

August 2018

# Powering forward

Modernizing the Navy Marine Corps Intranet



As we enter our third month as Perspecta, I wanted to highlight several priority initiatives that are part of a company-wide effort to further put you—our customers—first. We think of this drive as the “Power of Perspecta.” This power comes from being a more agile company with broader technical capabilities and expertise that was designed to meet the mission needs of customers just like you. It comes from being able to leverage the applied research and expertise from Perspecta Labs within our mission customers to include the Navy and Marine Corps, as well as applying best practices and lessons learned across all Perspecta customers. This power is most noticeable in our rapid response when issues surface.

I understand the impact end user productivity has on your ability to meet mission requirements and I wanted to update you on a few things we’ve done over the past few months with that in mind:

**Supported phase 1 of the Operation Triton Flow exercise with Naval Network Warfare Command** to evaluate the current Naval Enterprise Network (NEN) design, performance, and readiness to support future cyber maneuverability. The operation tested the impact that configuration changes could have on network throughput speeds. Data gathered will contribute to future network modernization efforts.

**Fully engaged with the Navy on Windows 10 upgrade after-action and lessons learned activities.** Key lessons learned include the need for enhanced end user communications and pre-positioning the upgrade package at key locations to minimize bandwidth requirements. We’ll apply these lessons to provide a better user experience to future Windows update versions, including 1803.

**Transformed our engineering approach into a best practices DevOps model, delivering better business outcomes more quickly.** The DevOps model prioritizes delivery of a quality final engineering product rather than the delivery of CDRLs. It also firewalls the teams off from other projects and influences, allowing them to stay on task.

**Eliminated the service desk backlog and call response delays to close out and complete the Windows 10 service desk response.** The service desk average speed to answer has returned below the 40 second SLA performance requirement from a high of more than 10 minutes at the height of the upgrade.

**Leveraged innovation from Perspecta Labs into the NMCI environment with the Distributed and Assured Dynamic Configuration (DADC) tool.** DADC enables network and cloud infrastructure to be set up in minutes, eliminates configuration errors, and can proactively change configurations to confuse an adversary. The Perspecta Navy and Marine Corps (NMC) team ingested millions of lines of code and configurations into the DADC tool to create a simulated NMCI environment of the Norfolk Data Center. Within five minutes of running the tool, the team discovered three items that could have caused network outages and impacted end user productivity.

Included this report are projects that have made NMCI more resilient and secure, while providing for better end user productivity and mobility. The momentum we’ve built together over the past 18 years is vital to continued mission success. Perspecta’s team has the experience, scale and efficiency to keep moving ahead. Mission-led and mission-united, we deliver bold new ideas and practical knowledge to accelerate Navy and Marine Corps modernization.

As always, I welcome your feedback on how you think we’re doing. Please feel free to email or call me any time.

**Ted Branch**  
SVP and General Manager  
Navy and Marine Corps Group

**Perspecta. Powering forward.**



**Leveraging innovation for better network resiliency**



**NMCI Proving Center Lab is getting a makeover**



**Perspecta team takes a fresh engineering approach**



**Upgrade to Windows 10 enhances NMCI security posture**



**Enterprise mobility management / mobile device management upgrades coming soon**



**NMCI Microsoft Office 365 pilot kicks off**



**Joint Navy, Perspecta team take aim at certification and accreditation timelines**



**NMCI supports international maritime exercise**



**Domain consolidation and elimination efforts save the U.S. Marine Corps money, while enhancing cybersecurity**



**Marine Corps web browsing gets a technical refresh**



**New DDI solution to provide Marine Corps with enhanced security, service uptime and efficiency**



**Federal agency successfully completes Microsoft Office 365 migration**



**Transforming a DoD enterprise network**



**New paradigms for cyber network defense**



**Perspecta named top veteran-friendly company by U.S. Veterans magazine**

*The Navy Marine Corps Intranet (NMCI) is the first-of its-kind, enterprise IT platform and has matured over the past 18 years into a stable, flexible, cost-effective and secure IT platform for more than 700,000 Sailors and civilians in the continental United States, Hawaii and Japan. In building NMCI, Perspecta and the Department of the Navy (DoN) have transformed DoN IT infrastructure, combining a myriad of disconnected and dissimilar networks into one of the largest intranets in the world.*

