

## ➤ Capabilities and Experience

SharpEntity is an 8(a) company committed to building enduring solutions for our clients, using best-fit technologies and enabling practices to help our clients succeed. We offer a diverse skill set, including:

- Project Management
- Enterprise Application Integration

- Enterprise SOA
- Database Design & Development
- Cloud Computing

- Systems Engineering
- Training

- Software Development
- Implementation Support

Project	Client	PM	Architecture	Development	Requirements	BPR	Testing	Training
External Search Services	DHS/ICE	X	X	X	X	X	X	X
SEVP PMO	DHS/ICE	X	X	X	X	X	X	X
NAPM Collaboration Portal	NAPM LLC	X	X	X	X	X	X	X
SEVPAMS	DHS/ICE	X	X	X	X	X	X	X
SEVIS II - Student Exchange Visitor Information System	DHS/ICE	X	X	X	X	X	X	
RAMP - Risk Assessment & Management Program	DHS/FPS		X		X	X	X	
ACS - American Citizen Services	DoS/CA	X	X	X		X		
STEP – Smart Traveler Enrollment Program	DoS/CA	X	X	X	X	X	X	X

## Overview:

External Search Services is a high performance enterprise web services application platform that aggregates several of ICE's key interfaces to internal and external systems into a single intelligent and scalable interface. The enterprise service oriented application provides a single entry point to maximize re-use across several of ICE's enterprise applications, and provides enhanced services such as error correction and data translation services.

ESS was designed and developed using agile development practices, such as 4-week sprints, test driven development and continuous integration.

## Experience:

SharpEntity's architectural and development support ensured that the team met and exceeded all development milestones, and received several commendations from the client. We worked in an agile framework to provide services across the breadth of the project, including requirements, architecture, development and testing. Our contributions included:

- **Architecture** – SharpEntity provided SOA and ESB design expertise.
- **Development** – SharpEntity led the development in areas of the application, and the team as a whole was responsible for the overall health of the application.
- **Testing** – SharpEntity wrote developer tests and participated in smoke testing of the application prior to release for product owner evaluation.
- **Documentation** – SharpEntity documented key architectural concerns in the application, and helped develop the project's Design Document and Developer Guide for client applications.
- **Data Modeling** – Designing the schema for ESS and developing translation tables for client-specific data translation services
- **BPR and Technical SME** – Assisting the business owner in optimizing business processes to ensure that the complexities of system-to-system interfaces are kept within the confines of ESS to the extent possible.
- **Training** - Providing support to client applications developing interfaces to ESS and producing developer guides to assist technical teams in building connectors to ESS.

## Overview:

The Student Exchange Visitor Program (SEVP) IT Innovation contract provides a variety of critical support to program's leadership, including strategic technical and management consulting, business process reengineering, requirements development and training support. The IT Innovation team provides SEVP with the ability to build innovative services using leading-edge tools to automate and streamline processes, and build critical enterprise reporting and collaboration tools. The team helps SEVP direct, manage, assess and guide the planning, development and assess its various business functions and IT initiatives.

## Experience:

SharpEntity's resources work in an agile framework to provide services across the breadth of the project, including business process reengineering, architecture, business and implementation strategy white papers, requirements, and testing. Our contributions included:

- **Architecture** – Providing architectural support in planning future IT investments and Microsoft Azure cloud infrastructure.
- **Development** – Developing an automated system for extracting data from several thousand structured and unstructured data sources into a consolidated SQL database for analysis and reporting.
- **Testing** – Testing work products in an agile development cycle to ensure that they meet acceptance criteria.
- **Documentation** – Authoring white papers for technical and strategic assessments, creating user stories, and various other documentation required by the client to meet business objectives.
- **BPR** – Documenting present-state of systems and assisting in the design of more streamlined processes that leverage new business priorities and technologies.
- **Training** – Providing agile coaching and hands-on training to business stakeholders.

## Overview:

The Student Exchange Visitor Program (SEVP) PMO provides a variety of critical support to program's leadership, including strategic technical and management consulting, business process reengineering, requirements development and training support. The PMO provides SEVP with the ability to direct, manage, assess and guide the planning, development and assess its various business functions and IT initiatives.

SEVPAMS is built using agile techniques in the DHS Cloud environment. Commercial cloud deployments are under consideration for future versions, which will also provide enterprise service integration with internal and external applications.

