



Van Mildert Integration

Project Specification

Grainger

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Overview

Grainger requires to roll out an integration from Salesforce to the tenant referencing service Van Mildert. This integration will be used daily by letting agents is ostensibly beneficial for one reason – it saves the end user, the letting agent, massive amounts of time.

CloudShift proposes a 4-step integration to integrate referencing with Van Mildert:

- 1) CloudShift to build Salesforce Automation to build out the following 4x data flows invoking the Van Mildert REST API:
 - A) Order a new reference (from a Salesforce Opportunity) by sending Opportunity and selected related Contact Roles.
 - B) Cancel a reference order (from a Salesforce Opportunity) by sending a cancellation request from the Opportunity level.
 - C) Add Applicants to an existing order (from a Salesforce Opportunity Contact Role level) if there is a currently active order.
 - D) Cancel one specific applicant on an existing order (from a Salesforce Opportunity Contact Role level) if there is a currently active order.
- 2) Web App to query Salesforce Opportunity Contact roles to get the Van Mildert iframe URLs for every Contact Role. CloudShift to support the inbound REST calls.
- 3) CloudShift to build a custom user interface (Lightning component) that handles authentication to the Van Mildert Tracking Screen via an iframe.
- 4) Van Mildert to build a webhook to inform Salesforce of status updates. CloudShift to support integration delivery.

Responsibility

	Responsible for integration <u>Delivery</u>	Integration <u>Support</u>
Integration 1 A-D	CloudShift	Van Mildert
Integration 2	AND Digital	CloudShift
Integration 3	CloudShift	Van Mildert
Integration 4	Van Mildert	CloudShift

Van Mildert Integration Documents

VM Contact

Jack Thurlbeck <jack@vanmildert.net>

VM Dev

REST Client (1)

API Key: 89f73e40-6acc-11ea-b469-0cc47a423cb4

Secret: 63f062dba7a6441fc512d9c3ff21e127e71e4fb1d04506294e4730b8c5ca9c70

BaseUrl: <https://api.vanmildert.net>

Tracking Reference (3)

Iframe API key: a3154e28-8ad7-4146-9e95-732565659c5c

Base URL: <https://www.vanmildert.net/client-api/granger/>

https://www.vanmildert.net/client-api/granger>ListReferences?api_id=a3154e28-8ad7-4146-9e95-732565659c5c. To track a specific order you can simply pass the api_order_id as a 'oid' parameter e.g. ?oid=12345

https://www.vanmildert.net/client-api/granger>ListReferences?api_id=a3154e28-8ad7-4146-9e95-732565659c5c&oid=VM-testpf1

Child API Keys:

1. d29fc84f-4f18-4785-8be2-751cb4392eb4
2. 955cb474-004a-4725-a808-94e968f379cc
3. 6f8f970d-f3a2-4b73-8c71-e65cc654dbd0

VM Prod

TBD

Prerequisite: Salesforce Configuration

Opportunity

Reference_Order_Cancel__c	Bool	add PL
Reference_Order_Success_Datetime__c	DT	Sys (not PL)
Reference_Order_Cancel_Datetime__c	DT	Sys (not PL)

OpportunityContactRole

Reference_Application_Form_Url__c	Text	add PL
Reference_Order_Success_Datetime__c	DT	Sys (not PL)
Reference_Order_Cancel_Datetime__c	DT	Sys (not PL)
Exempt_Refrencing__c	Bool	add PL

Error Logging

Introduction of new object Error_Logs__c

Fields & Relationships

9 Items, Sorted by Field Label

FIELD LABEL	FIELD NAME	DATA TYPE
Created By	CreatedById	Lookup(User)
Endpoint	Endpoint__c	Long Text Area(32768)
Exception	Exception__c	Long Text Area(32768)
Integration Log Name	Name	Text(80)
Last Modified By	LastModifiedById	Lookup(User)
Method	Method__c	Text(255)
Owner	OwnerId	Lookup(User,Group)
Response Body	Response_Body__c	Long Text Area(131072)
Type	Type__c	Picklist

Custom Settings

Two custom settings are created to store credentials for the API.