*Through the Next Generation Enterprise Network (NGEN) contract, Perspecta provides comprehensive IT services to the Navy and staffing support to the Marine Corps. NMCI is the foundation that underpins the DoN's enterprise IT capability, raising it to new levels of functionality, mobility, flexibility, adaptability, reliability and security.*





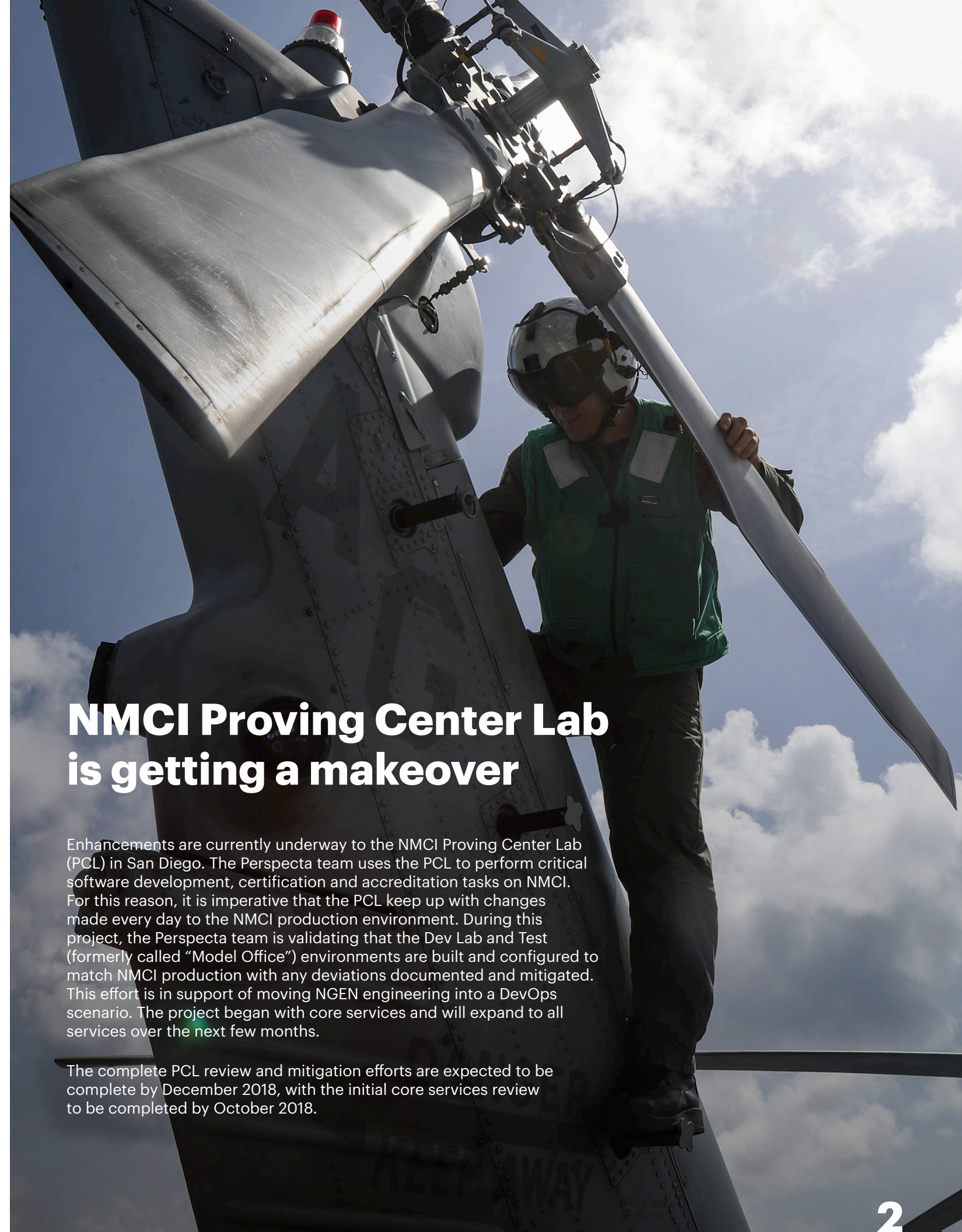
## Leveraging innovation for better network resiliency

The power of Perspecta is already providing benefits to our customers through our ability to leverage innovation coming out of Perspecta Labs. Perspecta Labs, a wholly owned subsidiary of Perspecta, Inc., delivers the future – across cybersecurity, mobility, analytics and networking – to government and commercial customers worldwide. From smart cities to smart phones, intelligent battlefields to autonomous systems, Perspecta Labs’ 200+ scientists, engineers and analysts are solving tomorrow’s problems, today.

