National Aeronautics and Space Administration

IT Talk

July - September 2014 Volume 4 • Issue 3

How Will We Work in 2025?

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In this Issue

Message from the NASA CIO

By 2025, Generation Y, or millennials, as some people call them, will make up roughly 75% of the world's workforce. Millennials want to work for organizations that foster innovative thinking, develop their skills and make a positive contribution to society.

At NASA we continue to look for new ways to keep up with the times. Forget whether it's practical to bring your own technology devices to work—in the future, you may not even have an office. It is likely that we will continue to see more employees co-located or working from anywhere. We will see a greater focus on virtual working and enhanced capabilities around collaborative practices and open innovation.

I believe successful workplaces are those that embrace this type of change, practice diversity and equity, and provide a healthy work-life balance. In this issue, we'll take a closer look at how we will work in 2025 and what that may mean for our CIO community. We'll also explore some of the great technology advancements happening at the Centers.

~Larry

New CIO for Kennedy Space Center Named

By Tom Villane, KSC OCIO
Strategic Communications Committee Representative

Vanessa Stromer has been selected as the Chief Information Officer (CIO) for the John F. Kennedy Space Center (KSC), effective May 4, 2014. She leads an organization of 130 civil servants and 500 contractors that are responsible for the development, integration, and operations of the IT and communications systems and services at the Center. Additionally, she ensures that KSC's information systems are acquired and managed in accordance with federal requirements and agency policy.

As CIO, Ms. Stromer says she wants to improve responsiveness and customer focus along with delivering innovative, secure, and cost-effective IT services. She also lists as one of her goals to provide IT services that enable customers to work from anywhere. While these goals are ambitious, Ms. Stromer acknowledges economic reality by stating, "One of the biggest challenges will be to change the business model so that we can continue to provide our services within the declining budgets that we face."

Ms. Stromer joined KSC in 1988 as a digital design engineer for the Launch Processing System in the Ground Engineering Directorate. Four years later, she was assigned to the Shuttle Operations Directorate, where she managed the Checkout, Control, and Monitor Subsystem project that replaced computer systems in seven control rooms at three NASA Centers.

In 1994, Ms. Stromer was selected as the Chief Information Officer for Shuttle Operations Directorate. She was assigned to the Information Technology Directorate as the Associate Director in 1997 to form the Outsourcing Desktop Initiative for NASA (ODIN) Office for Space Flight Lead Service Center. She continued to consolidate KSC's Information Technology services through 2003 as the Chief of KSC's IT Division. After becoming the Chief of the CIO and IT Security Office at KSC in 2003, she had Center-wide responsibility for planning and managing IT security for all computer systems and IT infrastructure. In 2007, Ms. Stromer became the Deputy Director for the Information Technology and Communications Services Directorate and the Deputy CIO for KSC.

Ms. Stromer was born in Clanton, AL, and grew up in Huntsville, AL, where she graduated from the University of Alabama in Huntsville with a Bachelor of Science degree in Electrical Engineering in 1985. She earned a Master of Science degree in Engineering Management from the University of Central Florida in 1991.

Winners Announced for 2014 International Space Apps Challenge

By Eldora Valentine, OCIO Communications Manager, NASA HQ

A panel of NASA judges selected five "best in class" solutions as winners of the 2014 International Space Apps Challenge, and the global social community selected a People's Choice fan favorite.

The judging categories and winners are:

SkyWatch, selected as the Best Use of Data, was created at Space Apps Toronto. The SkyWatch app is a visual representation of data collected from observatories around the world in near real time. The app provides telescope coordinates of celestial events and plots the location through Google Sky. Users can subscribe or filter sky alerts and share them through social media. This project solves the Alert-Alert challenge.

Android Base Station, selected as the Best Use of Hardware, was created at Space Apps London to transform a smart phone into a Wi-Fi hotspot by connecting to satellites using a 3-D printed receiver. This automated, ultra-portable satellite tracking station can log changes in micro-satellites in orbit. This project solves the PhoneSat challenge.

Aurora Wearables, selected as the Best Mission Concept, was created at Space Apps Exeter as a collaboration between artists, fashion designers, technologists, and software developers. This internet-connected spacesuit is designed for astronauts to wear on the International Space Station and beyond. This solution solves the Space Wearables challenge.

Yorbit, selected as Most Inspiring, was created at Space Apps Kansas City as a way to search, personalize, and share the stunning photographs captured by NASA satellites orbiting high above Earth. Searching by date and image, users can choose images from unique maps and write messages on the image to share using social media or e-mail. This project solves the Earth As Art challenge.

