Internal Revenue Service

Solicitation Number: ##############

IRS Integrated Enterprise Portal 2.0 (IEP 2.0)

Current State of the IEP Systems and Services

Version: 0.5

Date: XX/XX/2023

Table of Contents

Table of Tables

Table of Figures

1 Introduction

Internal Revenue Service (IRS) is planning to award a new managed services contract to build and transition the existing IRS Integrated Enterprise Portals (IEP) to meet the evolving future business needs of IRS.

2 Document Purpose and Organization

The purpose of this document is to describe the current state of IEP, which is a major program that IRS Information Technology has implemented to enable secure access to IRS business systems by internal and external users. This document describes IEP as a robust virtualized infrastructure platform that is fully scalable, managed privately, and dedicated to IRS as part of a comprehensive set of technology services for internal and external users.

This document also provides information to support IEP transition planning by articulating the scope, complexity, scale, and expected growth of IEP's integrated core services, including IT infrastructure, operations, security, application, integration and support, and program management services. It includes a description of multiple workloads and application styles that integrate with the IRS processes and the approved technologies to enhance and accelerate the delivery of IRS business applications.

This document is divided into six major sections:

1. Introduction
2. Document Purpose and Organization
3. Integrated Enterprise Portals Background & Overview
4. Core Services
5. IEP Workloads
6. Current State Volumes and Volume Forecasts

The table below defines the elements used to describe each workload in the IEP Workloads section.

Table 2-1: Current State Workload Element Definitions

Table Element	Table Element Definition
System Name	The system's formal designation in Request for Proposal (RFP) documents.
Target Audience	The group or groups the system is intended to serve.
Content and Services	The information, functions, and resources available on the system.
Technical Platform	A general description of technology components or framework that comprises the system.
System Integrations	A general description of the interfaces and connections between the system and other systems that deliver the overarching functionality.
Location	The current system locations.
Managed Service Provider (MSP)	The current Managed Service Provider (MSP).

This document contains four appendices:

- Appendix A – Summary of IEP Applications. This provides summary list of all applications that are hosted in IEP Public User Portal (PUP), Registered User Portal (RUP), Employee User Portal (EUP), and Transactional Portal Environment (TPE).
- Appendix B – IEP Application Descriptions. This provides application details and attributes for all IEP-hosted applications.
- Appendix C – Key Current State Organizations. This identifies organizations that have stakeholder roles in the operations and maintenance (O&M) of current IEP infrastructure.
- Appendix D – Acronym List.

3 IEP Background and Overview

The mission of IRS is to provide America's taxpayers with top-quality services by helping them understand and meet their tax responsibilities and enforcing the law with integrity and fairness to all. In 2021, IRS IEP websites served over 11.4 billion page views to 660 million site visitors globally (during 2 billion sessions).

IEP is a robust virtualized hybrid cloud platform that is fully scalable, managed privately, and dedicated to IRS as part of a comprehensive set of technology services for internal and external users. IEP is the front door to the IRS Enterprise systems/applications and plays a mission-critical role in serving taxpayers, tax preparers, and employees. IEP provides fully integrated core services, including infrastructure, operations, security, application, integration & support, and program management services, to establish a single, flexible, scalable, reliable, robust, and digital platform that supports multiple workloads and application styles. This platform supports a variety of performance and availability requirements with more than 99.99% availability and sub-second responses even in the event of an unexpected disaster during peak tax season.

IEP platform supports:

- Rapid growth of online electronic filings and taxpayer access to information
- Automation of key business processes
- Centralized logging and monitoring that is integrated with IRS E2E systems
- Balanced system capability to meet demand by dynamic application scaling
- Consistent user experiences for the taxpayer and tax preparer
- Improved data and content sharing between IRS user communities
- Enhanced delivery, accessibility to, and support of modernized IRS business applications for taxpayers and preparers
- Enhanced security posture of web-based applications

The core IEP platform consists of the following types of services that support multiple IRS workloads:

- Portal Service and Program Integration Services – Operates the IRS environment within specified scope, quality, time, and cost objectives, and as described in IRS Program Management, Project Management, Software Development Lifecycle, and Operations Management Framework.
- Portal Infrastructure Services – Manages the physical facilities furnished with hardware, software, middleware, network connectivity, and peripherals required to establish and host the IEP environment, as well as services needed to improve IEP operations in functional areas arising during the period of performance.
- Portal Web Hosting Services – Provides comprehensive application hosting support for application development, testing, integration, and production, as well as provisions for capacity management, incident management, performance monitoring, and application infrastructure integration support.

- Portal Security Services – Ensures security processes and procedures are consistent with industry and government best practices, such as NIST Special Publication (SP) 800-14, Generally Accepted Principles and Practices for Securing Information Technology.
- Portal Application Services – Provides enhancement and break/fix support for Contractor-managed applications on IEP 1.5, including maintenance of all tools/applications, continual optimization of the site based upon user experience, working with customers to identify requirements, as well as the design, development, testing and release of applications.
- Portal Website Help Desk Services – Provides the IRS.gov website service desk to taxpayers as a "first aid station" for IEP 1.5 website questions, such as navigation of IRS content and forms retrieval. This service is complementary to the IRS toll-free tax assistance line and does not respond to tax questions, personal queries, or economic stimulus queries. (Help Desk services' requirements will not be included within IEP 2.0).

By leveraging core services described above, IEP scales to numerous virtual workloads, isolating each workload as needed to meet varying security requirements. Currently, IEP supports the following eight workloads, each with a different target audience and security:

- Public User Portal (PUP)
- Earned Income Tax Credit (EITC) Central
- Political Organization Filing and Disclosure (POFD)
- Registered User Portal (RUP)
- Transactional Portal Environment (TPE)
- Employee User Portal (EUP)
- Foreign Account Tax Compliance Act (FATCA).
- IRS Cloud Integration Support

A website service model description also is provided to delineate current Managed Service Provider/IRS accountabilities across major service areas. IEP follows a tailored lifecycle. The table below defines IEP website service model.

Table 3-1: IEP Website Service Model Definitions

Table Element	Table Element Definition
Lifecycle Service/Process	A major system lifecycle function based on Information Technology Infrastructure Library (ITIL) latest version framework. Note: Selected ITIL services/processes are omitted if they are not currently operational.
MSP	Managed Service Provider. An 'X' in this column indicates primary service ownership lies with MSP. IRS may play a supportive service role.
IRS	Internal Revenue Service. An 'X' in this column indicates primary service ownership lies with IRS. MSP may play a supportive service role.
Joint	An 'X' in this column indicates IRS and MSP share service ownership.

IRS IEP is comprised of the following components and associated accountabilities as outlined in the table below. Most IEP services are considered custom services. Custom services are service components that are not typically found in standard Operations & Maintenance offerings such as Application Development and Maintenance, Program Management, Security, and Middleware/Integration. The table below defines IRS IEP components and their specific accountabilities by using a RACI (Responsible, Accountable, Consulted, Informed) chart.

- Responsible for correct execution of the service or process outcome.

- Accountable for the result and overall quality of the service or process outcome.
- Consulted by those performing the process or delivering the service.
- Informed and kept up to date on the progress by those performing the process or delivering the service.

Table 3-2: IEP Component RACI

Operational Area	Lifecycle Service/Process	MSP	IRS
Program Service and Program Integration Services	Program Support	R	A
	Process Support	R	A
	Reporting/SLOs	R	A
Portal Infrastructure Services	Multiple geographically separated data centers	R	A
	Telco – Redundant Dedicated Circuits; Vendor Diversity	R	A
	Other - Redundant; Vendor Diversity	R	A
	Business Continuity (multiple geographically separated sites capable of handling full workload)	R	A
Portal Web Hosting Services	Web Hosting Support	R	A
	Capacity Management	R	A
	Incident/Problem Management	R	A
	Monitoring	R	A
	Application Infrastructure Integration Services	R	A
	Configuration and Change Management	R	A
	Service Catalog	R	A
	Service Desk	R	A
Portal Security Services	Monitoring, Compliance, Reporting	R	A
Portal Application Services	Enhancement/Optimization of Contractor-managed applications within IEP 1.5	R	A
	Maintenance of all tools/applications	R	A
Portal Website Help Desk	IRS.gov Website Help Desk	R	A

4 Core Services

IEP platforms support multiple workloads and application styles to establish a set of reusable technology and process services that can be configured to meet the unique demands of IRS applications and environments. The core IEP services are tightly coupled and automated to enable a robust and scalable platform that is integrated with IRS processes and technologies to accelerate the delivery of IRS business applications. IEP uses Shared Service components, that are used by more than one application.

4.1 Portal Service and Program Integration Services

Portal Service and Program Integration Services provided by IEP enable the MSP to operate and deliver the IEP services within specified scope, quality, time, and cost objectives, and as described in IEP Program Management, Project Management, Software Development Lifecycle, and Operations Management Frameworks.

4.1.1 Program Management

MSP implements the following Program Management activities:

- Manages the program measurement in Quality Assurance Surveillance Plan (QASP), including a process for developing, implementing, and monitoring a set of performance measures to validate that program activities support both business and IT strategies efficiently and effectively.
- Manages the resource on-boarding and clearance process for IEP. This includes working with IRS CORs to complete the Minimum Background Investigation (MBI) for all resources and service providers that support IEP and the resources and subcontractors that support the Help Desk, Service Desk, and Hosting capabilities. The team also works with IRS to request badges and laptops for cleared resources as needed. To support new or ending projects, IEP supported approximately 25 monthly resource specific MBI actions over the 12-month period ending March 2023.
- Develops and maintains the overall Program Management Plan that clearly delineates the program and project management approach including, at a minimum, the Project Management Institute's Standard for Program Management.
- Oversees and governs contractual obligations and risks associated with this contract.
- Manages the IRS coordinated review cycle of all work products and deliverables.
- Performs quality assurance of work products and deliverables.
- Manages the Service Strategy process in partnership with the IRS to seek new solutions and initiatives for business problems and provide proactive recommendations and assessment.
- Manages staffing and time tracking of resources.
- Manages Benchmark process with IRS.
- Manages subcontractors, procurement activities, and vendor contractual obligations.
- Manages onboarding of new products and services
- Manages IEP O&M Asset Management including but not limited to:
  a) Hardware maintenance agreement with vendors.
  b) Software subscription renewals and license entitlement compliance.
  c) Manage GFE reporting
  d) Manage cloud services agreements
- Performs contract change control through supporting the contractual new services onboarding and fulfillment process by working with stakeholders, CORs and Contracting Officers to create, estimate and coordinate funding of VROMs, Work Requests, and UWRs and participate in review sessions of this documentation. Coordinates agenda, participates in, and supports IEP Technical Review Board (TRB) operation and activities. IEP provided 75 VROMs and supported 150 Work Requests over the 12-month period ending March 2023.
- Manages new work requests from IRS encompassing schedule, cost, risk, funding, billing/invoicing, and contract action statuses and associated communications across Executive, Management, Operational, and Procurement channels.
- Tracks and communicates IRS Automated Front Door (AFD) status of current Work Requests, Change Requests, overdue Deliverables, and Work Products on a weekly and monthly basis.
- Provides quality control and oversight over the IEP O&M Service Level Objective reporting to IRS.
- Operates and maintains the IEP Self Service Catalog for estimating hosting of applications in the IEP environment.
- Manages the IEP deliverables and work products associated with the task orders and work requests IEP completed more than 1,850 deliverables over the 12-month period ending March 2023.
- Manages the IRS AFD Power Automate tool to support the review process of Deliverables, Work Products, Contractual Change Requests, and Work Request submissions, allowing for sequential and parallel reviews with multiple reviewer groups.

4.1.2 IT Service Management

IEP Operations Management uses several ITIL-compliant tools and ITIL-based processes that work together with established IRS tracking tools, e.g., KISAM, Deployment and Release Integration and Visibility Engine (DRIVE). The tools and processes have a specific focus on supporting the activities to provide an overarching Operations Management Framework that spans and governs multiple dimensions of the service, including:

- Internal IEP interactions
- Consulting-IRS interactions
- IEP O&M interactions
- IEP enhancement-focused interactions

IEP Service Management practices include the following:

- Change Management
- Release and Deployment Management
- Event Management and Monitoring
- Request Fulfillment
- Incident Management
- Problem Management
- Access Management
- Availability Management
- Capacity Management
- Vulnerability and Patch Management
- Configuration Management

4.2 Portal Infrastructure Services

Portal Infrastructure Services manages a Hybrid Cloud infrastructure spanning Public Government Cloud and Private Cloud environments. The IEP's hybrid cloud architecture facilitates the build and management of environments required to host applications in FedRAMP and/or FISMA Moderate environments. Portal infrastructure services includes architecture support, environment build, infrastructure tuning, patching, hardening, and capability and performance enhancements. Infrastructure-as-Code (IaC) and automation are leveraged to facilitate rapid and consistent delivery and maintenance of infrastructure services and environments. The IEP Private Cloud is a scalable, virtualized infrastructure housed at vendor managed physical data center facilities furnished with hardware, software, middleware, network connectivity, and peripherals required to establish and host environments, as well as services needed to improve IEP operations in new functional areas arising during the period of performance. As a combined hybrid cloud, both the Public and Private Cloud environments share services and are connected through a highly available Software Defined Wide Area Network (SD-WAN) that also connects to the IRS on-premises data centers. There are 107 IEP applications. 38 are hosted on the Public Government Cloud and 69 are in the Private Cloud.

4.2.1 Network and Firewall

IEP maintains multiple data centers in an active/active state to minimize latency, improve connection speeds for clients, provide fail-over for key toolsets and applications, and meet Service Level Agreement (SLA) requirements. IEP leverages external points of presence distributed across the United States to monitor application health as seen by the service consumers. A robust networking architecture supports the demands and flexibility of IEP. The core of the IEP network provides high-speed (40 Gbps, 10 Gbps, 1 Gbps) layer 2 and layer 3 switching between VLANs, DMZ connections,

partner networks, and vendor-diversified outside internet connections. Networks with different security levels are separated via firewalling – virtual, physical, or both. Depending on demand and security requirements, physical and virtual network elements can be used to manage traffic, provide security, and respond to the changing needs of the software-defined data center.

Internet traffic is load balanced across the geographically separated data centers, enabling application availability even during data center outages or maintenance windows. Traffic is also automatically rerouted to secondary locations based on user need and network efficiency, while remaining completely transparent to the end-user. IEP also has the flexibility to configure dynamic or planned fail-over during outages and required maintenance. Configuration and administration are accessible through a web browser interface.

Wide Area Network (WAN) architecture includes interconnection of routers, switches, and firewalls, which help optimize traffic patterns from registered users, MSP data centers, Cloud regions, and IRS data centers that host multiple Enterprise systems/applications. WAN architecture is separated by network zones which include the public internet and the connection between the data centers.

IEP provides the ability to extend network access safely and easily to desktops for remote users, devices, and endpoints after authentication. Remote access to IRS IEP environments is restricted to users connected to the IRS intranet or privileged MSP networks and is specifically designed for operational management as well as for development and testing.

IEP Local Area network (LAN) infrastructure was designed and built with agility and scalability in mind to meet the anticipated future growth demands. The logical LAN design is based on multiple private secured environments that allow ingress and egress traffic through firewalls.

4.2.2 Storage

IEP infrastructure includes storage necessary to meet IEP Service Level Objectives (SLOs). The storage design provides the following services:

- Archival, primary, and transient storage for applications
- High-performance tiered storage for applications with intensive IO requirements
- Applications leverage both Block and Object storage technologies based on requirements
- Fault management, performance reporting, capacity reporting

If the storage requirements grow beyond current capabilities, the design incorporates further deployments to meet application workload requirements.

4.2.3 Computing and Virtualized Infrastructure Management

The IEP hybrid cloud computing approach provides the following:

- Containerized compute and microservice based applications allow IEP to deploy workloads across multiple hardware platforms (cloud or on-premises) with increased automation, orchestration, and on-demand scaling to support next-generation IRS applications.
- Hybrid architecture that allows for automated deployments in both on-premises virtual environments as well as Public Cloud environments leveraging consistent tooling to ensure operational efficiencies, common support models, and consolidated licensing costs.
- Scalable and high-performance computing workloads across a shared virtualized infrastructure and geographically dispersed environments.

- Automation that optimizes available capacity and minimizes unnecessary compute costs by turning compute instances on when they are needed and off when they are not in use.
- Dynamic resource provisioning across compute environments. IEP reallocates compute resources to support peak times and production capacity to development and test environments during seasonal lulls in workload resource requirements. This architecture allows for in-place hardware upgrades without impacting application availability as well as environmental isolation and segmentation.
- Logical environment segmentation (e.g., development, test, production) that enables secure and targeted application environments with varying resource requirements on shared hybrid cloud infrastructure.

4.2.4 Data Center Services

The two data centers, which house IEP infrastructure, are separated geographically across time zones within the United States such that local disasters do not result in a loss of service. Equipment is located within multiple racks and cages within the data centers' secure FISMA-moderate compliant environments. All data centers use state-of-the-art cabling, wiring, air flow, smoke detection, fire suppression, temperature control, humidity control, and backup power generation. The connection between IEP data centers utilizes a SD-WAN mesh connectivity to the IRS data centers with 1 Gbps bandwidth that is expanding to 10 Gbps.

4.2.5 Dynamic Traffic-Based Scaling

Automation of data center workflows enables rapid provisioning of virtual machines and containers that provide the required services to support IRS applications in the IEP. This serves as the cornerstone of auto-scaling to match demand with resource availability. Additionally, it helps to facilitate patch management, change and configuration management, and disaster recovery.

