

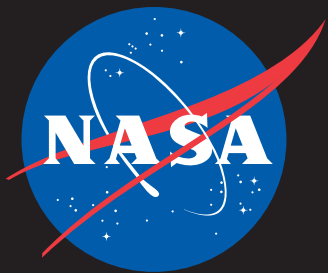


# IT Talk

July - September 2015

Volume 5 • Issue 3

## DATA MANAGEMENT: FIRST STEP IN GO FOR EVA



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# Message from the NASA CIO



At NASA we continue to look for new ways to keep up with the times. Every day this Agency is becoming a more innovative place to work. In fact, Information Technology is soaring to new heights.

In this issue we'll take a closer look at how NASA and Microsoft have teamed up to develop software called OnSight. It's a new technology that

will enable scientists to work virtually on Mars using wearable technology called Microsoft HoloLens. The story is sure to amaze you.

We'll also explore how the Office of the Chief Information Officer (OCIO) is helping to solve spacewalking or Extravehicular Activity's (EVA) data integration challenges. A new approach leverages OCIO's cloud computing and data architecture initiatives.

And Johnson Space Center has a new virtual lab that is dedicated to exploring an "Internet of Things" (IoT). The lab will investigate strategies that allow a huge variety of untrusted connected devices to securely co-exist on NASA's networks while protecting NASA's data.

Finally, a special recognition goes out to the Jet Propulsion Lab (JPL) IT Directorate. The team was recently recognized with three prestigious industry honors.

We have a great line up this issue, so I hope you enjoy what we have in store for you.

*~Larry*

## NASA Deputy Chief Information Officer Named

Reneé Wynn has been selected as the new NASA Deputy Chief Information Officer. Wynn joins NASA from the Environmental Protection Agency where she has served as the Acting Assistant Administrator for the Office of Environmental Information since July 2013. She starts her new assignment with NASA in mid-July.

Ms. Wynn has a long career in the federal government. She has been with EPA for more than 24 years, and joined the Office of Environmental Information in April 2011. Beyond the experience she gained since joining the information management and technology arm of the Agency, Ms. Wynn has

served in EPA's Office of Solid Waste and Emergency Response and the Office of Enforcement and Compliance Assurance.

Ms. Wynn has managed program administration for science, information management, and international programs; regulatory management; budget formulation and execution; contracts, grants and interagency agreements; long term strategic planning and analyses; and environmental and administrative policy.

Ms. Wynn holds a Bachelor of Arts in Economics from DePauw University, Indiana.

## ARMSTRONG HAS A NEW CIO

Sean E. McMorrow is director of Mission Information and Test Systems and Chief Information Officer at NASA's Armstrong



Flight Research Center, Edwards, CA. He is responsible for development, acquisition, and utilization of the Center's information technology systems, including those devoted to desktop use, security, flight test range operations, research aircraft telemetry, mission control rooms, air-to-ground communications, ground communications, flight data processing, and advanced flight simulations.

Prior to joining NASA in early 2011, McMorrow was director of the Plans and Programs Directorate at Edwards Air Force Base where he led a staff of more than 40 personnel. Other assignments included Deputy Chief Information Officer and deputy director of the Information Technology Directorate, later the 95th Communications Group.

McMorrow began his career in 1985 as a software developer with industry. He entered federal civil service in 1988 as an avionics flight test engineer, then later became an operations engineer and test conductor for the B-2 Combined Test Force at Edwards. McMorrow concluded this phase of civil service with the Defense Evaluation Support Activity on Kirtland Air Force Base, NM where he was program manager for Technology Integration.

McMorrow holds a Bachelor of Science degree in Information Systems from California Polytechnic University, Pomona, and a Master of Science in Management from Golden Gate University. McMorrow is the recipient of numerous performance awards, a member of the International Test and Evaluation Association, the Society of Flight Test Engineers, the Air Force Association, and the Flight Test Historical Foundation at Edwards.

# NASA, MICROSOFT COLLABORATION WILL ALLOW SCIENTISTS TO 'WORK ON MARS'

NASA and Microsoft have teamed up to develop software called OnSight, a new technology that will enable scientists to work virtually on Mars using wearable technology called Microsoft HoloLens.

Developed by NASA's Jet Propulsion Laboratory in Pasadena, California, OnSight will give scientists a means to plan and, along with the Mars Curiosity rover, conduct science operations on the Red Planet.

