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U.S. CUSTOMS AND BORDER PROTECTION
DEPARTMENT OF HOMELAND SECURITY
VIGILANCE · SERVICE · INTEGRITY

FY 2023

YEAR IN REVIEW

OFFICE OF INFORMATION AND TECHNOLOGY

ALWAYS ⏻N
DELIVERING
INNOVATING

Deliver secure, reliable IT services and capabilities to authorized users anywhere, anytime, on any approved device at the speed of CBP's 24/7 mission.

MESSAGE FROM CBP CIO

In one of the most unprecedented national and global environments in Customs and Border Protection (CBP) history, I am pleased to present the Office of Information and Technology (OIT) "Year in Review Report for Fiscal Year (FY) 2023" and immensely proud to share the accomplishments, hard work, and dedication of the OIT workforce.

This report outlines CBP's current Information Technology (IT) maturity that foundationally enables strategic opportunities for CBP to expedite future IT capabilities and services for the mission. As the largest IT organization in the Department of Homeland Security (DHS), CBP OIT oversees an enterprise IT/Mixed IT Portfolio of $2.4 billion in FY 2023 (including Federal staff pay) and plays a vital role in protecting the American people, safeguarding our borders, and enhancing the nation's economic prosperity. Building on a robust foundation, OIT has put strategy into action and positioned itself as a trusted partner on the forefront of daily mission operations, executing our vision to deliver world-class, secure, and reliable IT services and capabilities anywhere, anytime, for authorized users on any approved device at the speed of CBP's 24/7 mission.

CBP OIT invests in people, infrastructure and applications while aligning to OIT's six strategic focus areas. Continuous technology improvements and modernization empower CBP to stay ahead of our evolving mission and emerging threats to the nation. OIT has attained a level of IT maturity that presents an opportunity for CBP to progress capabilities and services for CBP's 24/7 mission at an exponential rate as we implement the newly developed CBP IT Strategy 2023-2027.

OIT MISSION STATEMENT:	*Deliver secure, reliable IT services and capabilities anywhere, anytime at the speed of mission*

THREE GUIDING PRINCIPLES	OIT SIX FOCUS AREAS:	24/7/365 Mission Support
Strategic Transformation	Mission Applications / Mission Infrastructure / Trusted Partners	
Tactical Operations Excellence	Mission Cybersecurity / Enterprise IT Governance / CIO Business Operations	= Support of CBP's 24/7 Mission
Agile Innovation		

Outcomes:	Faster	Better	More Affordable	More Secure

My tenure with CBP began in FY 2019 and going into my 4th year as Assistant Commissioner (AC), OIT and CBP Chief Information Officer (CIO), my commitment to the success of OIT has been made possible through the support of CBP and Enterprise Services (ES) leadership. I want to express my sincere thanks, and deepest gratitude to the entire OIT workforce as their commitment and dedication ensures CBP continues to be at the forefront of technology capabilities. OIT will build upon the past foundation, continue to deliver in the present, and position for the future reaching greater levels of excellence in FY 2024.

Sincerely,

Sanjeev (Sonny) Bhagowalia
Assistant Commissioner (AC),
Office of Information & Technology (OIT)
CBP Chief Information Officer (CIO)