The Perspecta Navy and Marine Corps (NMC) business group recently leveraged innovation from Perspecta Labs into the NMCI environment with the Distributed and Assured Dynamic Configuration (DADC) tool.

DADC enables network and cloud infrastructure to be set up in minutes, eliminates configuration errors, and can proactively change configurations to confuse an adversary.

DADC can also be used to automate the configurations of networks. It can assist network planners in diagnosing and repairing configuration errors and allows them to modify configurations to address changes in requirements – a task that proved useful to the Perspecta NMC team. The NMC team ingested millions of lines of code and configurations into the DADC tool to create a simulated NMCI environment of the Norfolk Data Center. Within five minutes of running the tool, the team discovered three items that could have caused network outages and impacted end user productivity.



## NMCI Proving Center Lab is getting a makeover

Enhancements are currently underway to the NMCI Proving Center Lab (PCL) in San Diego. The Perspecta team uses the PCL to perform critical software development, certification and accreditation tasks on NMCI. For this reason, it is imperative that the PCL keep up with changes made every day to the NMCI production environment. During this project, the Perspecta team is validating that the Dev Lab and Test (formerly called “Model Office”) environments are built and configured to match NMCI production with any deviations documented and mitigated. This effort is in support of moving NGEN engineering into a DevOps scenario. The project began with core services and will expand to all services over the next few months.

The complete PCL review and mitigation efforts are expected to be complete by December 2018, with the initial core services review to be completed by October 2018.





## Perspecta team takes a fresh engineering approach

The Perspecta team recently transformed our engineering approach into a best practices, DevOps model designed to deliver better business outcomes faster. Simply stated, the DevOps model involves working as a team from end-to-end. The model prioritizes delivery of a quality final engineering product rather than the delivery of CDRLs. It also firewalls the teams off from other projects and influences, allowing them to stay on task. This approach will allow Perspecta to provide government solutions at commercial speeds.

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As part of the team transformation, Perspecta also acquired additional technical domain expertise in PowerShell, Ansible and ServiceNow to further enable modernization through automation of IT infrastructure, applications and management. This DevOps automation will facilitate product delivery, continuous testing, quality testing, feature development, continuous security, and maintenance releases to improve reliability and security and to provide faster development and deployment cycles.



## Upgrade to Microsoft Windows 10 enhances NMCI security posture

In a world of increasing digital threats and cyber attacks, the Department of the Navy and Perspecta are constantly working together to maintain a strong cyber posture on NMCI. To that end, the joint team recently upgraded the NMCI end user environment to the more robust and secure Microsoft Windows 10 operating system.

With Windows 10 comes a new level of security in the form of "Protect, Detect and Respond." With a series of "pre breach" protection systems, there is an emphasis on creating security to make it difficult (and costly) to find and exploit many software vulnerabilities.

To upgrade more than 200,000 NMCI devices to the Windows 10 operating system, the Navy and Perspecta teams used an "in place upgrade" approach that ultimately saved the DoN hundreds of millions of dollars compared to the other U.S. military services. In addition to the "in place upgrades," the team also migrated an additional 100,000 devices to Windows 10 through a combination of technical refresh and reimaging.

Upon project completion, a joint Navy-Perspecta team completed a comprehensive Windows 10 upgrade after-action and lessons learned effort. Key lessons learned include the need for enhanced end user communications and pre-positioning the upgrade package at key locations to minimize bandwidth requirements. These lessons, as well as others that were documented, will be incorporated to provide a better user experience to future Windows update versions, including 1803.

Later this year, NMCI will begin moving to the Windows as a Service (WaaS) model. With Windows as a Service, Microsoft has reimagined each part of the process, to simplify the lives of IT pros and maintain a consistent Windows 10 experience for its customers. These improvements focus on maximizing customer involvement in Windows development, simplifying the deployment and servicing of Windows client computers, and leveling out the resources needed to deploy and maintain Windows over time.