"OnSight gives our rover scientists the ability to walk around and explore Mars right from their offices," said Dave Lavery, program executive for the Mars Science Laboratory mission at NASA Headquarters in Washington. "It fundamentally changes our perception of Mars, and how we understand the Mars environment surrounding the rover."

OnSight will use real rover data and extend the Curiosity mission's existing planning tools by creating a 3-D simulation of the Martian environment where scientists around the world can meet. Program scientists will be able to examine the rover's worksite from a first-person perspective, plan new activities and preview the results of their work firsthand.

"We believe OnSight will enhance the ways in which we explore Mars and share that journey of exploration with the world," said Jeff Norris, JPL's OnSight project manager.

*A screen view from OnSight, a software tool developed by NASA's Jet Propulsion Laboratory in collaboration with Microsoft. OnSight uses real rover data to create a 3-D simulation of the Martian environment where mission scientists can "meet" to discuss rover operations. Image credit: NASA/JPL-Caltech*

Until now, rover operations required scientists to examine Mars imagery on a computer screen, and make inferences about what they are seeing. But images, even 3-D stereo views, lack a natural sense of depth that human vision employs to understand spatial relationships.

The OnSight system uses holographic computing to overlay visual information and rover data into the user's field of view. Holographic computing blends a view of the physical world with computer-generated imagery to create a hybrid of real and virtual.

To view this holographic realm, members of the Curiosity mission team don a Microsoft HoloLens device, which surrounds them with images from the rover's Martian field site. They then can stroll around the rocky surface or crouch down to examine rocky outcrops from different angles. The tool provides access to scientists and engineers looking to interact with Mars in a more natural, human way.

"Previously, our Mars explorers have been stuck on one side of a computer screen. This tool gives them the ability to explore the rover's surroundings much as an Earth geologist would do field work here on our planet," said Norris.

The OnSight tool also will be useful for planning rover operations. For example, scientists can program activities for many of the rover's science instruments by looking at a target and using gestures to select menu commands.

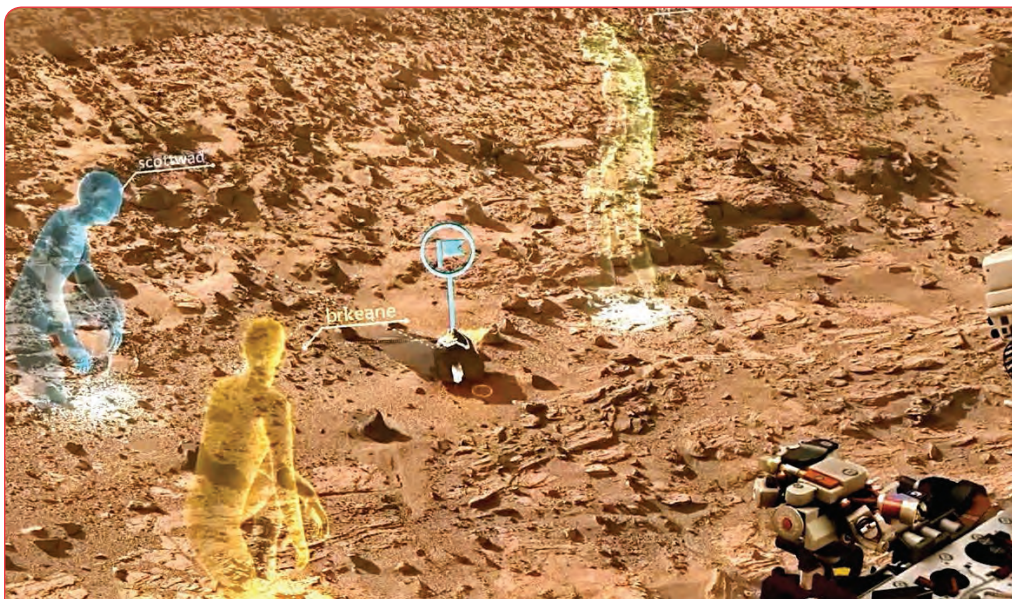
The joint effort to develop OnSight with Microsoft grew from an ongoing partnership to investigate advances in human-robot interaction. The JPL team responsible for OnSight specializes in systems to control robots and spacecraft. The tool will assist researchers in better understanding the environment and workspace of robotic spacecraft -- something that can be quite challenging with their traditional suite of tools.