Van_Mildert_API__c (Stores API Credentials)

- URL__c VM Base URL
- Username__c VM API Key
- Secret__c VM Secret

- `Client_API_Id__c` VM Client API Key
- `VM_Client_ID__c` (Stores Client API keys for separate Merchant Groups)
- `Name` Grainger Merchant Group / Service User Number
 - `Client_API_Id__c` VM Client API Key

Named credentials are not used due to VM integrations requiring transformation and encoding of the key and secret.

1) REST Ordering Data Flows - Detailed Design

CloudShift to build Salesforce Automation to build out the following 4x data flows invoking the Van Mildert REST API.

Diagram

<https://www.lucidchart.com/documents/edit/39bbc265-9e14-4c02-8e01-7b620e624cf6/GioHEusx8QwW?shared=true>

Authentication

Van Mildert supports a JWT (JSON Web Token) flow. Using the API Key and secret, every callout (A-D) will need to generate a new Authorization JWT using the **/generate-token** endpoint.

The base-URL, client id, and secret shall be stored in a Salesforce Named Credentials (enabling merge fields).

Authentication snippet

<https://drive.google.com/open?id=1d8FwJuvWebNleN26ez98TeOTxqQZCRLv>

1A) Order a new reference flow

Order a new reference (from a Salesforce Opportunity) by sending Opportunity and selected related Contact Roles.

Criteria (Process Builder): (1 OR 2) AND 3 AND 4

```
(( HASCHANGED ( Advance_Payment_Made__c ) ||
( HASCHANGED ( Reference_Order_Cancel__c ) && Reference_Order_Cancel__c = FALSE )
)
&& Opp.Advance_Payment_Made__c == TRUE
&& Opp.Reference_Order_Success_Datetime__c == BLANK
```

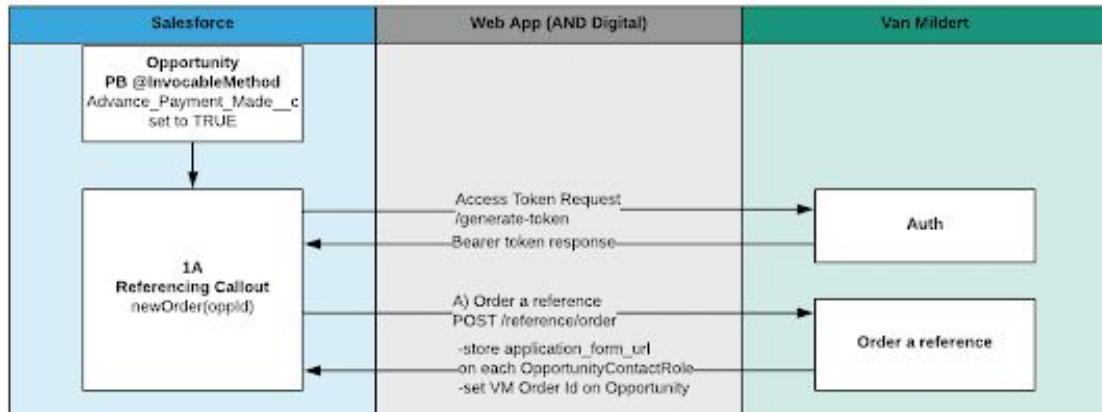
Action (Process Builder):

Fire @InvocableMethod newOrder()
-> async callout to /reference/order

Returns (Apex)

```
Opp.Reference_Order_Success_Datetime__c = NOW()
OCR.Reference_Order_Success_Datetime__c = NOW()
OCR.Reference_Application_Form_Url__c = applicants[n].application_form_url
```

Payload: include all OpportunityContactRoles related to Opportunity, where OCR Active__c == TRUE && Role IN (‘Lead-Tenant’ OR ‘Tenant’ OR ‘Guarantor’)



<https://graingerplc.atlassian.net/browse/CI-3153>

1B) Cancel an order flow

Cancel an order (from a Salesforce Opportunity) by sending a cancellation request from the Opportunity level.

Criteria (Process Builder):

Opp.Reference_Order_Success_Datetime__c == NOT BLANK
&&

(Opp.Reference_Order_Cancel__c == TRUE &&
ISCHANGED(Opp.Reference_Order_Cancel__c))

Action (Process Builder):

Fire @InvocableMethod cancelOrder()
-> async callout to /reference/cancel-order/{api_order_id}

Returns (Apex)

Opp.Reference_Order_Cancel_Datetime__c = NOW()
OCR.Reference_Order_Cancel_Datetime__c = NOW()
OCR.Reference_Application_Form_Url__c = BLANK



1C) Add Applicants to an existing order flow

Add Applicants to an existing order (from a Salesforce Opportunity Contact Role level) if there is a currently active order.

