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A. INTRODUCTION

Implementing and operating a national back office clearing house for interoperability requires a world class company with a culture of innovation and creative team. Nobody is more qualified to move the ATI Hub project forward successfully than SIF. The combination of operating expertise in Egis Projects LLC and technological prowess of CS ITS America makes it possible to accelerate Hub adoption and reduce launch time and run costs for agencies. SIF is excited at the opportunity of continuing to work with ATI to move toward nationwide interoperability. We have proposed an approach that moves from the success of the Pilot to a fully working Hub, and positions ATI to interest other agencies to participate, enabling all Hub members to benefit more.

Pilot Participation

Our participation in the Interoperability Network Pilot Program (INPP) verified our historical claim of having a flexible yet powerful set of software that can manage account and tolling data, in a variety of formats. We met the aggressive timeframes of the Pilot, and were able to begin processing transactions during the first day of operation. As we move forward in the Hub operation phase of the project, we are more confident than ever about our ability to work with new participating agencies and quickly, and easily, integrate them into Hub operations.

Our operation of the INPP was consistent with our standards of managing high-performance tolling systems. Various monitoring tools and controls were in place to identify any production problems and initiate immediate remedial actions. However the Hub operations require more to guarantee nearly 100% up time, even in the event of destructive weather. Within our proposal, we add a disaster recovery capability to our technical architecture which supported the Pilot. This capability includes the required virtualization and replication required to begin operations, should our production environment become unusable.

The strong cooperation between internal staff and agency personnel during INPP has demonstrated the high degree of technical vitality in both parties. SIF demonstrated the ability to maintain the same high performance levels afforded to our back-office customers. Agency personnel also were timely in performing their role, enabling us, after the start-up period, to achieve close to 100% processing success of files received on a daily basis. To ensure we maintain this high rate of success, our proposal includes many features to ensure availability and scalability as more agencies join the Hub. Specifically we propose the following technical features:

- Service-Oriented Architecture (SOA)
- Asynchronous communications and messaging middleware
- Multi-threading and multi-core (parallelism)
- Encapsulating logic in workflows
- Partitioning database tables
One significant outcome of our Pilot participation is the accumulation of a wealth of data about processing out-of-state toll transactions. We have analyzed the data acquired through the INPP, and understand the potential benefits of establishing the Hub. We have taken our hit rates and have extrapolated them within a model to an environment of a few dozen agencies. This analysis shows that the small percentages found in the INPP grow considerably to more than single digits as new participating agencies are added. While impressive itself, this growth does not even consider the intangible effect of improving violator processing through improved OCR rates, increased DMV look-ups and more effective enforcement strategies such as interstate registration renewal denial reciprocity.

One challenge not addressed in the INPP was the financial reporting and reconciliation. This is the key area, where our Hub proposal differs from the INPP hub operation. Throughout our set of worldwide clients, we have learned and perfected the delivery of key financial information. We appreciate that even small sums must be accounted for, and all monies reconciled at the 100% level. SIF is fortunate to be able to assemble a team, that can take the complexities of this inter-agency transactions and create useable financial reports to ensure proper accounts for fund flowing among the agencies. Our financial reporting approach focuses on:

- Well-defined Financial General Ledger and Transaction Code Definition
- Effective Financial Posting
- Financial Summarization of key reconciliation activities
B. GROWING THE PARTICIPATION AND SERVICES OF THE HUB

A responsibility of the selected Hub operator is to assist in promoting the Hub to new agencies. Our recognition of these Hub benefits will be communicated to potential agencies through a series of communication methods. We propose a set of marketing activities within our additional services section to attract agencies to consider Hub participation. This program is an ambitious program to provide information on potential benefits and assure candidate agencies of the low risk for participants.

SIF’s primary mission in helping expand the Hub is to use our collective experience in tolling operations and technologies to continuously make innovations in the core Hub and add services that specifically foster national interoperability. In the next phase, we will deliver a platform that supports ATI’s strategic initiatives and important national interoperability initiatives. We will also proactively contribute to advancement of the Hub through industry workgroups and initiatives with the IBTTA, OmniAir, E-ZPass Group and other industry bodies.