SkySnapper, selected for greatest Galactic Impact, was created at Space Apps London to measure air quality by snapping photos of the sky. Crowd-sourced sky images are mapped to assess air pollution by sky color to spot polluted areas and monitor progress over time. This project solves the My Sky Color challenge.

The two-day hackathon challenge took place at 95 locations around the world April 11–12. More than 8,000 participants developed software, hardware, data visualization, and mobile or Web applications.

"The International Space Apps Challenge is an opportunity for NASA to leverage our massive datasets, as well as open source technology, to invite citizens around the world to create new solutions to the issues humanity faces on Earth and in space. The NASA brand is a drawing card to rally innovative thinkers and doers to gather together where they live—and virtually—to collectively engage with our scientists and engineers, data, and tools," said Deborah Diaz, NASA Chief Technology Officer for IT.

This year, nearly 40 challenges represented NASA mission priorities in five themed areas: Earth Watch, Technology in Space, Human Spaceflight, Robotics, and Asteroids.

Social media users around the world joined the judging action to vote for their favorite projects. People's Choice Award winner Space Helmet, created at Space Apps Valencia, received the highest score based on a formula that took into account the number of tweets, unique users, and timeline deliveries.

All award finalists were nominated at the local level from among the local winners. Submissions for global judging were required to create a 30-second video to describe the project solution.

Winners will attend the Space X5 launch on September 12, 2014. (Award recipients will be responsible for all travel costs.) To learn more about the International Space Apps Challenge and recent winners, visit: http://www.spaceappschallenge.org

International Space Apps Challenge Staff (l-r):

Space Apps Team Organizers in NY. (L) Fatima Senghore, Mike Caprio, Eldora Valentine, Deborah Diaz, Astronaut Doug Wheelock, Alice Ng, Ethan McMahon, Katey Metzroth, Michael Brennan (R)

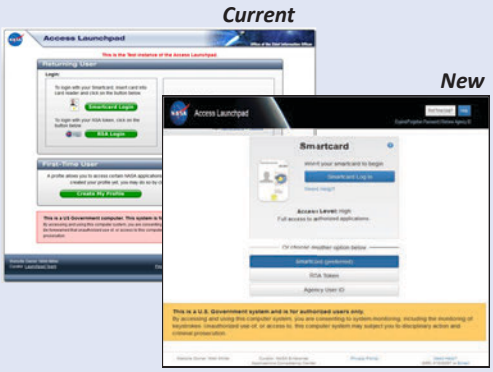
The New Look of Access Launchpad

LAUNCHPAD

The NASA Access Launchpad, also called "Launchpad" is an online service that you can use to log into many applications, such as IdMAX, Webtads, and SATERN, using a single account.

NEW LOOK

Beginning in May 2014, you'll begin to see the new look for Launchpad as the applications you access transition over the following weeks to the new Access Manager software.



LOGIN

The Launchpad home page may have a new look, but no need to worry. Smartcard, RSA Token, and Agency User ID are still available to use for login and accessing NASA apps from your mobile devices has never been easier.

DID YOU KNOW

Smartcard

Using your Smartcard to log in is considered the Highest level of authentication, allowing full access to authorized applications.

Id.nasa.gov

You can change your Launchpad password, reset password, update your security questions, and many other self service functions.

First Time User

To enable your Launchpad account you will need to Create a Profile. Click the First Time User button located in the top right corner for instructions.

JPL IT Recognized with 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 separate industry honors in 2014.

In April, JPL IT received the inaugural Consumerization of IT in the Enterprise (CITE) Award for "Best Cloud Rollout" at the 2014 CITE conference. The award recognized JPL's highly successful and creative use of cloud computing to enable sharing the excitement of the Curiosity landing story in real time with a worldwide audience.

JPL IT has again been named by IDG's CIO Magazine to the 2014 "CIO 100," recognizing the organization as "one of 100 most innovative organizations that uses IT effectively to create business value." This is the third consecutive year JPL IT has been named to the CIO 100. This award recognized JPL's IT Technology Petting Zoo and its creative infusion of technology in the work environment. JPL IT will be profiled along with other winning companies in the August issue of CIO magazine.

In the June 23 issue, IDG's Computerworld announced that JPL was named to the 2014 list of 100 Best Places to Work in IT, an annual ranking of the top 100 work environments for technology professionals by Computerworld Magazine. This is the second time JPL has received this honor. The list 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.

Jim Rinaldi, CIO of JPL, 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."

NASA the Best Place to Work in Government!

