

Enabling Knowledge Superiority to the Warfighter Through Integration and Innovation

Reserve Force Multiplier

It's Friday afternoon and Gordon Hunt, a PhD student at Stanford University and expert C++/Java programmer at Real-Time Innovations, has just aced another Computer Science exam and is ready to start a well-deserved weekend. With his bags packed, he hops into his red Saab convertible and drives south to the San Jose airport for a direct flight to sunny San Diego. Within an hour, he's checked in and relaxing at the Admiral Kidd Club BOQ, with a clear view of the San Diego harbor, getting ready to report at 0700 the next morning for his weekend drill as an engineering duty officer and Naval Reservist for the Navy's Space and Naval Warfare Systems Command (SPAWAR). His mission: Support the USS LINCOLN Battle Group, prior to its deployment to the Middle East, by ensuring its C4ISR & IT Integrated Logistics Systems documents are in order.

"Reservists are critical and seamless members of our corporate SPAWAR team."

**Rear Admiral
Kenneth D. Slaght, USN**
Commander
Space and Naval Warfare
Systems Command



Earning Trust

How could such a large responsibility be placed on a Naval Reservist? By earning the trust of the gaining command and the Fleet is the answer.

This trust began in the late 1990's, when the SPAWAR Reserve Program successfully demonstrated that it could effectively **support the Fleet on the deck plates** with information technology (IT) experts capable of completing a variety of mission-critical tasks.

The Reservists performed IT-21 training that was deemed necessary to **enable the Warfighter with knowledge superiority**.

An Innovative Organization

Completing such mission-critical tasks can only be accomplished with strong leadership and an effective matrix organization that assigns the more than 500 SPAWAR Reservists (civilian IT experts with military experience) to dedicated Fleet Support Teams (FST) in support of our nation's Carrier Strike Groups (CSG) and Expeditionary Strike Groups (ESG).

A FST consists of 50-60 Reservists, from 3-5 reserve units, that are assigned to fulfill one of the following five key C4ISR & IT mission areas to coincide with each Strike Group's deployment plan:

SPACE & NAVAL WARFARE SYSTEMS COMMAND

Providing Integrated Information Solutions to the Fleet

At the heart of a battle are the systems of Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR).

The purpose of C4ISR, and the mission of the Space and Naval Warfare Systems Command (SPAWAR), is to **provide the battle force commander with knowledge superiority** – the means to see the battlefield, understand its activities, formulate effective courses of action, and transmit orders for action.

SPAWAR is the Navy's agent responsible for developing, acquiring, and fielding C4ISR systems. SPAWAR is an Echelon II command, headquartered in San Diego, CA, with offices located across the globe.

1. Configuration Validation (CONVAL)
2. DG Systems Integration & Testing (DGSIT)
3. Integrated Logistics Support (ILS)
4. Surface & Sub Systems Installations
5. Information Technology Training (IT-21)

Each mission area is supported by a shipboard detachment consisting of a team leader, a subject matter expert, and five or more qualified Reservists who are hand-picked from the FST to perform the assigned task (e.g., CONVAL). The objective is to select the "right Reservist for the right Job." The team leader is the Fleet's single point of contact to get the job done.



Supporting the Fleet

Supporting Fleet Battle Readiness

Since 1999, Reservists have been instrumental in preparing the C4ISR and IT systems aboard every Strike Force battle unit in the Navy, worldwide.

SPAWAR Reserve Fleet

CONVAL

Sailors validating the Functional Interface Diagrams of the C4ISR & IT network configuration aboard the *USS LINCOLN (CVN-72)*. These diagrams are used to set the architecture for the next set of network upgrades.

Photo by CDR Steve Clancy



"I recommend that this (FST) concept be expanded to support each deploying Battle Group during the rapid migration of C4ISR systems to the Fleet."

Commodore Tom Gallagher
COMDESRON 18



30 months

18 months

12 months

MONTHS TO

INSTALLATIONS

Reservists augment SPAWAR in planning the scheduled installations of C4ISR systems aboard surface ships and submarines. They ensure all naval combatants have the requisite systems and strike capabilities installed prior to their next deployment.

Photo by PH1 David Lloyd



IT-21 TRAINING

IT experts (Reservists) increase a ship's combat readiness by training Sailors on how to maintain and operate the 21st Century IT systems aboard their ship.

Photo by PH1 David Lloyd

on the Deck Plates

Supporting Teams in Action



ILS

Sailors check the accuracy and availability of logistics documents, spare parts, and technical publications to ensure the Strike Group's C4ISR & IT Integrated Logistics Systems are 100 percent ready for battle.

Photo by CDR Dave Lynn

"Their professionalism and knowledge of Fleet communications greatly improved connectivity and have made them indispensable members of the BGSIT team."

