

Straight Through Payment (STP) Processing

Functional System Design (FSD)

SAO Analytics

Salesforce

Commercial Card Service Bus (CCSB/TMX)

Status: **Draft**

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**Project ID #**: [CREST, Planview, Business ID #]

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**Document Purpose**

A Functional System Design (FSD) describes how an application will be built or changed, including any up-and down-stream touch points to the application.

**Approvals**

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**Version History**

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| **Version #** | **Revision Date** | **Revised By** | **Change Descriptions** |
| V1.00 | 09/20/2017 | Babu Durairaj | First draft created |
| V1.10 | 09/29/2017 | Ahamed Abdullah | 1. Included the Vendor Match Process changes to determine and store STP Acceptor Flag. 2. SAO Targeted report changes to include STP Flag column 3. Added information about exposing supplier data to TMX service 4. Included file change required for APC transaction file received from CCER 5. Listed out the reports and database objects to modified to include STP |
| V1.20 | 10/10/2017 | Suman Jayabalan | Added CCSB impact |
| V1.30 | 10/20/2017 | Viswanathan Sivaramakrishnan | Added Salesforce Impact |
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**Version History – Post Approval**

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| **Version #** | **CC#** | **Revision Date** | **Revised By** | **Change Descriptions** |
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**Glossary of Terms**

The following terms and acronyms within may be unfamiliar to readers of this document.

|  |  |
| --- | --- |
| **Term/Acronym** | **Definition** |
| FSD | Functional Specification Document |
| SAO | Supplier Analysis and Onboarding |
| AP Control (APC) | CCER Function/Module that allows for the preauthorization of a purchase and a generation of a CAN |
| GUI | Graphic User Interface |
| AM | Account Manager |
| User Role | Role assigned to the user of the system depending on the desired access type (admin, AM, sales, manager) |
| AM Role | Role assigned to account managers |
| Manager Role | Role assigned to management users |
| Admin Role | Role assigned to administrative users |
| Sales Role | Role Assigned to members of the SAO Team |
| Record | Line item of all information related to a singular supplier |
| Workflow | Steps taken by a Sales user during the process of enrolling a single supplier |
| AeS | Assure eServices – Company where IT development is outsourced to |
| Rollout | Predetermined subset of supplier records that will be targeted together |
| Profile | An indicator that is assigned to each combination of a set of supplier characteristics (average ticket, acceptor type, MCC bucket, terms) |
| MCC | Merchant Category Code |
| SSIS | SQL Server Integration Services |
| SSRS | SQL Server Reporting Services |
| CCER | Commercial Card Reporting System |
| SFDC | SalesForce.Com |
| APC Suppliers | AP Controlled Suppliers |
| BRD | Business Requirements Definition |
| CRM | Customer Relationship Management |
| Validation | Validation of supplier record prior to outreach for enrollment |
| CCDMS | Commercial Card Data Management System |
| CCAT | Commercial Card Access Tool |
| D&B | Dunn and Bradstreet |
| STP | Straight through Processing |
| TMX | Treasury & Merchant X – Channel |
| CAN | Control Account Number |
| MAN | Master Account Number |

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1. **Overview**

CCER AP Control currently supports supplier initiated payments by sending one time use cards to trading partners (aka payees/merchants) requiring the recipient to submit the transaction over the Visa or MasterCard network for authorization. The aim of this project is to enhance CCER AP Control to allow customers to submit buyer initiated payments to Visa or MasterCard for authorization on behalf of their trading partners – also known as buyer initiated payments (BIP) or straight through payment processing (STP).

This project will embed a buyer-initiated payment process into the existing CCER application that will strip off certain payments and point them towards various STP platforms, instead of having a CAN created and sent to the supplier for processing.

