IT Modernization

In early 2017, the OCIO Senior Leadership team developed a multi-year strategic plan to guide the overall direction and future for the organization. As part of the strategic plan, the CIO articulated the future of IT Modernization at the Department and the OCIO's role in promoting successful program and project implementations. OCIO developed a guiding vision, mission, priorities and set of goals to effectively support the IT needs of DOL mission agencies.

The OCIO adopted the vision statement "*To provide premier technology solutions - **best in Federal service** - that empower the DOL mission and serve the American public through collaboration and innovation.*" Additionally, a new mission statement was created, stating "*We are a customer service organization dedicated to providing information technology solutions and leadership to advance the DOL mission.*" These new mission and vision statements have guided the organization's efforts over the last several years supporting IT Modernization initiatives.

Lastly, the organization created a set of strategic priorities. Guided by the Department's multi-year strategic plan, mission agency operating plans, and Secretary priorities, the four (4) strategic priorities serve as the foundation for all IT modernization efforts to come:

1. **Create the DOL IT Platform**
2. **Modernize legacy agency applications**
3. **Secure & enhance the IT infrastructure**
4. **Transform the Customer Experience**

The remainder of this section aims to align OCIO modernization initiatives and activities completed over the last 4 years against the four strategic priorities.

Strategic Priority #1: Create the DOL IT Platform - Create an integrated platform that links hardware, applications and data, providing strategic capabilities to achieve DOL-wide operational efficiencies to more effectively serve the wage earners, job seekers, and retirees of the United States.

- **DOL IT Platform - Case Management Capability** - A data call, issued by OCIO, revealed duplicative efforts and ballooning costs across the Department of Labor's case management systems. Upon further analysis, OCIO identified 39 disparate and individually managed case management systems across seven DOL Agencies. The analysis also determined that in one year alone, the Department spent $62.5 million on case management systems.

  The decentralized structure of case management systems prevented the Department from achieving several key aspects of its mission, including maintaining an efficient and effective infrastructure (e.g., network and system administration), a robust cybersecurity protocol (e.g., authority to operate), and Information Technology governance (e.g., 508 compliance). Additionally, the Department's strategic IT goals, as determined by Secretarial priorities, legislation, surveys, and spend plan analyses, emphasized a need for IT solutions shaped by transparency and collaboration.

  The elimination of redundant systems through the DOL IT Platform directly results in a more efficient and effective workforce, encouraging collaboration and transparency while simultaneously providing modern and cost-effective IT solutions. OCIO's sustained commitment to creating new and modernized applications began with securing Department and agency leadership buy-in to the Platform concept, followed by securing $5 million in

initial funding from the OMB Technology Modernization Fund, one of only four agencies to receive funding.

Individual case management modernization efforts are highlighted under Strategic Priority 2: Modernize Legacy Applications.

- **DOL IT Platform – Data Analytics Capability (DAC)** - Recognizing a common need for data and analytics to address diverse requirements across DOL; OCIO designed and is building a flexible analytics infrastructure within the IT platform. DAC integrates data from existing reporting and case management systems and complements these systems by providing focused analytics capabilities. DAC is a modern analytics-focused architecture, connecting internal and external data sets (mix of structured and unstructured data). DAC employs an open architecture approach and is able to provide a flexible, scalable, reliable, and secure platform, by utilizing a cloud-based infrastructure. DAC assesses DOL offices and data sources to identify challenges, capability needs, and desired outcomes in order to form proper data governance. DAC accomplishments include:

  - **Cloud infrastructure**: By utilizing a cloud-based infrastructure, OCIO developed a flexible, scalable, reliable, and secure platform. By implementing DAC guiding principle of 'engineer to optimize cost', DAC helped DOL save ~$106,000 annually.
  - **Serverless computing**: OCIO designed a reusable serverless pipeline focused on data processing and transformations that offers DOL substantial cost savings and easy scalability for simple extract, transform, load (ETL) processes. To date, the serverless platform costs 33¢ per month by utilizing a method of running 2-5 minutes per business day and an average of 128 – 3,008 MB of memory per job.
  - **Web access to create ad-hoc reports and dashboards**: OCIO created a web-enabled interface allowing users with a range of skills, such as analysts and decision makers, to easily produce informative ad-hoc and automated reports, queries, visualizations, and dashboards within DAC. To date, DAC automated 190 manual reports into ~75 dashboards.
  - **Self-service business intelligence:** OCIO established a core capability for the platform by providing modernized reporting databases for multiple DOL agencies and business initiatives, such as the Office of Foreign Labor Certification (OFLC) and the OCIO-led CXO Dashboard Initiative, which are used in conjunction with a leading data visualization tool to mature descriptive reporting efforts; this separation of reporting data from other business processes provides more efficient reporting through dynamic, automatically refreshed dashboards instead of static PDF & Excel reports.
  - **Mission-critical insights:** DAC's core capability provides improved processing times for visa applications, real-time wage analysis, and live monitoring opportunities to identify trends in high-priority categories for OFLC; for the CXO Dashboard Initiative, DAC enables the data visualizations designed for C-level executives to aggregate key KPIs to find make critical strategic decisions. The CXO dashboard has completed the first release of OCIO dashboards and over the next 12 months, the project will deliver dashboards to HRC, OCFO, BOC, DBC, and PMC.
  - **Cross-agency collaboration:** The DAC data lake enables data sharing across authorized agencies & users to increase the scope, impact, & efficiency of data analyses in response to ad-hoc requests from leadership & Congressional inquiries.

- **Apprenticeship.gov:** DOL had a bold vision to expand the role of Apprenticeships across the nation through the development of Apprenticeship.gov. With college tuition at an all-time high, alternative career paths are essential to the continued growth of our country. The mission to provide citizens, both young and old, with a means to reach these career paths served as a motivator for the team, that built and deployed Apprenticeship.gov less than six months from the project start date. The incorporated newer technologies like Machine Learning to help narrow over 1.5 million job listings to over 5,000 apprenticeships that update daily, a critical component of the website which helps ensure a user-focused experience that features relevant data. The results of the team's efforts are improved access to apprenticeship opportunities that enable more Americans to develop relevant skills valued by employers, and secure future high-paying jobs. The website and tool offer users a streamlined digital platform to search by city, state, and occupation, as well as connect job seekers to highly skilled, salaried careers.

- **Hire VETS Medallion Program:** DOL's Veteran Employment and Training Services (VETS) turned to OCIO to develop a digital strategy to support the Honoring Investments in Recruiting and Employing American Military Veterans Act (HIRE Vets Act), which resulted in the development of HIREVets.gov. The website, a modern web application where employers that meet required veteran hiring and retention criteria can qualify for a "HIRE Vets Medallion Award", launched as a pilot in early 2018, met its goal of 300 submitted applications during the enrollment period and saw participation by industry across a wide range of companies nationwide. In 2019, the website featured the first DOL implementation of the Treasury Department's Pay.gov online payment platform; allowing companies a modern method to submit payment for fees associated with their submitted application.

- **OneWeb DOL.gov Modernization:** OneWeb@DOL's vision is to migrate (and modernize/improve) all of DOL's public-facing websites onto a single, secure IT Platform Content Management Capability (CMC) to provide citizens with a consistent user experience, streamline operations, and improve oversight. This initiative is not only focused on giving agencies the opportunity to take advantage of OneWeb@DOL's content management capabilities, but as more agencies join, it will offer a unique multi-agency collaboration of those migrated to the platform. Over a multi-year effort, OCIO and OPA have partnered to migrate nearly all of the content scattered across www.dol.gov, owned and managed by multiple mission agency teams, into the OneWeb solution to include over 250,000 web pages, 180 content editors and managers, and several web applications like DOL's blog service. More than just a platform, the Program provides governance, training, and builds a community of content owners and experts focused on enhancing the information being provided to citizens, businesses, employers, and stakeholders.

Strategic Priority #2: Modernize Legacy Agency Applications - Drive the modernization of legacy agency mission critical applications by delivering technology leadership and modern solutions, resulting in a state-of-the-art end-user experience, optimized functionality, and increased security.