NASA Ranked the Best Place to Work in Government for Second Year in a Row. Center Chief Technology Officers pose for a picture in front of the Google Driverless Cars at Google in Silicon Valley.

How will we work in 2025?

By Tom Soderstrom, Chief Technology and Innovation Officer, Jet Propulsion Laboratory, California Institute of Technology

As IT professionals, we are used to rapid changes. But compared to what's coming, we ain't seen nothin' yet. Of course, no one actually knows the future, but by predicting it, we can make better decisions today that will help us become more effective tomorrow. The purpose of this article is to start a discussion so we can innovate together to help NASA IT lead the way and prepare for how NASA employees will work effectively in 2025.

It has been said that the best way to predict the future is to create it. While we may not be able to create the IT future by ourselves, we can certainly influence it. A good way to accomplish this is to (1) collaboratively predict the future; (2) test it together now with leading industry innovators by creating meaningful and evocative prototypes that provide high value for our constituents in the NASA environment; (3) measure the results; and (4) communicate the results as visibly and loudly as we can.

So, what will the technology environment look like in 2025, you ask? OK, here's a prediction at a subset of the new normal in 2025: 3D printing / scanning / faxing is mainstream. Consumer robotics is everywhere and really cheap. All data is accessible, searchable and usable from any device. We can use unlimited computing and storage through cloud computing. Computing is wearable with any data accessible at any time. Reality is augmented via modeling by default through our mobile apps and wearable computing. Space is partly commercialized and NASA routinely partners with commercial and non-traditional entities. Over 10% of cars are self-driving. More than 50% of employees are Millennials. NASA looks and feels much more like a startup than we did in 2014 and we use crowd sourcing routinely. Projects are accomplished in months, not years.

How will we work? We will routinely use effective, rapid prototyping with faster, lighter, cheaper, and more effective infusion of the latest technologies into the NASA missions. Agile development

will seem cumbersome in comparison. We will evaluate and use the most effective emerging tools as part of our normal work. Visual programming and modeling will be expected and NASA will show visible leadership to industry.

Where will we work? Simply put, NASA will be the workplace of choice. We will have a balanced, "startup-like" environment with mobile, reconfigurable, fit-to-purpose workspace that enhances personal productivity and job satisfaction. Working from anywhere with any data and any device will be the new normal.

Who will perform the work? NASA will be the employer of choice and the partner of choice for the next generation of startups, industry, partners, and competitors. What about "the crowd" you say? Bring it on! Crowd ideation / development / funding will be commonplace and highly effective.

What will we work on? We will be equally adept at small and large missions, for both wild and feasible ideas. We will use industry for transportation. We will be on our way to 3D printing on Mars in preparation for sending humans to Mars. Asteroids will be within our grasp (literally). Submarining under the ice of Europa will be imminent. We will monitor and protect our planet with millions of sensors composed of official NASA instruments and crowd-sourced wearable computing and nanosats. And that's just a start.

You want some specifics? OK. Here is a sampling of predicted changes and prime candidates for prototyping that will show us the way to taste test this future now across NASA Centers and with leading industry innovators:

- *By taking advantage of Big Data and Analytics, we can easily find, store, share, and update all relevant information when we need it. We will provide self-service analytics to all who need it, so our decisions are based on data, not anecdotes. Robotic devices and scripts will collect valuable data for us 24 hours per day, every day. Every NASA Center should have at least one Data Scientist. More specifically, an engaged and excited individual that is ready and willing to try new innovations and literally press any button at any time.*
- *The Internet of Things and Wearable Computing will help us to have instant access to all this information at our fingertips, on our wrists, in our glasses, via hand gestures, and by simply speaking the questions. This becomes invaluable in a hands-free environment, such as in a clean room or inside space-constrained structures, such as the DSN antennas.*
- *We will use just-in-time training through videos created by current NASA specialists, and through specialized Massive Open Online Courses, all available from anywhere and any device via on-demand video snippets delivered directly to our favorite devices, such as smart glasses.*
- *3D Printing/Scanning/Copying/ Faxing will be mainstream and will allow us to hold effective brainstorming sessions where we mix virtual and physical models regardless of where we are located.*

Is this too Pollyanna'ish for you? Too conservative? Either way, please participate in the conversation and help us steer this train in the right direction, because it is already moving and speeding up, with or without us. Our destination is exciting indeed. And it's all enabled by IT.

