



Navy Enterprise Transformation: Working for the Greater Good

In early 2007, Admiral John Nathman, CFFC and leader of the Fleet Readiness Enterprise (FRE), considered the progress that the Navy had made over the past several years improving readiness at reduced costs through the adoption of “enterprise” behavior. The enterprise approach empowered stakeholders across multiple commands to take a holistic view of objectives and processes and act cohesively to achieve required output with greater efficiency. It countered the numerous tendencies that encouraged consumption-oriented behaviors and that subverted people’s view of and ability to work toward the “greater good” of the Navy. The enterprise model involved cross-organization collaboration and decision-making, but it did not impinge on the sanctity of the chain of the command structure.

The enterprise approach emerged in the late 1990s in response to the declining state of Navy readiness, particularly in the Navy’s Air Forces. Propelled by CNO Vern Clark and led by Nathman, naval aviation first focused on improving readiness in the inter-deployment training cycle and then expanded to include deployed air units and air craft carriers. As the enterprise concept took hold, the term **Naval Aviation Enterprise** (NAE) was officially embraced in 2004. In 2005, the surface and sub-surface forces, both of which had been engaged in embryonic enterprise activities for many years, launched their own formal initiatives: Surface Warfare Enterprise (SWE) and UnderSea Enterprise (USE). These were followed in 2006 by the formation of two additional warfare enterprises: Naval Network Warfare/FORCENet Enterprise (NNFE) and Navy Expeditionary Combat Command (NECC). In 2006, the Navy extended the enterprise framework into the fleet and corporate management tiers, creating the Fleet Readiness Enterprise (FRE) and the Navy Enterprise, and in early 2007 it added the Navy Provider Enterprise.

Admiral Nathman, who had been involved in the development of the enterprise concept since the late 1990s, was encouraged by the significant gains in readiness and the cost savings which the

****NB: This case study is based on interviews with participants in the various Navy Enterprises and on published documents. It is intended as an educational tool to facilitate discussion and learning. Although every effort has been made to ensure the accuracy of the information, the case does not purport to be a definitive historical record. Any factual errors or misrepresentations of individuals’ actions or words are solely the responsibility of the author.**

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initiatives were starting to produce. Yet, he was also concerned about the many potential forces that could derail progress or thwart success.

The five warfare enterprises are at different stages of maturity and even the most mature – naval aviation – is not even halfway there in terms of what it can accomplish. The rest have a ways to go.

Consumption Culture and Strategic Misalignment

The enterprise activities that emerged in the late 1990s and early 2000s were in large measure a response to conditions fostered by a culture of (inefficient) consumption and a lack of alignment between requirements and processes – a deeply-embedded way of life that influenced decisions and behavior across a wide range of activities. The consumption culture was endemic: as one CNO reportedly remarked: “*the only thing the Navy is good at is spending money.*” It could be seen as a logical response to a combination of interwoven factors: organization structure, tribal culture and customs, financial/budgetary systems, and reward metrics. Enterprise activities needed to challenge and overcome one or more of these factors to achieve success.

- **Structure and Tribal Culture:** The command structure fostered a stovepipe organizational mindset that restricted officers’ perspectives to their own domains and obstructed a holistic view of processes that spanned multiple commands. This mentality encouraged people to optimize the performance of their own stovepipes without regard to the performance of the whole. Tribal allegiance, whether defined by the major tribes (surface, submarine, air) or sub-groupings, superimposed an additional constraint that limited the inclination of leaders to adopt a broad perspective.
- **Budget systems:** Budget policy, practices and systems contributed to the general consumption mindset and to inefficient, stove-piped allocation of money unaligned with a strategic understanding of requirements. The need to spend every dollar of a budget out of fear that failure to do so would result in reductions in future budgets served as a fundamental impediment to efficiency: as numerous officers stated: “my job was to spend every penny in my account.”
- **Performance Measurement Systems:** Performance measurement systems were not designed to promote cost effectiveness; instead, they tended to encourage consumption and reinforce stovepipe attitudes, rather than link execution to strategic requirements. Metrics were often based on “more is better;” no one was rewarded for figuring out how to perform a task for less money. The coveted Battle E award was strongly based on consumption: the more one consumed the better the chance of winning. One of the most costly examples of misaligned performance measurement was in the Flying Hour Program. For naval aviators, the number of traps and flying hours was a critical element of a fitness report and a key metric of how they were measured against their peers. As one leader described: “*each airwing wanted to get more hours and traps than the previous group.*” Between 1990 and 1999 the number of traps and flying hour increase significantly, yet there was no defined understanding of the relationship between these metrics and their impact on squadron readiness or cost.
- **Lack of Strategic and Business Alignment:** Inefficient and ineffective consumption of resources was exacerbated by the stovepipe mentality and by the system for determining budget priorities and allocating moneys. In the 1990s, as DoD budget cuts and inflation significantly reduced purchasing power, Navy commands faced increasingly large gaps between desired and actual funding levels (i.e., perceived requirements and budgets). Eager to pursue their individual priorities, commands were reluctant to voluntarily cut programs. Resource sponsors typically submitted unbalanced budgets whose requirements exceeded funding availability in order to secure as much money as possible, regardless of how

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effectively it was spent. In the absence of rational planning, comptrollers made across-the-board percentage cuts based on dollars, not on a strategic understanding of how the money was being spent to generate the required output. In the words of one admiral:

It was a peanut butter approach to budgeting — spreading cuts evenly over all programs. The philosophy was “dollars at all cost; production at no consequence.” Cuts were being applied to meet dollar constraints without a full understanding of the impact or an informed discussion of priorities. You would get very arbitrary and capricious decisions and be told to live with it. Everybody was trying to protect their funds and as a result none were being properly resourced and we all were failing together. It was a death spiral.

Impact of Consumption Culture

The impact of the consumption culture and its inherent inefficiencies was masked during the massive defense build-up in the Reagan years. As one Admiral remarked, “In the 80s, we had lots of money and we spent lots of money.” The fall of the Berlin Wall and end of the bipolar world triggered major changes in US budget priorities and in DoD strategy, with significant ramifications for each service, which faced the need to prepare for a variety of potential scenarios.¹ The Navy’s strategy for the 1990s was defined in *From the Sea*, a description of how to reengineer the Navy to deal with a more complex and uncertain world with new global political and military dynamics. Concomitant with the need to reengineer and recapitalize its forces, the Navy faced rapidly declining purchasing power. Reductions in the growth of DoD budgets, driven by the notion of the “peace dividend,” combined with rising prices, produced fewer real dollars – essentially negative growth.

Budget decreases and inflationary pressures, combined with the demands of the 1990 war in Iraq, were exacerbated by the consumption-oriented behavior, creating an environment of difficult trade-offs between recapitalization and current readiness. Much of the naval aviation acquisition budget was diverted to pay for Desert Shield and Desert Storm, leading to deferred recapitalization in '92 and '93. In the mid and late 1990s, the Navy focused attention on recapitalizing naval air forces, reducing funds available for logistics accounts and impacting current readiness. Although recapitalization improved during this period, the Navy was unable to “get to the bow wave” of the effort. Consumption-oriented behavior, spending still driven by cold-war infrastructure requirements, and misguided budget priorities driven by comptroller-made decisions, all combined to sub-optimize both the acquisition process and current readiness.

Documenting the State of Navy Readiness – AMSR

By the late 1990s declining readiness became a major issue across the entire Department of Defense, as the Joint Chiefs stated in September 1998, “Our readiness is fraying and...the long term health of the total force is in jeopardy.” In the Navy, attention focused on aviation, and starting in the mid-1990s, several studies documented the state and causes of naval aviation readiness. The first study was a 1995 report to the CNO, conducted by the Thomas Group, a process improvement consultancy, which was entitled the Health of Naval Aviation (HONA). The second was a study called the Aviation Maintenance-Supply Readiness Review (AMSR) that was directed by then CINCPACFLT ADM Archie Clemins under the leadership of RADM Justin (Dan) McCarthy. The AMSR found convincing evidence of declining naval aviation readiness at numerous locations: tin-foiled S3s at North Island; 70% increase in cannibalizations at CAG-14; 47% full mission capability rate for the embarked Marine Air Element aboard BELLEAU WOOD (LHA).

