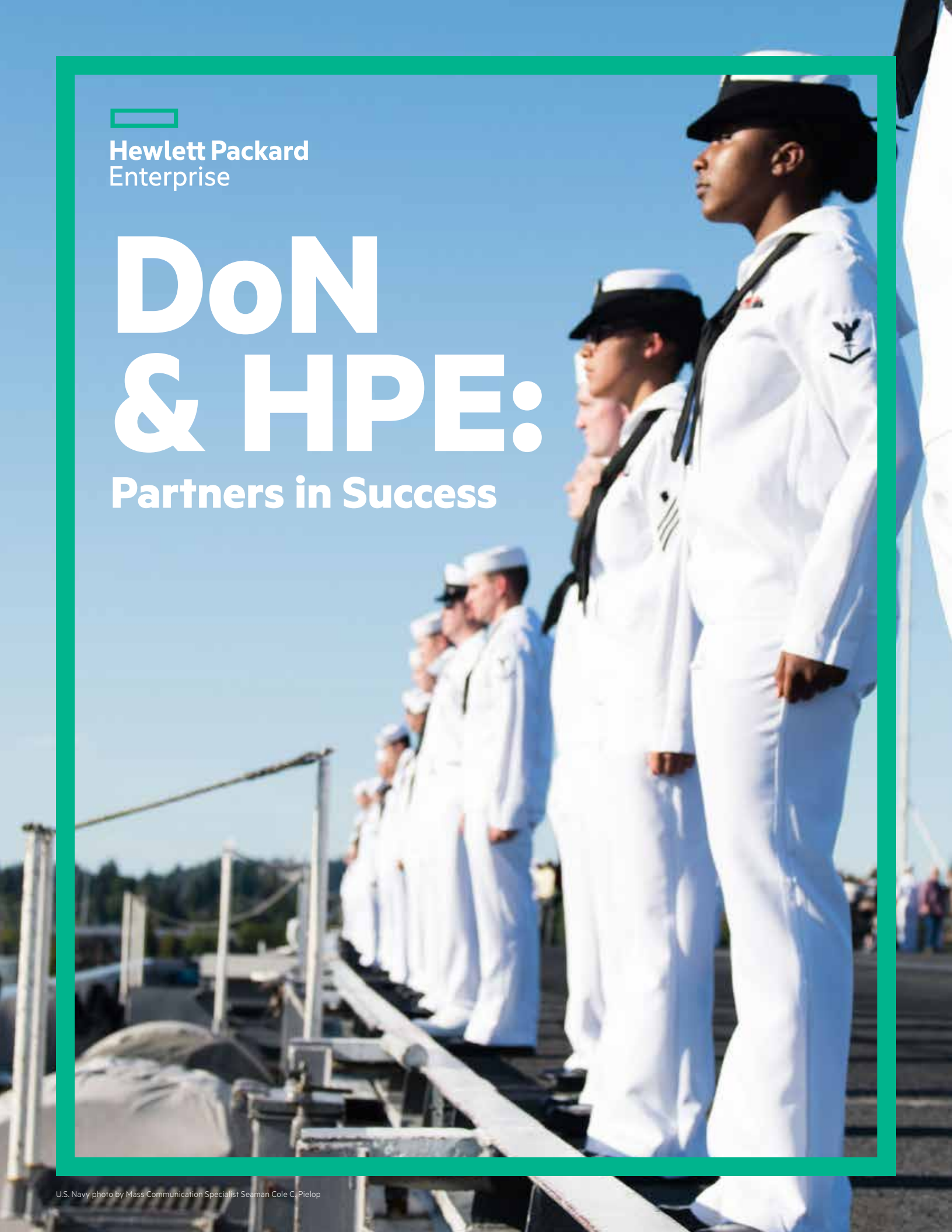


**Hewlett Packard  
Enterprise**

# DoN & HPE:

**Partners in Success**





U.S. Navy photo by Mass Communication Specialist 2nd Class Adam Austin



## Our Commitment

At HPE, our relationship with the Department of the Navy goes beyond our daily efforts to support those who depend on the NMCI network. In that spirit, I was honored to attend the Lone Sailor Awards Dinner at the National Building Museum on September 14. The Lone Sailor Awards Dinner is a wonderful event honoring veterans who have distinguished themselves by drawing upon their military experience to become successful in their subsequent careers and lives, while exemplifying the core values of honor, courage and commitment. It was a tremendous night, and the stories of the honorees were inspirational. One honoree, John Glenn, made history when he circled the Earth 52 years ago. Likewise, NMCI was also a first-of-its kind network when we worked together to create it more than 15 years ago. It is an honor to continue partnering with the Department of the Navy to make this network the very best it can be.

This report provides a synopsis of relevant NGEN activity. It includes significant milestones from both recent and upcoming activities. Please email comments or suggestions to me at: [NGENCommunications@hpe.com](mailto:NGENCommunications@hpe.com).

Very respectfully,

A handwritten signature in black ink that reads "Denby Starling". The signature is written in a cursive, flowing style.

H. Denby Starling II  
Vice President and Account Executive  
Navy and Marine Corps Accounts  
Hewlett Packard Enterprise Services U.S. Public Sector

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# Enterprise services





# Enhancing access for users

## Migration to Exchange 2013 provides better mobile experience

In an effort to streamline and modernize the Navy's email environment, HPE is in the process of migrating NMCI to Microsoft Exchange 2013. As a direct result of the upgrade, the Navy will enjoy a more streamlined messaging solution that requires a smaller server footprint. NMCI end users who access their email via Outlook Web Access will notice upgrades when the migration is completed.

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The project is currently in the engineering phase and is expected to be completed prior to July 2018.

### **Exchange 2013 Benefits:**

- Server consolidation simplifies Domain Name Space (DNS) planning, load balancing, improved recovery times
- Storage improvements
- New Exchange Administration Center (EAC), the web-based all-in-one management console
- Enhanced List View removes key limitations that existed in the previous Exchange Control Panel
- New monitoring and alerting engine built into the product
- Public Folders are migrated to a mailbox configuration rather than a proprietary database configuration that allows for better replication and access by the end user

### **End user Outlook Web Access (OWA) enhancements**

- Updated, user-friendly design
- Access to better, integrated tools: Bing maps, suggested appointments and action items
- Offline Support – Users can use Outlook Web App (OWA) when not connected to the web
- Optimized views for tablets and smartphones
- Multiple calendar viewing options





U.S. Navy photo by Mass Communication Specialist 3rd Class Justin R. Pacheco

# Reducing data centers by a third

## Navy data center consolidation efforts to yield substantial cost savings

Together with the Navy, HPE is working to consolidate 21 data centers into 14. This effort is part of Navy's Data Center Consolidation (DCC) strategy to maximize cost savings and avoidance, increase efficiency and standardization of Navy data center operations, and increase the Navy's data center cybersecurity posture.

Reducing the Navy's physical data center footprint allows them to reduce maintenance costs. Additionally, by introducing virtualization in the remaining data centers, the Navy is able to realign resources according to requirements, which saves money in terms of space optimization and computing power to run systems efficiently.

