Deltek

Deltek Maconomy® 2.4.4

Integration with Deltek CRM

May 22, 2019

This edition published May 2019.

Contents

Overview

This document details the integration between Deltek CRM and Maconomy. This integration enables Maconomy customers to use Deltek CRM to manage contacts and opportunities while utilizing Maconomy for their ERP solution.

This document is divided into three main sections:

- **Setup**, which includes setup on both systems as well as the initial integration
- **Routine Procedures**, such as syncing employees
- **Common Errors**

The following prerequisites are required:

- Maconomy 2.4.4
- Deltek Professional Services (DPS) 1.1, Vision 7.6 or Vantagepoint.
- Configurations in both Deltek CRM and Maconomy are completed
- Creation of user-defined fields and hubs are completed in Deltek CRM

Technical Considerations

The integration between Maconomy and Deltek CRM communicates via HTTPS over port 443. If your instance of Deltek CRM and/or Maconomy is hosted in the Deltek cloud, you will not need to make any changes to your system to support the integration. However, if you have either Deltek CRM or Maconomy deployed on premises with the other product hosted in the Deltek cloud, you will need to ensure that your on-premise application server for either product has port 443 open to the internet so that it can properly communicate with the cloud-based application server.

In addition, if your network security infrastructure is employing any sort of URL-based traffic filtering, you will need to ensure that you configure that filter to allow all traffic from/to the URL used to access the cloud-based product.

If both Deltek CRM and Maconomy are deployed on premises, you will only need to ensure that port 443 is open between both application servers via your internal network and that you are not filtering the URL used to access either application.

Workflows

Job Creation and Maintenance

In Deltek CRM, the Maconomy tab on the Opportunity and on the Firm contains information about the Maconomy integration.

When an opportunity is created in Deltek CRM, you can indicate on the Opportunity that Proposal and Fee Projects should be created in Maconomy. To do this, ensure that the fields for project creation are selected in Deltek CRM. A background task in Maconomy polls the Deltek CRM database for opportunities for which Proposal or Fee Projects must be created. Based on the output, a project is created in Maconomy, taking information from Deltek CRM about customer, company, project name, and so on, as well as basic project setup from a template job.

You can indicate on a firm (customer) in Deltek CRM the creation of a Relationship Project in Maconomy.

Fields on the projects in Maconomy are populated with basic information about the job type (Proposal, Fee, or Relationship), opportunity name, opportunity ID, and opportunity status.

When a project is created in Maconomy, basic information about Maconomy project number, name, and status flow back to Deltek CRM.

When a project is created from an opportunity, some fields are closed on the opportunity and are modified only in Maconomy (for example, start date, end date, and project manager).

An opportunity closed as **Lost** generates two notifications for the project manager in Maconomy that Proposal and Fee jobs can be closed.

An opportunity closed as **Won** generates a notification for the project manager in Maconomy that the opportunity is won (indicating that the fee job can be submitted for final approval).

Opportunities closed as won or lost will continue to be updated with Maconomy job information. Only the budget amount will remain unchanged.

Customer Creation and Maintenance

If a customer does not exist in the Maconomy database, a customer record is created in Maconomy (before job creation) based on the customer information in Deltek CRM. You can also manually initiate Maconomy customer creation from the company (customer) in Deltek CRM. It is a configuration option whether the Maconomy customer number is taken from a Maconomy number series or the Deltek CRM Company ID is used.

Customers are created in Deltek CRM. Some customer information is available in both Deltek CRM and Maconomy (customer name and address) and are maintained only in Deltek CRM. Most other types of information only reside in one system and are updated in the relevant user interface.

A link on the customer in Maconomy gives you easy access to the company in Deltek CRM.

Background Tasks

The Background Task functionality in Maconomy polls the Deltek CRM database for information about opportunities, jobs, dimensions, companies, employees, and customers to synchronize databases. You can choose to run the synchronization manually or on a scheduled basis.

Field Mapping

The following tables show field mappings between Deltek CRM and Maconomy.

Customer Creation (Deltek CRM to Maconomy)

The following information from the firm in Deltek CRM is used to create the customer in Maconomy.

Deltek CRM Field	Maconomy Field	Notes
	Customer No. (Customer.CustomerNumber)	This comes from a Maconomy number series or is equal to the Deltek CRM company ID (depending on a system parameter in Maconomy).

Deltek CRM Field	Maconomy Field	Notes
Company No./Company ID (CL.Client)	Deltek CRM Customer ID (Customer.CRMCustomerID)	This is the company/customer ID from Deltek CRM.
Company Instance Key (CL.ClientID)	Deltek CRM Customer Key (Customer.CRMCustomerKey)	This is the company/customer instance key from Deltek CRM.
Customer Name (CL.Name)	Name 1 (Customer.Name1)	
Primary Address (CLAddress.Address1)	Name 2 (Customer.Name 2)	
Primary Address (CLAddress.Address2)	Name 3 (Customer.Name 3)	
Primary Address (CLAddress.Address3)	Name 4 (Customer.Name 4)	
City (CLAddress.City)	City (Customer.PostalDistrict)	
Zip (CLAddress.Zip)	Zip Code (Customer.ZipCode)	
State (CLAddress.State)	Depending on setup (Country or Name5)	Configuration option
Country (CLAddress.Country)	Depending on setup (Country or Name5)	Configuration option
Phone (CLAddress.Phone)	Phone (Customer.Telephone)	
Account Manager (UD employee number lookup – ClientCustomTabFields.custAccountManager)	Account Manager (Customer.AccountManagerNumber)	

Customer Creation (Maconomy to Deltek CRM)

The following information flows back to the CRM Firm.

Deltek CRM Field	Maconomy Field	Notes
Maconomy Customer No. (UD character – CustMaconomyCustomerNumber)	Customer No. (Customer.CustomerNumber)	

Customer Update (Deltek CRM to Maconomy)

The following information is maintained on the Firm in Deltek CRM after creation and flows back to Maconomy.

Deltek CRM Field	Maconomy Field	Notes
Name (CL.Name)	Customer.CrmCustomerName	
ID (CL.Client)	Customer.CrmCustomerId	
Address 1 (CLAddress.Address1)	Customer.Name2	
Address 2 (CLAddress.Address2)	Customer.Name3	
Address 3 (CLAddress.Address3)	Customer.Name4	
City (CLAddress.City)	Customer.PostalDistrict	
ZIP (CLAddress.ZIP)	Customer.ZIPCode	
Phone	Customer.Telephone	
Fax	Customer.Telefax	
Country (CLAddress.Country)	Customer.Country (depends on country/state setup)	
State (CLAddress.State)	Customer.Name5 (depends on country/state setup)	
Account Manager (ClientCustomTabFields.CustAccountManager)	Customer.AccountManager	

Fee and Proposal Job Creation (Deltek CRM to Maconomy)

Deltek CRM Field	Maconomy Field	Notes
Opportunity Name (opportunity.name) + Job Template Name	Job Name (JobHeader.JobName)	Name of Fee job
Opportunity Name (opportunity.name) + Job Template Name	Job Name (JobHeader.JobName)	Name of Proposal job

Deltek CRM Field	Maconomy Field	Notes
Opportunity Key (Opportunity.OpportunityID)	Jobheader.CRMOpportunityKey	Deprecated with Vantagepoint integration. Opportunity ID is the only value users now see.
Opportunity ID (Opportunity.Opportunity)	Jobheader.CRMOpportunityID	
Opportunity Name	Jobheader.CRMOpportunityName	
	CRM Job Type (Jobheader.CRMJobType)	Indicates job type. "Fee" if the job was created as a fee job and "Proposal" if the job was created as a proposal.
Kona Space (Opportunity.KonaSpace)	Kona Space (JobHeader.KonaSpaceNumber)	
Company No. (Opportunity.ClientID)	CRM Customer Key (CRMCustomerKeyVar)	
(Opportunity.Org)	Company No. (JobHeader.CompanyNumber)	
Fee project: Currency (Opportunity.CustomCurrencyCode)	Currency (JobHeader.Currency)	The Fee Project will use the currency of the opportunity.
Proposal project: Currency (Opportunity.CustomCurrencyCode)	Currency (JobHeader.Currency)	The Proposal Project will use the currency of the company.
Project Manager (Opportunity.ProjMgr)	Project Manager (JobHeader.ProjectManagerNumber)	
Start Date Fee job = Opportunity.EstStartDate;	Start Date (JobHeader.StartingDate)	Two different fields for Proposal and Fee jobs

Deltek CRM Field	Maconomy Field	Notes
Proposal job = Opportunity.OpenDate)		
End Date Fee job = Opportunity.EstCompletionDate; Proposal Job = Opportunity.EstStartDate)	Expected Ending Date (JobHeader.ExpectedEndingDate)	Two different fields for Proposal and Fee jobs
Location Dimension (OpportunityCustomTabFields.CustLocation)	Location (JobHeader.LocationName)	Dimensions are used only during job creation. No additional synchronization occurs.
Entity Dimension (OpportunityCustomTabFields.CustEntity)	Entity (JobHeader.EntityName)	Dimensions are used only during job creation. No additional synchronization occurs.
Project Dimension (OpportunityCustomTabFields.CustProject)	Project (JobHeader.ProjectName)	Dimensions are used only during job creation. No additional synchronization occurs.
Purpose Dimension (OpportunityCustomTabFields.CustPurpose)	Purpose (JobHeader.PurposeName)	Dimensions are used only during job creation. No additional synchronization occurs.
Specification 1 Dimension (OpportunityCustomTabFields.CustSpecification1)	Specification 1 (JobHeader.Specification1Name)	Dimensions are used only during job creation. No additional synchronization occurs.
Specification 2 Dimension (OpportunityCustomTabFields.CustSpecification2)	Specification 2 (JobHeader.Specification2Name)	Dimensions are used only during job creation. No additional synchronization occurs.
Specification 3 Dimension (OpportunityCustomTabFields.CustSpecification3)	Specification 3 (JobHeader.Specification3Name)	Dimensions are used only during job creation. No additional synchronization occurs.
Specification 4 Dimension (OpportunityCustomTabFields.CustSpecification4)	Specification 4 (JobHeader.Specification4Name)	Dimensions are used only during job creation. No

