Modularity the Key to Keeping Ship Systems in Shape, Says Mercury Systems

NATIONAL HARBOR, Md. – Like every other entity that relies upon technology to do its job, the Navy has to constantly contend with systems that fail or become outdated. When such systems are situated on ships that could be situated anywhere in the world, the challenge potentially becomes even more acute.

Andover, Massachusetts-based Mercury Systems thinks they have the answer to the conundrum. Building on the company's years of experience working with numerous Navy programs, most notably the Aegis Combat System, they believe that a modular approach offers the best method of ensuring seamless functionality. With that, Mercury Systems introduced its second-generation Intel Xeon scalable processors at Sea-Air-Space 2019.

"Commercial products go obsolete, and technology changes too fast," said Rick Studley, chief of technologies for Mercury Systems Trusted Missions Solutions in Chantilly, Virginia, during a Monday interview.

Mercury Systems provides hardware on nearly every surface combatant big-deck ship and submarine in the Navy. With its modular approach, the company's products allow for switching out old or broken components for new ones in complex systems without changing shock isolation, power or cooling already in place.

“We can abstract applications from underlining hardware, making the technology insertion much easier,” Studley said.

Moreover, with the presence of multiple virtual machines, systems can run on smaller sets of hardware – saving valuable shipboard space. This is done by running “virtual twin” systems in parallel with existing ones, for example, on a system like Aegis. The “twin” systems can take passive taps from the actual system – data from sensors, with the weapon system’s actual code. In simplistic terms, the “twin” can integrate with the actual server. Over time, tactical servers, which are bare-metal and redundant, would evolve into fully virtualized systems, Studley said.

“The goal is to move away from redundancy and toward resiliency, so that no single element in the system is so important that you can’t afford to lose it [and still function],” he said.

[and still function]

“It’s totally modularized and virtualized. You accept that failures are going to happen, but your machine keeps working,” Studley said. “The system heals itself around these failures.”

The process allows

for greater sharing of technology across platforms, applications and systems,
Studley said. The Navy would save money by having an infrastructure that is
easily upgraded, managed and deployed, he added.

Last HH-60H Helicopters to Be Retired This Year

U.S. Air Force 320th Special Tactics Squadron combat controllers and U.S. Marine Corps 3rd Reconnaissance Battalion operators exit two U.S. Navy HH-60H Sea Hawk helicopters assigned to Helicopter Sea Combat Squadron-85 (HSC-85), shown here following their extraction July 13, 2017, from Shoalwater Bay Training Area in Queensland Australia. U.S. Air Force / Capt. Jessica Tait

NATIONAL
HARBOR, Md. – The Navy will retire is last HH-60H Seahawk special operations
support helicopters this year, an official said.

Speaking to
an audience at the Navy League's Sea-Air-Space expo in National Harbor,
Maryland, Marine Maj. Gen Greg Masiello, the Navy's program executive officer
for Air, ASW, Assault and Special Mission PEO (A), said the last seven of the
HH-60Hs in the inventory would be retired and replaced by the next-generation
Seahawk, the MH-60S.

The HH-60H is flown by reserve Helicopter Sea Combat Squadron 85 and deploys in support of Navy special warfare forces and other forces.

MH-60S helicopters for the squadron will be modified with the 7.62 mm GAU-17 six-barrel rotary machine gun used for fire suppression.

The HH-60H is the last of three Seahawk versions from the H-60's initial naval service: the SH-60B, SH-60F, and HH-60H. The MH-60R and MH-60S are the latest versions in the Navy.

Service Chiefs Tout Agility, but MARAD in Need of Funding to Flex Muscle

The sea services chiefs (from left) – U.S. Navy CNO Adm. John M. Richardson, Marine Corps Commandant Gen. Robert B. Neller, Coast Guard Commandant Adm. Karl Schultz and Rear Adm. Mark Buzby of the U.S. Maritime Administration – during their panel discussion May 6 at Sea-Air-Space 2019. Lisa Nipp

NATIONAL HARBOR, Md. – The sudden order to send the Abraham Lincoln carrier strike group to the U.S. Central Command theater in response to threats from Iran is a great example of the value of the Navy's dynamic deployment concept, Chief of Naval Operations Adm. John M. Richardson said at the Navy

League’s Sea-Air-Space 2019 exposition.