### **Cost savings achieved through:**

- Reduced maintenance and equipment requirements
- Decreased power and cooling costs





# Improvements to predictive analysis

Upgrades to BOSS mean better reporting, data visibility and alignment to the ITIL processes

The Business and Operational Support System (BOSS) recently underwent an upgrade to provide better reporting capabilities and additional data sources aligned to Information Technology Infrastructure Library (ITIL) processes. Specifically, the project included upgrades to Business Objects version 4.0, system integration and Oracle databases.



It also standardizes data governance aligning NGEN contract data and specifications to the ITIL best practices and process frameworks. This allows service managers the ability to provide effective predictive analysis to reduce risks and make improvements to processes to optimize service.

## Maritime operation centers at Third Fleet and Fleet Forces commands receive high marks

In an effort to ensure the Navy maintains critical communications capabilities during a real-world crisis, the HPE team recently completed successful testing of the Maritime Operations Centers (MOCs) belonging to the Third Fleet and Fleet Forces commands. During the testing, the HPE team simulated multiple scenarios within the live NMCI environment to ensure both equipment and people responded correctly. One scenario included likely issues associated with a Category 3 hurricane's impact on the Norfolk, Va. area. The team tested the ability of the MOCs to maintain the ability to send and receive information as the storm approached.

The MOC is a core Navy initiative to standardize technology, operational processes and tactical procedures into a common framework to enable Navy commanders to operate effectively in a joint force maritime environment. The initiative aligns and standardizes interoperability between sister forces so they can synchronize cross-functional warfighting capabilities at the operational level.

# NMCI asset tracking gets new tools

HPE recently implemented improvements to the HPE Configuration Management System (CMS), which includes HPE's Universal Configuration Management Database (UCMD) and Universal Discovery (UD).

While the new release contains many enhancements, the highlight is an expanded enterprise-wide view of Navy hardware and software assets that enables the Navy to have the required asset visibility.

## Benefits at a glance:

- Expanded enterprise-wide view of Navy hardware and software assets
- Automatic discovery of IT infrastructure components
- Better integration with NMCI asset management, network management tools

The upgrade also includes a mechanism for the automatic discovery of IT infrastructure components, such as computers, network devices and composing relationships between them. This version of UCMD and UD also provide for better integration with the NMCI asset management function and other key network management tools.

## NMCI takes a fresh approach to data integration

Together with the Navy, HPE is taking a fresh approach to data integration on NMCI. HPE has selected Informatica's PowerCenter™ solution to help integrate the varied packaged applications, custom software, and legacy programs that live together on NMCI. This solution will facilitate the movement and integration of data between the many diverse solutions the Navy relies on every day.

The Integration and Data Movement (IDM) solution based on PowerCenter™ takes an innovative integration hub approach to integrating data sources and targets. It uses a publish-and-subscribe delivery model that provides integration flexibility for to both data set publishers and consumers.

### Additionally, the solution increases the operational efficiency of the NMCI environment by:

- **Eliminating existing custom point-to-point integrations.**
- **Centralizing and standardizing data management to reduce the cost of storing and managing data by up to 50 percent.**
- **Allowing end-to-end monitoring.**





# New Service Manager upgrade means more visibility, easier access

NMCI Operations Services migrated to a newer version of HPE's Service Manager (HPESM) software. The new version offers an improved user interface across modules. The newer version of HPESM also enables order to payment (OTP) capabilities and updates the Service Catalog module. NMCI contract technical representatives (CTRs) can also expect an enhanced request fulfillment experience with more visibility into ticket status.

HPESM is an Information Technology Infrastructure Library version 3 (ITILv3)-based resource that gives NMCI users and CTRs tools to manage their computers for better effectiveness and efficiency. It also provides IT personnel with details about important IT practices and provides comprehensive checklists, tasks and procedures that can be tailored to meet NMCI needs.

## Benefits at a glance:

- Improved user interface
- Order to payment (OTP) capabilities
- Better ticket status visibility



# Enterprise Virtual Infrastructure reduces data center footprint

As part of the refresh of the Enterprise Virtual Infrastructure (EVI), HPE is leveraging a converged infrastructure approach that allows for a reduced footprint, denser virtualization, less power and cooling requirements, and smaller data centers. While NMCI end users won't see a difference in their services, the Navy will enjoy reductions in data center consumption, cost for refresh, and licensing.

Going forward, there will be an add-on of additional features to further monitor and consolidate to improve operating efficiencies in the data center environment.

## Benefits to the Navy:

- Reduced data center footprint and power consumption
- Lower costs and licensing requirements
- Increased mobility of servers and server density
- Better server manageability and monitoring

## Browsing alternatives

Chrome and Firefox® provides flexibility to Navy users

HPE is currently executing two projects to deploy Google Chrome and Mozilla Firefox browsers to the classified or unclassified networks. This will provide NMCI users with flexibility and versatility in supporting user ability to browse a variety of websites and web portals. This browser refresh means users will have an alternative browser, with Internet Explorer remaining the primary browser for the network. The availability of two browsers can also be used to mitigate differences between networks for web applications installed to multiple Navy networks.



Firefox is a registered trademark of the Mozilla Foundation.



# Keeping the Navy connected, even while on the move

In order to accommodate emergency repairs to runways at Naval Air Station (NAS) Jacksonville without compromising training and readiness, the Navy recently temporarily shifted fixed wing operations from Jacksonville to NAS Cecil Field. To support this move, HPE partnered with the Navy to ensure the necessary IT connectivity would move with the impacted squadrons. Thanks to expert communication, teamwork, attention to detail and immediate issue resolution the transition was completed smoothly.

U.S. Navy photo by Mass Communication Specialist 2nd Class Christopher Brown

## NMCI moving to Windows 10

To support the Department of Defense's (DoD) effort to increase the military's cybersecurity posture while also streamlining IT environments and providing an opportunity to reduce costs, the Department of the Navy and HPE have begun to transition the more than 300,000 NMCI workstations and laptops from Microsoft's Windows versions 7 and 8 to Windows 10.

The Windows migration will leverage the Windows 10 Standard Desktop framework prepared by the Joint Secure Host Baseline working group. The framework is a preconfigured and security-hardened machine-ready image containing all the standards and policies required to ensure future upgrades are implemented in a consistent, predictable manner. Each service can tailor the framework to meet their specific needs. The Secure Host Baseline working group is co-led by The Defense Information Systems Agency and the National Security Agency.

A major benefit to the Windows 10 migration is the ability to quickly and securely implement updates to the operating system, without having to move to an entirely new version. Much like Apple's iOS platform, updates to Windows 10 will be provided by Microsoft on a routine basis. Once updates are available, they will be pushed out to NMCI workstations during normal maintenance windows, without interruption to end users.

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The project is currently scheduled to be completed in mid-2018.