Currently SAO System supports the onboarding process for Card and ACH payment types. SAO system interfaces with multiple systems including Salesforce.com, Dunn & Bradstreet and many internal Wells Fargo applications such as Electronic Document Delivery (EDD), Payment Manger and ACH, and manages data in a centralized database called SAOAnalytics Database. The insights out of Salesforce, D&B and SAO systems are delivered to the users through a set of standard and ad-hoc reports via SAO Report Manager Portal. These reports are used by Sales, account management, and customers to analyze predict and monitor the enrollment and subsequent transactions related to commercial card and ACH spend.

SAO Analytics system will be enhanced to support STP payment type. Existing process will continue to intake data file from SAO Targeted Supplier file which contains customer and supplier information being targeted for campaign process. The campaign screen will be modified to accommodate STP as a sub-type under CARD payment. The downstream processes out of Salesforce will be enhanced to capture the STP payment information. SAO Analytics report portfolio will be enhanced with a new payment type and will provide reports by consolidating the data from vendor match and Salesforce flows. SAO will continue to maintain the Buyer-Supplier relationship and will include STP Flag value. TMX system will execute STP process, which will make a request to SAO system to validate whether the buyer-supplier combination has agreed for STP.

1. **Requirements Traceability**

*[OPTIONAL: This section can be used to establish the required traceability of individual requirements to specific elements of the functional system design. While this can be achieved using separate documentation, including the traceability within the FSD can save time in test planning and quality assurance activities.]*

| **Requirement Document Name / Section** | **Document Version #** | **FSD ID#** |
| --- | --- | --- |
| [Include a reference to the requirements document and a specific requirement.] | [Requirements document version] | [FSD ID(s) from below] |
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1. **Assumptions**

* No Platform or hardware changes required. SAO analytics system will be continued on SQL Server 2012 platform.
* SQL Server Integration Services (SSIS) will be used for data Integration.
* Salesforce.com will be enhanced to handle new STP payment information by Salesforce Developers
* Data loader will be used for data transfer between SAOAnalytics and Salesforce.com
* NDM process will transmit the files between Wells Fargo shared network folder and Dunn & Bradstreet.

1. **Constraints**

|  |  |
| --- | --- |
| **#** | **Constraints** |
| 4.1 | High cost could reduce scope of the project |
| 4.2 | System and server limitations could reduce scope or increase cost |
| 4.3 | If the go live date is expedited, project scope could be reduced |
| 4.4 | Some weekend work will be necessary for deployment related activities |
| 4.5 | Access to Wells Fargo Networks and Databases necessary |
| 4.6 | Server availability for deployment and testing |

1. **Dependencies**

There are dependencies with Salesforce system development and changes on SAO Analytics DB

* Suppliers data will flow from Salesforce to SAO Analytics DB any delay in receiving the information would delay data updates to downstream application.

1. **Business Continuity Issues**

| **BCP Plan ID#** | **Issue/Concern** |
| --- | --- |
|  | SAOAnalytics DB is currently setup with a BCP environment to handle failover process and it syncs with Production database for every 15 minutes. Team has conducted a manual BCP simulation testing during 4Q- 2016 and verified the BCP testing. SAOAnalytics enhancement processes will be part of the existing SAOAnalytics DB and Report Manager, thus no separate BCP processed needed for the enhancement. |
|  |  |
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1. **Information Security Issues**

| **Sec Plan ID#** | **Issue/Concern** |
| --- | --- |
| [or IRAP & SR #] | [Include a brief statement if the plan requires updates as a result of implementing the project.] |
|  |  |

1. **Legal/Regulatory Issues**

*[Discuss any changes that are required for legal regulatory reasons (i.e. year-end regulatory) but are not confined to that.]*

[Legal/Regulatory Issue 1]

