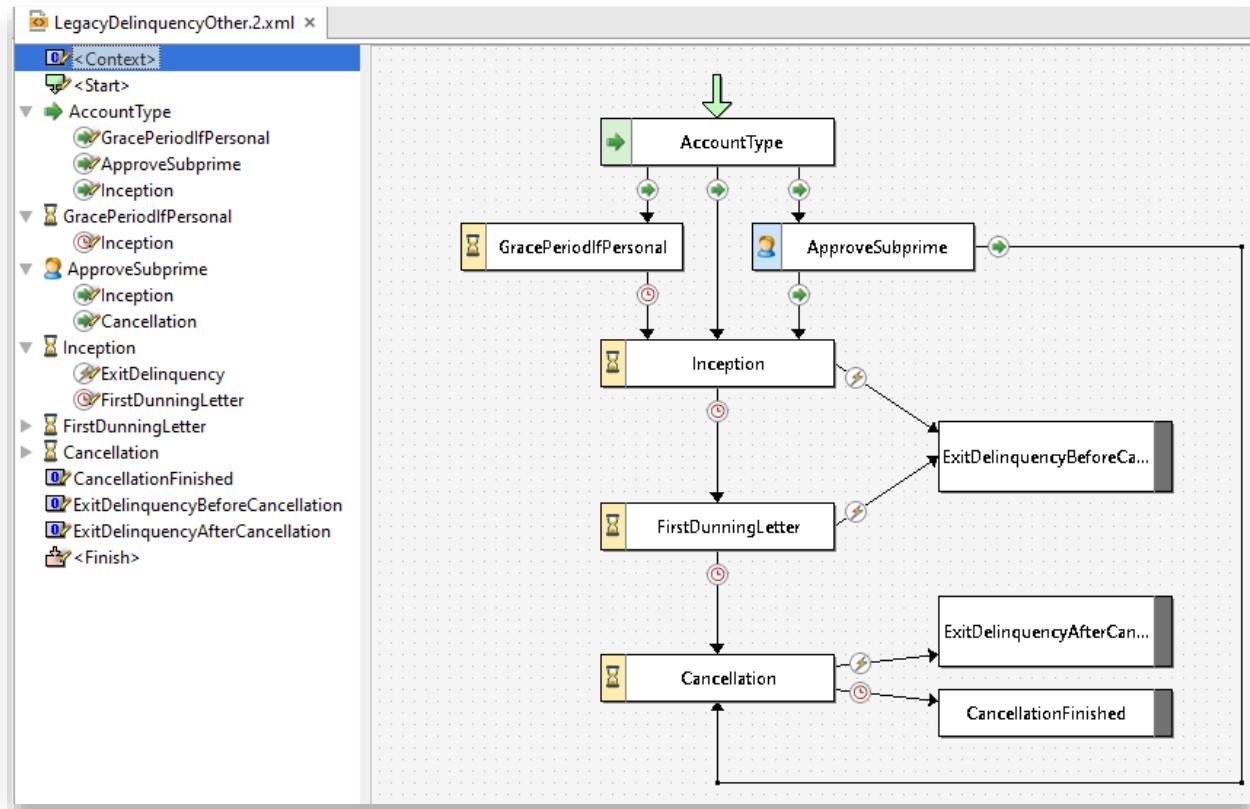


# Lesson 3 Configuring Delinquency Workflow

## 3.1 Modify delinquency workflow

Succeed Insurance Billing Group wants their DP01 delinquency plan to include the option to declare an account delinquent resulting from repeated non-sufficient funds (NSF) payments. Delinquency actions will be based on the account segment (personal, subprime, or other) and will follow a simple workflow consisting of the following events: inception stated, late fee, dunning letter, and cancellation.

This is an overview of what you will add to the workflow to implement the requirement:



### 3.1.1 Requirements

**Spec 1** Delinquency should be invoked upon the second occurrence of a reversal of a direct bill payment within a 30 day period.

**Spec 2** Invoking the delinquency (that is, progressing to the Inception step in the workflow) depends on the account segment type:

- a. Subprime accounts require a high-priority activity being auto-assigned and approved before workflow inception. If not approved, move directly to Cancellation.
- b. Personal accounts are allowed a grace period of 1 day before workflow inception.
- c. Other account types move immediately to workflow inception.