- **Office of Federal Contract Compliance Programs' (OFCCP) Compliance Management System (CMS)**: Launched during Summer 2019 in partnership with the Office of the Chief Information Officer (OCIO), the Office of Federal Contract Compliance Programs' (OFCCP) Compliance Management System (CMS) provides automated monitoring to support three

major compliance evaluations and confirms contractors and sub-contractors comply with affirmative action and nondiscrimination requirements. The transformation of OFCCP's case management system through the DOL IT Platform enables staff to work more efficiently and focus on higher value work. By digitizing the entire process used to enforce compliance with all federal contractor labor laws, OFCCP users nationwide can access case data metrics for increased transparency and improved communications. New workflows built into the modernized CMS application guides users through the entire investigative lifecycle resulting in increased efficiencies, streamline processes, and establishing shorter review times of casework. CMS manages case documents online, which helps facilitate online collaboration amongst CMS users, while also establishing a centralized document repository to store and maintain pertinent case information. Users assigned to a case can use CMS at the same time to execute case actions, edit templates, and enter case data to process cases more quickly. As a result, CMS has empowered OFCCP to review more contractors than they ever have in the past.

- **The Office of Congressional and Intergovernmental Affairs' Correspondence Tracking System (CTS)**: tracks the status of the Department's Congressional correspondence in real-time and digitizes the clearance process by removing cumbersome, paper-based processes. The system allows Agency head approval within three "clicks." It also includes an easier assignment process and email notifications throughout the process. The Correspondence Tracking System is anticipated to save over $1 million per year, based on reductions in paper material (~$100,000 per year), shipping costs to NARA (~$600,000 per year), and operational efficiencies (~$400,000 per year).

- **OSHA Injury and Illness Tracking Application:** OCIO's support of OSHA led to the conversion of a paper-based reporting system into an online platform that allows employers to more efficiently submit and track workplace safety compliance. This year alone, thousands of companies successfully submitted new compliance data proving the value of the new system to the government. The improved application places renewed focus on injury tracking and acts as an important reminder to employers to focus on safety in the workplace. The partnership's second priority was converting a paper-based submission of workplace injury and illness reports to a digital system, the result of which is the OSHA Injury Tracking Application (ITA), a web-based application which provides companies a digital platform to submit workplace injury and illness data for their establishments through a series of responsive web forms, a file, or an API. The ITA increases timely access to workplace injury and illness data, directly supporting OSHA's mission and government efforts to ensure employers provide safe and healthy workplace conditions. The team successfully managed 20,701 new ITA accounts and 243,608 submission files during the 2020 ITA filing season.

- **ETA Foreign Labor Application Gateway (FLAG):** OCIO, with the Employment and Training Administration (ETA), Office of Foreign Labor Certification (OFLC), completed development of the FLAG system in September 2019. FLAG accepts prevailing wage and temporary labor certification applications for employment based visas, modernizing the legacy iCERT application. Replacing the legacy application addressed system challenges in adapting to seasonal filing patterns, increased foreign labor demand, changing regulations and efficient processing of applications. The FLAG system provides enhanced online application intake, case management and tracking, electronic correspondence, document

management and retrieval, and operational reporting, data analytics, and data visualization capabilities. For employers, agricultural associations, and authorized attorneys or agents of employers, the FLAG system currently provides online filing and account management, case tracking and post-determination services, and "24/7" access to official OFLC labor certification decisions in the Prevailing Wage (PW) Determination, CW-1, H-2B, H-2A, and LCA programs. In Fiscal Year 2020, the FLAG system processed 787,101 cases and also supported a successful H-2B peak filing season, with 2,008 cases submitted in a 30-minute window.

Strategic Priority #3: Secure & Enhance the IT Infrastructure - Integrate and standardize DOL's IT infrastructure to provide a robust cybersecurity posture while increasing the reliability and functionality of DOL's information systems and infrastructure that support mission critical services.

- **Data Center Optimization:** DOL's IT modernization initiatives include the deployment of a centralized, enterprise-wide IT platform with multiple capabilities including case management, content management, and data analytics. The cloud-based platform has helped achieve DOL-wide operational efficiencies in support of mission-driven IT applications resulting in consolidated resources, eliminated redundancies, accelerated modernization, and enhanced security.

  OCIO achieved $119 million in cost savings and avoidance for the Department by consolidating 11 data centers, consolidating hardware and software contracts, installing wireless networks in 115 DOL offices, and centralizing DOL staff's workstations under an enterprise lease program.

  23 applications deployed to the DOL Cloud and 85% of planned data center closures were completed, the latter of which has yielded over $29 million in cost savings, as well as improving DOL's cybersecurity posture.