JPL plans to begin testing OnSight in Curiosity mission operations later this year. Future applications may include Mars 2020 rover mission operations, and other applications in support of NASA's journey to Mars.

JPL manages the Mars Science Laboratory Project for NASA's Science Mission Directorate in Washington, and built the project's Curiosity rover.

Learn more about NASA's journey to Mars at:

<http://www.nasa.gov/mars>







# Managing Electronic Data starts with Data Deliverables

*By Sandeep D. Shetye, David G. Bell,  
OCIO Technology & Innovation Division*

NASA obtains large amounts of work through outside sources including private industry and academia, and therefore, the origin of a lot of NASA data is obtained through contracts with these outside sources. Historically and overall, NASA procurements have included very little, if any, contract language to provide the Government access to electronic data produced during contract periods or when transferred after expiration of the Period of Performance (PoP). This has forced NASA organizations to negotiate with contractors for access to electronic data during the contract period and for transfer of electronic data at contract end. When electronic data deliverables are not required up-front at the start of a contract, contractors have often ended up having to spend considerable time and money to convert paper-based data into electronic data and to pass those costs on to NASA. Also, when it is not made clear at the start of a contract who owns the delivered data, significant time and money often needs to be expended to figure out the data ownership during or at the end of a contract. These issues reduce the ability for NASA to make informed decisions with ready access to the data it has paid contractors to produce,

which can have significant impact on the ability of NASA to accomplish its mission safely and efficiently. Getting the right contract language for electronic data deliverables is essential for NASA's overall data management. The T&I Data Management team was created to promote agency wide data strategy and data management techniques that will enable the ready access and use of the data NASA generates. In an effort to put together the appropriate contract language to ensure electronic data is protected throughout the contract and transferred as required at contract end, the team met with both contractors and Civil Servant Subject Matter Experts (SME's) from many previous and existing NASA Programs, institutional and engineering/science organizations. As a result, the lessons learned, needs assessment and contract clauses including standard data management plan was documented.

In this effort, the team reviewed a considerable amount of previously developed white papers and documentation. The team also researched NASA wide for other material and found a significant amount of information concerning data and information available from the NASA Earth Science

program, which provided the team valuable information and associated contract language. Introduction of such contract language can ensure that data acquisitions are appropriately included into NASA contracts, guaranteeing the government does not lose data, information, or knowledge that has been produced during the contract and, ultimately, lowering cost and effort for both parties. Data standards need to be in place to prepare for ease of transfer at contract end. For new awards, contracts must ensure the Government treats data as a valuable asset, and structures and data-related deliverables to collect such data in formats that can be shared, regardless of whether a determination has been made to share the information publically. Specific language needs to be implemented within several sections of the Request For Proposal to enable this level of data integrity, control and access during and after the contract is put in place.

The proposed approach is to provide a sort of "expert in a box". This avoids the need for data management experts at each Center for procurements. These types of programs guide a non-data expert through the different steps required to create a data deliverables contracts.





# Data Management: First step in Go for EVA

*By Sandeep D. Shetye, David G. Bell and Cuong Q. Nguyen, OCIO Technology & Innovation Division and David Foltz (EVA Office)*

Stepping outside of a spacecraft in a pressurized space suit to perform a spacewalk may be the most risky task an astronaut will ever perform. On July 16, 2013, there was a near catastrophic incident during NASA's 224th spacewalk (EVA). A Mishap Investigation Board (MIB) identified the EVA data and data systems as one of the root-causes requiring correction. Inability to quickly access a previous failure mode resulted in the team relying on data from their memory. Development and preparation of space suits and EVA tools is a data intensive task, with numerous data systems for processing EVA hardware. Accessing EVA data was found to be resource intensive and cumbersome. The MIB made a recommendation to integrate EVA data systems that would provide EVA users

with easy access to complete, accurate, and up-to-date data.

The wakeup call was clearly sounded; too much was at risk not to act on the MIB's recommendation and the EVA Data Integration (EDI) project was initiated. The EVA Management Office then turned to the OCIO for help in solving EVA's data integration challenge. The EVA community quickly learned that the OCIO is so much more than just a supplier of desktop computers and a network connections provider. Through this collaboration, the EDI project has developed a vision and an integration plan to solve the problems of the traditional stove-piped data systems, and communicated this vision to EVA stakeholders. The approach leverages OCIO's cloud computing and data architecture initiatives.