AGENCY STRATEGY

White House

OMB
Office of Management and Budget

FCIO
Federal Chief Information Officer

DHS
Department of Homeland Security

DHS CIO
Chief Information Officer

CBP
Customs and Border Protection

ES
Enterprise Services

CBP IT
Customs and Border Protection Information Technology
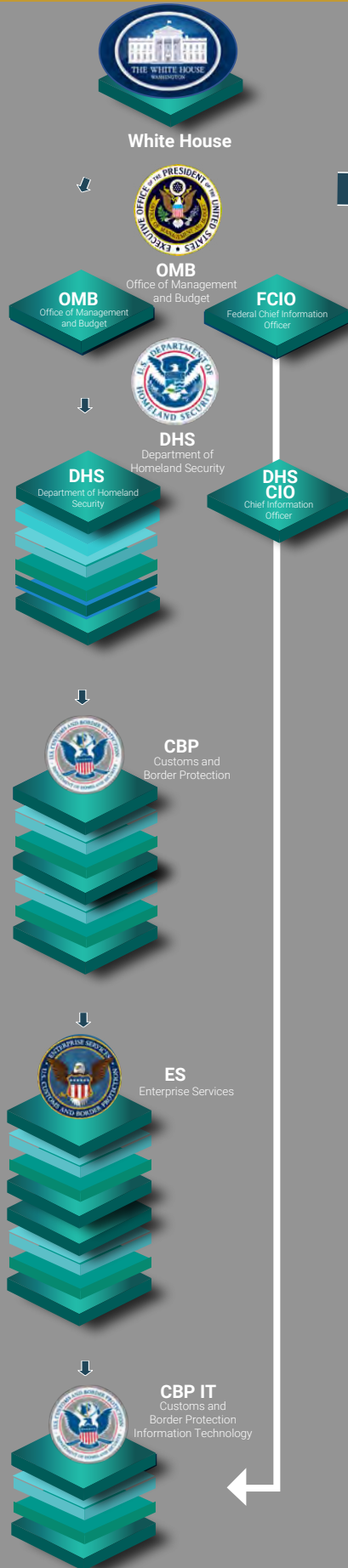
IMPLEMENTATION

MISSION

CBP Mission

Protect the American people, safeguard our borders, and enhance the nation's economic prosperity.

OIT Mission

Deliver secure, reliable IT services and capabilities to authorized users anywhere, anytime, on any approved device at the speed of CBP's 24/7 mission.

OUTCOMES

▶▶ FASTER   🤝 BETTER   💼 MORE AFFORDABLE   👥 MORE SECURE

TECHNOLOGY ENVIRONMENT

OPERATIONAL TECHNOLOGY ⟷ **INFORMATION TECHNOLOGY**

STRATEGIC APPROACH

Strategic Transformation + **Tactical Excellence** + **Innovation**

OIT'S STRATEGIC FOCUS AREAS

- Mission Infrastructure
- Mission Applications
- Trusted Partners
- Mission Cybersecurity
- Enterprise IT Governance
- CIO Business Operations

TECHNOLOGY PORTFOLIO

Systems | Apps | Projects | Services | Products
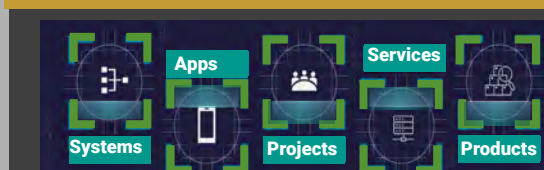
MEASUREMENT

SUPPORTING STRATEGIES

MISSION INFRASTRUCTURE

- Consolidated Enterprise Network
- Core Enterprise Cloud Computing
- IT Operations

MISSION APPLICATIONS

- Digital Experience
- Enterprise Data Management
- Application Development
- Scalability

TRUSTED PARTNERS

- Integration & Transparency
- Interagency Relationships
- Industry & International Partners

MISSION CYBERSECURITY

- Cyber Hygiene
- Threat Detection & Response
- Cyber Protection
- Cybersecurity Governance, Risk Management, and Compliance

ENTERPRISE IT GOVERNANCE

- Governing Policies / Processes
- Governance Boards
- Compliance
- Communications, Education & Coordination
- Enterprise Architecture & Data Governance
- TRM+TRA+Data Governance

CIO BUSINESS OPERATIONS

- Strategy Management
- Cost and Budget Transparency
- Procurement / Acquisition Support
- OIT Workforce Experience
- Workforce Management
- Portfolio / Program Management

CBP EXPERIENCE (CX)

Assist lead business authority develop enterprise customer service operating model to further mature CBP's customer experience capabilities

EXECUTIVE SUMMARY

OIT EXECUTIVE SUMMARY

CBP: A DAY IN THE LIFE (FY 2023)

- Processed 991,803 passengers and pedestrians
- 262,951 incoming privately owned vehicles
- $9.02 billion worth of imported products
- 90,164 entries of merchandise at our air, land, and sea ports of entry
- $225.9 million in duties, taxes, and other fees
- 1,643 pounds of drugs seized