- **Windows 10 Implementation**: To maintain a secure, functional IT infrastructure, DOL needed to upgrade all staff workstations to Windows 10 before its previous operating system, Windows 7, reached end-of-support in 2020. Without the upgrade, Windows 7 would stop receiving Microsoft support and DOL would become highly vulnerable to security threats. Upgrading to Windows 10 allowed DOL to maintain high security standards and provide the most up-to-date technology to its staff. This necessary upgrade provided a significant opportunity for OCIO to deliver a more interconnected and collaborative IT experience for DOL staff. The Department-wide Windows 10 migration was more than just an operating system upgrade – it laid a critical foundation on which future technology services can be built. Additionally, DOL took the operating system upgrade as an opportunity to perform a Department-wide inventory refresh which upgraded and standardized all DOL users to three workstation models increasing efficiency of output. DOL successfully migrated all 15,000 users to Windows 10 before the end-of-support deadline. Since the initial implementation, DOL has also developed and implemented a seamless OS release model to facilitate the required annual OS updates to all DOL users.

- **Unified Communications Implementation**: DOL and OCIO launched the Unified Communications (UC) project to provide the OCIO workforce with secure and integrated communications solutions and network platform. The UC Program has been a major step forward in modernizing IT and enhancing the way employees do work at DOL. The UC

program has impacted all 18,000 federal and contractor employees in all 500+ DOL offices nationwide by providing better remote access and newer tools (Wi-Fi, Voice-over-Internet (VOIP), Jabber, Video teleconference, wireless, etc) allowing agency staff to focus on fulfilling their mission work.

- **Securing and Protecting Information Management Systems**: As technology continues to evolve and hackers become increasingly sophisticated in their attempts to breach federal security systems, safeguarding information and information systems will continue to be a challenge for DOL. The security of our information systems has been one of the Department's highest priorities, and we are committed strengthening safeguards to protect our systems and manage identified security risks.

- **Asset Management System**: OCIO implemented an automated asset management system to inventory and track all DOL IT equipment from "cradle to grave." This system will allow management to be able to tell at any point in the asset lifecycle who is responsible for the asset and where it is located. While the system is currently operational, improvements continue to be made in data quality and coverage.

- **Continuous Diagnostic and Mitigation (CDM) Program**: Information systems require continuous monitoring and maintenance to ensure that vulnerabilities due to software weaknesses or configuration errors are promptly detected and corrected before any damage to systems or data can occur. To address this issue, DOL continues to deploy and operate state-of-the-art IT monitoring and management tools – many acquired through the DHS Continuous Diagnostic and Mitigation (CDM) program. OCIO is improving the effectiveness, accuracy, and coverage of these tools through deployment efforts to all corners of the DOL IT enterprise, awareness and training of applicable staff, increased oversight and automated alerting of tool coverage issues, data quality improvement for improved accuracy, and more informative alerting and reporting outputs.

- **The Identity, Credential, and Access Management (ICAM) Program:** ICAM provides user access to DOL data and systems, for the right reasons, at the right time, securely and seamlessly using three capabilities. These capabilities include Simplified Sign On (SSO), Identity Management (IDM), and Privileged Access Management (PAM). ICAM uses SSO to securely authenticate users for over 53 DOL applications (exceeding our FY20 goal of SSO enabling 48 DOL applications). Our IDM tools are used to de-provision federal employees and ultimately address FISMA findings related to the timely removal of identities from IT Systems when employees leave DOL. ICAM's password management tool houses passwords for over 900 service accounts. In addition to the three capabilities, ICAM's Self Service Password and Multifactor Authentication has a 93% adoption rate and has help reduce password reset related helpdesk calls.

- **Cybersecurity Awareness Month:** OCIO stood up and supported a month-long campaign to promote cybersecurity activities at the Department. Recorded over 2,200 individual touchpoints with DOL staff throughout the month of October FY19. Distributed over 4,000 giveaways to DOL staff in DC and in 8 regional offices. OCIO also held a first-time event with over 600 attendees, 22 cybersecurity-related vendors, and speaking roles from Deputy Secretary, BLS Commissioner, and Chief Information Officer.