4.2.6 Internal Interfaces

IEP interfaces with multiple IRS data centers and IRS enterprise cloud environments as depicted in the two diagrams below:

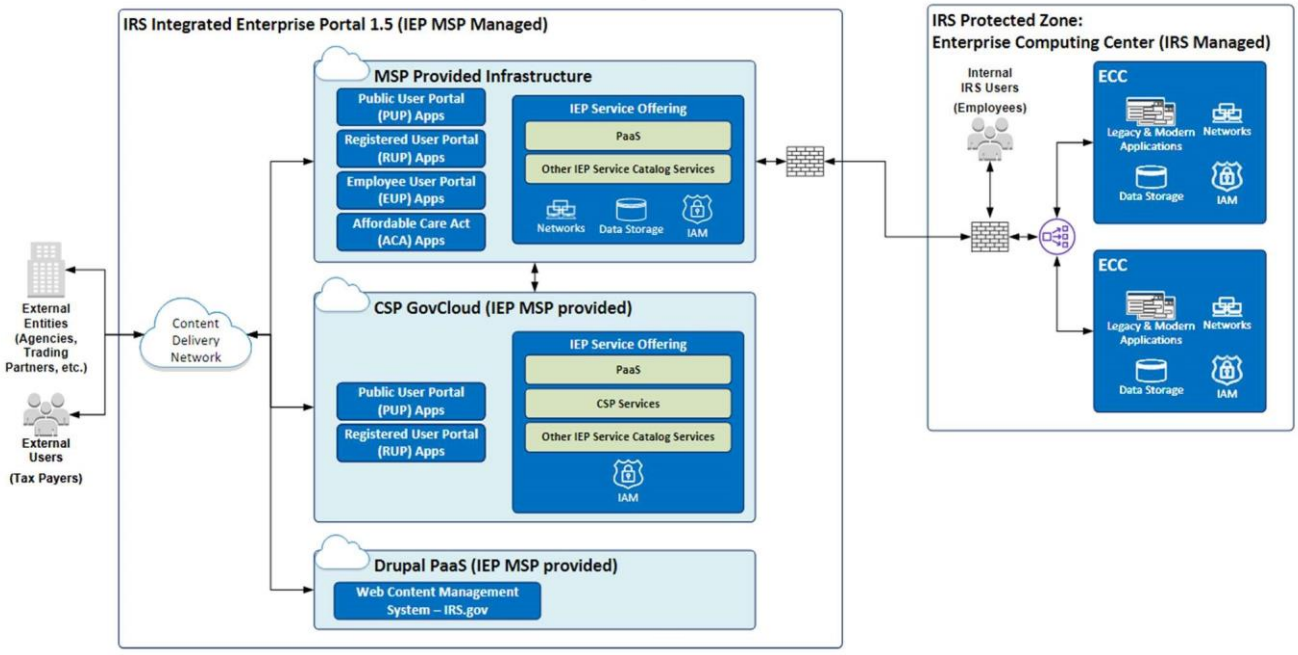

Figure 4-1: IEP 1.5 and IRS Enterprise Computing Center Interfaces

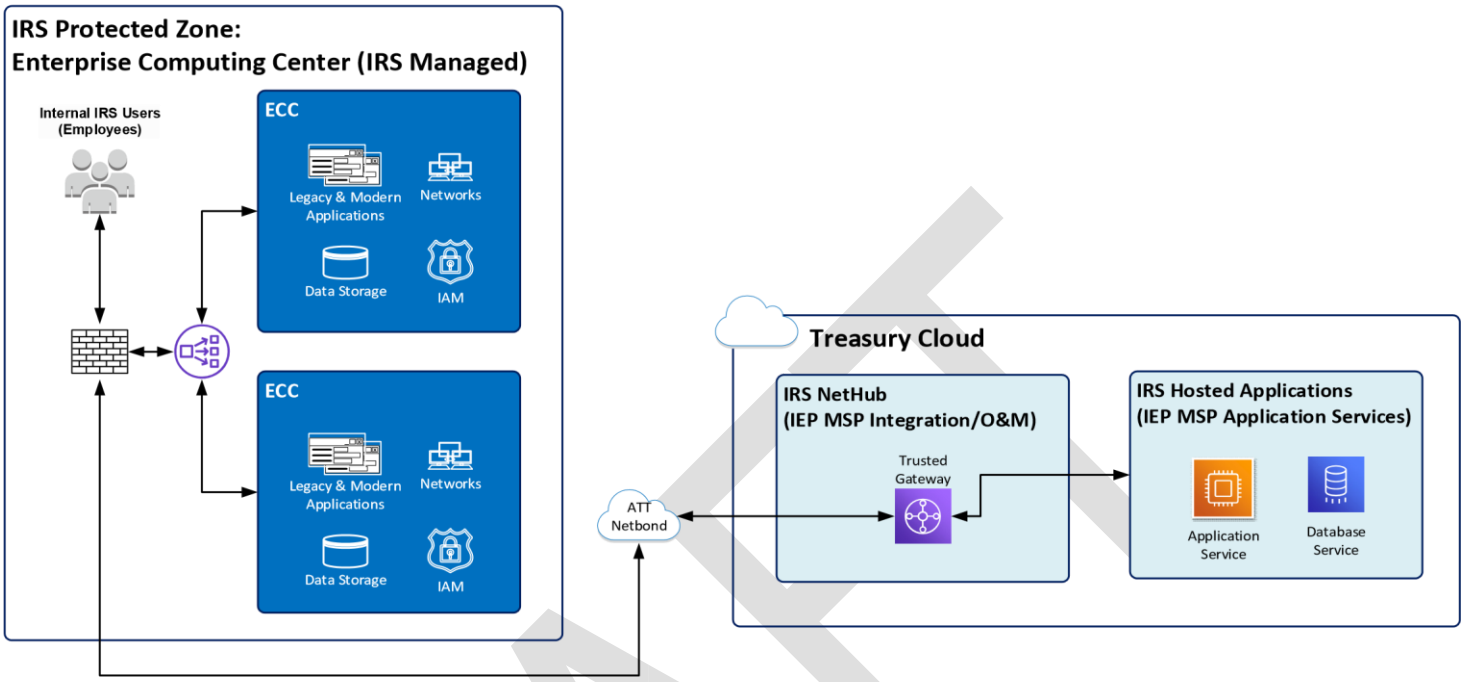

Figure 4-2: IRS Enterprise Computing Center and Treasury Cloud Interfaces

4.2.7 External Interfaces with Other Government Agencies and Commercial Entities

IEP interfaces with the following external entities:

- Department of Health and Human Services (HHS) Center for Medicare and Medicaid Services – administers the Medicare program, while partnering with state governments to administer Medicaid, the Children's Health Insurance Program (CHIP), health insurance portability standards, and the Affordable Care Act Marketplaces.
- Department of Education – establishes policies on education financial aid and distribution while collecting American school data and disseminating research.
- State Tax Agencies (50+) – multiple departments of revenue, tax boards, finance, administration, etc. across each state that develop or communicate major tax policies, implement actions to increase efficiency of revenue collections, and liaison with legislators, business groups, and professional associations.
- International Data Exchange – electronic delivery point for financial institutions and host country tax authority to transmit Foreign Account Tax Compliance Act (FATCA) reports and data.
- Tax transmitters, e.g., Intuit, H&R Block, and miscellaneous accounting firms.
- Insurance companies and large employers, e.g., Aetna, United Healthcare.
- Information Returns Providers – small business, accounting firm, tax preparation software, health care provider, and individual taxpayer entities holding a Transmitter Control Code (TCC) to file online Information Returns through IRMOD A2A, MeF, and ACA.
- Internal Paper Processing – systems such SCRIPS that transcribe paper transmission and interface with IRMOD and other information return intake applications.

The diagram below depicts IEP 1.5 major external interfaces:

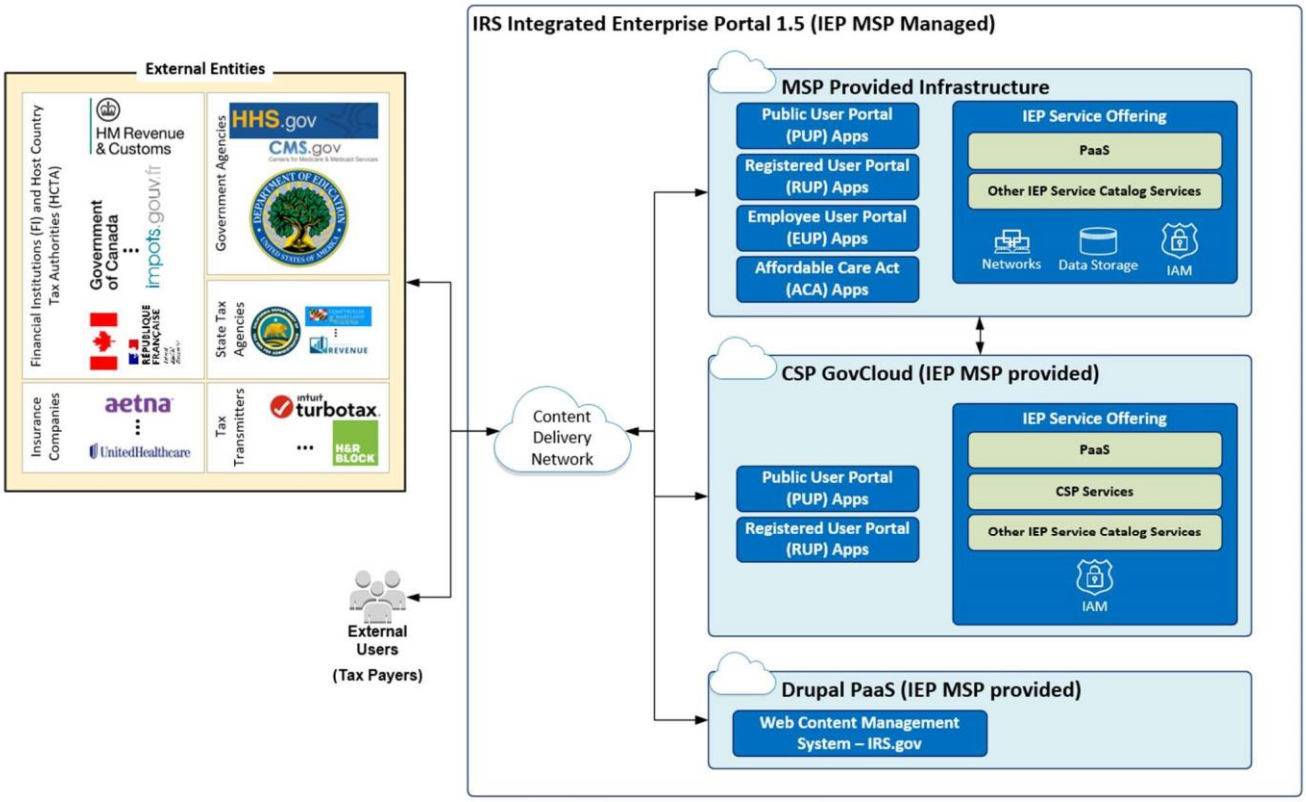

Figure 4-3: IEP 1.5 External Interfaces

4.3 Portal Web Hosting Services

Portal Web Hosting Services provides comprehensive application hosting support for application development, testing, integration, and production, as well as provisions for capacity management, incident management, performance monitoring, and application infrastructure integration support.

4.3.1 Web Hosting Support

The reporting process consists of gathering metrics from multiple data sources and generating reports, which provide a consolidated view into IRS.gov, applications, and IEP infrastructure performance analytics. This process facilitates the gathering of data on an ongoing basis, which provides consistent metrics to IRS on an ad-hoc, daily, weekly, and monthly basis. MSP also provides monthly diagnostic reports detailing the current state of the website. These diagnostic reports provide information regarding broken or inappropriate links, automated section 508 checks, page weight, and searchability.

4.3.2 Capacity Management

Capacity Management is necessary to manage the resources within IEP. MSP manages capacity for licensing, computing, storage, network throughput, and caching bandwidth. MSP and IRS teams meet as needed to review requests for capacity within IEP. Non-production environment requests and Production environment capacity requests are both reviewed and approved.

The table below depicts Capacity Management activities and accountabilities using a RACI (Responsible, Accountable, Consulted, Informed) chart.

- Responsible for correct execution of the service or process outcome.
- Accountable for the result and overall quality of the service or process outcome.
- Consulted by those performing the process or delivering the service.
- Informed and kept up to date on the progress by those performing the process or delivering the service.

Table 4-1: IEP Capacity Management RACI

Activities	MSP	IRS Application Ownersand SMEs	IRSService Level Management	IRSChange Management	TIGTA Stakeholders	IEPCapacity Governance	IRS
Collect IEP workload data and characterizations.	R	C	I			I	A
Perform capacity analysis and planning.	R	I	I			I	A
Develop capacity forecasting techniques and modeling for existing IEP workloads.	R	C	I			I	A
Establish performance targets and service levels that are obtainable and cost-justified	R	C	C			I	A
Produce a formal capacity report (e.g., baseline updates, allocation rates, usage/bandwidth trends).	R	C	I			I	A
Provide capacity metrics across IEP services and elements (e.g., virtual machine environments, server types, storage, network bandwidth).	R	C	I			I	A
Support Treasury Inspector General for Tax Administration (TIGTA) audits targeting impact of changes to IRS data systems and risks.	C	C			A	I	R
Track and forecast software licenses and certificates required to operate IEP environments at planned levels.	R	C				I	A
Implement agreed IEP Capacity Governance solutions per the IEP Change Management practice.	R	C	I	C		C	A
Continuously improve the Capacity Management practice.	R	C	C			C	A

As part of IEP capacity management, IEP is responsible for development and maintenance of Financial Operations (FinOps) dashboards. For private cloud workloads, IEP provides Capacity and Usage. For

Government Cloud workloads, IEP provides monthly Spend and quarterly Capacity, Funding vs. Spend and Cloud Optimization reports. These reports are summarized and tagged at the account, instance type, environment application and services level.

4.3.3 Incident/Problem Management

Incident Management is supported by IEP Service Desk, which is a single point of contact to IRS's EOps Enterprise Service Desk and other IRS help desks. This function provides 24x7x365 Incident and Service Request support, including the identification, triage, troubleshooting, and resolution of both non-Production and Production incidents interfacing with hundreds of IT application developers and testers. These activities utilize MSP IT Service Management (ITSM) tool and IRS KISAM change management and ticketing tool and interact with existing IRS processes such as IRS Support Restoration Team (SRT) process and Change Request Process for emergencies. IEP's Service Desk tracks 40+ incident tickets per month across applications and environments.

The table below depicts Incident and Problem Management activities and accountabilities using a RACI (Responsible, Accountable, Consulted, Informed) chart.

- Responsible for correct execution of the service or process outcome.
- Accountable for the result and overall quality of the service or process outcome.
- Consulted by those performing the process or delivering the service.
- Informed and kept up to date on the progress by those performing the process or delivering the service.

Table 4-2: IEP Incident and Problem Management RACI

Incident Management Activities	MSP	IEPService Desk	Problem Management	Change Management	nt IRSApp evteams	External Vendors	Enterprise Operations	IRS Support Restoratio	nTeam ITSecurity	IRS
Support the operational single point of contact delivered by the IRS' EOps Enterprise Service Desk.	R	C								A
Identify, register, classify, troubleshoot, triage, resolve, and close IEP incidents related to applications hosted on the IEP platform (MSP-managed components)	R				C			C	C	A
Support the triage of non-IEP incidents to specific SMEs per area of expertise and coordinate resolution and recovery actions.	R	C	I		C	C	C	I	C	A

Manage incidents per IRS Incident Management process, e.g., per defined SLOs, and incident prioritization and ticket resolution times.	R	C						C		A
Detect potential Problems (cause or potential cause of one or more Incidents) and assign to Problem Management for formal root cause analysis.	R		C					I	C	A
Submit formal change requests in order to implement a workaround or resolution.	R	I	C	C	C	C	C	C	C	A
Develop and maintain an IEP Incident/Problem Management SOP.	R	I	C	C			C	C	C	A
Continuously improve the Incident Management practice.	R	C	I	I			C	C	C	A
Enable user friendly application maintenance pages as necessary	R			I	C		C	I		A
Problem Management Activities	MSP	IEPService Desk	Incident Management	Change Management	IRSAppDev teams	External Vendors	Enterprise Operations	IRSSupport Restoration Team	ITSecurity	IRS
Perform root cause analysis on assigned Problem tickets to derive resolution or identify errors.	R	I	C		C	C	C	I	C	A
Solicit specialist skills (SMEs) as needed to assist with problem analysis and resolution within their area of expertise.	R	I	I		C	C	C	I	C	A
Submit formal change requests to implement a workaround or resolution.	R	I	C	C	C	C	C	C	C	A
Develop and maintain an IEP Incident/Problem Management SOP.	R	I	C	C			C	C	C	A

Continuously improve the Problem Management practice.	R	I	C	C			C	C	C	A

4.3.4 Monitoring

MSP monitors comprehensively the IEP infrastructure 24x7x365.

The table below depicts Monitoring activities and accountabilities using a RACI (Responsible, Accountable, Consulted, Informed) chart.

- Responsible for correct execution of the service or process outcome.
- Accountable for the result and overall quality of the service or process outcome.
- Consulted by those performing the process or delivering the service.
- Informed and kept up to date on the progress by those performing the process or delivering the service.

Table 4-3: IEP Monitoring RACI

Activities	MSP	EOps Incident Management	IRS
Perform external monitoring of applications and websites replicating end-user experience.	R	C	A
Perform internal monitoring, alerting, and reporting of infrastructure elements, e.g., applications, networks, servers, bandwidth, databases.	R	C	A
Monitor resource utilization, performance, availability, and security.	R	C	A
Activities	MSP	EOps Incident Management	IRS
Establish KPIs and thresholds for monitored elements.	R	C	A
Evaluate alerts and initiate the incident management process when meaningful and actionable per SLOs.	R	C	A
Send logs to the IRS end-to-end (E2E) logging servers for analysis, processing, reporting and auto-ticket generation.	R	C	A
Provide routine and ad hoc IEP 1.5 IT infrastructure and application monitoring reports.	R	C	A
Provide Application Performance monitoring for analyzing application bottlenecks.	R	C	A
Support IRS authorized third party audit of data, per IRS data storage and retention policies.	R		A
Leverage a data visualization, collection, monitoring, and reporting platform to update system monitoring requirements and thresholds.	R	C	A

Coordinate End to End visibility of platform operations for hosted application with the IRS Monitoring tooling.	R	C	A

4.3.4.1 Logging

IEP is responsible for collecting and storing logs from applications, application platforms, databases, and middleware components. These logs are sent to the IRS' E2E logging servers to provide application and system level monitoring to IRS E2E monitoring applications for IRS' analysis, processing, reporting, and auto-ticket generation. IEP initiates Enterprise Security Audit Trails (ESAT) data onboarding for each workload with IRS Cybersecurity and coordinates the transformation and stream of data into the Treasury Cloud hosted ESAT system. IEP performs application-level logging for IRS business analytics, such as IT Reporting tool for the Affordable Care Act (ACA). It also provides IT near real-time log ingestion and search capability as an additional audit log access mechanism for IRS.

4.3.4.2 Dashboards

MSP provides status and reporting dashboards to authorized IRS users and contractors enabling autonomous data analysis and reporting for these capabilities:

- End user statistics
- Website usage
- Application to Application (A2A) transfer health
- Application/infrastructure availability
- Infrastructure and bandwidth usage
- Log analytics
- Website optimization
- Cloud Management
- Capacity Utilization
- Continuous Integration/Continuous Deployment

4.3.4.3 Reporting

MSP performs real-time ad hoc reporting, including generation of metrics from multiple data sources to provide a consolidated view into IRS.gov, applications, and IEP infrastructure performance analytics. MSP also provides monthly diagnostic reports depicting the current state of the IRS.gov website. The diagnostic reports provide information regarding broken/inappropriate links, Section 508 checks, page weights and search-ability. Formal, planned reports include:

- Senior IT executive report
- Daily Filing Season Report
- Office of Management and Budget (OMB) E-300 Metrics
- Response Time Report
- Help Desk Contact Database Extracts
- Help Desk Operational Metrics
- Help Desk Customer Satisfaction Surveys
- Internet Protocol Version 4/6 (IPV4/V6) Report
- Service Level Objective (SLO) performance report

4.3.5 Application Infrastructure Integration Services

Application Infrastructure Integration Services (AIIS) team provides integration and technical guidance to the IRS application teams. Plans, processes, and procedures for application developer coordination and integration of existing and new applications to the IEP 1.5 environments is found within a "Guide for Application Developers." This guidance enables the IRS application teams to be able to successfully design, develop, test, and deploy to the IEP 1.5 environments without degrading IEP service performance. More specifically the AIIS team must:

- Provide ongoing integration services for the buildout and testing of all applications regardless of their position in the development lifecycle.
- Perform application architecture and engineering support for new applications.
  - Preliminary engineering study
  - Requirements gathering
  - Effort-scoping
  - Serve in an advisory role during the plan, analyze, test and deploy phases of the software development lifecycle
  - Provide performance testing support.
  - Application performance tuning
  - Performance testing planning and execution
  - Analysis of performance test results
  - Standardized performance test environment
- Provide sustained after-hours support for special projects, e.g., supporting application testing in Enterprise Integration Test Environment (EITE) or Functional Integration Testing FIT environment.
- Support annual disaster recovery (DR)/Alternate processing site/DR performance testing.
- Support onboarding of new applications or redesign/enhancements to the production applications.
- Support creation of the IEP Control Document (CD) and Cloud Based YAML deployment artifacts
- Maintain the automated deployment process documentation to include any relevant updates or changes.