Although the Lincoln’s deployment into the Mediterranean had been planned, “this is a great demonstration of what we’ve been working on, dynamic deployment,” Richardson said May 6. Naval maneuver forces are “dynamic by design,” but Richardson said he found it encouraging that if the national command authority needed the Lincoln strike group to go to the Middle East it can do so immediately.

At the opening session of the Navy League’s annual Sea-Air-Space exposition, Richardson responded to a question about National Security Advisor John Bolton’s announcement that the administration had ordered the Lincoln and its escorts to cut short its planned Mediterranean exercise and sail to the Persian Gulf region after warnings that Iran may be planning attacks on U.S. forces. Bolton said an Air Force bomber unit also was being sent to the region.

The sea services chiefs at their panel discussion at SAS. Lisa Nipp

Asked how the Navy would respond to President Donald Trump’s decision to reverse the 2020 budget proposal to skip the mid-life refueling of the aircraft carrier Harry S. Truman, Richardson noted that he had told Congress, which has opposed the

decision, that the Truman's early retirement was reversable. "Now we will have to find the resources going forward," to invest in the new technologies, such as unmanned systems, that were to be funded with money saved from retiring Truman.

Appearing on the same panel, Marine Corps Commandant Gen. Robert B. Neller agreed with Richardson that the challenge of effective leaders was to anticipate the need to change their organizations and policies, rather than waiting to respond to a disaster. Neller cited the changes the Marines are making to respond to the growing threats of cyber and electronic warfare attacks from peer competitors as an example. The first shot of a major conflict would be against the networks and the U.S. forces must prepare to operate without the assured communications they have become accustomed to, Neller said.

> *"This is a great demonstration of what we've been working on, dynamic deployment."*
>
> *Chief of Naval Operations Adm. John M. Richardson*

Also on the panel, Coast Guard Commandant Adm. Karl Schultz said his service was engaging in more national security operations, such as the recent freedom of navigation transit of the Taiwan Straits, in addition to its heavy load of maritime

security and safety missions. Schultz said the Coast Guard was looking forward to getting its first new Arctic icebreaker and hoped to get initial funding for a second one in the fiscal 2021 budget.

Retired Rear Adm. Mark Busby, administrator of the Maritime Administration, said the materiel readiness of his 46 sealift vessels, which have an average age of 44 years, had gotten a bit worse since his warnings last year. Busby was hopeful Congress would fund the three-part program MARAD and the Navy have urged to modernize his fleet by updating some ships, buying some newer commercial ships and building a small number of vessels. Asked about the threat to global shipbuilding industry from China's rapidly growing ship production capabilities, Busby said U.S. shipbuilding survived only due to Navy production and commercial ships for the Jones Act, which required U.S. built ships for commerce between U.S. ports.

Analysis Underway for E-6B Mercury Aircraft Replacement

A U.S. Navy E-6B Mercury airborne command post flies over

Solomons Island, Maryland. An analysis is underway for a replacement for the E-6B. U.S. Navy photo.

NATIONAL HARBOR, Md. – An analysis of alternatives (AOA) is underway in the Office of the Secretary of Defense for a replacement for the Navy's E-6B Mercury strategic communications aircraft.

Speaking to an audience at the Navy League's Sea-Air-Space conference here, Marine Maj. Gen Greg Masiello, the Navy's program executive officer for Air, ASW, Assault and Special Mission PEO (A), said that his office is supporting the AOA. PEO(A)'s portfolio includes the E-6B aircraft.

