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Technical Specification Document



Project Name: Address Verification

Issue Title: Prepare system for use of SmartyStreets in Syspro

Date: June 28, 2023

# Prepared By

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| **Document Owner(s)** | **Project/Organization Role** |
| Justin Pope | Software Developer |

# Modification Version Control

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| **Issue. Version** | **Date** | **Author** | **Tag ID** | **Change Description** |
| 1.0 | 10/07/2022 | Nicholas Vasquez | SDM- 32308 – Nicholas,  SDM - 32434 - Justin |  |
| 1.1 | 06/28/2023 | Justin Pope | SDM - 32434 |  |
| 2.0 | 7/11/2023 | Justin Pope | SDM – 32434 | Approval given by Ben Erickson |

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# Design Overview

The need for addresses to adhere to a consistent format has been identified and desired as needed. This project is designed to parse our code base (SQL objects and Services) to confirm that data is flowing in correctly.

## 1 Business Case/Scope

This will cover all areas found in SQL08, all areas found in DevOps, and others as mentioned after review.

## 2 Audience

This is a technical document targeted for technical readers that will maintain the designed application. It is assumed the reader has some technical background related to the technologies mentioned in the above description.

## 3 Reference

| Ref# | Document Name | URL |
| --- | --- | --- |
| 1 | Address Change Search Results | [AddressChangeSearchResults](https://summerclassics.sharepoint.com/sites/ITDepartment/_layouts/15/Doc.aspx?sourcedoc=%7B1444BC7F-0C59-4090-BAD2-B0F362B407D0%7D&file=AddressChangeSearchResults.xlsx&action=default&mobileredirect=true) |

## 4 Address Format

The following is the desired address format that data on Sales Orders and Customer data should adhere to:

Address Line 1 – Street Address

Address Line 2 – Apartment / Suite / Additional information

Address Line 3 – City

Address Line 4 – State

Address Line 5 – Country

Postal Code – 5-digit Zip code

In our SQL08 database there are functions and procedures that parse and modify address information in Syspro. In addition to that, there is some code that has been found by searching through GWC-Apps that is concatenating addresses together that should be changed.

# Research

## 1 Findings

Efforts in searching across our code base have been made and documented in an excel spreadsheet.

Link: [AddressChangeSearchResults.xlsx](https://summerclassics.sharepoint.com/:x:/s/ITDepartment/EX-8RBRZDJBAutKw82K0B9ABcIWWARKw9xvCbTX3xIaz-A)

## 2 Points of interest

The following are things that have been noticed in the research:

* The concatenation of City and State is prevalent across Order and Customer data. This concatenation occurs in Address3 columns but has been identified in other columns too.
* Based off the concatenation of the State and City, there has been identified ‘manual parsing’ of data to fulfill address data requirements for 3rd party systems.
* There are some functions and stored procedures in the Database that use a reference table to confirm information. PRODUCT\_INFO.dbo.ZipCodeList is one of the tables that is referenced the most.
* For services that import data into Syspro, the concatenation of City and State is done and pushed into Syspro.

# Technical Design

## 1 Change Methodology

Based on the current business scenario, changes to enforce address formatting will need to be done in two phases:

1. Global
   * Public function that will be utilized to take address information and format it to the standard.
   * A format table that contains State Name, State Abbreviation, country code, and postal code REGEX string.
2. Phase 1
   * Remove the manual parsing of address information within functions and procedures.
   * Consolidate the parsing logic in a public function to use throughout our 3rd party transmissions.
3. Phase 2
   * Update services that are importing data into Syspro to adhere to intended address format.
   * Remove the reliance of the public function within functions and procedures. This can only be done after an address verification methodology has been decided on.

## 2 Development

The following can be used to evaluate the changes that are going to be made.

### Global

Link: [Global](https://dev.azure.com/GWC/GWC-Apps/_git/SDM_Tickets_Justin_Pope?path=%2FSDM34845_AddressChanges%2FDeployment%2FGlobal&version=GBmain)

**[Global].[dbo].[AddressFormatingTable]**

This table is utilized to be able to do the following:

* Parse Postal Code to identify the country code.
* Be able to identify the State or Territory name and abbreviation.