4.3.5.1 Application Deployment

Application deployments in IEP are streamlined through end-to-end automation and integration of core services described in this section. This enables repeatable and reliable deployment of application changes, while abstracting and automating the detailed integration of services required to support the application execution environment. Deployments can be initiated through the service management tool, or an event-driven interface to alleviate the need for manual processes.

The application interface provides IRS application owners a mechanism to configure, customize, and deploy fully integrated applications across multiple environments, including Production. Automation also retains the prior version of an application deployment up to three days after a new deployment is performed in case it is required for emergency rollback. There is also a standardized process to provide an interface for niche application deployments that do not follow one of the three application styles, or new technologies not currently in the standardized platform.

IRS application system owners can submit formal deployment requests via an online service catalog. IEP Service Catalog helps the IRS customers quickly deploy their application by leveraging Infrastructure as Code (IaC) to provision resources rapidly within the production and non-production environments and maintain the prerequisite synchronization.

The following components are configurable for an application:

- Targeted environments for application deployments
- Application style and components configurations
- Application server configurations
- Webserver configurations
- Messaging server configurations
- Database configurations
- Container configurations
- Queue and network configurations
- Auto-scaling configurations
- API configurations
- Batch configurations
- Micro-services configurations
- Server less configurations
- COTS configurations

4.3.5.2 Application Styles

IEP supports multiple application styles including Application to Application (A2A), Web Application, and Component Application.

4.3.5.2.1 Application to Application (A2A)

IEP platform is designed to largely support web services within a virtual environment. A2A style is generally used for system-to-system interaction. This style enables external applications to connect to IRS web services via HTTPS. This style does not present the user with a graphical user interface because the interaction is primarily system-to-system. The following are potential components within A2A style:

- Application Server
- Relational/NoSQL Database
- Data Caching Service
- Secure File Transfer Protocol (SFTP)
- File/Object Storage
- API Gateway
- Secrets Manager
- Secure Ingress/Egress Gateways
- Service Mesh
- Identify Access Management
- Certificate Management
- Event Streaming/Messaging Services
- Load Balancer

4.3.5.2.2 Web Application

Web Application style provides a web front-end for end user interaction with IEP applications. This style supports applications that require a graphical user interface to interact with end-users. The following are potential components within Web Application style:

- Application server
- Web server
- Relational/NoSQL Database
- Content Management System

- File/Object Storage
- Secrets Manager
- Content Caching Service
- Event Streaming/Messaging Services
- Secure Ingress/Egress Gateways
- Service Mesh
- Identity Access Management/Single Sign On
- Event Streaming/Messaging Services
- Load Balancer

4.3.5.2.3 Component Application

Component Application style enables IEP application owners to deploy configurations for a specific technology component instead of a group of technologies like other application styles. This includes the configuration of Commercial-off-the-Shelf (COTS) platforms components such as Forum Sentry API Gateway, McAfee Web Gateway, Layer7 API Gateway, Software AG API Gateway, Istio Service Mesh, Ephesoft Transact, and F5 Load Balancer.

4.3.5.3 Standard Technologies

4.3.5.3.1 Application Servers

Most of the modern applications that IEP hosts are deployed onto a Kubernetes containers platform or onto a serverless compute service. The IEP maintains an assortment of standard base container images that applications may use as part of the deployment. (i.e., JBoss, OpenJDK, PHP, etc.). Applications that have not transitioned towards micro-services are hosted on compute instances running JBoss or Internet Information Services (IIS) depending on the application technology stack.

4.3.5.3.2 Web Servers

Apache is the IEP standard web server. A common use of web servers in IEP is to provide separation between the application layer and the public. All Web Application styles utilize a web server for this purpose.

4.3.5.3.3 Authentication and Authorization/Identity Access Management

IEP deploys tools to support authentication and authorization of IRS application services. These tools provide Secure Single Sign-On (SSO) and identity and access management, so that users can be authenticated for access to the deployed applications. Application owners are responsible for populating Enterprise systems/applications policy server information and service credentials to enable the orchestration.

4.3.5.3.4 Database and File/Object Storage

The IEP supports the following database types that are used by IRS Applications:

- Oracle Relational Database
- PostgreSQL Relational Database
- SQL Server Relational Database
- AWS DynamoDB NoSQL Database
- MongoDB NoSQL Database

The IEP additionally supports the following additional storage types used by applications and platforms; all storage offerings provide Data at Rest Encryption support:

- Secure Cloud Object Storage
- Network File Storage
- Windows Server Shared File Storage
- Block Level

4.3.5.3.5 Messaging Services

Messaging Services are used to facilitate communication between the IEP and Enterprise systems/applications. Message Queuing (MQ) technology is currently leveraged to allow multiple IEP applications and services to use a single transport type to transfer messages asynchronously to IRS.

IEP supports the following types of messaging services:

- AWS Kinesis Streams
- AWS Simple Email Service (SES) for internal notification
- AWS Simple Notification Service (SNS)
- AWS Simple Queue Service (SQS)
- IBM MQ

The configuration of the IEP MQ services requires significant amount of coordination between the shared responsibilities of IEP and IRS. The IRS Middleware Infrastructure Integration Section (MIIS) MQ administrators are responsible for gathering, packaging, and submitting MQ updates and artifacts to the IEP MQ Team. The supplied artifacts from MIIS are needed to fully configure the IEP MQ servers to enable communication to the IRS Enterprise systems/applications. The IEP ITSM tool is utilized to facilitate the transfer of MQ artifacts to the IEP MQ Team via an Application Migration Request ticket.

4.3.5.3.6 Secure File Transfer Protocol (SFTP)

Applications in IEP use a secure file transfer solution and the IRS EFTU system to move attachments between IEP and Enterprise systems/applications.

4.3.5.3.7 Secure Gateway

Secure gateway is a server that scans messages and files sent to IEP for potential threats such as viruses, malware, and intrusions. Secure gateway can validate file types and submission sizes that users upload to verify they comply with defined restrictions.

4.3.5.3.8 API/XML Gateways

API/XML Gateways provide additional security for IRS hosted web services. These Gateways provide a set of capabilities for processing and protecting inbound and outbound transactions, including:

- RESTful service endpoints
- Request validation and transformation
- Anti-virus protection
- Denial-of-service protection
- attack detection/prevention
- Access management of web service
- Logging and auditing

4.3.6 Configuration Management and Change Management

4.3.6.1 Configuration Management

IEP program performs configuration management on the following configuration item categories:

- Documentation – All project documentation, including program level documentation, deliverables, reports, templates, requirements, designs, and test.
- Code Documentation – Source code for applications maintained and updated by MSP Team.
- Training – Any artifacts used to train end users, e.g., training presentations.
- Deployment Guides – Documents or manuals detailing the steps to operate an application., e.g., installation manuals and operations guides.
- Infrastructure – IEP Infrastructure items, including hardware (server, network and storage) and virtual components.

4.3.6.1.1 Configuration Management System (CMS)

Configuration Management is one of several critical ITIL-based IT service management best practices to support design and delivery of IT services to IEP customers. It ensures the control and management of information technology (IT) components throughout all stages of their evolution. It also ensures that Configuration Items (CIs) are identified, baselined, and controlled; and accurate, latest, and reliable information about these components and relationships is maintained. To manage large and complex requirements and generate critical Configuration Management outputs, such as snapshots, baselines, audits, and status reports; a CMS is needed. To manage and maintain this configuration data, IEP 1.5 Program CMS integrates IRS' IT configuration management tools and knowledge management repositories across platforms. Configuration Management best practices and CMS support:

- Audit readiness, preparation, and action against non-compliance/exceptions per agreed-upon schedule.
- Detailed reporting and dashboard capabilities to provide insight to leadership.
- Continual assurance that the Configuration Management process remains in compliance and within scope of evolving compliance requirements.
- Storage and tracking of high-level IEP configuration items, including IEP Program Risk, Security, Change, and Configuration Management Plans.
- Identification, reporting, and verification of services, IEP 1.5 Program CIs, and associated components, attributes, and relationships to service management processes, including Capacity Management. This includes references to existing artifacts, CI relationships and the functional and physical CI attribute characteristics to support all facets of IEP 1.5 capacity reporting.

CMS supports critical Configuration Management practitioner activities, such as IRS Change Control support, contractual scope change, and the creation, management, and securing of Configuration Management Library tools. It supports all IEP ITIL processes and integrated service management systems. It consists of three main modules: Configuration Management Database (CMDB), Infrastructure Discovery, and Asset Management.

4.3.6.1.2 Configuration Management Database (CMDB)

CMDB provides detailed reporting and acts as the master Infrastructure Inventory database. It not only tracks the Configuration Items (CI) within IEP IT environment for Configuration Management, but also incorporates their relationships amongst other CIs, users, and groups in addition to CI activities in other IEP ITSM processes such as Service Request Fulfillment, Incident Management, Problem Management, Change Management, and Release Management. CMDB includes a Configuration Management module that supports Configuration Management processes (outlined in

this document), including a Discovery Tool and Business Services Management Map. Both are capable of effectively identifying CIs, attributes, and relationships within IEP IT environment. Currently, IEP CMDB contains nearly 11,000 CIs.

4.3.6.1.3 Infrastructure Discovery

Configuration Management System (CMS) Discovery application detects computers and infrastructure devices connected to IEP network. When Discovery detects a computer or device, it explores the device's configuration, provisioning, and status and then updates CMDB accordingly to include this computer or device in the inventory. On computer systems, CMS Discovery also identifies the executing software and any TCP connections among computer systems and then creates all relationships among computer systems.

4.3.6.1.4 Asset Management

Asset Management tracks the financial, contractual, and inventory details of hardware, software, and virtual infrastructure – as well as non-IT assets – throughout their lifecycle. Asset requests are handled by using workflows to obtain approvals, validate entitlements, issue chargebacks, and provision services. Once an asset is deployed, Asset Management records all maintenance activity and enables IEP to perform regular audits until asset retirement. Asset Management tool includes a normalization module that helps de-duplicate data by consolidating CI data and removing inconsistencies such as multiple names for a single vendor, product, or product version, and standardizing CIs with a comprehensive catalog of CI models and categories. Additionally, this module provides End of Life (EOL) dates for software and hardware installed in IEP, thus allowing MSP to notify IRS, manage IEP products' EOL dates, and ensure that license renewals, software upgrades, and potential product EOL are not missed.

4.3.6.2 Change Management

MSP is responsible for managing the changes required to operate, maintain, and upgrade IEP while following the IRS change management process:

- Oversee and manage the introduction of all changes in IEP production environment and higher test environments (SIT, Production Equivalent Testing Environment (PETE) and EITE) and coordinate the IRS approval of all requested changes.
- Participate in the IRS ITE change control process and governance process for IEP.
- Assist IRS in the assessment and prioritization of changes to validate minimum conflict of change introduced into IEP environments.
- Operate under a standardized IEP Change Management Process with defined approval processes and documented interactions with IRS KISAM, DRIVE, Government Furnished Equipment (GFE), and other IRS Change Control Boards for all production changes in IEP. The joint IEP/IRS Change Control process is used to track all changes occurring in IEP.
- Adhere to Change Control process according to an IRS approved Change Risk Matrix for all changes.
- Manage changes based on an IRS-defined Change Control Board (CCB) and Change Advisory Board (CAB) structure and a Change Risk Matrix indicating a) levels of approvals; and b) IRS visibility into different types of changes.

IEP system changes are categorized into changes requiring IRS approval, changes requiring notification to IRS, and MSP operation changes that are outside of the IRS change management process

4.3.6.2.1 Automated Deployments

Application deployments in IEP are streamlined through end-to-end automation and integration of core services described in this section. This enables repeatable and reliable deployment of application changes while abstracting and automating the detailed integration of services required to support the application execution environment. Deployments can be initiated through the service management tool and IEP online service catalog. The application interface provides IRS application owners a mechanism to configure, customize, and deploy fully integrated applications across multiple environments, including production.

Automation also retains prior version of an application deployment up to 3 days after a new deployment is performed in case it is required for emergency rollback. There is also a standardized process to provide an interface for niche application deployments that do not follow one of the three application styles, or new technologies not currently in the standardized platform.

IRS application system owners can submit formal deployment requests via the online IEP Service Catalog, which helps the IRS customers deploy their application quickly by leveraging Infrastructure as Code (IaC) to rapidly provision resources within the production and non-production environments and maintain the prerequisite synchronization. The components configurable for an IEP application are defined in section 4.3.5.1 Application Deployment.

4.3.6.2.2 Continuous Integration / Continuous Deployment (CI/CD) Services

IEP integrates with the IRS data center hosted DRIVE and CI/CD process to automate deployment of hosted Public Government cloud applications. In doing so application developers retrieve application source code from the IRS on-prem code repository, follow IRS CI processes to complete code build, unit testing and security scanning, and deliver artifact sets to IEP via REST API. IEP Cloud Managed Service CD is triggered by the delivery of new content and includes artifact processing, security scanning, storage, container image builds for container deployments, application deployment, and IRS CI process integration for status notification.

IEP deploys a standalone CI/CD pipeline for private cloud hosted components. For certain workloads, IEP uses IEP-Control Document (IEP-CD), which links with the IRS DRIVE process and includes development of a deployable bundle and associated change requests. The program helps application owners understand (IEP-CD) through knowledge transfer, application reviews of prepared packages for deployment, deployment support, and post-deployment validation. IEP must maintain deployment mechanisms compatible with existing applications to avoid disruption to application owners and stakeholders.

The Enterprise Architecture (EA) target state vision is to have all application teams in IRS use GitLab for source code management and CI/CD processes, with a fully automated pipeline from source code check-in to production deployment in the cloud. This approach will provide a consistent and efficient method for all applications while increasing productivity and logging all changes and approvals. GitLab offers essential DevSecOps tools for continuous integration, continuous delivery, and continuous deployment, and enables tracking of changes and approvals. The near-term target is for all application development and deployment to IEP cloud hosting to use GitLab hosted within the IEP.

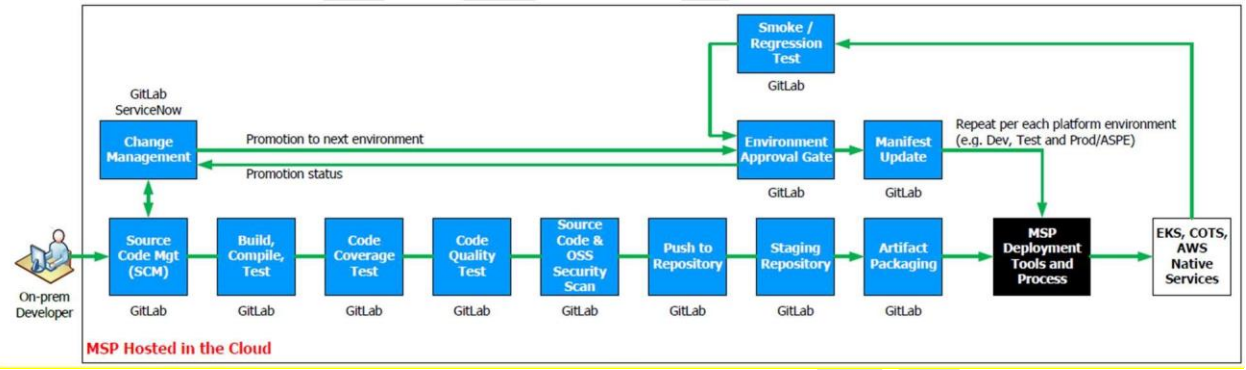

Figure 4-4 : IRS Enterprise Architecture (EA) Target State Continuous Integration/Continuous Deployment (CI/CD) Process

4.3.6.2.3 Patch Management

MSP provides patch management to support continual patching cycles for the infrastructure, applications, and shared services driven by vulnerability requirements per the Internal Revenue Manual (IRM). All development, testing and production environments for all workloads are patched year-round, including peak periods of filing season and open enrollment to maintain the security and integrity of IEP. MSP coordinates the patching windows with all applications provided in the Appendix, then proceeds through the IRS Change Management process for approval. Prior to patching production environment, MSP coordinates with IRS testers for validation during production patching windows.

4.3.7 Service Catalog

MSP provides a set of standardized service offerings and makes them available in IEP Service Catalog in accordance with ITIL Service Catalog framework. IEP Service Catalog function expedites the customer on-boarding process with pre-configured and standardized service offerings. MSP assists IRS with promulgating IEP Service Catalog to other IRS stakeholders and performs updates to IEP Service Catalog as needed to keep it current. An automated workflow integrates with IEP Technical Review Board and related processes, such as change management, to streamline operations and provide metrics for reporting and analytics.

4.3.8 Service Desk

MSP's IEP Service Desk uses an ITIL framework to support request fulfillment, incident management, problem management, and access management. It provides 24x7x365 support to manage and control all incidents and operational requests within IEP environments. IEP Service Desk uses MSP's and IRS' ITSM tools with various Commercial Off the Shelf (COTS) software packages to provide high quality and seamless customer service to IRS. On average, the IEP Service Desk processes 300+ service requests across 40+ IRS stakeholder groups each month.

IEP Service Desk is one of the primary points of contact for IRS and uses the incident/problem management processes to ensure availability of service and to enact effective root cause analysis in case of service outages or degradation. Though the primary Service Desk focus is on incident management and restoration of service, it continuously integrates with other ITSM processes, such as change management and end-to-end monitoring, to provide end-to-end support of issue resolution.

4.4 Portal Security Services

Portal Security Services ensures security processes are consistent with industry and government best practices, such as NIST Special Publication (SP) 800-14, Generally Accepted Principles and Practices for Securing Information Technology.

4.4.1 Compliance

IEP Security function offers compliance services tailored to IRS' unique needs which are driven by the need to meet known, established and recurring requirements from FISMA and FedRAMP reporting to the interpretation, analysis, and implementation of new compliance initiatives aimed at addressing a new generation of technologies and threats.

IEP compliance program is based on NIST guidance with details and refinement provided through an IRM and Treasury Department overlay. A full documentation set has been created to capture the compliance posture of the program and provide the basis for assessment activities. Regular IRS Cybersecurity assessments are supported throughout the year to include direct support for IEP systems and indirect support for independently accredited systems which inherit IEP controls.