¹ The Global War games books in 1990 described three potential scenarios: 1. Russia retrenches and the world returns goes back to a bipolar orientation; 2) nationalism and ethnic/religious chaos; 3.) anarchy.

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Many people in Navy leadership considered the issue to be simply a “parts problem,” (i.e. not enough parts so planes can not get repaired), but at a March 1998 PACFLT commanders conference, ADM Archie Clemins introduced a fundamentally different perspective when he asked: “*What do we need to do to fly the hours for less dollars?*” According to McCarthy, the combination of these signals, coupled with CNO Jay Johnson’s concern about F18 readiness at NAS Lamoore, persuaded Clemins to stand up a task force to investigate the readiness issue. In April 1998, with CNO-approved charter in hand, McCarthy, then Deputy Chief of Staff for Supply, Ordnance and Logistics, convened the AMSR working group, composed of a cross-section of leaders from the maintenance, supply and operational communities, to explore trends and possible causes. Clemins was a strong and visible supporter of the effort, participating in monthly VTCs and annual off-sites. AMSR operated for three-years until August 2001 and identified nineteen areas of concern. Sub-groups developed recommendations and experimented with solutions but were unable to make much headway due to resource constraints and resistance to change deeply-embedded behaviors. VADM Wally Massenburg, who joined the AMSR team in its second year, characterized the difficulty:

We documented the problem but all we could do was talk and tinker at the margins. There was no vehicle for dealing with of the problem because everybody was stuck in their stovepipes and in their tribes and all the dollars were being managed in financial stovepipes disconnected from one another.

In spite of the lack of substantive progress, however, the leaders of AMSR viewed the process as a breakthrough, as McCarthy described:

It was an awakening to get all these people together at the table. People who don’t normally get together--looking at the problems together – to begin to scope the integrated logistics and operational implications of providing fleet readiness. Those meetings fostered a dialogue that hadn’t existed before. It had been all separate commands – just doing their own thing. AMSR was the foundation. The whole dialogue changed as a result of this constant drum beat of engagement focused on achieving readiness within available resources.

The AMSR group submitted its findings to the Navy Investigator General’s office, which published a report in April 2000 entitled Aviation Spares and Readiness. The IG report, coupled with other documents, observations and anecdotal evidence provided a convincing picture of the troubles confronting the Navy. A GAO Report in July 2001, which focused on two aircraft types, described some of the far-reaching impacts of reduced readiness:

The shortage of spare parts for the two aircraft systems reviewed not only have affected readiness but also have created inefficiencies in maintenance processes and procedures and have adversely affect the retention of military personnel. Also the maintenance practice used to mitigate part shortages masks the true impact of shortages and results in increased work for maintenance personnel, causing morale problems and dissatisfaction with military life.

The ramifications of the Navy’s readiness crisis struck home in late 2001 following the September 11 terrorist attacks on the Pentagon and World Trade Center. With the launch of Operation Enduring Freedom (OEF) in October 2001, eight carriers were ordered to deploy but there were supplies for only four and a half.

Process Improvement Initiatives – NAPPI

Responding to emergent readiness concerns, in the late 1990s several naval air commands launched initiatives which became foundational elements of the enterprise construct. One significant issue, which had been identified in the HONA report, was naval pilot training. The

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length of time required to move a pilot through the training pipeline had grown from the required 36 months (depending on aircraft type) to 48 months and longer, as pools of pilots accumulated at bottlenecks in the process. The training backlog and resultant shortage of new pilots resulted in extended at-sea deployments, which translated into reduced aviator retention. Different commands under NETC were responsible for different training functions², but no single command “owned” or had a holistic view of the entire process. In the words of one observer, “it was completely de-synchronous and leaderless.” The lack of a single process owner, coupled with questions about how training funds were being spent, led the resource sponsor (N88), RADM Dennis McGinn at the time, to become involved in trying to find a solution. In contrast to conventional wisdom that “we just need to put more people in the pipeline and work harder,” McGinn believed that the source of the problem lay in a lack of understanding of the process cycle. With the “Air Boss”³ unable to take the lead, McGinn engaged the Thomas Group to help improve the process.

In early 1998, shortly after the Thomas Group was hired, RADM John Nathman relieved McGinn and assumed oversight of the effort – dubbed Naval Aviation Production Process Improvement (NAPPI) program. According to Nathman and others, the Thomas Group’s strength was its ability to sustain a course of discovery that enabled leaders to understand their processes intimately and to identify the sources of problems. For the first time aviation leaders saw pilot training as a holistic system that started with fleet aviator requirements, based on rotation inside squadrons, and flowed all the way back up to the pipe to the recruitment of prospects. It became clear that the three commands involved in pilot training were making decisions that optimized their individual functions but that cumulatively subverted the entire process, creating pools of pilots between training phases (where skills atrophied as they waited) and adding months to the system. Ultimately, the initial key to producing pilots more efficiently was to induct fewer trainees into the system, thereby preventing the build-up of the pools. Both the appearance and substance of that solution, however, threatened to disrupt established equities, but Nathman, who saw the waste of the existing disconnected process, garnered support to push it through. Over several years NAPPI helped reduce the Time-To-Train (TTT) by 40 percent and increase the number of flight-ready aviators moving through the training program by 30 percent. It foreshadowed the emergence of the Enterprise concept in its use of cross-functional teams and quality-related metrics and tools, and especially, according to Nathman, in its reliance on decision-making by a group of leaders acting across chain of command lanes to pursue a common objective. Nathman described the importance of NAPPI:

NAPPI is an important story because it explains how you lead an Enterprise – who you defer to for leadership. We were going through the cycle time reduction/process improvement activity where there was no real leadership except the power of personality. No one – OPNAV, the Air Boss, the training commands – had the power alone to force this, yet, because everyone was invested in finding a solution, we were able to make some tough decisions. Enterprise behavior is a behavioral model – not a chain of command model. That is why people have to know where they belong. If the leadership got exposed to the right facts they could make good decisions and were willing to accept something sub-optimized in their own domain to make the larger system work better. That was the lesson we kept learning over and over again and people started seeing the results, and once we started seeing that then guys started to get it.

At the same time that NAPPI was gearing up, aviation depots independently began to introduce business process improvement tools and activities in some of their operations. Cherry Point brought in the Goldratt Institute to apply its particular tool, Theory of Constraints, to the H46

² NETC - Naval Education and Training Command. API (Aviation Pre-flight Indoctrination) was responsible for recruitment and orientation; CNATRA (Chief of Naval Air Training) handled the bulk of the training before handing the pilots off to the RAGs (Replacement Air Group)

³ The “Air Boss” was the senior operational aviator, a role that typically shifted between AIRLANT and AIRPAC depending upon seniority. The Air Boss was more a titular than a substantive position as it lacked the authority or power to take action across naval air forces.

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helicopter line. (See Appendix A for a description of Theory of Constraints and other process improvement tools: Lean, Six Sigma, Kaizen, PVM). Jacksonville secured the services of GE “lean manufacturing” experts to revamp operations on the F404 engine line, and North Island implemented a hybrid practice, termed RIFLe – Relevant Information for Leadership. These initial efforts produced some gains in reduced cycle time and enhanced productivity, but for several years they remained localized and disconnected, lacking coordination and the vehicles and incentives to be expanded and replicated. Additionally, they were not linked to requirements determined by the fleet, and thus they did not necessarily help to improve overall objectives.

Confluence of Enterprise-oriented Leaders and Ideas

In 2000 Admiral Vern Clark became the first CNO with a strong orientation toward the “business” side of the Navy to match his reputation as a war fighter. One admiral stated, “Clark’s key contribution was to get the whole organization thinking about the business of the Navy, and he focused huge amounts of attention there.” According to another leader, Clark came on board with the conviction that improving how the Navy spent money to achieve current readiness would free up dollars for recapitalization. To that end Clark conceptualized the *Sea Enterprise* construct as a key element of SEAPOWER 21 that would generate resources through improved business practices.