The E-6B is the legacy platform that relays strategic communications to and from the Navy's ballistic-missile submarines and national command authority, a program called TACAMO (Take Charge and Move Out). The E-6B also serves in the airborne command post (ABNCP) role for U.S. Strategic Command, flying with a battle staff onboard.

The AOA is for the NEAT program, which is a simplification of the terms NAOC (National Airborne Operations Center)/EA (ABNCP/TACAMO). The AOC mission is performed by the Air Force E-4B aircraft.

BAE Systems Sensor Technology Guides Next-Generation Missile to Readiness

Artist’s rendering of the LRASM. BAE Systems

NASHUA, New Hampshire – BAE Systems worked closely with Lockheed Martin to deliver Long-Range Anti-Ship Missiles (LRASM) to the U.S. Air Force, achieving Early Operational Capability (EOC) for the B-1B bomber ahead of schedule, BAE said in a May 6 release. The Air Force accepted delivery of production LRASM units following successful simulation, integration, and flight tests that demonstrated the missile’s mission readiness.

“We’re quickly delivering critical capabilities to warfighters to meet their urgent operational needs,” said Bruce Konigsberg, Radio Frequency (RF) Sensors product area director at BAE Systems. “Our sensor systems provide U.S. warfighters with a strike capability that lets them engage protected, high-value maritime targets from safe distances. The missile provides a critical advantage to U.S. warfighters.”

BAE Systems’ long-range sensor and targeting technology enables LRASM to detect and engage protected ships in all weather conditions, day or night, without relying on external intelligence and navigation data.

BAE Systems and Lockheed Martin are working closely together to further mature the LRASM technology. The companies recently signed a
contract for the production of more than 50 additional sensors and are working
to achieve EOC on the U.S. Navy’s F/A-18E/F Super Hornet in 2019.

The advanced LRASM sensor technology builds on BAE Systems’ knowledge in electronic warfare (EW), signal processing and targeting technologies, and demonstrates the company’s ability to apply its world-class EW technology to small platforms. The successful LRASM sensor program demonstrates the company’s ability to quickly deliver advanced EW technology to warfighters.

As part of the company’s electronic warfare capacity expansion initiatives, it locates key programs where they will be optimally staffed to quickly transition from design to production, accelerate deliveries, and improve product affordability. The company’s work on the LRASM program is conducted at state-of-the-art facilities in Wayne, New Jersey and Nashua, New Hampshire.

Pentagon Report Cites Rapidly Modernizing Chinese Navy

A Chinese Type 052C destroyer, the Changchun, in Malaysia in 2017.
ARLINGTON, Virginia
— China’s first home-built aircraft carrier is likely to join the People’s

Liberation Army Navy (PLAN) fleet this year, a highlight of China's effort to modernize its fleet with modern, farther-ranging platforms and weapons.

Construction began on a second aircraft carrier in 2018, said a new report to Congress from the Defense Department, "Military and Security Developments Involving the People's Republic of China 2019." This carrier, which should reach the PLAN fleet in 2022, is likely to be fitted with a catapult aircraft launch system, according to the report.

A coastal defense navy during the Cold War, the PLAN is continuing a two-decade build-up with numerous blue-water platforms

"The PLAN is rapidly replacing obsolescent, generally single-purpose platforms in favor of larger, multirole combatants featuring advanced anti-ship, anti-air and anti-submarine weapons and sensors," the report said. "This modernization aligns with China's growing emphasis on the maritime domain and increasing demands on the PLAN to conduct operational tasks at expanding distances from the Chinese mainland using multimission, long-range, sustainable naval platforms possessing robust self-defense capabilities."

"Modernization of China's submarine force remains a high priority for the

PLAN," the report said. "The PLAN currently operates four nuclear-powered ballistic missile submarines (SSBN), six nuclear-powered attack submarines (SSN) and 50 conventionally powered attack submarines (SS). The speed of growth of the submarine force has slowed and will likely grow to between 65 and 70 submarines by 2020."

The PLAN also continues to modernize its surface warship fleet.