1. **Processing/Data Flow**
2. **SAO Analytics**
3. SAO Analytics database will continue to intake data from Vendor match file.
4. Vendor Match file processing will be modified to determine and store STP acceptor flag in match data table
5. SAO Analytics DB schema will be modified to support the STP process.
6. SAO Targeted Suppliers report needs to be modified to include STP flag column to upload to Salesforce
7. Manage MCC and build new profile values to include profiles for STP payments in addition to the existing Profile ranking (1 to 371) process
8. SAO Analytics, SFDC database and data load processing will have to be updated.
9. SFDC Response process has to be modified to support and handle STP information.
10. Receive and manage data from internal and external systems
    1. Modify the AP control transactions for card process to include new STP indicator column.
11. Modify SSRS reports to support new payment type/campaigns. (Refer section 9.3.e)
12. **Automation Tasks**
13. Setup and automate the SQL Agent jobs to move the files from source to destination. Details of each job are specified in section 17.
14. Automate the execution of stored procedures
15. **SAO Analytics Changes:**
    1. **Vendor Match Process**
       1. Vendor Match table will be modified to include Potential STP acceptor flag based on average invoice amount
       2. If invoice amount is more than $17,000 then the supplier will be setup as Potential STP Acceptor.
       3. Targeted supplier report will be modified to accommodate STP indicator in addition to the APC, QLT, L3, L2 and L1 flags
    2. **Data Loader**
       1. The list of targeted suppliers will be created in a file by the sales team and uploaded to salesforce.com using data loader.
       2. Data loader process will be modified to handle data transmission between SFDC.com and SAO Analytics DB to support STP.
       3. Existing response process will have additional column coming from Salesforce.com
       4. Response table will be modified to store this additional column
    3. **APC Consolidation process**
       1. CCER will continue to send a weekly updates of all APC transactions to SAO.
       2. APC Transaction file has to be updated by the CCER team to include a new indicator column that specifies whether the payment was processed through STP or AP Control.
       3. Based on the payment information, the buyer and supplier combination calculates the enrolled status as internal, mixed and external. This will be applied to STP as well.
       4. SAO Analytics schema, process and package will be enhanced to handle new column.
    4. **Data Service**
       1. Data stored in the SAOAnalytics will be presented as View for the TMX service (or push the data to the TMX through batch process or build web services layer to support this request)
    5. **Report Changes**

The SSRS reporting system will continue to provide powerful reporting, analysis and dashboard capabilities out of SAOAnalytics database. There are about 8 reports to be modified / updated and will be distributed through Report Manager (requirement is yet to be identified)

* + 1. Forecasting Report
    2. Master Report
    3. Customized A/P Program
    4. Card Acceptor Detail report will include STP as a payment (acceptor type column)
    5. Acceptor Type Segmentation
    6. In-depth on-boarding analysis by profile
    7. In-depth on-boarding analysis by profile Count
    8. Volume tracking

That requires changes in the following database objects.

|  |  |  |  |
| --- | --- | --- | --- |
| **Object Type** | **New/Modify** | **Object Name** | **Comments** |
| Stored procedure | Modify | rpt\_Forecast\_Summary\_Detail | Modify the Forecasting report logic for increase MPG threshold limit of $17,000 |
| Stored procedure | Modify | rpt\_Card\_Acceptor\_Detail\_Report |  |
| Stored procedure | Modify | rpt\_Acceptor Type Segmentation |  |
| Stored procedure | Modify | rpt\_On Boarding\_profile | Modify report logic to add new profile value to calculate the win, loss and referral percentages |
| Stored procedure | Modify | rpt\_On Boarding\_count | Modify report logic to add new profile value to calculate the win, loss and referral percentages |
| Stored procedure | Modify | rpt\_VolumeTracking | Report changes to support new STP payment type |

The following diagrams depict the flow 1) SAOAnalytics High Level Flow Diagram 2) Process Flow – Sales Force to SAO, and Other systems will be modified are highlighted.





1. **Salesforce changes for STP:**

Salesforce is a CRM tool used by SAO SEC’s to capture various stages of payment setup based on the campaign offered by Wells Fargo customers to their payee. SAO Salesforce implementation offers an external payment portal for payee’s to login and register their decision on campaign offered. For STP project, Salesforce external portal will be modified to include an option for the payee to opt in or out of straight through processing (STP).

The changes will be made in Sites in sandbox and upon successful testing the change set will be implemented in production SAO Salesforce organization.