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IT Talk

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NASA in the Cloud

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Message from the NASA CIO

Each year, millions of people in the United States make New Year's resolutions. There are several IT resolutions that I feel will contribute to greater success for NASA IT in 2014.

As an organization, we've made significant strides. Our IT services are being evaluated as the first Business Services Assessment (BSA) Pilot, which will help determine the health of IT services across the Agency. All of this is designed to help focus IT services on improved efficiencies and improved IT security and to provide an affordable service and operating model that meets the Agency's needs. We are a very good team, and we are getting better. So I am truly thankful to all the Centers and appreciate all the hard work and commitment to improving the Office of the Chief Information Officer (OCIO) and IT services for NASA.

So, with this in mind, this year, just like all the rest, I have some proposed key goals for 2015. Here's a list of my top priorities:

1. Take care of our people – They are our most important asset.
2. Improve communications among and with the Center CIOs, OCIO staff, and our stakeholders.
3. Continue building a top notch, Agency IT Leadership Team that models NASA's core values.
4. Improve integration within OCIO, find efficiencies, and share resources where we can.
5. Deliver on our promises: Service delivery, technology infusion, and project execution.
6. Develop the information security continuous monitoring (ISCM) capability across NASA.
7. Ensure the Business Services Assessment (BSA) and MSC decision optimizes NASA IT.
8. Implement an effective portfolio management approach across our service areas.
9. Strengthen and improve vendor management.
10. Develop a data management strategy/framework to address TCAT-identified data problem.

~Larry

New CIO at NSSC

Daniel "Danny" Harvill has been selected as the new Chief Information Officer (CIO) at the NASA Shared Services Center (NSSC). Harvill began his duties on October 17, 2014.

He has been with NASA for approximately 5 years at the NSSC. For the past year, Harvill has been the Chief Information Security Officer (CISO), responsible for the overall IT Security program for the NSSC.

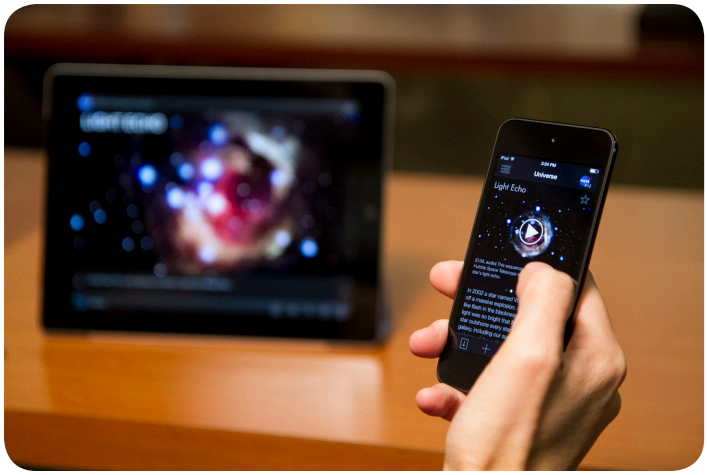
Previously, he held positions as: Project Executive; Subject Matter Expert (SME) for network, Voice over IP (VoIP) and information systems; Change Control Board Chair for infrastructure, architecture, and configuration for the enterprise data; and Chief Security Officer for the NASA Agency Consolidated End-User Services (ACES) contract. Welcome aboard!

Going BYOD at JSC

By Matthew Rodriguez, Computer Engineer, JSC Information Resources Directorate

NASA employees often come back from the holiday vacation with a sleek new phone, tablet, or laptop that they are eager to connect to the Internet and start using for e-mail and calendar updates in their daily workflow. But should these personal devices connect to the NASA corporate network?

To support personal mobile devices and the Bring Your Own Device (BYOD) initiative, Johnson Space Center (JSC) has implemented a wireless network named "nasabyod." The purpose of this BYOD network is to allow JSC employees with NASA Data Center (NDC) credentials to connect their personal mobile devices to the Internet for work-related e-mail, calendars, and Web-browsing while maintaining focus on the protection of NASA networks and data. As with the guest network, users who connect to nasabyod are limited to Internet access (Web-browsing, e-mail, calendars) and cannot access the internal, corporate network. A virtual private network (VPN) client must be used on personal devices to securely access internal NASA resources. The nasabyod network supports the same authentication and encryption standards as the corporate network.