IEP Security Team performs the following Security Compliance activities:

- Full implementation of Internal Revenue Service organizational policy, including IRM 10.8, IRM 10.5.2, IRS Publication 4812, and IRS Publication 1075.
- Document/manage control failures with documented plans of remediation and necessary timelines called Plan of Action and Milestones (POA&M) tracked in IRS system.
- Provide system asset inventory and compliance reports.
- Annually test the security contingency plan to prepare for site failure, disaster, etc. to maintain system availability/recovery.
- Support IEP Business Impact Analysis (BIA) purpose and methodology, including the determination and evaluation of the potential effects of associated critical business operations interruptions due to disaster, accident, or emergency.
- Support annual IRS assessment of the security controls in place on the systems (Annual Security Controls Assessment (ASCA)) and annual Contractor Site Assessment (CSA) of contractor's workplace to validate safety and security of workplace.
- Facilitate IRS performance testing on systems.
- Conduct simulated security incidents quarterly to test response capabilities.
- Support TIGTA audit requests.
- Conduct Privacy Impact Assessment or assess privacy exposure risk for application with business owners in compliance with OMB M-07-16, NIST 800-53 Appendix J Privacy Control Catalog, and IRS policies, procedures, and guidance for protecting taxpayer data.

4.4.2 Operations

IEP Security Operations is responsible for all day-to-day security activities across all IEP operations. IEP Security maintains daily operational security processes, tools, and security efforts to maintain the defined security posture and enforce adherence to all applicable NIST 800-53 controls commensurate with system categorization. The core mission and effort of the Operations Team is to protect IEP hardware and software systems from internal and external threats that impact site confidentiality, integrity, and availability. Working in conjunction with compliance standards and across various technical teams, IEP Security supports and performs the following operational activities within a Continuous Monitoring model:

- Threat and Vulnerability Management

- Compliance scanning/monitoring
- Static and Dynamic Application Security Testing
- Web Application Firewall (WAF)
- Automated web-based attack protection
- Host-based Security Protection
- Security Configuration and Change Management/File Integrity Management
- Security Information and Event Management (SIEM)
- Incident Response

IEP Security Team performs the following Security Operations activities:

- Implement and manage daily security operations to analyze, monitor, and respond to risk on daily basis across all systems.
- Monitor security events and suspicious activity 24/7 to rapidly respond to prevent/contain risks.
- Work to prevent outages, system damage, and taxpayer data exposure.
- Maintain all security monitoring tools to ensure they are continuously operational across all systems and devices within the environment.
- Implement Security Configuration and Change Management procedures as well as Security Impact Assessment process throughout change process.
- Implement security auditing procedures especially for critical components.
- Implement procedures to prevent, detect, mitigate constant/repeated threats and maintain sound incident handling, monitoring, and response procedures.
- Conduct forensic analysis of potential incidents/suspicious activity and support formal investigations.
- Implement patch and vulnerability management program.
- Perform external vulnerability scanning and input into vulnerability management.
- Operate using a Separation of Duties Matrix.
- Monitor outbound connections and identify activities relating to data exfiltration by attackers.
- Vet applications against necessary tools, approvals, and approved to go-live, and maintain version/revision control for any application/code changes.
- Support IRS external vulnerability and penetration testing across portals environment.
- Assess applications for vulnerabilities via vulnerability assessment tools.
- Mitigate vulnerabilities prior to pushing application to production environments.
- Provide application designs, test documentation, and source code to IRS to support application code assessment concurrence prior to production deployment.
- Provide dynamic application scanning to aid IRS developers in the identification of vulnerabilities.
- Coordinate application testing at least quarterly for vulnerabilities.
- Integrate IEP access with the Treasury certificate management authority to enable certificate provisioning and allow access to the IEP environment using IRS Personal Identity Verification (PIV) credentials.
- Maintain business continuity procedures in the Information System Contingency Plan (ISCP).
- Support Business Owner activities surrounding application-level authorization, including supporting development of the Privacy/Civil Liberties Impact Assessment (PCLIA), System Security Plan, and other requisite security documentation.
- Provides access to the IRS to perform periodic vulnerability scanning, penetration testing, and independent validation and verification (IV&V) of security controls for applications hosted in the IEP.

4.4.3 Security Reporting

IEP Security Team reports on the following:

- Provide security metrics showing security operational processes.

- Provide information around threats, vulnerabilities, and risk for the information system.
- Document risks and mitigations to include impact and likelihood.
- Provide weekly security status reports.
- Document and review how potential security incidents were investigated/reviewed.
- Provide a status of vulnerabilities within the environment.
- Provide security incident report identifying the investigation of suspected incident, analysis performed.

4.4.4 Threat Mitigation and Protection

As the external threat landscape continues to evolve, IEP Security Team has implemented various threat mitigation and edge security services to protect IEP from perimeter threats as well as robust data analytics capabilities to identify, normalize, and correlate threat data and intelligence across the portals. The core threat mitigation and protection capabilities are as follows:

- Web Application Firewall (WAF)
- SQL Injection Protection
- Remote File Inclusion Protection (RFI)
- Cross-site Scripting Protection (XSS)
- Cross-site Request Forgery
- Distributed Denial of Service Protection (DDOS)
- Automated Web Attack Protection
- IP Blocking/Blacklisting
- IP Reputation Protection
- Enterprise Log Management
- Security Analytics
- Security Information and Event Management (SIEM)
- Proactive Security Alerting and Notification
- Security Dashboards

4.5 Portal Application Services

Portal Application Services provides the enhancement and break/fix support for MSP-managed applications in IEP. MSP maintains all tools/applications, continually optimizes the site based upon user experience, works with customers to identify requirements, and designs, develops, tests and releases application enhancements. Application service requirements include:

- Platform support of a Web Content Management System (WCMS) delivering IRS content accessible at IRS.gov website and other delivery platforms with presentation elements ensuring IRS applications offer a consistent user experience.
- Core IRS.gov search capabilities.
- Web User Analytics Data Collection Services which track and report measurement data, on-demand reports, and historical and real-time information on Web and application usage.
- Full application lifecycle engineering services for application development and operation maintenance to deliver IRS business functional requirements. This includes:
  a) Architectural support.
  b) Application build and deployment automation integrating with IEP code repositories and the DevSecOps automation pipeline.
  c) Performance, Section 508, Web Content Accessibility Guidelines (WCAG), browser, mobile, and security testing.
  d) Code remediations.
  e) Annual filing season preparation and updates.

f) Agile project management and delivery.
g) Enterprise Lifecycle (ELC) support, including maintenance of Information Resources Accessibility Program (IRAP) artifacts.

4.5.1 Web Content Management System Services

Web Content Management System (WCMS) Services delivers IRS content to the internet in support of IRS.gov website, which is IRS' gateway to online self-service options for taxpayers, tax professionals, and other customers. IEP 1.5 WCMS solution supports other delivery platforms, e.g., mobile, and is capable of provisioning presentation elements for IRS applications to provide consistent user experience. This solution leverages a Federal Risk and Authorization Management Program (FedRAMP) certified cloud computing platform and open-source web content management system. The IEP WCMS capability encompasses management of the underlying Drupal platform and support for IRS WCMS development. This capability is designed to facilitate the push of WCMS code securely to non-production environments via an IEP-managed DevOps toolset.

4.5.2 Web User Analytic Data Collection Services

Web User Analytic Data Collection Services enable IRS to collect web user behaviors for enhancement and improvement of system performance and user experience across all service delivery platforms. MSP solution in this service collects, tracks, and reports measurement and analytic data to support evaluation of online performance metrics across all platforms and produces on demand or scheduled web and application usage metrics.

4.5.3 Application Development Services

IEP 1.5 provides fully managed application development services for 41 applications across PUP, RUP, TPE, Public Cloud, and EUP components of the program. For each, IEP provides Agile and DevOps tools used for configuration management, issue tracking, and automated code deployments. Services include Agile project management, architectural support, application build automation, test automation, Section 508 testing, performance testing, security tool integration, continuous integration, general operations and maintenance, troubleshooting, and continuous improvement.

4.6 Portal Website Help Desk Services

Portal Website Help Desk Services provides the IRS.gov website service desk to taxpayers as a "first aid station" for IEP website questions, such as navigation of IRS content and forms retrieval. This is complementary to IRS toll-free tax assistance line and does not respond to tax questions, personal queries, or economic stimulus queries. (Help Desk services' requirements will not be included within IEP 2.0).

5 IEP Workloads

By leveraging core services described above, IEP scales to numerous virtual workloads, isolating each as needed to meet varying security requirements. Currently, IEP supports these eight workloads, each with a different target audience and security needs:

- Public User Portal (PUP)
- EITC Central
- Political Organization Filing and Disclosure (POFD)
- Registered User Portal (RUP)
- Transactional Portal Environment (TPE)
- Employee User Portal (EUP)

- Foreign Account Tax Compliance Act (FATCA)
- IRS Cloud Integration Support

IEP workloads, also referred to as Portals or major applications, are collections of core IEP services and applications that serve a common purpose, such as meeting a specific business demand, legislative mandate, or target audience. IEP workloads may have unique security, process, or technology requirements depending on their audience and nature of applications.

5.1 IEP Application Sizes

IEP application sizing is performed to effectively control costs. The process of analyzing application performance, usage requirements, and associated patterns is ongoing to ensure IEP cost optimization. Application to application (A2A) sizes are determined by the IEP MSP and the IRS application teams

with re-evaluation conducted during quarterly Capacity Management reviews. Application sizes, based upon human user traffic, are explained here and within the IEP Service Catalog:

- Small – Where the average number of daily users less than 30,000 and a typical transaction volume of less than 8,000 daily requests (i.e., MeF IFA, RPR, eServices Legacy File, etc.).
- Medium – Where the average number of daily users between 30,000 and 70,000 and a typical transaction volume of between 8,000 and 100K daily requests (i.e., Automated Enrollment (AE), eServices Registration, etc.).
- Large – When the average number of daily users is between 70,000 and 100K and a typical transaction volume of between 100K and 500K daily requests (i.e., eAuth 2.0, SADI, MeF, IR Mod, etc.).

5.2 Public User Portal (PUP)

PUP is IRS external portal, IRS.gov, whose target audience is the United States of America taxpayers. It allows unrestricted public access to non-sensitive materials and developed and hosted applications. IRS.gov website is among the most heavily visited federal government agency websites. The content available in PUP is managed through content management applications, WCMS.

PUP provides secure online portal access via an HTTPS connection to IRS.gov website content and IRS applications for taxpayers. PUP supports two types of external users: 1) unauthenticated access to content and applications such as query tools and calculators; and 2) registered users who have gone through a registration process and have a user ID and password for specific applications such as supporting political organization filing requirements and the Earned Income Tax Credit. PUP follows the same patching and security processes and requirements as documented in the above sections.

5.2.1 IRS.gov Website Content

Over 140,000 IRS.gov website content items in PUP are managed by IRS content authors via content management applications, including WCMS, and are organized into multiple sites (subdomains). The content authors publish HTML and static file content via the content management applications to IRS.gov website for taxpayers to access. There are also supporting systems which provide the capability to upload content in bulk to the website. MSP is responsible for hosting WCMS and its supporting systems and infrastructure. IRS.gov website and alternate delivery platforms, e.g., mobile, provide quick access to information and tax tools. WCMS ensures that information provided to IRS taxpayers is properly maintained and the user experience is optimized to support a user-friendly, logical, and consistent experience as visitors navigate throughout the website.

5.2.2 Web Applications

PUP web applications include taxpayer facing, non-authentication, query tools, calculators, and utilities along with applications which require authentication to support periodic filings and EITC support systems. These applications are primarily maintained by the MSP. These applications undergo regular maintenance releases, including a subset, performed annually during the filing season to incorporate legislative changes. Many of these applications import or export data depending on their function, utilizing a secure file transfer protocol (SFTP) to transmit the files between the PUP and other IRS systems. SFTP servers are routinely set up and maintained by the MSP in order to support the bulk file upload and batch processes.

A complete list of IRS.gov applications is provided in Appendix A, List of Current IEP Applications. IEP Table below shows PUP current state.

Table 5-1: Public User Portal Description

System Element	System Element Description

System Name	PUP aka IRS.gov
Target Audience	United States of America taxpayers
Content and Services	• Over a secure https connection, unrestricted public access to non- sensitive materials and applications including forms, instructions, news, locators, and tax calculators. • 140,000 pages of static content. • Content Management System supports approx. 250 users (content creation). □ Bulk content upload capabilities. • Tax return data and sensitive but unclassified (SBU) data is unavailable on IRS.gov. • A login identity or password is not required to access IRS.gov content. Some applications require authenticated access (POFD, CMS and EITC Central). • A complete list of IRS.gov applications is provided in Appendix A, IRS.gov Applications.
Technical Platform	Refer to Section 4, Core Services, for IEP environments including management, development, test, and production environments/Operating System.
System Integrations	• Dedicated secure File Transfer Protocol (SFTP) and batch services for data import and export. • VPN Tunnel between IRS and infrastructure. • Applications utilize back-end system integration.
Location	Multiple MSP-managed, geographically separated data centers
Managed Service Provider	Accenture
Base Hours of Operation	Available 24x7, except for IRS-approved maintenance windows

5.2.2.1 PUP Environments

PUP supports these environments:

- Development Environment (DEV)
- Test Environment (TEST)
- User Acceptance Test (UAT)
- Performance Test Environment (PTE)
- Production Environment Site 1 (PROD 1)
- Production Environment Site 2 (PROD 2)

5.2.3 Associated Systems

There are two associated systems applications hosted within PUP that are logically separated from the content and general application tier: 1) POFD and 2) EITC Central Applications.

5.2.3.1 Political Organization Filing and Disclosure (POFD)

The POFD application resides within IRS.gov website but runs on its own standalone platform (formerly known as eForms). It is a PUP application and is accessed over a secure HTTPS connection by political organizations and taxpayers searching for tax filing information during political campaigns to track donations, and, thus, has high visibility and exposure. It is critical that IRS maintain this legislatively mandated application in a ready production state. Table 5-2 below shows POFD's current state. Note: POFD shares IRS.gov Service Lifecycle Accountabilities shown in Table 3-2: IEP Component RACI.

Table 5-2: Political Organization Filing and Disclosure Description

System Element	System Element Description
System Name	Political Organization Filing and Disclosure Application
Target Audience	Political Organizations & taxpayers searching for tax filing information
Content and Services	• Accessible over a secure https connection, information relevant to Political Organizations disclosure and filing requirements. • Requires a username and password to access application services Approximately 25,000 registered users. • Application services include user guides, disclosure search, form downloads, and form filings. • All pages are static content.
Technical Platform	Please refer to Section 4, Core Services
System Integrations	Secure File Transfer to IRS systems
Location	Multiple MSP-managed, geographically separated data centers
Managed Service Provider	Accenture
Base Hours of Operation	Available 24x7, except for IRS-approved maintenance windows

5.2.3.2 EITC Central Applications

EITC Central applications consist of a due diligence training console for tax preparers, a marketing express custom PDF application for businesses to order materials with their contact information, and an admin interface accessible only by IRS. Table 5-3 below shows EITC Central's current state. Note: EITC Central shares IRS.gov Service Lifecycle Accountabilities shown in Table 3-2: IEP Component RACI.

Table 5-3: EITC Central Applications Description

System Element	System Element Description
System Name	• EITC Central Due Diligence Training • Marketing Express Custom PDF Application EITC Central Administrative Console
Target Audience	• EITC Central Due Diligence Training – Tax Preparers Marketing Express Custom PDF Application – Tax Preparers • EITC Central Administrative Console – IRS
Content and Services	• Accessible over a secure HTTPS connection, information related to the Earned Income Tax Credit for tax preparers • Requires a username and password to access application services. • Approximately 25,000 registered users • Application services include training module, custom PDF ordering application and administration console

Technical Platform	Please refer to Section 4, Core Services
System Integrations	• Secure File Transfer to IRS systems
Location	Multiple MSP-managed, geographically separated data centers
Managed Service Provider	Accenture
Base Hours of Operation	Available 24x7, except for IRS-approved maintenance windows

5.2.4 PUP Hits Metrics

The table below shows IEP Public User Portal hits metrics:

Table 5-4: Public User Portal Hits Metrics

Metric	2020	2021	2022
Total PUP Hits	6,494,174,556	7,097,557,680	3,107,882,710
Total PUP Hits (Filing Season)	3,545,658,304	4,492,323,769	1,878,993,421
Average PUP Weekly Hits	124,887,972	136,491,494	59,766,975
Average PUP Weekly Hits (Filing Season)	207,348,439	262,708,992	109,882,656
Average PUP Daily Hits (Filing Season)	29,302,961	37,436,031	915,689
PUP Peak Filing Season Day Hits	410,590,210	150,190,919	51,515,225

5.2.5 IRS.gov Website Monthly Page Views and Visits

The table below shows the IRS.gov website's monthly page views and visits:

Table 5-5: IRS.gov Website Monthly Page Views and Visits

Month	Page Views	Average Page Views Per Session	Visits (Sessions)
Jan-20	339,968,202	5.3	64,019,157
Feb-20	964,206,455	4.2	227,760,079
Mar-20	530,483,568	4.5	117,405,535
Apr-20	3,694,052,766	6.3	584,093,543
May-20	1,472,096,865	6.2	238,032,883
Jun-20	530,082,092	5.8	91,868,295
Jul-20	528,855,693	5.9	90,275,771
Aug-20	360,396,684	6.0	60,152,696
Sep-20	311,206,545	5.7	54,229,700
Oct-20	333,401,385	5.9	56,489,739
Nov-20	268,284,930	5.9	45,253,844
Dec-20	457,125,952	4.8	94,664,275
Jan-21	1,921,366,412	6.2	308,598,962

Feb-21	980,778,914	5.1	191,220,173
Mar-21	3,100,674,477	5.7	540,903,939
Apr-21	1,186,146,214	5.6	211,654,338
May-21	885,290,550	5.8	153,660,761
Jun-21	659,456,886	5.7	115,043,513
Jul-21	756,021,893	6.2	122,329,774
Aug-21	492,716,592	5.9	82,907,558
Sep-21	410,855,742	5.3	76,913,659
Oct-21	418,263,915	5.0	82,944,353
Nov-21	298,866,523	5.5	54,068,352
Dec-21	286,373,508	5.2	55,157,633
Jan-22	444,150,538	5.0	88,716,701
Feb-22	1,119,610,904	4.8	232,809,065
Mar-22	771,839,395	4.5	169,957,137
Apr-22	674,034,351	4.9	138,974,752
May-22	329,422,364	4.9	66,771,243
Jun-22	292,926,398	5.1	57,623,145
Jul-22	236,796,515	4.8	48,903,142
Aug-22	230,250,535	4.8	47,841,154
Sep-22	208,138,777	4.8	43,443,854
Oct-22	241,943,112	4.8	50,584,503
Nov-22	198,404,023	4.8	41,340,463
Dec-22	183,566,780	4.6	39,976,531

Note: This view above includes activity on both the Public User Portal and the Registered User Portal. The view went live on January 24, 2020, so it offers partial data for Jan-2020.