Criteria (Process Builder):

```

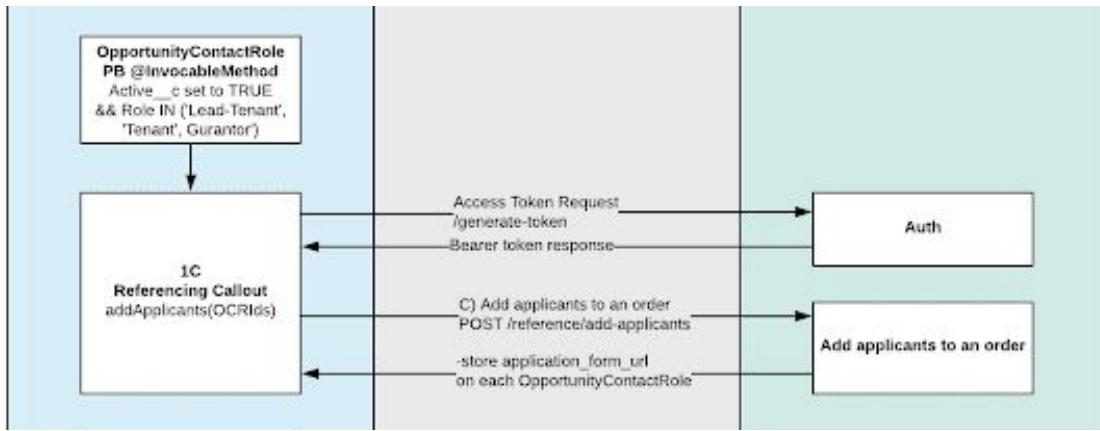
AND(
NOT(Exempt_Refencing__c),
OR(
ISNEW(),
ISCHANGED([OpportunityContactRole].Active__c),
ISCHANGED([OpportunityContactRole].Role)
)
AND(
[OpportunityContactRole].Active__c,
ISBLANK([OpportunityContactRole].Reference_Order_Success_Datetime__c),
NOT(ISBLANK([OpportunityContactRole].Opportunity.Reference_Order_Success_Datetime__c)),
NOT([OpportunityContactRole].Opportunity.Reference_Order_Cancel__c)
)
  
```

Action (Process Builder):

Fire @InvocableMethod addApplicants()
-> async callout to /reference/add-applicants

Returns (Apex)

OCR.Reference_Order_Success_Datetime__c = NOW()
OCR.Reference_Application_Form_Url__c = applicants[n].application_form_url



1D) Cancel specific applicant on an existing order flow

Cancel one specific applicant on an existing order (from a Salesforce Opportunity Contact Role level) if there is a currently active order.

Criteria (Process Builder):

```

(( OCR.Active__c == FALSE && OCR.Active__c Has Changed )
OR ( OCR.Role == 'Permitted Occupier' && OCR.Role Has Changed )
OR ( OCR.Exempt_Refencing__c == TRUE && OCR.Exempt_Refencing__c Has Changed
&& OCR.Reference_Order_Success_Datetime == NOT BLANK
&& OCR.Reference_Order_Cancel_Datetime__c == BLANK