> *"The PLAN is rapidly replacing obsolescent, generally single-purpose platforms in favor of larger, multirole combatants featuring advanced anti-ship, anti-air and anti-submarine weapons and sensors."*
>
> *A new Pentagon report to Congress on China's naval modernization*

China has built new guided-missile cruisers (CGs), guided-missile destroyers (DDGs) and guided-missile frigates (FFGs) that "will significantly upgrade the PLAN's air defense, anti-ship, and anti-submarine capabilities. These assets will be critical as the PLAN expands operations into distant seas beyond the range of shore-based air defense systems" the report said.

China has built four Renhai-class CGs over the last two years and has several more under construction. The lead CG is scheduled to join the fleet in 2019. At least

three Luyang-class DDGs joined the PLAN fleet in 2018, bringing the total to nine with at least four more under construction. A larger variant forthcoming, Luyang III, will be equipped with a vertical launcher system.

China also emphasizes small surface combatants, with 27 or more Jiangkai II FFGs and more than 40 Jiangdao-class corvettes, with more of both types under construction.

All new attack submarines and surface combatants are being armed with modern anti-ship missiles.

"The PLAN recognizes that long-range ASCMs require a robust, over-the-horizon targeting capability to realize their full potential," the new Pentagon report said. "China is investing in reconnaissance, surveillance, command, control and communications systems at the strategic, operational and tactical levels to provide high-fidelity targeting information to surface and subsurface launch platforms."

China also is building a fleet of amphibious warfare ships, adding three to the current five Yuzhao-class amphibious transport dock ships.

China also is expanding the PLAN marine corps from two brigades and 10,000 marines to seven brigades and 30,000 marines by 2020. The Chinese marine corps also now has

its own commander
and a new central headquarters.

Sealift Command to Welcome New Navajo Class of Tugboats to Fleet


An artist rendering of the future USNS Navajo (T-TATS 6). U.S. Navy photo illustration.
NORFOLK, Virginia
– A new class of towing and salvage vessels will join the U.S. Navy's Military
Sealift Command (MSC) in fiscal year 2021.

"The new
Navajo class replaces the Powhatan class T-ATF fleet tugs, which provide
towing, diving and standby submarine rescue services for the U.S. Navy, and the
Safeguard class T-ARS rescue and salvage vessels, whose mission includes,
salvage, diving, towing and heavy-lift operations," said Tim Schauwecker, MSC towing
and salvage project officer.

"MSC and
the fleet commanders will benefit by having new, state-of-the-art and highly
capable platforms that can perform a wide range of missions ranging from towing
and salvage, diving operations and submarine rescue," he said.

The primary mission of the fleet tug is towing and submarine rescue with the secondary mission of salvage. Rescue and salvage ships conduct salvage with a secondary mission of towing. The Navajo class will combine the capabilities of both classes into a single class for greater efficiency, Schauwecker said.

> *“This new ship class will … eventually restore the towing and salvage fleet to an end strength of eight hulls.”*
>
> *Tim Schauwecker, Sealift command’s towing and salvage project officer*

“The major improvements include a significant bollard pull increase that will enable the ship to tow virtually any ship currently in the [Navy] inventory. The new ships include additional deck space to account for the requirements of the submarine rescue diving and recompression system, including transfer under pressure, a 40-ton heave compensating crane to assist with underwater salvage operations such as lifting aircraft wreckage out of the water, dynamic positioning, which provides the ability to automatically maintain position and heading in the water by using its propellers and thrusters despite the environmental conditions, and berthing for an additional 42 personnel [other than crew] in two- to six-person staterooms. The ship will also have modern automation and

engineering systems that include environmentally friendly main propulsion diesel engines," he said.

MSC search-and-rescue vessels have contributed to a variety of missions around the world, including recovery efforts for John F. Kennedy Jr.'s plane crash, the USS Guardian grounding, TWA flight 800, Hurricane Katrina and the SS El Faro sinking.