DHS CIO FY 2023 Priorities

- Cohesion
- Compliance
- Diversity, Equity, and Inclusion (DE&I)
- Customer Experience (CX)
- Cybersecurity
- Southwest Border Technology Integration Program

OIT Values

- Mission Focus
- People
- Innovation
- Collaboration
- Diversity

OIT STATS:

- Successfully supported 63,843 employees at 1,744 locations and across the country and abroad
- Successfully resolved 808.6K Service tickets with a first call resolution rate of 75% and customer satisfaction of 90.2%
- Successfully processed a network load of 338TB per day (minimum) with a 99.61% availability
- Successfully blocked 2.1B cybersecurity network traffic attempts to access the CBP IT enterprise, equates to 105M blocked per day.
- Successfully implemented 43.5M patches security patches per year across 7K operating system instances, application servers, and databases
- Successfully supported 40B data exchanges per day, 8-10B queries per day
- Successfully handled 110M emails per month is approximately 3.7M daily

WHO?	WHY?	WHEN?	WHERE?	WHAT?
Over 60K Agents Officers Analysts & Professional staff	Faster Better More Affordable More Secure Mission and Vison	Strategic Transformation Tactical Excellence Innovation Focus Areas Supporting Strategies	Operational Technology Information Technology	Systems Applications Projects Services Products
Who is achieving this?	*To support the mission*	*24x7 always on!*	*Technology Environment*	*Technology Portfolio*

CBP's IT landscape is expansive and provides 24/7 mission support across 1,744 locations nationally. OIT meets enterprise mission needs using capabilities and tools developed to modernize infrastructure, improve cybersecurity, and expand enterprise applications.

OIT SUPPORT

OIT'S STRATEGIC FOCUS AREAS

- Mission Applications
- Mission Infrastructure
- Trusted Partners
- Mission Cybersecurity
- Enterprise IT Governance
- CIO Business Operations

MEASUREMENT

FUTURE VISION

In FY 2024, OIT will strive to deliver enterprise services and applications at the speed of mission. OIT will use the tools its developed to keep modernizing, enhancing cybersecurity, increasing network connectivity, and support ongoing innovations to keep pace with evolving mission needs.

FY 2023 TOP 10 STRATEGIC CIO INITIATIVES

CBP Enterprise IT Portfolio (FY 2023)

81	**168**	**31**	**241**	**212**	**$2.4**
Investments	Systems	High Value Asset (HVA) Systems	Projects	Contracts	Billion (includes Pay)

MISSION APPLICATIONS

Digital Experience | Enterprise Data Management | Application Development | Scalability

1. Unified Immigration Portal (UIP)
2. Unified Processing (UPRO)
3. Artificial Intelligence/Machine Learning (AI/ML) and Enterprise Data Strategy

MISSION INFRASTRUCTURE

Consolidated Enterprise Network | Core Enterprise Cloud Computing | IT Operations

4. Enterprise Cloud
5. Enterprise Infrastructure Solutions (Network)
6. Enterprise Technology Refresh

MISSION CYBERSECURITY

Cyber Hygiene | Threat Detection & Response | Cyber Protection | Cybersecurity Governance, Risk Management, and Compliance
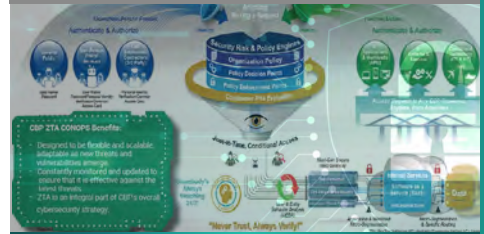
7. Zero Trust Architecture Initiative *(including Daily Cyber Operations)*

TRUSTED PARTNERSHIPS

Integration & Transparency | Interagency Relationships | Industry & International Partners

8. Trusted Partnership Initiative (TPI) *across CBP, DHS,Other Governmanet Agencies (OGA), Industry, and International Partners*