```

Action (Process Builder):

```

Fire @InvocableMethod cancelApplicant()
-> async callout to /reference/cancel-applicant/{applicant_id}

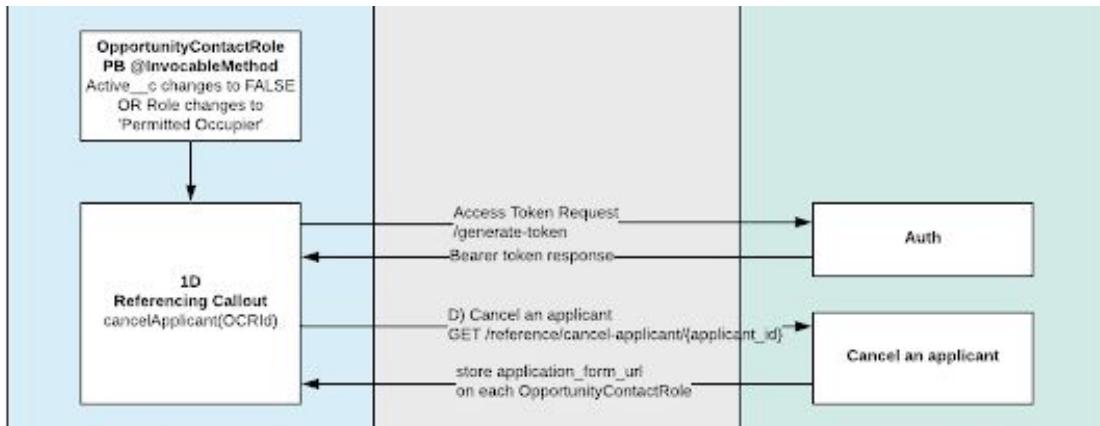
```

Returns (Apex)

```

OCR.Reference_Order_Cancel_Datetime__c = NOW()
OCR.Reference_Application_Form_Url__c = BLANK
OCR.Reference_Order_Success_Datetime = BLANK

```



2) Web App to access Van Mildert iframe

Web App to query Salesforce Opportunity Contact roles to get the Van Mildert iframe URLs for every Contact Role. CloudShift to support the inbound REST calls.

Access Token Request:

```
curl -X POST \
  https://test.salesforce.com/services/oauth2/token \
  -F grant_type='password' \
  -F
client_id='3MVG91LYYD804krTHz8FRdSm.bwoAmVB8PpE8Rr6TF2dWDIyWI6lscShkXrm4FB1JxMpvQn8x
1DAZ3xZSKJp6' \
  -F
client_secret='DC68532B55F77870293F7747607675B8A3C7295D14DAB793F896C18264B6CF97' \
  -F username='webappintegration@grainger.com.uat' \
  -F password=''
```

Returns:

```
{
  "access_token": "00D0C000000XfI!AQMAQAnhq9G7Q1qz6E21itruadQ1ssiIBa0XzQi_obMJ58ruYUeITl50fnEG4J_zQm1jYJacibaxJw3k_F6_bqm.lwHbShrw",
  "instance_url": "https://graingerplc--uat.my.salesforce.com",
  "id": "https://test.salesforce.com/id/00D0C000000XfIUAU/0050C000001uZB9QAM",
  "token_type": "Bearer",
  "issued_at": "1587721583998",
  "signature": "HphJ12FoJpdazTSta/j9zqDXRiM/mNRZ7YgEWMDkN08="}
```

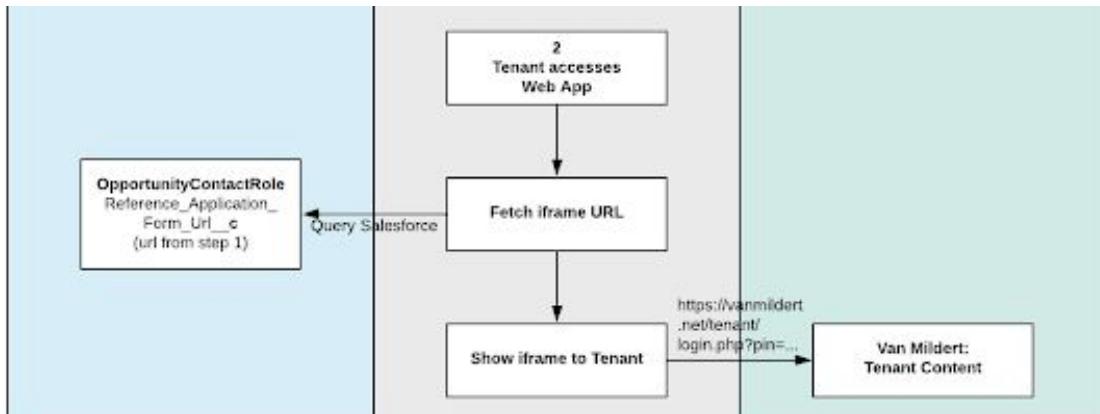
Query OpportunityContactRoles:

```
curl
[INSTANCE_URL]/services/data/v47.0/sobjects/Opportunity/[OPPORTUNITY_ID]/OpportunityContactRoles
?fields=Id,Reference_Application_Form_Url__c \
-H 'Authorization: Bearer [ACCESS_TOKEN]'
```