This figure below shows the IRS.gov weekly page views and visits, including activity on both the Public User Portal and Registered User Portal:

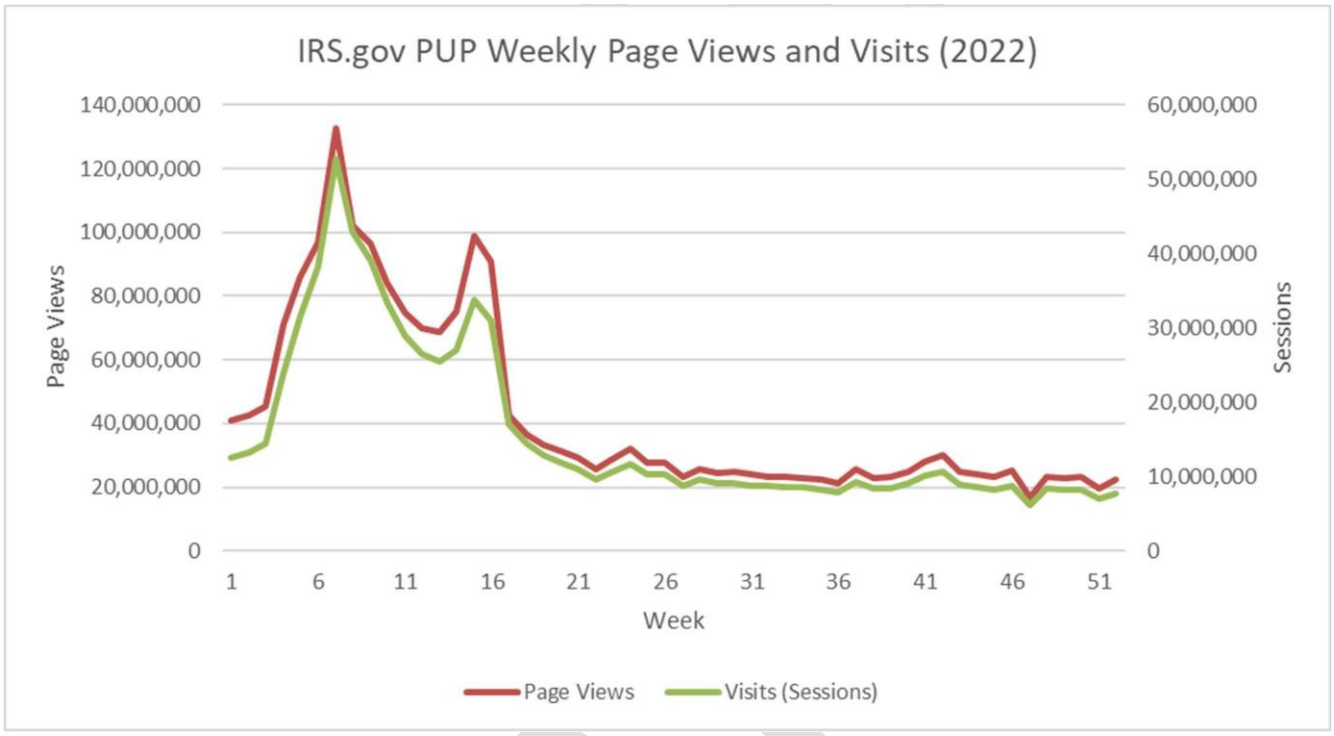

Figure 5-1: IRS.gov PUP Weekly Page Views and Visits

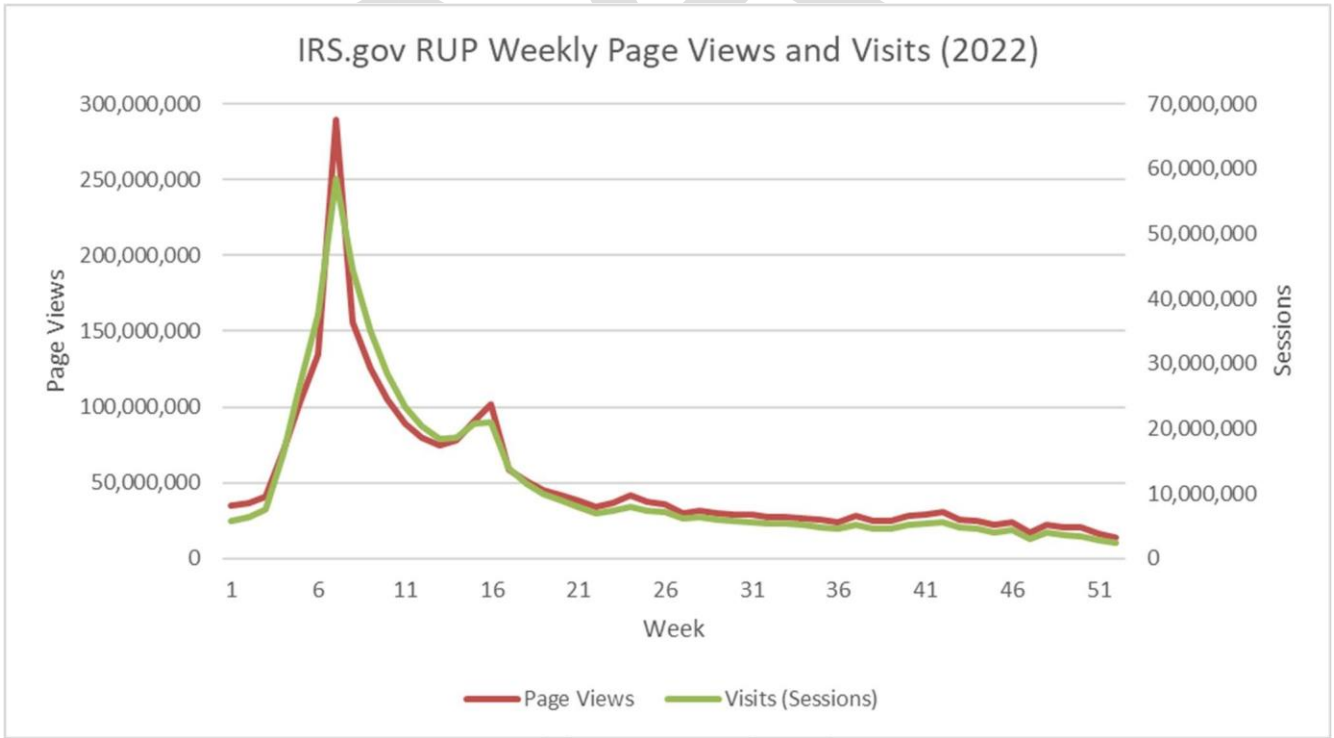

Figure 5-2: IRS.gov RUP Weekly Page Views and Visits

Note: This view above includes activity on both the Public User Portal and the Registered User Portal. The Coronavirus pandemic markedly affected the IRS.gov traffic patterns for 2020 and 2021 as stimulus payments required large numbers of activity as US citizens checked status of their personal checks.

5.2.6 IRS.gov Website Monthly Downloads

The figure below shows the monthly downloads for IRS.gov:

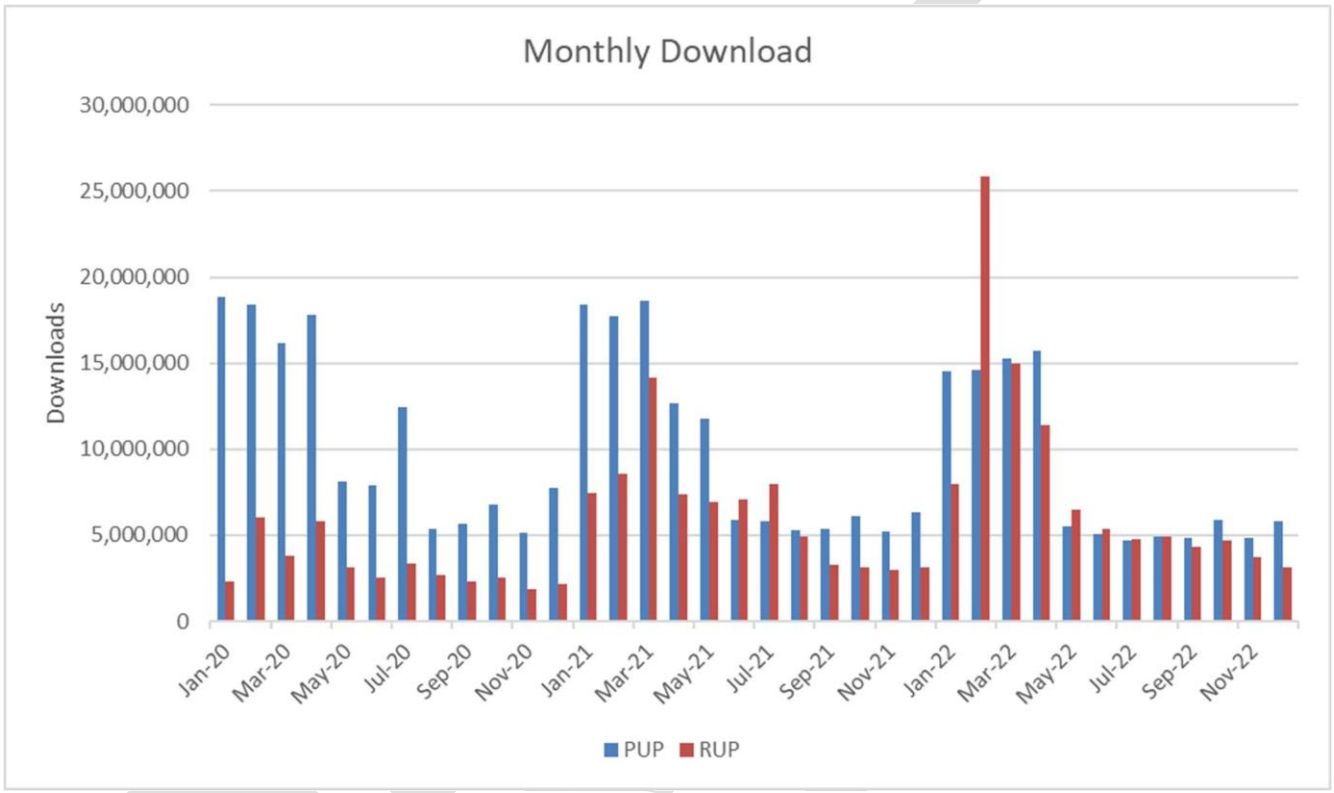

Figure 5-3: IRS.gov Monthly Downloads

Note: This view above includes activity on both the Public User Portal and the Registered User Portal. The view went live on January 24, 2020, so it offers partial data for Jan-2020.

5.2.7 IRS.gov Website Daily Page Views and Visits for Peak Month of Filing Season

This table below shows the IRS.gov website's daily page views and visits for the peak month of the filing season (March 2021):

Table 5-6: IRS.gov Website Daily Page Views and Visits for Peak Month of Filing Season

Day	2022 Peak Month Daily Views	2022 Average Page Views Per Session	2022 Peak Month Daily Visits (Sessions)
1-Feb-22	29,967,162	4.6	6,499,161
2-Feb-22	29,066,134	4.6	6,380,559
3-Feb-22	29,329,668	4.5	6,509,333

4-Feb-22	30,570,368	4.6	6,657,335
5-Feb-22	24,101,080	4.4	5,471,320
6-Feb-22	22,051,523	4.3	5,101,394
7-Feb-22	36,808,766	4.5	8,159,464
8-Feb-22	35,980,853	4.4	8,141,712
9-Feb-22	34,897,518	4.4	7,993,373
10-Feb-22	34,402,909	4.3	7,952,502
11-Feb-22	38,529,903	4.6	8,384,119
12-Feb-22	29,472,331	4.3	6,859,968
13-Feb-22	24,632,834	4.2	5,823,878
Day	2022 Peak Month Daily Views	2022 Average Page Views Per Session	2022 Peak Month Daily Visits (Sessions)
14-Feb-22	43,122,132	4.4	9,719,567
15-Feb-22	49,954,113	4.3	11,509,104
16-Feb-22	94,935,261	6.5	14,704,034
17-Feb-22	95,605,432	7.2	13,197,223
18-Feb-22	75,256,822	6.3	11,947,925
19-Feb-22	39,660,566	4.6	8,574,465
20-Feb-22	28,302,219	4.4	6,470,015
21-Feb-22	40,402,255	4.5	8,995,292
22-Feb-22	44,550,974	4.3	10,273,185
23-Feb-22	43,528,900	4.2	10,341,812
24-Feb-22	39,951,157	4.3	9,241,835
25-Feb-22	35,638,872	4.5	7,932,585
26-Feb-22	26,407,824	4.4	6,023,181
27-Feb-22	23,290,648	4.3	5,397,704
28-Feb-22	39,192,680	4.6	8,547,020

Note: This view above includes activity on both the Public User Portal and the Registered User Portal.

5.2.8 IRS.gov Website Hourly Page Views and Visits for Peak Day of Filing Season

The table below shows the IRS.gov website hourly page views and visits for the peak day (March 15, 2021) of the filing season:

Table 5-7: IRS.gov Website Hourly Page Views and Visits for Peak Day of Filing Season

Hour of Day	2022 Peak Day Hourly Page	% Of Total Page Views	2022 Peak Day Hourly Visits	% Of Total Visits (Sessions)
0:00	1,927,816	2.0%	372,501	2.5%
1:00	2,050,889	2.2%	320,703	2.2%

2:00	1,378,261	1.5%	230,378	1.6%
3:00	1,189,139	1.3%	205,768	1.4%
4:00	1,115,992	1.2%	202,029	1.4%
5:00	1,449,995	1.5%	266,701	1.8%
6:00	2,361,800	2.5%	428,081	2.9%
7:00	3,198,984	3.4%	611,339	4.2%
8:00	3,759,501	4.0%	733,203	5.0%
9:00	4,128,445	4.3%	823,369	5.6%
10:00	4,445,259	4.7%	876,174	6.0%
11:00	4,484,226	4.7%	881,138	6.0%
12:00	5,020,439	5.3%	894,208	6.1%
13:00	5,605,225	5.9%	894,437	6.1%
14:00	5,907,003	6.2%	849,894	5.8%
15:00	5,628,227	5.9%	841,827	5.7%
16:00	5,447,332	5.7%	831,444	5.7%
17:00	6,368,825	6.7%	775,398	5.3%
Hour of Day	2022 Peak Day Hourly Page	% Of Total Page Views	2022 Peak Day Hourly Visits	% Of Total Visits (Sessions)
18:00	5,564,779	5.9%	723,812	4.9%
19:00	5,458,512	5.7%	695,880	4.7%
20:00	5,443,547	5.7%	668,279	4.5%
21:00	5,121,767	5.4%	614,914	4.2%
22:00	4,373,865	4.6%	530,886	3.6%
23:00	3,505,433	3.7%	431,671	2.9%

Note: This view above includes activity on both the Public User Portal and the Registered User Portal. The peak day of 2022 was 02/16/2022.

5.2.9 Peak Days Downloads

The table below shows the IRS.gov website's total downloads and peak day downloads:

Table 5-8: IRS.gov Website Total Downloads and Peak Day Downloads

Year	Total Downloads	Peak Date	Peak Date Download
2019	124,110,005	15-Apr-19	2,448,885
2020	129,499,095	15-Jul-20	1,395,181
2021	118,897,974	17-Mar-21	1,405,502
2022	89,648,593	16-Feb-22	1,630,605

Note: This view above includes activity on both the Public User Portal and the Registered User Portal. The view went live on January 24, 2020, so it offers partial data for Jan-2020. Prior to that, the "Unified IRS.gov (PUP & RUP) Profile" was used to populate 2018, 2019, and Jan-2020 data.

5.2.10 Associated Systems Volumes and Volume Forecasts

The table below shows EITC Central visits and page views since January 2020.

Table 5-9: EITC Central Visits and Page Views

Month	Page Views	Average Page Views Per Session	Visits (Sessions)
Jan-20	1,442,321	4.2	347,066
Feb-20	1,891,975	1.3	1,505,001
Mar-20	579,192	1.3	438,619
Apr-20	507,176	1.3	383,401
May-20	275,646	1.3	206,709
Jun-20	255,532	1.3	196,438
Jul-20	238,499	1.4	176,391
Aug-20	177,920	1.5	120,074
Sep-20	278,290	2.5	110,084
Oct-20	297,235	2.8	106,098
Nov-20	314,279	3.4	91,581
Dec-20	896,777	9.2	97,675
Jan-21	1,268,140	8.2	154,923
Month	Page Views	Average Page Views Per Session	Visits (Sessions)
Feb-21	580,117	1.8	323,677
Mar-21	677,010	1.7	398,410
Apr-21	388,445	1.4	272,533
May-21	274,098	1.3	206,483
Jun-21	254,517	1.4	188,076
Jul-21	222,871	1.4	159,808
Aug-21	188,927	1.7	111,736
Sep-21	175,216	2.4	73,404
Oct-21	183,859	3.1	58,743
Nov-21	314,650	5.5	57,447
Dec-21	961,697	11.2	85,517
Jan-22	1,543,359	6.5	236,898
Feb-22	1,732,788	2.7	631,854
Mar-22	1,358,265	2.4	554,748

Apr-22	657,923	1.9	353,799
May-22	289,297	1.3	220,517
Jun-22	237,158	1.4	165,804
Jul-22	183,879	1.7	107,528
Aug-22	187,642	1.8	104,251
Sep-22	181,825	2.1	87,509
Oct-22	305,433	3.1	98,250
Nov-22	425,543	4.5	93,527
Dec-22	839,833	7.2	116,410

The table below shows the EITC Marketing Express Month Page Views and Visits:

Table 5-10: EITC Marketing Express Month and Page Views

Month	Page Views	Average Page Views Per Session	Visits (Sessions)
Jan-20	56,421	1.3	42,751
Feb-20	48,911	1.3	36,847
Mar-20	57,804	1.4	41,248
Apr-20	60,405	1.4	42,085
May-20	41,858	1.2	34,311
Jun-20	38,345	1.2	32,260
Jul-20	40,092	1.2	32,955
Aug-20	34,954	1.1	32,425
Sep-20	42,458	1.1	38,649
Oct-20	41,065	1.1	36,865
Nov-20	54,203	1.2	46,790
Dec-20	33,350	1.3	26,481
Jan-21	32,696	1.5	21,157
Feb-21	24,425	1.5	16,555
Month	Page Views	Average Page Views Per Session	Visits (Sessions)
Mar-21	25,636	1.7	14,684
Apr-21	9,058	2.1	4,316
May-21	5,343	1.7	3,150
Jun-21	8,690	1.3	6,848
Jul-21	7,384	1.4	5,373
Aug-21	3,546	1.8	2,017
Sep-21	5,313	1.5	3,596

Oct-21	6,634	1.6	4,271
Nov-21	23,770	1.4	16,397
Dec-21	32,835	2.2	14,798
Jan-22	39,922	2.9	13,832
Feb-22	15,717	2.9	5,378
Mar-22	18,730	2.4	7,645
Apr-22	6,824	1.4	4,854
May-22	7,339	1.3	5,499
Jun-22	5,584	1.3	4,203
Jul-22	6,904	1.3	5,147
Aug-22	6,832	1.3	5,247
Sep-22	5,408	1.3	4,123
Oct-22	737	1.3	556
Nov-22	231	1.2	189
Dec-22*	0	n/a	0

*: The EITC Marketing Express microsite has been decommissioned.