By offering the JSC community a separate wireless network for BYOD, the Center reduces the risk to its internal resources. Approximately 15 percent of all wireless clients at JSC connect to nasabyod. This translates to between 700 and 800 devices connecting to the BYOD wireless network on a daily basis. As the number of BYOD devices increases, it is important to provide employees with an alternative to keep their personal devices off the NASA corporate network.

JSC wants to help employees increase their productivity and improve their workflow if they choose to bring their own device, and the JSC BYOD network is available to get them online and back to business in a way that suits them.

IDEAS To Enhance Operations on Earth and in Space

By David J. Miranda, Project Lead for IDEAS project, Kennedy Space Center, and Co-Authors Allan Villorin, Delvin VanNorman, and Michael McDonough

Imagine that you are an engineer or technician working on a critical space system and all the information you need is immediately available to you when you need it. All your work procedures, not just the ones you happen to have with you, are accessible on demand. You can quickly document your work with images and text with ease. Every move you make is recorded on demand, and you can play it back later for training or analysis. For your particular task, you can immediately see exactly what others have done before you. Imagine having a telepresence capability that streams what you are seeing—as you see it—to colleagues anywhere in the world. In addition, all the emergency sensors and system health data are instantly available. When an emergency occurs, you find out immediately, and further instructions are made available exactly when you need them. And all of this can be wirelessly transmitted across the globe or stored locally. Now imagine all of this displayed and accessible right from your safety goggles using an embedded, lightweight wearable computer.

In October 2014, a team led by Kennedy Space Center (KSC) early-career employees was awarded funding by the Space Technology Mission Directorate (STMD) to develop a wearable computer with an optical head-mounted display. The goal of this project, titled the Integrated Display and Environmental Awareness System (IDEAS), is to enhance real-time operations by providing various means of communication and augmented reality data to field engineers here on Earth and in space.

The IDEAS device would allow users to have access to and modify critical information on a transparent, interactive display in their non-obstructed field of view without taking their eyes or hands off the work in front of them. The proposed technology would dramatically improve the user's situational awareness, thus improving safety and efficiency. Once the technology is proven initially for ground operations, it can be transitioned for use in many other areas, ranging from laboratory research to in-space mission operations, as well as to commercial manufacturing.

This KSC team was one of four that were selected from across the Agency as part of STMD's Early Career Initiative (ECI) pilot program. The program encourages creativity and innovation among early-career NASA technologists by engaging them in hands-on technology development opportunities needed for future missions.

The core team of NASA early-career employees on this project is made up of employees of KSC's Engineering and Information Technology directorates. The team members are Michael McDonough, Delvin VanNorman, Allan Villorin, and project lead David Miranda. The team chose to partner with KSC contractor Abacus Technology, the Florida Institute of Technology's Human Centered Design Institute, and Orlando small business Purple Rock Scissors. These partners bring to the team a mix of skills that will involve innovative and agile approaches, ensuring that a technology is developed with the user in mind.

The IDEAS team is excited to join the other projects in STMD's Game Changing Development Program and to develop a technology that can enhance NASA's future operations.

The other teams selected for the ECI pilot program and their topic areas are as follows:

- Marshall Space Flight Center: Lightweight Integrated Solar Array and Transceiver (LISA-T)
- Stennis Space Center: High-Speed Video Imaging with Disruptive Computational Photography Enabling Technology
- Langley Research Center: On-Orbit Autonomous Assembly of Nanosatellites

NASA in the Cloud

By Roopangi Kadakia, CISM, Web Services Executive

According to Amazon, NASA has the largest exposure of any U.S. Federal Government agency in the public cloud. Currently, the Jet Propulsion Laboratory (JPL) has, on average, more than 400 instances running in the cloud, while the Office of the Chief Information Officer (OCIO) Web Services has more than 300 instances. In the past, OCIO Web Services had approximately 500 instances, but through efficiency and consolidation, they have been able to decrease this number by 40 percent. The number of instances for the Computing Services Service Office (CSSO) is approximately 75. Each instance can be considered a virtual server. These instances do not include many of the Software as a Service (SaaS) offerings that NASA may be currently using, including our new help desk software called ServiceNow, Dropbox, MS Office 365, Google Apps, and others.