Deltek CRM Field	Maconomy Field	Notes
		additional synchronization occurs.
Specification 5 Dimension (OpportunityCustomTabFields.CustSpecification5)	Specification 5 (JobHeader.Specification5Name)	Dimensions are used only during job creation. No additional synchronization occurs.
Specification 6 Dimension (OpportunityCustomTabFields.CustSpecification6)	Specification 6 (JobHeader.Specification6Name)	Dimensions are used only during job creation. No additional synchronization occurs.
Specification 7 Dimension (OpportunityCustomTabFields.CustSpecification7)	Specification 7 (JobHeader.Specification7Name)	Dimensions are used only during job creation. No additional synchronization occurs.
Specification 8 Dimension (OpportunityCustomTabFields.CustSpecification8)	Specification 8 (JobHeader.Specification8Name)	Dimensions are used only during job creation. No additional synchronization occurs.
Specification 9 Dimension (OpportunityCustomTabFields.CustSpecification9)	Specification 9 (JobHeader.Specification9Name)	Dimensions are used only during job creation. No additional synchronization occurs.
Specification 10 Dimension (OpportunityCustomTabFields.CustSpecification10)	Specification 10 (JobHeader.Specification10Name)	Dimensions are used only during job creation. No additional synchronization occurs.
Template Fee Job = Fee Job Template (OpportunityCustomTabFields.CustFeeJobTemplate) Proposal Job = Proposal Job Template (OpportunityCustomTabFields.CustProposalJobTemplate)	Job Template No. (JobHeader.TemplateJobNumber)	
Probability (Opportunity.Probability)	Probability % (JobHeader.ProbabilityPercentage)	For Fee jobs in quote only

Proposal Job (Maconomy to Deltek CRM)

Deltek CRM Field	Maconomy Field	Notes
Proposal Job No. (UDF) (OpportunityCustomTabFields.custProposalJobNumber)	Job Number (JobHeader.JobNumber)	
Proposal Job Name (UDF) (OpportunityCustomTabFields.custProposalJobName)	Job Name (JobHeader.JobName)	
Proposal Job Status (UDF) (OpportunityCustomTabFields.custProposalJobStatus)	Open/Closed (JobHeader.Closed)	

Proposal Job Update (Deltek CRM to Maconomy)

Deltek CRM Field	Maconomy Field	Notes
Name (Opportunity.Name)	JobHeader.CrmOpportunityName	
ID (Opportunity.Opportunity)	JobHeader.CrmOpportunityId	
Stage (Opportunity.Stage)	JobHeader.CrmJobStage (Won/Lost)	

Fee Job (Maconomy to Deltek CRM)

Deltek CRM Field	Maconomy Field	Notes
Client (Opportunity.ClientID)	Customer Number (JobHeader.CustomerNumber)	
Fee Job No. (UDF) (OpportunityCustomTabFields.custFeeJobNumber)	Job Number (JobHeader.JobNumber)	
Fee Job Name (UDF) (OpportunityCustomTabFields.custFeeJobName)	Job Name (JobHeader.JobName)	
Fee Job Phase (UDF) (OpportunityCustomTabFields.custFeeJobPhase)	Quote/Order (JobHeader.Status)	
Fee Job Status (UDF) (OpportunityCustomTabFields.custFeeJobStatus)	Open/Closed (JobHeader.Closed)	

Deltek CRM Field	Maconomy Field	Notes
Revenue (Opportunity.Revenue)	Total Budget (JobHeader.BudgetBillingPrice Currency)	Updated at job budget approval
Currency (Opportunity.CustomCurrenc yCode)	Currency (JobHeader.Currency)	Updated at job budget approval
Fee Job State (Opportunity.CustomTabFiel ds.CustFeeJobState	Job State (JobHeader.JobState)	Updated when changed, usually upon job approval
Date of last state change (Opportunity.CustomTabFiel ds.CustStateChangedDate)	Current Date	Updated when Job State changes, usually upon job approval
Start Date Opportunity.EstStartDate	Start Date (JobHeader.StartingDate)	Updated when changed
End Date Opportunity.EstCompletionD ate	Expected Ending Date (JobHeader.ExpectedEndingDa te)	Updated when changed
Project Manager (Opportunity.ProjMgr)	Project Manager (JobHeader.ProjectManagerNu mber)	Updated when changed

Fee Job Update (Deltek CRM to Maconomy)

Deltek CRM Field	Maconomy Field	Notes
Name (Opportunity.Name)	JobHeader.CrmOpportunityNa me	
ID (Opportunity.Opportunity)	JobHeader.CrmOpportunityId	
Stage (Opportunity.Stage)	JobHeader.CrmJobStage (Won/Lost)	
Probability (Opportunity.Probability)	JobHeader.ProbabilityPercenta ge	Only if the Fee job is in quote

Relationship Job Creation (Deltek CRM to Maconomy)

Deltek CRM Field	Maconomy Field	Notes
	Job Number (JobHeader.JobNumber)	From Maconomy number series
Customer name + Template Job Name	Job Name (JobHeader.JobName)	
Company No	Customer No. (JobHeader.CustomerNumber)	
CustRelationshipJobOrganization	Company No. (JobHeader.CompanyNumber)	
	Currency (JobHeader.Currency)	Currency is the currency of the Maconomy company.
Relationship Job Template (UDF) (CustRelationshipJobTemplate)	Job Template No. (JobHeader.TemplateJobNumber)	
	CRM Job Type (Jobheader.CRMJobType)	Indicates job type. “Relationship” if the job was created as a Relationship job.
Project Manager (UDF) (CustProjectManager)	Project Manager (JobHeader.ProjectManagerNumber)	
Location Dimension (ClientCustomTabFields.CustLocation)	Location (Customer.LocationName)	
Entity Dimension (ClientCustomTabFields.CustEntity)	Entity (Customer.EntityName)	
Project Dimension (ClientCustomTabFields.CustProject)	Project (Customer.ProjectName)	
Purpose Dimension (ClientCustomTabFields.CustPurpose)	Purpose (Customer.PurposeName)	

Deltek CRM Field	Maconomy Field	Notes
Specification 1 Dimension (ClientCustomTabFields.CustSpecification1)	Specification 1 (Customer.Specification1Name)	
Specification 2 Dimension (ClientCustomTabFields.CustSpecification2)	Specification 2 (Customer.Specification2Name	
Specification 3 Dimension (ClientCustomTabFields.CustSpecification3)	Specification 3 (Customer.Specification3Name	
Specification 4 Dimension (ClientCustomTabFields.CustSpecification4)	Specification 4 (Customer.Specification4Name	
Specification 5 Dimension (ClientCustomTabFields.CustSpecification5)	Specification 5 (Customer.Specification5Name	
Specification 6 Dimension (ClientCustomTabFields.CustSpecification6)	Specification 6 (Customer.Specification6Name	
Specification 7 Dimension (ClientCustomTabFields.CustSpecification7)	Specification 7 (Customer.Specification7Name	
Specification 8 Dimension (ClientCustomTabFields.CustSpecification8)	Specification 8 (Customer.Specification8Name	
Specification 9 Dimension (ClientCustomTabFields.CustSpecification9)	Specification 9 (Customer.Specification9Name	
Specification 10 Dimension (ClientCustomTabFields.CustSpecification10)	Specification 10 (Customer.Specification10Name	

Relationship Job (Maconomy to Deltek CRM)

Deltek CRM Field	Maconomy Field	Notes
CustRelationshipJobNumber	Job Number (JobHeader.JobNumber)	
CustRelationshipJobName	Job Name (JobHeader.JobName)	
CustRelationshipJobStatus	Open/Closed (JobHeader.Closed)	

Employees

Employees are created and maintained in Maconomy. A scheduled task synchronizes the Employee table in Deltek CRM with Maconomy data.

During synchronization, the Terminated status is set for Employees with the Terminated Date earlier than the current date.

Deltek CRM Field	Maconomy Field	Notes
Employee	Employee.EmployeeNumber	Once **Display leading zeroes** is enabled, the employee number is appended with leading zeroes.
FirstName	FirstName	
MiddleName	MiddleName	
LastName	LastName	
Type	N/A	Always type E
Country	Employee.Country	Maps the country name on the Maconomy employee to the country ISO code.
Email	Employee.ElectronicMailAddress	
Phone	Employee.Telephone	
Status	Employee.TerminationDate	Status set to **Terminated** if the employee is terminated in Maconomy.

Companies

Companies are created and maintained in Maconomy. A scheduled task synchronizes the Companies table in Deltek CRM with Maconomy data.

Blocked companies in Maconomy are set to inactive in Deltek CRM.

Maconomy to Deltek CRM – Company to CFGOrgCode

Deltek CRM Field	Maconomy Field	Notes
Code	Company.CompanyNumber	
OrgLevel	N/A	Always 1
Label	Company.CompanyNumber	
Status		Type A (Active) If blocked in Maconomy = Type I (Inactive)

Maconomy to Deltek CRM – Company to Organization

Deltek CRM Field	Maconomy Field	Notes
Org	Company.CompanyNumber	
Name	Company.Name1	
Status		Type A (Active). If blocked in Maconomy = Type I (Inactive)

Dimensions

Dimensions are created and maintained in Maconomy. You can configure synchronization of the Maconomy dimensions Location, Entity, Project, Purpose, Specification 1, Specification 2, and Specification 3 with corresponding user-defined tables for the opportunity in Deltek CRM.

Blocked dimensions in Maconomy are marked as blocked in Deltek CRM.

Maconomy to Deltek CRM

Deltek CRM Field	Maconomy Field	Notes
CustNumber	Name	
CustName	Description	
CustBlocked	Blocked	If Blocked = [Blocked]

Deltek CRM Field	Maconomy Field	Notes
		Otherwise = " " (single whitespace)

Job Templates

Job Templates are created and maintained in Maconomy. A background task synchronizes the Job Templates table in Maconomy with the corresponding user-defined table in Deltek CRM.

