**Task 28840: Design - Renewal Price Increase at Enrollment Level**

Date: 11/15/16

**American Water Enterprises**



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**Design - Task 28840: Design - Renewal Price Increase at Enrollment Level**

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| 1.0 | 8/29/2016 | Daksha Yemala | Draft |
| 1.1 | 9/14/2016 | Daksha Yemala | Price Increase section changes |
| 1.2 | 11/15/2016 | Raksheet Koradia | Revised all sections to merge the proposed fix for RPI off bill (Defect 29013) and Populating Members on List (Defect 29156) |
| 1.3 | 12/8/2016 | Chirag Goradia | Including changes provided by Raksheet for RPI off bill (Defect 29013) while creating a new ETS Plan - to pass Program Code as CorrelationId. |

**Document Sign-Off**

**Reviewed by:**

Customer Signature Date

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* 1. **General info**

|  |  |
| --- | --- |
| **CRM Version** | CRM 2013 |
| **Type of Customization** | Scribe DTS, SSIS, CRM |
| **Applies for Which Entity** | evo\_enrollment, Marketing list (List), Contact |

1. **Functional Document Summary**

This document covers the Change Request for handling Renewal Price Increase. Enrollments will now be associated to Marketing Lists and the same will be validated before renewing the enrollment.

* 1. **Business Requirements and Description of Gap**
* Change Request 28774: RPI - RPI functionality should be applicable by enrollment, not customer
* Gap 28835: RPI - RPI functionality should be applicable by enrollment, not customer
* Defect 28371: RPI - RPI functionality should be applicable by enrollment, not customer
* Defect 29013: RPI off bill does not work
  1. **Overview of Proposed Solution**

RRD will send a file with enrollment number, RPI code. This information is used to look up enrollment and marketing list respectively and associate the enrollment and its contact to the marketing list

If no enrollment is found in CRM against the said enrollment number, or if the record found does not have enrollment status = ‘Active’, RPI opt out is set to yes on enrollment such records are flagged as errors. Also if no marketing list is found against the RPI code in the file, they are flagged as errors.

When the Enrollments are renewed with new marketing code then the new price details will be updated on the enrollment records. On the effective date of the renewal enrollment, this information on the payment authorization will be updated. Then CRM will send this payment details to ETS. ETS will consume the new information and charge it to the Customer after voiding (Cancel) the previous plan.

* 1. **Prerequisites and Constraints**
* Scribe installed and configured.
* User should have rights to Dynamics CRM.
* User should have Admin Rights on machine for placing the flat file.
  1. **Assumptions**
* User has rights access for retrieving records in CRM.
* The job will execute every time a file is received.
* The file will contain valid data.
* The file will be comma separated
* The file extension will be .txt
* File contents can be looked up in CRM to find relevant enrollments and marketing lists.
* Enrollments to be renewed/associated with RPI marketing list are imported into CRM through RRD RPI file. This file is separate from the RRD prospect file.
* Enrollments already associated to a marketing list are not sent in the file.
* If an enrollment mentioned in the file, is not active in CRM, the enrollment is not renewed. Such records are routed to an ErrorLog.
* With RPI code from file, if no marketing list is found in CRM, the record is considered as an error. Such records are routed to an ErrorLog.
* There will be no validation for the price increase detail fields. They will be updated as received.
* No blank values expected in RPI code and enrollment number columns.

1. **Technical Solution Overview**

File received from RRD contains enrollment number, RPI code. The enrollment number is present on the enrollment entity and RPI code is present on marketing list as well as enrollment.

The file also contains, payment history fields as mentioned in section 3.9, these fields are directly mapped to the corresponding fields on enrollment entity in CRM.