MSC took delivery of the Powhatan class of fleet ocean tugs between 1978 and 1981. These ships were designed and built based on commercial offshore towing vessels and were manned by civilian mariners. Salvor and Grasp were commissioned in 1985 and 1986 and were sailed as USS ships by U.S. Navy Sailors. The Navy decommissioned the Safeguard class of salvage ships in 2006 and 2007 and transferred them to MSC, where they were redesignated as T-ARS and manned by civilian mariners.

According to the Congressional Budget Office's 2019 shipbuilding analysis, the procurement of the new Navajo class aligns with the Navy's plan to expand the fleet to 355 ships.

"This new ship class will bring a significant capability increase to the U.S. Navy and Military Sealift Command and eventually restore the towing and salvage fleet to

an end strength of eight hulls," Schauwecker said.

Secretary
of the Navy Richard V. Spencer announced in March the new class of ships will
be named Navajo, in honor of the major contributions the Navajo people have
made to the armed forces.

The lead ship will start
construction in May, with delivery of the first five ships in fiscal 2021 and
2022, followed by one ship per year through 2025.

Navy's Heliborne EW Pods Set for Delivery at Year's End

ARLINGTON, Va. – Lockheed Martin is set to deliver to the Navy the first Advanced Off-Board Electronic Warfare AOEW pods at the end of 2019, the company's program manager said.

The first set of pods is on track for delivery in December 2019 or January 2020, said Joe Ottovanio, director of electonic warfare solutions for Lockheed Martin, speaking to reporters May 1 in Arlington.

Ottoviano also said the program expects a Milestone C decision for Low-Rate Initial Production of the AOEW pod in December.

The AOEW is a pod designed to be carried aloft by and MH-60R or MH-60S helicopter and function as an extension of a warship's SLQ-32(V)6 electronic warfare system.

HII’s Digital Shipbuilding Transformation Earns 2019 CIO 100 Award

NEWPORT
NEWS, Va. – Huntington Ingalls Industries’ Newport News Shipbuilding division
has been named a recipient of a 2019 CIO 100 Award for adopting
business-aligned IT strategies during its integration of modern technologies
into shipbuilding. The ongoing initiative, known as Integrated Digital
Shipbuilding (iDS), is transforming the way ships are being designed and built.

The annual
awards program, sponsored by IDG’s CIO magazine and the CIO Executive Council,
celebrates organizations that are using IT in innovative ways to deliver
business value, optimize business processes, enable growth or improve
relationships with customers.

Newport
News is being recognized for its use of technology business management
strategies to bolster IT cost transparency and build trust, which helped the
company to embrace a digital-first mindset in adopting leading-edge

technologies.

Since the company's digital transformation began two years ago, Newport News has introduced laser scanning, augmented reality, modeling and simulation, and additive manufacturing into processes to increase efficiency, safety and affordability. The digital shipbuilding efforts also include transitioning from traditional two-dimensional paper-based instructions – the company's primary method for conveying design data for more than a century – to digital formats.
The company currently is developing digital work packages for the aircraft carrier Enterprise (CVN 80), which will be the first ship built completely paperless, and preparing to go digital with the new class of ballistic submarines, the Columbia class.

"Digital shipbuilding is the largest transformative initiative, digital or otherwise, that Newport News has embarked upon since switching from diesel to nuclear-powered aircraft carriers in the 1960s," said Bharat Amin, Newport News' vice president and chief information officer. "I feel proud of my team for helping to drive change and empowering shipbuilders with the tools to build today's warships with tomorrow's technology. It's an exciting time to work in IT and at HII."

The
company will be recognized at the CIO 100 Symposium and Awards Ceremony on Aug.
21 in Colorado.