**Spec 3** Grace period length should not be obtained from the delinquency plan since it is used for Past Due delinquencies as well. Use a delta time value of 1 day in the timeout branch.

**Spec 4** When the Inception step is reached, a new event (InceptionStarted) should be flagged as complete.

**Spec 5** When the branch from Inception to First Dunning Letter is executed, a fee should be charged (you can use the Late Fee on the delinquency plan).

**Spec 6** All events should be flagged complete at the appropriate time.

**Spec 7** Create a new delinquency plan called NSF Delinquency Plan based on a clone of DP01. Add workflow types and events as indicated below:

NSF Delinquency Plan [Up to Delinquency Plans](#) [Edit](#) [Clone](#)

[General](#) [Workflow](#)

Delinquency Reason	Workflow Type	Events
Not Taken	Cancel Immediately	Notice of Intent To Cancel
Recurring NSF Reversals	Other Delinquency from Legacy System	Inception Started, Late Fee, Dunning Letter 1, Notice of Intent To Cancel
Past Due	Standard Delinquency	Dunning Letter 1, Late Fee, Dunning Letter 2, Notice of Intent To Cancel, Collections, Writeoff, Rescind/Reinstate

Events

Event Name	Trigger	Offset	Relative Order	Automatic
Inception Started	Inception Date	0	0	Yes
Late Fee	Inception Date	1	0	Yes
Dunning Letter 1	Inception Date	1	1	Yes
Notice of Intent To Cancel	Inception Date	7		Yes



## Hints

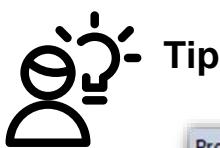
Helpful hints that help you to completion.

1. To assist in launching the delinquency, the number of payment reversals is available on the Account method `getNumberOfPejorativePaymentReversals()`. Only a reversal due to a returned check is considered a pejorative reversal. Note that the number of pejorative payments reversals does not increase until after the preupdate rule is executed.

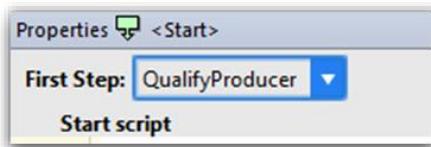
2. The configuration team suggests implementing this requirement using a BaseMoneyReceivedPreupdate rule.
3. The configuration team recommends creating a new version of the LegacyDelinquencyOther workflow as a starting point since it has most of the required steps and actions.

### 3.1.2 Tasks

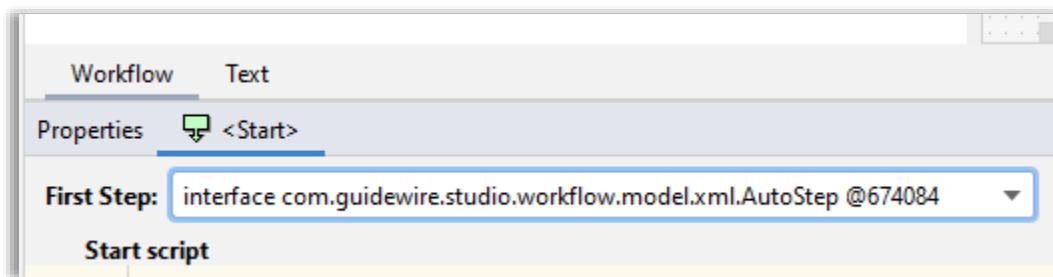
1. Create new delinquency reason.
2. Create a new delinquency event name.
3. Create a preupdate rule.
4. Create a new workflow process of LegacyDelinquencyOther.
5. Modify LegacyDelinquencyOther[v2] workflow.
  - a) Create ApproveSubprime activity step.
  - b) Modify ApproveSubprime activity.
  - c) Add approval condition to Inception go branch
  - d) Create go branch from ApproveSubprime step to cancellation step.
  - e) Create AccountType auto step.
  - f) Modify <Start> block.
  - g) Add condition to ApproveSubprime go branch.
  - h) Create GracePeriodIfPersonal manual step.
  - i) Create go branch from AccountType step to GracePeriodIfPersonal step.
  - j) Add condition to GracePeriodIfPersonal go branch.
  - k) Create go branch from AccountType to Inception step.
  - l) Modify Inception step to create a new flagged event called InceptionStarted.
  - m) Modify FirstDunningLetter timeout branch.
6. Restart server.
7. Create new delinquency plan called NSF Delinquency Plan.