# Enterprise mobility management / mobile device management upgrades coming soon

NMCI mobile device users will soon see a new NMCI Enterprise Mobility Management (EMM)/ Mobile Device Management (MDM) solution, with user migration expected to begin in late summer 2018. The new MDM architecture comprises a suite of applications that will provide new and enhanced capabilities and features for NMCI mobile device users.

Part of the upgrade is the ability to install the BlackBerry Work application. This application increases mobile productivity while keeping data secure. BlackBerry Work provides the following new features that are not currently available to NMCI mobile users:

- Full Text Server / Side Search – Easily search your entire mailbox including messages that are not on your device.
- Smart Folders – Improve efficiency by organizing your inbox.
- Mark Contacts as VIPs for VIP Alerts and keep track of your important contacts.
- Contact History Tab – View a history of messages exchanged with your contacts.
- Single Business App Desktop – Easily switch between your business apps and tasks from a single unified interface with BlackBerry Launcher.

Over the next 12 months, the NMCI MDM team is also rolling out new BlackBerry applications that will increase what NMCI users can do from their mobile devices. Solutions that are currently going through the DIACAP process include:

- BlackBerry Access provides mobile users secure web browsing to secure websites, such as .mil sites and Homeport. Data is always encrypted when browsing by leveraging standard end-user authentication (SSL, NTLM, TLS). Expected to be available by December 2018.
- BlackBerry Docs to Go provides viewing and editing capability for Microsoft Office Word, Excel and PowerPoint documents. Documents retain their original format when viewing or editing. Functionalities that can be performed with the application include Format, Save, Edit, Resize, and Bookmark documents. Edited documents can now be easily shared with colleagues through email. Expected to be available in 2019.
- BBM Enterprise provides Instant Messaging capability for NMCI mobile users. NMCI users can connect to any other BBM subscribed user, whether on the NMCI network or a non-NMCI user. All connections between NMCI users and other users, regardless of within NMCI or not, will have an extra layer of encryption installed on the connection, as a result of the Enterprise option of the solution. Expected to be available in 2019.
- BlackBerry Workspaces is a document-centric security platform that allows NMCI users to easily and effectively access, share, and control all their important documents across the NMCI enterprise on any NMCI approved tablet or smartphone. It enables mobile users to provide secure access to enterprise files and assets that reside on NMCI file shares. Targeting a pilot deployment in early 2019 with enterprise availability based on results of the pilot.

Once the applications are approved for NMCI use, ordering information will be available on the Homeport Mobility page:  
<https://www.homeport.navy.mil/services/mobile>.



## NMCI Microsoft Office 365 pilot kicks off

In an effort to enhance end user productivity, the Navy and Perspecta recently kicked off a Microsoft Office 365 pilot. The purpose of the Microsoft Office 365 pilot is to successfully migrate 500 - 2,000 NMCI users to the Office 365 Defense Cloud and set the stage for an enterprise migration to cloud-based productivity services in line with DoD and Navy Cloud First initiatives. The project has the ability to scale to up to 20,000 users.

The Microsoft Office 365 pilot will leverage agile development to accelerate the project timeline. Agile development allows requirements and solutions to evolve through collaboration between 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. Using this methodology, the project is broken into six-week-long sprints with the first one already underway. The first pilot users of Office 365 are expected to migrate to the solution in early fall.

Moving to the Office 365 solution will provide greater productivity, robust applications security and the ability to access needed tools from any computer that has an internet connection. Once the pilot is complete, enterprise rollout of the NMCI Office 365 will be scheduled.

**Agile development allows requirements and solutions to evolve through collaboration between self-organizing, cross-functional teams.**





## Joint Navy, Perspecta team takes aim at certification and accreditation timelines

To speed delivery timelines on mission essential NMCI capabilities, the Navy and Perspecta have joined together to make the certification and accreditation (C&A) process faster.

Before any new solution can be introduced into the NMCI environment, it is required to go through the DoD Information Assurance Certification and Accreditation Process (DIACAP). DIACAP is a DoD process that ensures companies and organizations apply risk management to information systems. DIACAP defines a DoD-wide formal and standard set of activities, general tasks and a management structure process for the certification and accreditation (C&A) of a DoD Information System that maintains the information assurance (IA) posture throughout the system's life cycle.