What exactly does cloud computing mean to NASA, and how can it benefit us?

NASA has approximately 25,000 servers in its network. These servers need to be refreshed on a regular basis. They are stored in a data center that takes up real estate and uses other assets such as power and cooling. If these servers could be leased instead of owned, we would pay only for the use of the computing platforms. Also, they could be switched on or off remotely. One can potentially save money, have more efficient management of servers, have much less capital expenditure, and start standardizing the environment for better security and performance.

For starters, let's look at the most essential characteristics of cloud computing. There are five characteristics that must be available for a service to be considered to be in the cloud. These are:

1. on-demand self-service—you should be able to turn on or off your services as needed;
2. broad network access—your services are available over the network and accessible via mobile phones, tablets, laptops, PCs, etc.;
3. resource pooling—the provider's computing resources are pooled or shared using a multi-tenant model, with different physical and virtual resources dynamically assigned and reassigned according to demand;
4. rapid elasticity—depending on your application usage and load, the service can scale up or down rapidly as needed; and
5. measured service—the service can monitor, control, and report on your utilization.

As NASA starts evaluating many of the functions that are performed by those 25,000 servers, we're looking at which ones can benefit from the different service models that are currently offered by a variety of cloud services providers.

- Infrastructure-as-a-Service (IaaS) examples are virtual machines, storage, networks, or other fundamental computing components, resources, and capability.
- Platform-as-a-Service (PaaS) examples are programming languages, libraries, databases, Web servers, services such as execution runtimes, or developer tools supported by the provider.
- Software-as-a-Service (SaaS) examples are e-mail services, help desk systems, and other services that use the provider's applications running on a cloud infrastructure.
- Second-Tier Services—such as Data-as-a-Service, Desktop-as-a-Service, Security-as-a-Service, and Recovery as a Service (Backups)—are constructed on top of the above services.

Currently, NASA has over 150 applications, Web sites, and SaaS offerings in the Amazon cloud. Most of these systems utilize the Web Enterprise Systems and Technology (WESTPrime) contract. Others are using the CSSO's General Purpose Managed Cloud Environment (MCE) or their High Performance Computing MCE.

Some of the current customers for the applications, Web sites, and SaaS in the Amazon cloud are the NASA Engineering Network, nasa.gov, science.nasa.gov, and inside.nasa.gov Web sites, as well as the entire DevOps suite powered by Atlassian. The WESTPrime environment has been approved to process information up to a moderate level and also has a segregated environment the can support ITAR information.

So what is the future of cloud usage at NASA?

The possibilities are endless, and some are game changers. We will just name a very small number here.

Let's first look at what is in the pipeline. The CSSO is collaborating with the Science Mission Directorate on Earth sciences collaboration, OpenNEX data sharing, and Tournament Labs.

Web Services is collaborating with the Imagery Experts Program on images.nasa.gov which will be available starting July 2015. This service will empower the public to find the best-of-the-best of NASA's images, videos, and audio clips from one location. Cloud scalability will allow NASA to handle multiple-resolution options and jumps in visitor volume without breaking the service or impacting the individual visitor experience. Users of this service will be able to utilize images on their own applications and Web sites, and the images will automatically provide the best resolution for the device and bandwidth

JPL's Cloud Computing Strategy

By Tom Soderstrom, Chief Technology and Innovation Officer, and Jonathan Chiang, Chief Engineer, Office of the CIO, Jet Propulsion Laboratory, California Institute of Technology

Did you hear the one about one data center and three clouds? If you didn't, read on. It's the Jet Propulsion Laboratory's (JPL's) Cloud Computing Strategy in a nutshell.