Maconomy to Deltek CRM

Deltek CRM Field	Maconomy Field	Notes
CustNumber	Job Number (JobHeader.JobNumber)	
CustName	Job Name (JobHeader.JobName)	
CustCompanyNumber	[+ Company Number +] (JobHeader.CompanyNumber)	

Deltek CRM Setup

Integration Setup

To enable the Deltek CRM portion of the integration:

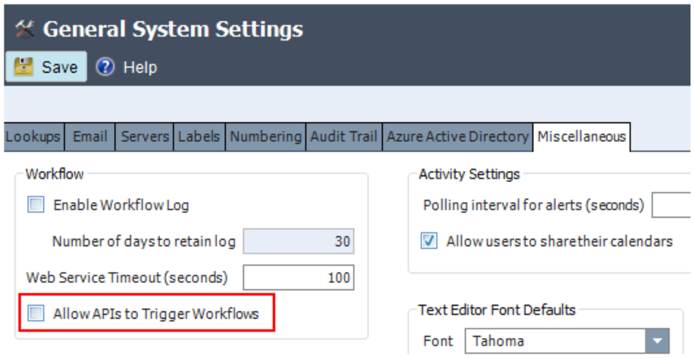
1. From DPS, log in as setup user and complete the Activation steps in order. Fields with the info icon have context-sensitive help. Clicking the ⓘ icon shows additional information for the field.
    a. **Activate Modules** — Accept the default values by clicking **Done Activating Modules**.
    b. **Activate Defaults** — On the Industry Defaults tab, select the applicable industry and country and click **Use Industry Defaults**. In WBS Structure, accept the default values and click **Set WBS Structure**. Use the default values for work breakdown structure (WBS) settings. Note that **Enable WBS2** is set to No and should not be changed, even if your organization is using WBS2. When done, click **Done Activating Defaults**.
    c. **Activate Email** — Provide the default email addresses and click **Done Activating Email**.
    d. **Activate Currencies** — On the Currency tab, select the main (functional) currency, provide details, and click **Enable Multicurrency**. On the Multicurrency tab, add the currencies in use and click **Save**. On the Exchange Rates tab, enter the exchange rate for each currency you use and click **Save**. When done, click **Done Activating Currencies**.

    > **Note:** Because you are not using the DPS Accounting module, you do not need to enter exchanges rates frequently. However, you may need them for historical reporting purposes.

    e. **Activate Organizations** — Click **No** and enter the corporate name of your enterprise in the field. When done, click **Done Activating Organizations**.

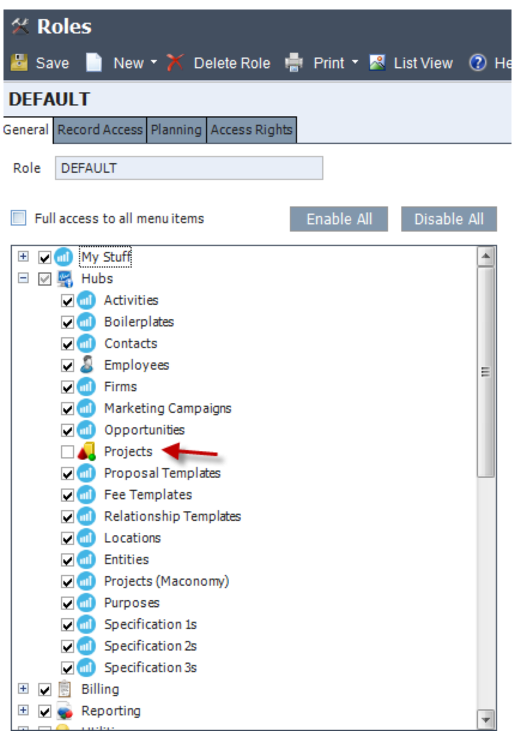
    > **Note:** Even if you have several profit centers or business units that you track separately, **you must always answer No** for this section. The integration tool sets up your organization structure automatically.

2. Click **OK** and **Done** in the popup messages that display.
3. Log out from set up and log back in as admin user.
4. Go to **Utilities » Integrations » Maconomy** and click **Add Fields and Workflows**.
5. Proceed with setting up user-defined hubs (UDHs) and workflows (see Appendix A — User-Defined Hubs and Elements for details).
6. From Deltek CRM, log in and go to **Configuration » General » System Settings » Miscellaneous**. Then, clear the **Allow APIs to Trigger Workflows** check box to prevent workflows from running every sync.



7. Go to **Configuration » Security » Roles** and click **New**.

> **Note:** When creating roles, make sure to hide the Project fields in other hubs by clearing the check box.
>
> For all roles in Opportunities, hide the regular and promo project.
>
> For all roles in Activities, hide the project field.
>
> For all roles in Contacts and Firms, hide the projects grid.
>
> For all roles, clear the check box for Reports and Lookups.



8. For non-admin roles, clear the check box for the following UDHs:
    - Proposal Templates
    - Fee Templates

- Relationship Templates
- Locations
- Entities
- Projects (Maconomy)
- Purposes
- Specification 1–10

9. Remove dimensions that are not used in UDHs, Opportunities, and Firms.
10. Remove fields and workflow from UDHs.
11. Firm Auto Number must be configured if Deltek CRM Firm numbers are used for Maconomy Customer numbers. Go to **General » System Settings » Numbering** and set Auto Number Source and Auto Number Format for the **Firm Number** field. The **Allow Override of Auto Number** check box must be cleared (read-only).
12. Go to **Configuration » Security » Users** and ensure that Windows Authentication is selected.
13. Enable the system setting **Search on Active employees only when using employee quick lookup**.
    - Employee key format — Employee length must be 20 and “Display leading zeroes” must be enabled.
    - Organizations key format — Organization level must be 1, and delimiter must be empty. The length must be 14.
14. Add currency codes that correspond to the currency codes in Maconomy.
15. Add country codes that correspond to the country codes in Maconomy.
16. Company ID Auto Number must be configured if Deltek CRM Company IDs are used for Maconomy Customer numbers. Go to **General » System Settings » Numbering** and set Auto Number Source and Auto Number Format for the **Company ID** field. The **Allow Override of Auto Number** check box must be cleared (read-only).

Note: Your username must be associated with an employee record that has a language assigned to it in order to avoid workflow errors. If you are using a user that is not associated with an employee record, such as an admin user, many of the workflows will not work correctly.

Maconomy Setup

Integration Setup

Assumptions

When the background task creates jobs or customers in Maconomy, job or customer records are populated with information from Deltek CRM. Some of this information must be available in the Maconomy database for the record to be created successfully. The background tasks include an automatic synchronization of Employee, Job Template, select Dimensions, and Company data from Maconomy to Deltek CRM. You must maintain other standing data manually. You must synchronize the following tables in Deltek CRM manually with the corresponding data in Maconomy:

- Users
- Currencies
- Countries

In addition:

- An opportunity in Deltek CRM is always linked to a company/customer, to an organization (Maconomy company), and to a project manager. Dimensions that are mandatory on the job in Maconomy must have values on the opportunity or be derived from the template job.
- Template customers are used for customer creation in Maconomy.
- It is highly recommended to use approval workflows for customer and job creation in Maconomy.

Enable System Parameters

To enable CRM integration and functionality with system parameters:

1. Go to **Setup » System Setup » Parameters and Numbers » System Parameters**.
2. Search for **Enable CRM Integration** and enable the parameter. Selecting this parameter causes the CRM Integration workspace to display in Maconomy.
3. Search for **Use first/middle/last names on employees and contact persons** and enable the parameter.
4. Search for **Use Deltek CRM Client ID as Customer No.** and enable it to use the Deltek CRM Client ID as the Maconomy Customer No.
   - If you do not enable this parameter, the Maconomy customer number is defined by the number series in Maconomy.
   - If this parameter is enabled, Deltek CRM Client IDs cannot be empty, and they must be unique.

Enable Deltek CRM Project Integration (Vantagepoint)

1. Go to **Setup » System Setup » Parameters and Numbers » System Parameters**.
2. Search for **Use Deltek CRM Project Integration (Vantagepoint)** and enable the parameter.

   Selecting this parameter causes the CRM Integration workspace to display in Maconomy.

   Deselect this parameter to disable the integration.

Add “DeltekCRM” to Popup field

Adding the popup value “DeltekCRM” ensures that the actions **Update Jobs from Deltek CRM** and **Update Customers from Deltek CRM** get only the latest records from Deltek CRM using the **ModDate** field from Deltek CRM.

The Integration Lines dialog in Maconomy is used to store the ModDate from opportunities and clients, and a query is used to filter the number of results that are retrieved. This update requires the popup type IntegrationType to have the value "**DeltekCrm**".

To add the value in the Workspace Client:

1. Go to either **Single Dialogs » Set-Up » Set-Up » Popup Fields** or **Setup » System Setup » Parameters and Numbers » Popup Fields**.
2. Search for **Integration Type** and add the value “**DeltekCrm**”.

Create Template Jobs

To choose a Maconomy template job when creating the Maconomy job from Deltek CRM:

Use the **CRM Job Type** field on the template job to define whether a job is available for selection at creation of Fee, Proposal, or Relationship Job. Please note that dimensions that are mandatory on the job in Maconomy must have values on the opportunity in Deltek CRM or be derived from the template job.

Set Up Dimension Synchronization

Dimensions in Maconomy are typically used for marking a job with a certain attribute, for example, organization unit, project type, and so on. You can allows users to associate a Deltek CRM opportunity/firm with a Maconomy dimension upon creation, and then assign it to a corresponding job in Maconomy.

This feature supports the synchronization of the following global dimensions:

- Location
- Entity
- Project
- Purpose
- Specifications 1 to 10

To setup dimension synchronization:

1. Go to **Set-Up** » **Set-up** » **CRM Integration Dimension Setup**.
2. Select **Enabled** to dimension synchronization between the **Maconomy Relation Name** field to the item in the **CRM Custom Field Name** field.
3. Click **Save CRM Integration Dimension Setup**.

Country and State Mapping

Maconomy does not have a dedicated field for States. In a non-U.S. setup, the **Country** field is used for the list of Countries, and typically, the **Name5** field on the customer (Name 5 is the internal field name used on customer, vendor, and employee) is used for the State. In a U.S. setup, the **Country** field is used for states, and the **Name5** field is used for countries.

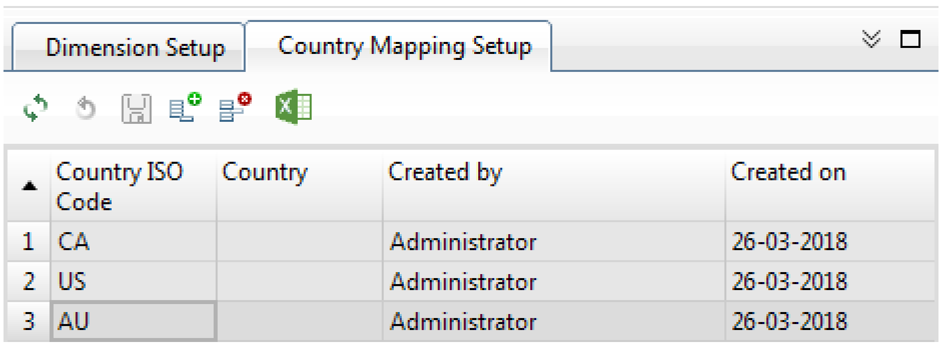
You can configure the integration to map the Country/State field in Deltek CRM with either **Country/Name5** or **Name5/Country** on Maconomy customers. You configure this in the Deltek CRM Setup workspace.