ENTERPRISE IT GOVERNANCE

Governing Policies/Processes | Governance Boards | Compliance | Communications, Education, & Coordination

9. Enterprise IT Governance Council (ITGC) *Interface to CBP/DHS Governance and Dashboards*

CIO BUSINESS OPERATIONS

Strategy Management | Cost and Budget Transparency | Procurement / Acquisition Support | OIT Workforce Experience | Workforce Management

10. Enterprise CBP Experience Framework *(Workforce and Customer Experience/CX)*

SUPPORT BY CBP OIT TO DHS CIO SIX FOCUS AREAS

FY 2023 DHS CIO Focus Areas

1. Cohesion

- Established federated accounts to enable external access to CBP's collaboration tools, allowing collaboration with approved users outside DHS for mission critical communication, providing more efficient and effective response times.
- Created a platform to provide users a single place for external file sharing with the government community cloud to share content with users outside the CBP organization.
- Implemented Cross Component Connection to allow file and information sharing in a shared channel without the use of guest accounts, enabling collaboration between DHS agencies using collaboration tools.

2. Compliance

- In compliance with Encrypted Messaging Policy Enforcement, OIT worked to disable the messaging service on approximately 15,000 managed smartphones and tablets with minimal impact.
- In compliance with federal agency record-keeping mandates, OIT worked with multiple vendors and awarded new contracts to auto-archive Short Message Service (SMS) messages, completing this work well ahead of the May 1 deadline.
- In compliance with the Bureau of the Fiscal Service mandate, OIT implemented the G-Invoicing application for all Intragovernmental Transactions (IGT) buy/sell activity to provide better communication between trading partners, transparency, common data standard, agreed-upon processes, and streamlined settlements of funds.

3. Diversity, Equity, and Inclusion (DE&I)

- Launched the "Live IT" OIT Values Campaign, conducting five interactive sessions championed by OIT leadership dedicated to bringing each OIT value to life.
- Conducted a DEI&A Logo Campaign during which OIT employees submitted original designs voted on by their peers, resulting in a chosen logo to be used OIT wide.
- OIT AC and CIO Sonny Bhagowalia delivered the closing remarks during CBP's Asian American Native Hawaiian Pacific Islander (AANHPI) program.

4. Customer Experience (CX)

- OIT and Office of Field Operations (OFO) worked to develop a "journey map" of the Vessel Entry and Clearance System (VECS) that outlines the lifecycle of a customer's use of a CBP process.
- In support of the Paperwork Reduction Act Burden Reduction Initiative, OIT and Office of Trade (OT) worked with various internal and external stakeholders and doubled CBP's goal of 6,331,697 hours, facilitating a burden reduction of 12,784,791 hours.
- OIT collaborated with OFO to develop a draft Customer Experience (CX) Playbook, CX Operating Model, and Foundational CX Roadmap by engaging agency component representatives in a day long CX workshop focused on CBP's current capabilities and areas for improvement.

5. Cybersecurity

- Deployed a Secure Access Service Edge (SASE) remote internet access solution to validate the identity of the user requesting access, the device level signal to authenticate the device, and determine the risk the device may introduce to the CBP Network.
- Published an IT Directive to establish adoption of the Identity, Credential, and Access Management (ICAM) framework and continuing migration of CBP applications and platforms to cloud and Software as a Service (SaaS) to modernize and standardize identity and access management at CBP.
- In support of CBP's Zero Trust Architecture (ZTA), OIT established a program that allows the public to report suspected vulnerabilities on CBP's public facing sites, which are then investigated for validity, triaged for criticality, and reported to the VAT for remediation.

6. Southwest Border Technology Integration Program

- Deployed the Unified Processing (UPRO) desktop web application, introducing new capabilities to review the full processing of individuals in U.S. Border Patrol (USBP) or OFO custody removing the need to log into separate systems to access data.
- Unified Immigration Portal (UIP) automated the exchange of data between agencies, providing a complete picture of a subject's journey through the Enhanced Expedited Removal (EER) process.
- Deployed functionality to achieve processing the first digital A-file, marking the beginning of the full utilization of the digital immigration process between USBP and U.S. Citizenship and Immigration Services (USCIS).