The road toward cloud computing began at JPL in 2008 with the vision and strategy of a single JPL data center. A data center, you say? Yes, but a logical one, where users can rent rather than buy capacity and pay for only what they use. Sounds like a cloud, doesn't it? Exactly. The clouds (private, public, and hybrid) are simply nodes on the single logical data center system. In 2008, JPL IT started experimenting hands-on with cloud computing and tried cloud computing from 10 different vendors. Today, most new workloads go into an operational cloud environment from a handful of vendors/environments, but still within the framework of the single logical data center.

A key component of the strategy has always been for JPL IT to lead and enable the use of computing efficiently and securely for everyone. By coordinating the access to the computing resources, JPL IT can ensure that the applications and data are placed in the data center/cloud environment that is most appropriate and at the lowest cost. JPL IT also led the creation of the JPL Cloud Computing Commodity Board (CCCB) that oversees the long-term cloud computing procurement strategy. This board meets monthly and is composed of members from IT, security, legal, finance, procurement, and export control, as well as end users. It ensures that the strategy will continue, in that JPL will stay on the forefront of cloud computing for years to come.

The CCCB is now tackling Software as a Service (SaaS). It's important for JPL to know where all the critical data reside, especially if they are hosted outside. The CCCB and the cloud computing strategy will help ensure that JPL picks the right vendors and that SaaS (already used by human resources, travel, engineering, and others) is as effective as possible.

One pleasant surprise was the explosion of innovation once we implemented an International Traffic in Arms Regulations (ITAR)–certified cloud. Much of our data are ITAR-sensitive and had to be kept inside our firewalls. Once they had the flexibility and security of an ITAR-certified cloud (Amazon's GovCloud) available to them, developers and end users have rapidly tested new concepts and emerging technologies in this cloud. They created over 20 analytics prototypes, and several of these prototypes were infused into operational missions in a matter of weeks instead of the years it usually would take. On the Mars Science Laboratory (MSL) and Soil Moisture Active Passive (SMAP) missions, telemetry data are automatically copied from the legacy system into the ITAR cloud (Amazon's GovCloud). Here, operators can visually combine and manipulate telemetry streams consisting of 200 million data points for MSL and three billion for SMAP in the same way one manipulates stocks on Yahoo or Google Finance. Because of the cloud, this is done without adding risk to the missions. This would not be possible in the legacy system and has led to the creation of the analytics cloud. Other areas where cloud computing is speeding innovation include science experiments, science collaboration, Earth science, radar processing, 3D printing, augmented reality, mobility, wearable computing, crowdsourcing, the Internet of Things, and more.

Missions have adopted the OCIO-led cloud computing approach because it provides almost infinite computing and storage capacity on demand, and they need to pay only for what they use. All new missions are using the single data center/cloud model. For example, the proposed Europa Clipper mission is entirely built on the cloud and is running unprecedented models and experiments. The proposed Asteroid Retrieval Mission will likewise be built on the cloud. MSL and Mars Exploration Rovers (MERs) are also using cloud computing, as are many other missions.

The vision of the single logical data center includes seamlessly bridging computing and storage between the private and public clouds, i.e., the hybrid cloud. This will complete the vision established over 6 years ago. The pilot will be operational early next year, and the JPL missions, scientists, and engineers will benefit for years to come.

NASA in the Cloud (continued)

used. The technology in the cloud necessary to make the application a success has finally caught up to the big idea of images.nasa.gov.

Web Services is also working with the Office of the Chief Engineer (OCE) to provide business process, architecture, software, and systems modeling tools in the cloud. We have already successfully completed a pilot utilizing MagicDraw and will continue to work with OCE to evaluate how to provide these tools to the entire NASA engineering community in an effective and cost-efficient way.

For more information about Web Services, visit *http://inside.nasa.gov/webservices/*.

Sunny Forecast for Cloud Storage Gateway Technologies

By Heather Thomas, Intern, and Michael Koester, Computer Engineer, JSC Information Resources Directorate

The Information Resources Directorate (IRD) at Johnson Space Center provides institutional storage services at JSC via a consolidated storage environment made up of storage, data protection, and archival environments. Costly capital investments for expensive components—hardware, software, licensing, and maintenance—can be eliminated, and operational costs reduced, through the utilization of cloud-based storage.