## Tip



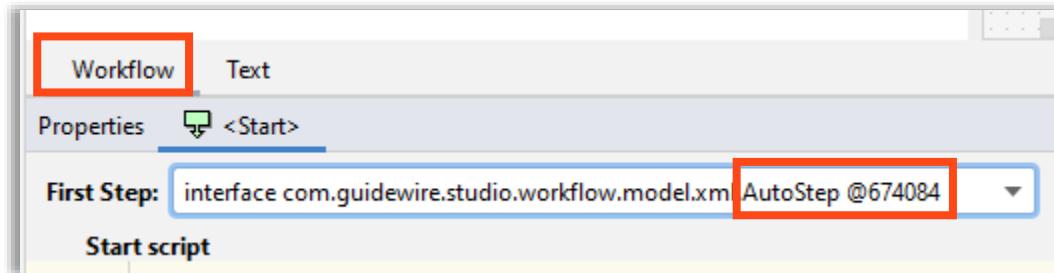
If the dropdown list in a workflow step does not display the step names as shown above, but strings with IDs like in the screenshot below, follow the steps to identify and select the desired step.



- In the workflow designer, go to the “Text” tab at the bottom.
- Find the desired step, e.g. the QualifyProducer AutoStep element. Note down its LayoutID, for example: 674084, which may vary in different environments.

```
QualifyProducer_Ext.1.xml
QualifyProducer
    nextStep="PromotedToGold">prod
    </ActivityStep>
    <AutoStep
        id="QualifyProducer"
        layoutid="674084">
        <Go
            desc=""
            id="ApproveUpgrade"
            layoutid="674087"
            nextStep="ApproveUpgrade"/>
    </AutoStep>
    <Layout>
        <BoxUI
Workflow > Layout > BoxUI
Workflow Text
```

- Go back to the Workflow tab at the very bottom of the designer.
- Click the workflow block being worked upon, for example, Start, and select the desired step, such as the QualifyProducer AutoStep, with the corresponding LayoutID in the dropdown menu.



### 3.1.3 Testing procedure

1. Create an account and associate it with NSF delinquency plan.
  - a) QuickJump: Run Account
  - b) Change the delinquency plan
2. From Actions → New Payment → New Direct Bill Payment, make a direct bill payment for \$300 and execute it without distribution.
3. From the Account → Payments screen, click on Actions and select Reverse. Select Returned Check as the reason.
4. From the Account → Delinquencies screen, confirm the delinquency workflow is not invoked
5. Make a direct bill payment for \$400 this time, and then reverse that payment.
6. From the Account → Delinquencies screen, confirm the delinquency workflow was started and confirm the current event is InceptionStarted.
7. Run the Workflow batch process and confirm the Inception Started event is complete (Account tab→Delinquencies).
8. Advance the clock to the target date for Dunning Letter 1 and run the Workflow batch process. Has the late fee been charged?
  - a) Open Server Tools (ALT-SHIFT-T)
  - b) Advance the clock by one day from Internal Tools → Testing System Clock
  - c) Run the Workflow process from Server Tools → Batch Process Info
9. Repeat steps above to test Personal and/or Subprime segments. Note, the Account must be created manually in order to select the desired segment.

### 3.1.4 Solution

1. Create new delinquency reason.

DelinquencyReason.ttx

Element	Code	Name	Priority	Name	Value
typelistextension	DelinquencyReason	Reason for why delinquency was s...		code	RecurringNSFReversals_Ext
typecode	FailureToReport	Failure to Report	-1	name	Recurring NSF Reversals
typecode	ProducerRefer	Producer Referred	-1	desc	Recurring NSF Reversals
typecode	NotTaken	Not Taken	-1	identifierCode	
typecode	CollatShortfall	Collateral Shortfall	-1	priority	-1
typecode	Other	Other	-1	retired	false
typecode	RecurringNSFReversals_Ext	Recurring NSF Reversals	-1		
typecode	PastDue	Past Due	-1		