To augment evidence from AMSR and other reports, Clark held a series of five CNO executive board meetings (CEBs) to discuss naval aviation readiness, with particular attention on the Flying Hour Program (FHP).⁴ The cost of FHP had grown dramatically during the late 1990s, driven by a 14-19 percent per year increase in AVDLRs, and funds were often taken from acquisition accounts to bolster the FHP. The FHP was managed by the fleet (AIRPAC and AIRLANT), but squadrons were directly accountable only for POL: several squadron leaders cited their belief that the “cost” of flying was just the cost of fuel. Leaders offered different reasons for the cost escalation, from aging aircraft and obsolescence to lack of understanding of requirements. According to one participant, in CEB 3 CNO Clark became frustrated by the subject of traps and issued an ultimatum:

They put up the traps versus flying hours charts and Clark said: “It’s your damn EGO that is driving this issue.” He pointed to Nathman and said: “You sir are now in charge of this mess. Fix it or I’ll fire you and get the next guy,” and he walked out of the room. That was an important and liberating direction because now we had the opportunity to have a single person be the owner of the process.

Tasking VADM Nathman, who had moved from N88 to Commander Naval Air Forces Pacific (CNAF) in August 2000, to oversee all of Naval Aviation as Commander Naval Air Forces (CNAF) created a critical underpinning of the enterprise effort.⁵ It established Nathman as the lead Type Commander (TYCOM) and single process owner. Nathman was fully steeped in readiness issues not only from his NAPPI experience but also from participation in the monthly AMSR VTCs. McCarthy described the importance of Nathman’s role. “Nathman could make the connection between the resource side and the operational community. Because of that continuity of leadership, he was the glue that pulled these components together.”

As Nathman stood up AIRFOR, he was intent on imbuing it with more weight than the airboss construct. Nathman recruited then RADM Mike Malone, AIRLANT, to support the notion of a true,

⁴ The Flying Hour Program was an item in O&M budget (\$3.2 billion in FY 2000) for training flight operations and aircraft maintenance. The FHP consisted of three categories of cost: Petroleum, Oil and Lubricants (POL- 17% of total cost), Aviation Fleet Maintenance (Intermediate Level) (AFM - 29%) and Aviation Depot Level Repairables (AVDLRs -54%). AFM included consumables used in operations or smaller repairs. AVDLRs consisted of assemblies that were returned to the depot for rework.

⁵ The concept of a single commander of naval air forces was part of an effort to move away from the East Coast/West Coast dichotomy and included the formation of Fleet Forces Command. Nathman was designated Commander, Naval Air Forces in October 2001.

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single air force leader who was empowered to make global decisions, and the two leaders worked to integrate elements of the air forces and give it a single voice. Nathman clearly saw the endemic problems and recognized that a systemic approach was needed, as he recalled:

I found myself saying, “we need to have a NAPPI-like process and put it in aviation based on what we saw and based on the AMSR.” And I used the AIRFOR model to start NAVRIIP, the first real enterprise approach to readiness.

NAVRIIP

With \$8 million in FHP execution year money, Nathman hired the Thomas Group to help develop and implement NAVRIIP – the Naval Aviation Readiness Integrated Improvement Program. NAVRIIP initially focused on the Inter-deployment Training Cycles (IDTC) – the 18 month period between deployments when readiness declined precipitously⁶. The program, launched in late 2001, involved flag officers from seventeen commands who participated on three cross-functional teams (CFTs) with the initial mission of improving maintenance and repair processes – implementing many of the findings of AMSR.

The NAVRIIP team included then RADM Massenburg, NAVAIR Logistics, who was a passionate proponent of cross-functional activity and helped to develop two principles that proved critical to NAVRIIP’s success and that would become core building blocks of the enterprise framework. One principle focused on the use of the type model series (T/M/S) as the basis for managing process improvements, based on the recognition that types of aircraft were maintained at multiple locations and that optimizing maintenance processes required a holistic approach across those sites. The second principle was the concept of aligning processes around a core objective – a single readiness metric – that was of critical importance to the end user – the fleet. Massenburg and other NAVRIIP flags recognized that the metrics historically used to track readiness – FMC and MC (fully mission critical and mission critical) - were inadequate because they focused on near-term solutions (i.e., fixing existing casualties) and provided no leading indicator through which to improve readiness. The important indicator was determined to be aircraft ready to fly sorties, and the team designed NAVRIIP around the key single metric – *Aircraft Ready for Training*.

The three cross-functional teams coordinated NAVRIIPs efforts and allowed all aviation stakeholders to align around the single metric. CFT1 defined appropriate levels of readiness throughout the IDTC and developed training and readiness matrices tailored for each TMS. Essentially it developed “entitlements” based on fleet driven requirements, creating a “demand pull” signal to which maintenance organizations and the supply chain could respond. CFT2 was responsible for providing parts, aircraft and support equipment to squadrons through NAVSUP, DLA, BUPERS and NAVAIR to enable aviators to meet training milestones. CFT3 focused on planning and programming to ensure funding requirements were met.

The Thomas Group led NAVRIIP’s efforts to map maintenance and repair processes, and to identify opportunities for improvement and for removing barriers. According to one NAVRIIP flag, the Thomas Group contributed two critical elements: its **Process Value Management™ (PVM™)** approach and its imposition of rigid discipline. **PVM** required the identification and purpose for every step in a process, the output of the process, and the development of metrics to determine progress toward that objective. After process improvements were developed, TG **Resultants®** forced officers to focus on the changes needed to secure the desired output, as the flag described: “They nag the hell out of us to do what we said we were going to do – they impose discipline.” A key element in the mapping and barrier identification process was direct

⁶ Newly deployed forces, having just completed their own under-resourced interdeployment cycle, tended to consume resources in greater quantities than required to maintain readiness, leading both to overspending in the Flying Hour Program and to excessively reduced levels of readiness in IDTC. The scenario was often characterized by a bathtub readiness chart, with low levels of readiness for most of the IDTC being the bottom of the tub.

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communication between the senior officers and maintenance and supply organizations through a program called Boots on the Ground (BOG). The first BOG took place in August 2002 when Massenburg and RADM Mike Finley, NAVICP, along with other leaders, visited Naval Air Station Lemoore and spent time talking to junior enlisted service members about maintenance issues and barriers. BOG allowed leadership to see first-hand systemic problems in maintenance and supply processes, enabling feedback from front-line personnel which informed recommendations and actions taken corporately for naval aviation. BOG was also an important ingredient in fostering a tighter relationship between the end-users (the fleet) and the maintenance and supply providers.

The Enterprise Construct – A Behavioral Model

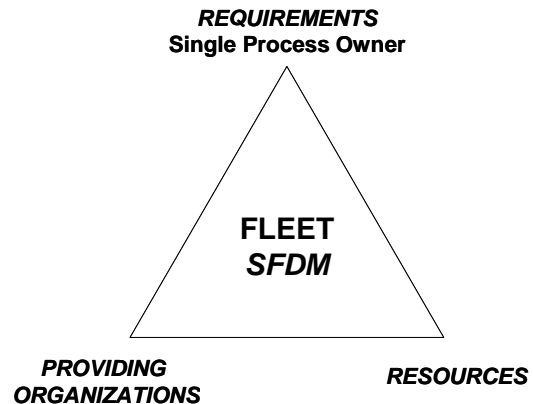
During the early stages of NAVRIIP, Massenburg drew a triangle for Nathman that depicted his concept of the relationship between the three types of stakeholders involved in the effort (*Figure 1*). The genesis of the triangle was Massenburg's experience as a Program Manager in 1996, trying to solve maintenance problems with the TF-34 engine. After receiving word from the Fleet that there were 61 bare firewalls, increasing at a rate of two per week, on an inventory of 117 aircraft, Massenburg called a summit of all the stakeholders - engineers, air logisticians, ICP, I-level maintenance, resource sponsors, the manufacturer's (GE) rep and others. He described the scene that ensued:

It was probably the first time these people had ever sat in a room together. After the second slide the place erupted, and everyone started blaming everyone else for the problems. Then somebody said: "I don't give a damn about the fleet," and all conversation stopped, because everybody at the table wanted to say the same thing. Because everyone was incentivized to look after his own territory and no one saw the bigger picture – the greater good.

