Travel Syndication Technology Enhancement of Integration between Business Engine and Supplier Integration Services Platform

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Abstract

The strategic purpose of this project is to create a sustainable retail business model in the travel industry, providing clubs with control over price, product & margins. To meet this goal, this group endeavor s to build a "Syndication Hub" which would be the central point of communication between agents, members, and other AAA/CAA departments, as well as the various systems utilized to provide travel services and report information. Utilizing this hub, the TST expects to be able to provide unique value to its customers by providing a vast array of travel products and services, while also realizing greater efficiencies than the current architecture provides. The TST Syndication Hub will be designed in a phased approach, based on priorities established by the TST Working Group and business needs. The core objective at this time is to address. It is understood by all parties that this list of requirements is subject to change based upon further investigation of feasibility as well as change in business need. Any changes requested however will follow a standard change control process to ensure traceability and accountability.

Keyword: TST,BE,SISP Adapter

1. INTRODUCTION

The TST Syndication Hub will be the central point of communication between agents, members, and other departments, as well as the various systems utilized to provide travel services and report information. Utilizing the TST. Syndication hub, the members of the Travel Syndication Technology Group expect to be able to provide unique value to their customers by

providing a vast array of travel products and services, while also realizing greater efficiencies than the current architecture provides Current design for search process flow between presentation layer, BE and SISP is very tightly coupled. This mandates all the communications between BE and SISP is through JMS only. Also, some of the services that are not necessary to be invoked during the detail search flow are being invoked, causing a performance overhead. Since the application is already working with the current constraints, it will be good learning and challenging experience for the resource to know not only new technology, but also the best and optimal way to utilize the technology to make the application more reusable, reliable, stable and performance. The scope of this assignment is to plan, design, implement and unit test new search process flow between the UI, BE and SISP that meets the following criteria Loosely coupled and configurable process flow Easy to introduce new communication protocols Testable at every layer without the dependency of other module

2. RELATED WORKS ON TST HUB APPLICATIONS:

.Auto logout is the user exits the site without logging out.
.

Utilize Dashboard Functionality

The system must utilize dashboard functionality and allow for the customization of the dashboard By the customer.

Priority: High
Users: System
Business Rules:

There should not be any Club restrictions on the number of default dashboards that may be created.
Comments:

1. For more information on administration of the dashboard, modules and resources, see section *Dashboard Administration*.

2. It is important to provide customers with the ability to create a custom dashboard. The look and feel, however, may or may not resemble the current AgentUI.

Issues:

1. It remains to be determined whether there will be a standard dashboard look and feel to be used by all clubs or whether each club will maintain the look and feel of their home site to better align the travel section with the other sections of the home site.

Ability to Customize Dashboard

The user must be able to customize the Dashboard by adding, deleting or moving modules by selecting one from the list and then "dragging" the module to the desired location on the Dashboard. The Dashboard has been defined as the Travel webpage where the user can access all information necessary to research and make travel plans.

The Dashboard may contain the following modules or sections:

1. General Profile
2. Personae
3. Wish Lists
4. Current Bundles
5. Current Campaigns
6. Social Network Site
7. Click to Chat to Agent
8. Area with club generated information related to customer

Priority: High
Users: Customer/Agent
Business Rules:
Comments:

1. Customer must be able to get a default Dashboard and Theme at first login
2. At this time, there is a basic Agent Dashboard in development but there is no Customer Dashboard.

3. SYSTEM ARCHITECTURE AND IMPLEMENTATION

1 Architecture Overview

The TST Syndication Hub will be the central point of communication between agents, members, and other AAA/CAA departments, as well as the various systems utilized to provide travel services and report information. Utilizing the TST Syndication hub, the members of the Travel Syndication Technology Group expect to be able to provide unique value to their customers by providing a vast array of travel products and services, while also realizing greater efficiencies than the current architecture provides.

Figure 1: illustrates the system architecture of the TST Syndication Hub, which consists of:
• Multiple Business Engines
• Separate user interfaces for the club customers and club employees
• A shared Supplier Integration Services Platform
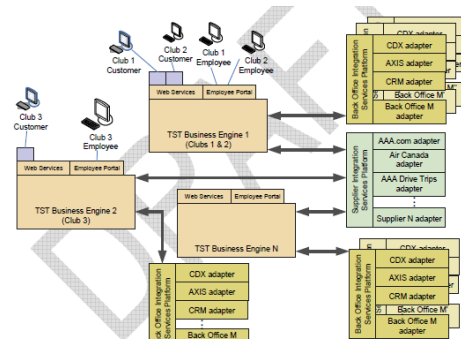• One or more Back Office Integration Services Platform instance per Business Engine

Figure 1 TST Syndication Hub Architecture

3.1 TST Syndication Hub Business Engine

Figure 3 shows in greater detail the components of the TST Syndication Hub Business Engine:
• A Domain Model – implements business logic
• A System Services layer
• Abstraction layers for Supplier and Back-Office systems
• An Object Persistence layer and Relational Database
• Separate UIs for customers and club employees

The various subsystems of the Business Engine component will be addressed in the following sections.