The Force of 2025

By Lynn Vernon, Associate Director for Information Resources Directorate and Elena Buhay, IT Manager for Mission Operations Directorate

Ditch the suits, ties, skirts and blouses. Decommission the desktops, laptops and mobile devices. Demolish the office buildings. The workforce of 2025 will be wearing their data interfaces integrated into their clothes or glasses and working from wherever they happen to be when work needs to be done.

A generation raised on the internet will be everywhere, using cloud technologies and a telepresence to collaborate with co-workers locally, interstate, internationally and eventually interplanetary.

Accustomed to the speed of technological advances and the steady influx of information, this workforce will be adaptable and agile. Beyond personal faculties, an "intelligent assistant" will be available as a digital guide to help navigate massive amounts of data, manage data based on an individual's history and electronic activity, identify educational needs for life-long planning and recommend professional and personal adjustments based on changing world dynamics (culture, demographics, social norms, technology, economics and politics). The individuals of the 2025 workforce will be an organization of one operating as a part of a seamless community.

With the availability of information and the freedom of a non-physical workplace, the 2025 workforce will be knowledgeable in multiple disciplines. This will allow them to more easily advance in their careers or change careers according to their interests, abilities and input from their "intelligent assistants."

Leaders will need to remain strong, transparent, and able to generate passion and enable employee engagement to lead this new force of 2025.

IT Labs: Where will we be in 2025

By Allison Wolff, Christopher Gerty, Jeffrey Doi

By 2025, NASA seeks to return to the Moon, land on an asteroid, and be one step closer to sending humans to Mars. It's advancements like this we plan for and execute every day. NASA and our many partners create this vision of the future and make it a reality. With such a vision, the next question is always, "How?" How will we interface with the data? How will we discover the answers? How will we build the spacecraft? How will we know what to do about an asteroid headed to Earth? How will we live on Mars? And how will we make responsible use of the world's (including our taxpayers') resources?

For NASA, creating the future of our Agency while knowing that the

(Continued on page 11)

Work in 2025, A Day in the Life

By Ed McLarney, Chief Technology Officer for the Chief Information Officer, NASA LaRC

NASA work in 2025 will be a digitally enabled combination of real-world and virtual-world work environments, which will allow mobile, secure, integrated, and automated collaboration of scientists, researchers, and engineers from around the globe. A possible day in the life of a research engineer might unfold as follows:

You wake rested as the alarm embedded in the fibers of your pillow determines your lightest sleep cycle and plays your favorite song. You lift your head to deactivate the alarm. Pillow sensors start your coffee maker. You sweat through a run outside your home in Denver, enjoying the crisp, fresh air. In your solar-powered home lab, you prepare for work via your immersive virtual environment, a combination of extreme-resolution wall displays and head- / eye-mounted displays.

Your globally distributed, government-industry-academic research/engineering team has been developing and testing a composite support assembly for the upcoming crewed Mars mission. The team works in a shared virtual reality space, and today marks the culmination of combined virtual / physical tests. With the latest haptic technology, you project touchable holography of the composite virtual reality model and physically examine it before sending the prototype to the automated fabrication team at your local NASA center. There, a 3D printer uses the composite design to rapidly manufacture a full-strength scale prototype. Following completion, an autonomous robot carries out physical tests to verify the simulated findings. You compare and contrast physical and virtual test results via a data analytics analysis & visualization engine that runs on NASA's cloud supercomputer account.

An indicator in the lower left corner of your digital contact lens shows a call from a partner in Japan. The lens translates the conversation while an audio implant receives the corresponding verbal translation. "Language barrier" is no longer a common term. You have a seamless English-Japanese discussion and return to testing.

With a few rapid eye movements, you set up overlay of current test information on the shared telework screen with graphs and tables of the test results for distributed group discussion. Your screen shifts to a conference room setting with your teammates across the table from you. After healthy debate of the final minor adjustments, the new design is sent to automated fabrication. The prototype component will be ready within the hour.

Following a gourmet, from-scratch, robot-prepared dinner, you embark on a virtual hike up Olympus Mons with your family, exploring virtual terrain derived from actual Mars data. Your teenagers are distracted by the latest music holos; some things never change.

Will future NASA work unfold exactly as described? No. However, with vision, focused investment, and healthy innovation, NASA can embrace many capabilities that could lead to something similar to the above-imagined future. Let us begin!

Collaboration in Motion

By Jaumarro A. Cuffee, JSC I3P Outreach

Innovative thinking and collaboration have become key tenets of NASA culture. Both trends contribute to advances in technology and lower, or shared, costs. The spirits of both innovative thinking and collaboration are embodied in Kinect Collaborative Lab (Co-Lab) at Johnson Space Center (JSC).