Moving the Hub forward is more important than ever, given the recent events towards establishing nationwide electronic tolling interoperability. The U.S. Senate and House of Representatives are both working on legislation to establish national interoperability. In June 2012, a Congressional authorization bill, called the Moving Ahead for Progress in the 21st Century (MAP-21) set forth a four-year deadline for U.S. toll authorities to make their operations interoperable. This MAP-21 deadline will accelerate the need for the ATI Hub and back office functionality for processing out-of-state transactions.

Federal mandates are not the only driving force to national interoperability. There are economic incentives too. The shift to free-flow systems, both ORT and AET, is completely changing the way toll collection systems are implemented and operated. The agent of change – going cashless to reduce operational costs – is not possible without a back office clearing house for out-of-state traffic. States interested migrations to ORT and AET are sitting on the fence until violation enforcement reciprocity legislation is worked out.

Other developments that SIF is following to further progress the Hub and value added services related to national interoperability include:

- The E-ZPass Group National Affiliate Membership Program
- Multi-protocol readers for device interoperability
- OmniAir Electronic Payment Services National Interoperability Specification (EPSNIS)
- NCTA multi-protocol tags and readers to make North Carolina interoperable with E-ZPass and SunPass
- Reciprocity agreements for Violation Processing (Maine, Massachusetts and New Hampshire)

Realizing the ATI vision for national interoperability requires a Hub framework to support the notion of using 6C open standard tags as a device for national interoperability and strengthen the violation enforcement process. The E-ZPass Group recent Affiliate Membership program is the first step towards making this a reality. Tolling the interstates is also becoming reality with the I-95 Corridor Coalition. SIF is on track for providing a Hub back office model to support all these initiatives.
C. SIF’S POSITION IN THE INDUSTRY

SIF understands the need for interoperability between systems on an international, national, regional and corridor basis. We provide interoperability solutions for all the major schemes worldwide, including the European Electronic Toll Service (EETS), Information Exchange Agent (IEA) in Ireland, National Registry of Tag Users (RNUT) interface in Chile, E-ZPass Group and California Toll Operators Committee (CTOC).

In addition to these references, CS ITS America is currently working on implementing the first regional interoperable hub in Canada to support the recent opening of the new Port Mann Bridge in Vancouver, British Columbia, the widest bridge in the world. One of the many major breakthroughs of the new system is support for multiple tag technologies - at opening, the system detects ISO 6C, Title 21, and ASTMv6 tags for device interoperability between the Port Mann Bridge and the Golden Ears Bridge. The sanef group and Egis formed Trans Canada Free Flow Tolling, Inc. (TC Flow) to operate the facility.

Our Toll Service Provider partner in Europe, EuroToll provides multinational interoperability for commercial accounts across national boundaries. SIF can bring this fleet management experience into future Hub functionality and services. Eurotoll is the first actor of trans European interoperability and offers tolling services for tag distribution, consolidated billing for fleets, and customer relationship management (CRM). The Eurotoll business model validates interoperability philosophies about open market competition and development of value added services.

Another new project reference is our recent ORT system deployment in Rhode Island, which has provided us with new insight into the necessary business rules needed for processing out-of-state transactions and the impact of plate typing within the scheme of the E-ZPass interoperability network.
D. SIF QUALIFICATIONS

Secure Interagency Flow LLC (SIF) is an American company registered to do business in North Carolina and owned equally by two experienced toll business companies, CS-ITS America, Inc. a member of sanef group and Egis Projects LLC.

![Figure 1: SIF Consortium Structure](image)

D.1. CS-ITS AMERICA, INC.

Headquartered in New York, CS-ITS America is the US-based subsidiary of sanef its technologies, a leading Intelligent Transportation Systems (ITS) and Electronic Tolling System (ETS) integrator. For over three decades, CS-ITS America Inc. (a member of sanef group) has been a leader in the design, installation and maintenance of sophisticated Electronic Toll Collection (ETC) and All Electronic Toll (AET) systems in the North American market. In the last ten years, they have implemented thousands of toll lanes.