Monica R. Shepard
Director, C4ISR



DEPLOYMENT

6 months

4 months

Deployment

"The deployed IT-21 Fly Away Team validated the requirement for the SPAWAR IT-21 Reserve Program and the mission it fulfills."

LT Murphy,
CSIO, *USS CONSTELLATION*



DGSIT

Integrating and testing the C4ISR systems aboard the *USS LINCOLN (CVN 74)*. Reservists support SPAWAR in ensuring that its C4ISR & IT systems are fully integrated with the rest of the Strike Group so it can complete its combat missions.

Photo by LCDR Janet Garrington



IT-21 FLY AWAYS

Providing "Over-the-Shoulder" IT-21 training for ship's force, while underway aboard the *USS CONSTELLATION (CVN 64)*.

Photo by SPAWAR

Transformation to Support Integration and Innovation

Integration with the Gaining Command

A transformation of the SPAWAR Reserve Program began in October 1998, when COMSPAWARSYSCOM directed a newly-assigned Reserve Liaison Officer to reengineer the program better to support SPAWAR's main customer – deploying Naval Forces. Prior to that, the Reserve units were conducting "nonessential work" for various SPAWAR program codes.

The mobilization goal for the Reservists was changed to augment the manpower of SPAWAR in crisis scenarios to support the Strike Group and its battle systems.

SPAWAR then took full advantage of the broad range of technical talents and expertise that its 500+ Reservists offered and began utilizing them to the fullest extent possible in providing direct Fleet support.

Today, SPAWAR Reservists perform a wide spectrum of work from addressing acute C4ISR/IT architecture issues to providing advanced IT-21 Fly Away training aboard ships.

A Flexible and Modular Matrix Organization

Due to the rapid pace of C4ISR enhancements and having to respond to each Strike Group's deployment cycle, the SPAWAR Reserve Program reorganized itself from a hierarchical organization to a more flexible and modular matrix organization that is competency based to ensure that the Navy's C4ISR & IT systems are ready for war.

Drilling with the Fleet

SPAWAR Reservists proved their flexibility and initiative by deploying over 150 shipboard detachments each year to more than 60 different warfighting ships.

"Reservists represent SPAWAR on the deck plates."

RDML Mike Sharp
Vice Commander, SPAWAR

Whenever FST Reservists aren't aboard a warship, they're drilling (training) with one of the 22 SPAWAR Reserve units nationwide. These units are strategically located near to our nation's most prestigious high-tech universities and technology centers such as Cambridge, MA; San Diego, CA; Silicon Valley, CA; Technology Triangle, NC; and Bellevue, WA, to help recruit the best educated and most-experienced IT talent available.

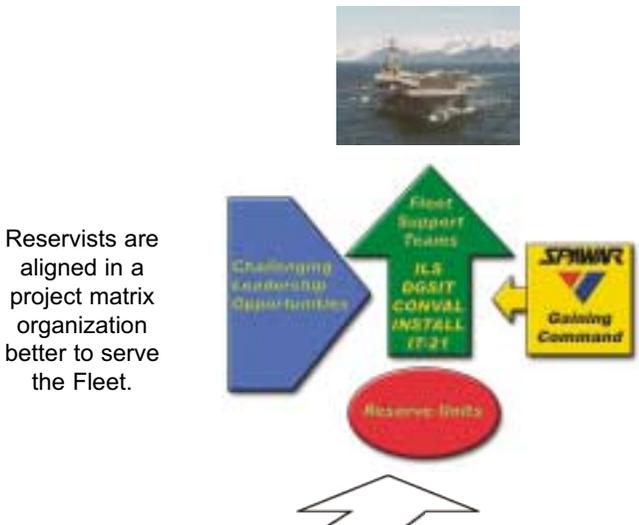
Most of the Naval Reservists in the FST Program are seasoned network technicians, software engineers, Cisco Certified Network Associates, or Microsoft Certified System Engineers who bring thousands of dollars of education, training, and experience to the Fleet.

These highly-qualified Reservists adhere to a single focus – which is to serve the Fleet. They aren't distracted by having to perform administrative tasks that are nonmission oriented. These recurring tasks are executed by a small and dedicated team of professionals who are located at the gaining command in San Diego.

Units Work Together in Fleet Support Teams



An Integrated and Fleet-Centric Organization



Reinventing the Naval Reserve

Part of a Team

SPAWAR Reservists are an integral part of the SPAWAR team. They are woven into every aspect of the SPAWAR mission. They use the exact same badges, share the same resources and have access to the same mission-critical information. They work hand-in-hand with their active duty and civilian counterparts between drill periods to get the job done. They embody the **One Navy** mantra and are appreciated and awarded for their efforts.

Fleet, SPAWAR, & Reserve Recognition:

Three commendation letters from CLF (N6), four Lightening Bolts (SPAWAR's internal award for outstanding teamwork), four BZ's from the Fleet, nine Bilger awards, and hundreds of personal awards.