By default, the integration supports a non-US setup. So, if you want to map the **Country/State** field in Deltek CRM with **Country/Name5** in Maconomy, you do not need to set up any mapping.

If you want to map the **Country/State** field in Deltek CRM with **Name5/Country** in Maconomy, you need to populate the Country mappings table.

To map countries between Deltek CRM and Maconomy:

1. Go to **Setup » CRM Integration Setup » Country Mappings**.
2. On the Country Mapping Setup sub-tab, fill in the **Country ISO Code** field for the country where you want to map the State in Deltek CRM to Country in Maconomy.



Example for Canada, US, and Australia.

Job Budget Synchronization

The integration transfers job budgets from Maconomy to the opportunity upon approval of the job budget. The job budget type is determined by a job parameter, which must be set up on the job parameters in Maconomy.

To enable job budget synchronization:

1. Go to **Setup » Job Cost Setup » Parameters » Job Parameters.**
2. Search for **CRM Integration** and enable the parameter.

Set Up Connection to Deltek CRM

To set up the connection to Deltek CRM:

1. Add the following lines to the file server.ini located at <Path to Maconomy installation>/CouplingService/configuration:

```
url.deltekcrmwebservice  = <IP to Vision server webservice, e.g
"http://servername/vision/visionws.asmx?wsdl>

url.deltekcrmiaccess = <IP to Vision server iaccess e.g
"http://servername/iaccess/

url.deltekcrmdatabase = <Database shortname>
```

2. Select the **Update Deltek CRM Connection Information** action in the CRM Integration dialog box or the CRM Integration Setup workspace and enter the following information:
   - Deltek CRM Login — Login for Deltek CRM
   - Deltek CRM password — Password for this Deltek CRM

The integration will use the values that you entered. In the CRM Integration Setup workspace, you can also see the currently set login.

Set Up Background Integration Task

You must set up background tasks to schedule automatic synchronization.

You can specify a dedicated user on the background task. If no user is specified, the Administrator user is set by default.

There are task generators for the CRM Integration. By default, these are deactivated, you need to activate these task generators to use them. You can change the standard trigger time pattern before you activate a task.

To set up Background Tasks for automatic synchronization:

1. Go to **Setup » Background Tasks workspace » Setup » List of Schedule Rules**.
2. Activate each of the task generators for the CRM Integration:
   - Export Companies to Deltek CRM
   - Export Dimensions to Deltek CRM
   - Export Employees to Deltek CRM
   - Export Job Templates to Deltek CRM
   - Import Jobs and Customers from Deltek CRM
   - Update Jobs from Deltek CRM
   - Update Customers from Deltek CRM

   Note:
   - Read more about patterns in “**Pattern syntax help**”.
   - After syncing with Maconomy for the first time, link all users to Employee records in order to use the Calendar and Dashboard.

Enable CRM Integration Dimensions

You must enable CRM Integration Dimension Setup to support the use of dimensions in Deltek CRM.

To enable CRM integration dimensions:

1. Go to **Setup** » **CRM Integration Setup** » **Dimension Setup**.
2. Select **Enabled** for dimensions to allow dimensions in Deltek CRM.
3. Click **Save CRM Integration Dimension Setup**.

CRM Integration Dimension Setup Fields / Descriptions

This section describes the fields and descriptions on the CRM Integration Dimension Setup.

Single Dialog » Set-Up » Set-up » CRM Integration Dimension Setup.

CRM Integration Dimension Setup subtab

Maconomy Relation Name Field	Description
Location	When enabled, this field synchronizes with the Deltek CRM field, Location Dimension, at job creation.
Entity	When enabled, this field synchronizes with the Deltek CRM field, Entity Dimension, at job creation.
Project	When enabled, this field synchronizes with the Deltek CRM field, Project Dimension, at job creation.
Purpose	When enabled, this field synchronizes with the Deltek CRM field, Purpose Dimension, at job creation.
Specification1	When enabled, this field synchronizes with the Deltek CRM field, Specification 1 Dimension, at job creation.
Specification2	When enabled, this field synchronizes with the Deltek CRM field, Specification 2 Dimension, at job creation.
Specification3	When enabled, this field synchronizes with the Deltek CRM field, Specification 3 Dimension, at job creation.
Specification4	When enabled, this field synchronizes with the Deltek CRM field, Specification 4 Dimension, at job creation.
Specification5	When enabled, this field synchronizes with the Deltek CRM field, Specification 5 Dimension, at job creation.
Specification6	When enabled, this field synchronizes with the Deltek CRM field, Specification 6 Dimension, at job creation.
Specification7	When enabled, this field synchronizes with the Deltek CRM field, Specification 7 Dimension, at job creation.

Maconomy Relation Name Field	Description
Specification8	When enabled, this field synchronizes with the Deltek CRM field, Specification 8 Dimension, at job creation.
Specification9	When enabled, this field synchronizes with the Deltek CRM field, Specification 9 Dimension, at job creation.
Specification10	When enabled, this field synchronizes with the Deltek CRM field, Specification 10 Dimension, at job creation.

CRM Integration Dimension Setup actions

Action	Description
Refresh	Click this action button to refresh the
Revert	Click this action button to undo changes made to the current record, or to any of its lines.
Save	Click this action button to save changes to the current record. After saving changes, the record status updates accordingly, and the Save action button is disabled until additional changes are made.
Export to Excel	Click this action button to export the selected record to Excel.

Set the Preferred Language

Previously, the integration only supported the English language and, consequently, only sent en-GB (International English) to all requests. This required that the English language is installed on their database to use the integration. This meant that if English is not the primary language, some names may not be displayed correctly.

Now you can define your preferred language in the server.ini file, in the new parameter, **url.deltekcrmlanguage**. If no language is specified, the default is set to en-US (English).

Set the Preferred Language

You can set your preferred language to match other languages installed on your database.

To set up the preferred language:

1. Locate the server.ini file at<Path to Maconomy installation>/CouplingService/configuration
2. Add the parameter **url.deltekcrmlanguage** and specify the preferred language to use. If no language is specified, the default is set to en-US.

3. Save the changes and close the file.

Routine Procedures

During routine synchronizations, you must perform the standard Deltek CRM to Maconomy synchronization, then identify and correct errors.

The main background task is to schedule Create Jobs from Deltek CRM Opportunities to run regularly. This action pulls opportunities and customers from Deltek CRM and creates background tasks for creating jobs and customers in Maconomy. One task per job is created, and one task per customer. As an example, if there are five jobs to be created, five background tasks are created.

Synchronize Customers Manually

You can manually initiate the standard Deltek CRM – Maconomy synchronization if the background tasks are not used.

To manually initiate synchronization:

1. Go to **Set-Up** » **Set-up** » **CRM Integration**.
2. Click the **Update Customers from Deltek CRM** action.

This action creates the background tasks for synchronizing customers. If there are synchronization tasks already created, this action no longer creates any synchronization task.

Synchronize Jobs Manually

You can manually initiate the standard Deltek CRM – Maconomy synchronization if the background tasks are not used.

To manually initiate synchronization:

1. Go to **Set-Up** » **Set-up** » **CRM Integration**.
2. Click the **Update Jobs from Deltek CRM** action.

This action creates the background tasks for synchronizing jobs. If there are synchronization tasks already created, this action no longer creates any synchronization task.

Synchronize Employees and Companies

You use the **Export Employees and Companies to Deltek CRM** action to look at all employees and companies in Maconomy and create background tasks in Deltek CRM if they do not already exist. To determine if an employee or company exists, the system looks at EmployeeNumber for employees and CompanyNumber for companies.

To synchronize employees and companies:

1. Go to **Setup » CRM Integration Setup » CRM Integration**.
2. Select the **Export Employees and Companies to Deltek CRM** action.

Running this action produces a notification indicating whether any employee and/or organization creation tasks have been created. You can monitor the created tasks in the Background Tasks workspace.

Link Maconomy Jobs and Customers to Deltek CRM Opportunities and Firms

It is possible to add CRM references on existing customers and jobs via import programs. This can be useful for customers migrating data when implementing the Deltek CRM integration.

Link Existing Maconomy Job to Existing Deltek CRM Opportunity

You can link an existing Maconomy job to an existing opportunity in Deltek CRM via the field CrmOpportunityKey on JobHeader using the import program for jobs. It is also possible to update the CRM Job Type via the import program. When the opportunity ID is added to the Maconomy job, Maconomy updates the opportunity in Deltek CRM with some data from the Maconomy job (such as job name). When the action ”Update Jobs from Deltek CRM” is run data is pulled from the Deltek CRM opportunity (such as opportunity name) and the job in Maconomy is updated accordingly.

Link Existing Maconomy Customer to Existing Deltek CRM Firm

You can link an existing Maconomy customer to an existing firm in Deltek CRM via the field CrmKeyCustomerKey using the import program for customers. When the action ”Update Customers from Deltek CRM” is run data is pulled from the Deltek CRM firm (such as address fields) and the customer in Maconomy is updated accordingly.

Create or Update Employee in Deltek CRM

You can select and update only a specific employee’s information or update a subset of employees using scheduled tasks. In **Human Resources » Employees » Employee Information**, the following action is added to create or update a specific employee’s information:

- **Export or Update Employee in Deltek CRM** — Use this action to export or update a specific employee from Maconomy, and create a background task to create or update the selected employee in Deltek CRM.

You must enable the Enable CRM Integration parameter to use this action.

To create or update employee information:

1. Go to **Human Resources » Employees**.
2. Double-click the employee and click **Export or Update Employee in Deltek CRM**.

Using the Open Timed Out Action

This feature prevents a job from starting before a previous job is completed, and also prevents the integration from continuously trying to run a failing job.

The **Open Timed Out** action in the CRM Integration workspace enables the **Open** field after a specified period of time. This can be useful if a synchronization action fails, leaving the integration closed, with no background tasks actually running. If the integration is closed, the workspace shows the date and time when it was closed.

To use the Open Timeout action:

1. Go to **Setup » CRM Integration Setup » CRM Integration**.
2. Enter the maximum length of time (in minutes) for which the integration should stay closed before the **Open Timeout** action should reopen it in the **Max closed time in minutes** field.
3. Select the **Open Timeout** action.

If the integration has been closed for longer than the number of minutes specified in the **Max closed time in minutes** field, it is then opened.

You can create a scheduled task to run this action on a regular basis. This is useful if the integration is experiencing intermittent issues such as connectivity problems.

Set Employees as Terminated

Previously, when an employee was set as Blocked in Maconomy, the employee was set as Inactive in Deltek CRM. This caused an issue as the Deltek CRM license count was based on employee status, where both Active and Inactive statuses were considered part of the license.