O-Level Reform: Lemoore Strike Fighter Squadrons Returning More Jets to Flight Line

F/A-18E Super Hornets from Strike Fighter Squadron 136 “Knighthawks” fly in formation during a photo exercise over the California coast. The Knighthawks are an operational U.S. Navy strike fighter squadron based at Naval Air Station Lemoore, California, and are attached to Carrier Air Wing One. U.S. Navy / Chief Mass Communication Specialist Shannon Renfroe

LEMOORE,
Calif. – Two Navy Super Hornet squadrons at Naval Air Station (NAS) Lemoore,
California, have reduced maintenance turnaround times and are boosting aircraft
readiness as part of naval aviation’s maintenance reform initiatives under the
Naval Sustainment System (NSS).

The NSS
initiative leverages best practices from commercial industry to help reform
aspects of naval aviation’s fleet readiness centers,

organizational-level
(O-level) maintenance, supply chain, engineering, and maintenance organizations
and governance processes. Initially, the NSS is concentrating on getting the
Navy F/A-18 Super Hornet fleet healthy before rolling out the approach to every
Navy and Marine Corps aircraft.

Strike
Fighter Squadrons (VFA) 22 and 122 were the first to implement O-level
maintenance reforms following visits from commercial aviation consultants in
December and January.

Reforms
include assigning crew leads to manage the maintenance on each aircraft and
reorganizing hangar spaces, parts cages and tools.

Squadrons Empower Petty Officers

The most
significant change has been the delegation of ownership over each aircraft in
for repairs from the squadrons' maintenance material control officers, or
MMCOs, to individual crew leads comprised mostly of first-class petty officers.

Traditionally,
MMCOs must keep track of the status of each aircraft in for maintenance as well
as the Sailors working on them, and that's in addition to deciding what
maintenance actions are required for each jet and which aircraft are safe to

release for flight. Assigning junior-level crew leads to each jet removes some of that burden from the MMCOs and has led to improved communication and increased accountability.

“The crew leads are not making the maintenance decisions; that’s still done by the maintenance controllers, but what it allows for is it sheds those maintenance control chiefs of having to know every status of every jet, of every person, all day long,” said Lt. Cmdr. Brandon Michaelis, O-level reform champion for Commander, Naval Air Forces (CNAF). “So they can focus on releasing safe aircraft by empowering those first-class petty officers, who can now own that process and know where the people are, know the status of the parts, and brief that up the line.”

For the petty officers accustomed to doing their job a certain way, reform did not come easy. But the benefits have been evident, said Aviation Electronics Technician 1st class Victor Perez, the leading petty officer for VFA-122’s avionics shop and one of the squadron’s selected crew leads.

“At first the changes didn’t feel productive, because we didn’t really understand it, but now that we’ve had some time with it, it’s definitely helped improve our processes and communication,” Perez said.

Used to focusing exclusively on avionics, Perez said serving as a crew lead has forced him to approach the maintenance of his assigned aircraft more holistically. The increased responsibility of bringing an entire jet back online ultimately leads to a greater sense of accomplishment, he said.

“You get kind of personal with an aircraft,” he added. “Some aircraft are easy, and some are a struggle to get through. Rather than working on a jet for a couple hours to complete the one thing assigned to your shop and then moving on to the next jet, this way you take more ownership toward completing the whole thing.”

In some cases, exceptional second-class petty officers have also been considered for crew lead, including Aviation Electrician’s Mate 2nd Class Michaela Zadra, a member of VFA-22’s quality assurance division. Having crew leads that can focus on individual jets – and communicate with the various maintenance shops – relieves maintenance control from having to keep near-constant track of as many as a dozen aircraft at a time, Zadra said.

“Crew leads have cut down on empty communication, so now I, as a maintainer who is not stuck behind a maintenance control desk, can walk around to each shop and talk to them personally,” she said. “There’s a lot more

communication
one-on-one, instead of one-to-one-to-one and then to maintenance control. It’s
definitely helped with communication and productivity with the jets.”

In tandem
with the crew lead concept has been the utilization of a whiteboard alongside
each aircraft that informs anyone passing by as to the jet’s status.
Information on the boards includes the names of the crew chief and additional
personnel assigned to the aircraft, what maintenance is needed, and the
expected completion date.