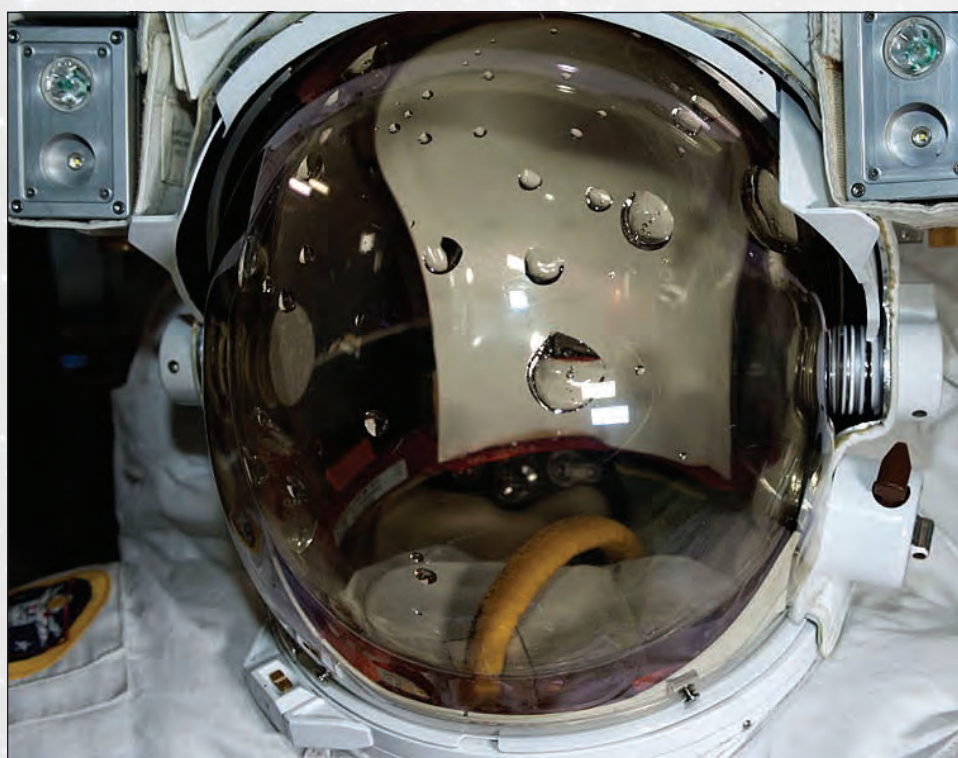
The problems associated with the state of EVA data can be summarized as follows:

- Access to a complete data view is proven to be endemic and problematic.
- Timely and accurate anomaly resolution proves extremely difficult, due to:
  - » State of Data – Largely paper-based.
  - » Data Accessibility – Multiple data systems are operated by contractors and in most cases, NASA lacks direct access to contractor data systems.
  - » Data Systems – Data is not integrated across systems resulting in overlap and inconsistency.
- Inability to consolidate and modernize data systems.



The OCIO Data Architecture team views data integration as a mission-critical need, not a 'nice-to-have' luxury. The goal is to break down barriers, make reliable information and analysis quickly available, and transform the EVA Management Office into an information and knowledge-based enterprise. Ultimately, the EDI project aims to achieve consistent access to multiple data systems allowing for the ability to link and integrate data for easy and quick access to significant information. This allows for managed access to data by type and classification, with multiple modes for finding information (e.g. keyword search, advanced search, graphical navigation, linking of information, and combined query). The desired end state will enable confidence in the data by providing a high reliability of trust in data lineage; flexibility in data to support different data systems; and the ability to expand and evolve over time.

The EDI project reduces data complexity, increases value of data through unified systems, improves timely availability of data, makes data collaboration easier, and allows for smarter mission decisions. The successes being realized by this lean, agile and incremental approach to implementing the EVA data integration solution should be the wakeup call for other NASA organizations with similar data problems. Access to data is critical in assuring NASA mission safety. The EVA community narrowly missed a catastrophic incident involving an European Space Agency (ESA) astronaut. Other organizations should consider the state of their data before an unfortunate event becomes the driver for data management reform.