The goal of Kinect Co-Lab is to encourage the use of natural motion technology in interface design, motion tracking and business solutions. In this pursuit, Kinect Co-Lab reaches out to partner with universities and industry. This exchange allows students to leverage NASA expertise to expand their own research. It also provides a two-way exchange between NASA disciplines and industry where NASA professionals from multiple centers receive technical details and insight into the direction of planned development. The industry participants receive input from NASA professionals to consider for future development.

Kinect Co-Lab was the result of innovative thinking and collaboration. Shelby Thompson, a Lockheed Martin Senior Human Factors Design Engineer, describes the birth of Kinect Co-Lab beginning with a JSC Engineering Directorate Innovation Charge Account (ICA) used by the Human Interface Branch (EV3) of the JSC Engineering Avionics Systems Division to develop Virtual Windows using Kinect. To evaluate Virtual Windows, EV3 reached out to the Habitability and Human Factors Branch (SF3). The Virtual Windows evaluation exposed Thompson to Kinect and he realized, “Wow, this is it. This is the device that is going to take us from a mouse and keyboard to that next level.” The unfolding web connecting resources and igniting ideas was eventually organized by former co-ops Elena Buhay and Brian Schwing in the formation of NASA Co-Labs.

Kinect Co-Lab is one of a few NASA Co-Labs currently active at JSC where open, dynamic exchanges of concepts can spark another line of investigation or a solution in an unrelated area. This exchange also includes sharing resources, which helps groups like Kinect Co-Lab continue to develop and demonstrate interface concepts based on natural motion technology.

For Kinect Co-Lab, natural motion technology is neither the beginning nor the end, but one more step toward building Natural User Interfaces (NUI). Allan Stillwell, JSC Information Resources Directorate project manager and new technology researcher, describes it as, “You’ve got speech. You’ve got gesture, and then there’s going to be the part where it’s not just your computer. It’s things that are not normally interactive becoming interactive.” He admits NUI is a long way off. But to get to NUI or make possible many of the endless possibilities, NASA must keep collaboration in motion.

Wearables at NASA

Informational presentation about "wearables" technology featuring Silica Labs and APX Technologies. Attendees learned how heads-up displays can reach into backend systems for hands-free computing. Examples were given of how wearables, including Google Glass, are being used at NASA today.

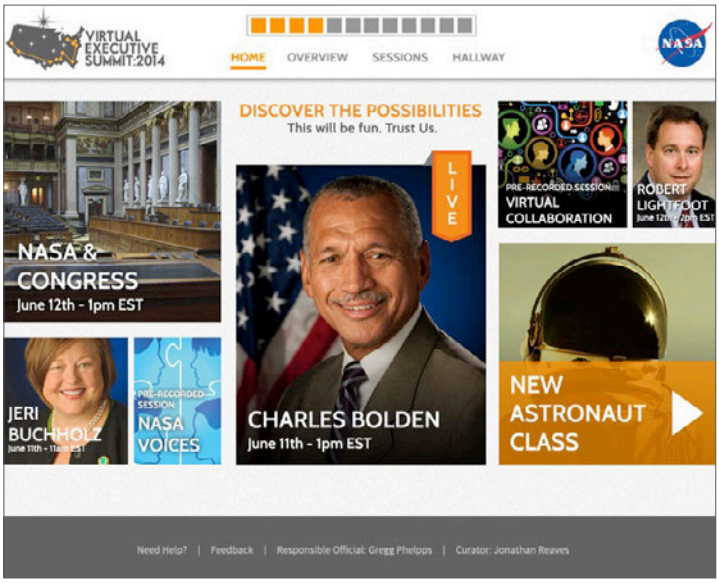
Virtual Executive Summit

NASA conducted its second annual Executive Summit in June 2014. The Executive Summit provided a forum where NASA executives could collaborate with each other, attend learning sessions, and have the opportunity to hear from NASA leadership on key strategic issues.

The summit also exposed executives to new technologies. Throughout the month of June executives could access the 2014 Virtual Executive Summit from a single launch page on the HR portal. In addition to the website, executives could participate by viewing and commenting on videos, participating in live sessions using Adobe Connect and by attending the one-day onsite at their Center.

Chief Information Officer, Larry Sweet provided a session on NASA Information Technology and Enterprise Services. Sweet highlighted what the Office of the Chief Information Officer (OCIO) does, talked about some of the common IT Center challenges and how OCIO is improving IT Security and overall governance.

Executives could also network with peers, pose questions to the knowledgeable virtual community, share ideas, and interact with senior leadership on challenging issues.



