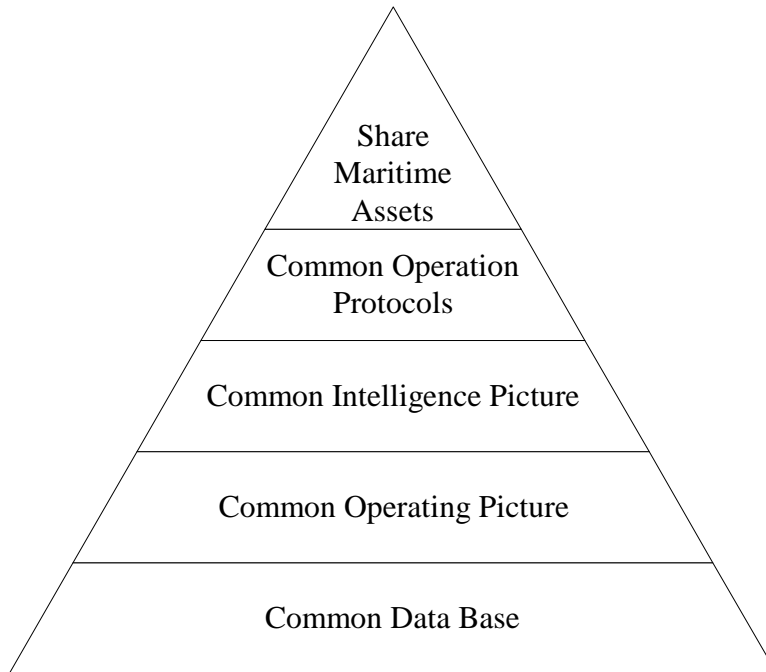
Meeting the Strategic Requirements in the Years Ahead

As the United States faces the challenges of maritime security for the 21st Century, a new approach and a new set of capabilities are needed. A new approach which provide for layered defense of the homeland built around maritime domain awareness is a key to success. To build capabilities for the new approach requires redirecting US naval capabilities away from a pure emphasis on overseas presence and strike to participating in extended homeland defense missions. An emphasis on defense requires new tools and approaches to engaging federal entities in maritime security. At the same time, it requires engaging allies in building maritime data tools and situational awareness through such programs as the container security initiative.

The United States has started down the path of creating a maritime security regime. At the heart of success will be the creation of innovative organizations capable of adapting to the new terrorist challenges. The U.S. will fail if it simply creates a series of new bureaucratic boxes, rather than creating a maritime security enterprise capable of thinking outside of the box and able to act on that thinking.

The creation of a maritime security regime will require building a strong “system-of-systems” enterprise with strong domestic and foreign linkages. The pillars of an effective maritime security system can be thought of an interactive cycle of capabilities which needs to feed one another to enhance the overall maritime security enterprise. And this maritime systems approach must fit within a broader “system-of-systems” approach to transportation security as well.

Simply building large data bases will not solve the problem. No system will be perfect but without the right kinds of people recruited into effective organizations no amount of data collecting will really provide protection to the homeland. In fact, building large data bases with advanced technology could lead to reduced security; reassurance via technology is no substitute for effective organizations with the ability to act in a timely and decisive manner.



Nonetheless, the imperfect quality of data available as well as the difficulty of getting seamless working relationships with foreign ports and providers shapes an organizational design challenge: *can we ever do anything better than create an imperfectly structured intelligence structure based upon which as effective an intervention mechanism as possible can be constructed?*

The challenge is to put scarce resources up against the most likely targets threatening U.S. maritime security; in short, putting together a decision-making system capable of winning more gambles taken by the terrorists than it loses.

The challenge for maritime security is to be part of a homeland security system in which decisions can be made in a timely and effective manner as part of a network system. The challenge is to achieve a network-centric enterprise solution in which a high degree of connectivity among the decision makers in maritime security can be achieved.

Situational awareness needs to be combined with a common operational picture and a common intelligence picture to yield actionable decision-making capabilities. Situational awareness (SA) in the maritime security context is the common understanding of

potential threats, friendly assets, and environmental considerations. SA on such a global scale requires unparalleled information sharing by Federal, state, and local agencies, as well as industry, non-government organizations, commercial firms, and citizens dealing with any element of maritime security in U.S. territory. SA is not an end in itself: it is an enabling tool that supports the decision maker by providing decision-quality information. Attributes that leverage SA are connectivity, quick and sound decision-making and speedy execution of plans and decisions.

Building a Common Operating Picture enables real time coordination of the DHS and other Federal entities by providing decision makers with a clear, timely, and accurate picture of operational events. This, in turn, will allow for real time coordination of disparate elements of the DHS and varying levels of Federal involvement.

The COP, when combined with a Common Intelligence Picture (CIP) improves DHS maritime security preventive posture by making coordinated and prioritized information available, in a network-centric manner, to appropriate agency and government levels. These, in turn, provide sufficient time for warning and intervention.

In other words, there is a need to create a virtual maritime security enterprise based upon the central role of maritime domain awareness.

A maritime security enterprise is characterized by an information-based strategy for creating and exploiting knowledge for achieving missions and objectives. Such an enterprise will establish linkages, both for day-to-day interactions for contingency plans to deal with a terrorist event.

Elements of the enterprise are

- Sensor netting
- Data fusion
- Information management
- Virtual organizations
- Virtual collaboration
- Virtual integration.

Together these elements provide connectivity and enable unity of action. Using a System-of-Systems approach, the maritime security enterprise – led by an expanded USCG – will integrated exiting networks with new networks to link all elements of the maritime security system. It will support internal and external communications for the expanded USCG and its consultation and collaboration with external organizations (state, local and other departments and agencies).