FOCUS AREA SUMMARY

MISSION APPLICATIONS

OIT delivered reliable and scalable innovative technology solutions to provide operational support for CBP passenger and immigration management systems. Digital immigration processing was expanded through advancements to Unified Processing (UPRO), Unified Immigration Portal (UIP), electronic A-file and CBP One. The Advanced Travel Authorization (ATA), Mobile Encounters, Mobile Passport Control (MPC) and Global Entry Mobile applications accelerated and enhanced non-citizen and traveler processing.

MISSION INFRASTRUCTURE

OIT continued to modernize CBP's IT infrastructure to provide the best services and tools to fulfill CBP's multifaceted operations at the speed of mission. OIT migrated 77% of CBP's overall application portfolio to the cloud, exceeding the FY 2023 goal of 70%. Expansion of satellite connections closed gaps in remote locations and advanced availability of flexible mobile solutions. A new organization was launched to scale operations to provide cuting-edge services as the convergence of Information Technology (IT) and Operational Technology (OT) comes at a pivotal time in CBP's modernization journey.

TRUSTED PARTNERSHIPS

OIT's Trusted Partnership Initiative (TPI) fostered meaningful engagement and collaboration between internal and external mission stakeholders including CBP, DHS, Other Government Agencies (OGA), Industry, and International Partners. Engagement with CBP and DHS partners furthered digitization efforts including Mobile Intake, Digital A-File, and e3 enhancements. International, Industry and OGA partnerships provided opportunities to share and collaborate on data, cybersecurity, securing travel and trade, and innovative technology solutions.

MISSION CYBERSECURITY

OIT enhanced CBP's cybersecurity posture by proactively managing cyber risks, coordinating cyber information sharing, and providing an agile, effective, and cost-efficient approach to cybersecurity that aligns to the evolving cyber threat environment. CBP's shift into a Zero Trust Architecture was furthered through the deployment of a Secure Access Service Edge (SASE) remote internet access solution while the centralized Enterprise Identity Management solution supported Phishing Resistant, Multi-Factor Authentication, the principles of Least Privilege and Just-in-Time Access. For the second year in a row, OIT received a result of "No Findings" as they pertain to IT deficiencies in the annual DHS Financial Statement Audit.

ENTERPRISE IT GOVERNANCE

OIT supported IT governance, policy, and compliance by providing the tools and information needed to succeed in an evolving technology landscape. Publication of the IT Strategy 2023-2027 and establishment of the IT Policy Program will help CBP to achieve new heights of IT excellence and delivery in years to come. The IT Executive Dashboard doubled in size to provide expanded visibility and transparency around IT services and capabilities and the IT Governance Council consistently met to improve cross-function decision-making and pass CBP IT initiatives.
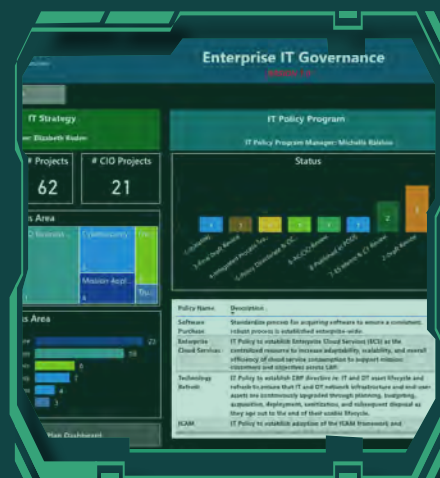
CIO BUSINESS OPERATIONS

OIT fostered a culture built around shared values through the Live IT values campaign, workforce experience initiatives, employee recognition and an emphasis on Diversity, Equity, Inclusion and Accessibility (DEIA). OIT received recognition for efforts to improve Customer Experience (CX) through the launch of CBP Experience (CBP X) and in coordination with CBP partners, a burden reduction of 12,784,791 hours. Quarterly town halls, increased communications through a weekly email newsletter and a revamped internal website provided employees with opportunities to engage with leadership and receive regular updates on "all things OIT".