* 1. **Create field**

1. RPI Code

Entity: evo\_enrollment and Marketing list (List)

Type: Single Line of Text

Location on form (Enrollment): Renewal Price Increase Details section

Location on form (Marketing List): List Characteristics section

Business Required: No

Locked on the form: Yes- On enrollment form, No- On Marketing List

1. Previous Marketing Code

Entity: evo\_enrollment

Type: Single Line of Text (Not a lookup to marketing code entity)

Location on form: In section ‘Renewal Price Increase Details’

Locked on the form: Yes

1. Previous Annual Price

Entity: evo\_enrollment

Type: Currency

Location on form: In section ‘Renewal Price Increase Details’

Locked on the form: Yes

1. New Marketing Code

Entity: evo\_enrollment

Type: Single Line of Text (Not a lookup to marketing code entity)

Location on form: In section ‘Renewal Price Increase Details’

Locked on the form: Yes

1. New Annual Price

Entity: evo\_enrollment

Type: Currency

Location on form: In section ‘Renewal Price Increase Details’

Locked on the form: Yes

1. Date of change

Entity: evo\_enrollment

Type: Date

Location on form: In section ‘Renewal Price Increase Details’

Locked on the form: Yes

1. TriggerRPI field

Entity: evo\_paymentauthorization

Type: Two Option(YES/NO)

Location on the form: Hidden

Default Value: Set as "No" for new records (and not set for historical data)

1. RPITimestamp field

Entity: evo\_paymentauthorization

Type: Date Time

Location on the form: Hidden

Default Value: not set

* 1. **Create staging Tables**
* Create a RPI staging table that has all the contents of the file, along with a column for listid, evo\_enrollmentid, evo\_contactid, column to flag the records as valid(IsValid), column for error message, and column to flag if customer is already a member(IsMember)

TableName: StagingCRM.RRDRPI

* Create a marketing list table in the staging database, to update marketing list information in RRDRPI table from CRM. Also to validate against if there is a Marketing list in CRM for the RPI Code provided in file.

TableName: CRM.EVOMarketingList

* Create an enrollment table in the staging database to validate if the enrollment present in file is also present in CRM.

TableName: CRM.EVOActiveEnrollment

* Create a fallout table to store the invalid records.

TableName: ErrorLog.RRDRPIFallout

* 1. **SSIS**

1. Update tables in Evolution Integration database.
   * Load.Integration – Mention the integration name

* Load.FileDetail – Contains Input file details and location of file.
* Load.FileColumnDetail – Contains File columns
* Load.Executables – Entry of the DTS and DTSX packages.
* Load.ProcessIntegration – Define Run order for executables
* Load.Scrpits – Make an entry of the validation script.
* Load.ProcessIntegrationScripts – Define Run order for scripts

1. Update RefreshStaticData.dtsx to include marketing list refresh and active enrollment refresh.
   1. **Stored Procedures**
2. Create a stored procedure to validate the contents of RRDRPI staging table. This stored procedure

* Compares the file to the enrollment table in the staging database (CRM. EVOActiveEnrollment) and flags records in RPI staging table as ‘Invalid’ (IsValid = 0) based on whether or not the enrollment is present in CRM and/or its status is ‘Active’ and/or RPI Opt out = ‘Yes’ in CRM
* Compares the file to the marketing list table in the staging database(EVOMarketingCode) and if no marketing list is found with RPI code (from file), it flags the record in RPI staging table as ‘Invalid’.(IsValid = 0)
* The Sp also updates the ‘ErrorMessage’ column as per respective errors
  + Enrollment Numbers not matched in CRM
  + Enrollments that do not have an Enrollment Status = Active in CRM
  + RPI Code not matched to Marketing List in CRM
  + Enrollment RPI Opt Out = Yes

Stored Procedure: sp\_aweValidateForEnrollmentAndMarketingList

1. Create a stored procedure to update these errors along with created date time in the fallout staging table.

Stored Procedure: sp\_aweLoadRRDRPIErrorRecords

1. Create a stored procedure to update listid, enrollmentid, contactid on RRDRPI table

* Lookup marketing lists (in CRM.EVOMarketingList) based on RPI code (from file) and update the listid against the corresponding record in RRDRPI staging table.
* Lookup enrolments (in CRMEVOActiveEnrollment) based on Enrollment number (from file) and update the enrollmentid and contactid against the corresponding record in RRDRPI staging table.