**[Global].[dbo].[tvf\_SysproAddressFormatHelper]**

This function is going to be the centralization of parsing address data. The following steps are the logic to parse out Address data:

* Input: Six parameters to take in for address information.  
  Address1  
  Address2  
  Address3  
  Address4  
  Address5  
  PostalCode
* Output: Six column table return that returns the formatted address data.  
  Address1  
  Address2  
  Address3  
  Address4  
  Address5  
  PostalCode
* Logic:
  + Step 1: It is assumed that Address1 contains the street information, and that Postal Code is most of the time going to contain the Zip code.
  + Step 2: If the Zip code is not passed in as Postal Code, the function will parse the other inputs between Address2 and Address5 for the zip code. The Zip code will then be cleansed from the other address lines.
  + Step 3: Set the country code (address5) based on the Zip code found.
  + Step 4: Set Address Line 2, City, and State. The function contains multiple methodologies to parse the inputs to split out the city and state if the data is concatenated.
  + Step 5: Return the data found.

### Phase 1

Link: [Phase1 Deployment](https://dev.azure.com/GWC/GWC-Apps/_git/SDM_Tickets_Justin_Pope?path=/SDM34845_AddressChanges/Deployment/Phase1)

Changes that are going to be made:

* 2Ship Database
  + Tables
    - Dbo.Temp\_ActivePickSlipWaybill\_Stage
  + Functions
    - Dbo.tvf\_ActivePickSlipWaybill
  + Procedure
    - Dbo.usp\_Stage\_ActivePickSlipWaybill\_Set
* Accounting Database
  + Tables
    - Dbo.CIT\_CreditRequest\_FlatFile\_Record\_1\_NameAddress
    - Dbo.CIT\_DetailedInvoice\_FlatFile\_Record\_1\_NameAddress
    - WellsFargo.WF\_PAR
    - WellsFargo.WF\_DD
    - WellsFargo.WF\_PAO
    - WellsFargo.WF\_PAB
  + Functions
    - Dbo.tvf\_CIT\_DetailedInvoice
    - Dbo.tvf\_CIT\_CreditRequest
* PRODUCT\_INFO database
  + Views
    - Ecat.vw\_SummerClassics\_Contract\_Cusomer
    - Ecat.vw\_SummerClassics\_Retail\_Customer
    - Ecat.vw\_SummerClassics\_Wholesale\_Customer
  + Functions
    - Ecat.tvf\_SummerClassics\_Wholesale\_Customer
    - Ecat.tvf\_SummerClassics\_Retail\_Customer
    - Ecat.tvf\_SummerClassics\_Contract\_Customer
    - Ecat.tvf\_Gabby\_Customers
  + Procedures
    - Dbo.Uniters\_CreateXML
* SysproDocument Database
  + Procedures
    - CDU.usp\_ServiceArea\_Validate
    - CDU.usp\_CarrierEtdDate\_Update\_NEW
    - SIS.usp\_Spec\_SalesOrder\_Ack\_Get
    - SOS.usp\_Edi855Ack\_Document\_Get
    - SOS.usp\_Edi856Asn\_Document\_Get
* Transport Database
  + Tables
    - Mode.Temp\_Msn\_Combine\_Prep
    - Mode.Temp\_LoadTender2\_Record\_Stage\_Waybill
    - Mode.Temp\_LoadTender2\_Record\_Stage
    - Mode.Temp\_LoadTender2\_Header\_Stage
    - Mode.Temp\_LoadTender1\_Record\_Stage
    - Mode.Temp\_LoadTender1\_Header\_Stage
    - Mode.Archive\_LoadTender2\_Record
    - Mode.Archive\_LoadTender2\_Header
    - Mode.Archive\_LoadTender1\_Record
    - Mode.Archive\_LoadTender1\_Header
  + Functions
    - Mode.tvf\_Msn\_Combine\_Prep
    - Mode.tvf\_LoadTender2\_Waybill
    - Mode.tvf\_LoadTender1
  + Procedure
    - Mode.usp\_Msn\_Combine\_Do
    - Mode.usp\_LoadTender2\_Record\_Stage
    - Mode.usp\_LoadTender2\_Msn\_MarkPostUpload
    - Mode.usp\_LoadTender1\_Record\_Stage
    - Mode.usp\_LoadTender1\_Msn\_MarkPostUpload

### Phase2

Link: [Phase2](https://dev.azure.com/GWC/GWC-Apps/_git/SDM_Tickets_Justin_Pope?path=/SDM34845_AddressChanges/Deployment/Phase2)