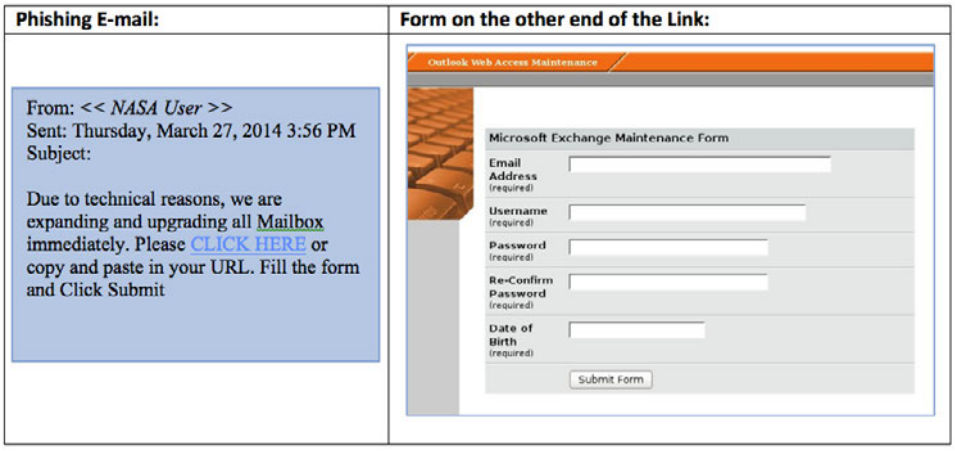
Because executives did not travel to the summit, NASA saved more than $750,000 in travel expenses.

It Only Takes a Click—A Day in the Life of a Phishing Attack

By Ken Freeman, NASA OCIO SOC Manager, and Penny Hubbard, NASA OCIO SOC Communications

Malicious attacks come in a myriad of vectors, but a favorite is the unwelcome and pervasive phishing attack. We've all heard of phishing, and we've even received clumsy e-mails from rookie hackers hoping to get someone to "bite." While hackers are becoming more sophisticated with these disruptive and costly assaults, phishing e-mails still have some basic red flags.

A recent attack against NASA began with a click on an e-mail link. Phishing signs were there, bobbing on the surface—a sense of urgency, typos and poor grammar, and the form asked for confidential information (date of birth and password). Warning sirens should have been going off, but the end-user clicked on the e-mail and proceeded to fill out the form. No legitimate Agency personnel will ever ask for a password or your date of birth. If something seems too good to be true, trust your instincts. Stop and think before you click!



In this case hackers were able to take over the end-user's NASA NOMAD e-mail account and began to send the same message to other NASA employees. Two other recipients "bit" and the phishing attack exploded to over 8,000 messages distributed throughout the Agency from legitimate, albeit hijacked, NASA NOMAD accounts. Fortunately the SOC and NOMAD teams were able to shut down the attack quickly. Had the initial flags been heeded, it would have saved disruption and downtime for many end-users and protected NASA from a costly infiltration.

As long as phishing is effective, it will continue. As stewards of NASA information, if we remain vigilant and heed warning flags, we'll be a less lucrative target. The NASA OCIO SOC protects NASA from a variety of malicious cyber security attacks. They are available, internally, via the web, phone, and e-mail.

IT Infrastructure Integration Program (I3P) Update

Communications Services Office (CSO)/NASA Integrated Communication Services (NICS)

The Communications Service Office (CSO) is transitioning their Instant Meeting (IM), also known as "meet-me", Audio Conferencing Service to a new vendor (CenturyLink/PGi). The first group of hosts/moderators was provided with their new account information on June 10, 2014. Subsequent groups will be sent their new information throughout June until the middle of July. The current accounts will remain valid until all users are transitioned—no earlier than July 31, 2014. However, CSO is requesting that once you receive your new information, you begin transition as soon as possible.

For hosts/moderators, the change will mean a new dial-in toll/toll-free number and host and participant passcodes that you will need to distribute to the participants in any meetings that you host. You may also need to revise any documentation that may have your Instant Meeting information.

For participants in audio conferencing meetings, the change will mean a new dial-in toll/toll-free number and a participant passcode to use in attending these meetings. Please look for updated information in meeting notices from your meeting host.

Training materials and opportunities to attend training sessions, as well as FAQs concerning this transition, are available at *https://cso.nasa.gov/content/instant-meeting*. Questions concerning this transition may be sent to *NASA-ASK-CSO@mail.nasa.gov*.