Stored Procedure: sp\_aweUpdateListIDinRPITable

1. Create a stored procedure to validate whether the contact is already associated to the marketing list if the contact is already a member of the marketing list, set Ismember = 1.

Stored Procedure: sp\_aweCheckExistingMemberAssociation

1. Create a stored procedure to fetch the all the enrolments where:

* Enrollment's Eligible Date Is Between Today and Last 7 days AND
* Enrollment's Enrollment Status Does Not Equal Canceled AND
* Enrollment's Enrollment Status Does Not Equal Cancellation Failure AND
* Enrollment's Parent Enrollment Is Not Blank AND
* Enrollment's Marketing Code Does Not Equal Parent Enrollment's Marketing Code AND
* Enrollment's Total (price field) Does Not Equal Parent Enrollment's Total (price field) AND
* Parent Enrollment's Auto Renew Is Credit Card/ACH AND
* Parent Enrollment's Enrollment Status Does Not Equal Canceled AND
* Parent Enrollment's Enrollment Status Does Not Equal Cancelellation Failure AND

And Payment Authorization has:

* Payment Method Is Credit Card/ACH AND
* Payment Frequency Is Not One Time AND
* RPITimestamp Is Blank OR RPITimestamp Is Older Than 10 days AND
* Payment Authorization's 8-digit Plan Id Equals Enrollment's 8-digit Plan Id AND
* Payment Authorization's 8-digit Plan Id Equals Parent Enrollment's 8-digit Plan Id

Stored Procedure: sp\_aweSetRPIAmountOnPaymentAuthorization

* 1. **Input**

File Name: RRDRPI\_<date>.txt

Extension: .txt

Headers: Yes

Delimiter: Comma separated

|  |  |
| --- | --- |
| Column Name | Format |
| Enrollment Number | Varchar (13) |
| RPI code | Varchar (20) |
| Location Code | Varchar (10) |
| Reference ID | Varchar (50) |
| Marketing Code | Varchar (20) |
| Program | Varchar (20) |
| Previous Marketing Code | Varchar (20) |
| Previous Annual Price | Varchar (20) |
| New Marketing Code | Varchar (20) |
| New Annual Price | Varchar (20) |

* 1. **DTS**

1. **Associate Enrollment to Marketing List**

Create a DTS to associate an enrollment to marketing list.

* Source: Staging Database
* Create a stored procedure to select listid and Enrollmentid from StagingCRM.RPIStagingTable where Isvalid = 1
* Configure source to execute this stored procedure
* Target: Adapter for Dynamics CRM
* Add target step to create relationship entity object.(evo\_evo\_enrollment\_list)
* Add data links on evo\_enrollmentid and listid
* DTS: 28774\_AssociateEnrollmentToMarketingList.dts
* Stored Procedure: sp\_aweAssociateEnrollmentToList
* Error Logging: Create an error logging table in the staging database through the DTS, to log record failures. Table: Errolog.RRDRPIASSOCIATEENROLLMENTTOLIST

1. **Associate Customers to Marketing List**

Create a DTS to associate customers to marketing List

* Source: Staging Database
* Create a stored procedure to select listid and contactid from StagingCRM.RPIStagingTable where IsMember = 1
* Configure source to execute this stored procedure
* Target: Adapter for Dynamics CRM
* Add target step to create list member
* Add data links to entityid and listid
* DTS: 28774\_AssociateContactToList.dts
* Stored Procedure: sp\_aweAssociateContactToList
* Error Logging: Create an error logging table in the staging database through the DTS, to log record failures.

Table : ErrorLog.RRDRPIASSOCIATECONTACTTOLIST

1. **Update RPI Fields on Enrollment**

Create a DTS to update RPI fields from file.