Changes that are going to be made:

* 2Ship
  + Procedure
    - Dbo.usp\_Stage\_ActivePickSlipWaybill\_Set
* Accounting
  + Functions
    - Dbo.tvf\_CIT\_DetailedInvoice
    - Dbo.tvf\_CIT\_CreditRequest
* PRODUCT\_INFO database
  + Views
    - Ecat.vw\_SummerClassics\_Contract\_Cusomer
    - Ecat.vw\_SummerClassics\_Retail\_Customer
    - Ecat.vw\_SummerClassics\_Wholesale\_Customer
  + Functions
    - Ecat.tvf\_Gabby\_Customers
  + Procedures
    - Dbo.Uniters\_CreateXML
* SysproDocument Database
  + Procedures
    - CDU.usp\_ServiceArea\_Validate
    - CDU.usp\_CarrierEtdDate\_Update\_NEW
    - SIS.usp\_Spec\_SalesOrder\_Ack\_Get
    - SOS.usp\_Edi855Ack\_Document\_Get
    - SOS.usp\_Edi856Asn\_Document\_Get
* Transport Database
  + Functions
    - Mode.tvf\_Msn\_Combine\_Prep
    - Mode.tvf\_LoadTender2\_Waybill
    - Mode.tvf\_LoadTender1

Phase 2 also contains separate changes to the following services:

**GWC-Service-eCat-Stage**

Link: [SDM34845\_AddressChanges](https://dev.azure.com/GWC/GWC-Apps/_git/GWC-Service-eCat-Stage?path=/System%20Application/SDM_32434%20-%20Address%20Verification&version=GBSDM34845_AddressChanges&_a=contents)

These changes are within its own branch to be merged when ready to be deployed.

**SPS-EDI-System**

Link: [SDM34845-AddressChanges](https://dev.azure.com/GWC/GWC-Apps/_git/SPS-EDI-System?path=/System%20Application/SDM32434%20Address%20Verification&version=GBSDM34845-AddressChanges&_a=contents)

These changes are within its own branch to be merged when ready to be deployed.

For changes that were not made to objects within the AddressChangeSearchResults.xlsx, these changes were communicated that they were not necessary because the object was obsolete, or the 3rd party system required the format. In the case of the GWC-Service-B2C-Order-Staging service, changes have already been made to not to put the city and state together.

## 3 Testing

The following link is to the testing conducted for the changes.

Link: [Test Plan.xls](https://summerclassics.sharepoint.com/:x:/s/ITDepartment/EcxVyMF8yNpOoE6geyu6ChoBNrHF76W9lZ8czE9Fywr8CA?e=hCgkkz)

# Appendices

## A – Deployment

The following schedule is a tentative outline of deployment of the changes listed within this document:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **Description** | **Estimated Date** | **Change Control** | **Actual Date** |
| Phase 1 | Deployment of the changes listed in Global and Phase1 | July 13, 2023 | [Global](https://dev.azure.com/GWC/GWC-Apps/_git/SDM_Tickets_Justin_Pope?path=/SDM34845_AddressChanges/Deployment/Global&version=GBmain) [Phase 1](https://dev.azure.com/GWC/GWC-Apps/_git/SDM_Tickets_Justin_Pope?path=/SDM34845_AddressChanges/Deployment/Phase1&version=GBmain) |  |
| Phase 2 | Deployment of the changes listed in Phase 2 and the services. | TBD | [Phase 2](https://dev.azure.com/GWC/GWC-Apps/_git/SDM_Tickets_Justin_Pope?path=/SDM34845_AddressChanges/Deployment/Phase2)  [ECat Staging Service](https://dev.azure.com/GWC/GWC-Apps/_git/GWC-Service-eCat-Stage?path=/System%20Application/SDM_32434%20-%20Address%20Verification)  [SPS EDI Service](https://dev.azure.com/GWC/GWC-Apps/_git/SPS-EDI-System?path=/System%20Application/SDM32434%20Address%20Verification&version=GBSDM34845-AddressChanges&_a=contents) |  |

## B – Approvals

The following are approvals given:

|  |  |  |
| --- | --- | --- |
| **Phase** | **Approver** | **Date** |
| Phase 1 – Deployment | Ben Erickson | 2023 / 07 / 11 |