End-User Services (ACES)

Office 2013 Upgrade for Windows: New, reimaged and refreshed ACES Windows computers are now being delivered with Office 2013 installed. The plan to upgrade existing ACES Windows computers from Office 2010 to Office 2013 is being developed. Whether you will receive Office 2013 via the upgrade or a new/refreshed computer, you are encouraged to become familiar with the new features and functionality included in the suite of applications. Training documents and videos are available on the ACES Web site.

Like for Like Mobile Refresh Update: Phase 2 of the Like-for-Like mobile refresh pilot at Armstrong Flight Research Center (AFRC), NASA Shared Services Center (NSSC) and Marshall Space Flight Center (MSFC) was completed in late June. The Like-for-Like mobile refresh roll out at all centers (including pilot centers) will use a staggered approach and take several months to complete. Additional communications will be forthcoming. Like-for-Like refresh is for end users who will be refreshing Cellular S-Seat and Smartphone S- and M-Seat offerings with no changes to what they have today. Devices will be replaced with a new product in the same product family (e.g., iPhone to iPhone or cell phone to cell phone), the same carrier, the same services and the same phone number. Device refreshes are included as part of the monthly service fee for ACES seats and are not an additional cost to NASA.

Computer Patching: Users are reminded that software and security patches are released each Tuesday night between 8:00 p.m. and 2:00 a.m. local time to minimize disruptions during work hours. Computers must be powered on, logged off and connected to the NASA network on Tuesday nights to receive weekly patch updates. Also, some software and security updates downloaded to your computer by Client Automation Enterprise (CAE) require a reboot to properly complete the installation process. When a reboot is required, you will be presented with a reboot prompt. Although the prompt may offer you the option to defer the reboot to a later time, it is important that you reboot as soon as possible. Delaying the reboot may cause conflicts and/or data corruption.

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

The NEACC Project Management Office is providing Project Management support to the NASA Aircraft Management Information System Logistics Upgrade (NAMISLU) project, including drafting the Funding Authorization Document (FAD) and working out the project timeline with the NAMIS team at JSC. The NEACC Education Line of Business demonstrated end-to-end functionality of the current Longitudinal Study module on June 4, 2014. Interactive testing was conducted with the NEACC to train the Office of Education Infrastructure Division (OEID) and to initiate the date triggers for follow-up e-mail reminders. Updated spreadsheets with student profiles were received and will be bulk loaded into the system.

Internal NEACC discussions are on-going to assess the requirements for e-Invoicing Phase II. The NEACC is working with the Office of the Chief Financial Officer (OCFO) Budget Division to come up to speed on the vision for future system integration efforts.

The System for Award Management (SAM) Interface/Extract Working Group (SIEWG) announced that it has extended the SAM current "as is" interface environment to October 31, 2014. Changes are targeted for the 15.1 release.

The Identity, Credential and Access Management (ICAM) Line of Business worked with the NASA Office of the Chief Information Officer IT Security to add a step in the current Center Incident Response Team procedures to have them notify the Center Registration Authorities (RAs) of lost, stolen, or compromised laptops and Blackberries. This is related to a PKI audit finding that RAs are not notified

(Continued from page 7)

future of information technology will advance beyond our wildest dreams is a call to action for everyone in the field of computing. We hope that everyone who takes interest in NASA's information technology advancements, both inside and outside the Agency, shares the empowering sense of opportunity and responsibility that knowing and creating the future presents itself to us with every day.

IT Labs is currently exploring a number of information technology innovations that will address the opportunity of today to help shape the technology of tomorrow. Current investments in Alternative Human-Computer Inputs are paving the way for a workplace where NASA engineers can create and manipulate spacecraft models using gestures. This simple capability that entered households via the gaming industry (Microsoft Kinect®) when coupled with emerging haptic and projection technologies will provide a multi-sensory design and development experience. The IT Labs Technical Data Operability Pathfinder and SysML Visualization Engine projects will ensure this design data is organized, transferrable, and centrally displayed on an intuitive dashboard, ensuring a seamless transition across projects and systems. Furthermore, IT Labs is playing a part in taking NASA High Performance Computing to the next level. Whether leveraging a hybrid model similar to the current IT Labs Cloudbursting project or enhancing capabilities locally, like the current Supercomputing Desktop project, IT Labs will help ensure a NASA culture that seeks opportunities to advance information technology in a responsible manner that provides a progressive end-to-end experience in support of the NASA mission.

Browse all the IT Labs' sponsored innovations and technologies on the IT Labs website: *https://labs.nasa.gov/SitePages/browse-projects.aspx* (NDC credentials required)

of lost, stolen, or compromised devices and therefore, any related encryption and signing certificates on the devices are not revoked.