### Benefits of the Windows 10 upgrade

- Increase DoD cybersecurity posture
- Reduced IT costs
- Streamlined DoD IT environment



# NGEN storage architecture is getting a redesign

As part of the Department of the Navy’s NGEN requirement of a storage architecture redesign, HPE recently completed a technical refresh of the Navy Marine Corps Intranet’s (NMCI) storage hardware and software infrastructure at the 32 NMCI Enterprise Data Centers. To complete the technical refresh, HPE leveraged NetApp’s Clustered Data On-Tap (cDOT) software. The benefit of this new operating system is that it allows adding or deleting physical hardware to the storage area network (SAN) without disconnecting it from the network—so as storage requirements increase, more hardware can be added and without taking users offline. The new hardware is also denser, using 40 percent fewer components and 30 percent less power.

There are now three types of users: business users (everyone not otherwise designated), users at Maritime Operations Centers (called MOC users) and VIP users. Below is a comparison of the H: drives and email storage before and after this upgrade. The business users will see their H: Drive end email storage increase by more than seven times the allocation at the start of NGEN:

	H: DRIVE		EMAIL	
	Before	Now	Before	Now
<b>Business User</b>	750MB	5GB	250MB	2GB
<b>MOC User</b>	750MB	10GB	250MB	6GB
<b>VIP User</b>	750MB	10GB	6MB	10GB

Users will also notice the amount of storage allocated to their Command Share (S: Drive) increase from 100mb/user to 2GB/user. Additionally, 1 terabyte public folders have been established for each command.



U.S. Navy photo by Mass Communication Specialist 2nd Class Eddie Harrison

The next phase of the project is the implementation of NetApp’s OnCommand Insight (OCI) solution. This phase will provide a “single pane of glass” for reporting on storage costs and will provide the Department of the Navy with the transparency needed to make business decisions involving performance and efficiency.

## Benefits at a glance

Implementation of Clustered Data On-Tap (cDOT) software has significant advantages:

- Reduced 35+ PB of raw storage down to 27 PB of raw storage
- Reduces storage cost per TB by up to 46%
- Allows for non-disruptive performance of storage maintenance, hardware lifecycle operations, and software upgrades
- Power and cooling requirements decreased by 30%

# NMCI is getting a (tech) makeover

As part of the continuous maintenance of NMCI, the Navy and HPE are working together to strategically roadmap equipment identified for refresh and to forecast hardware replacement that is in line with the industry standard and vendor end-of-support dates. This effort will allow HPE to refresh all hardware, routing, switches, and servers, before the end of their life cycle, preventing the loss of vendor support.



U.S. Navy photo by Mass Communication Specialist 2nd Class Christian Senyk

# Ensuring access to the most up-to-date software

To continue to ensure Sailors have access to the most up-to-date software and security on the network, HPE is upgrading our software delivery system, Radia, to version 9.1 in advance of the upcoming Windows 10 upgrade. Radia is the primary means for administrators to push new software and security patches to the network and allows the end user the ability to easily access and download software for their computer. This new upgrade will ensure compatibility with Windows 10 and continued functionality for software delivery to end users.



# Homeport is getting a new home!

NMCI's internal information portal, Homeport, is relocating from Plano, Texas to an existing NMCI data center in Norfolk, Va. Homeport serves as a single gateway for Department of the Navy personnel to access information, services, support and training resources for NGEN services. Relocating the portal to the NMCI Norfolk datacenter takes advantage of the existing robust security features of that site and is more consistent with the rest of the NMCI environment.

Once relocated, Homeport will reside within the DMZ. The DMZ is a portion of the NMCI network that houses services that can be accessed from both inside and outside of the NMCI enclave. The move, expected to be completed this fall, will be transparent to Homeport users. Also underway is upgrading the unclassified Homeport operating system to Windows 2008.

## Benefits at a glance:

- More robust security
- Consistent NMCI environment
- Reduced # of servers by 78%

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This initiative will be completed by summer 2017.



# Network services





# Accelerating NMCI

In response to end user feedback, the Navy and HPE have a major initiative underway to significantly speed up data flow on the NMCI network. The project is expected to be completed in July 2017 and will increase overall network traffic from a 1G speed to 10G. The first phase of the project is an assessment and upgrade of existing equipment in the larger NMCI data center locations. Once that is completed, the focus will move to the smaller server farms. In addition to faster network response times, NMCI end users will also see an enhanced Voice over Internet Protocol (VoIP) and video teleconferencing (VTC) experience.

## Benefits at a glance:

- 10X improvement on network speeds, resulting in faster network response times
- Enhanced VoIP and VTC experience

# NMCI welcomes legacy networks

The Navy and HPE recently started the transition of several key legacy IT networks into NMCI. Once fully transitioned, the networks will be able to take full advantage of the NMCI architecture, including the robust security posture. NMCI provides the Navy with improved performance and efficiency, data storage and recovery solutions, as well as the ability to leverage industry best ITSM processes that provide the Navy with enhanced command and control.

## The networks set to transition to NMCI are:

- Office of Naval Intelligence – NIPR and SIPR
- Naval Sea Systems Command's (NAVSEA) JEODNET
- NAVSEA's Supervisor of Shipbuilding, Conversion and Repair (SUPSHIP) networks (Bath, Groton, Newport News, Gulf Coast)
- Naval Education and Training Command's (NETC) TRANET – Transport services only

Transitioning legacy networks into NMCI was directed by the Chief of Naval Operations and the Navy Enterprise Information Governance Board.

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The legacy network transition is expected to be completed in March 2018, with the exception of the ONI SIPR, which will be completed in May 2018.





# Full speed ahead!

## Effort underway to accelerate NMCI traffic

NMCI users will see a marked improvement in the speed of network traffic as HPE completes an enterprise-wide wide area network acceleration initiative. Instead of adding additional costly hardware, this initiative optimizes network speeds by reducing bandwidth usage while also accelerating applications.

**Bandwidth reduction efforts have already shown a more than 50% traffic reduction across the NMCI network.**

Put another way, if NMCI was a freeway this initiative has effectively doubled the amount of available lanes while significantly reducing the number of vehicles. That reduction in traffic frees up bandwidth for mission critical applications and provides a 4X increase in network response times.

Making better use of existing bandwidth also allows the Department of the Navy defer capacity investments, freeing up funding for other investments.

### **Benefits at a glance:**

- 25 terabyte reduction in NMCI network traffic
- 51% reduction in bandwidth
- 4X increase in end user network response time
- Deferred capacity investments





# NMCI virtual private networks get speed boost

In an effort to provide a better end user experience without compromising security, HPE recently completed an upgrade of the VPN hardware on the NMCI network. A VPN, or virtual private network, is a method used to add security and privacy to the data NMCI users share both inside outside of the Navy's largest network. All NMCI traffic runs through a VPN, and the hardware was identified for the upgrade when it became clear it would not support desired traffic speeds and was actually creating a network traffic roadblock.

**Upgrading the hardware has sped up VPN traffic by 900%, resulting in the desired 10G speed.**

The next phase of the project is to eliminate the VPNs completely. Technology advancements have allowed existing outer routers to virtually assume the VPN function. This will decrease the technology footprint and allow for the transfer of functionality to another existing system without loss of security controls, all while still maintaining network speed.