* Source: Staging Database
* Create a stored procedure to select records StagingCRM.RPIStagingTable where Isvalid = 1
* Configure source to execute this stored procedure
* Target: Adapter for Dynamics CRM
* Add target step to update adapter object evo\_enrollment
* Add a lookup link on evo\_enrollmentid
* Add data links to update payment history fields (Previous Marketing Code, New Marketing Code, New Annual Price, Previous Annual Price)on enrollment
* Date of change is enrollment end date+1day
* DTS: 28774\_RPIFieldsOnEnrollment.dts
* Stored Procedure: sp\_aweRPIFieldsOnEnrollment
* Error Logging: Create an error logging table in the staging database through the DTS, to log record failures. Table: Errolog.RRDRPIFIELDSONENROLLMENT

1. **Updating Amount Field on Payment Authorization**

Create a DTS to update the flag “TriggerRPI” on Payment Authorization record

DTS: 29013\_UpdatingAmountFieldonPaymentAuthorization

* Source: Stored Procedure (sp\_aweSetRPIAmountOnPaymentAuthorization)
* Target: Adapter for Dynamics CRM
* Add target step to update entity object.
* Error Logging: Create an error logging table in the staging database, to log record failures.
  1. **Order of execution**

The following steps are only to associate an enrolment to marketing list. Renewal for enrolments will happen with the existing integration.

* ProcessRRDRPIFiles.dtsx – Copies file data into staging table
* RefreshStaticData.dtsx – Refresh the Marketing list and enrolment data in the staging table from CRM.
* Execute [StagingCRM].[sp\_aweValidateForEnrollmentAndMarketingList] – To validate whether corresponding enrolment and Marketing list are present in CRM
* Execute [StagingCRM].[sp\_aweUpdateListIDinRPITable] To update the listid, enrollmentid, contactid in RRDRPI table.
* Execute [StagingCRM].[sp\_aweCheckExistingMemberAssociation] To checkif customer is already a member.
* Execute [StagingCRM].[sp\_aweLoadRRDRPIErrorRecords]To log errors (invalid or missing enrollments and marketing lists)
* 28774\_AssociateEnrollmentToMarketingList.dts
* 28774\_AssociateContactToList.dts
* 28774\_RPIFieldsOnEnrollment.dts
* TRUNCATE TABLE StagingCRM.RRDRPI
  1. **Auto Renewal functionality**

The existing RPI functionality, works as is, the change that should be executed here is, enrolments are now directly associated to the marketing list.

Stored Procedure: Sp\_aweRe\_EnrollmentsCreation

DTS: EXT017\_Re\_EnrollmentsCreation.dts

Existing functionality:

Select enrollments whose enrollment status = ‘active’; auto renew <> ‘Do not auto renew’ and payment method = (waterbill/ACH/CreditCard) and end date is between today- 30 and 60 days from now.

Create a new enrolmentID, if rpi opt out = 0, replacement marketing code is the marketing code for the new enrolment.

Enrollment date of the renewed enrolment is end date of the parent enrolment + 1.

New Process: Modify the stored procedure to exclude new marketing code join on contact. Join the list entity to enrolment

* 1. **Plugin**

Plugin File: evo\_paymentauthorization.cs

Event: Update of flag “TriggerRPI”

Mode: Synchronous

Plugin will get triggered when TriggerRPI =Yes.

Plugin has following steps:

**Call the ETS web service to void the current 8-digit Plan Id**

URL: https://www.etsms.com/DOCS/Hosted-Payments/docs/http\_api/13.\_void#/plan.

If there was failure with calling the ETS web service, then throw exception message "ETS void web service call failure".

When ETS response received indicates that plan was already voided earlier or successfully voided now, then proceed with next logic. Otherwise if ETS response indicates any other error, then throw exception message "ETS could not void plan and following is the ETS web service response: <ETS response>".

**Call the ETS web service to create a new 8-digit Plan Id**

URL: <https://www.etsms.com/DOCS/Hosted-Payments/docs/http_api/05._plan#/never_expires>

Value passed for ETS Plan's Start Date through the ETS web service should be the Payment Authorization's Charge Date recalculated to an earliest date in future based on payment frequency as per below section "ETS Plan Start Date Aka New Charge Date Calculation". Value passed for ETS Plan's Amount through the ETS web service should be Enrollment's Total (price field). Value passed for ETS Plan’s CorrelationId through the ETS web service should be Program Code from the Payment Authorization’s Program record. The rest of plan information passed in the ETS web service should be kept same.