To solve the TF-34 problem Massenburg identified a leader – the single process owner (SPO) – who could be held "responsible and accountable and fireable." He then pushed the group to define the core objective – the single fleet-driven metric (SFDM) to which all parties could commit, a time-consuming process because no one was willing to subordinate their own metric to a common mission. Acceptance of the SPO and the SFDM was a tipping point, according to Massenburg, "it gets you out of the stovepipe mentality, and then the team accelerates because everyone is on the same sheet of music." Two operating practices maintained focus on the mission: communication and drumbeat. Every morning at 8:30 an email hit every computer stating the number of bare fire walls remaining. When the number reached zero, the group then focused on root cause analysis to determine the drivers of maintenance, which revealed that actual time on wing (ToW) was 500 hours for an engine rated for 1500. The SFDM was reset to "1500 hours ToW."⁷

Massenburg's triangle did not represent a formal organizational structure. It was a "behavioral model" that represented the alignment of stakeholders around a particular objective – the single fleet driven metric – and it described their behavior in collaborating to resolve process issues that cut across multiple commands. The construct enabled stakeholders to pursue a holistic "enterprise" approach to achieve a solution that optimized an objective greater than that visible to

Figure 1: Enterprise Model



⁷ By 2006 the TF-34 had become one of the most cost-effective engines in the naval aviation inventory, with ToW at nearly 800 and rising and without a bare firewall since 1998.

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individual commands. The behavioral model did not interfere with chain of command authority or responsibilities, but for the enterprise model to function effectively, participants had to understand and accept the SFDM as the overriding objective, and they had to defer to the Single Process Owner (SPO) as the keeper of the SFDM and the final arbiter of how best to pursue the mission. Participants, who included provider organizations (e.g., NAVAIR) and resource sponsors (OPNAV N88), were led by the SPO in making decisions within the triangle, and they then executed those decisions through their command structures.

Initial Success: Improved Readiness

As the SPO for NAVRIIP, Nathman initially struggled against the stovepipe mindset that encouraged commands to focus on optimizing their own set of metrics and blinded them from seeing the process holistically. One senior leader described the challenge Nathman faced in launching the enterprise approach:

There was an unwillingness on the part of a number of people to be subordinate in process to Nathman and take the output of their organization and line it up behind the SFDM and measure their performance in delivering against that.

In spite of that challenge, Nathman pushed hard to inculcate the core tenets of NAVRIIP. While he could not force other commands to speed their adoption of the necessary behavioral attitudes, he did have the ability to compel change within his own organization. One critical element was changing the relationship between the fleet – the operators – and the maintenance providers. Under the NAVRIIP type model series (T/M/S) structure, wing commodores became the SPOs for their aircraft types and had to take on responsibility for readiness. Several observers pointed to the firing of a wing commodore who failed to get that message as a seminal event that encouraged buy-in to the enterprise mindset.

As NAVRIIP steadily made progress improving IDTC readiness in 2002 and 2003, leadership changes in key positions boosted the momentum and strengthened the stability of the initiative. In July 2001, RADM McCarthy took command of the Naval Supply Systems Command. In August 2002 VADM Malone relieved Nathman, who became the Deputy Chief of Naval Operations for Requirements and Programs (N6/N7), and then RADM James “Zorro” Zortman took over AIRLANT, serving as Malone’s deputy SPO. Massenburg moved up to lead NAVAIR’s depots in early 2003 and then took command of NAVAIR in December 2003. Zortman described the relationship between himself, Malone and Massenburg, who were all intensively involved in the formative years of NAVRIIP and the Naval Aviation Enterprise:

The three of us all went along together on this journey. We should not underestimate the confluence of personalities and the ability to get along and the willingness to throw the egos and ownership out the window in order to drive toward the result that we were trying to get at. There was none of this: “stay out of my swimming pool.”

Massenburg demonstrated the essence of the enterprise attitude when he took command of NAVAIR. By several accounts, his first action was to set the tone by calling Malone and stating that he was “reporting for duty.” Malone professed disbelief at this, as Massenburg recalled:

Malone said “I don’t know what the hell you are talking about. You just made 3-Star and you and I are going to run this together.” I said, “No, there can’t be two bosses in the enterprise; there can only be one, and I am not it. You are boss, and by the way here is \$26.2 billion and 30k people and I will help you spend it.” That may have been symbolic, but it was the way I thought about my job.

Under Massenburg’s leadership, process improvement initiatives at the depots coalesced and evolved into Depot AIRSpeed and then Enterprise AIRSpeed in 2003. Massenburg fundamentally

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changed the way the depot leadership interacted, replacing their inclination to function as independent silos, bearing proprietary attitudes about their improvement programs, with a depot enterprise approach that featured sharing of information, tools and budgets. He consolidated the process improvement initiatives – Lean Six Sigma, and Theory of Constraints - into Depot AIRSpeed and facilitated their cross pollination. In 2003 Massenburg extended the AIRSpeed philosophy and programs beyond the depots, aligning all levels of supply replenishment and repair processes – Organizational, Intermediate, and Depot - to the demands of the Fleet – creating Enterprise AIRSpeed. NAVRIIP adopted the AIRSpeed program and its process improvement tools as the enabler of readiness throughout the naval aviation community. **The success of AIRSpeed and NAVRIIP in improving readiness** was demonstrated by the contrasting capabilities of naval aviation between OEF and OIF (March 20, 2003). **In October 2001, lack of readiness limited deployment to four carriers; two years later the Navy deployed to fight OIF with eight carriers and eight air wings (seven deployed and one ready to go.)**

Adding Cost to the Readiness Equation

By mid-2003, NAVRIIP had enabled naval aviation to achieve significant gains in readiness and had connected the three levels of maintenance to fleet-driven entitlements. Those gains, however, had been facilitated in part by substantial increases in funding to support OEF and OIF. As one flag remarked, “they backed the money truck up and dumped it into the system.” Naval aviation leaders began to recognize that they had achieved increased readiness but had not paid attention to cost. The impact was evident in the Navy’s inability to achieve its recapitalization targets, as one leader described:

We were just swinging the pendulum the other way. In the late 90s we had been recap at all costs, and now we were focusing everything on current readiness. We realized that we couldn’t do this without considering our impact on the future. We needed to bring cost into the equation and balance current and future readiness.

In mid-2003, NAVRIIP adopted a new SFDM: *Aircraft Ready for Tasking at Reduced Cost*. As NAVRIIP teams uncovered the root causes of high cost, one pervasive driver was found to be that lack of reliability of components and systems encouraged operators to demand multiple quantities to ensure operational readiness. As Zortman described:

We didn’t value reliability, so we valued inventory. We had a lot of stuff, and we didn’t care how long it lasted as long as there were plenty to replace it with. And all that stuff had to be shipped, stored, repaired and modernized. So our first journey was reliability.

One example that captured naval aviation’s success in improving reliability and driving out cost started at an F18 engine repair facility at Lemoore Naval Air Station. Working two shifts and weekends, the facility was producing eight engines a month in 2002, a legacy metric based on unit output that did not consider quality or reliability. Without proper tools, sufficient parts or uniform processes, workers often cannibalized other engines in a site that was “a pigpen mess,” according to one senior flag. Under the initiative of a commander with an interest in productivity tools, the facility adopted LSS and ToC techniques and within a year was producing 40 engines a month with one shift using a set of repeatable processes that led to increased quality and higher reliability. In 2004, the F18 maintenance practices were exported to the other nine F18 engine repair facilities, which were soon producing enough engines to permit the reduction in F18 sites from nine to five and eventually to three. Fewer sites with greater expertise enabled increasing reliability and longer time on wing – which in turn allowed naval aviation to reduce the total number of engines in the supply chain.