## **Benefits at a glance:**

- VPN traffic increased by 900% (1G to 10G)
- Eventual removal of VPNs and movement of functionality to outer routers
- No change in security controls or network speed



# Wireless LAN updates provide enhanced mobility

A change to the wireless LAN solution will provide additional mobile capability to NMCI users. The new solution, provided by Aruba, is TAA compliant and provides a larger bandwidth capability. The new solution also provides better central management and visibility. The new solution offers bridging, utilizing external antennas to join two networks together where OSP is not an option.

Future wireless enhancements include a beaconing capability that provides the ability to automatically locate and turn off cell phones within a classified space. Wireless orders will also soon come with built-in guest wireless capabilities. And finally, a new “open space” CLIN is being added that will allow wireless to be ordered without site surveys for open spaces up to 10,000 square feet.

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These future capabilities should be available in early 2017.

## Benefits at a glance:

- Increased mobility, better bandwidth
- Enhanced central management and visibility
- Potential infrastructure savings

## Future enhancements for 2017:

- Beaconing – ability to automatically locate/turn off cell phones in classified spaces
- Built-in guest wireless capability
- “Open space” CLINs



U.S. Navy photo by Mass Communication Specialist 1st Class Timothy Walter

# Empowering Navy Recruiters

## Next-gen detachable laptops and technology enhance functionality for recruiters

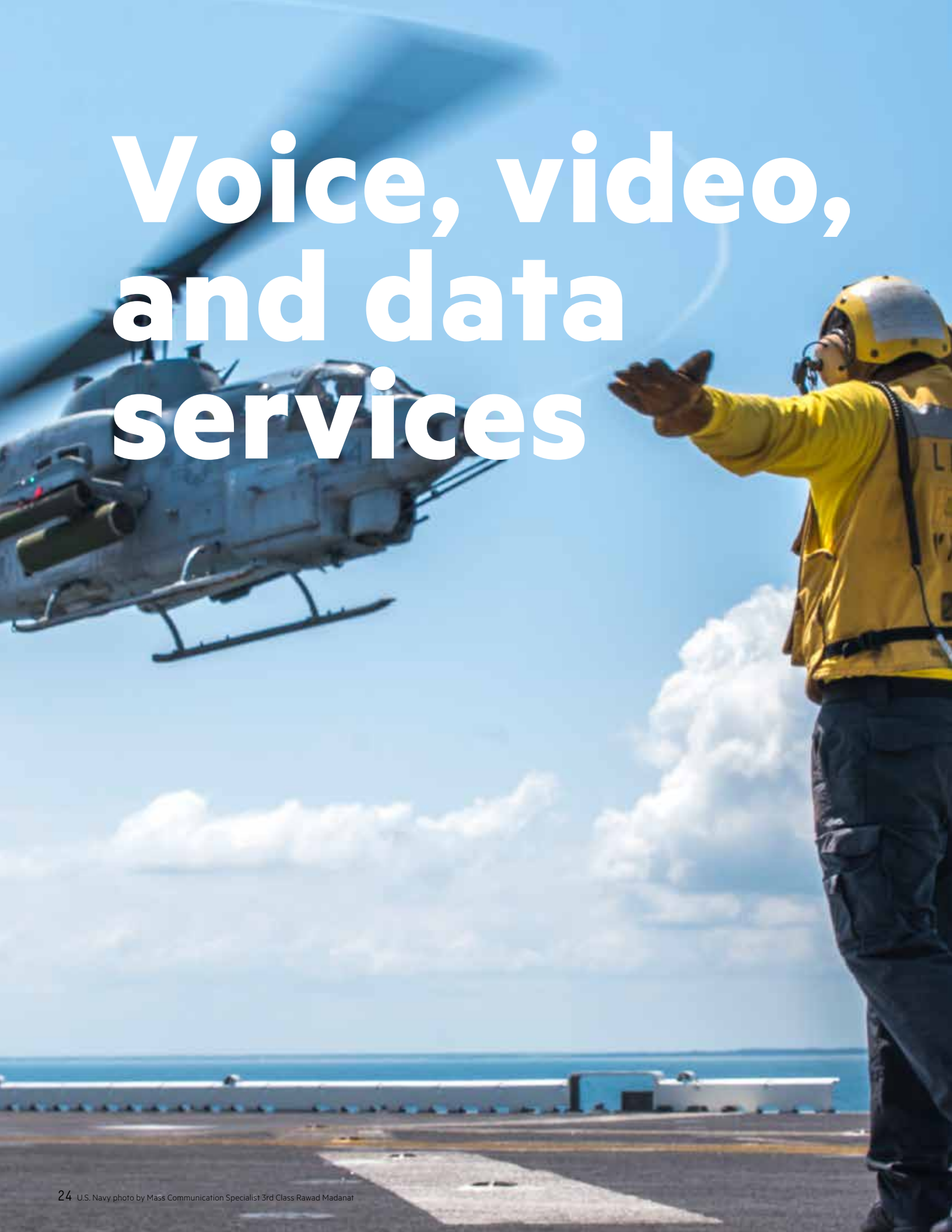
The goal of the Mobile Recruiter Initiative (MRI) is to put state-of-the-art technology in the hands of recruiters to not only improve their workflows out in the field, but to make a better initial impression on today's tech-savvy recruits. This includes mobile scanners, printers and fingerprint scanners. Throughout this initiative, HPE gathered user feedback to provide continuous improvement. To that end, the next generation of the new Mobile Recruiter Initiative (MRI) is underway for the Navy Recruiting Command. HPE began deploying the next generation solution in April 2016, empowering recruiters with enhanced functionality and next-gen technology designed to streamline efficiency in the field.

The new detachable laptops transition into tablets, allowing for ease of transport and include the touchscreen capabilities of the Windows 8.1 operating system.

In addition, recruiters now connect to the Navy Marine Corps Intranet (NMCI), resulting in an additional layer of data security, while still maintaining the flexibility of operating in a dot com environment. To date, 4,970 new detachable laptops have been procured, imaged and delivered to 27 Navy Recruiting Districts, and all recruiters are scheduled to have the new MRI V2 devices in their hands by mid-September.



# Voice, video, and data services





# Connecting Sailors

Expanded Voice over Internet Protocol services provide greater flexibility

Together with the Navy, HPE is working to expand the NMCI Voice over Internet Protocol (VoIP) services to increase the options and services available to Sailors at the Washington Navy Yard, Norfolk, Va., Bremerton, Wash. and Pearl Harbor. VoIP allows NMCI users to make phone calls over the NMCI network.



**The benefits of VoIP include cost savings over conventional phone lines, increased flexibility due to the portability of VoIP and a dedicated phone line for each user, regardless of location.**



The current enhancements are being deployed in a phased approach, with the first phase providing a faster delivery of services for new users at regional locations. Sites will now have the ability to add a maximum of 5,000 users per site via an orderable CLIN 9, rather than the previous process of ordering a CLIN 5000.