In 2014, IRD performed a proof of concept with the Computing Services Service Office (CSSO) to use Amazon Web Services (AWS) to identify innovative ways to accomplish backup jobs while cutting costs. This concept included the use of the Riverbed Steel Store Technologies Cloud Storage Gateway (CSG) solution as an intermediary between AWS and JSC.

Benchmarking activities including Gartner (technology research and consulting firm) and IT Security discussions occurred. During the prototyping, networks were monitored, and an assessment was completed on the impacts to the network as well as testing with our Symantec NetBackup and Quantum StorNext environments. A testing plan was formulated and focused on the integration of Symantec NetBackup to AWS via the Riverbed Steel Store Appliance.

During the testing period, a multitude of backups and restorations were performed on both physical and virtual servers. Results showed that there was a lower-than-expected load on the institutional network (less than 1 Mbps) utilizing the AWS cloud storage and the Riverbed optimization techniques, duplication, and compression. Encryption was verified for data in motion and at rest in the AWS cloud without data leakage.

Lessons learned include the following:

- Technology used was compatible with several backup clients and cloud providers.
- Appliance integration with Active Directory is a challenge due to permissions for the NASA Data Center (NDC) domain.
- Leveraging the brokering and security controls implemented by CSSO resulted in efficiencies.

The utilization of CSG technologies can be efficient for data movement while leveraging wide-area network technologies for the transfer of large quantities of data. The cloud has the potential for significant cost savings in maintenance, operations, and capital infrastructure investments for NASA in the years to come.

For additional information and points of contact, see the JSC/CSSO Collaborative Cloud Testing Report at https://sp.ksc.nasa.gov/sites/adcc/Pages/CCCOIpres.aspx.

2014 International Space Apps Challenge Winners attend Orion Exploration Flight Test 1 launch December 5, 2014 at Cape Canaveral Air Force Station in FL.

Big Data Big Think

By John D. Sprague, End User Architect, Office of the Chief Information Officer
Ed McLarney, Center Chief Technology Officer, Langley Research Center

A community of Big Data subject matter experts have been getting together for the last three months and formed the NASA Big Data community. It is led by Deborah Diaz, CTO for IT in the Office of the Chief Information Officer, and Tsengdar Lee, Earth Science Weather Focus Area Lead in the Science Mission Directorate and meets biweekly.

Recently, subject matter experts from all over NASA converged on the brand new Integrated Engineering Services Building at Langley Research Center to strategize on Big Data at NASA.

All NASA missions, from space exploration, to aeronautics, to science, can take advantage of emerging big data techniques as a significant mission accelerant. Big Data can be thought of as streams of data too big to process on your personal computer or workstation in a reasonable time. Two Ames Research Center scientists coined the phrase several decades ago when they were processing large volumes of data. Big Data is now known for the "5 Vs", Volume, Velocity, Variety, Veracity and Value. Huge volumes of data, coming in quickly, in an unbelievable variety of formats. And NASA has lots of it! The Big Data Big Think tackled issues like: representative mission challenges & solutions, accessing data across the Agency, dark data, metadata challenges, topography of data,modeling and simulations, data portability, ingestion and visualization, as well as other formats (estimates are over 51,000 types industry-wide). Another Big Data Face to Face Technical Forum is being planned for late Spring at Ames Research Center to help NASA missions take advantage of this exciting new capability.

KSC CIO, Vanessa Strommer (left) and Deputy CIO, Gary Cox tour KSC's new data center. It will consolidate multiple data centers at KSC totaling 25,000 square feet of space into a single 5,000 square feet. The Tier 3 data center is saving the Center approximately $500K per year in energy costs.

IT Infrastructure Integration Program (I3P) Update

Communications Service Office (CSO)

The Communications Service Office completed the transition to a new Instant Meeting Voice Conferencing Service in December 2014. This transition is expected to save the Agency over $2 million a year in operating costs. The new service, provided by PGI/CenturyLink, is an unattended voice conferencing service that is available for use 24/7 and does not require going through the reservation system after the initial setup. Each host user is provided with an account that includes a toll-free/toll number and a personal identification number (PIN) for both the host and the participants. The host will provide the toll-free/toll number and the participant PIN to those participating in the scheduled conference.