Returns:

```
{
  "totalSize": 1,
  "done": true,
  "records": [
    {
      "attributes": {
        "type": "OpportunityContactRole",
        "url": "/services/data/v47.0/sobjects/OpportunityContactRole/00K0C000001Ip8HUAS"
      },
      "Id": "00K0C000001Ip8HUAS",
      "Reference_Application_Form_Url__c": null
    }
  ]
}
```

In Order for WebApp to access *OpportunityContactRole.Reference_Application_Form_Url_c* they will need to use **INT-WEB16**. Which can also be located on [Integration Tracker Grainger](#)



3) Van Mildert Tracking Screen in Salesforce

CloudShift to build a custom user interface (Lightning component) that handles authentication to the Van Mildert Tracking Screen via an iframe. Lightning Aura Component to be exposed on Opportunity Record Page (flexipage).

Authenticate upon initialisation of iframe: Apex Controller to get Client API Id and append with Opportunity Id query parameters:

Example

https://www.vanmildert.net/client-api/granger>ListReferences?api_id=a3154e28-8ad7-4146-9e95-73256569c5c&oid=VM-testpf1

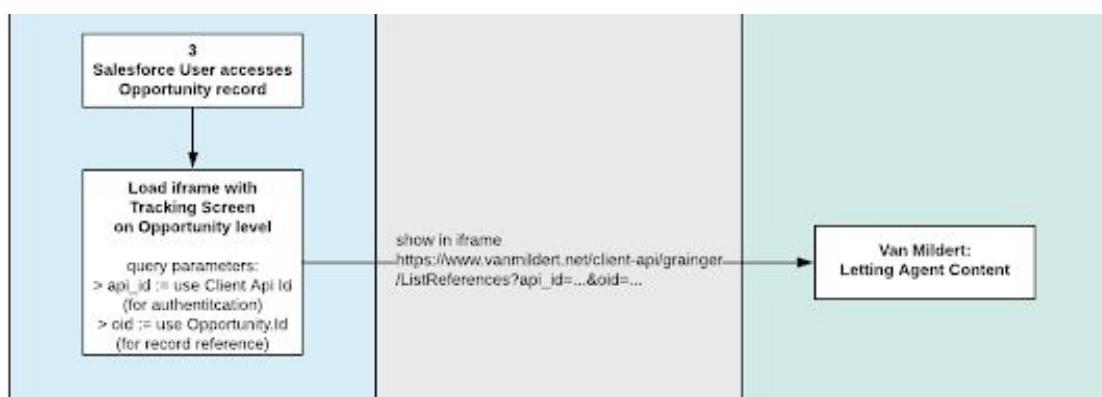
- *api_id* := 'Client API Id'
- *oid* := Opportunity.Id

Apex Controller

- Obtain endpoint from Custom Settings
- Query Opportunity record
- Append Opportunity.Id to Endpoint
- Return URL
 - EndpointUrl if
 - Opp.Reference_Order_Success_Datetime__c != BLANK && Opp.Reference_Order_Cancel_Datetime__c == BLANK
 - Else NULL

Aura Component

- Only render iframe if EndpointUrl is not NULL
 - <aura:if> statement in component



4) Van Mildert to notify Salesforce via Webhook

Van Mildert to build a webhook to inform Salesforce of status updates. CloudShift to support integration delivery by providing details with curl's:

- curl #1: authorize -> Bearer token
 - curl #2: PATCH OpportunityContactRole
 - Applicant's 'Current Address' to be returned (on Contact / Person Account)
 - Contact record standard Address fields
 - Applicant's 'Status' to be returned (near real time)
- OpportunityContactRole.Reference_Check_Status__c** (Picklist):
- Not Started
 - In Progress
 - Completed