U.S. Navy photo by Photographer's Mate 3rd Class Milosz Reterski

# Big changes coming to NMCI Video Teleconferencing Services

To better meet the mission challenges of the Navy, HPE is enhancing the available NMCI video teleconferencing (VTC) services. Leveraging NMCI VTC services enables individuals in distant geographical locations to participate in meetings without a need to travel, saving time and money.

A new custom VTC service is also being developed. We are working to expand the VTC CLIN offering (CLIN 14) to include larger pedestal systems that address a significant amount of the current custom requirements. Completion of this deal is expected in FY17.

The existing custom VTC option via the CLIN 5000 process provides a full, immersive audio visual experience for those in the room and on the VTC call. This option is ideally suited for large conference rooms, executive briefing rooms and large auditoriums and includes the option to integrate multi-media devices such as DVD, Blu-ray, and cable television. The CLIN includes everything you will need for the custom VTC experience, including furniture, large display screens and surround sound with sound soak walls that help to contain the audio.

To provide a faster, consistent and more robust experience for all VTC users, the HPE team is also upgrading the underlying VTC infrastructure.

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These upgrades should be complete by fall 2016.

## **Benefits of the custom VTC option:**

- Full, immersive A/V experience
- Multi-media integration
- Turn-key service

## **Benefits of the VTC infrastructure upgrades:**

- Faster, consistent and more robust VTC experience





# IA security services





# Enhancing secure collaboration

In a key step toward complying with the Joint Information Environment goal, the Navy and HPE will soon kick off a DMZ modernization project focused on enhancing security features. The DMZ is a portion of the NMCI network that houses services that can be accessed from both inside and outside of the NMCI enclave. The Defense Information Systems Agency's JIE goal is to optimize "the use of the Department of Defense's IT assets by converging communications, computing and enterprise services into a single joint

**As part of the modernization project, HPE reviewed submissions from multiple vendors to ensure the Navy received the right solution from the right company.**

platform" that can be leveraged across all DoD. These efforts are designed to reduce costs and risks and enhance collaboration across the services.

Upgrades to the DMZ include improved threat detection, next generation firewalls, better traffic inspection and improved monitoring.

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The DMZ modernization project kicks off in the fall of 2016 and is expected to be completed in spring 2017.

## **Benefits at a glance:**

- Supports JIE efforts
- Improved vertical and lateral threat detection, prevention, and monitoring
- New tools that allow inspection of encrypted traffic
- Next generation firewall that allows claimants to review and make recommendations on their application-specific configuration.
- Additional security inspections for databases and web traffic





U.S. Navy photo by John F. Williams

## Host Based Security System upgrade

To ensure security and compliance with DoD mandates, the Navy and HPE are collaborating to upgrade the Host Based Security System (HBSS). To provide this upgrade, HPE is modernizing the HBSS physical and virtual platforms to allow for 5 years of upgrades to both the HBSS application and the operating system (Server 2012). This not only allows NMCI to operate at DISA-mandated HBSS base configuration levels and security readiness, but the enhanced infrastructure also provides improved system performance.

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Next steps for this project include an upgrade to accommodate the Windows 10 implementation in November 2016.

### Benefits at a glance:

- Improved security readiness
- Enhanced system performance



## Improving security event management

In preparation for the end of the product life cycle of the current NMCI Security Information Manager in 2017, HPE has engineered the ArcSight solution to enhance the Navy's security capabilities. HPE ArcSight combines Security Information and Event Management (SIEM), log management, user activity monitoring and DNS malware analysis to stop threats and mitigate risks across networks by correlating system events, information flow, and user and applications activity in near-real-time.

The SIEM collects, aggregates, analyzes, and correlates events for 30 days of data that occur on designated devices. This upgrade will reduce NMCI's server footprint, as fewer systems are required for the ArcSight deployment and all its components support virtualization.



The ArcSight SIEM solution displays information regarding the security posture of the enterprise. With the current system, analysts act on alerts via email in the order they arrive without prioritization. ArcSight alerts use threat calculation to determine prioritization and ensure critical incidents are worked first. ArcSight prioritizes according to risk, exposed vulnerabilities, and criticality of assets involved.

The high-level design and solutioning are complete for the Navy ArcSight solution, with formal testing and verification scheduled pending approval.

### Benefits at a glance:

- Enhanced network security with HPE ArcSight solution
- Planned reduction of NMCI's server footprint
- Improved visibility and prioritization of critical incidents

# Fortify-as-a-Service

In 2014, HPE, in collaboration with the U.S. Navy, conducted a proof of concept (POC) on a U.S. Navy application using HPE Fortify software automated scanning tools combined with our remediation and transformation services. The compiled scan results identified numerous potential application security vulnerabilities. HPE performed the analysis and interpretation of the scan results and developed an Application Security Remediation Plan.

This solution will soon be available on the NMCI network and complies with applicable U.S. Navy guidance and regulations.

## Benefits of Fortify-as-a-Service

- Allows for application testing before deployment
- Increased applications security

# Upgrades to provide increased network security on NMCI

In an effort to provide even better protection of Navy data and systems, HPE and the Navy are deploying an upgrade to the existing Network Intrusion Prevention System (NIPS) sensor grid as well as to the network security software. By providing new 10 Gigabit Ethernet (10GE) hardware, HPE was able to increase the throughput and consolidate the number of sensors in the grid, which resulted in a better handling of network flow.



## Benefits at a glance:

- Upgraded 10GE hardware increased throughput and improved handling of network flow
- Enhanced detection capability
- Increased security against network-based threats





# Tanium proof of concept

To allow the Navy to evaluate a new security product, HPE recently built out a functional environment in the lab and production and installed Tanium software. Additionally, the HPE team completed Security Technical Implementation Guide (STIG) hardening and mitigated vulnerabilities.

The Navy is looking to the Tanium software to help them better discover exposure to immediate threat.

The Tanium solution provides a real-time view that allows cybersecurity teams to see what's happening, as it's happening, allowing them to make better decisions and quickly take corrective action.







# NMCI continues to increase privileged credential protection

As part of the effort to continually enhance network security and increase protection of privileged credentials, the Navy and HPE are rolling out a privileged account management (PAM) solution that will replace single factor authentication on network devices with a more secure two-factor authentication. While most NMCI users leverage common access cards or alternate token authentication to log in to their workstations or servers, many network devices utilize a single factor authentication.




The PAM solution will also allow for the resetting of the NTLM hash (a vulnerability with pass-the-hash attacks) for privileged users on Windows systems and the monitoring of privileged access that traverses the system. In concert with the PAM project, we are designing a role-based access control system that will segregate privileged user access so that each privileged account can only manage a single system type. This will prevent privileged users from using a system to leap frog to another system to gain unauthorized access. This means that if the credential is compromised, the “bad actor” will only be able to gain access to a single system type.



# Enhanced capabilities coming for deployed units

The ability to access NMCI resources anytime, anywhere using the Deployable Site Transport Boundary (DSTB) solutions is getting even better. The DSTB solution provides Navy and Marine Corps users with a stand-alone, mobile transport boundary to allow direct connectivity into the NMCI network.