Force Multiplier

The 500+ Reserve Force makes up most of the uniformed staff at SPAWAR and the PEO, by a ratio of 4:1. The active duty contingent of SPAWAR relies heavily on the assistance of the Reservists to leverage their limited resources. For example, the active duty staff delegates the execution of Deployment Group Integration and Testing (DGSIT) onboard ships to the officers in the Reserve Program.

SPAWAR Reservists are highly integrated with the active duty and civilian staff at SPAWAR.

Responding to the Needs of the Fleet

Our nation must be prepared to respond in a rapid and effective manner to combat the threat of an attack. The CNO is changing the way our Carrier and Expeditionary Strike Groups maintain their combat readiness to prepare for deployments on relatively short notice. Likewise, the Reserve community is changing the way it responds to the emergent needs of the Fleet.

The SPAWAR Reserve Program embraces new and innovative ways to manage the mobilization and contributory support of its Reservists to the Fleet:

1) **Precertification** ensures that every Reservist in the Program is administratively and medically certified at the beginning of each fiscal year so that he/she can be mobilized almost immediately.

2) SPAWAR created its own **Reserve Program Office (RPO)** to support the mission delegated to the Reserves. The RPO, which is staffed by Reservists, was given the tools necessary to fund temporary duty assignments, write orders, purchase airline tickets, etc.

SPAWAR has full ownership and control of its Selected Reserves.



Reservists are precertified and supported 24/7 by a program office for mobilization.

By assuming the administrative responsibilities needed to fulfill its mission, the RPO became highly responsive to the needs of the Fleet, while providing world-class customer service to its Reservists. Orders are typically cut within 24 working hours after receiving the request.

SPAWAR has taken full ownership and responsibility for its mission and the readiness of its SELRES Force.

Integrated Communications

The SPAWAR Program seeks to facilitate a highly dispersed and dynamic work environment. Specific tools are used to facilitate communications and information-sharing between 22 Reserve units nationwide:

VTC: Each drill weekend, the units participate in a video teleconference (VTC) to share mission-critical information and receive SPAWAR training.

VPO: A Virtual Program Office (VPO) collaborative Web site, integral to SPAWAR's Intranet, is used to store, access, and share mission-critical information on-line.

Job Jar & Skills Database: A job request and occupational skills database used to assign the best qualified Reservist to the appropriate contributory support job.

Strategic Communications: A comprehensive strategic communications plan that is used to communicate with the Program's clients, members, stakeholders, and partners.

Interactive Training CDs, Videos & Manuals: High-quality CDs, videos, and manuals are used to train and indoctrinate individuals unfamiliar with the Program.

STE: The Program's "Best Practices" are transferred to other Echelon II commands via the Reserve Science, Technology, & Engineering (STE) consortium.



Providing Innovative Support to the Fleet Today



Y2K

SPAWAR assigned Naval Reservists to ensure the Navy and Marine Corps' more than 25,000 IT systems were ready for the year 2000.

Photo by YN1 Kevin Valdez



Operation Enduring Freedom

Reservists manned SPAWAR's Special Operations Center to ensure all C4ISR systems engaged in both Gulf Wars were maintained in their utmost readiness condition.

Photo by SPAWAR

SPAWAR's confidence in assigning new missions to its Reserve Program is based on past performance.

9/11

SPAWAR Reservists coordinated the C4ISR installs in the Navy Operations Centers at the Pentagon after the 9/11 terrorist attack.

Photo by R. D.



Keeping the Fleet Connected

In addition to supporting the normal five Fleet Support Team programs for the CSG's and ESG's, SPAWAR Reservists have been called upon to respond to emergent needs such as Y2K, rebuilding the Pentagon's Navy Operations Center (destroyed during the 9/11 terrorist attack), and staffing SPAWAR's Special Operations Center during Operation Enduring Freedom and Operation Iraqi Freedom.

**Information to the Warfighter
at the Right Time and Right Place**

Supporting the Fleet with Innovation for Tomorrow

Evaluating Tomorrow's Technologies

To determine the potential value of future SPAWAR systems and technologies and to help make **Network Centric Warfare** a reality, SPAWAR Reservists are tapped to support several system development efforts, including the following CNO-sponsored projects:

Fleet Battle Experiment-Juliet (FBE-J)
Joint Warrior Interoperability Demonstration (JWID)
FORCEnet.



FORCEnet

Reservists demonstrating and assessing the human element of a FORCEnet multi-modal work station designed to integrate warriors, sensors, networks, command & control platforms, and weapons in the battlefield.

Photo by Janet Garrington



UGV

Reservists with knowledge and experience in robotics are playing a key role in training Explosive Ordnance Detachments and evaluating unmanned vehicles in a simulated battle environment, like the Unmanned Ground Vehicle (UGV).