3.2 System Services Layer

The System Service Layer provides general purpose services to the rest of the application. None of the System Services are travel-specific. The System Service components are:
• Authorization Engine – uses a Role-Based Access Control (RBAC) model to control
Users' access to system functionality

• Authentication Services – assures that a user is who he/she claims to be
• Business Rules Engine – allows business rules to be defined and executed efficiently and flexibly
• Data Migration Manager – supports execution of data migration scripts, for example, to migrate traveler history data from some other club database into the hub's database
• Workflow Orchestration – allows multi-step and/or multi actor business processes to be defined and executed
• Notification Engine – allows users to receive notifications by e-mail, pager, etc.
Some of these components are illustrated in greater detail in the sections that follow.

Possible examples of modules are an RSS feed displayer, a travel search module, a weather report module, a "deals of the day" module, etc.
A user will be able to modify his or her dashboard by:
1. Adding a tab to it
2. Removing a tab from it
3. Adding a module to a tab
4. Removing a module from a tab
5. Rearranging modules' placements on a tab
6. Changing parameters of a module on a tab (for example, an RSS reader module could be modified to change the RSS feed that is being displayed) A user will be able to create a new tab from scratch. In addition, multiple default tabs will be defined by the system. A default tab can be associated with a user role. When a user logs in to the system for the first time, the system will compose a default dashboard for him that contains all of the tabs that are default tabs for any of the user's roles. The user can then modify the dashboard as described above or use it as-is. At any time the user will be able to "return to default dashboard", at which time the system will compose a new default dashboard for him.

3.3 Database and Object Persistence
The Business Engine will utilize a relational database management system (RDBMS) to persist data. The following sections illustrate and describe the logical database schemas at a high level. These schemas are a logical representation of the data that will be persisted by the TST Syndication Hub; the actual storage representation will be finalized during the detailed design phase and may be somewhat different in structure from what is shown in the logical models. Note that these schemas were

designed to meet the persistence and reporting needs of the TST Syndication Hub, but the structure of the schemas was driven by the Hub's persistence needs. Where needed, database views will be created for reporting purposes.
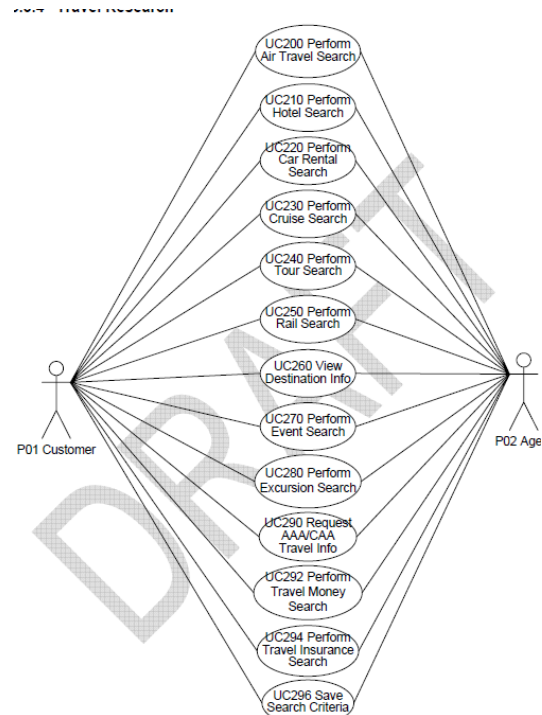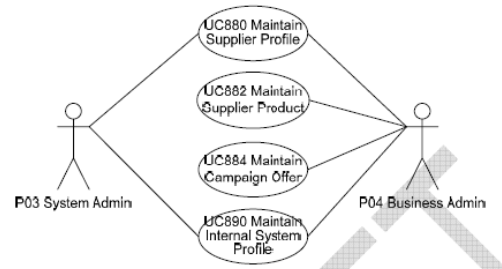

Figure2: Travel Research

Figure3: Travel Search Admin

3.4. Search Process

3.4.1 Search Assembly and Result Processing

To perform a travel search, the user will select a set of search options and specify values for a set of search parameters from the UI, and will then

submit the parameters and options to the system in a search request. The Shopping Manager will then build the appropriate OTA request messages to specify the search. This section describes how the User Interface and Search Manager will work together to specify a search.