“If you
physically walk through one of our hangars today, you can tell which ones have
been reformed and which ones haven’t,” said Vice Adm. DeWolfe H. Miller III,
CNAF. “You know the exact status of that airplane, you know who’s working on
that airplane and when they expect that airplane to be up. There’s going to be
a crew lead who has that ownership.”

In
addition, the two squadrons have begun treating the spaces around each Super
Hornet in their hangars as dedicated workspaces, with all necessary tools and
parts kept beside the aircraft rather than back in one of the various
maintenance shops.

“We’re now

treating the airplane a little more, as an analogy, like a patient getting surgery," Miller said. "I am the doctor as the maintainer, and I said, 'scalpel,' and my tool is right there. What we're seeing with that sort of approach, having our tools next to the airplane, having our status board next to the airplane, everything is going to the point of action being around that airframe, and we're seeing a really significant improvement in our mission capable rates."

Both squadrons have also begun keeping larger parts in a centralized "parts cage" in the hangar, dramatically reducing the amount of time Sailors spend traversing the hangar in search of equipment rather than with their hands on an aircraft.

"It may be five minutes here or five minutes there, but over the course of a day across all those technicians, that's a lot of time saved by having those parts close to where the job is being done," Michaelis said.

The 84-Day Corrosion Inspection

Together, the changes have helped the squadrons achieve one of the first goals of O-level reform – reducing the turnaround time for routine 84-day corrosion inspections down from 10-14 days to three days.

The 84-day inspection, so called because Super Hornets receive one every 84 days, is one of the most common checks conducted on the jet and is officially supposed to take three days.

“Our average is about 10 to 14 days,” Miller said. “It’s really important for us to put some discipline into achieving these checks on a predictable three-day pattern.”

After meeting with consultants, VFA-22 was the first squadron to pilot reforms aimed at reducing the 84-day inspection time.

“They were able to do it in two-and-a-half shifts, and as we’ve been going through the process with other squadrons, we realize that yes, three days in itself is sufficient, once we weed out the inefficiencies,” said Lt. Hasely Clarke, assistant maintenance officer for Strike Fighter Wing Pacific.

Clarke said many of those inefficiencies arose from work centers waiting on one another to be finished with an aircraft before beginning their own tasks.
“There was a lot of waiting time in between,” he said.

Time management, communication and multitasking between shops have all improved

following the O-level reform, Zadra said, noting shops were encouraged to identify which of their tasks could be performed alongside another's simultaneously. For instance, Zadra said she can check the lights in the cockpit from the side of the jet while someone from the avionics shop inspects instrumentation inside the cockpit.

"It cuts down a lot on worker hours, so we can minimize the time on the inspection," she said.

Initial Skepticism

A former MMCO, Michaelis said he was skeptical of the O-level reforms when they were initially proposed, but has come around after seeing how VFA-22 and VFA-122 have put the reforms into practice.

"It's been a tough pill to swallow, to see how inefficient even when I was in that position, even though I thought we were on point every single time," he said. "To now look back and go, 'Wow, there were a lot of places where I could have improved.' So, that's what's made me a believer, is being able to look in hindsight and realize there's tons of this stuff that I wish I had when I was an MMCO."

Michaelis

said the plan is to take the reforms to VFA squadrons at NAS Oceana, Virginia, before rolling them out across the Super Hornet community and, ultimately, to other platforms.

“As we migrate this and expand it across all type-model-series, I’m excited about what this is going to do for our future,” Miller said.

Further evidence of the reform’s efficacy will come when squadrons can keep their Sailors on normal work schedules while preparing for deployments, Michaelis said.

“Before we go on detachments or on deployment, we often work Sailors 12 [hours] on, 12 off, sometimes seven days a week,” he said. “The proof is when, on a Thursday, we can let our people out for a three-day weekend because our jets are up and ready to go, and we saw that recently in one of our transformed squadrons.”