Access Token Request:

```
curl -X POST \
  https://test.salesforce.com/services/oauth2/token \
  -F grant_type='password' \
  -F
client_id='3MVG91LYYD804krTHz8FRdSm.bwoAmVB8PpE8Rr6TF2dWDIyWI6lscShkXrm4FB1JxMpvQn8x
1DAZ3xZSKJp6' \
  -F
client_secret='DC68532B55F77870293F7747607675B8A3C7295D14DAB793F896C18264B6CF97' \
  -F username='vanmildertintegration@grainger.com.uat' \
  -F password='ihQ4uvhv58vhTzx'
```

Returns:

```
{  
    "access_token":  
"00D0C000000XfI!AQMAQAnhq9G7Q1qz6E21itruadQ1ssiIBa0XzQi_obMJ58ruYUeITl50fnEG4J_zQm1  
jYJacIBaxJw3k_F6_bqm.lwHbShrw",  
    "instance_url":"https://graingerplc--uat.my.salesforce.com",  
    "id":"https://test.salesforce.com/id/00D0C000000XfIUAU/0050C000001uZB9QAM",  
    "token_type":"Bearer", "issued_at":"1587721583998",  
    "signature": "HphJ12FoJpdazTSTa/j9zqDXRiM/mNRZ7YgEWMDkN08="  
}
```

Update OpportunityContactRole Status and Contact Address

```
curl [INSTANCE_URL]/services/data/v47.0/composite \
-H 'Authorization: Bearer [ACCESS_TOKEN]' \
-H "Content-Type: application/json" \
-d '{
    "allOrNone" : true,
    "compositeRequest" : [
        {
            "method" : "PATCH",
            "url" :
"/services/data/v47.0/sobjects/OpportunityContactRole/[CONTACT_ROLE_ID]",
            "referenceId" : "UpdatedOCR",
            "body" : {
                "Reference_Check_Status__c" : "[VALUE]",
                "Reason_for_Removal__c" : "[VALUE]"
            }
        },
        {
            "method" : "GET",
            "referenceId" : "OCRInfo",
            "url" :
"/services/data/v47.0/sobjects/OpportunityContactRole/[CONTACT_ROLE_ID]?fields=Conta
ctId"
        },
        {
            "method" : "PATCH",
            "url" : "/services/data/v47.0/sobjects/Contact/@{OCRInfo.ContactId}",
            "referenceId" : "UpdatedContact",
            "body" : {
                "MailingCity" : "[VALUE]",
                "MailingCountry" : "[VALUE]",
                "MailingPostalCode" : "[VALUE]",
                "MailingState" : "[VALUE]",
                "MailingStreet" : "[VALUE]"
            }
        }
    ]
}'
```

Returns:

```
{
  "compositeResponse": [
    {
      "body": null,
      "httpHeaders": {},
      "httpStatusCode": 204,
      "referenceId": "UpdatedOCR"
    },
    {
      "body": {
        "attributes": {
          "type": "OpportunityContactRole",
          "value": "OpportunityContactRole"
        }
      }
    }
  ]
}
```

```
        "url":  
        "/services/data/v47.0/sobjects/OpportunityContactRole/00K0C000001Ip8HUAS"  
    },  
    "ContactId": "0030C000008oZfEQAU",  
    "Id": "00K0C000001Ip8HUAS"  
},  
"httpHeaders": {},  
"httpStatusCode": 200,  
"referenceId": "OCRIInfo"  
},  
{  
    "body": null,  
    "httpHeaders": {},  
    "httpStatusCode": 204,  
    "referenceId": "UpdatedContact"  
}  
]  
}
```

Further Content / Notes

Referencing Diagram:

<https://www.lucidchart.com/documents/edit/39bbc265-9e14-4c02-8e01-7b620e624cf6/GioHEusx8QwW?shared=true>

Van Mildert API Docs:

<https://api.vanmildert.net/documentation/index>

Grainger Field Mapping

https://graingerplc.sharepoint.com/:r/sites/Connect/_layouts/15/Doc.aspx?sourcedoc=%7B23D259C0-7254-4827-8DD5-BDD24FB3AA3E%7D&file=Refurbishment%20Requirements.xlsx&action=default&mobileredirect=true&cid=cb1b2311-8489-403f-a177-477d642db5cd

Jira Epic (matrix):

<https://graingerplc.atlassian.net/wiki/spaces/CON/pages/21135594/EPIC+MATRIX+Reference+John>

Jira Epic: <https://graingerplc.atlassian.net/browse/CI-6354>