Search assembly will be driven by metadata that specifies the search options and parameters, describes the allowable values for each parameter, identifies which parameters are optional and which are required, and maps each option and parameter to the appropriate OTA request message field. Similarly, search result processing will be metadata driven. **Error! Reference source not found.** is a class diagram showing the relevant classes for search assembly and results processing.
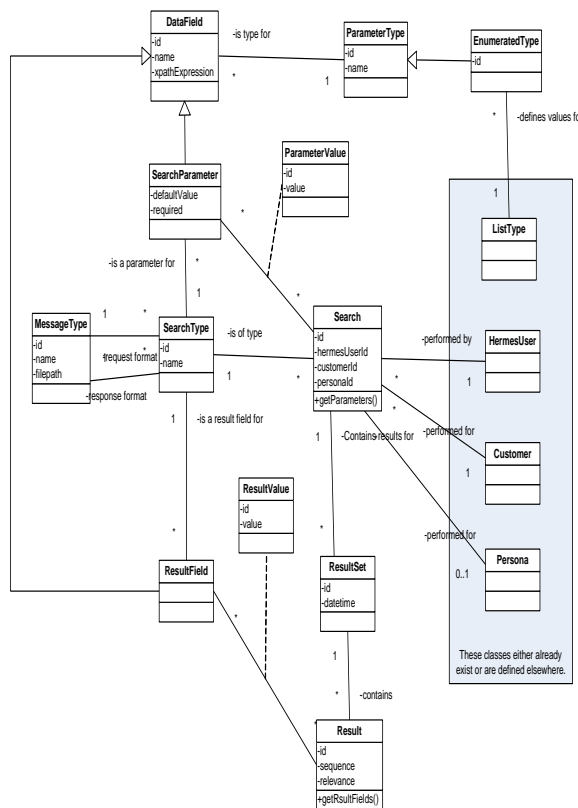

Figure4: Sequence Diagram of Search case

Note that the four classes shown in the blue box are either already existing from increment 1 or are defined elsewhere in this document.

4. Conclusion

Corporate Goals
Identified corporate goals include:

• Increase **revenue** through increased **sale** of Travel Services**,** including cross and up sales, and increase in **memberships**.

• Reduce operational **costs** through increased **efficiency** and **productivity**.
  ➢ by a reduction in required training and an increase in staff retention
  ➢ by providing customizable desktops
  ➢ by providing a best-in-breed offline agent user interface
  ➢ by streamlining workflows with consolidated communications to ATI, AAA
  ➢ National, and other current product sources
  ➢ by becoming GDS Independent

• Improve **customer satisfaction** and **loyalty.**
  ➢ by consistently delivering a **superior** customer experience across all distribution channels
  ➢ By capitalizing on "Moments of Truth" or customer interaction points where TST has the opportunity to deliver true value to its customers become the **primary source** for customers to research and book all travel needs.
  ➢ by providing a unique and valuable customer experience
  ➢ by providing best-in-breed online customer user interface
  ➢ by providing Predictive Selling and Decision Support, based upon customer travel experience
  ➢ by providing tips, advice, information and resources related to travel, integrated into the shopping/booking process
  ➢ by leveraging AAA National and ATI capabilities and providing more product and content at the desktop

• Establish a platform to launch **new revenue opportunities.**
  ➢ by developing a sophisticated, state-of-the-art online travel hub Software Requirements Specification AAA/CAA TST Syndication Hub Release 1.0
  ➢ by providing import/export capability

> ➤ by providing a single business rules-driven operations platform for online and offline (agents, members)
> ➤ by providing control over pricing, margins, products, and suppliers
> ➤ by providing a basis for the TST clubs to leverage the current and future Business Architecture to identify and seize more opportunities to gain and keep their most valuable assets

• Provide better **business intelligence** to understand the business and to make better
> ➤ Business and financial decisions.
> ➤ by developing a robust, easily accessible reporting system
> ➤ by capturing booking data from a single source for enhanced reporting and CRM
> ➤ by enabling multiple agencies to access and manage customer information,
> ➤ travel information, payment and reporting within a single system

• Develop a better relationship with Suppliers and Vendors.
> ➤ by providing a smoother working relationship with suppliers throughout the process from booking to settlement by increasing support of partnerships through rules-driven supplier preferencing

Future Enhancement:

Providing a better technology between the Business Engine and Supplier Integration Services Platform.

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