- **Enterprise Infrastructure Solutions (EIS):** DOL's EIS Project is an initiative to transition all DOL telecommunications and IT services to new EIS contracts. EIS is the successor vehicle for expiring Networx and WITS contracts, which GSA is using to continue fulfilling its Congressional mandate to provide telecommunications services for the Federal Government. EIS will simplify the process of acquiring telecommunications and information technology products and services, provide cost savings through aggregated volume buying and price and spend visibility, enable the procurement of integrated solutions, promote participation by small businesses and foster competition, and offer a flexible and agile suite of services supporting a range of government purchasing patterns.

Strategic Priority #4: Transform the Customer Experience - As DOL's IT service provider, deliver best in class IT services and solutions to enable DOL agencies to provide superior support to the American public.

- **Shared Services IT Staff Integration:** As part of DOL's Enterprise-wide Shared Services Initiative to support overall IT modernization at the Department, all IT functions, 85 encumbered positions and 21 vacant positions from 11 agencies were permanently assigned to OCIO. The full range of IT services assumed by OCIO include, but are not limited to: IT capital planning, cybersecurity, IT strategic planning with agency leadership, IT portfolio and project management, IT business applications services, architecture and engineering, IT contracts and other IT procurement services, IT administration, IT infrastructure and operations, and network services.

- **Service Now - ESD/IT@Your Service:** To improve the experience of both the user and OCIO's IT help center, the Enterprise Service Desk (ESD), OCIO developed IT @ Your Service on the Service Central platform. Prior, the antiquated process involved manually printing forms, tracking down signatures, and extensive waiting periods for routing. In addition to hundreds of customers stopping by kiosks to learn how to navigate the portal, over 300 IT experts attended trainings. Consequently, IT @ Your Service enjoys widespread usage across DOL. For example, the portal registers nearly 3,900 digital forms in a monthly period. Those 3,900 forms represent countless hours and costs saved from the previous process of filing manual forms, emailing/visiting ESD, tracking approvals, and recording resolved tickets. Additionally, the portal's knowledge base, containing DIY guides for common IT incidents, receives 5,450 visits monthly on average.

- **Service Now – Enterprise Project Management Platform (PM360):** Developed a set of standard tools, templates and a centralized project management dashboard for real-time updates for all active IT projects leading to more successful project outcomes for mission-agency modernization projects

- **Service Now – Electronically Stored Information (ESI) Online Portal:** DOL was experiencing long wait times for electronically searched information for FOIA requests and litigation requests, so OCIO developed an automated process for fulfilling requests (emails, data files, desk phone records, PIV log on & log off, and Physical Access Control Systems) through the ESI Online Portal. Automation is crucial because it provides an ability for data collection, reporting, and prevention of unauthorized requests from moving forward.

- **Robotic Process Automation:** OASAM partnered with the General Services Administration's (GSA) Centers of Excellence in February 2020 to further support our

efforts across IT Modernization and the scalability of our enterprise-wide shared services capabilities – including hyper-automation RPA. The partnership allows us to combine expertise across DOL and GSA to formulate a successful path forward in using hyper-automation technology. We first started by understanding the business need of our agencies, discussing their current challenges and creating an infrastructure to support the development process for addressing those challenges. Since partnering with GSA, OCIO established an IT governance process, created a "backbone" infrastructure platform to develop automation bots, began training staff on RPA with 10 already trained. Currently, OCIO is training more staff and conducting user-acceptance testing (UAT) on identified use cases. To date, three bots – software applications that run simple and repetitive tasks – are in production and planned to be deployed by the end of FY20. Two are with the Office of the Senior Procurement Executive (OSPE) and one with the Office of the Chief Information Officer (OCIO). For the two bots with OSPE, one supports the Contractor Responsibility Determination process to help select eligible vendors for government contracting, and the other one is for the Exercise of Options process to help execute contract options in a timely fashion. OCIO's third bot supports the Market Research process with a goal to determine new products and services available. All of OCIO's efforts so far has helped identify Departmental demand for RPA both now and into the future.