The Perspecta team submits an average of more than 2,100 combined sites and solutions C&A packages each year for NMCI site recertification, annual reviews and updates. On average, the typical NMCI C&A submission can have 2,500 individual line entries. Prior to launching this effort, most NMCI solutions took six months to complete the C&A process.

To improve the overall C&A process, the Navy and Perspecta have taken several actions including automated tools and two separate week-long collaboration sessions held for both the East and West Coast teams. During these sessions, representatives from both teams reviewed several C&A packages together to better understand errors that could potentially delay the process. The training focused on ensuring the Perspecta ISSEs and Navy Validators were creating and reviewing data in sync with one another. The training sessions were recorded and will be edited to specific topics to assist team members in the future to better understand the customer's expectations.



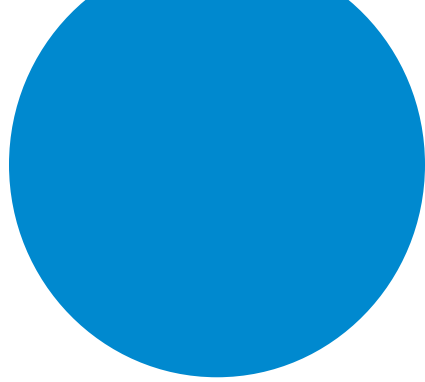
## NMCI supports international maritime exercise

Twenty-six nations, 47 surface ships, five submarines, 18 national land forces, and more than 200 aircraft and 25,000 personnel recently participated in the biennial Rim of the Pacific (RIMPAC) exercise, held June 27 to August 2 in and around the Hawaiian Islands and Southern California.

In support of this key maritime exercise, the Perspecta NMCI team provided 24x7 pier side support, assisted with network access, emergency repair support, printing setup and other support tasks.

As the world's largest international maritime exercise, RIMPAC provides a unique training opportunity designed to foster and sustain cooperative relationships that are critical to ensuring the safety of sea lanes and security on the world's interconnected oceans. RIMPAC 2018 is the 26th exercise in the series that began in 1971.





# Domain consolidation and elimination efforts save the U.S. Marine Corps money, while enhancing cybersecurity

Together with U.S. Marine Corps Forces Cyberspace Command (MARFORCYBER), Perspecta is working to eliminate all legacy domains within the U.S. Marine Corps and migrate the necessary user accounts, workstations, applications and services to the Marine Corps Enterprise Network - Non-Classified Internet Protocol Router Network (MCEN-N).

This effort, part of the Marine Corps’ strategy for assured command and control, is a key step in realizing the benefits of standardization, enhanced cybersecurity posture, and operational efficiencies. Domain and data center consolidation and elimination, once complete, will reduce IT costs and enhance the overall cyber posture of the MCEN-N. Additionally, eliminating the multiple disparate networks will reduce excessive complexity and speed mobilization and deployment.

To date, 45 of 62 identified domains have been or are in the final stages of decommissioning. The remaining 17 domains are expected to be retired by the end of September 2019.



# Marine Corps web browsing gets a technical refresh

Perspecta recently partnered with the Marine Corps to upgrade the forward proxy solution used on the Marine Corps Enterprise Network (MCEN). A forward proxy is a central infrastructure tool that enables web access and when combined with cache, they work together to lower overall network bandwidth usage.

The previous MCEN proxy cache function was going end-of life, eliminating future break-fix support for the equipment. The project kicked off in December 2017 and was completed in August 2018.

As part of the effort, the Perspecta team documented the concept of operations, architecture, technical design, configuration, components, operating guidelines, and implementation plan. New equipment was ordered and initial configurations were installed to implement STIG requirements, certificates, and settings to enable remote access. Once complete, the forward proxy cache solution was successfully cutover to production.



# New DDI solution to provide Marine Corps with enhanced security, service uptime and efficiency

To provide better tracking and management of the Marine Corps Enterprise Network (MCEN), the Marine Corps and Perspecta are executing a project called DDI; Domain Name Services (DNS), Dynamic Host Configuration Protocol (DHCP), and Internet Protocol Address Management (IPAM). The DDI solution, an essential tool for the MCEN enterprise, provides the capability of managing and more efficiently utilizing the Internet protocol address space for the MCEN. This capability supports the Marine Corps' current and evolving IT needs, while also achieving the highest standards for security and operational efficiencies.