When exporting/updating employees in Deltek CRM, if the current date is later than the Termination Date, the Terminated status is sent to Deltek CRM during synchronization. Instead of blocking a terminated employee in Maconomy, the **Termination Date** field should be used instead.

You can set an employee as Terminated by using the **Termination Date** field.

To update an employee:

1. Go to **Human Resources » Employees**.
2. Double-click the employee and go to the **Employee Information** sub-tab.
3. Under **Employment**, enter the employee's **Termination Date**.

Check Background Task Log

To check the background task log:

1. Go to **Setup » Background Tasks » Status » List of Background Tasks** and double-click the background task.
2. If the task's Execution Result is "Failed," open the result log to view the reason.
3. The result log for "**Execute CRM Integration Action**" may contain a number of warnings if one or more opportunities/clients have incorrect or missing data, which can lead to some jobs/customer creation tasks failing. This information can be used to identify what the issue is.

Check Log Files

Coupling service logging can be enabled to log the workflow of the integration.

Enhanced Error Logging

This extends the logging functionality of the Deltek CRM Integration by adding new log levels to improve troubleshooting the integration. This enables specifying the level of information depending on the selected log level configuration.

- **DEBUG** — The general flow of the synchronization extension is logged.
- **TRACE** — HTTP requests and responses sent and received by the integration extension are logged.

> **Note: TRACE** level logging should not be used for sustained periods because it can impact the performance of the application. It creates a huge log data that is unsustainable due to disk space or bandwidth constraints.

Log levels are changed in the logback.xml file in the Coupling Service:

<Path to Maconomy Installation>/CouplingService/configuration/logback.xml

Adding Log Levels

To add the logging for Deltek CRM Integration in the logback.xml file:

1. Open logback.xml in the **configuration** folder of the **Coupling Service** directory.
2. Add the following CRM integration log configuration to logback.xml:
```
<logger name="com.maconomy.extension.deltek.crm">
  <level value="DEBUG" />
  <appender-ref ref="FILE />
</logger>

<logger name="com.maconomy.vision.integration">
  <level value=" DEBUG " />
  <appender-ref ref="FILE" />
```
3. Set the following level values as applicable:
   - DEBUG
   - TRACE
4. Close and save the changes made.

Common Errors

The following are common errors that you might encounter during integration between Deltek CRM and Maconomy.

Functional Application Errors

Error: The Create Customer from Deltek CRM task or Create Job from Deltek CRM task can fail due to wrong data being entered on the job or customer.

Resolution: Find the error in the Result Log tab in the Background Task and adjust the data to avoid that error.

Setup Errors

Error: The task generated by CRM_ImportOpportunities can fail due to setup errors, such as wrong Deltek CRM IP; wrong currency code setup.

Resolution: In this case, the task that runs the action Create Jobs from Deltek CRM Opportunities action fails and there are no job and customer creation tasks created. Find the error in the Result Log tab in the Background Task.

Create Jobs from Deltek CRM Opportunities Does Not Create Any Background Tasks and Does Not Show Any Status Message

Error: It can happen that the Create Jobs from Deltek CRM Opportunities action does not give a status message, and it looks as if it does not do anything.

Resolution: Check coupling service logs. One of the reasons can be that the user does not have access to the BackgroundTaskLogging and ScheduledBackgroundTasks windows.

Appendix A — User-Defined Hubs and Elements

This section lists user-defined hubs (UDHs) and elements created in Deltek CRM.

User-Defined Hubs

The following templates enable integration with Maconomy:

1. Proposal Templates, UDIC_ProposalTemplate
2. Fee Templates, UDIC_FeeTemplate
3. Relationship Templates, UDIC_RelationshipTemplate

Required Fields

Label	Internal Label	Type
Name	CustName	Name
Number	CustNumber	Number
Company Number	CustCompanyNumber	Name

The following UDHs enable dimension synchronization:

1. Locations, UDIC_Location
2. Entities, UDIC_Entity
3. Projects (Maconomy), UDIC_Project
4. Purposes, UDIC_Purpose
5. Specification 1s, UDIC_Specification1
6. Specification 2s, UDIC_Specification2
7. Specification 3s, UDIC_Specification3
8. Specification 4s, UDIC_Specification4
9. Specification 5s, UDIC_Specification5
10. Specification 6s, UDIC_Specification6
11. Specification 7s, UDIC_Specification7
12. Specification 8s, UDIC_Specification8
13. Specification 9s, UDIC_Specification9
14. Specification 10s, UDIC_Specification10

Required Fields

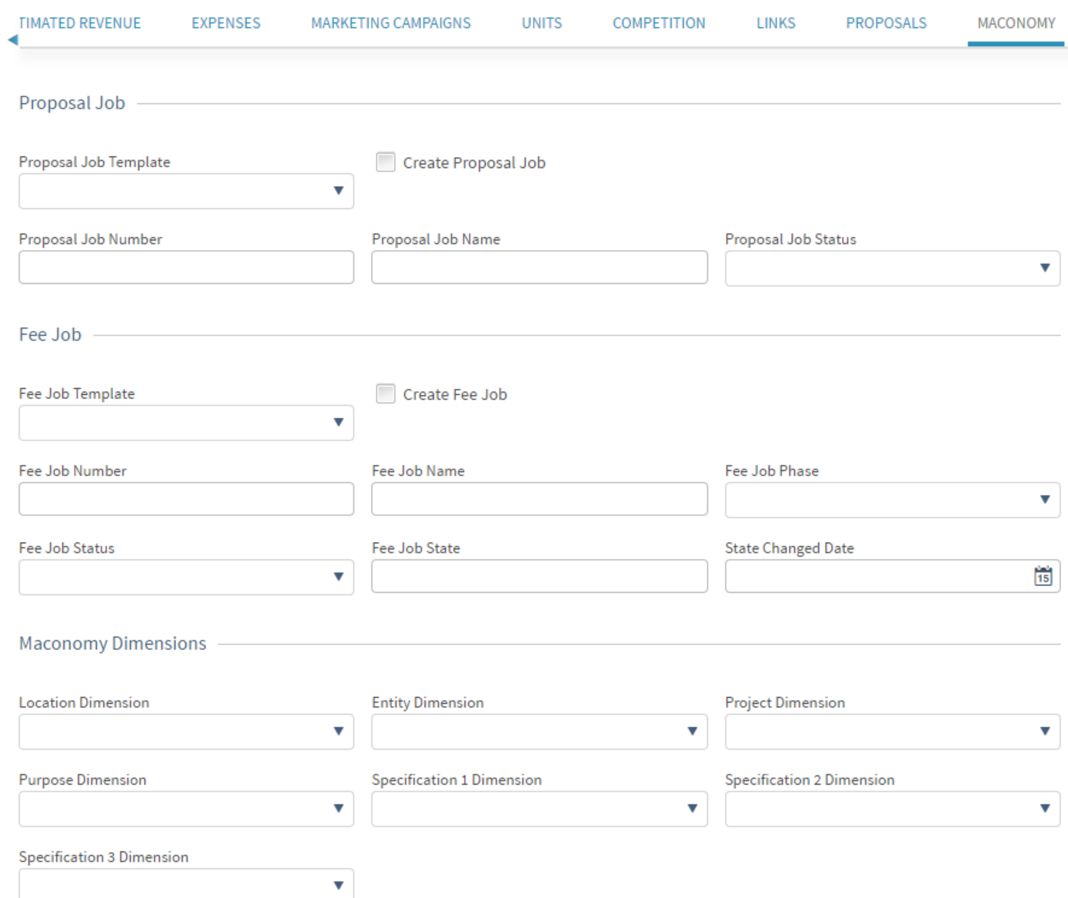
Label	Internal Label	Type
Name	CustName	Name

Label	Internal Label	Type
Number	CustNumber	Number
Blocked	CustBlocked	Name

User-Defined Elements

The following opportunity user-defined elements are found on the Maconomy tab (CustTab_web1):

1. Proposal Job
2. Fee Job
3. Maconomy Dimensions



Opportunity User-Defined Elements

Label	Internal Label	Type	Notes
Proposal Job	CustDivider1	Divider Line	

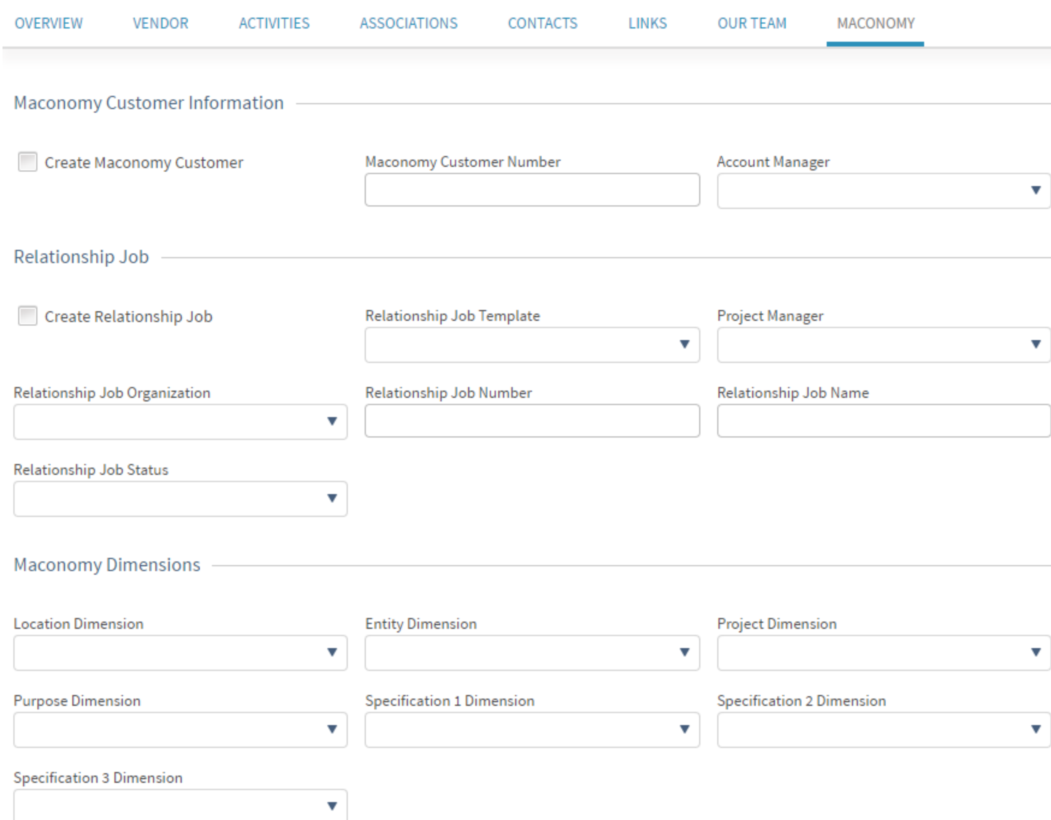
Label	Internal Label	Type	Notes
Proposal Job Template	CustProposalJobTemplate	Proposal Template (UDH)	
Create Proposal Job	CustCreateProposalJob	Check box	
Proposal Job Number	CustProposalJobNumber	Character	Locked for all roles
Proposal Job Name	CustProposalJobName	Character	Locked for all roles
Proposal Job Status	CustProposalJobStatus	Dropdown	Change Codes to 0 (Open) 1 (Closed) Locked for all roles
Fee Job	CustDivider2	Divider Line	
Fee Job Template	CustFeeJobTemplate	Fee Template (UDH)	
Create Fee Job	CustCreateFeeJob	Check box	
Fee Job Number	CustFeeJobNumber	Character	Locked for all roles
Fee Job Name	CustFeeJobName	Character	Locked for all roles
Fee Job Phase	CustFeeJobPhase	Dropdown	Change Codes to 0 (Quote) 1 (Order) Locked for all roles
Fee Job Status	CustFeeJobStatus	Dropdown	Change Codes to 0 (Open) 1 (Closed) Locked for all roles