## 2. Create a new delinquency event name.

DelinquencyEventName.ttx

Element	Code	Name	Priority	Name	Value
typelistextension	DelinquencyEventName	Delinquency Event Name		code	InceptionStarted_Ext
typecode	LateFee	Late Fee	-1	name	Inception Started
typecode	DunningLetter1	Dunning Letter 1	-1	desc	Inception Started
typecode	DunningLetter2	Dunning Letter 2	-1	identifierCode	
typecode	CancellnPAS	Cancellation Request	-1	priority	-1
typecode	Cancellation	Notice of Intent To Cancel	-1	retired	false
typecode	Canceled	Cancellation Received	-1		
typecode	Collections	Collections	-1		
typecode	Writeoff	Writeoff	-1		
typecode	RescindReinstate	Rescind/Reinstate	-1		
typecode	InceptionStarted_Ext	Inception Started	-1		

## 3. Create a preupdate rule.

- In Studio, open the BaseMoneyReceivedPreupdate ruleset.
- Add a new rule named BMRPU1000 – Second NSF Reversal

```

USES

CONDITION (baseMoneyReceived : entity.BaseMoneyReceived) :
    return
        (baseMoneyReceived.Reversed
        and baseMoneyReceived.Subtype == typekey.BaseMoneyReceived.TC_DIRECTBILLMONEYRCVD
        and (baseMoneyReceived as
        DirectBillMoneyRcvd).Account.getNumberOfPejorativePaymentReversals(30) > 0)
ACTION (baseMoneyReceived : entity.BaseMoneyReceived, actions : gw.rules.Action) :
    var account = (baseMoneyReceived as DirectBillMoneyRcvd).Account
    // if no active delinquencies, then start delinquency
    if(!account.hasActiveAccountLevelDelinquencyProcesses()) {

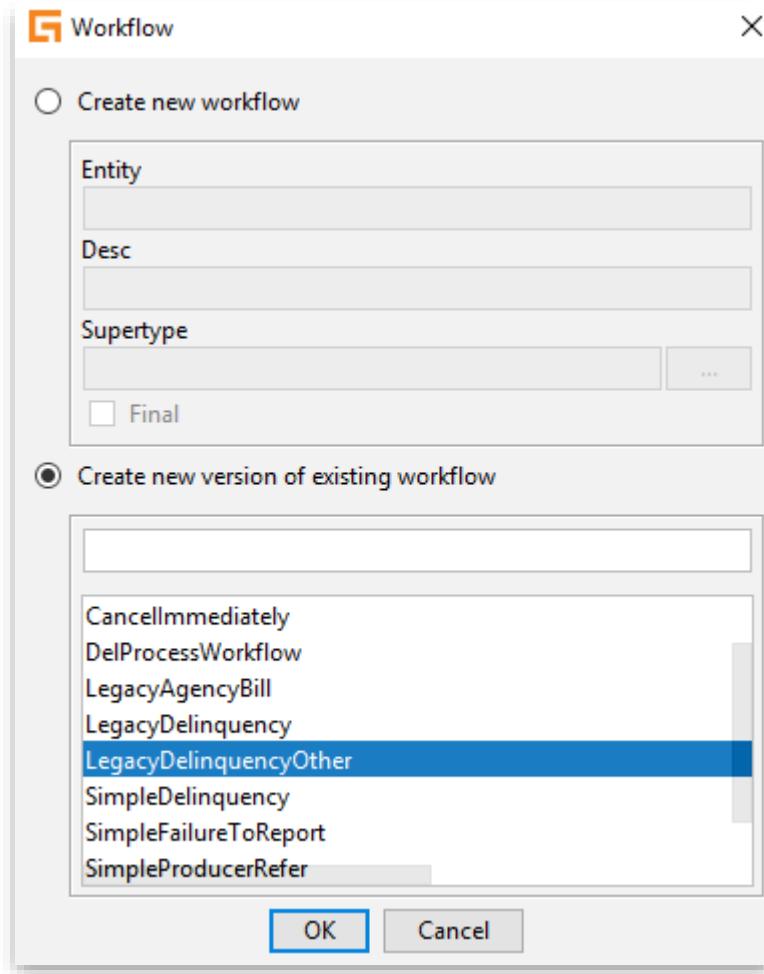
```

```

        account.startDelinquency(DelinquencyReason.TC_RECURRINGNSFREVERSALS_EXT)
        // check if active delinquency is recurring NSF reversals delinquency
    } else {
        var dp = account.ActiveDelinquencyProcesses.firstWhere(\p -> p.Reason ==
            DelinquencyReason.TC_RECURRINGNSFREVERSALS_EXT)
        // if not recurring NSF reversals, then start delinquency
        if(dp == null) {
            account.startDelinquency(DelinquencyReason.TC_RECURRINGNSFREVERSALS_EXT)
        }
    }
}

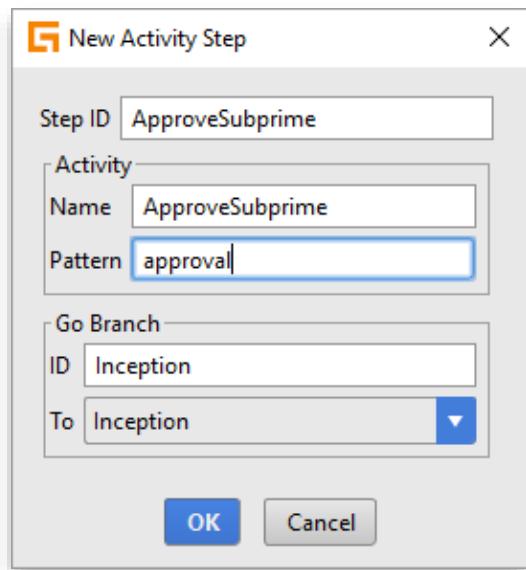
```