CONCLUSION

A Record of Success
(Building on the Past, Delivering in the Present)

Mission Applications

Ensuring users have the right IT software capabilities and data available anywhere anytime at the speed of CBP's 24/7 mission.

Mission Infrastructure

Providing users secure, reliable, mobile, flexible, and managed IT networking, and computing Backbone that is available anywhere and anytime at the speed of mission.

Mission Trusted Partnerships

Partnerships with each mission user community to deliver unified and focused IT services and capabilities for mission needs while ensuring highest customer satisfaction.

Mission Cybersecurity

Ensuring Confidentiality, Integrity and Availability of all IT and data across the entire lifecycle anywhere and anytime at the speed of CBP's 24/7 mission.

Enterprise IT Governance

Overseeing CBP's IT Portfolio, IT Budget, IT Workforce, IT Acquisition, IT Architecture, IT Policy, IT Strategy and Records in accordance with applicable laws and statures.

CIO Business Operations

Ensuring the effective and efficient administration of all office duties, facilities and well-being, unity, and growth of the entire CIO community consistent with OIT and CBP values.
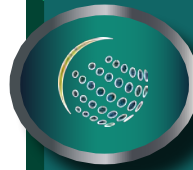
Looking Forward
(Positioning for the Future)

Agile Innovation

a. Leveraging Emerging Technology Data
b. Bridging Operational and Informational Technology

1

Tactical Operations Excellence

a. Enhanced Tactical Execution
b. Established Measurement Framework

2

Strategic Transformation

a. Integrated IT Strategies Shared Enterprise IT Services
b. Established Measurement Framework

3

These three guiding principles of OIT's future vision will enable CBP to achieve new heights of IT excellence and delivery in years to come.

We COMMIT to the mission

"This document was produced by the OIT Communications Team, with thanks to the many OIT personnel who contributed."
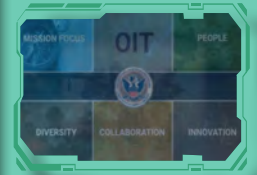
Going into FY 2024 and beyond, we shall strive to achieve greater heights:

As the OIT Assistant Commissioner and CBP Chief Information Officer for nearly four years, I'm proud to witness the continued successful delivery of Information and Operational Technology by the CBP OIT team at the speed of CBP's 24/7 mission. The tremendous achievement and progress across the six strategic focus areas in this report is truly realized when each component is leveraged together, in a holistic and integrated IT environment, and seen as a foundation and catalyst for CBP's bright IT future. Our multi-year CBP IT Strategy is mapped to the CBP and DHS CIO Strategies FY 2024-2028 and will drive and guide us to increased impact and opportunity for innovation, providing a vision for CBP to achieve new heights of IT excellence and delivery in years to come.
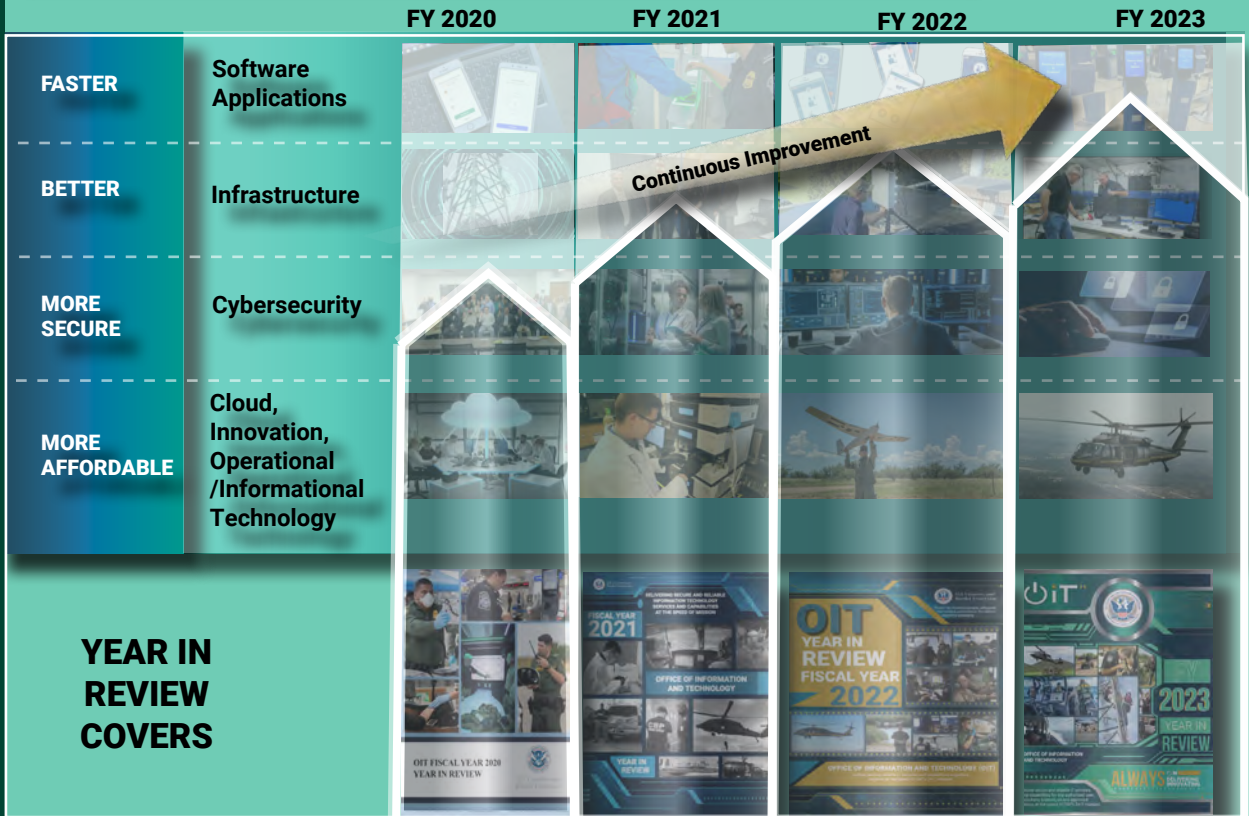
The Path Forward (FY 2024 and Beyond)
We now turn our attention to FY 2024 and continued pursuit of innovation and transformation of IT services in support of CBP's 24/7 year-round mission. Going forward into FY 2024 and beyond, we shall continue to achieve success through the implementation of the following:

1. **Framework Approach -** Adopt the framework approach of "build upon the past foundation, deliver excellence at the next level in the present, and position for a better future."
2. **Strategic Principles -** Adhere to three strategic principles: "strategic transformation, tactical operations excellence, and innovation."
3. **OIT Values -** Celebrate and incentivize the workforce to live the five OIT Values – Mission Focus, Innovation, People, Collaboration and Diversity - into action everyday with all trusted partners and an added focus on Transparency and Accountability.
4. **Six Focus Areas -** Modify and organize our work into six new strategic focus areas - Mission Infrastructure, Mission Applications, Mission Operational Technology (OT)/Information Technology (IT) Integration, Mission Cybersecurity, IT/IRM Governance which includes Data and Trusted Partnerships, and CIO Business Operations which includes CBP Experience/CX - to meet new emerging mission needs and remain effective/efficient.
5. **Trusted Partnerships -** Deliver IT, Cybersecurity, and data solutions for better mission outcomes across five trusted partnerships: CBP, DHS, Other Government Agencies, Industry, and International. This success is evidenced and documented in the YIR Reports published openly on CBP.gov for Fiscal Year 2020, 2021, 2022, and now 2023. The YIR Reports have clearly demonstrated year-over-year improvements and yielded highly positive recognition for the OIT Team with several notable awards.
6. **DHS & CBP Alignment -** Align our efforts with DHS and CBP strategic plans, including the DHS CIO IT strategic plan. We have mapped the new CBP IT Strategic plan for FY 2024-2028 to the DHS IT Strategic Plan FY 2024-2028 and the new CBP Strategic Plan FY 2024-2028.
7. **Mission Outcomes -** Focus on transparency and accountability to achieve mission outcomes "faster, better, more affordably and more securely." This framework is illustrated in the Figure below and highlighted in each of the CBP OIT Year In Review Reports from FY2020-2023.