*By Beth Beck, OCIO Open  
Innovation Program Manager*

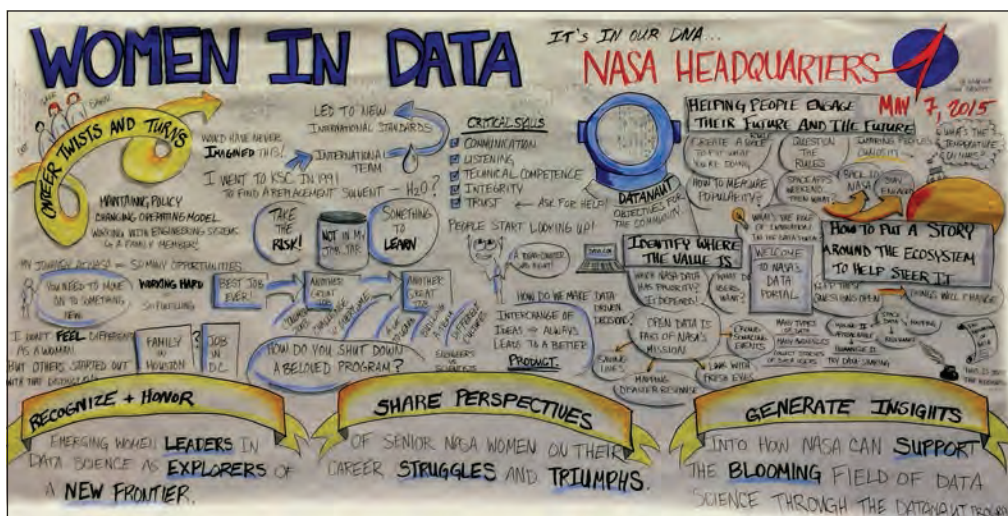
The Datanaut Corps was born. The founding class is comprised of female leaders from across the data/maker/tech communities with diverse skills who can help design creative ways to problem-solve with NASA data. The purpose is engage citizens with NASA's open data and open data tools, discover new citizen-generated insights from the data, and increase digital literacy among women and underserved communities. In essence, NASA's open data is now in more hands to generate more value (and, in turn, generate more demand for NASA's data as a valued commodity). As the Datanaut Corps concept matures, it will be open up to the broader community to problem-solve with NASA's data.

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A group of approximately 18 women, likely members of the National Black Leadership Initiative Institute (NBLII), are posed for a group photo in a modern office setting. They are arranged in two rows, with some standing and some kneeling or sitting in the front. Many of the women are wearing name tags, suggesting a formal or organized gathering. The women are dressed in a variety of professional and semi-formal attire, including blouses, jackets, and dresses. The background shows a bright, open-plan office with large windows and glass partitions.

To kickoff the Datanaut program, the Technology and Innovation team hosted the founding class at NASA Headquarters. Datanauts met with NASA executives: Chief Scientist Ellen Stofan, Astronaut Cady Coleman, Deputy Chief Engineer Dawn Schaible, Deputy Chief Scientist Gale Allen, Chief Technology Officer for IT Deborah Diaz, and Johnson Space Center Chief Financial Officer Dot Rasco. NASA Administrator Charlie Bolden, Deputy Administrator Dava Newman, and Deputy Associate Administrator Lesa Roe also dropped by during the day to visit with the Datanauts. Facilitated brainstorming sessions resulted in several design tracks for the Datanauts to engage in novel ways with NASA's open data. The work has only just begun!

You can find their profiles on <https://open.nasa.gov/nasadataonauts>.







# ITCD LAUNCHES THE ASSISTIVE TECHNOLOGY DEMONSTRATION LAB and WEBSITE

For nine months, the Goddard Information Technology and Communications Directorate's Assistive Technology Program has been up and running. It features the Assistive Technology (AT) Demonstration Lab which is a collaborative effort between Goddard Space Flight Center's Information Technology and Communications Directorate (ITCD) and the Equal Opportunities Program Office's (EOPO).

The AT Lab provides Goddard an onsite facility for testing, analyzing and showcasing various assistive technologies. The Lab's functions and services include device demonstration and loan program, assistive technology

training, and assistive technology assessments in connection with reasonable accommodation requests that are processed through the Equal Opportunity Programs Office (EOPO) Disability Program.

The purpose of the Assistive Technology Demonstration Lab is to increase the availability and utilization of assistive technology at GSFC and efficiently advance the ability of

GSFC staff with disabilities. Thereby, it increases the likelihood that assistive technology devices and services will be utilized as workplace accommodations to recruit, hire, retain, and advance GSFC staff with disabilities.