5.3 Registered User Portal (RUP)

RUP is an external portal that requires registration and login authentication for individuals and third-party users to access and interact with the selected tax processing and other-sensitive systems and data. User interactions are encrypted from the user's workstation or system to the portal across the internet. RUP also supports IRS secure extranet connections to registered and authorized external entities, such as exchange of bulk files between IRS and large corporations. RUP supports the following 2 types of external users, each of which are supported by different applications and services that can be separated and managed independently:

- Login-Authentication (LA) – Applications that allow access to registered users who completed a registration process and have a user ID and password, and self-authenticating users who are not registered.
- Self-Authentication (SA) – Applications that allow online interaction with taxpayers who are not registered with IRS and, therefore, cannot be authenticated through login authentication. The SA method uses shared secrets, which contains read-only information from the taxpayer's account that only the taxpayer should know, e.g., refund amount, adjusted gross income.

The diagram below is a high-level depiction of the authentication and secure extranet connections that link the Registered User Portal and associated applications to registered/unregistered users and authorized external entities:

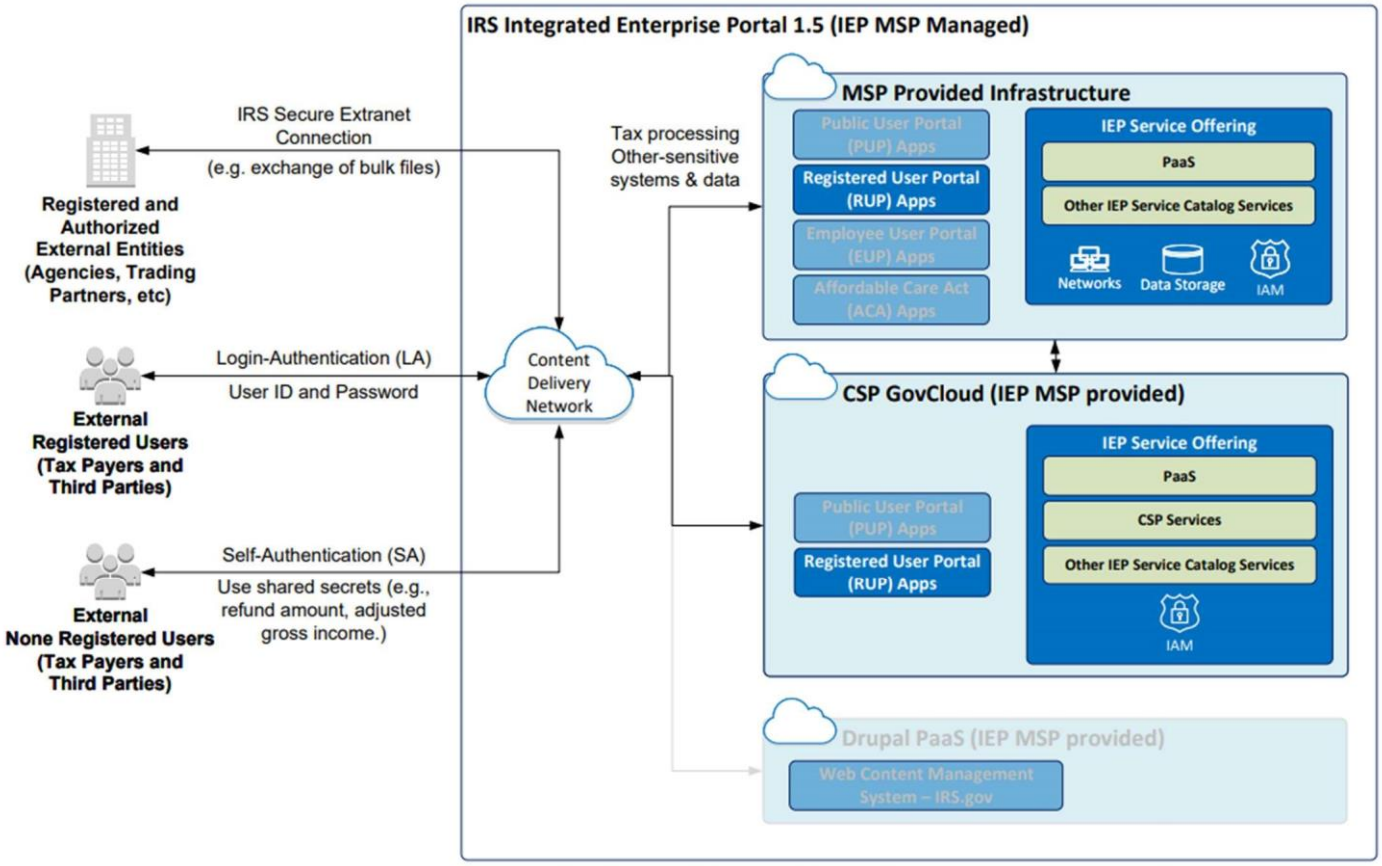

Figure 5-4: RUP Extranet Connections

The table below summarizes the current state of the Registered User Portal:

Table 5-11: Registered User Portal Current State Description

System Element	System Element Description
System Name	Registered User Portal (RUP)
Target Audience	• Tax practitioners, preparers, reporting agents, and other tax professionals. • Electronic filers of corporate, partnership, exempt organization, and excise tax returns. • Individual taxpayers seeking to check tax refund status or establish payment options.

System Element	System Element Description
Content and Services	• Individual taxpayers may check tax refund status or establish payment options after passing a challenge/response protocol based on shared secrets. • Tax professionals must register to receive an e-Services login identity and password. • Registered e-Services users can execute create, read, and update taxpayer transactions such as: e-File, Taxpayer Identification Number Matching, Electronic Account Resolution, and Transcript Delivery • IEP RUP supports over 150 IRS Business Users and Developers • IEP RUP supports 34 applications including MeF, eServices, ICCE, IRFoF, RPR, and ACA-related applications • A complete list of RUP applications is provided in Appendix B – RUP-LA, RUP-SA, and EUP Applications
Technical Platform	Refer to Section 4 Core Services for IEP environments, including development, test, and production environments/Operating System.
System Integrations	• Identity and Access Management Systems. • Enterprise Integration Broker (SOA) • Message Oriented Middleware • IRS Logging Systems • eServices Backend Systems • MeF Backend Systems • MeF Resiliency • BPD, PTC, ISR, IPI, and ISFV Backend Systems • IRS End-to-End Monitoring using COTS tools • IRS Frontend Application Deployment Systems.
Location	Multiple MSP-managed, geographically separated data centers
Managed Service Provider	Accenture
Base Hours of Operation	Available 24x7, except for IRS-approved maintenance windows

5.3.1 RUP Environments

Environments in RUP provide development, systems integration, systems acceptance testing, and final integration testing needs of RUP applications. They also provide environments in which modernized systems are assembled, integrated with other modernized production systems, tested, accepted, and evaluated prior to their release in IEP production environment. RUP supports these environments:

- Sandbox (SBX)
- Development Environment (DEV)
- System Integration Test (SIT)
- Enterprise Integration Test Environment (EITE)
- Functional Integration Test (FIT)
- Performance Test Environment (PTE)
- User Acceptance Test (UAT)
- System Acceptance Test (SAT)

- Production Site 1 (PROD)
- Production Site 2 (PROD)

RUP test environments interface with IRS Enterprise systems/applications DITE via connections between IEP-hosted and IRS-owned systems. IEP provides infrastructure services to Certified Professional Employer Organizations (CPEO) virtual environment. The CPEO/501(c)(4) system is a multi-tenant platform accessible via a link on IRS.gov website and supports data collection, identity verification, payment, back-office application processing, and communications related to each registration process. CPEO environments are different from the standard RUP environments and exist within their own domain, Infrastructure Application Hosting (IAH), including these environments:

- Development Environment (DEV)
- User Acceptance Test Master (UAT Master)
- User Acceptance Test (UAT)
- Production Fix (Prod Fix)
- Production Alternate Site Processing (PROD-DR)
- Production Environment (PROD)

5.3.2 RUP Hits and Bandwidth Metrics

The table below shows the total RUP hits and bandwidth metrics.

Table 5-12: Registered User Portal – Total Hits and Bandwidth Metrics

Metric	2021	2022	Change
Total RUP Hits	7,342,417,430	3,329,680,819	-39.69%
Total RUP Hits (Filing Season - Jan 1 to Apr 30)	4,606,325,510	2,065,044,816	-40.38%
Average RUP Weekly Hits	141,200,335	64,032,323	-39.69%
Average RUP Weekly Hits (Filing Season)	268,702,321	120,460,928	-40.38%
Average RUP Daily Hits (Filing Season)	38,386,046	17,208,707	-40.38%
RUP Peak Filing Season Day Hits	210,649,752	78,695,631	-50.31%
RUP Peak Filing Season Day Volume	39,431,601	TBD	TBD
Total RUP Volume	1,360,257,807	TBD	TBD
Average RUP Weekly Volume	25,665,241	TBD	TBD
Average RUP Weekly Volume (Filing Season)	49,266,543	TBD	TBD
Average RUP Daily Volume (Filing Season)	7,778,927	TBD	TBD

5.4 Transactional Portal Environment (TPE)

Affordable Care Act (ACA) utilizes TPE for secure ACA Application-to-Application (A2A) communications. A2A interface includes secure bi-directional interfaces across 10 different business needs between Health and Human Services (HHS) Centers for Medicare & Medicaid Services and IRS. TPE via its ISSA2A capability also provides a secure SOAP channel for Issuers, Employers, and Third-Party Transmitters to submit Information Returns (1094/5 B/C Forms) via MTOM-based attachments. ISSA2A also processes any Information Returns submitted via its User Interface Form Acceptance Component (UIFAC) in RUP. TPE provides end-to-end encryption for each individual transaction, regardless of interface.

The table below summarizes the current state of the Transactional Portal Environment:

Table 5-13: Transactional Portal Environment Description

System Element	System Element Description
System Name	Transactional Portal Environment (TPE) Information Submission Service Application-to-Application (ISS- A2A)
System Element	System Element Description
Target Audience	• Individual users seeking enrollment and/or tax credit information in a health care plan through the Federal or state-based health care exchanges. • Businesses, government agencies, federal, and state health care exchanges, health care providers, tax practitioners, tax preparers, reporting agents, and other health care and tax professionals. • Employers, Issuers, and Third-Party transmitters submitting ACA Information Returns.
Content and Services	• Individual users may verify their Income and Family Size Verification (IFSV) and obtain their authorized Annual Premium Tax Credit (APTC) via Federal and state exchanges through CMS ACA system. • Exchanges can perform bulk IFSV and APTC redeterminations • Interface for Exchanges to provide bulk periodic data on healthcare policies. • Authorized ACA electronic filers may submit various electronic forms including 1094/1095A, 1094/1095B, and 1094/1095C. • Authorized ACA electronic filers may perform ACA Assurance testing across multiple versions for various electronic forms including 1094/1095BC and 1094/1095C. • Electronic forms can be submitted through an application to application (A2A) or web user interface (UI) channel. • A complete list of ACA applications is provided in Appendix B – RUP-LA, RUP-SA, and EUP Applications
Technical Platform	Refer to Section 4 Core Services for IEP environments, including development, test, and production environments/Operating System.
System Integrations	• Common Services eServices • Identity and Access Management Systems • Enterprise Integration Broker • Bulk Management Gateways • IRS Logging Systems • IRS Enterprise systems/applications Systems • IRS End-to-End Monitoring using COTS tools
Location	Multiple MSP-managed, geographically separated data centers
Managed Service Provider	Accenture
Base Hours of Operation	Available 24x7, except for IRS-approved maintenance windows

5.4.1 TPE Environments

TPE supports these environments for ACA TPE and ISS-A2A:

- Development Environment
- Test Environment
- Development System Integration Test Environment (DSIT)
- Production Support Environment (PSP)
- Production Test Environment (PTE)
- Production Simulation Environment (PSE)
- Production Site 1 Environment
- Production Site 2 Environment

5.4.2 TPE Metrics

The table below shows the transactions processed during ACA Open Enrollment for the years 2019 through 2022.

Table 5-14: ACA Open Enrollment Transactions Processed

Transaction	2020	2021	2022	2023
APTC	35,662,206	35,282,642	38,259,164	TBD
ISFV	19,619,425	15,951,186	17,532,074	TBD
IFSV Bulk Request	667	283	321	TBD
IFSV Bulk Response	652	236	274	TBD
EPD Bulk Request	16,907	19,403	19,991	TBD
EOM Bulk Response	16,554	16,941	17,425	TBD
1095A Transmission	4,350	1,417	4,123	TBD
1095A Status Update	4,678	1,395	4,098	TBD

5.5 Employee User Portal (EUP)

EUP is the primary internal IRS portal that allows IRS employee users to securely access IRS data and systems, such as tax administration processing systems, financial information systems, and other data and mission critical applications. Registration and authentication are required for access to EUP and all user interactions with those systems are encrypted from workstation to portal across the IRS internal network. A complete list of EUP applications is provided in Appendix B IEP Application Details.

EUP provides authorized employees secure access to selected IRS applications, including Compliance Data Environment (CDE), Foreign Account Tax Compliance Act (FATCA), ACA Air Management Console (AMC), Field Assistance Scheduling Tool (FAST), and Portal Account Replacement Tool (PART). EUP supports these environments:

- Sandbox (SBX)
- Development Environment (DEV)
- System Integration Test (SIT)
- Enterprise Integration Test Environment (EITE) – This is frequently aligned with SAT in IRS Enterprise systems/applications
- Functional Integration Test (FIT)
- Performance Test Environment (PTE)
- Production Active (PROD)
- Production Hot Standby (PROD)

Note: Not all EUP applications subscribe to all environments.

To support the application specific needs, EUP provides the standard IEP technology stack, including Microsoft, IIS, JBoss Enterprise Application Server, Apache HTTP Server; and leverages CA SiteMinder (hosted in IRS Enterprise systems/applications) to support authentication and authorization of IRS application services. FAST provides a FedRAMP High cloud-based solution leveraging the ServiceNow digital platform technology.

Table 5-15: Employee User Portal Description

System Element	System Element Description
System Name	Employee User Portal (EUP)
Target Audience	IRS Employees
System Element	System Element Description
Content and Services	• Provides authorized IRS employees secure access to IRS tax administration systems, financial information systems, and other applications, including Modernized e-File (MeF), eServices, Compliance Data Environment (CDE), and ACA AIR Management Console (AMC). • A complete list of EUP applications is provided in Appendix B – RUP-LA, RUPSA, and EUP Applications.
Technical Platform	Refer to Section 4 Core Services for IEP environments, including development, test, and production environments/Operating System.
System Integrations	• Identity and Access Management Systems • Enterprise Integration Broker • Message Oriented Middleware • IRS Logging Systems • IRS Enterprise systems/applications • IRS End-to-End Monitoring using COTS tools • IRS Frontend Application Deployment Systems
Location	Multiple MSP-managed, geographically separated data centers
Managed Service Provider	Accenture
Base Hours of Operation	Available 24x7, except for IRS-approved maintenance windows

5.6 Foreign Account Tax Compliance Act (FATCA)

FATCA International Compliance Management Model-International Data Transfer (ICMM-IDT) is an hto-Application (A2A) web service between IEP, International Data Exchange Service (IDES), and IRS Enterprise systems/applications components. It functions as security processing gateway for all FATCA data transmissions and ensures secure transmission of Forms 8966, 8938, and 1042. This solution is a two-way security channel that allows IRS to receive, format, validate, and store incoming FATCA data from Foreign Financial Institutions (FFIs) in a secure environment as well as generate outgoing notifications to FFIs and Host Country Tax Authorities (HCTAs) about processing and validation of data within those files. It also provides reporting and problem resolution capabilities for data processing.

FATCA was passed into law as part of the Hiring Incentives to Restore Employments (HIRE) Act of 2010. FATCA targets illegal tax evasion by requiring filers, Qualifying Intermediaries (QI), financial institutions (FIs),

and host country tax authorities (HCTAs) to report more information about foreign financial accounts and assets. FATCA also creates a withholding regime to address instances where reporting requirements are not met. FATCA requires the US taxpayers to declare foreign assets to IRS, and foreign banks and other financial institutions to conduct reporting and withholding on certain US accounts. To meet these responsibilities, IRS created necessary processes and tools that are focused on collection of FATCA information, analysis, and enforcement.

Besides the environments listed previously for RUP, FATCA ICMM-IDT also supports multiple IRS Enterprise system/application environments by using these separate logical environments in IEP which are open to transmitter communities for testing and support:

ICMM-IDT 4.0-4.1.1

- PETE1 (FIR DSIT; IDES DEV or DIT)
- PETE2 (FIR PTE; IDES TEST)
- PETE3 (FIR SAT1 or SAT2; IDES SAT)
- PETE4 (FIR FIT; IDES PSE)
- PETE Stub (Jboss Stub Service)

FATCA Bulk Upload-IDT

- PETE (BU FIRR)
- PSE (BU FIRR PSE)

The table below summarizes the current state of the FATCA data exchange service:

Table 5-16: Foreign Account Tax Compliance Act Description

System Element	System Element Description
System Name	Foreign Account Tax Compliance Act (FATCA)
Target Audience	Foreign Financial Institutions (FFIs) and Host Country Tax Administrations (HCTAs)
Content and Services	• Data exchange services allowing FFIs and HCTAs to automatically exchange FATCA data with the United States. • Data transmission of Form 8966, Form 8938, and Form 1042.
Technical Platform	Refer to Section 4 Core Services
System Integrations	• International Data Exchange Service (IDES) • FATCA Information Returns (FIR)
Location	Multiple MSP-managed, geographically separated data centers
Managed Service Provider	Accenture
Base Hours of Operation	Available 24x7, except for IRS-approved maintenance windows

5.7 IRS Cloud Managed Services Provider Support

The IRS Cloud MSP Support provides IEP MSP services for cloud services in IEP cloud-provisioned environments and IRS GFE provisioned environments, secure external access for IEP cloud-hosted applications, integration of future applications with NetHub, and enabling cloud operations and process improvement for EOps and CMO.

5.7.1 IRS GFE Cloud Services

The IEP 1.5 MSP has been tasked to implement and support additional hosting solutions that enable the IRS mission, including establishment of common services to support Treasury Cloud integration. Treasury Cloud Core Services include secure network connectivity and routing, audit and compliance, secure log aggregation, infrastructure build and monitoring, and continuous integration and continuous deployment pipeline. IRS GFE Cloud Services include change management for Cloud Core Services, incident management and security, server build and access management, monitoring and patch management, infrastructure configuration and asset management, cloud tagging, and user support and knowledge management.