The NEACC supported Agency IT Security with Entrust information concerning encrypted files and its associated usage with the Extreme Universe Space Observatory's (EUSO) Large File Transfer (LFT) utility. Our external partners have been without a solution for some time since the NOMAD LFT Accellion appliance lost its FIPS 140-2 validation, after patching for the Heartbleed bug.

Enterprise Service Desk

ESD Face-to-Face

The third ESD Subject Matter Expert (SME) Face-to-Face (F2F) was hosted by LaRC the week of June 16. The purpose of the ESD SME F2F was to review and refine the working relationship between the ESD Service Office and the ESD SMEs. Outcomes of the F2F will include updated policies and procedures for ESD service delivery. Outcomes will be actionable with assigned parties and due dates.

ESD Release Update

The ESD released several new enhancements June 23, 2014. These enhancements include:

1. Additional categorization for incident tickets for better routing and reporting. Users will see several new categories available to help classify their issue when creating a new incident ticket at Tier 0. These categories will provide for more detailed reporting regarding what types of incidents are being submitted, enabling ESD and the I3P vendors to identify and focus their attention where the customer needs it most.
2. Automated reminders for Knowledge Article reviews. ESD will begin sending automated reminders to knowledge authors so Knowledge Articles won't go out of date. This will help keep the ESD knowledge base up to date and accurate, thus ensuring our customers have access to the latest support information.
3. Easy access to self-help for service ordering. A link to self-help for ordering services is being added to the top of every page in the Order Services section of Tier 0.
4. Updated Website graphics. Users will notice a new look and feel at ESD Tier 0 that is similar to the new appearance of both the OCIO and NSSC Websites. All functionality remains the same, except where modified elsewhere in this release.
5. Temporary Duty (TDY) service ordering capabilities. A new workflow has been defined in NAMS (aka IdMAX) that will allow users to temporarily request a second Center as their duty station. This will allow users to view Center-specific services in Order Services for the second Center, so they may order telephones or other items that are not available for viewing to users from their home Center. Search NAMS under "ESD Temporary Center Services Entitlement".
6. ESD Approval Queue Removal Request. Allows SMEs and CILs to remove unused Org and IT Approval queues without having to search down every user who is currently provisioned for that queue. This eliminates the need for multiple requests to retire an unneeded approval queue. Please note this cannot be used to remove Resource Approval queues; those changes must be coordinated with the I3P Business Office.

For additional details, please see the *ESD Release Notes*.

IT Infrastructure Integration Program (I3P) Update (continued)

Web Services and WESTPrime

Headquarters Migration: WESTPrime began the migration of 42 applications for NASA HQ in March 2014. Working in tandem with the HITSS program, 15 applications have been deployed to the WESTPrime Amazon Cloud. Deployment phases will continue through the month of July 2014.

AVAIL Demo: A demonstration of a proposed new Agency Video, Audio, and Imagery Library (AVAIL) was successfully delivered to the NASA Imagery Experts Program in late May. The demonstration site provides NASA stakeholders a hands-on user interface and search experience that is scalable for desktops, tablets and mobile devices. The NASA Imagery Experts Program is seeking resources to build a fully operational version of AVAIL, which would provide NASA and the public a single presence on the internet for searching the best of images, videos and audio clips currently housed on more than a dozen separate Web sites.

WESTPrime O&M: The WESTPrime O&M Team has been busy innovating the way our cloud environments are maintained. Automated patching and "hands-off" automated backups for our production infrastructure are part of the WESTPrime offering. Leveraging the most modern automation tools, we are just a breath away from automated weekly deployments. WESTPrime is also developing optimization strategies by analyzing utilization statistics and is moving toward being the only public cloud-based development shop in the government space.

Training: Drupal Content Management System (CMS) training is every 3rd Thursday of the month. Contact WESTPrime communications to register.

Looking Ahead: The WESTPrime team will be doing road shows at Ames Research Center and Goddard Space Flight Center to talk about the advantages of hosting Web sites and applications in the cloud. Public clouds, private clouds, Govcloud, Platform as a Service (PaaS), Infrastructure as a Service (IaaS), sandbox environments, WESTPrime has it all. Join us for a fun, informative presentation and discussion. Keep watching for an announcement from your center.

The NASA Office of the Chief Information Officer (OCIO) sponsored a road show on May 7, 2014, to familiarize NASA personnel with the services WESTPrime offers and the process for engaging the WESTPrime team for services.

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