**In response to emerging requirements from customers like Commander, Pacific Fleet, HPE is expanding what the DSTB can do in the field.**

Beginning in early 2017, DSTB units will be authorized to connect to file servers either in the field or back in the office, giving end users access to critical information.

The new DSTB will also be authorized to connect to NMCI communities of interest (COIs), such as the NNPI and NETC COIs. Additionally, the DSTB units will now be able to support wireless LAN connectivity, video teleconferencing as well as scan-to-file capability. HPE has also worked to shorten the time it takes to re-home a DSTB to less than two weeks.

## **Benefits at a glance:**

- Expanded capabilities and authorization, including wireless LAN, COI connectivity and VTC ability
- Faster delivery of DSTB units, shortened re-homing time
- Ability to take and connect to file shares and other servers



# Supporting the Navy's Fleet Week event

In June 2016, Navy Fleet Week support personnel leveraged the NMCI Deployable Site Transport Boundary (DSTB) solution to support operations while in New York City. The DSTB solution is a portable container that packages the hardware, routers, power supply, virtual private network capability and direct connectivity required to securely connect to the NMCI network from anywhere the mission takes Sailors and Marines.

**Fleet Week is the annual week-long celebration of the sea services that features more than 100 public events, including ship tours and parades, and brings in more than 68,000 visitors.**

For the third year in a row the DSTB solution enabled Navy personnel stay connected while planning and executing events throughout the week in New York City.





U.S. Navy photo by Mass Communication Specialist 1st Class Charles E. White

# Enhanced security through network access control

The Navy will soon have an additional layer of security with Enhanced Network Access Control (ENAC), which will provide greater visibility and additional details about what devices are connecting to the network. ENAC is a suite of collective technologies that provide three functions for the Navy. These three functions of access control consist of device authentication, device policy assessment, and device policy remediation.

One way to characterize the goal of ENAC is that it hardens the network wall plate; that is, it checks that devices connecting to the network are authenticated and compliant with policy prior to allowing access to network resources. Non-compliant devices are remediated leveraging existing tools. In other words, if a user who hasn't connected to the network in a while tries to do so, this tool will check their device to ensure it's up to date with any system updates that are required before the user can access sensitive systems.

This tool will improve the Navy's overall security posture by preventing non-authenticated devices from connecting to the network and identifying and remediating approved devices that have a weakened security profile. It also provides a tool to assist with identification and eradication of operating systems and applications no longer approved for use.

## Benefits at a glance:

- Tool will provide device authentication, device policy assessment, and device policy remediation
- Greater visibility and additional details about what devices are connecting to the network
- Identification and remediation of approved devices that have a weakened security profile
- Improved network security posture

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Upon receiving ATO, ENAC will be implemented in the spring of 2017.





# A new cyber defense solution for the Navy's most critical systems

To continue to ensure the highest possible level of security for the Active Directory environment, the Navy and HPE are developing a new cyber defense solution. Active Directory provides central authentication and authorization services for the Navy's Windows-based computers. It also allows administrators to assign policies, deploy software, and apply critical updates to the entire Navy organization. Active Directory stores information and settings relating to an NMCI in a central, organized, accessible database.

Currently in development, the new Red Forest solution protects the Navy's most critical systems from unauthorized access. Accessible only by authorized administrative users with alt tokens on designated workstations located in Network Operation Centers (NOCs), the Red Forest architecture represents a significant boost in physical and network security.

The solution currently resides in the lab, where it was successfully tested in August 2016 by the Navy's Red Team. They attempted to gain access to the system through a lower level workstation, but could not elevate their permission to access it.

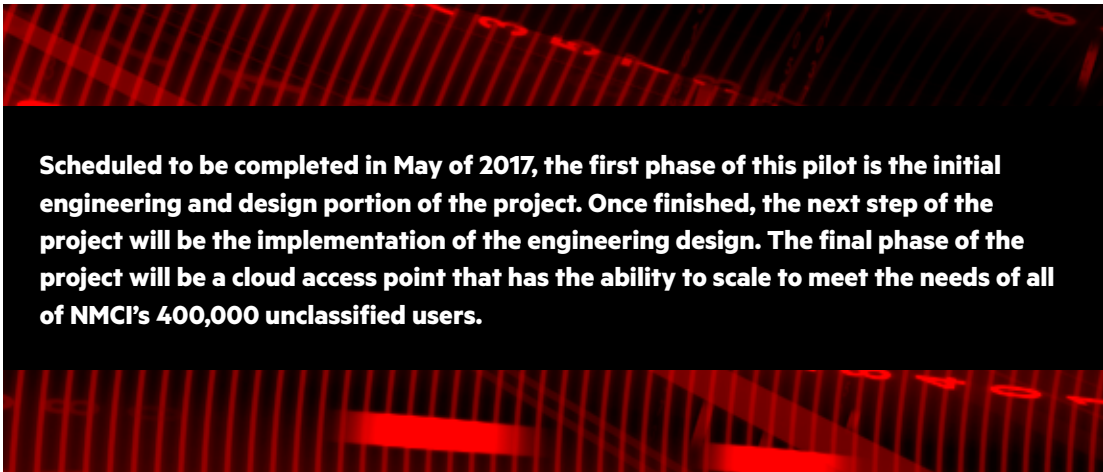


## Solution at a glance:

- Restrict logons and credential exposure
- Allow only authorized people and workstations to conduct administrative activities
- Restrict high-level access to essential administrative roles

# Creating a secure path to the cloud

The Department of the Navy and HPE have taken one of the first steps in realizing the benefits of cloud computing. The initial design phase of the Cloud Access Point pilot kicked off in July 2016 and is expected to ultimately support up to 6,000 users. The cloud access point is the security conduit through which the Department of Defense is connecting to the commercial cloud. This effort will enable the Navy to take advantage of commercial cloud solutions such as Microsoft Office 365.



**Scheduled to be completed in May of 2017, the first phase of this pilot is the initial engineering and design portion of the project. Once finished, the next step of the project will be the implementation of the engineering design. The final phase of the project will be a cloud access point that has the ability to scale to meet the needs of all of NMCI's 400,000 unclassified users.**


Throughout the initial phase, HPE will be leveraging agile development methodology. Agile development describes a set of principles under which requirements and solutions evolve through the collaborative effort of self-organizing cross-functional teams. It promotes adaptive planning, evolutionary development, early delivery, and continuous improvement, and it encourages rapid and flexible response to change. Leveraging this methodology allowed HPE to cut the overall initial timeline in half.

## **Benefits at a glance:**

- Positions the Navy to securely take advantage of industry-leading cloud technologies such as Microsoft Office 365, SaaS, IaaS and PaaS
- Provides end users access to the latest workplace tools and applications







# End user computing services



# Putting Android and iOS devices in the hands of Sailors

To provide Navy personnel with new and enhanced mobile capabilities while continuing to provide data security, HPE and the Navy recently transitioned users from 20,000 BlackBerry devices to 27,460 Android and iOS devices. The BES 5 environment that supported the BlackBerry devices has been decommissioned. The new mobile management solution enables users to access a host of new applications that deliver enhanced functionality.