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Formalizing and Expanding the Naval Aviation Enterprise

By mid-2004 NAVRIIP was making significant progress on both readiness and cost. In July, at a naval aviation leadership offsite at Thomas Group HQ in Dallas, leadership discussed possible expansion of the initiative. At the time Zortman was set to relieve Malone and RADM Denby Starling was set to take command at AIRLANT. Starling, who had been exposed to AIRSPEED training as battle group commander on the George Washington, recalled the substance of the meeting:

We made the decision to take the next step and start referring to ourselves as an enterprise and to start expanding the area of things we were looking at – to go beyond unit level and depot level process improvement and to try to understand what the totality of the naval aviation enterprise would be. We started talking about \$40 billion of stuff that we had some influence over and how we would start looking at ourselves differently.

Starling and several other flags wrote the one-page Naval Aviation Enterprise (NAE) charter, and, after considerable debate on word order, produced the NAE motto: **deliver the right force, with the right readiness, at the right cost, at the right time – today, and in the future.** Structurally, NAE was identical to NAVRIIP, assuming its Board of Directors and cross-functional teams, which were titled: NAVRIIP/Readiness, Total Force Readiness, and Cost Management (Exhibit 1). Zortman was promoted to CNAF in August 2004 and assumed the role of Enterprise CEO and SPO, with Massenburg as COO. A host of other stakeholders were included in the NAE behavioral model triad (Exhibit 1).

Between 2004 and mid-2006 NAE's SFDM evolved from *Aircraft Ready for Tasking at Reduced Cost* to *Aircraft and Carriers* in 2005 and then to **Aviation Units** in July 2006. The latest iteration expanded the domain beyond equipment to include personnel. The critical financial dimension of the SFDM, "at reduced cost," which was absent from the initial 2002 version, was driven by the commitment of the CNAF as the SPO. Putting the people responsible for consumption (i.e. the fleet) in charge of the operation forced them to understand the factors driving cost at the various levels across the enterprise. By 2005 NAE was starting to reap tangible financial gains. That year it executed the Flying Hour Program plus Operations Enduring Freedom and Iraqi Freedom more efficiently, generating \$163 million in savings that was available for other OMN purchases or for recapitalization – enough to buy two F/A-18E/F Super Hornets or 167 Tomahawk missiles.

By 2006 the NAE represented a \$40.4 billion operation with more than 182 thousand people, 3,827 aircraft, 12 aircraft carriers and all associated equipment and supplies. Although the enterprise framework remained a behavioral model that was still dependent, according to several observers, on the passion and commitment of its senior leaders, supporting elements for that model were starting to be institutionalized in practices, policy and structure. For some officers, enterprise tasks had migrated from being additive work to being an integral part of their day jobs – their command duties. Several flags indicated that demonstration of enterprise behavior was becoming an important aspect of fitness reports and promotion criteria. The criteria for the Battle E award had been changed so that it was no longer consumption based. There were even several cases of changes in organizational structure to align chain of command with processes governed by the enterprise SPO. For example, Naval Air Forces took over the pilot training programs formerly managed by NETC.

Extending Enterprise Behavior Across the Navy

As NAVRIIP and NAE geared up, members of the aviation community became vigorous adherents to the enterprise approach. Many Navy leaders outside aviation, however, were either unaware or skeptical of aviation's new model. One admiral described the general reaction to seeing Massenburg and Zortman lead a "staged" walk through of an NAE Board of Director's meeting at an All Flag Officer Training (AFOTS) in 2004.

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It went over my head. We were all thinking: “here are the aviators putting themselves out in front of us again. They aren’t doing any better than we are; they are just doing this smoke and mirrors thing so their budget won’t get cut”. But that was shot across the bow, and Clark said that he wanted everyone to start behaving this way.

The AFOTS NAE demonstration was one of many vehicles that CNO Clark employed in his continuing efforts to transform naval leaders’ attitudes about their “business” responsibilities and to push the Sea Enterprise initiative. He started a routine of Echelon II reviews shortly after becoming CNO, meeting with commanders to introduce a dialogue and communicate his expectations around business issues. It was apparent that, while senior leaders excelled at understanding operational issues, few had a well-developed sense of their command’s business metrics or language: resource levels, costs, lines of business – working with such concepts had never been considered a command responsibility. “The goal,” according to one OPNAV staffer, “was to get people to start to think about their multi-billion dollar commands as a business, and to think of themselves as business executives in addition to warfighters.” One early outgrowth of the needs uncovered through these reviews was an executive education initiative launched in 2003 under the auspices of the Naval Postgraduate School.

Another mechanism to generate enterprise-like activity was the holistic review of the Sea Enterprise effort taken by VADM McCarthy after being assigned as OPNAV N4. This review restructured the focus of the Sea Enterprise effort around three pillars: Corporate level initiatives identified and coordinated through a Corporate Business Council focused on efficiencies in activities that cut horizontally across domains; cultural change fostered by expanded business education and communications; and command-level business improvement facilitated through the issuance of the Navy Performance Excellence Guidebook (NPEG). As McCarthy saw it, Sea Enterprise was the framework within which ADM Clark’s vision of improved business practices would be achieved. These improved practices must permeate all levels of the Navy. In that context, he saw the emergent naval aviation behavioral model as a best practice for inculcating business enterprise practices and culture, and sought to extend its adoption across the Navy, starting with the two other major warfare domains: surface and submarine, who in their own way, had already begun to evidence some elements of enterprise thinking.

Surface Warfare Enterprise - SWE

The surface force did not experience the readiness crisis – the burning platforms of bare firewalls and tin-foiled aircraft – that plagued aviation, but it did develop a sense of urgency from its inability to answer CNO Clark’s queries about its maintenance requirements and budget. In late 2002, VADM Tim LaFleur, COMNAVSURFOR, taking a cue from the naval aviation experience, hired the Thomas Group and brought together flag officers from the fleet, provider organizations, and Pentagon resource sponsors to reduce the costs associated with ship maintenance. His directive, in the words of one admiral was: “I love what you do but you cost too much money and you take the ships off line for too long. Go figure out – soup to nuts – how to do this differently.” The initiative, dubbed SHIPMAIN, included maintenance, overhaul and modernization, and represented a total budget of \$1.8 billion in FY 2003 for more than 160 surface vessels (aircraft carriers were added in 2004). Representatives from all the commands started to work in cross functional teams mapping out the processes – from the generation of requirements to the execution of maintaining and modernizing surface ships. VADM Sullivan, who was in charge of the modernization team stated: “We did not call it an enterprise but we were doing enterprise behavior – same stakeholders, same kinds of activity, same triangle.”

Then RADM Terry Etnyre, Commander, Naval Surface Force, U.S. Atlantic Fleet, who initially served as the leader of the SHIPMAIN Requirements cross-functional team (CFT), recalled the intensive effort required to launch SHIPMAIN – myriad meetings and substantial Thomas Group PVM work. Like many other leaders, he was initially skeptical and likened the program to the

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TQM/TQL initiatives of the early 1990s, which had been introduced with great fanfare but achieved modest results and soon withered. As Etnyre got more involved in SHIPMAIN, however, he saw the benefits of having a cohesive group of diverse people who were able to work together across stovepipe boundaries to align around common goals. Etnyre claimed that what tipped him over to Enterprise zealotry was witnessing the impact that process mapping and information transparency had on enabling leaders outside his command to understand the importance of their activities in a larger process and expanding their sense of ownership for their role in producing the desired output.

In early 2005, Etnyre, who had been promoted to Commander, Naval Surface Force, used an enterprise approach to oversee the introduction of the Littoral Combat Ship (LCS). The LCS was the Navy's newest class ship with significantly different manning, training and operational requirements that did not fit well into existing maintenance and training systems.⁸ Recognizing that stovepiped commands were not aligned around the LCS requirements, Etnyre stood up an LCS oversight board with two cross-functional teams⁹ to coordinate the stakeholders. The integrated effort developed new processes for all aspects of launching this significantly different new class of ships.

With the LCS process underway, in mid-2005 Etnyre tasked a four flag team to expand the embryonic enterprise activities of the surface forces into a full-fledged initiative. In November 2005 he stood up the Surface Warfare Enterprise (SWE) as a formal behavioral framework with three CFTS and "**Warships Ready for Tasking (over Cost)**" as the SFDM. Etnyre articulated a succinct definition of what the enterprise model was intended to do:

Enterprise behavior is about understanding your processes and aligning your organization to execute those processes in a way that you can monitor using metrics.