The request to ETS will look like:

**{**

**"plan": {**

**"planRequest": {**

**"token": "c5251900-7e52-4bc1-8bef-4a62b68eecda",**

**"instrumentId": "e30a2fcd-51a2-441f-b132-d762702cca3f",**

**"amount": 3,**

**"startDate": "12/06/2016 00:00:00 AM",**

**"paymentsPerYear": 12,**

**"stopDate": "12/06/2017 00:00:00 AM",**

**"correlationId": "WLPP"**

**}**

**}**

**}**

If there was failure with calling the ETS web service, then throw exception message "ETS create plan web service call failure".

If ETS response indicates that plan could not be created, then throw exception message "ETS could not create plan and following is the ETS web service response: <ETS response>".

If the ETS response indicates success, then proceed with next logic.

**Set the new 8-digit ETS Plan Id in the existing field of that Payment Authorization, Enrollment**

Also update the Enrollment Price, Tax, Total (price) fields in Payment Authorization with the respective values taken from Enrollment.

Additionally, set "No" as the value in TriggerRPI field and current date time value in the RPITimestamp field of Payment Authorization.

Finally, set the Charge Date field of Payment Authorization to the new value that was calculated and passed to ETS web service (as the Start Date). Also set the Charge Date field of Enrollment to the new value that was calculated and passed to ETS web service (as the Start Date).

**ETS Plan Start Date Aka New Charge Date Calculation**

When Payment Frequency is Monthly, Today is 9-Nov-2016 and old Charge Date was 9-Jul-2015, then the new Charge Date should be 9-Dec-2016 (and not today's date of 9-Nov-16).

When Payment Frequency is Monthly, Today is 9-Nov-2016 and old Charge Date was 15-Jul-2015, then the new Charge Date should be 15-Nov-2016.

When Payment Frequency is Monthly, Today is 9-Nov-2016 and old Charge Date was 31-Jul-2015, then the new Charge Date should be 30-Nov-2016.

When Payment Frequency is Monthly, Today is 9-Nov-2016 and old Charge Date was 28-Feb-2015, then the new Charge Date should be 30-Nov-2016.

When Payment Frequency is Monthly, Today is 30-Nov-2016 and old Charge Date was 28-Feb-2015, then the new Charge Date should be 31-Dec-2016 (and neither 30-Dec-2016 nor today's date of 30-Nov-16).

When Payment Frequency is Annually, Today is 9-Nov-2016 and old Charge Date was 9-Jul-2015, then the new Charge Date should be 9-Jul-2017.

When Payment Frequency is Annually, Today is 9-Nov-2016 and old Charge Date was 20-Dec-2015, then the new Charge Date should be 20-Dec-2016.

When Payment Frequency is Annually, Today is 9-Nov-2016 and old Charge Date was 9-Nov-2015, then the new Charge Date should be 9-Nov-2017 (and not today's date of 9-Nov-16).

When Payment Frequency is Quarterly, Today is 9-Nov-2016 and old Charge Date was 9-Jul-2015, then the new Charge Date should be 9-Jan-2017.

When Payment Frequency is Quarterly, Today is 9-Nov-2016 and old Charge Date was 9-Aug-2015, then the new Charge Date should be 9-Feb-2017 (and not today's date of 9-Nov-16).

When Payment Frequency is Quarterly, Today is 9-Nov-2016 and old Charge Date was 9-Sep-2015, then the new Charge Date should be 9-Dec-2016.

When Payment Frequency is Bi-Monthly (i.e. 6 payments per year), then calculate the new Charge Date based on logic from the examples above.