For more information about the AT Lab, to view our online catalogue, or to schedule a tour of the AT Lab, please visit the ITCD AT Lab webpage <http://itcd.gsfc.nasa.gov/AT-Lab>

*Pictured from left to right are: Veronica Hill (Chief of EOPO), Dennis VanderTuig (CIO/ Director of ITCD), Cheri Ward (Former Program Manager), Denna Lambert (GSFC Disability Manager), Back row from left to right is: John Donohue (Deputy CIO/ Deputy Director of ITCD, Matthew Zipper (Technical Lead), and John MacDonald.*



## Internet of Things at NASA

*By John Sprague Deputy CTO for IT, James McClellan Tech Infusion Chief, and David Kelldorf CTO for Johnson Space Center.*

The Internet of Things (IoT) is defined in Wikipedia as "the network of physical objects or "things" embedded with electronics, software, sensors and connectivity to enable it to achieve greater value and service by exchanging data with... other connected devices." The IoT is expected to generate large amounts of device data from multiple network protocols. The Technology Infusion Team at NASA is leading the effort to assess and integrate this emerging ecosystem

of networking and low energy wireless devices into the target Enterprise Architecture. NASA is setting up a new virtual lab to explore the IoT at Johnson Space Center. Located in JSC buildings 56 and 57, the lab will investigate strategies to allow various devices to connect and securely co-exist on NASA's networks. The Center Technology Officers at Ames Research Center (Ray Gilstrap) and Armstrong Flight Research Center (Emil Machac) are

coordinating the investigation with IoT labs at their centers. The labs at JSC, ARC and AFRC will remotely interact with other IoT labs across the agency to build a knowledge base which will contribute to future decisions. NASA is combining forces with other federal agencies and industry to develop standards and approaches to maximize the benefit of the IoT. The NASA labs exploring IoT is one small step toward embracing the future of connected devices!



# IT Infrastructure Integration Program (I3P) Update

## Communications Service Office (CSO)

The Communications Service Office sponsored the first Enterprise Engineering Face-to-Face meeting May 27-29, 2015. This was the first time Center engineers had an opportunity to meet face-to-face. The team accomplished several goals. They included solidifying relationships and teamwork within the matrixed Enterprise Engineering organization, establishing a common focus on network transformation, and moving forward with a framework for establishing Corporate Network Target Architectures, Approved Product Lists, and Corporate Architecture Planning Processes. This Enterprise Engineering team is key to accomplishing Agency goals, CSO Tenets, and OCIO Top Priorities including standardization, efficiencies, and enhanced security.

The Enterprise Engineering as well as Operations theme continued the next week in the CSO Subject Matter Experts (COMM SMEs) Face to Face June 2-5th. The meeting was held at Marshall Space Flight Center and featured special addresses from NASA CIO, Larry Sweet; NASA IT Security Operations Executive, Howard Whyte; and Manager of the I3P Enterprise Integration Office, Neil Rodgers. The meeting focused on the upcoming change in the NICS contract to a Cost Plus Incentive Fee, effective June 1, 2016. In addition, the presentations and discussion focused on how CSO will conduct business in an Enterprise environment with focus on Governance, Agency Perimeter Security, Enterprise Operations and Communications, and Enterprise Engineering.

## End-User Services Office (ACES)

**Like for Like Mobile and iPad Refreshes:** Like-for-Like mobile and iPad refreshes are continuing on a rolling deployment schedule across NASA Centers. Like-for-Like refreshes are for end users who will be replacing their mobile device or iPad with the same device type they currently have (e.g., iPhone to iPhone or cell phone to cell phone or iPad to iPad), the same carrier, the same services and the same phone number.

Both iPhone and iPad refreshes are included as part of the monthly service fee for ACES seats and are not an additional cost. Users scheduled to receive any refreshes will receive email notifications prior to deployment with details on schedule and actions required for refresh, including backing up data from their original device.

### Mobile Device Management Implementation Update

NASA is implementing Mobile Device Management (MDM) to better protect NASA-related information and assets and reduce potential risks to NASA systems. MDM provides for the administration of NASA's mobile devices to allow for better data protection, deployment of mobile applications and asset tracking. MDM will also help support future personal device activities.