The new mobile management solution features a “secure container,” which is designed to keep Navy data secure. However, users can also use the devices for personal communication and activities, as long as they remain within Navy guidelines. The new devices also support improved common access card (CAC) readers and CAC sleds so that Sailors can easily sign and encrypt emails.

The Navy and HPE are also working on a content management application as well as the addition of Microsoft Office and Adobe PDF viewers that will be added to the applications suite. The new devices and mobile management solution improve the end user experience by providing greater and more convenient access to applications.

## Benefits at a glance:

- Access to new mobile applications, enhanced functionality
- New “secure container” keeps Navy data secure, while allowing for personal communications use
- Improved CAC readers/sleds

# 20,000

Number of BlackBerry devices that were transitioned from the U.S. Navy in favor of 25,000 Android and iOS devices



# NSA-sponsored program brings potential cost savings to NMCI

Together with the Navy, HPE will soon be taking advantage of solutions from National Security Agency that will enhance security on the classified NMCI network while also reducing costs and increasing flexibility. The NSA's Commercial Solutions for Classified (CSfC) is a new way of delivering secure solutions leveraging industry innovation to deliver IA solutions quickly. It is founded on the principle that properly configured, layered solutions can provide adequate protection of classified data in a variety of different applications. NSA has developed, approved and published solution-level specifications called Capability Packages (CPs), and works with technical communities from across industry, governments, and academia to develop and publish product-level requirements in US Government Protection Profiles (PPs). CPs for Mobile Access (MA), Virtual Private Network (VPN), Campus Wireless LAN (WLAN), and Data at Rest (DAR) solutions are now published by the NSA.

The NMCI CSfC solution will meet the NSA's multi-vendor requirement and support the pairing and interoperability considerations with the vendors of the inner and outer VPN pairs, scalability requirements, future capabilities desired, and other enterprise considerations. Rollout of the CSfC solution set will be done in phases. The initial phase will focus primarily on the VPN CP solutions.





Configuration of layered VPNs will provide the same security benefits as the TACLANes — at a reduced cost. Using the commercially available VPNs instead of TACLANes allows NMCI to leverage faster and cheaper hardware. Additionally, in an enterprise CSfC environment, VPN Key management is more efficient and streamlined than Key management of Type-1 devices.

NMCI will be one of the first DoD environments to engineer and certify CSfC Solutions on an enterprise level; leveraging design criteria, products, and vendors approved by the NSA. CSfC Solutions require the creation of a new network segment between Classified and Unclassified, which is referred to as the Gray Network. This Gray Network will be completely isolated and have its own enterprise level management, automation, identity services, and security constructs.

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This project is expected to be completed by fall 2017.

### **Benefits at a glance:**

- Same level of security, but with more flexibility
- Operationalizing the enterprise allows for future cost savings
- Ability to install classified computers in more locations, without compromising security
- Cost savings from installing and managing PDS and/or Type-1 devices at end user locations





U.S. Navy photo by Mass Communication Specialist 2nd Class Nathan Wilkes

## **Fostering innovation and partnership**

### **Innovation Cell Challenge yields Enhance Virtual Desktop improvements**

In an effort to foster industry innovation for the Department of the Navy's enterprise IT, the Program Executive Office for Enterprise Information Systems (PEO EIS) created the Innovation Cell (IC) initiative. The IC provides a forum for industry to present ideas and engage collaboratively so they may present solutions that improve the Navy's information systems environment. Each year, the IC issues enterprise challenges to vendors and asks them to respond by outlining innovative solutions that accelerate speed to market and deliver new capabilities to users.



To support this Navy initiative, HPE formed a dedicated team to work with the Navy on implementing the selected solutions from the enterprise challenges. As a result, the team was able to streamline communications, enhance transparency, and more rapidly acquire and introduce mature technologies that meet the Navy's current and future needs.

One of the first challenges was the Enhanced Virtual Desktop. The Enhanced Virtual Desktop (EVD) project is designed to improve the current hosted virtual desktop (HVD) environment. The overall goal of EVD is to enhance the user experience with greater reliability and performance.

To meet the EVD challenge, HPE is upgrading the underlying software and firmware to provide increased performance and reliability.

Additionally, new caching technologies provide a snappier user interface to the virtual desktop. The upgrade also increases the solution reach by enabling CAC-enabled Android tablets and iPads to connect to the virtualized desktops and applications.

Future enhancements include extending access and functionality to tablets and mobile phones. The platform could be leveraged to support other DoD initiatives like DMZ v2 and the Joint Information Environment (JIE) technologies to provide simultaneous access to multiple security level content via virtualized desktops, should the Navy choose to do so.

### **Benefits of EVD:**

- Secure, fast and better access to Navy applications, data and web sites.
- Continued access to Navy resources via Navy or personal CAC-enabled devices without having to procure additional laptops when working remotely.
- Cloud-based access to NMCI desktops.
- Foundation for providing virtualized Windows 10 desktops
- Leverages existing Navy investments in desktop virtualization hardware and software
- Expanded device support

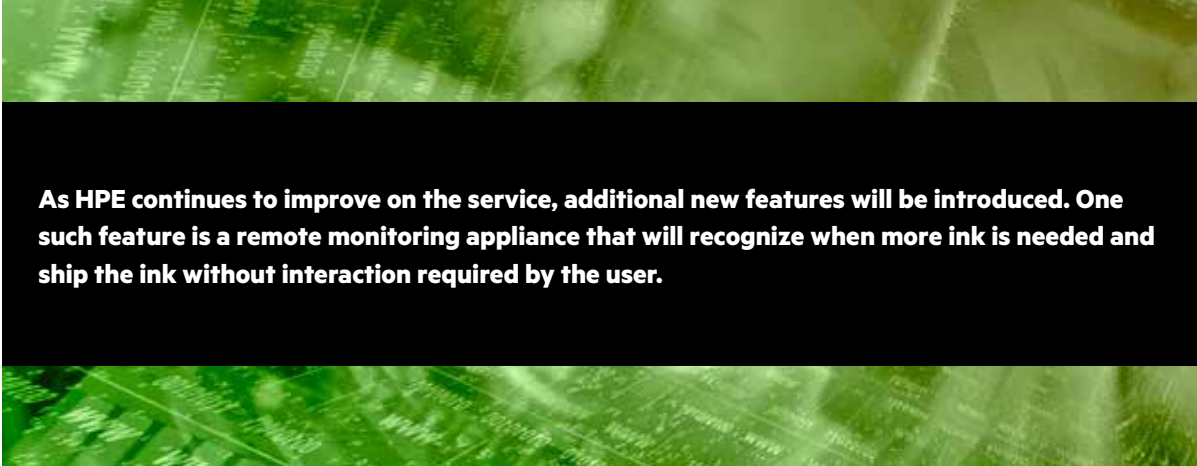




# Print services upgrade

## NMCI printers and Tier 1 full-service printing service devices refreshed

In partnership with the Navy, HPE is upgrading equipment for NMCI users who have ordered the Tier 1 Full-Service Printing. Current devices are being replaced with state of the shelf equipment that is more reliable, resulting in less down time. These devices improve the user experience by standardizing the user interface and providing new features such as CAC-secured print release. SIPR CAC enforced network scanning was also introduced with this solution.