Instant meeting accounts are requested via the Enterprise Service Desk (ESD) and are available in three different types:

1. Domestic: allows toll-free dialing to the contiguous United States (CONUS) and other domestic areas including Hawaii, Alaska, and U.S. territories (e.g., the U.S. Virgin Islands, Guam, and Puerto Rico), plus Canada.
2. Global: allows standard in-country toll and toll-free dialing from all international locations except China, Brazil, Malaysia, India, the Philippines, and Taiwan.
3. Global Enhanced: allows toll and toll-free dialing from all Global locations plus China, Brazil, Malaysia, India, the Philippines, and Taiwan. This account has additional security features including a 10-digit passcode, music on hold until the leader is present, and a mandatory post-conference report.

The CSO Desktop Mobile Video Conferencing (DMV) Service, also available via the ESD, was put into production in October 2014. This service provides a desktop video collaboration service that allows users to collaborate using both NASA standards-based Video Teleconferencing Service (ViTS) rooms and a wide range of cross-platform devices that include iPads and iPhones, as well as other devices using Android, Mac, Linux, and PC platforms, from almost anywhere. This flexibility allows NASA projects an alternative method for individual remote team members to join a videoconference without having to reserve a videoconferencing facility or be at a NASA facility to attend the meeting. The DMV service is capable of hosting meetings at NASA and non-NASA locations and combines the voice, video, and data sharing of project information in ONE service, allowing multiple participants to seamlessly share information without turning over "rights" in one meeting at the same time. Project rooms can also be set up to allow participants to meet even when the host is not available. The DMV service is also available through the ESD.

Agency Consolidated End-User Services (ACES)

Like-for-Like Mobile Refreshes: Like-for-Like mobile refreshes are continuing on a rolling deployment schedule across NASA Centers. Like-for-Like mobile refresh is for end users who will be replacing their mobile device with the same device type they currently have (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. Users scheduled to receive the refresh will receive e-mail notifications prior to deployment with details on schedule and actions required for refresh, including backing up data from their current devices.

iPhone 6 and iPhone 6 Plus Now Available: The iPhone 6 and iPhone 6 Plus are now available to NASA end users who are eligible for mobile refresh and those who need to place an order for a new device. Additional information can be found on the ACES Web site.

Internet Explorer (IE) 11: IE11 will be deployed to ACES Windows users in February 2015. A pilot was held in late 2014 to ensure that IE11 was compatible with the NASA ACES environment prior to general deployment. Application owners are encouraged to continue to test against current applications to ensure compatibility and provide feedback on any issue encountered. IE11 is available on select computers in local ACES Development Test Labs (DTLs). Users will receive communication regarding the upgrade prior to deployment.

Java 8 Deployment: The Agency plans to move to Java 8 in March 2015. Java is used for interactive graphics on Web sites. Application owners are encouraged to test against current applications to ensure compatibility and provide feedback on any issue encountered. Java 8 is available on select computers in local ACES Development Test Labs (DTLs).

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

The Enterprise Service Bus (ESB) Line of Business (LOB) is preparing a nomination submission for the American Council for Technology

(ACT)–Industry Advisory Council (IAC) Igniting Innovation Awards. The ACT-IAC is the combination of two dynamic forums where Government and industry leaders collaborate. The goal, as stated in the ACT-IAC Nomination guide, is as follows: "ACT-IAC's Institute for Innovation seeks nominations so it can provide visibility and recognition for those who have developed and deployed highly innovative IT products, services, systems and solutions that benefit government (federal, state, local and tribal) and the citizen during the period 2013–2014." The NASA Center for Internal Mobile Applications (CIMA) is teaming with Identity, Credential, and Access Management (ICAM) to submit a nomination for the NASA smartcard-derived credential.

The Education LOB released the capability to input multiple locations for an activity into production on November 26, 2014. Column layout was improved by the replacement of an unallocated column with a Total column on the post-management forum, also released to Production.