		FY 2020	FY 2021	FY 2022	FY 2023
FASTER	**Software Applications**				
BETTER	**Infrastructure**				
MORE SECURE	**Cybersecurity**				
MORE AFFORDABLE	**Cloud, Innovation, Operational /Informational Technology**				
YEAR IN REVIEW COVERS					

Continuous Improvement

CBP's 24/7 mission is to "protect the American people, safeguard our borders, and enhance the nation's economic prosperity." Existential and emergent threats/impacts to the mission are stretching the limits of CBP, requiring strategic, tactical, and innovative solutions:

1. Emerging Cybersecurity Threats
The evolution of criminal, national security threats to our country and CBP's mission are becoming more voluminous, sophisticated, brazen, impactful, and frequent (e.g., fentanyl crisis, supply chain, IP theft). World events, an interconnected world ecosystem, national hegemony and other issues are also causing new humanitarian crises (e.g., Operation Allies Welcome, Uniting for Ukraine, border surges, Operation Save Landing). These events or threats are resulting in historical levels of traffic arriving at America's physical and digital doorstep.

2. Digital Operational/Information Technology Evolution and Integration
The advent of emerging advanced digital technology is starting to pervade everything in our daily lives in OT, IT, and the "Internet of Things", providing data/information and capabilities for the mission anytime, anywhere on any authorized device for any authorized user. This is a "boon" (information and capabilities in real-time) and a "bane" (cybersecurity threats). CBP's daily transactions and data exchanges are expected to increase further with more load on the enterprise systems. CBP's daily data exchanges/transactions (40B per day), processed network traffic (338 tera bytes per day) and cyber attempts (105M+ per day) will see further growth over the next few years requiring successful blocking to avoid any impact.
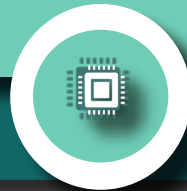
3. Rapid Pace of Technology Advancement
These advances are also progressing "faster and faster" (e.g., Moore's Law saw 18 months for technology capacity doubling, evolving into Huang's Law with greater GPU capacity in 6 months), and even further with AI/ML processors, Quantum computing, Quantum-safe, into mobile and wearable computing at a user's fingertip. AI/ML will pose new ethical challenges and cybersecurity challenges, requiring newer approaches.

EXECUTIVE SUMMARY

Global Technology Trends

Digital Mobility | **AI/ML** | **Customer Experience (CX)** | **Cybersecurity** | **Data Governance**

The world is evolving into a cloud-dependent, mobile landscape with powerful, intuitive, and capable digital technologies and solutions at an increasingly rapid pace.

As the use of AI capabilities becomes more central to CBP's mission effectiveness, OIT established the AI Center of Innovation (COI) to rapidly meet the technical needs of both current and future AI initiatives.

In parallel with the White House initiative, CBP OIT has focused on improving the digital customer experience. Examples include CBPOne, Global Entry Mobile App, Touchless Fingerprint, etc.

As potential adversaries and threats increase in complexity and sophistication, the importance to adopt cybersecurity technology and risk-based practices to safeguard organizations' vital systems, networks, and data will continue to grow and evolve.

With the rise in data analysis and business intelligence in day-to-day operations, the ability to improve data governance frameworks will be a key factor in maximizing enterprise-wide efficiencies.

85% *of Americans own a smartphone; up from just 35% in 2011*

It is forecasted that the global AI market will surpass **$500B** *in 2023.*

People are **2x** *as likely to share personal data [with government agencies] if they have positive CX interactions.*

80% *of nation-state attacks were directed against government agencies, think tanks, and non-government organizations.*

By 2026, **50%** *of BI tools will activate their users' metadata, offering insights and data stories with recommended contextualized journeys and actions.*

Scaling to new heights while embracing emergent global technology trends.

We are the forward-leaning IT organization that, alongside our mission partners, enables the nation's premier law enforcement agency to protect the American people and the national economy while safeguarding and managing the United States' air, land, and sea borders.