NASA's implementation of MDM will later include encrypted email capabilities on iPhones and Android devices and ease of access to NASA systems and applications, including password simplification. While not all of these benefits will be available immediately, they will be rolled out as phases of NASA's MDM implementation.

MDM implementation will occur on

ACES-managed iPhones, Androids and iPads first. Limited deployment to Center CIO organizations began in May with targeted messages to affected end users with enrollment instructions. Information on general deployment will be provided in the coming months.

Going forward, end users receiving a new or refreshed iPhone, Android or iPad device will be required to complete MDM enrollment upon receipt of the new device.

## Enterprise Applications Service Office/NASA Enterprise Applications Competency Center (EASO/NEACC)

The NEACC will transition from the Integrated Service Request System (ISRS) to the NASA Integrated Service Management System (NISM), allowing the NEACC to better manage upgrades and configurations, and reduce costs associated with managing Service Requests (SRs). The functionality of the new SR system will be similar to that of the existing system, however there will be some changes, such as a new user interface. A decision memorandum for the Joint PDR/CDR is currently in signature cycle.

A two-day offsite was completed to finalize the Identity, Credential, and Access Management-Modernization (ICAM-M) IdM 3.0 Critical Design Review materials.

A project status review was presented to the Office of Protective Services (OPS) and OCIO executives, resulting in approval to proceed using a customized PIV token solution for Macintosh systems.

Meetings have begun with individual Center representatives to discuss the "general access"



for NASA travelers. The current "Travel Center" tool will be decommissioned as part of this process and replaced with a NAMS workflow that will add the traveler to the travel Center database, as well as give the traveler any physical Basic Level of Access (BLA) to the Center.

MSFC Computer Information Security Official (CISO), the NASA PLM Product lead, and the PLM Designating Official have all signed the Acceptable Risk Forms (ARFs) required for managing the timeouts for Integrated Collaborative Environment (ICE) users due to inactivity to improve user productivity. The Product Lifecycle Manager Agency Business Process Lead (PLM ABPL) and the Product Lead attended a Customer Forum in Washington D.C., sponsored by Sword/Active Risk. The meeting highlighted the vendor's roadmap and improvements for products in future versions of software, provided customer presentations, and offered two hands-on workshops.

An IT Projects Lab submission for Kennedy Space Center (KSC) to work with the ICE Team on automated methods to load Ground Systems, Development, and Operations (GSDO) data into ICE has been approved and will be initiated beginning July 1, 2015.

## **Enterprise Service Desk (ESD)**

### **Enterprise Service Request System Upgrades to the Cloud!**

The Enterprise Service Request System (ESRS) has upgraded to a Cloud technology environment with new capabilities in ServiceNow, making searching and requesting services easier and offering the opportunity to request

Technology Refreshes for ACES seats for NASA customers.

As a part of this upgrade, the Enterprise Service Desk (ESD) was able to implement a number of services that were previously offered as stand-alone offerings; now consolidated to facilitate ease of use for our customers. For ACES, users will note changes to "S" and "M" compute seats. These were previously offered as separate services but now the "S" or "M" options are selected while ordering the type of equipment. Users now can just browse Wintel Laptop, for example, and select all relevant options in one place. The same is true for mobile seats.

An additional new enhancement for users was Early Tech Refresh (ETR) and Tech Refresh (TR) options. ETR may be requested when a user wants to replace an active ACES seat with another type of equipment (e.g., Wintel to Mac, or iPhone 5 to iPhone 6). ETR is an out-of-cycle request to refresh your ACES equipment that includes an additional cost (Asset Transition Value [ATV]) to the user.\*

Tech Refresh (TR), also referred to as a "Like for Unlike" refresh, is used when a user is in their refresh cycle and wishes to request a different type of equipment. ACES will continue to notify users when their refresh cycle begins. These can occur from two to four years apart, depending on the type of ACES seat you have. No notice is needed to begin an ETR.

Lastly, a new category called My Services replaced the current category known as Service & Configuration Modifications. ACES users can use this category to change device configurations, de-subscribe from ACES seats, and defer scheduled refreshes. Note that these services use the Show My Services capabilities to display eligible ACES assets,

as do the Tech Refresh and Early Tech Refresh services.

For NICS, users will note changes to LAN Connection Services. A number of options have been combined into a single service, with radio buttons to select the desired service.