Label	Internal Label	Type	Notes
Fee Job State	CustFeeJobState	Character	Locked for all roles
State Changed Date	CustStateChangedDate	Date	Locked for all roles
Maconomy Dimensions	CustDivider3	Divider Line	
Location Dimension	CustLocation	Location (UDH)	
Entity Dimension	CustEntity	Entity (UDH)	
Project Dimension	CustProject	Project (UDH)	
Purpose Dimension	CustPurpose	Purpose (UDH)	
Specification 1 Dimension	CustSpecification1	Specification 1 (UDH)	
Specification 2 Dimension	CustSpecification2	Specification 2 (UDH)	
Specification 3 Dimension	CustSpecification3	Specification 3 (UDH)	
Specification 4 Dimension	CustSpecification4	Specification 4 (UDH)	
Specification 5 Dimension	CustSpecification5	Specification 5 (UDH)	
Specification 6 Dimension	CustSpecification6	Specification 6 (UDH)	
Specification 7 Dimension	CustSpecification7	Specification 7 (UDH)	
Specification 8 Dimension	CustSpecification8	Specification 8 (UDH)	
Specification 9 Dimension	CustSpecification9	Specification 9 (UDH)	
Specification 10 Dimension	CustSpecification10	Specification 10 (UDH)	

Label	Internal Label	Type	Notes
Fields to Support Workflow	CustDivider4	Divider Line	Hide this divider for all security roles—fields under it are used for workflow only.
Workflow Blocked Location	CustWorkflowBlockedLocation	Check box	Hide this field for all security roles. This field is used for a workflow process.
Workflow Blocked Entity	CustWorkflowBlockedEntity	Check box	Hide this field for all security roles. This field is used for a workflow process.
Workflow Blocked Project	CustWorkflowBlockedProject	Check box	Hide this field for all security roles. This field is used for a workflow process.
Workflow Blocked Purpose	CustWorkflowBlockedPurpose	Check box	Hide this field for all security roles. This field is used for a workflow process.
Workflow Blocked Specification 1	CustWorkflowBlockedSpecification1	Check box	Hide this field for all security roles. This field is used for a workflow process.
Workflow Blocked Specification 2	CustWorkflowBlockedSpecification2	Check box	Hide this field for all security roles. This field is used for a workflow process.
Workflow Blocked Specification 3	CustWorkflowBlockedSpecification3	Check box	Hide this field for all security roles. This field is used for a workflow process.

The following Firm user-defined elements are found in Maconomy (CustTab_web1):

1. Maconomy Customer Information
2. Relationship Job
3. Maconomy Dimensions



Firm User-Defined Elements

Label	Internal Label	Type	Notes
Maconomy Customer Information	CustDivider3	Divider Line	This isn’t required for the integration but is included on the tab to group fields.
Account Manager	CustAccountManager	Employee	
Create Maconomy Customer	CustCreateMaconomyCustomer	Check box	
Customer Number	CustMaconomyCustomerNumber	Character	Locked for all roles
Relationship Job	CustDivider1	Divider Line	This isn’t required for the integration but is included on

Label	Internal Label	Type	Notes
			the tab to group fields.
Relationship Job Template	CustRelationshipJobTemplate	Relationship Template	
Project Manager	CustProjectManager	Employee	
Relationship Job Organization	CustRelationshipJobOrganization	Organization	
Create Relationship Job	CustCreateRelationshipJob	Check box	
Relationship Job Number	CustRelationshipJobNumber	Character	Locked for all roles
Relationship Job Name	CustRelationshipJobName	Character	Locked for all roles
Relationship Job Status	CustRelationshipJobStatus	Drop-down list	Change Codes to 0 (Open) 1 (Closed) Locked for all roles
Maconomy Dimensions	CustDivider2	Divider Line	This isn't required for the integration but is included on the tab to group fields.
Location Dimension	CustLocation	Location (UDH)	
Entity Dimension	CustEntity	Entity (UDH)	
Project Dimension	CustProject	Project (UDH)	
Purpose Dimension	CustPurpose	Purpose (UDH)	
Specification 1 Dimension	CustSpecification1	Specification 1 (UDH)	

Label	Internal Label	Type	Notes
Specification 2 Dimension	CustSpecification2	Specification 2 (UDH)	
Specification 3 Dimension	CustSpecification3	Specification 3 (UDH)	
Specification 4 Dimension	CustSpecification4	Specification 4 (UDH)	
Specification 5 Dimension	CustSpecification5	Specification 5 (UDH)	
Specification 6 Dimension	CustSpecification6	Specification 6 (UDH)	
Specification 7 Dimension	CustSpecification7	Specification 7 (UDH)	
Specification 8 Dimension	CustSpecification8	Specification 8 (UDH)	
Specification 9 Dimension	CustSpecification9	Specification 9 (UDH)	
Specification 10 Dimension	CustSpecification10	Specification 10 (UDH)	
Fields to Support Workflow	CustDivider4	Divider Line	Hide this divider for all security roles—fields under it are used for workflow only.
Workflow Blocked Location	CustWorkflowBlockedLocation	Check box	Hide this field for all security roles. This field is used for a workflow process.
Workflow Blocked Entity	CustWorkflowBlockedEntity	Check box	Hide this field for all security roles. This field is used for a workflow process.
Workflow Blocked Project	CustWorkflowBlockedProject	Check box	Hide this field for all security roles. This field is used for a workflow process.

Label	Internal Label	Type	Notes
Workflow Blocked Purpose	CustWorkflowBlockedPurpose	Check box	Hide this field for all security roles. This field is used for a workflow process.
Workflow Blocked Specification 1	CustWorkflowBlockedSpecification1	Check box	Hide this field for all security roles. This field is used for a workflow process.
Workflow Blocked Specification 2	CustWorkflowBlockedSpecification2	Check box	Hide this field for all security roles. This field is used for a workflow process.
Workflow Blocked Specification 3	CustWorkflowBlockedSpecification3	Check box	Hide this field for all security roles. This field is used for a workflow process.

Appendix B — Workflow Validations

This section lists information on the validation used by the preconfigured workflows.

Opportunity Workflow Validation

1. Cannot change create proposal job if job already exists

Workflow Table	Type	Description	Workflow Conditions
Opportunity	Change	Cannot change create proposal job if job already exists	OpportunityCustomTabFields.CustCreateProposalJob has changed

Action	Description	Action Conditions
Validate Error	A proposal job already exists in Maconomy. Create Proposal Job cannot be changed.	OpportunityCustomTabFields.CustProposalJobNumber (Old) not empty

2. Cannot change create fee job if job already exists

Workflow Table	Type	Description	Workflow Conditions
Opportunity	Change	Cannot change create fee job if job already exists	OpportunityCustomTabFields.CustCreateFeeJob has changed

Action	Description	Action Conditions
Validate Error	A fee job already exists in Maconomy. Create Fee Job cannot be changed.	OpportunityCustomTabFields.CustFeeJobNumber (Old) not empty

3. Cannot change create proposal job to yes if PM empty

Workflow Table	Type	Description	Workflow Conditions
Opportunity	Change	Project Manager is required to create proposal job (Change)	OpportunityCustomTabFields.CustCreateProposalJob equals Y

Action	Description	Action Conditions
Validate Error	Project Manager is required to create a proposal job.	Opportunity.ProjMgr empty

4. Cannot add opportunity with create proposal job equal to yes if PM empty

Workflow Table	Type	Description	Workflow Conditions
Opportunity	Insert	Project Manager is required to create proposal job (Add)	OpportunityCustomTabFields.CustCreateProposalJob equals Y

Action	Description	Action Conditions
Validate Error	Project Manager is required to create a proposal job.	Opportunity.ProjMgr empty

5. Cannot change create proposal job to yes if Org empty

Workflow Table	Type	Description	Workflow Conditions
Opportunity	Change	Organization is required to create proposal job (Change)	OpportunityCustomTabFields.CustCreateProposalJob equals Y

Action	Description	Action Conditions
Validate Error	Organization is required to create a proposal job.	Opportunity.Org empty

6. Cannot add opportunity with create proposal job equal to yes if Org empty

Workflow Table	Type	Description	Workflow Conditions
Opportunity	Insert	Organization is required to create proposal job (Add)	OpportunityCustomTabFields.CustCreateProposalJob equals Y

Action	Description	Action Conditions
Validate Error	Organization is required to create a proposal job.	Opportunity.Org empty

7. Cannot change create proposal job to yes if Proposal Job Template empty

Workflow Table	Type	Description	Workflow Conditions
Opportunity	Change	Proposal Job Template is required to create proposal job (Change)	OpportunityCustomTabFields.CustCreateProposalJob equals Y

Action	Description	Action Conditions
Validate Error	Proposal Job Template is required to create a proposal job.	OpportunityCustomTabFields.CustProposalJob Template empty

8. Cannot add opportunity with create proposal job equal to yes if Proposal Job Template empty

Workflow Table	Type	Description	Workflow Conditions
Opportunity	Insert	Proposal Job Template is required to create	OpportunityCustomTabFields.CustCreateProposalJob equals Y

Workflow Table	Type	Description	Workflow Conditions
		proposal job (Add)	