In the first half of 2006, the SWE laid the groundwork for its operations: collecting baseline data and developing a strategic plan with defined objectives and desired effects. In the second half of the year, the SWE established the CLASSRON concept as an organizational entity to focus efforts across the enterprise and serve as an interface between the SWE and the fleet. In addition to the continued success of SHIPMAIN and other initiatives of the Sustainment & Modernization (S&M) CFT, by late 2006 the SWE's Personnel Readiness Team (PRT) had also made significant progress in aligning the training establishment to fleet requirements. A major effort was underway to transform the standard 16 week legacy training program based on a cyclical readiness model into a continuous training approach to support the Fleet Response Plan. The Phase I goal of 10 weeks and Phase II goal of 2-4 weeks promised projected increases of Warships Ready for Tasking by 75% over the FRP cycle. By late 2006 SWE enterprise activities had a projected savings and cost avoidance totaling nearly \$1.4 billion (*Exhibit 2*).

Undersea Warfare Enterprise - USE

Similar to the Surface navy, submarine forces did not have a burning platform associated with readiness and cost concerns, and in several fundamental respects it differed markedly from the other warfare enterprises. Absolute priorities for nuclear-powered subs were safety and effectiveness (e.g., stealth) – at any cost. Drivers of design, operation and maintenance improvements included the loss of the Thresher in 1963, the Scorpion in 1968,¹⁰ and collisions

⁸ There were actually two different LCS models, designed by two separate corporate groups to meet stated capability and performance standards, and they featured two sets of systems that were different from each other and largely different from other Navy ships. The LCS featured three operational modules, each requiring different skills sets. The lean forty-person crew had virtually no excess manpower – every sailor was required to operate the ship almost 24/7, and all training had to be conducted ashore.

⁹ Maintenance & Logistics and Manning & Training

¹⁰ The USS Thresher, commissioned in August 1961 went down with all hands (129) April 10, 1963 while conducting sea trials 200 miles off the coast of Cape Cod. The USS Scorpion sank in the mid-Atlantic on May 22, 1968, six months after it

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with Russian subs in the 1990s. Another seminal event in the mid-1990s was the loss in margin of performance superiority¹¹ compared to non-US subs, a condition that triggered the development of a new type of sonar under the Acoustic Rapid Cost Insertion (ARCI) program, introduced in 1998. The operational and maintenance cost profile of submarine forces was also substantially different than the other warfighting forces, especially naval aviation. A higher proportion of costs, particularly nuclear fuel, were fixed, not variable like the FHP. Maintenance tended to consist of about a dozen major projects per year, performed across six ships yards (four public and 2 private) and employing three financial systems.¹²

By virtue of its smaller size (7% of Navy forces) US submarine forces had always operated as a tighter tribe than its surface and aviation cousins. Following the 1994 OPNAV reorganization that eliminated the “Barons,” who had been a locus of power (?) for each of the warfare communities,¹³ submarine community stakeholders formed a core leadership team to oversee their domain. As the lead TYCOM¹⁴, COMSUBLANT served as the head of a five person Flag Panel that included the resource sponsor (OPNAV N77), and COMSUBPAC as the principal participants, and also the head of naval reactors, the NAVSEA undersea PEO, and the detailer.

The Flag Panel, which included the key elements of the “enterprise” triangle, met quarterly to discuss maintenance issues and personnel strategy, with particular focus on retention and bonuses, and they talked weekly on the phone. Coordination within the submarine community was facilitated by the fact that there was a single operational order (OPORD) with a single set of processes for all submarines globally, an indication of the submarine forces’ cohesion. Among the efforts that required an enterprise approach during the late 1990s was the ARCI initiative. The project was a spiral development effort whose use of open architecture and commercial processors, updated at much shorter intervals than legacy systems, required significant changes in testing protocols.¹⁵ Closed circuit detailing of submarine force members was another initiative that required extensive enterprise effort.

In 2000, the Flag Panel expanded its activities, standing up two CFTs to look at depot maintenance and class maintenance plan efficiencies. It also created a dedicated training organization under the Submarine Learning Center (SLC). A functional re-alignment and creation of the Commander Sub Force title in 2003 helped to solidify the operational unity of the enterprise. When VADM Charles Munns took that title in October 2004, his predecessor had set up an off-site session with the Thomas Group to explore “morphing our enterprise to look like NAE.” Munns had been N8 at CINCPACFLT in 1998 and had seen firsthand the crisis conditions that had launched AMSR, but he was not certain that the NAE model made sense for sub forces. “My view was: we don’t have flying hours, we are doing pretty well financially, we have an enterprise culture and organization already. We were pretty productive.”

Munns stood up the UnderSea Enterprise (USE) in early 2005, adding other Providers and Resource Sponsors to the core Flag Panel to create a Board of Directors. In an effort not to let enterprise activities become too diffuse, Munns used the BoD to prioritize projects based on available resources and projected ROI. The principal focus of USE in its start-up phase was efficient execution of maintenance projects to hit budgets and schedule targets and thus avoid the extra costs that delays incur. While much of that work necessarily involved NAVSEA, it also

received the briefest and cheapest nuclear-powered submarine overhaul in Navy history. (US Navy Submarine Centennial Web site)

¹¹ As defined by the decibel (DB) energy level. This loss may have been a contributing factor in the Russian collision incidents.

¹² Working capital, mission funded and Ship Construction Navy (SCN) (the funding stream and set of processes used for SSGN conversion and some refuelings) for new construction.

¹³ In a sense the barons (OP02, 03 and 04) had been one-man enterprises, holding influence and authority over resource sponsors, providers and type commanders.

¹⁴ The submarine forces had instituted the lead (3-star) follow (2-star) TYCOM model in 1996.

¹⁵ ARCI enabled a 10-fold gain at 1/10 the cost.

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required engagement with NAE in order to synchronize carrier and submarine repair schedules.¹⁶ USE implemented a lead shipyard approach to identify, refine and then disseminated best practices, accompanied by life cycle management initiatives. As that objective is achieved and processes gain stability, the focus will turn toward making maintenance processes leaner and faster. A financial USE CFT was in the process of developing cost metrics on maintenance activities to support that goal.

Institutionalizing the Enterprise Framework

When Admiral Mike Mullen relieved Clark as CNO in June 2005, he came into office sharing his predecessor's enthusiasm for and commitment to transforming the Navy's business culture. Among his initial tasking orders were instructions to VADM Massenburg (the lead SYSCOM) to explore ways to rationalize the SYSCOM structure, and to VADM McCarthy to expand the activities and reach of Sea Enterprise. McCarthy and Massenburg decided to combine their taskers into a single effort, supported by Mullen, aimed at integrating the various independent activities and creating a vision for the Navy's enterprise future. Out of that collaboration came the formalization of the Navy enterprise framework, depicted in the radiator matrix and the interconnected stack of enterprise triangles (Exhibit 3 and 4). In 2006 two additional warfare enterprises – Naval Network Warfare/FORCEnet Enterprise (NNFE) and Navy Expeditionary Combat Command (NECC) – joined the three core platform enterprises and began to establish objectives and determine baseline data. Two top-level enterprises – Fleet Readiness Enterprise (FRE) and corporate Navy Enterprise (NE) – were also established and were gearing up activities.

Fleet Readiness Enterprise

The Force Commanders leading the five warfare enterprises represented the providers within Fleet Readiness Enterprise (FRE), while Commander U.S. Fleet Forces Command (CFFC), a post head by Admiral Nathman beginning in early 2005, served as the CEO. The FRE aggregated the output of the warfare enterprises – “units ready for tasking” – into “forces ready for tasking” as its SFDM. Its principal focus was delivering current readiness at best cost to the Naval Component Commanders. That objective started with an enhanced understanding of how activities impacted readiness indicators. Opportunities for cost savings could come from a variety of sources, such as improved maintenance techniques, more effective and alternative (e.g., simulator) training methods, or elimination of non-value-add tasks.