- **IT Governance and Working Capital Fund:** Formally instituted the new IT governance structure with the Investment Review Board (IRB) on April 29, 2019, the Enterprise Architecture Review Board (EARB) on October 10, 2019 and the Performance Review Board (PRB) meeting on December 12, 2019. DOL implemented innovative funding solutions utilizing Modernizing Government Technology (MGT) Act in 2019 including:

    o *Governance* - DOL created a separate account within its WCF that is managed by the CIO for the purposes authorized by the MGT Act.
    o *Funding* - DOL worked with OMB and the appropriations committees to establish a new authority in FY 2019 to transfer up to $18 million from unobligated balances in agency appropriations for IT modernization purposes for use in FY 2020. This is an increase from the previous level of $3 million and is targeted for IT modernization.
    o *Flexibility* - The cap on carryover balances in the WCF was removed, enabling DOL to better execute long-term projects.
    o *Transparency* - The CIO is now a member of the WCF Advisory Board, which reviews and advises on strategic issues in the WCF.

- **Federal IT Acquisition Reform Act (FITARA):** In FY20, DOL's grade remained an overall score of C-; we maintained 4 A grades in Portfolio Risk, Cost Savings, Software Licensing, and MGT Act Working Capital Fund, and increased Data Center Optimization (D to B) and Cybersecurity (D to C) scores. The Incremental Development score decreased (A to F), we were negatively impacted by new scoring methodology which was published after the scorecard. DOL maintained five FITARA "A" grades across seven total categories between FY18 and FY19, ranking DOL among the top one-third of federal agencies and departments assessed on the implementation of IT modernization and cybersecurity FITARA directives.

- **United States-Mexico-Canada Agreement (USMCA):** OCIO collaborated with the Bureau of International Labor Affairs (ILAB) on the creation of a USMCA web-based hotline to allow for the receipt of confidential information from interested parties regarding labor issues among USMCA countries.

- **Workforce Planning:** OCIO developed an Information Technology (IT) Workforce Planning Guide that provides a common business practice for IT workforce planning to ensure that IT leadership, products and services are efficient, effective and compliant. The guide is organized in a multi-phased approach that aligns with the DOL Workforce Planning Model and outlines a process to identify gaps between OCIO's current workforce and its workforce of the future.

- **DOL Tech Day:** OCIO organized and convened DOL's first-ever "Tech Day" in 2018, a technology expo that offered Agencies an opportunity to showcase their latest IT systems and applications. It was a first of its kind forum, and yielded more than 2,500 attendees from DOL and included 28 booths, exhibiting more than 40 technologies. Building off the success of the first Tech Day in 2018, the DOL OCIO led the 2019 Tech Day with support from the White House's Office of Science and Technology Policy (OSTP) and the Federal Chief Information Officer (CIO) Council. The theme was "Unleashing the Digital Workforce" and featured emerging tech such as 3D printers, a mobile supercomputer, RPA, and AI. Efforts yielded year-over-year growth in the event's footprint across nine (9) Federal Agencies and all 27 DOL Agencies; specific metrics included more than 3,000 participants, 48 unique exhibits and coordination with DOL's nine (9) regional offices to host their own "mini-Tech Day" events. Additionally, OCIO executed a social media campaign that included 52,400 total impressions with 878 total engagements on Twitter, and 3,246 total impressions and 119 total clicks on LinkedIn; press coverage included Meritalk, FedScoop, and GovMatters TV.

- **Datahub Modernization Effort:** OCIO led the development of a Datahub, funded through the Technology Modernization Fund (TMF) initiative. Integrating the Data Hub with the FLAG system, improves the FLAG user experience, by replacing a paper-based certification process with electronic issuance of temporary labor certifications. FLAG users receive a on page certification boarding pass that is used for the next steps in the visa application process. OCIO electronically shares labor certification case data with the U.S. Customs and Immigration Services (USCIS). Eliminating manual printing on special-order, blue security paper gives FLAG filers immediate access to their labor certification documents and permits immediate filing of their Petition with USCIS, while preserving the integrity of the labor certification. The Datahub enables real-time data sharing capabilities across immigration and enforcement agencies (DOL, USCIS, DOS), and shares case data with the U.S. Department of Agriculture's Farmers.gov portal, setting up a one-stop shop for American farmers hiring foreign workers. This solution replaces point to point communications between IT systems with a hub and spoke model. The Datahub enables agencies to choose to push and pull relevant data into and from the Datahub, ensuring that individual business needs are addressed. This effort resulted in over $2M in direct annual savings from saved printing costs, while re-purposing existing staff for other important priorities. Additionally, by eliminating the paper process around labor certifications, OFLC remained fully operational during the federal government's maximum telework status.