Sanef its technologies is a world leader in design integration and operation of mission critical systems. Headquartered in Le Plessis-Robinson on the outskirts of Paris, sanef its technologies maintains leadership in the area of turnkey systems integration, specifically AET tolling systems; and has successfully positioned itself as a key player in the implementation of Intelligent Transportation Systems, offering global solutions from roadside equipment to back-office systems.

Drawing upon sanef group’s expertise and resources that purchased the company in early October 2012, sanef its technologies becomes the unique company able to address all types of tolling systems within its strategic areas. As part of the sanef group, sanef its technologies benefits from all the necessary resources to address the current Truck Tolling, Urban Tolling, and Infrastructure Tolling projects, whatever the project dimension.
D.2. EGIS PROJECTS LLC

Egis Projects LLC is a fully owned subsidiary of Egis Projects.

Egis Projects has unrivalled experience in all types of road operations. Headquartered on the outskirts of Paris, Egis Projects operates more than 1100 miles of roads and has in excess of 1.2 million registered customers for ETC services. In addition to responding to international tenders, Egis Projects develops in-house independent front and back office transponder management services under the Easytrip banner (Easytrip Services is already operational in Ireland and the Philippines, and more markets are being explored). Since 1993, they have completed 22 projects for a total value of $17 billion. Projects include PPP, BOT and concessions; motorways, bridges, tunnels and urban infrastructure; and real toll, shadow toll and availability schemes.

Egis Projects’ strategic developments for ‘Road Driver Services’ focus on core business activities of AET and ETC Interoperability, road safety video-based enforcement, national Heavy Goods Vehicles (HGV) tolling, Urban Tolling (for example, low emission zone, congestion charge), and Traffic Demand Management. Key business references in this sector include the Information Exchange Agent project and Easytrip Services in Ireland for ETC interoperability; the Port Man Bridge and the Golden Ears Bridge (GEB) AET system in Vancouver, British Columbia; and Mobile speed enforcement services in Ireland.

D.3. SIF MORE RECENT ACTIVITY

Our latest tolling projects were successfully implemented in Rhode Island for the Rhode Island Turnpike and Bridge Authority (RITBA) and the Port Mann Bridge in Vancouver.
Sanef its technologies installed Open Road Tolling (ORT) on the Pell Bridge connecting Jamestown and Newport, Rhode Island. This fast track project took only two months to implement from planning to lane opening. The effort included constructing the Sanef its technologies gantry with attached lasers and cameras, as well as interfacing with the existing RITBA field system. CS-ITS America, Inc. was able to leverage its experience in similar projects throughout the U.S. and its worldwide clients. The project continues RITBA’s use of the E-ZPASS system, while introducing new system features like license plate image review vital to ORT implementations.

On December 8th 2012 the tolling officially started at the new Port Mann Bridge in Vancouver, British Columbia. This new system is the largest free flow tolling system in the world, with 12 lanes and traffic in excess of 120,000 vehicles per day. The state-of-the-art all-electronic tolling (AET) system utilizes the sanef its technologies FastFlow product line, including FastFlow gantry, FastToll ERP for the back office and FastToll Interop for interoperability.

Implementation was managed by The Transportation Investment Corporation (TI Corp), a public crown company established by the Province of British Columbia in 2008. The sanef group and Egis formed Trans Canada Free Flow Tolling, Inc. (TC Flow) to operate the facility.

A large number of project descriptions for SIF can be found in the appendix of the proposal.
D.4. SIF PROJECT TEAM

Secure Interagency Flow LLC’s is fortunate to be able to continue to service ATI with a set of experienced individuals who have worked on the INPP and similar projects. These individuals are prepared for the opportunity presented by the Hub phase both in attracting and setting up new participating agencies; and providing an accurate and dependable Hub production environment. All of these individuals have been involved in ETC systems with significant interoperability functionality.