This table below reflects the total number of Treasury Cloud work requests over the last three years:

Table 5-17: Treasury Cloud Work Requests

Total Number of Treasury Cloud Work Requests			
	CY 2020	CY 2021	CY 2022
Q1	0	3	0
Q2	2	3	4
Q3	2	3	2
Q4	1	2	3
Total	5	11	9

5.7.1.1 NetHub Support

Table 5-18: NetHub Support Description

System Element	System Element Description
System Name	NetHub
Target Audience	All projects moving to the Treasury cloud

Content and Services	• NetHub is a cloud Sentry zone, providing Core Services such as network connectivity, security, and management to downstream IRS workloads deployed to GFE AWS GovCloud IaaS.
	• Transit Hub Services
	  o Secure Networking
	  o Secure Routing
	• Management Services
	  o Federated Identity and Access Management
	  o Virtual Server Provisioning and Patching

Technical Platform	AWS GovCloud
System Integrations	• Netbond • TNET VPC • AWS GovCloud • IRS NetHub • IRS Project Workloads
Location	AWS GovCloud (IRS GFE)
Managed Service Provider	Accenture O&M
Base Hours of Operation	Available 24x7, except for IRS-approved maintenance windows

5.7.1.2 Enterprise Case Management (ECM) Support

Table 5-19: Enterprise Case Management (ECM) Support Description

System Element	System Element Description
System Name	Enterprise Case Management (ECM)
Target Audience	IRS Employees in Operating Division (OD)

Content and Services	Enterprise Case Management (ECM) standardizes IRS Service-wide case management processes to minimize and modernize IT and case management systems and infrastructure. ECM utilizes the commercial off-the-self software Pegasystems (Pega) that streamlines and centralizes case management, automated reporting, case routing, and other capabilities. It simplifies the technical environment, drive efficiency and collaboration through authorized data access and empower employees to quickly resolve cases, providing top-quality service to taxpayers and upholding the fair administration of tax law. Datastorage for the Pega platform is provided through AWS RDS services as well as Self-hosted MarkLogic Database instances.
Technical Platform	Pegasystems AWS GovCloud MarkLogic
System Element	System Element Description
System Integrations	• Interface (API) Gateway • Data Access Service. • Identity and Access Management Framework (integration with SADI, ESSAR) • Cloud Management Framework • Network Connection Frameworks
Location	AWS GovCloud (IRS GFE)
Managed Service Provider	Accenture O&M
Base Hours of Operation	Available 24x7, except for IRS-approved maintenance windows

5.7.2 IEP Cloud Hosting Services

The Portal Web Hosting Services provide support for cloud application hosting, capacity management, application infrastructure integration, configuration and change management, automated cloud deployments, cloud management platform, portal service catalog, cloud-hosted application infrastructure studies and any other necessary services. The IEP Cloud Operations Enablement/Improvement includes designing and implementing a phased enablement approach, operating model improvement, and EOps Cloud operations enablement through knowledge transfer and process/tool training. The operating model addresses integration with the IRS Cloud front door for intake management, a standardized cloud migration approach and execution plan, organizational change management support, program governance coordinating with application stakeholders, and technical support and general communication with application teams.

The IEP 1.5 MSP implements and supports hosting solutions to enable IRS mission, including the establishment of common services to support other CSP Cloud integrations. Cloud platform solutions include:

- Multi- availability zone and region support for increased resiliency.
- Build out of cloud accounts and VPCs with Infrastructure as Code (IAC) automation leveraging CloudFormation and Terraform.
- Providing Service Mesh capabilities to enable flow control, circuit breaking, and blue/green/canary deployments for the microservices.
- Enable data in transit encryption between all components including Mutual TLS where needed.
- Configuration of Identity and Access Management controls, including integration with SADI .
- Connectivity between IR Mod and IVES cloud components and IRS backend services.
- Compute and container services for the IR Mod and IVES platforms.

- Enterprise API gateway technology integration using Software AG.
- Integration of AWS Native Services.
- DevOps based application package deployments.
- Logging and monitoring solution integration, including integration with IRS Treasury Cloud auditing platform.
- Networking components that integrate the IEP Cloud with IRS backend via SD-WAN.
- Elevated support for AD development, testing, configuration, and deployment efforts including facilitation of troubleshooting, conducting log reviews, monitoring, and incident support.
- Security Change Management coordination, security package documentation.
- Support for Enterprise Services selected technologies including MongoDB, Software AG, Ephesoft Transact, and UiPath Automation Suite.

IEP Cloud Hosting Services support the following workloads and integrations:

- Information Returns Intake System (IRIS) – Provides a container platform hosting backend services for IRIS application allowing individuals and business to fill out and submit online 1099 forms on their own or another party's behalf. Integrates with cloud Enterprise API gateway, ESSAR, Az Framework, cloud Authentication gateway, IRS datacenter components, and cloud Public API gateway.
- IR Modernization (IRMod) Portal – Provides hosting for IRMod internet portal that allows payers or transmitters to electronically file 1099 information returns.
- Information Returns Processing System (IRPS) – Provides data access layer APIs for storing Information Return data, accessing submitted data, and pre-populating forms with prior year data. Integrates with IRIS Service and other IR Mod cloud components, IRS datacenter components, and cloud Enterprise API gateway.
- Income Verification Express Service (IVES) – Facilitates third party verification of taxpayer information for participants and their customers. Integrates with IVES Form Based Processor (FBP) services, ESSAR, Az Framework, cloud Authentication gateway, IRS datacenter components, and cloud API gateway.
- API Management Platform – Provides Software AG product suite comprised of API Gateway, Portal and Catalog components and hosts API platform infrastructure and APIs in IRS CEG and Nethub common service accounts. Integrates with Az Framework and IAM Authentication gateway.
- Az Framework – Provides centralized authorization services to cloud applications. Integrates with ESSAR, SADI, and cloud API gateway.
- Digitalization – Provides capabilities for extracting data from images and making those images accessible to downstream systems and users. Integrates with external gateway service, IRS Active Directory Federates Service (ADFS), IRS datacenter components, cloud API Gateway, Ephesoft Transact OCR platform, and IEP Core Services.
- Electronic Signature Storage and Retrieval (ESSAR) – Provides REST micro services that allow IRS applications to create, save, and retrieve electronic signatures.
- A2A – Provides a gateway that enables registered and authorized users to submit Information Returns transmissions and status checks to the IRIS application.
- Translate – Provides advanced machine learning for high-quality translation of unstructured text documents and builds applications that work in multiple languages.
- SADI – Provides session and digital identity management to enhance fraud detection capabilities. Integrates with SiteMinder, Layer7 API Gateway, and Directory CA/Broadcom COTS products and a series of custom Java microservices.
- EST – Supports the build and integration of a load generation environment to scale IRS performance testing.

- RPA – Facilitates the creation of attended and unattended automations utilizing UiPath Automation Suite.

Combined workloads include close to 2,000 monthly deployments across 26 non-production and production environments.

This table below reflects the total number of IEP Cloud work requests over the last year:

Table 5-20: IEP Cloud Work Requests

Total Number of IEP Cloud Work Requests		
	CY 2022	CY2023
Q1	0	13
Q2	0	TBD
Q3	6	TBD
Q4	6	TBD
Total	12	13

Table 5-20: IEP Cloud Hosting Support Description

System Element	System Element Description
System Name	Cloud Foundational Services
Target Audience	All IEP Cloud projects
System Element	System Element Description
Content and Services	Cloud Foundational Services within the Managed Service supports the Delivery of Cloud Services to the IEP Cloud (AWS GovCloud, Azure). • Cloud Center of Excellence Support o Provide overall MSP Executive level reporting o Maintain the IEP MSP Cloud Roadmap o Continues application kick-off and on-boarding support • Cloud Service Catalog o AWS PaaS Services o Azure PaaS Services • Cloud Platform Framework Build / Upgrades o Cloud Network Upgrades o Cloud Management Platform o Infrastructure as Code/ CI-CD • Cloud Security Support o Security Change Management process coordination o Security Package development (e.g., System Security Plan, Privacy and Civil Liberties Impact Assessment)

	o Support for IRS Cybersecurity assessment activities o Platform ATO Support o Cloud Security Posture Management
Technical Platform	AWS GovCloud, Azure
System Integrations	• CI/CD automated Deployment Framework • API Gateway Framework • Identity and Access Management Framework (integration with SADI, ESSAR) • Data Layer / Database Management Framework • Cloud Management Framework • Network Connection Frameworks
Location	AWS GovCloud, Azure
Managed Service Provider	Accenture O&M
Base Hours of Operation	Available 24x7, except for IRS-approved maintenance windows

6 Current State Volumes and Volume Forecasts

This section provides information about the usage of the three IRS IEP portals (PUP, RUP, EUP), associated systems, and IRS.gov website Help Desk.

6.1 IRS.gov Website Volumes and Volume Forecasts

The peak usage of IRS.gov website historically occurs each year around April 15. The IRS.gov website usage statistics below show projected annual growth of IRS.gov website usage and the number of downloads, visits, and pages viewed for recent filing seasons.

This table below shows the IRS.gov volumes and forecasts for three filing seasons (FS) and the year over year change:

Table 6-1: IRS.gov Volumes and Volume Forecasts

Metric	2020 FS	2021 FS	2022 FS	2023 FS
Number of Downloads from the IRS.gov Website	70,518,762	67,230,985	62,247,010	TBD
Number of Page Views from the IRS.gov Website	5,528,710,991	7,188,966,017	3,009,635,188	TBD
Number of Visits (Sessions) to the IRS.gov Website	993,278,314	1,252,377,412	630,457,655	TBD

Note: The table above includes activity on both the Public User Portal and the Registered User Portal.

The table below shows the monthly page views and visits:

Table 6-2: IRS.gov Monthly Page Views and Sessions

Month	2020 Page Views	2021 Page Views	2022 Page Views		2020 Sessions	2021 Sessions	2022 Sessions
Jan	339,968,202	1,921,366,412	444,150,538		64,019,157	308,598,962	88,716,701
Feb	964,206,455	980,778,914	1,119,610,904		227,760,079	191,220,173	232,809,065
Mar	530,483,568	3,100,674,477	771,839,395		117,405,535	540,903,939	169,957,137
Apr	3,694,052,766	1,186,146,214	674,034,351		584,093,543	211,654,338	138,974,752
May	1,472,096,865	885,290,550	329,422,364		238,032,883	153,660,761	66,771,243
Jun	530,082,092	659,456,886	292,926,398		91,868,295	115,043,513	57,623,145
Jul	528,855,693	756,021,893	236,796,515		90,275,771	122,329,774	48,903,142
Aug	360,396,684	492,716,592	230,250,535		60,152,696	82,907,558	47,841,154
Sep	311,206,545	410,855,742	208,138,777		54,229,700	76,913,659	43,443,854
Oct	333,401,385	418,263,915	241,943,112		56,489,739	82,944,353	50,584,503
Nov	268,284,930	298,866,523	198,404,023		45,253,844	54,068,352	41,340,463
Dec	457,125,952	286,373,508	183,566,780		94,664,275	55,157,633	39,976,531
Total	9,790,161,137	11,396,811,626	4,931,083,692		1,724,245,517	1,995,403,015	1,026,941,690

Note: The table above includes activity on both the Public User Portal and the Registered User Portal.

Table below shows the filing season (FS) forecast of web traffic in April during which web traffic peaks and slows down.

Table 6-3: IRS.gov Forecasted Daily Number of Page Views for Peak Month of Filing Season

Day of Month	Page Views				
	2020 FS Peak Month	2021 FS Peak Month	2022 FS Peak Month	2023 FS Peak Month	2024 FS Peak Month (Forecast)
Day 1	28,522,547	52,127,185	29,967,162	TBD	TBD
Day 2	27,764,241	49,839,874	29,066,134	TBD	TBD
Day 3	24,806,574	47,070,267	29,329,668	TBD	TBD
Day 4	16,805,950	45,429,372	30,570,368	TBD	TBD
Day 5	14,534,685	45,823,730	24,101,080	TBD	TBD
Day 6	26,692,231	37,202,909	22,051,523	TBD	TBD
Day 7	26,291,080	35,223,750	36,808,766	TBD	TBD
Day 8	28,729,901	57,110,639	35,980,853	TBD	TBD
Day 9	34,268,605	52,327,246	34,897,518	TBD	TBD
Day 10	50,724,595	55,829,700	34,402,909	TBD	TBD

Day 11	45,855,079	66,670,663	38,529,903	TBD	TBD
Day 12	35,087,585	94,957,650	29,472,331	TBD	TBD
Day 13	102,783,982	171,667,357	24,632,834	TBD	TBD
Day 14	100,469,909	204,051,062	43,122,132	TBD	TBD
Day 15	690,575,130	293,729,230	49,954,113	TBD	TBD
Day 16	370,411,960	224,309,594	94,935,261	TBD	TBD
Day 17	267,921,860	224,304,370	95,605,432	TBD	TBD
Day 18	176,158,534	162,819,676	75,256,822	TBD	TBD
Day 19	115,605,096	140,267,054	39,660,566	TBD	TBD
Day 20	176,944,789	105,356,785	28,302,219	TBD	TBD
Day 21	163,417,759	75,750,480	40,402,255	TBD	TBD
Day 22	152,769,659	123,131,374	44,550,974	TBD	TBD
Day 23	134,771,936	104,800,755	43,528,900	TBD	TBD
Day 24	153,867,628	104,702,961	39,951,157	TBD	TBD
Day 25	103,921,281	90,693,381	35,638,872	TBD	TBD
Day 26	103,220,747	92,545,250	26,407,824	TBD	TBD
Day 27	152,290,754	61,097,228	23,290,648	TBD	TBD
Day 28	131,526,164	49,558,113	39,192,680	TBD	TBD
Day 29	124,814,161	85,182,935	Not Available	TBD	TBD
Day 30	112,498,344	77,117,610	Not Available	TBD	TBD
Total	3,694,052,766	3,030,698,200	1,119,610,904	TBD	TBD

Table 6-4: IRS.gov Forecasted Daily Number of Visits for Peak Month of Filing Season

Day of Month	Visits				
	2020 FS Peak Month	2021 FS Peak Month	2022 FS Peak Month	2023 FS Peak Month	2024 FS Peak Month (Forecast)
Day 1	6,796,995	10,428,148	6,499,161	TBD	TBD
Day 2	6,554,174	10,185,592	6,380,559	TBD	TBD
Day 3	5,709,359	9,610,744	6,509,333	TBD	TBD
Day 4	4,050,603	9,221,585	6,657,335	TBD	TBD
Day 5	3,617,721	9,024,145	5,471,320	TBD	TBD
Day 6	6,076,880	7,454,494	5,101,394	TBD	TBD
Day 7	6,045,066	7,219,778	8,159,464	TBD	TBD
Day 8	6,330,512	10,806,064	8,141,712	TBD	TBD
Day 9	7,646,556	10,199,399	7,993,373	TBD	TBD

Day 10	12,851,192	10,689,036	7,952,502	TBD	TBD
Day 11	11,961,613	12,347,653	8,384,119	TBD	TBD
Day 12	9,498,392	22,034,397	6,859,968	TBD	TBD
Day 13	26,411,369	30,250,571	5,823,878	TBD	TBD
Day 14	27,464,402	31,811,176	9,719,567	TBD	TBD
Day 15	78,848,830	46,432,964	11,509,104	TBD	TBD
Day 16	51,294,837	36,691,695	14,704,034	TBD	TBD
Day 17	38,328,146	36,453,881	13,197,223	TBD	TBD
Day 18	25,910,615	27,459,226	11,947,925	TBD	TBD
Day 19	18,397,158	23,556,377	8,574,465	TBD	TBD
Day 20	26,289,017	17,346,175	6,470,015	TBD	TBD
Day 21	24,949,921	13,142,746	8,995,292	TBD	TBD
Day 22	23,924,352	20,425,255	10,273,185	TBD	TBD
Day 23	21,455,401	17,909,103	10,341,812	TBD	TBD
Day 24	22,583,987	17,848,101	9,241,835	TBD	TBD
Day 25	15,985,778	15,814,096	7,932,585	TBD	TBD
Day 26	15,520,431	15,856,902	6,023,181	TBD	TBD
Day 27	22,684,137	11,120,813	5,397,704	TBD	TBD
Day 28	19,902,622	9,041,949	8,547,020	TBD	TBD
Day 29	19,265,035	14,591,783	Not Available	TBD	TBD
Day 30	17,738,442	13,489,311	Not Available	TBD	TBD
Total	584,093,543	528,463,159	232,809,065	TBD	TBD

The table above includes activity on both the Public User Portal and the Registered User Portal.

The table below shows the hourly number of Page Views and Visits for the peak day of the filing season:

Table 6-5: IRS.gov Hourly Number of Page Views and Visits for the Peak Day of the Filing Season

Hour of Day	Page Views						
	2018	2019	2020	2021	2022	2023	2024
	(FEB 16)	(FEB 21)	(APR 15)	(MAR 15)	(FEB 16)	TBD	Projection
0:00	1,050,778	1,184,337	3,376,266	7,043,933	1,927,816	TBD	TBD
1:00	878,449	983,927	2,845,806	5,690,680	2,050,889	TBD	TBD
2:00	608,559	674,242	2,433,240	4,089,772	1,378,261	TBD	TBD
3:00	575,996	668,601	2,163,713	3,352,867	1,189,139	TBD	TBD
4:00	529,014	669,238	1,810,630	2,966,710	1,115,992	TBD	TBD
5:00	738,065	939,599	1,957,753	3,661,346	1,449,995	TBD	TBD

6:00	1,302,565	1,579,313	6,880,291	5,676,132	2,361,800	TBD	TBD
7:00	1,911,740	2,246,160	17,297,973	8,804,042	3,198,984	TBD	TBD
8:00	2,431,660	2,709,439	30,857,289	13,044,525	3,759,501	TBD	TBD
9:00	2,938,420	3,151,430	50,004,218	17,065,334	4,128,445	TBD	TBD
10:00	2,935,894	3,252,049	56,391,907	18,946,295	4,445,259	TBD	TBD
11:00	2,875,783	3,208,625	62,138,567	19,929,379	4,484,226	TBD	TBD
12:00	2,745,832	3,131,238	61,635,485	20,434,617	5,020,439	TBD	TBD
13:00	2,574,370	2,988,654	55,962,275	20,046,284	5,605,225	TBD	TBD
14:00	2,446,215	2,871,572	47,131,658	18,560,525	5,907,003	TBD	TBD
15:00	2,351,270	2,961,912	44,479,471	17,362,074	5,628,227	TBD	TBD
16:00	2,246,403	3,122,559	41,360,262	16,988,170	5,447,332	TBD	TBD
17:00	2,061,480	2,647,555	37,836,308	16,298,663	6,368,825	TBD	TBD
18:00	1,865,932	2,333,337	34,554,970	16,313,029	5,564,779	TBD	TBD
19:00	1,640,114	2,138,987	38,659,517	14,248,094	5,458,512	TBD	TBD
20:00	1,454,258	1,989,422	29,959,845	12,736,211	5,443,547	TBD	TBD
21:00	1,275,678	1,839,675	24,684,833	11,890,577	5,121,767	TBD	TBD
22:00	1,116,110	1,631,821	19,844,720	10,149,379	4,373,865	TBD	TBD
23:00	944,872	1,368,836	16,308,133	8,430,592	3,505,433	TBD	TBD
TOTAL	41,499,457	50,292,528	690,575,130	293,729,230	94,935,261	TBD	TBD

Table 6-6: IRS.gov Hourly Number of Visits for the Peak Day of the Filing Season

Hour of Day	Sessions						
	2018	2019	2020	2021	2022	2023	2024
	(FEB 16)	(FEB 21)	(APR 15)	(MAR 15)	(FEB 16)	TBD	Projection
0:00	247,755	299,290	944,274	1,168,095	372,501	TBD	TBD
1:00	197,254	238,158	749,370	868,263	320,703	TBD	TBD
2:00	139,183	165,465	621,649	623,993	230,378	TBD	TBD
3:00	123,188	156,714	540,063	512,347	205,768	TBD	TBD
4:00	124,560	162,132	455,135	458,608	202,029	TBD	TBD
5:00	179,231	232,708	503,588	576,297	266,701	TBD	TBD
6:00	308,488	391,829	871,502	903,341	428,081	TBD	TBD
7:00	448,440	557,269	1,864,878	1,409,412	611,339	TBD	TBD
8:00	561,693	661,600	3,402,287	2,058,759	733,203	TBD	TBD
9:00	654,881	741,550	5,119,528	2,647,380	823,369	TBD	TBD
10:00	653,121	743,958	5,709,621	2,923,944	876,174	TBD	TBD

11:00	634,110	723,512	6,150,251	3,111,274	881,138	TBD	TBD
12:00	604,178	705,735	6,161,337	3,178,984	894,208	TBD	TBD
13:00	567,363	674,738	5,816,194	3,136,490	894,437	TBD	TBD
14:00	538,603	643,429	5,485,325	2,916,363	849,894	TBD	TBD
15:00	519,163	639,649	5,262,838	2,749,531	841,827	TBD	TBD
16:00	500,384	658,280	4,881,865	2,699,763	831,444	TBD	TBD
17:00	466,134	599,449	4,638,970	2,583,048	775,398	TBD	TBD
18:00	427,634	542,472	4,318,472	2,584,034	723,812	TBD	TBD
19:00	380,523	503,685	3,850,260	2,273,612	695,880	TBD	TBD
20:00	343,475	471,940	3,437,863	2,075,126	668,279	TBD	TBD
21:00	306,283	439,247	3,094,816	1,939,489	614,914	TBD	TBD
22:00	270,668	397,521	2,676,399	1,662,614	530,886	TBD	TBD
23:00	229,241	331,880	2,292,345	1,372,197	431,671	TBD	TBD
TOTAL	9,425,553	11,682,210	78,848,830	46,432,964	14,704,034	TBD	TBD

6.2 EUP Volumes and Volume Forecasts

The peak usage for EUP portals corresponds with the peak usage for modernized applications. The statistics in this section show the number of unique sessions for EUP portals.