## Experience:

SharpEntity's resources work in an agile framework to provide services across the breadth of the project, including business process reengineering, architecture, business and implementation strategy white papers, requirements, and testing. Our contributions included:

- **Architecture** – Providing architectural support in planning future IT investments and cloud infrastructure.
- **Development** – Developing an automated system for extracting data from several hundred unstructured worksheets into structured SQL databases for analysis and reporting.
- **Testing** – Testing work products in an agile development cycle to ensure that they meet acceptance criteria.
- **Documentation** – Authoring white papers for technical and strategic assessments, creating user stories, and various other documentation required by the client to meet business objectives.
- **BPR** – Documenting present-state of systems and assisting in the design of more streamlined processes that leverage new business priorities and technologies.
- **Training** – Providing agile development training to business stakeholders.

## Overview:

North American Portability Management was formed for the purpose of engaging in business activities related to the development and implementation of policies for number portability in the United States. NAPM required a portal to assist in their daily management, vendor and member outreach and planning activities, and to facilitate effective communications with outside groups and governmental agencies.

The NAPMLLC portal is the primary means by which the association, which include all major US mobile telecommunications companies, conducts official communications and outreach. It is designed for ease of use, scalability and high-availability, and supports several thousands of concurrent daily transactions.

## Experience:

The principals at SharpEntity were engaged to help facilitate the discussions with internal stakeholders in order to develop initial concepts and to develop the website. We iterated rapidly and used agile methodologies to incorporate ideas from diverse clients spread across the nation. The resulting solution provided a robust platform that is still used to plan and regulate number portability in the United States. Our experience includes:

- **Architecture and Development** – SharpEntity's architectural and development acumen were used to develop a resource efficient and scalable website for NAPM LLC.
- **BPR** – Assisting in developing initial concepts and member outreach plans.
- **Support and Maintenance** – Providing maintenance and assistance as required for ongoing support.
- **Training** – Developing training and end user documentation and providing internet-based training to key stakeholders nationwide.

**Project** SEVIS II – Student Exchange Visitor Information System **Client** DHS/ICE

## Overview:

The Student and Exchange Visitor Information System (SEVIS) is an Internet-based information system for non-immigrant foreign students (F Visa for academic students and M Visa for vocational students), exchange visitors (J Visa), their spouses and dependents (F-2, M-2, and J-2), and the schools and sponsors approved to access SEVIS and host non-immigrants. SEVIS enables schools and sponsors to transmit electronic information and event notifications, via the Internet, to the Department of Homeland Security (DHS) and the Department of State (DoS) throughout a student's or exchange visitor's stay in the United States.

SEVIS II utilized an SOA approach to expose key business processes as consumable services by external clients, and integrate over 12 external services.

## Experience:

SharpEntity provided principal technical and strategic capabilities to the SEVIS II program, including defining the system architecture. SharpEntity provided Technical Delivery Management to a team of 24 developers and architects, and was integral in all technical decisions and strategic initiatives. Our contributions included:

- **Technical and Management Consulting** – SharpEntity authored a comprehensive Development Strategy Document that captured the technical and functional underpinnings of SEVIS II, suggestions to leverage existing code for future SEVIS II development, and best practices for utilizing the ICE Architecture and Engineering branches in enterprise development efforts.
- **Architecture and Development** – Our team successfully led the integration of key components of the ICE runtime environment, including WebSphere Application Server, MQ, DataPower, Informatica, Oracle and FAST.
- **BPR** – Assisting the client team in optimizing processes to streamline the business processes in SEVIS II and facilitate effective information sharing and user experience.
- **Data Modeling** – Overseeing the effort to translate SEVIS II requirements into usable and buildable schemas for the development team.

**Project** ACS, STEP, CTF

**Client** DoS CA/CST

## Overview:

**ACS** - The American Citizens System supports the Department of State (DoS), Bureau of Consular Affairs (CA), Office of Overseas Citizen Services (OCS) in Washington D.C. and approximately 240 overseas posts in the performance of their duties related to providing assistance to American citizens living or traveling abroad. The system is a key line-of-business tool for CA, and is central to the work that consular and embassy officials perform on a day-to-day basis at US posts around the world.

**STEP** - The Smart Traveler Enrollment Program (STEP), is an ASP.NET web application that enables US Citizens traveling abroad and citizens living abroad, to register their foreign trips or residences that US Consular officials can provide them assistance if required. STEP was intended to support large volumes of traffic from individual registrations, group registrations (from travel groups), and interfaces to and from other government systems, including American Citizen Services (ACS), Crisis Task Force Information Management System (CTF), Consular Lookout and Support System (CLASS), and others.