#### 4. Create a new workflow process of LegacyDelinquencyOther.



#### 5. Modify LegacyDelinquencyOther[v2] workflow.

- Create ApproveSubprime activity step.



b) Modify ApproveSubprime activity.

Properties: ApproveSubprime Asserts (0) Events (0) Notifications (0) Activities (1) Step Name Localizations

(Activities are created immediately AFTER the Enter block)

**Name:** ApproveSubprime  
**Pattern:** approval  
**Init:**

```

1 Activity.Subject = "Subprime account " + dlnqProcess.Account.AccountNumber + " has entered a delinquency"
2 Activity.Priority = Priority.TC_HIGH
3 Activity.autoAssign()

```

c) Add approval condition to Inception go branch

Properties ApproveSubprime: Inception

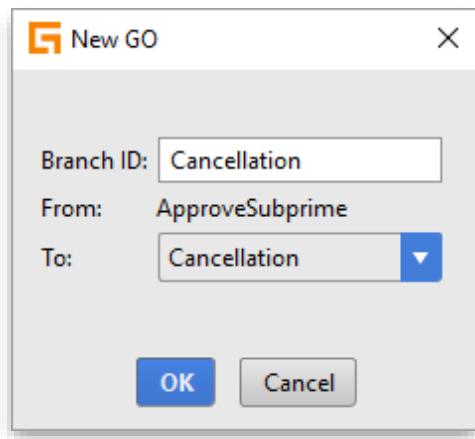
**Branch ID:** Inception

**From:** ApproveSubprime **To:** Inception **Arrow Visible:** true

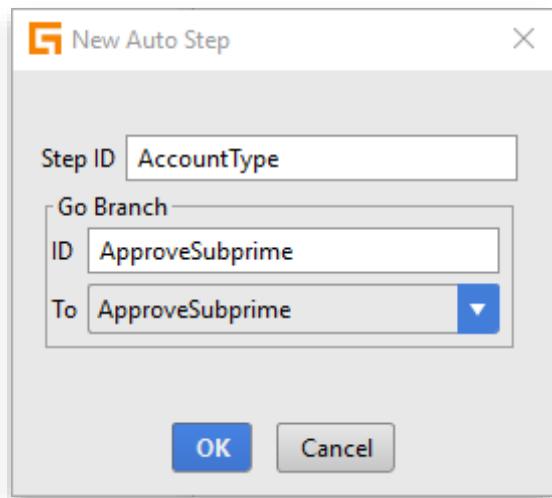
**Description:**

**Condition:** Workflow.Activities.firstWhere(\act -> act.LogicalName == "ApproveSubprime").Approved

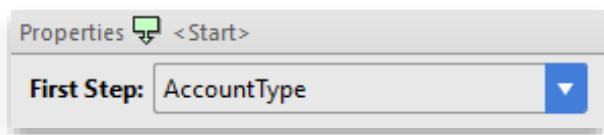
d) Create go branch from ApproveSubprime step to cancellation step.



e) Create AccountType auto step.



f) Modify <Start> block.



g) Add condition to ApproveSubprime go branch.