A core mission of the FRE was to facilitate the maturation process of the five warfare enterprises by accelerating the learning cycles, encouraging the sharing of best practices, and removing barriers that constrained productivity improvement. FRE focused considerable attention on pushing the enterprises to develop common process improvement methods for major activities, such as ship maintenance, which cut across USE, SWE and NAE, and involved the same Providers. One tasker in early 2007 required the enterprises to determine which maintenance practices they considered the most worthwhile to develop in common in order to drive efficiencies and speed process improvements. Similarly, the enterprises were directed to develop common performance agreements with MPTE (Manpower, Training and Education) around requirements and training to ensure optimization across the Fleet. Nathman believed that FRE's role was to steer enterprises to focus on those areas where they could have the greatest cost and readiness impacts, but he did not want to be overly prescriptive.

People have to live this experience – sitting around their own triangle enough so they start seeing for themselves what needs to be done. We need to empower and enable the Force Commanders. If this becomes too top-down, we will kill it. If the Force

¹⁶ Carriers generally (though not always) tended to receive priority and overlapping shipyard stays of a carrier and a sub could cause major delays for one or both.

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Commanders don't feel like they own it, we will lose the goodness of the behavioral model.

One key to empowering the enterprises was creating effective incentives, and FRE instituted several measures around financial systems that increased the Force Commanders authority and encouraged them to identify and capture savings. During FY 2007 the FRE began the process of assigning responsibility to individual force commanders for execution year decisions about the allocation of resource dollars, to be institutionalized with formal transfer of 1517 authority in FY 2008. FRE would maintain visibility and retain approval authority for exceeding spending thresholds or changing requirements, but essentially the checkbook and financial operations would be decentralized and handed down to the commands to execute. Nathman's vision was to amplify the incentive of the 1517 authority transfer through retention of execution year savings achieved by the enterprises and allow Force Commanders to use those savings to spend on their own enterprise priorities.¹⁷ However, models used to determine programming requirements would be updated to reflect the efficiencies realized by the enterprises, aligning future year resources to desired readiness output. To support these changes, senior leaders were being provided opportunities to improve their financial and business skills, such as through the Navy's Executive Business Course and the creation of financial workshops. Mark Honecker, FFC's Executive Director, spoke of the change:

This represents the removal of a significant barrier. The existing system is a disincentive; a chief complaint from commanders is that we had not aligned authority with responsibility. This transfer of authority empowers them to develop a better understanding of where they spend their money, and now they will get to keep the money they save in execution and reinvest it to achieve greater efficiencies.

Navy Enterprise

The missions of the broader Navy Enterprise (NE) were to set business strategy and policy, provide the governance forum to deal with both current readiness and future capability issues, and to act as the Navy's top-level barrier removal board when senior level arbitration is required. The NE framework was adopted by CNO in mid-2006 and was activated in late 2006. RDML David Buss, who had been engaged in various facets of NAE since 2003, was selected as Navy Enterprise Chief of Staff to assist CNO in organizing and initializing the activities of the Navy Enterprise Executive Committee (NE ExCom). Buss's initial focus was on facilitating the establishment of the VCNO, ADM Bob Willard, and the Assistant Secretary of the Navy for Research, Development and Acquisition, Dr. Deloris Etter, in their roles as leaders of the Provider Enterprise portion of the broader Navy Enterprise framework. This necessitated a series of Echelon II visits to each of the nine Provider commands, conducted from August 2006 through January 2007, with the purpose of baselining each Provider: mapping their resources (people, dollars, and inventory) and processes in support of their customers, the five warfare enterprises. The meetings underscored the critical importance of terminology and the on-going need to establish a common enterprise lexicon. Another element of those early efforts was establishment of a performance agreement framework for each warfare enterprise-Provider intersection in the Navy Enterprise matrix in order to establish accountability and set expectations of what was needed to generate the requisite level of readiness output. Other initial activities included identification of "corporate" metrics and development of a strategic communications plan, whose early products included NE's first NAVADMIN, which formalized the creation of the warfare enterprises, as well as a CHINFO "Rhumb Lines" article and several CNO communiqués to senior Navy leadership.

¹⁷ The calculation of savings was complicated by the fact that some initial level of savings was required just to meet cuts ("efficiency gains") already incorporated into programs. Further savings would effectively be retained by an enterprise for two years, after which changes from the realized efficiencies were reflected in programming models.

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One of the Buss's early challenges was establishing an NE governance model with an appropriate drumbeat for senior leadership. Given the commitments and schedules of the Navy Enterprise's senior leadership, which included CNO, VCNO, CUSFFC, and several Assistant Secretaries of the Navy, Buss's goal was to incorporate enterprise-related discussions and activities into a new Executive Committee forum, which would act as the Navy's "corporate board." The new model would enable the eventual discontinuation of several legacy forums and processes in order to avoid consuming additional bandwidth of senior leaders.

In mid-November 2006, the NE ExCom held a dedicated two-day retreat to coalesce senior leadership thinking around the definition and implementation of its mission: articulating a vision for how a mature enterprise would act and determining objectives, priorities and desired effects. The group spent considerable time discussing the relationships between the various enterprise levels and defining "lanes" for NE, FRE, Warfare Enterprises, and Enabling Domains. Since February 2007 the ExCom has maintained a drumbeat of meetings whose tempo is dictated in part by subject matter but which occur on a near bi-weekly basis. One regular agenda item is a CNO Monthly Review (CMR): a detailed look at current readiness and future capability programs designed to give CNO an "OPNAV view" of issues prior to the SECNAV's Monthly Review (SMR). The ExCom is also beginning to deal with strategic "corporate" issues such as NECC Wholeness, Next Generation NMCI, and programmatic issues associated with the PR09 Budget.

Among the key challenges that the NE faced were figuring out how to apply the enterprise model to acquisition programs and what the corresponding enterprise relationship between the Secretariat and uniform leadership would look like. Nathman expressed a strong opinion about keeping a clear distinction between current readiness (CY and CY +1) and future readiness related to acquisition strategy and funding.

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Exhibit 1: Naval Aviation Enterprise Organization

NAVAL AVIATION ENTERPRISE

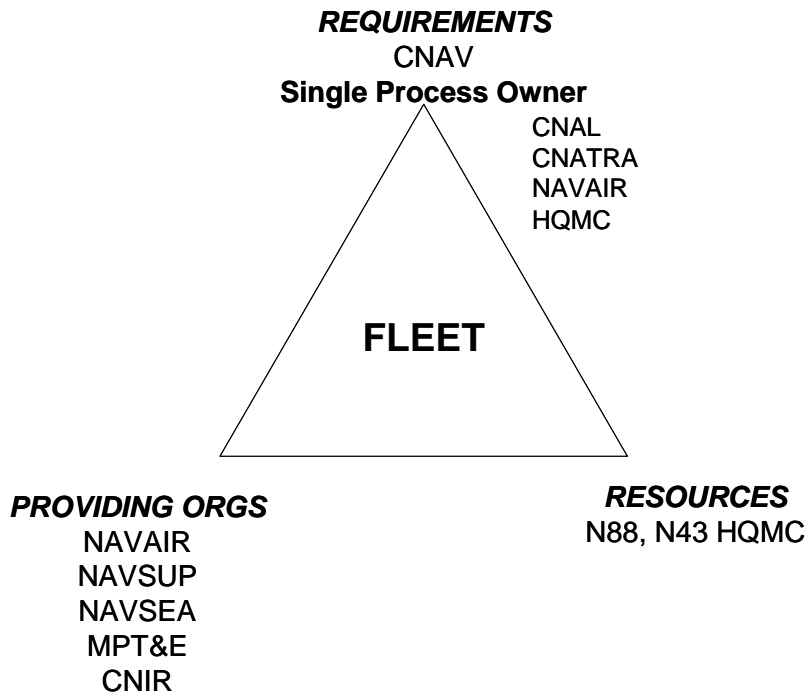


Exhibit 2: Total Projected SWE Savings and Cost Avoidance (as of October 2006)