The project started in Feb 2016 and is split into two phases. During the first phase, Perspecta collaborated with Marine Corps stakeholders and engineers to certify equipment, install appropriate patches and initiate testing procedures.

Phase two of the project, that started in Jul 2017, includes installing and running a continuous monitoring solution on the DDI equipment and finalizing the implementation plans for Quantico Marine Corps Base Quantico, Camp Pendleton and Camp Foster.







## Federal agency successfully completes Office 365 migration

A federal agency recently had the goal of moving their email users to Microsoft Office 365, and successfully accomplished that task with support from Perspecta.

The primary aim of the migration was to consolidate resources to the cloud and improve consistency and management of enterprise email. The Office 365 migration represented a transformation of the agency's email and associated archives from an on premise email-as-a-service solution to the cloud, and included approximately 27,000 user mailboxes.

Perspecta partnered with Microsoft, and the agency served as the transition and transformation lead for the migration. Perspecta enjoys a comprehensive partnership with Microsoft, working to provide the best customer experience for Office 365 transformation projects in terms of implementation quality, efficiency and cost effectiveness.

In a project management role, Perspecta helped the agency understand the many challenges and complexities of the Office 365 migration. The project proceeded in phases and

Perspecta adopted an iterative approach that included gaining a clear understanding of the user community, migrating users, then remediating any issues. Among other priorities, the team worked together to make sure the migration resulted in positive experiences for end users.

The migration is significant, as it marks the first component within the overall federal organization to undergo an Office 365 migration. Lessons learned from the project are helping inform future Office 365 migrations.



## Transforming a DoD enterprise network

One of our DoD customers required the means to transform their enterprise network to support seamless delivery of crucial, mission-oriented services and capabilities. With our Transformation Roadmap (TxRM) solution, we provided them with an approach to align their shared perspectives, make decisions based on the shared intent and launch their enterprise transformation through a coordinated set of actions.

### Results:

- Stakeholders were prepared for an ongoing transformational journey
- Actionable waypoints were aligned to priority objectives
- A shared perspective of cross-functional impacts was accurately depicted
- TxRM became a common asset for communication between peers and leadership





## New paradigms for cyber network defense

Perspecta Labs is developing new solutions to defend and protect networks from sophisticated distributed denial of service (DDoS) attacks. DDoS attacks leverage widely-deployed Internet-of-Things (IoT) devices to launch a barrage of strikes. These strikes can significantly disrupt public, private and critical infrastructure networks. Under contract from the U.S. Defense Advanced Research Projects Agency (DARPA), Perspecta Labs' researchers are creating fundamentally new paradigms to detect and mitigate these large-scale cyber threats.

Perspecta Labs' comprehensive solution relies on innovative research in distributed communications and network maneuvering. Our novel techniques prevent attackers from identifying high-value targets while also denying them the critical feedback they need to determine whether their attack is successful. Our advanced analytics enable rapid attack identification and automated response across a broad attack surface. The innovative research in this and other cyber research programs helps network operators protect critical services, defeat and confuse adversaries and successfully defend their networks and data.



## Perspecta named top veteran-friendly company by U.S. Veterans magazine

Perspecta Inc. was recently named to the U.S. Veterans Magazine (USVM) 2018 Best of the Best Top Veteran-Friendly Companies list.

Each year, USVM polls hundreds of Fortune 1000 companies for its Best of the Best evaluations. Their goal is to open up employment, business and supplier opportunities within the federal government and corporate America for veterans, transitioning service members, disabled veterans, spouses and veteran business owners.

"Perspecta was founded on a set of values including respect, accountability and integrity," said Mac Curtis, president and chief executive officer of Perspecta. "We actively seek

out members of the military community because their unique skills, leadership and most of all alignment to those principles make them an invaluable addition to our team."

Perspecta is an industry leader in military employment with more than 20 percent of its workforce comprised of veterans and reservists. Its dedicated team of military recruiters actively seeks out veterans, reservists, national guardsmen, military spouses, wounded warriors, caregivers and surviving spouses to join the company, and hired more than 560 veterans in the past year.

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