**CTF** - The Consular Task Force Information Management System is an ASP.NET web application that enables consular officials to identify, register, track and evacuate American citizens who happen to be affected by a crisis abroad that requires the evacuation of citizens. The system automatically pulls data from other applications like ACS and STEP, and is the primary tool to assist in evacuations for CA.

## Experience:

SharpEntity provided key Architectural and Development capabilities to the STEP project, and a principal at SharpEntity was the Technical Manager of the STEP development effort. Our services received commendations from the client, and resulted in mission-critical applications delivered on time, and surpassing the technical specifications for workload and uptime. Our contributions included:

- **Architecture** – Management of all technical aspects of the 10-member STEP and CTF teams, including leading the architecture and development efforts.
- **Development** – Developing whole or key parts of all ACS systems. Helped develop a comprehensive technical whitepaper identifying capabilities, interfaces and specifications.
- **BPR and Requirements** – in streamlining the business processes driving the STEP and CTF applications, interfaces and user experience, and provided recommendations to clients on a variety of technical and strategic decisions that affected the design of the system.
- **Data modeling** – Developed the data model for the application, integrating it with the CST schema and building support for various CA interfaces.
- **Training** - Provided hands-on end user training and developed comprehensive technical whitepapers identifying capabilities, interfaces and specification.

## Overview:

The Risk Assessment and Management Program is an application developed for the Federal Protective Services to assist in the creation, management and tracking of Facility Security Assessments that are conducted at over 9,000 sites across the nation for which FPS provides integrated law enforcement and security services. RAMP allows inspectors using portable devices to perform inspections, and provides a comprehensive assessment process that intelligently integrates Risks, Threats and Countermeasures to ensure a full spectrum analysis of possible vulnerabilities, credible threats and applicable countermeasures.

The RAMP application is built upon a service tier developed in J2EE on a WebSphere platform, with a C#/.NET client that uses web services to synchronize data on portable devices with the enterprise data store.

## Experience:

The principals at SharpEntity were integral in designing the initial concept for RAMP, and are the primary architects of the future version of RAMP, designed to support various other federal clients and scenarios. We developed prototypes in Ruby on Rails and iOS to demonstrate prototypes of new ideas and business processes and the feasibility of developing versions of RAMP for mobile devices. Our experience includes:

- **Architecture** – SharpEntity provided key architectural and design leadership to help realize the initial concept for RAMP, taking it from multi-media presentations to workable prototypes. Leveraging our experience with the DHS/ICE runtime environment and the key stakeholders involved, SharpEntity provided guidance on best practices and methodologies.
- **Technical Delivery Manager** – A principal at SharpEntity led the technical team evaluating the feasibility of a generalized version of RAMP for other federal clients in highly mobile and disconnected environments. Our design recommendations were used to kick off a project to develop the application.
- **BPR and Technical SME** – Assisting the client team in optimizing processes to streamline the business processes in RAMP and facilitate effective information sharing and user experience.
- **Data Modeling** – Guiding the effort to translate RAMP requirements into buildable schemas for the development team.



### Overview:

The Installation Status Report is a suite of four applications - The Infrastructure, Environment and Services data entry modules and a Command Viewer browser for business intelligence and reporting capabilities - that provide the US Army with a single, integrated manner to track the quality, quantity, availability and status of the assets and services provided. Initially launched as a client/server application, ISR was ported to the web and the reports generated are propagated up to the Joint Chiefs for regular reviews and status briefings.

### Experience:

In a 6-year affiliation with the program, SharpEntity was key to the successful delivery of multiple iterations of the ISR application, from the conversion of a 16-bit Visual Basic 4 application to a 32-bit Visual Basic 5 application, and then the migration to the web using ASP.NET Beta 1. Throughout the process, SharpEntity provided architectural, design and technical leadership that enabled the repeated successful deliveries of ISR, resulting in numerous commendations for superior work. Our contributions included:

- **Architecture** – Provided key architectural and design leadership during multiple iterations of the ISR suite.
- **Development** – Led the technical team delivering the Environment, Services and Command Viewer modules of ISR after a comprehensive re-write to optimize for high-volume transactions. SharpEntity conducted a technical evaluation that compared various web technologies and their applicability given project and technical constraints, and the resulting recommendation report led the program to migrate to ASP.NET when it was in Beta 1, as part of Microsoft's First Wave program of federal IT systems migrating to the .NET Framework.
- **BPR** – Assisted the client team in optimizing processes to streamline the business processes in ISR and facilitate effective information sharing and user experience.
- **Data Modeling** – Translated ISR requirements into buildable schemas for the development team.