Smart Card Alliance
Transportation Council
Project Number 1
UTFS WP4-Plus Draft Workplan
Scope Description

1) Project Description

Create a draft work plan for a subsystem interface specification for transit fare payment systems.

2) Project Objectives and Goals

The American Public Transportation Association (APTA) Universal Farecard Standards Program (UTFS) program must develop a work plan to cover a subsystem interface deliverable. This work plan will entail a detailed scope for the specification, a schedule with milestones, and a work breakdown structure, among other elements of a complete project plan. The Smart Card Alliance (SCA) membership has extensive smart card experience including systems integration experts that could be very beneficial to this specific UTFS effort. This project will entail developing a draft work plan in tandem with any volunteers from the UTFS program.

3) Background

The American Public Transportation Association (APTA) Universal Farecard Standards Program (UTFS) has been developing standards for smart card fare payment systems since Spring 2002. The overarching goals and objectives of the UTFS program are to develop specifications and guidelines to allow regional and inter-regional interoperability of transit fare payment systems, to achieve a maximum level of vendor independence, to foster competition in the marketplace and aggregate the power of the transit agencies to achieve more cost-effective and open procurements, and to embrace legacy solutions to the maximum extent possible. A key element of the UTFS program is the development of specifications that contain no royalty-based intellectual property (IP). This IP issue has been ongoing for two years and given recent program developments appears to be approaching resolution.

The UTFS program is a consensus-driven program that includes participants from public and private sectors of the transportation industry. The specifications currently in development include a smart card specification, a “back-end” system data specification, and a system to clearing house data specification.

a) APTA UTFS Needs Analysis

In the last 6-8 months, the program technical scope issue has become entwined in the resolution of the royalty-free IP program. Specifically, the vendor community has argued that the desire to create a reader specification would entail vastly more than simply smart card transactions. In recent meetings a compromise approach has been developed to meet the desires to achieve end-to-end interoperability in transportation revenue systems as well as more open and competitive procurements (the royalty-free

IP requirement for specifications). The compromise is to develop a specification to link subsystems in a transportation fare payment system. See Figure 1 for an architectural representation of the UTFS specifications.

A Working Group has been outlined to develop this specification, nominally the "Work Package 4 Plus" or WP4+ (the program has a "Work Package 4" that is developing revenue system functional requirements and a system to clearing house data specification). It is in this area that the transportation council can provide assistance.

The WP4+ specification will provide transit agencies with an open architecture specification that will allow them to competitively procure fare payment subsystems. A subsystem is defined as a major set of components such as a rail line extension or a new light rail service, or a group of major components such as TVMs or fareboxes. The WP4+ specification will cover all necessary software and hardware (a "subsystem controller") to allow the subsystem to be integrated to the legacy fare payment system.