\*Before requesting ETR, please familiarize yourself with your Center policy regarding ETR and/or contact your Center ESD SME for additional guidance/info.

## **Web Services (Web Enterprise Systems and Technology, or WESTPrime)**

The much anticipated, newly redesigned NASA.gov was launched in April. The new look and feel is sleek, modern and easy to navigate. Congratulations to the NASA.gov and WESTPrime teams for making the site a success!

The NASA Image and Video Library (aka images.nasa.gov), will be launching in early September 2015. Thank you to all the centers that have sent gigabytes of media and metadata for the initial launch.

WESTPrime is now providing Drupal-As-A-Service (DaaS) for both NASA internal and external sites. NASA WESTPrime DaaS is a turnkey solution that allows you to get a website up and running in a few days. The DaaS framework is built on Drupal, a proven open source content management system, and has hundreds of add-on modules pre-installed. It is security tested, Section 508 compliant, and integrated into the NASA Enterprise.

For more information about WESTPrime, please visit us at <http://inside.nasa.gov/webervices> ♦



# Engineering Communities Can Share Videos Easily using New NEN Capability

By Ann Bernath and Daria Topousis, Jet Propulsion Laboratory, California Institute of Technology

NASA engineers can now easily share videos on the NASA Engineering Network (NEN) using a new capability released in March. Sharing is simple: the user navigates to the videos page in their community of practice site on NEN, selects to add, provides a URL, and submits. Once approved, the embedded video is displayed on the videos page complete with title, thumbnail, and other metadata.

The new capability uses the oEmbed protocol to pull the title, thumbnail, and embed code from the hosting site to the engineering community's page automatically. Although a video hosted on any site can be added, sites that support the oEmbed protocol such as YouTube and Vimeo, and soon NASA Tube and the NESC Academy, allow the capability to do the hard work instead of asking the user to find, copy and paste embed codes, and find, download, then upload a thumbnail.

Engineering communities of practice on NEN have already established pages on their sites and are sharing videos of interest with their colleagues. This list includes Guidance, Navigation, and Control, Fault Management, Life Support/Active Thermal, Loads and Dynamics, and Software Engineering. Topics include space station tours, conceptual animations, demonstrations, test firings, and launch videos.

As with other assets on NEN, such as events, webcasts, and links, anyone behind the NASA firewall can add videos using their browser. All they have to do is sign in, click Add from any video page, and paste the video's URL into the form. NEN users can also add comments, share the video's link with others, and subscribe to be notified of new postings.

The NASA Engineering Network can be accessed within the NASA firewall at <http://nen.nasa.gov>. NEN is sponsored by NASA's Office of the Chief Engineer and managed by a team within JPL's OCIO.

# JPL IT Receives Industry Honors

By Tom Soderstrom, Chief Technology and Innovation Officer, and Whitney Haggins, IT Communication Specialist, Jet Propulsion Laboratory, California Institute of Technology

The JPL IT Directorate was recently recognized with three prestigious industry honors.

In April, JPL IT was awarded third place on the annual *InformationWeek* Elite 100. The award, currently in its 27th year, ranks and honors the 100 most innovative users of business technology in the United States. NASA's Ames Research Center was also ranked among the top 15 organizations.

On June 1, *CIO Magazine* named JPL a 2015 CIO 100 Honoree. The award recognizes the top "100 most innovative organizations that uses IT effectively to create business value." This is JPL's fourth consecutive appearance on the CIO 100. The award recognized the JPL IT Streams Interactive Analytics tool and its use of cloud computing and rapid prototyping for infusion into existing flight programs. JPL IT will be profiled along with other winning companies in the August issue of CIO magazine.

On June 22, *Computerworld* named JPL as one of the 100 Best Places to Work in IT 2015. This is the third consecutive time JPL has been honored with inclusion on the list, an annual ranking of the top 100 work environments for information technology professionals by Computerworld Magazine. The Best Places to Work in IT is compiled based on a comprehensive questionnaire regarding company offerings in categories such as benefits, diversity, career development, training and retention. In addition, Computerworld conducts extensive surveys of the IT employees, and their responses factor heavily in determining the rankings.

JPL CIO Jim Rinaldi said: "I'm very proud and happy that the innovation, excellence and hard work of all JPL's IT employees are again recognized by these industry organizations."

National Aeronautics and Space Administration

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