Properties  AccountType: ApproveSubprime

**Branch ID:** ApproveSubprime

**From:** AccountType **To:** ApproveSubprime  **Arrow Visible:** true 

**Description:**

**Condition:** `acct.Segment == AccountSegment.TC_SUBPRIME`

h) Create GracePeriodIfPersonal manual step.

 New Manual Step X

Step ID

Default Branch

Type  

ID

To  

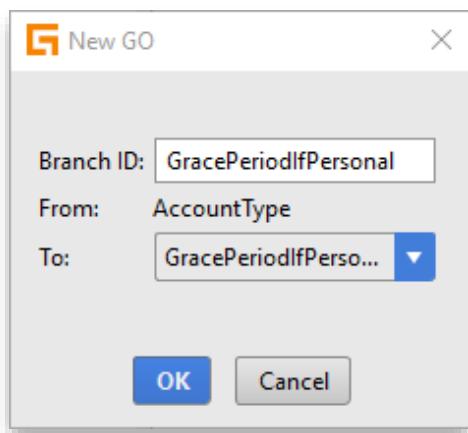
Timeout

Time Delta

Time Absolute

**OK** **Cancel**

i) Create go branch from AccountType step to GracePeriodIfPersonal step.



j) Add condition to GracePeriodIfPersonal go branch.

Properties AccountType: GracePeriodIfPersonal

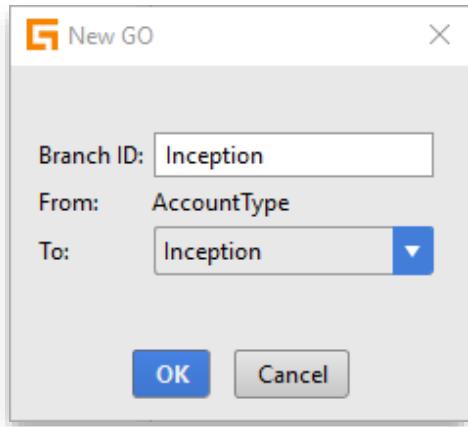
**Branch ID:** GracePeriodIfPersonal

**From:** AccountType **To:** GracePeriodIfPersonal **Arrow Visible:** true

**Description:**

**Condition:** `acct.Segment == AccountSegment.TC_PERSONAL`

k) Create go branch from AccountType to Inception step.



l) Modify Inception step to create a new flagged event called InceptionStarted.

Properties: Inception Asserts (0) Events (0) Notifications (0) Step Name Localizations

**Step ID:** Inception

**Description:**

**Enter Script:**

```

1  dlnqProcess.flagEventCompleted(DelinquencyEventName.TC_INCEPTIONSTARTED_EXT)
2  // inception processing
3  if(dlnqProcess.InceptionDate == null) {
4      dlnqProcess.onInception()
5  }

```

- m) Modify FirstDunningLetter timeout branch.

Properties Inception: FirstDunningLetter

**Branch ID:** FirstDunningLetter

**From:** Inception To: **FirstDunningLetter** Arrow Visible: true

**Description:** Send first dunning letter only when scheduled

**Time Delta:**

**Time Absolute:** dlnqProcess.getTargetDate(DelinquencyEventName.TC\_DUNNINGLETTER1)

**Execution:**

```

1  // send first dunning letter
2  dlnqProcess.Target.sendDunningLetter()
3  dlnqProcess.flagEventCompleted(typekey.DelinquencyEventName.TC_DUNNINGLETTER1)
4
5  // send late fee
6  dlnqProcess.chargeLateFee()
7  dlnqProcess.flagEventCompleted(DelinquencyEventName.TC_LATEFEE)

```

6. Restart server.

7. Create new delinquency plan called NSF Delinquency Plan.

- Clone the DP01 delinquency plan
- In the new plan, enter “NSF Delinquency Plan” in the name field.
- Click on the Workflow tab
- Click the upper add button
- Change the delinquency reason of the new row to “Recurring NSF Reversals”
- Change the Workflow field to “Other Delinquency from Legacy System”
- Add the following events:

Event Name	Trigger	Offset	Relative Order	Automatic
Inception Started	Inception Date	0		Yes
Late Fee	Inception Date	1	0	Yes
Dunning Letter 1	Inception Date	1	1	Yes
Notice of Intent To Cancel	Inception Date	7		Yes

- h) Click the Update button. If you get a warning about localization, just click the update button again to ignore the warning.