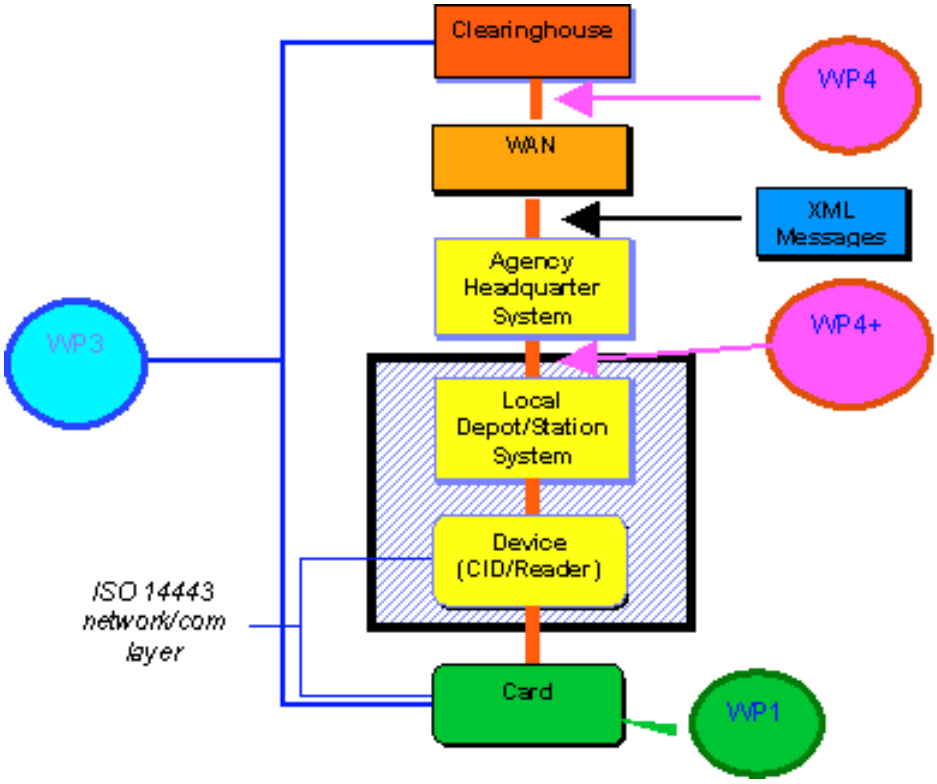

Figure 1

Definitions:

WP1- Working group developing a smart card specification

WP3- Working group developing a system security guideline

WP4- Working group developing an interface specification between the payment system and a clearinghouse

WP4+- Proposed working group to develop a subsystem interface specification (defining all hardware and software) to integrate newly procured subsystems from an independent vendor with legacy payment system**Project Audience**

The audience/customer and prospective sponsors for this project will most directly be APTA and the leaders and members of the UTFS program. Other beneficiaries include the entire North American transit industry (the prime membership of APTA), other transportation modes (parking, tolling, etc.), the SCA, and the financial industry.

5) Project Scope

a) In-scope

By developing a draft work plan for the WP4+ working group, the Transportation Council will help guide the eventual members of the working group to develop their final work plan and provide a fresh perspective from experts outside the normal participants of the UTFS program. Additionally, the transit industry vendor community inherently has biases toward specific system designs. By having a draft work plan from the larger perspective of the Transportation Council, the UTFS team is better positioned to develop a cohesive and integrated plan.

A key element of the deliverable will be to develop a suggested technical scope for the WP4+ specification. A bulleted list of technical requirements that must be addressed is an example of the detail desired in the draft work plan. Finally, the Transportation Council members can call on their system integration and design knowledge to arrive at an estimate of workforce requirements, necessary skill sets to accomplish the work, and a suggestion of source documents that may be used by the working group as potential baseline documents.

b) Out-of-scope

The Transportation Council is not being asked to organize or lead the UTFS development effort. Additionally this project does not entail the actual creation of the UTFS specification being examined.

6) Project Deliverable

The project deliverable will be a draft work plan for UTFS Work Package 4 Plus. This deliverable will include a technical scope, schedule, key milestones and decision points, workforce requirements, and potential source documents. The deliverable shall also include key interface points within the process of developing the WP4+ standard that includes where key organizations might best support the effort, description of relevant technologies, and interrelationships between task activities, i.e., what precedence there may be in completing project activities. This deliverable can essentially be considered a white paper, although it will have a direct application immediately in the APTA UTFS program.

7) Estimated Timeframe

The deliverable will be completed three months from the project start date.

8) Estimated Budget

The budget for this project is nominal and includes only teleconference costs. The estimated budget is $500.

9) Project Staffing

SCA members to be considered for recruitment for this project include all system integrators, transaction processors, consultants, and chip architects. Non-members to be recruited include APTA UTFS members such as transit system integrators and consultants.

10) Project Risk

The risks associated with the project are minimal however SCA members may need to become more familiar with the consensus driven environment present within the APTA UTFS program. Such an environment may make decision making more difficult and less direct. This risk has an effect on schedule.

Also, UTFS members may need to become more integrated with the terminology and technologies used by the bankcard and credentialing industries. This risk has an effect on team coordination, communication and schedule.

Must recruit SCA members with the appropriate skill sets to complete this project

11) Potential Project Benefits

Benefits of the project are:

a) APTA will receive a draft work plan for their UTFS program WP4+ deliverable. This can potentially save them several months in developing the technical scope for the specification and help develop a more integrated plan

b) Transit operators will benefit from the WP4+ specification as a key element in end-to-end interoperability of smart card payment systems

c) Other transportation modes (parking, tolling, etc.) will also benefit from an interoperable transit payment system as a potential partner in a multi-application environment

d) The financial community can see benefit of an enhanced ability to partner with the transportation industry. This is also a unique opportunity to learn the barriers to interoperability in transportation and the elements of transportation's business case for smart cards

e) Vendors will see the benefit of developing a more open marketplace in transportation as well as aggregating the marketplace for smart cards and payment applications across industries