Table 6-7: IRS.gov Hourly Number of Visits for the Peak Day of the Filing Season

Total Number of Unique Sessions for EUP portal			
	2020	2021	2022
Jan	Not Available	Not Available	Not Available
Feb	Not Available	Not Available	Not Available
Mar	Not Available	Not Available	Not Available
Apr	Not Available	Not Available	Not Available
May	Not Available	Not Available	Not Available
Jun	Not Available	Not Available	Not Available
Jul	Not Available	Not Available	Not Available
Aug	Not Available	Not Available	Not Available
Sep	Not Available	Not Available	393
Oct	Not Available	Not Available	461
Nov	Not Available	Not Available	246
Dec	Not Available	Not Available	354
Total	Not Available	Not Available	1,454

Note: Number of unique sessions for EUP portal for the past three years is not currently available.

6.3 ACA Volumes

Table below provides the actual volumes for Open Enrollment period, November 1, 2022 – January 31, 2022.

Table 6-8: ACA Volumes for Open Enrollment period, November 1, 2022 – January 31, 2023

Service	2020	2021	2022	2023
Transactional – APTC: Advanced Premium Tax Credit synchronous web service (ACA 3.0)	35,662,206	35,282,642	38,259,164	TBD
Transactional – IFSV: Income & Family Size Verification synchronous web service (ACA 3.0)	19,619,425	15,951,186	17,532,074	TBD
Bulk – IFSV Request: Income & Family Size Verification bulk request web service (ACA 4.0)	667	283	321	TBD
Bulk – IFSV Response: Income & Family Size Verification bulk response web service (ACA 4.0)	652	236	274	TBD
Bulk – EPD Request: Exchange Periodic Data/IRS Reporting bulk request web service (ACA 4.0)	16,907	19,403	19,991	TBD
Bulk – EOM Response: End of Month/CMS Reporting bulk response web service (ACA 4.0)	16,554	16,941	17,425	TBD
1095A_Status_Update: 1095A form status update web service (ACA 5.0)	4,350	1,417	4,123	TBD
Service	2020	2021	2022	2023
1095A_Transmission: 1095A form transmission web service (ACA 5.0)	4,678	1,395	4,098	TBD

This table below represents the yearly throughput targets for ACA via the IEP platform:

6.4 FATCA Volumes

Table below provides the actual FATCA volumes for Filing Season 2021:

Table 6-9: FATCA Volumes for Filing Season 2021 and 2022

Service	2021		022	
	Total Request Count	Avg. File Size for Total Request Count	Total Request Count	Avg. File Size for Total Request Count
Certificate Retrieval: Retrieve the FFI or HCTA public certificate from IDES	71,296	N/A	TBD	TBD

Data File Alert: Sends alerts and notifications to ICMM-FIR	185,895	N/A	TBD	TBD
Download Acknowledgement: Provides notification to IDES	30,534	N/A	TBD	TBD
File Upload: Notification to FFI/HCTA with status of a downloaded of a FATCA payload file	36,232	pending	TBD	TBD
File Download: Downloads a payload file from an FFI/HCTA into ICMM-FIR	28,010	24.6 kb	TBD	TBD
Bulk File Upload	447	1.85 kb	TBD	TBD

Note: A table will be inserted that shows the FATCA ICMM-IDT Files sizes for Filing Season.

6.5 IEP Service Desk Volumes

This table shows the total number of incidents for the last three years:

Table 6-10: Total Number of Incidents

Total Number of Incidents			
	2020	2021	2022
Jan	1	15	66
Feb	2	10	37
Mar	47	15	60
Total Number of Incidents			
	2020	2021	2022
Apr	36	7	51
May	8	9	47
Jun	12	32	54
Jul	14	13	48
Aug	23	15	35
Sep	22	10	50
Oct	15	17	66
Nov	10	20	58
Dec	8	17	48
Total	198	180	620

Note: Complete 2019 Incident data was unavailable.
This table shows the total number of Priority 1 (P1) and Priority 2 (P2) incidents for the last three years:

Table 6-11: Total Number of P1 and P2 Incidents

Total Number of Incidents – P1 and P2			
	2020	2021	2022
Jan		5	8
Feb		4	7
Mar	4	3	22
Apr	9	1	8
May	3	4	2
Jun	1	3	3
Jul	6	3	16
Aug	8	8	3
Sep	6	4	4
Oct	5	8	11
Nov	3	6	15
Dec	3	7	15
Total	48	56	114

Note: Complete 2019 Incident data was unavailable.

This table shows the total number of Priority 3 (P3) and Priority 4 (P4) incidents for the last three years:

Table 6-12: Total Number of P3 and P4 Incidents

Total Number of Incidents – P3 and P4			
	2020	2021	2022
Jan	1	10	58
Feb	2	6	30
Mar	43	12	38
Apr	27	6	43
May	5	5	45
Jun	11	29	51
Jul	8	10	32
Aug	15	7	32
Sep	16	6	46
Oct	10	9	55
Nov	7	14	43
Dec	5	10	33
Total	150	124	506

This table shows the total number of service requests submitted via the Service Catalog for the last three years:

Table 6-13: Total Number of Service Requests Submitted via Service Catalog

Total Number of Service Requests Submitted via Service Catalog			
	2020	2021	2022
Jan	1,213	1,093	1,196
Feb	975	948	1,235
Mar	937	1,057	1,249
Apr	1,444	1,246	1,123
May	976	1,163	1,466
Jun	1,186	1,328	1,544
Jul	1,077	1,388	1,249
Aug	1,145	1,420	1,533
Sep	1,300	1,417	1,685
Oct	1,414	1,550	1,508
Nov	1,044	1,453	1,326
Dec	1,099	1,465	1,389
Total	13,810	15,528	16,503

Appendix A

Summary of Applications

The tables in Appendix A summarize the IEP 1.5 applications. PUP, RUP, EUP, and TPE applications are grouped into separate table with description of the application, whether the application is managed by the current MSP, pageview traffic information and the size of the application. Appendix A is a separate document available during the acquisition process upon request to the contracting officer. Note: Some descriptions are abridged with specific User Number/Traffic Information pending. Please refer to Appendix B for more detailed attribute information.

- Total number of applications: 107 (106 – Active, 1 – Testing)
  - PUP: 24
  - WCMS: 6
  - RUP: 35
  - IAH: 2
  - TPE: 10
  - EUP: 15
  - IRS GFE Cloud Services: 3
  - IEP Cloud Hosting Services: 12

Appendix B

IEP Application Details

A detailed list of the IEP applications and attributes is available in Appendix B. Appendix B is a separate document available during the acquisition process upon request to the contracting officer.

There are a total of 107 IEP applications listed in the Appendix A. The following table contains some of key application hosting attributes.

Table B - 1: Key Application Hosting Attributes

Application Hosting Attributes	
Hosting Service Type • IaaS: 1 • MSP managed App: 34 • PaaS +: 72	
App Server OS • Windows: 2 • Linux (RHEL): 75 • Other (Not identified or other OS): 30	App Server Platform o JBOSS: 59 o IIS: 1 o Other (Tomcat, Java, N/A, etc.): 47
DB Server OS o Windows: 7 o Linux (RHEL): 14 o Other (Not identified or other OS): 86	Database Software o Oracle: 29 o MySQL: 10 o DynamoDB/Mongo DB: 7 o Other (N/A, None, Blank): 61
Web Server OS o Linux (RHEL): 72 o Other (Not identified or other OS - Apache): 35	Web Platform Software o Apache: 63 o Other: 44
Middleware Server OS o Linux (RHEL): 44 o Other (Not identified or other OS such as CentOS): 63	
DB size and growth rate: 100+ TB growing 25% annually	File storage size and growth rate
Pageviews for last 3 years	

Note: The total number of applications doesn't add up to 107 always for each of category since multiple or no selection are permitted)

Appendix C

Key Organizations

This appendix identifies key IRS IT organizations and external business partners that have stakeholder roles in the operations and maintenance (O&M) of the current IEP infrastructure.

Table C- 1: Key Stakeholders with roles associated with the current IEP Infrastructure O&M

Organization Name	Internal / External	Description
Applications Development (AD)	Internal	AD builds, tests, delivers, and maintains the integrated applications and systems hosted within IEP.
Enterprise Operations (EOps)	Internal	EOps manages and supports the IRS computing centers and physical and virtual machines within the IEP infrastructure.
Office of Online Services (OLS)	Internal	OLS leads IRS business transformation including digital government, tax experience improvements, and consistent enterprise-wide web service options, including evolution of IRS.gov.
User and Network Services (UNS)	Internal	UNS manages the enterprise service desk operations for business customers and end users, IRS video and data communications, contact center environment, converged networks, and user infrastructure.
Cybersecurity	Internal	Cybersecurity ensures IRS compliance with federal laws and regulation that control IRS systems' security.
Web Infrastructure Services Division (WISD)	Internal	WISD provides program leadership and strategic direction for the IRS Web Services Infrastructure investment which provides IEP infrastructure for online applications and services, including the IRS.gov website.
Enterprise Program Management Office (EPMO)	Internal	EPMO is responsible for the delivery of large-scale integrated solutions to improve IRS business processes and operations and to improve taxpayer experience and service (i.e., ECM and Online Account suit of IEP hosted applications).
Enterprise Services (ES)	Internal	ES provides systems engineering services that promote standards-based, enterprise solutions and serves as the enterprise testing authority partnering with customers to improve the quality of information systems, products and services, including IEP hosted applications.
Accenture Federal Service (AFS)	External	Accenture provides outsourced application web hosting and environment support for the Portal and IRS.gov website.
IRS.gov Website Help Desk	External	IRS.gov Website Help Desk provides the outsourced help desk support for the IRS.gov and Portal user community.

Appendix D

Acronyms

Acronym	Definition
A2A	Application to Application
ACA	Affordable Care Act
ADFS	Active Directory Federated Services
AFS	Automated Front Door
APTC	Annual Premium Tax Credit
AIIS	Application Infrastructure Integration Services
AIR	Affordable Care Information Returns
AMC	ACA AIR Management Console
API	Application Programming Interface
APTC	Annual Premium Tax Credit
ASCA	Annual Security controls Assessment
ASP/COM	Application Service Provider/Communication
ASSA	Automated Self Service Applications
BIA	Business Impact Analysis
BODs	Business Rules and Requirements Management
BPD	Branded Prescription Drug
CAB	Change Advisory Board
CCB	Change Control Board
CDE	Compliance Data Environment
CHIP	Children’s Health Insurance Program
CI	Configuration Item
CI/CD	Continuous Integration / Continuous Deployment
CMA	Content Management Application
CMDB	Configuration Management Database
CMS	Configuration Management System
COM	Common Environment
COR	Contracting Officer Representative
COTS	Commercial Off the Shelf
CSA	Contractor Site Assessment
DDOS	Distributed Denial of Service
DEV	Development Environment
DITE	Development Integration and Test Environment
DMZ	Demilitarized Zone
DR	Disaster Recovery
DRIVE	Deployment and Release Integration and Visibility Engine
DSIT	Development System Integration Test Environment

Acronym	Definition
E2E	End-to-End
EFS	Elastic File System
EFTU	Enterprise File Transfer Utility
EITC	Earned Income Tax Credit
EITE	Enterprise Integration Test Environment
ELC	Enterprise Lifecycle
EOps	Enterprise Operations
EOL	End of Life
ESSAR	Electronic Signature Storage and Retrieval
ESAT	Enterprise Security Audit Trails
ETA	Electronic Tax Administration
ETLA	Electronic Tax Law Administration
EUES	End User Equipment and Services
EUP	Employee User Portal
FAQs	Frequently Asked Questions
FATCA	Foreign Account Tax Compliance Act
FBP	Form Based Processor
FedRAMP	Federal Risk and Authorization Management Program
FFI	Foreign Financial Institutions
FIR	FATCA Information Returns
FISMA	Federal Information Security Management Act
FedRAMP	Federal Risk and Authorization Management Program
FIT	Final Integration Testing, Functional Integration Testing
FS	Filing Season
GFE	Government Furnished Equipment
HCTA	Host Country Tax Authority
HHS	U.S. Department of Health and Human Services
HTTPS	Hypertext Transfer Protocol Secure
IaC	Infrastructure as Code
IAM	Identity and Access Management
ICCE	Integrated Customer Communications Environment
ICMM-IDT	International Compliance Management Model-International Data Transfer
IDT	International Data Transfer
IDES	International Data Exchange Service
IEP	Integrated Enterprise Portal
IFS	Integrated Finance System
IFSV	Income and Family Size Verification
IIS	Internet Information Services

Acronym	Definition
IO	Input-Output
IOPS	Input/Output Operations per Second
IPV	Internet Protocol Version
IR	Information Returns
IRAP	Information Resources Accessibility Program
IRFOF	Internet Refund Fact of Filing
IRIS	Information Returns Intake System
IRMod	Information Returns Modernization
IRPS	Information Returns Processing System
IRS	Internal Revenue Service
IRTT	Interconnection Request Tracking Tool
ISCP	Information System Contingency Plan
ISR	Information Sharing & Reporting
ISS	Infrastructure Shared Services
ISS-A2A	Information Submission Service Application-to-Application
IRFOF	Internet Refund Fact of Filing
IRM	Internal Revenue Manual
IT	Information Technology
ITIL	IT Infrastructure Library
ITIN	Individual Taxpayer Identification Number
ITSM	Information Technology Service Management
ITSCM	Information Technology Service Continuity Management
IV&V	Independent Validation and Verification
IVES	Income Verification Express Service
KISAM	Knowledge Incident/Problem Service Asset Management
LA	Login Authentication
LAN	Local Area Network
MBI	Minimum Background Investigation
MeF	Modernized E-File
MGT	Management Environment
MIIS	Middleware Infrastructure Integration Section
MQ	Message Queuing
MSP	Managed Service Provider
NIST	National Institute of Standards and Technology
O&M	Operations and Maintenance
OCR	Optical Character Recognition
OMB	Office of Management and Budget
PCLIA	Privacy/Civil Liberties Impact Assessment

Acronym	Definition
PDF	Portable Document Format
PETE	Production Equivalent Testing Environment
PIA	Privacy Impact Assessment
PIV	Personal Identity Verification
POFD	Political Organization Filing and Disclosure
POA&M	Plan of Action and Milestones
PPMO	Portal Program Management Office
PROD	Production
PSE	Payment Settlement Entity
PTC	Premium Tax Credit
PTE	Performance Test Environment
PUP	Public User Portal
QASP	Quality Assurance Surveillance Plan
QI	Qualifying Intermediaries
RACI	Responsible, Accountable, Consulted, Informed
RDBMS	Relational Database Management System
RDS	Relational Database Service
RFI	Remote File Inclusion Protection
RFP	Request for Proposal
RPO	Recovery Point Objective
RTO	Recovery Time Objective
RUP	Registered User Portal
SA	Self-Authentication
SAAS	Security Audit and Analysis System
SAT	System Acceptance Test
SBU	Sensitive But Unclassified
SBX	Sandbox
SCRIPS	Service Center Recognition Image Processing System
SD-WAN	Software Defined Wide Area Network
SES	Simple Email Service
SFTP	Secure File Transfer Protocol
SIEM	Security Information and Event Management
SIT	System Integration Test
SLA	Service Level Agreement
SLO	Service Level Objective
SME	Subject Matter Expert
SNS	Simple Notification Service
SOAP	Simple Object Access Protocol

Acronym	Definition
SOP	Standard Operating Procedure
SOR	Secure Object Repository
SP	Special Publication
SQL	Structured Query Language
SQS	Simple Queue Service
SRT	Support Restoration Team
SSO	Secure Single Sign-On
SIT	System Integration Test
TCC	Transmitter Control Code
TCP/IP	Transmission Control Protocol/Internet Protocol
TEST	Test Environment
TIGTA	Treasury Inspector General for Tax Administration
TLS	Transport Layer Security
TPE	Transactional Portal Environment
TRB	Technical Review Board
TT&E	Training and Exercise
UAT	User Acceptance Test
UIFAC	User Interface Form Acceptance Component
UWR	Unified Work Request
VITA/TCE	Volunteer Income Tax Assistance/Tax Counseling for the Elderly
VLAN	Virtual Local Area Network
VPN	Virtual Private Network
VROM	Very Rough Order of Magnitude
VSAM	Virtual Storage Access Method
WAF	Web Application Firewall
WAN	Wide Area Network
WCAG	Web Content Accessibility Guidelines
WCMS	Web Content Management System
MPV	WebTrends OnDemand
XML	Extensible Markup Language
XSS	Cross-Site Scripting