The Financial/ACTS LOB supported the ERB opening of period 16 in the year2014, as well as the rerun of two Nominal Account Closing rules. The LOB also provided ongoing support of the 2015 financial statements. It was noted that changes were needed due to the discontinuation of the Transaction Partner field. As a result, the Federal Indicator field will be used instead. In January 2015, major testing and validations will continue. Several issues have been logged with SAP and are currently being worked by the vendor.

Enterprise Service Desk (ESD)

ESD Supporting ITSC

The ESD is now supporting the Information Technology Security Center (ITSC) as of December 1, 2014. In Tier 0, tickets can be opened in Category 1 under "Security." End users are encouraged to reference "ITSC" in their ticket or phone call to ensure that their call is correctly routed.

ESD by the Numbers—FY14

The positive impact of the ESD's processes, technology, and culture is reflected in its performance. The FY14 "Average Speed of Answer" was 82.3 percent in 60 seconds for 264,135 calls. The "Abandoned Call Rate" was 3.1 percent, and the "First Call Resolution Rate" was 97.1 percent. In FY14, 97.82 percent of customers agreed or strongly agreed that they were satisfied with the NASA Shared Services Center's (NSSC's) service from the employees of the ESD.

Order-To-Pay (OtP)

The first phase of the Order-to-Pay project went live November 24 with no major issues. The Center Validation Tool (CVT) for reconciling Agency Consolidated End-User Services (ACES) invoices is now in place with ESD Subject Matter Experts's involvement complete for this phase. The next phase for the Enterprise Service Request System (ESRS)—Tech Refresh is in process with deployment planned in April 2015.

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

DevOps: NASA engineers…need real-time collaboration? WESTPrime is working on a solution to make your life easier. WESTPrime has been testing the integration of MagicDraw, a client-based application, and Teamwork, a cloud-based repository. MagicDraw is currently being used by some NASA engineers and is a business process, architecture, software, and system-modeling tool. Teamwork is a cloud-based repository that allows for version control and collaboration in real time. Through the integration of MagicDraw and Teamwork, collaboration will be simple and seamless.

As an added bonus, WESTPrime configured a cloud server for MagicDraw license management to enable shared licenses among the Centers in an effort to reduce cost and surplus licensing. There are several engineering applications that could be migrated similarly to the cloud, so that they too are shared across locations, thereby further reducing NASA's overall costs.

NASA Image and Video Library (project name—AVAIL): The development of images.nasa.gov is underway! The search-centric, public-facing Web application will roll out in July 2015. Images.nasa.gov will be a one-stop shop for the best-of-the-best of NASA images, videos, and audio clips. The ambitious project will leverage NASA's vast multimedia library collections from all Centers and feature the latest and greatest NASA has to offer. Visitors can search, share, and download directly from the site.

If we build it, they will come! Leveraging cloud scalability means that visitors' volume spikes will not impact the user experience, which will keep the public coming back for more. Finally, technology caught up to the big idea of images.nasa.gov!

Looking Ahead: The exciting NASA.gov redesigned look and feel will make its debut in 2015. Keep an eye out for news on the big revelation!

HDI Visits NASA Headquarters Again!

By John D. Sprague, End User Architect, Office of the Chief Information Officer

The HDI Capital Area Local Chapter (formerly Help Desk Institute) visited NASA Headquarters on November 19, 2014, with another heavily attended monthly meeting. The topic was "Introduction to Cloud Computing," with guest speaker Stephen Simchak, who managed help desk, service desk, and desktop support services for the Federal Aviation Administration, General Electric, the National Institutes of Health, and Philip Morris. Karen Petraska, NASA Computing Services Executive, also helped kick off the meeting with a discussion of what NASA is doing to move more services to the cloud.

Speaker Stephen Simchak discusses cloud computing at the NASA Headquarters Glennan Assembly Room.

Capital Area President William Liberti and President Emeritus Sandy Seroskie welcomed Stephen and the group to NASA Headquarters. The fundamentals of cloud computing were covered, and then representatives from several Federal agencies and companies gave examples of how the move to cloud computing is manifesting itself at service desks.

HDI is the world's largest IT service and technical support membership association.

The CIO's attended a face-to-face meeting at NASA Headquarters from December 16-18, 2014.

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