The following organizational chart depicts our team members and reporting relationships:

The figure shows a flowchart with the following key points:
- **Executives**
  - Laurie Baird, Deputy CEO, CS America
  - Rosa Rountree, CEO, Egis Projects Canada

- **Secure Interagency Flow LLC**
  - Operation Manager: M. Gonzales
  - Deputy Operation Manager: C. Lorand

- **CS ITS America, Inc.**
  - Contract Manager: C. Lorand
  - Technical System Manager: J-E. Birdy
  - Technical Team (Technical Software Manager, IT & Telecom Manager, Quality Assurance Manager)

- **Egis Projects LLC**
  - Operation Manager: M. Gonzales
  - Operation Implementation Manager: B. Fernand
  - Operational Team (Finance Manager, Quality Assurance Manager)

**Figure 2: Project Team Organization**
Our team is led by Ms. Marisol Gonzales. Ms. Gonzales specializes in quality control for tolling operations through business process audits, operations audits, and transaction audits. She also is skilled at developing strategic business and operations plans, which will be vital to adding additional agencies. The Operation Manager is the designated individual responsible for resources, planning, scheduling, budgeting, authorizing work, evaluating performance for all phases of the project, and directs the day-to-day operations of the project team. She has full authority to approve all expenditures within the limit of the approved project budget.

Assisting (Operation Manager) will be Mr. Cyril Lorand. He served as the Project Director for the INPP, and was instrumental in ensuring the appropriate resources were brought to bear. With more than twenty years of experience within CS ITS America corporate structure Cyril has been involved in numerous projects around the world, in contract and financial management as Project Director. Mr. Lorand’s role will be to monitor the team to ensure the Hub has availability, is serving its customers through effective reporting, and ensuring that efforts are made to expand to new participating agencies and provide additional services. Mr. Lorand’s background in nationwide interoperability systems will enable him to focus on the key issues involved in the Hub’s operation and extension.

Mr. Jean-Eudes Birgy was also a member of the INPP team, guaranteeing the performance of the Hub software and working with agencies to establish appropriate communication and interface procedures. Mr. Birgy’s managerial, business and technical expertise give him the variety of skills necessary to perform the task of integrating a participating agencies’ data with the Hub operation. He is a driven, versatile technical professional with over 5 years of experience managing delivery within the transportation sector. He has a proven track record that demonstrates his ability to manage and provide engineering support for multiple projects concurrently. In addition to excelling at the design, configuration, monitoring, and tuning of complex Toll Collection Systems, Mr. Birgy delivers tactful, focused technical presentations to customers at all levels of management. This will be a critical success factor in encouraging agencies to participate in the ATI Hub effort.

Mr. Paul Leghart will serve in the Software Architect role and will be, with his team of skilled engineers, the primary technical interface for the new participating agencies. Mr. Leghart has an industry-proven track record of over ten years in managing the implementation of Tolling Systems for a diverse group of customers. He is involved throughout all phases of a project, focusing on the entire system development life cycle. His oversight spans from conceptual design of the system and requirement analysis through system testing, and is well-suited to working with potential participating agencies. With his experience in leading development teams to build and integrate state-of-the-art revenue collection systems, the Hub will be poised to serve additional agencies and provide new features.

Mr. Bruno Fernand will be the key manager in the implementation of operational efforts, particularly in the finance and reporting area. He will lead the work to ensure that the set of Hub financial reports meet the requirements of ATI and the participating agencies. Mr. Fernand is extremely knowledgeable about financial issues concerning interoperability systems having worked on Ireland’s nationwide interoperability project (IEA) and is a key player in the European Electronic Toll Service (EETS) Directive on European toll interoperability applications.

Assisting the team in general are two executives with a national view of interoperability, current trends and new initiatives from a business and government perspective. Ms. Laurie Baird, Deputy CEO of CS ITS America, and Ms. Rosa Rountree, CEO of EGIS Canada will help the team continue to achieve the goals of ATI and nationwide interoperability.