Action	Description	Action Conditions
Validate Error	Proposal Job Template is required to create a proposal job.	OpportunityCustomTabFields.CustProposalJob Template empty

9. Cannot change create fee job to yes if Proposal Job Template empty

Workflow Table	Type	Description	Workflow Conditions
Opportunity	Change	Fee Job Template is required to create fee job (Change)	OpportunityCustomTabFields.CustCreateFeeJob equals Y

Action	Description	Action Conditions
Validate Error	Fee Job Template is required to create a fee job.	OpportunityCustomTabFields.CustFeeJobTemplate empty

10. Cannot add opportunity with create proposal job equal to yes if Proposal Job Template empty

Workflow Table	Type	Description	Workflow Conditions
Opportunity	Insert	Fee Job Template is required to create proposal job (Add)	OpportunityCustomTabFields.CustCreateFeeJob equals Y

Action	Description	Action Conditions
Validate Error	Fee Job Template is required to create a fee job.	OpportunityCustomTabFields.CustFeeJobTemp late empty

11. Cannot change create fee job to yes if PM empty

Workflow Table	Type	Description	Workflow Conditions
Opportunity	Change	Project Manager is required to create fee job (Change)	OpportunityCustomTabFields.CustCreateFeeJob equals Y

Action	Description	Action Conditions
Validate Error	Project Manager is required to create a fee job.	Opportunity.ProjMgr empty

12. Cannot add opportunity with create fee job equal to yes if PM empty

Workflow Table	Type	Description	Workflow Conditions
Opportunity	Insert	Project Manager is required to create fee job (Add)	OpportunityCustomTabFields.CustCreateFeeJob equals Y

Action	Description	Action Conditions
Validate Error	Project Manager is required to create a fee job.	Opportunity.ProjMgr empty

13. Cannot change create fee job to yes if Org empty

Workflow Table	Type	Description	Workflow Conditions
Opportunity	Change	Organization is required to create fee job (Change)	OpportunityCustomTabFields.CustCreateFeeJob equals Y

Action	Description	Action Conditions
Validate Error	Organization is required to create a fee job.	Opportunity.Org empty

14. Cannot add opportunity with create fee job equal to yes if Org empty

Workflow Table	Type	Description	Workflow Conditions
Opportunity	Insert	Organization is required to create fee job (Add)	OpportunityCustomTabFields.CustCreateFeeJob equals Y

Action	Description	Action Conditions
Validate Error	Organization is required to create a fee job.	Opportunity.Org empty

15. Cannot change Primary Client, Organization, Currency, Estimate Start and End Dates, Project Manager, Dimensions or Template Job after proposal job created

Workflow Table	Type	Description	Workflow Conditions
Opportunity	Change	Key fields are closed once a proposal job has been created	OpportunityCustomTabFields.CustProposalJobNumber not empty

Action	Description	Action Conditions
Validate Error	The following fields cannot be changed once a Maconomy job has been created: Primary Client, Organization, Currency, Estimate Start and End Dates, Project Manager, Dimensions and Template Job.	Opportunity.ClientID has changed OR Opportunity.Org has changed OR Opportunity.CustomCurrencyCode has changed OR Opportunity.EstStartDate has changed OR Opportunity.EstCompletionDate has changed OR Opportunity.ProjMgr has changed OR OpportunityCustomTabFields.CustLocation has changed OR OpportunityCustomTabFields.CustEntity has changed OR OpportunityCustomTabFields.CustProject has changed OR

Action	Description	Action Conditions
		OpportunityCustomTabFields.CustPurpose has changed OR OpportunityCustomTabFields.CustSpecification 1 has changed OR OpportunityCustomTabFields.CustSpecification 2 has changed OR OpportunityCustomTabFields.CustSpecification 3 has changed OR OpportunityCustomTabFields.CustProposalJob Template has changed OR

16. Cannot change Primary Client, Organization, Currency, Estimate Start and End Dates, Project Manager, Dimensions or Template Job after fee job created

Workflow Table	Type	Description	Workflow Conditions
Opportunity	Change	Key fields are closed once a fee job has been created	OpportunityCustomTabFields.CustFeeJobNumber not empty

Action	Description	Action Conditions
Validate Error	The following fields cannot be changed once a Maconomy job has been created: Primary Client, Organization, Currency, Estimate Start and End Dates, Project Manager, Dimensions and Template Job	Opportunity.ClientID has changed OR Opportunity.Org has changed OR Opportunity.CustomCurrencyCode has changed OR Opportunity.EstStartDate has changed OR Opportunity.EstCompletionDate has changed OR Opportunity.ProjMgr has changed OR OpportunityCustomTabFields.CustLocation has changed OR OpportunityCustomTabFields.CustEntity has changed OR OpportunityCustomTabFields.CustProject has changed OR OpportunityCustomTabFields.CustPurpose has changed OR

Action	Description	Action Conditions
		OpportunityCustomTabFields.CustSpecification1 has changed OR OpportunityCustomTabFields.CustSpecification2 has changed OR OpportunityCustomTabFields.CustSpecification3 has changed OR OpportunityCustomTabFields.CustFeeJobTemplate has changed OR

17. Cannot add firm with create Maconomy customer or create relationship job checked if PM empty

Workflow Table	Type	Description	Workflow Conditions
Firm	Insert	Project Manager is required to create a Maconomy customer or relationship job (Add)	

Action	Description	Action Conditions
Validate Error	Project Manager is required to create a Maconomy customer.	ClientCustomTabFields.CustCreateMaconomyCustomer equals Y AND ClientCustomTabFields.CustProject Manager empty
Validate Error	Project Manager is required to create a relationship job.	ClientCustomTabFields.CustCreateRelationshipJob equals Y AND ClientCustomTabFields.CustProject Manager empty

18. Cannot change firm with create Maconomy customer or create relationship job checked if PM empty

Workflow Table	Type	Description	Workflow Conditions
Firm	Change	Project Manager is required to create a Maconomy customer or relationship job (Change)	

Action	Description	Action Conditions
Validate Error	Project Manager is required to create a Maconomy customer.	ClientCustomTabFields.CustCreateMaconomyCustomer equals Y AND ClientCustomTabFields.CustProject Manager empty
Validate Error	Project Manager is required to create a relationship job.	ClientCustomTabFields.CustCreateRelationshipJob equals Y AND ClientCustomTabFields.CustProject Manager empty

19. Cannot add firm with create Maconomy customer or create relationship job checked if Organization empty

Workflow Table	Type	Description	Workflow Conditions
Firm	Insert	Organization is required to create a Maconomy customer or relationship job (Add)	

Action	Description	Action Conditions
Validate Error	Organization is required to create a Maconomy customer.	ClientCustomTabFields.CustCreateMaconomyCustomer equals Y AND ClientCustomTabFields.CustRelationshipJobOrganization empty
Validate Error	Organization is required to create a relationship job.	ClientCustomTabFields.CustCreateRelationshipJob equals Y AND ClientCustomTabFields.CustRelationshipJobOrganization empty

20. Cannot change firm with create Maconomy customer or create relationship job checked if Organization empty

Workflow Table	Type	Description	Workflow Conditions
Firm	Change	Organization is required to create a Maconomy customer or relationship job (Change)	

Action	Description	Action Conditions
Validate Error	Organization is required to create a Maconomy customer.	ClientCustomTabFields.CustCreateMaconomyCustomer equals Y AND ClientCustomTabFields.CustRelationshipJobOrganization empty
Validate Error	Organization is required to create a relationship job.	ClientCustomTabFields.CustCreateRelationshipJob equals Y AND ClientCustomTabFields.CustRelationshipJobOrganization empty

21. Cannot add firm with create Maconomy customer or create relationship job checked if Account Manager empty

Workflow Table	Type	Description	Workflow Conditions
Firm	Insert	Account Manager is required to create a Maconomy customer or relationship job (Add)	

Action	Description	Action Conditions
Validate Error	Account Manager is required to create a Maconomy customer.	ClientCustomTabFields.CustCreateMaconomyCustomer equals Y AND ClientCustomTabFields.CustAccountManager empty
Validate Error	Account Manager is required to create a relationship job.	ClientCustomTabFields.CustCreateRelationshipJob equals Y AND ClientCustomTabFields.CustAccountManager empty

22. Cannot change firm with create Maconomy customer or create relationship job checked if Account Manager empty

Workflow Table	Type	Description	Workflow Conditions
Firm	Change	Account Manager is required to create a Maconomy customer or relationship job (Change)	

Action	Description	Action Conditions
Validate Error	Account Manager is required to create a Maconomy customer.	ClientCustomTabFields.CustCreateMaconomyCustomer equals Y AND ClientCustomTabFields.CustAccountManager empty
Validate Error	Account Manager is required to create a relationship job.	ClientCustomTabFields.CustCreateRelationshipJob equals Y AND ClientCustomTabFields.CustAccountManager empty

23. Cannot change Relationship Job Organization or Project Manager on firm if Relationship Job has been created

Workflow Table	Type	Description	Workflow Conditions
Firm	Change	Key fields are closed once a relationship job has been created	ClientCustomTabFields.CustRelationshipJobNumber not empty

Action	Description	Action Conditions
Validate Error	Relationship Job Organization and Project Manager cannot be changed after a Maconomy job is created.	ClientCustomTabFields.CustRelationshipJobOrganization has changed OR ClientCustomTabFields.CustProjectManager has changed

24. Cannot select blocked entities when adding an opportunity

Workflow Table	Type	Description	Workflow Conditions
Opportunity	Insert	Blocked Entities cannot be selected (Add)	

Action	Column (Field) Change Properties	Description	Action Conditions
Column (Field) Change	Column: OpportunityCustomTabFields.CustWorkflowBlockedEntity New Value SQL Expression: If this is True: (select custBlocked from UDIC_Entity where UDIC_UID='[:OpportunityCustomTabFields.custEntity]')='[BLOCKED]' Use this Calculation: 'Y' Otherwise, Use This Calculation: 'N'	Test if blocked Entity was selected	OpportunityCustomTabFields.CustEntity not empty
Validate Error		You've chosen a blocked Entity. Please select a different Entity.	OpportunityCustomTabFields.CustWorkflowBlockedEntity equals Y

25. Cannot select blocked entities when editing an opportunity

Workflow Table	Type	Description	Workflow Conditions
Opportunity	Change	Blocked Entities cannot be selected (Change)	

Action	Column (Field) Change Properties	Description	Action Conditions
Column (Field) Change	Column: OpportunityCustomTabFields.CustWorkflowBlockedEntity	Test if blocked Entity was selected	OpportunityCustomTabFields.CustEntity not empty AND OpportunityCustomTabFields.CustEntity has changed