Initiative	Projected Savings	Projected Avoidance
DDG Cost Reduction		\$267.1M
Geographic Detailing		\$2M
eRMS		\$2.0 – \$2.5M
NEC Mismatch Reduction		\$10M
Diesel Improvement Program	\$50M/year	
SHIPMAIN	\$690.4M	
Customer Relations Mgmt	\$25M	
METCal Mgmt System	\$10M	
Distance Support/Tech Assist	\$5M	
Performance Based Logistics	\$300M	
FY06 CNSL Fuel Under burn	\$13M	
FDNF NEC TADTAR	\$.25M	
Total	\$1,093.65M	\$286.1M

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Exhibit 3: Navy Enterprise Framework

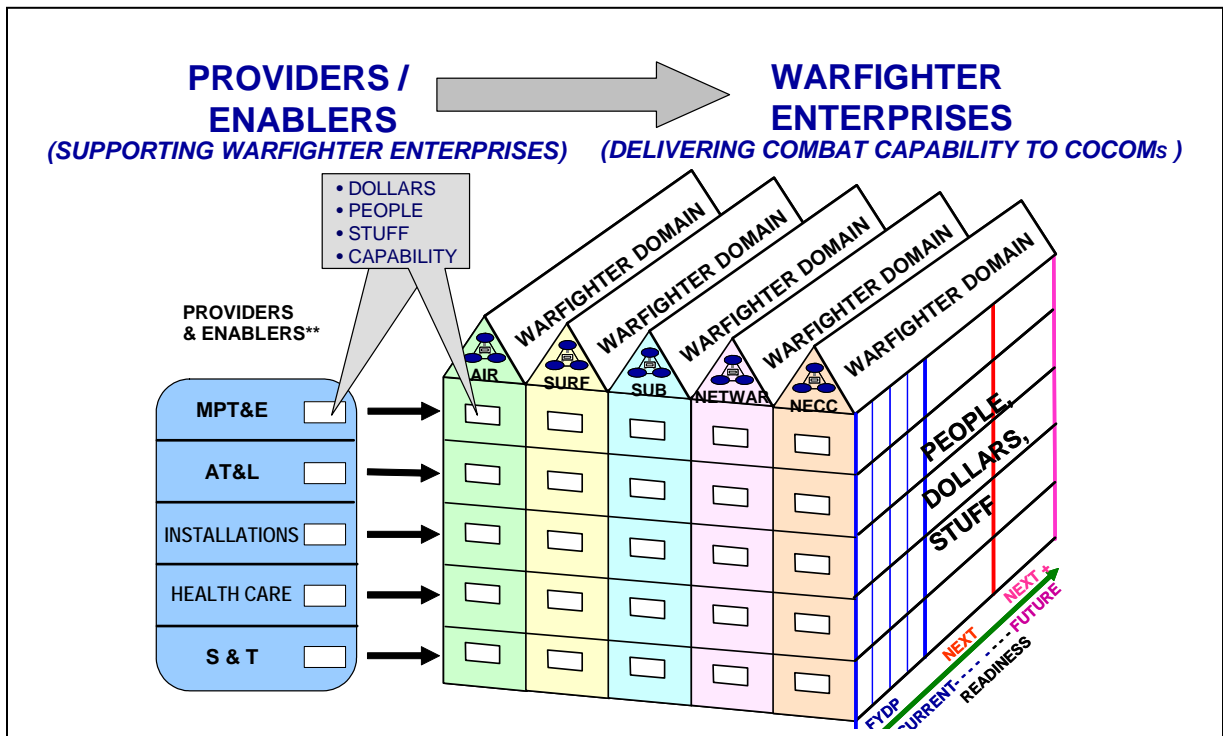
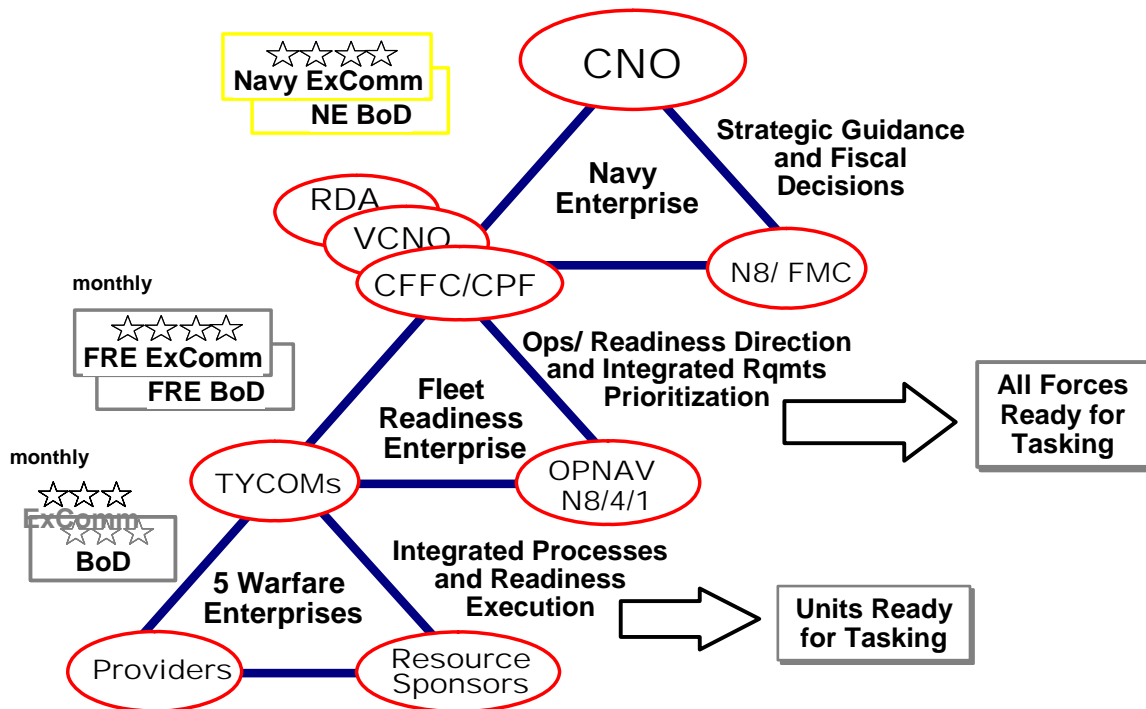


Exhibit 4: Navy Enterprise Framework



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Appendix 1: Process Improvement Tool Definitions

Lean is a process improvement strategy that focuses on the ability to make everything, everyday in the exact quantity required, with no defects. The goal is to achieve perfection through the total elimination of waste in the value stream of the process. Lean uses incremental improvement to constantly expose waste to balance operational and standard workflows. Most notable examples are the supply chains established by Toyota and Honda.

Six Sigma is a process improvement strategy that is based on the assumption that the outcome of the entire process will be improved by reducing the variation of multiple elements. Six Sigma is uniquely driven by a close understanding of customer needs, a disciplined use of facts, data, statistical analysis, and diligent attention to managing, improving, and reinventing business processes. Six Sigma focuses on variation reduction to produce highly repeatable processes that create customer satisfaction. Six Sigma is a measure of variability in relation to a total population of numbers.

Kaizen is a method for accelerating the pace of process improvement in any setting. It is typically a rapid (one week or less) intense event where progress is made through all of the Define-Measure-Analyze-Improve-Control steps. This requires preparatory work completed on the Define step and even sometimes the Measure step by a small team led by a team leader and a Black Belt. The rest of the work is done by a full group where the participants work ONLY on the project and are relieved of responsibilities.

Theory of Constraints (TOC) is the process improvement and systems thinking skill based on the belief that any organization has at least one constraint and that any improvements on non-constraints may not yield as significant return on investment as working on the constraint.

Process Value Management™ (PVM™) is a 'tops down,' process-based, cross-functional change management methodology based on the identification and systematic removal of business process and cultural barriers. Improvement results are process metrics-driven through a top management leadership team Board of Directors. **PVM** is based upon **Thomas Group's proprietary private sector change management** methodology that has been successfully imported into DOD readiness production processes. As multiple processes in large organizations are improved, they are linked and aligned with advanced **PVM** techniques to produce public sector enterprises like NAE and SWE.

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