**As HPE continues to improve on the service, additional new features will be introduced. One such feature is a remote monitoring appliance that will recognize when more ink is needed and ship the ink without interaction required by the user.**

Tier 1 Full-Service Printing Service is one of three levels of service offered on the Next Generation Enterprise Network (NGEN) contract—Tier 1, 2 and 3. Tier 1 service allows NMCI end users to have the right devices in the most convenient locations, increase efficiency, reduce the visible and hidden costs of imaging and printing, and have the ability to enforce Department of Navy CIO standards and print policies.

### **Tier 1 Service includes:**

- Hardware with full support through warranty and break/fix
- Initial printer configuration and setup
- Network printing operations and maintenance
- Original Equipment Manufacturer (OEM) consumables (excludes paper) such as toner
- Lifecycle management
- Disposal and demilitarization



# Support services

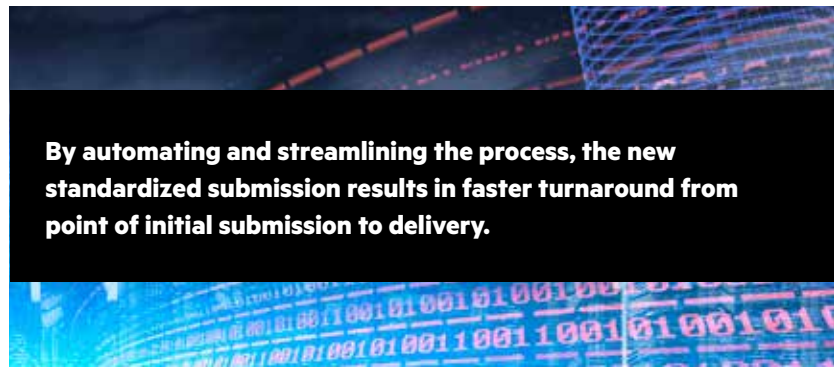






# Streamlining service desk requests

To improve the user experience, the Navy and HPE are collaborating to enhance the ticket submission process to streamline service requests and improve turnaround time. Previously, tickets were being generated through two systems, NET and SRM, and inconsistencies in the form requirements meant that the requests were often returned to the users as a request for more information.



With these new enhancements, requests now come through NET and are pre-validated, ensuring a greater frequency of properly submitted requests.

Additionally, CTRs can directly access all submissions in both NET and HP Service Manager (HPSM) via the self-service portal for up-to-date status and are able to respond via HPSM without needing to contact the service desk directly.

Six total request types are in production for full automation. These account for 8 percent of monthly request volume, with more services planned to be automated.

## Benefits at a glance

- Enhanced user experience
- Improved self-service capabilities

# NMCI service desk continual improvement

HPE has recently reduced the average handle time by 1.12 minutes and reduced transfer rate by 2 percent in the last 12 months. Additionally, we have enhanced our proactive telephone message capabilities. Upon determination of an outage and recommended user course of action, we are now able to play a recorded message for users already in the service desk queue instead of only users who dial in after the solution is found.

## Benefits to NMCI End Users:

- Reduced average handle time by 1.12 minutes and reduced transfer rate by 2%
- Advancing proactive solutions to users in the service desk queue allows for self-service and improved customer situational awareness









# Community support

A close-up photograph capturing a heartwarming moment between a woman in a blue camouflage uniform and a young girl. The woman, wearing a matching blue cap, is smiling broadly, her eyes crinkled in joy as she looks at the girl. The girl, with her blonde hair in a ponytail and wearing a blue dress with white polka dots, is also smiling and looking towards the woman. The background is slightly out of focus, showing other individuals in similar blue uniforms, suggesting a group setting like a ship's deck or a community event. The overall mood is one of genuine connection and support.

# HPE employees give back to the community for the holidays

During the 2015 holiday season, HPE employees enthusiastically supported the Holiday Spirit program—and HPE tradition for 23 years—by donating gifts to children, youth, and young adults in foster care and protective services.







U.S. Navy photo by Mass Communication Specialist Seaman Tristan Lotz

## Gratitude to Veterans with Home of the Brave campaign

For the fourth consecutive year, HPE employees demonstrated their gratitude to Veterans through Home of the Brave, HPE's nationwide, grassroots Veteran-community service project that culminates with a host of Veterans Day celebration activities across the country. One of the ways Home of the Brave is supporting Veterans is through the sale of honor packs. The honor packs help Veteran patients at medical centers and community living facilities, as well as those who are homeless. Each of the drawstring backpacks contains necessities such as toiletries, a water bottle, and gloves.

During the 2015 Home of the Brave campaign, HPE employees supported 94 Veterans Affairs medical centers in 39 states plus Washington, D.C., and Puerto Rico. HPE employees dedicated more than 6,526 hours of service and provided over 2,000 honor packs, benefiting an estimated 27,000 Veterans across the country. For more information on Home of the Brave, please visit [www.hphomeofthebrave.com](http://www.hphomeofthebrave.com).





U.S. Navy photo by Lieutenant Lauren Spaziano

## HPE celebrates Independence Day with Marines and their families

In support of the Marine Corps Community Services (MCCS) organization, HPE sponsored Camp Pendleton's 26th annual Fourth of July Beach Bash. Located at the Del Mar Beach Resort on base, the Beach Bash provided live entertainment, recreational activities, food and a family fun zone with interactive games. HPE volunteers staffed a booth with prizes and staged a "Most Patriotic" contest for families at the event. This event was open to service members with military IDs and their families as well as authorized guests. This is the seventh consecutive year HPE has supported the Beach Bash at Camp Pendleton.

# Raising funds for Sailors and their families

On May 15, 2016, the Navy hosted its 30th annual Bay Bridge Run/Walk to raise money for the Navy's Morale, Welfare and Recreation (MWR) programs. The Navy Region Southwest MWR provides Quality of Life programs for 500,000+ active duty and retired military, reservists, their family members and civilian employees who reside in the San Diego region. This four-mile run/walk included a panoramic view as participants made their way to Coronado's Tidelands Park from downtown San Diego over the Coronado Bay Bridge. During the finish line celebration, runners received an event T-shirt, a finisher's medal and complimentary transportation back to downtown San Diego.

**HPE is proud to support Navy MWR programs, including sponsorship of this worthy event. Other, ongoing events include the following:**

- Welcome Home Pizza and Familiarization Tours. MWR provides pizza for watch standers on returning ships the first night in port. For single Sailors returning from deployment, there are bus tours to San Diego points of interest.
- Liberty Center Programs, including luaus, BBQs, comedy nights, trivia competitions, sporting events, movies, and holiday festivities all complete with food, games and music.
- Regional Sailor of the Year Program, recognizing Sailors who have shown unusual or unrecognized honor, valor and dedication to fellow Sailors and the community

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Upcoming events include the Wounded Warrior Family Holiday Party at the Naval Medical Center San Diego in December.











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