Photo by EM1 (SS) Thomas Hoover

Reservists are an integral part of the FORCEnet effort, which is a key enabler towards making the NAVAL POWER 21 concept a reality.



JWID

As Battle Commander of a five-nation coalition force, CAPT Jim Cain, USNR, is demonstrating and testing the interoperability of new and emerging C4ISR & IT technologies (in a simulated warfighting environment using a global wide-area network) that may be used by the U.S. and its Allies in the near future. SPAWAR Reservists make up 90 percent of the JWID officer ranks.

Photo by Janet Garrington



FBE-J

During **Joint Exercise Millennium Challenge**, Reservists experimented with innovative operational concepts such as Naval Simulation Systems and the Maritime Planning Process designed to enhance the warfighter's tactical planning capabilities.

Photo by EM1 (SS) Thomas Hoover

An Opportunity

MAKING A DIFFERENCE

An Innovative Approach to Serving the Fleet

On **Monday morning**, Tom Hoover, an R&D Engineer for Loral and Reserve Electricians Mate First Class Petty Officer, receives a phone call from SPAWAR's **CONVAL** Program Manager, CDR Eric Billies, asking him if he could break away from work within the next week to be the technical lead in verifying the Functional Interface Diagrams of the C4ISR systems aboard the **USS CONSTELLATION (CV-64)** before it deploys (two months early) to the Gulf in support of **Operation Iraqi Freedom**. Petty Officer Hoover accepts the duty assignment and the challenge of pulling together a team of six qualified petty officers in a matter of days.

After finishing his coffee and contemplating the logistics of such an effort, EM1 Hoover logs onto his computer; enters SPAWAR's Intranet, the **VPO**; and creates a list of prospects. Using the **On-line Skills Database**, he identifies all of the **CONVAL** team members within the five Reserve units that are assigned to Fleet Support Team Three that supports the **USS Constellation Strike Group**.

EM1 Hoover then e-mails his requirements and a 20-person prospect list to the **Reserve Program Office (RPO)** in San Diego and asks them to call each candidate to determine his/her availability. By the end of the day, six Sailors from five separate Reserve units agree to help. The RPO directs each member to submit an AT order request via the **Navy Order Writing System (NOWS)**. Each sailor can be mobilized at a moment's notice, because they were precertified for active duty earlier in the year.

By **early Wednesday morning**, the Commanding Officers have approved the orders and the **RPO** is busy requesting airline reservations for four Reservists outside of San Diego.

By **1600 on Wednesday**, the **RPO** notifies the **CONVAL** team to print out their orders and electronic airline tickets from **NOWS** and reminds them to bring their **CONVAL Qualification Card** and review the interactive **CONVAL training video** on Disc 2 of their **Program Familiarization CD Binder**.

On **Thursday morning**, CDR Billies calls EM1 Hoover to ask him to attend the **N6 Brief** on **CONVAL** at 1500 that afternoon. Meanwhile, the rest of the team is driving or flying to San Diego to report for duty the next morning.

At **0700 on Friday morning**, EM1 Hoover and the rest of his **CONVAL** team report aboard the **USS CONSTELLATION** for duty to begin a two-week effort to ensure the configuration of its **C4ISR** and **IT** systems are well documented before the carrier heads to the Iraqi war within the next three weeks for an unspecified period of time.

Enjoying the Journey

The success of the SPAWAR Program is based on performance of its Reservists who have a **passion for excellence** and **enjoy** what they do in the Reserves.

The Program engages itself with a sharp focus on the customer, the Fleet, to determine **what** needs to be done. Then, well-defined training and processes are documented and communicated to the Reservists.

SPAWAR Reservists have the freedom to choose **where** they want to make a contribution based on their desire, skills, passion, availability, and so on. They have the liberty to pick and fulfill an existing mission or to create a new mission within the boundaries that have been established by the gaining command.

The Reservists are also free to define **how** and **when** they can best accomplish their objectives. They are given the requisite knowledge and tools to perform their jobs well, within the highest standards of quality.

Whenever a Sailor is given the freedom to choose the mission he/she wants to own and solve, and is given the requisite resources to define the solution, the possibilities are endless!

The Fleet Defines a Job Well Done

When defining the value of a Reserve Program, one must examine feedback received from its end customer, the Fleet.

“SPAWAR’s approach of refocusing the model of the Reserve mission to provide direct support to the Fleet, at no cost to units supported, is clearly a way to ensure success of the warfighter.”

**CAPT Ronald Thomas
COMPHIBRON Seven**

The SPAWAR Reserve Program is looking for innovative and professional men and women with IT knowledge and experience.

**Please contact our
SPAWAR Reserve Program Office at
www.spawar.navy.mil or (619) 524-7349.**