* 1. **Enrollment entity**

### Renewal Price Increase Details

Create a section to display Renewal Price Increase Details

Name: Renewal Price Increase Details

Description: Will include Renewal Price Increase Marketing Lists that applied to the enrollment.

Location: Insert After Child Enrollments sub grid, above the Activities

Columns to be included in the view, In the following order:

1. RPI Code
2. Previous Marketing Code
3. Previous Annual Price
4. New Marketing Code
5. New Annual Price
6. Date of Change (this should be the Start Date of the renewal enrollment)

### Marketing List sub grid

Name: Marketing Lists

Description: Will include all Price Increase (RPI and UPI) Marketing Lists that applied to the enrollment.

Location: Insert After the new Renewal Price Increase Details section, above the Activities

Columns to be included in the view, In the following order:

1. Marketing List Name
2. Campaign Date
3. Increase Type
4. Created On
   1. **Marketing list**

The enrollments associated with the marketing list should populate on a sub grid for reference.

Name: Enrollments for Renewal Price Increase

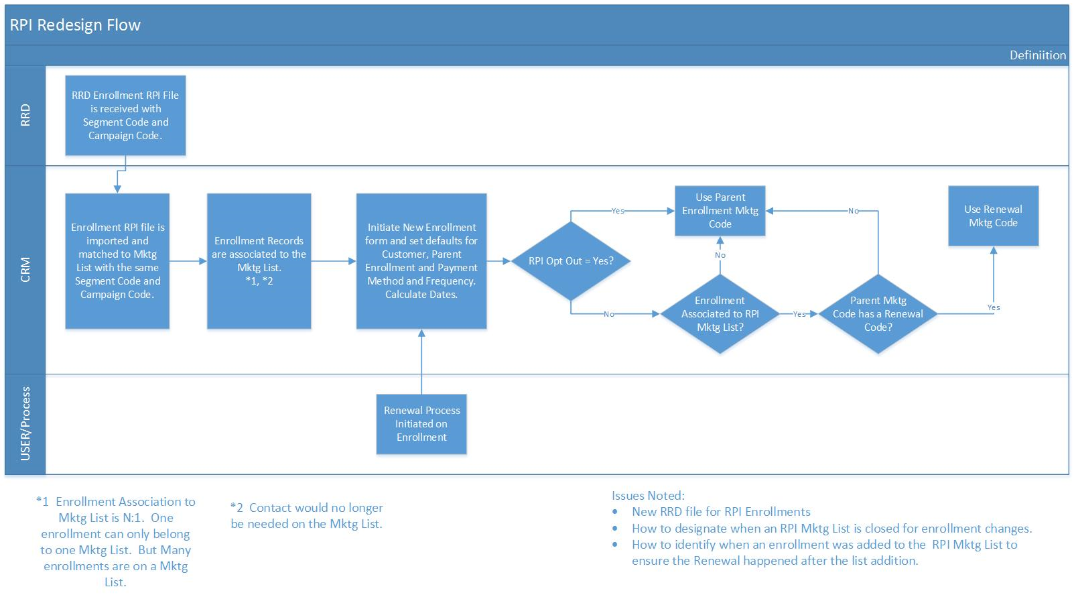
The Enrollment entity relationship with Marketing List – Custom Many to Many.

Description: Will include all Enrollments populated on list from RRD RPI Enrollment Table

Location: Insert sub grid after Starting Codes sub grid

View:

1. Enrollment Number
2. Customer Number
3. Reference ID
4. Location Code (evo\_code)
5. End Date
6. Enrollment Status
7. Enrollment Status Reason
8. Marketing Code
9. Last Marketing Code
10. Customer Type
11. RPI Code
    1. **Business Process Flow**



Comments from FDD:

* Team has been asked to design N: N association between Enrollment and Marketing List. Reason being, one enrollment can be associated with multiple Marketing Lists out of which only one would be a RPI type Marketing List and others will be UPI type Marketing Lists. UPI implementation /changes are not part of the current change request scope.
* Update Renewal Marketing Code with Replacement Marketing Code

1. **References**

Defect 28371