Action	Column (Field) Change Properties	Description	Action Conditions
	New Value SQL Expression: If this is True: (select custBlocked from UDIC_Entity where UDIC_UID='[:OpportunityCustomTabFields.custEntity]')='[BLOCKED]' Use this Calculation: 'Y' Otherwise, Use This Calculation: 'N'		
Validate Error		You've chosen a blocked Entity. Please select a different Entity.	OpportunityCustomTabFields.CustWorkflowBlockedEntity equals Y

26. Cannot select blocked locations when adding an opportunity

Workflow Table	Type	Description	Workflow Conditions
Opportunity	Insert	Blocked Locations cannot be selected (Add)	

Action	Column (Field) Change Properties	Description	Action Conditions
Column (Field) Change	Column: OpportunityCustomTabFields.CustWorkflowBlockedLocation New Value SQL Expression:	Test if blocked Location was selected	OpportunityCustomTabFields.CustLocation not empty

Action	Column (Field) Change Properties	Description	Action Conditions
	If this is True: (select custBlocked from UDIC_Location where UDIC_UID='[:OpportunityCustomTabFields.custLocation]')='[BLOCKED]' Use this Calculation: 'Y' Otherwise, Use This Calculation: 'N'		
Validate Error		You've chosen a blocked Location. Please select a different Location.	OpportunityCustomTabFields.CustWorkflowBlockedLocation equals Y

27. Cannot select blocked locations when editing an opportunity

Workflow Table	Type	Description	Workflow Conditions
Opportunity	Change	Blocked Locations cannot be selected (Change)	

Action	Column (Field) Change Properties	Description	Action Conditions
Column (Field) Change	Column: OpportunityCustomTabFields.CustWorkflowBlockedLocation New Value SQL Expression: If this is True: (select custBlocked from UDIC_Entity where UDIC_UID='[:OpportunityCust	Test if blocked Location was selected	OpportunityCustomTabFields.CustLocation not empty AND OpportunityCustomTabFields.CustLocation has changed

Action	Column (Field) Change Properties	Description	Action Conditions
	omTabFields.custEntity]')='[B LOCKED]' Use this Calculation: 'Y' Otherwise, Use This Calculation: 'N'		
Validate Error		You've chosen a blocked Location. Please select a different Location.	OpportunityCustomTabFields.CustWorkflowBlockedLocation equals Y

28. Cannot select blocked projects when adding an opportunity

Workflow Table	Type	Description	Workflow Conditions
Opportunity	Insert	Blocked Projects cannot be selected (Add)	

Action	Column (Field) Change Properties	Description	Action Conditions
Column (Field) Change	Column: OpportunityCustomTabFields. CustWorkflowBlockedProject New Value SQL Expression: If this is True: (select custBlocked from UDIC_Project where UDIC_UID='[:OpportunityCustomTabFields.CustProject]')='[BLOCKED]' Use this Calculation: 'Y'	Test if blocked Location was selected	OpportunityCustomTabFields.CustProject not empty

Action	Column (Field) Change Properties	Description	Action Conditions
	Otherwise, Use This Calculation: 'N'		
Validate Error		You've chosen a blocked Project. Please select a different Project.	OpportunityCustomTabFields.CustWorkflowBlockedProject equals Y

29. Cannot select blocked projects when editing an opportunity

Workflow Table	Type	Description	Workflow Conditions
Opportunity	Change	Blocked Projects cannot be selected (Change)	

Action	Column (Field) Change Properties	Description	Action Conditions
Column (Field) Change	Column: OpportunityCustomTabFields.CustWorkflowBlockedProject New Value SQL Expression: If this is True: (select custBlocked from UDIC_Project where UDIC_UID='[:OpportunityCustomTabFields.CustProject]')='[BLOCKED]' Use this Calculation: 'Y' Otherwise, Use This Calculation: 'N'	Test if blocked Project was selected	OpportunityCustomTabFields.CustProject not empty AND OpportunityCustomTabFields.CustProject has changed

Action	Column (Field) Change Properties	Description	Action Conditions
Validate Error		You've chosen a blocked Project. Please select a different Project.	OpportunityCustomTabFields.CustWorkflowBlockedProject equals Y

30. Cannot select blocked purposes when adding an opportunity

Workflow Table	Type	Description	Workflow Conditions
Opportunity	Insert	Blocked Purposes cannot be selected (Add)	

Action	Column (Field) Change Properties	Description	Action Conditions
Column (Field) Change	Column: OpportunityCustomTabFields.CustWorkflowBlockedPurpose New Value SQL Expression: If this is True: (select custBlocked from UDIC_Purpose where UDIC_UID='[:OpportunityCustomTabFields.CustPurpose]')='[BLOCKED]' Use this Calculation: 'Y' Otherwise, Use This Calculation: 'N'	Test if blocked Purpose was selected	OpportunityCustomTabFields.CustPurpose not empty
Validate Error		You've chosen a blocked Purpose.	OpportunityCustomTabFields.CustWorkflowBlockedPurpose equals Y

Action	Column (Field) Change Properties	Description	Action Conditions
		Please select a different Purpose.	

31. Cannot select blocked purposes when editing an opportunity

Workflow Table	Type	Description	Workflow Conditions
Opportunity	Change	Blocked Purposes cannot be selected (Change)	

Action	Column (Field) Change Properties	Description	Action Conditions
Column (Field) Change	Column: OpportunityCustomTabFields.CustWorkflowBlockedPurpose New Value SQL Expression: If this is True: (select custBlocked from UDIC_Purpose where UDIC_UID='[:OpportunityCustomTabFields.CustPurpose]')= '[BLOCKED]' Use this Calculation: 'Y' Otherwise, Use This Calculation: 'N'	Test if blocked Purpose was selected	OpportunityCustomTabFields.CustPurpose not empty AND OpportunityCustomTabFields.CustPurpose has changed
Validate Error		You've chosen a blocked Purpose. Please select a different Purpose.	OpportunityCustomTabFields.CustWorkflowBlockedPurpose equals Y

32. Cannot select blocked specification 1s when adding an opportunity

Workflow Table	Type	Description	Workflow Conditions
Opportunity	Insert	Blocked Specification 1 cannot be selected (Add)	

Action	Column (Field) Change Properties	Description	Action Conditions
Column (Field) Change	Column: OpportunityCustomTabFields.CustWorkflowBlockedSpecification1 New Value SQL Expression: If this is True: (select custBlocked from UDIC_Specification1 where UDIC_UID='[:OpportunityCustomTabFields.CustSpecification1]')='[BLOCKED]' Use this Calculation: 'Y' Otherwise, Use This Calculation: 'N'	Test if blocked Specification 1 was selected	OpportunityCustomTabFields.CustSpecification1 not empty
Validate Error		You've chosen a blocked Specification 1. Please select a different Specification 1.	OpportunityCustomTabFields.CustWorkflowBlockedSpecification1 equals Y

33. Cannot select blocked specification 1s when editing an opportunity

Workflow Table	Type	Description	Workflow Conditions
Opportunity	Change	Blocked Specification 1 cannot be selected (Change)	

Action	Column (Field) Change Properties	Description	Action Conditions
Column (Field) Change	Column: OpportunityCustomTabFields.CustWorkflowBlockedSpecification1 New Value SQL Expression: If this is True: (select custBlocked from UDIC_Specification1 where UDIC_UID='[:OpportunityCustomTabFields.CustSpecification1]')='[BLOCKED]' Use this Calculation: 'Y' Otherwise, Use This Calculation: 'N'	Test if blocked Specification 1 was selected	OpportunityCustomTabFields.CustSpecification1 not empty AND OpportunityCustomTabFields.CustSpecification1 has changed
Validate Error		You've chosen a blocked Specification 1. Please select a different Specification 1.	OpportunityCustomTabFields.CustWorkflowBlockedSpecification1 equals Y

34. Cannot select blocked specification 2s when adding an opportunity

Workflow Table	Type	Description	Workflow Conditions
Opportunity	Insert	Blocked Specification 2 cannot be selected (Add)	

Action	Column (Field) Change Properties	Description	Action Conditions
Column (Field) Change	Column: OpportunityCustomTabFields.CustWorkflowBlockedSpecification2 New Value SQL Expression: If this is True: (select custBlocked from UDIC_Specification2 where UDIC_UID='[:OpportunityCustomTabFields.CustSpecification2]')='[BLOCKED]' Use this Calculation: 'Y' Otherwise, Use This Calculation: 'N'	Test if blocked Specification 2 was selected	OpportunityCustomTabFields.CustSpecification2 not empty
Validate Error		You've chosen a blocked Specification 2. Please select a different Specification 2.	OpportunityCustomTabFields.CustWorkflowBlockedSpecification2 equals Y

35. Cannot select blocked specification 2s when editing an opportunity

Workflow Table	Type	Description	Workflow Conditions
Opportunity	Change	Blocked Specification 2 cannot be selected (Change)	

Action	Column (Field) Change Properties	Description	Action Conditions
Column (Field) Change	Column: OpportunityCustomTabFields.CustWorkflowBlockedSpecification2 New Value SQL Expression: If this is True: (select custBlocked from UDIC_Specification2 where UDIC_UID='[:OpportunityCustomTabFields.CustSpecification2]')='[BLOCKED]' Use this Calculation: 'Y' Otherwise, Use This Calculation: 'N'	Test if blocked Specification 2 was selected	OpportunityCustomTabFields.CustSpecification2 not empty AND OpportunityCustomTabFields.CustSpecification2 has changed
Validate Error		You've chosen a blocked Specification 2. Please select a different Specification 2.	OpportunityCustomTabFields.CustWorkflowBlockedSpecification2 equals Y

36. Cannot select blocked specification 3s when adding an opportunity

Workflow Table	Type	Description	Workflow Conditions
Opportunity	Insert	Blocked Specification 3 cannot be selected (Add)	

Action	Column (Field) Change Properties	Description	Action Conditions
Column (Field) Change	Column: OpportunityCustomTabFields.CustWorkflowBlockedSpecification3 New Value SQL Expression: If this is True: (select custBlocked from UDIC_Specification3 where UDIC_UID='[:OpportunityCustomTabFields.CustSpecification1]')='[BLOCKED]' Use this Calculation: 'Y' Otherwise, Use This Calculation: 'N'	Test if blocked Specification 3 was selected	OpportunityCustomTabFields.CustSpecification3 not empty
Validate Error		You've chosen a blocked Specification 3. Please select a different Specification 3.	OpportunityCustomTabFields.CustWorkflowBlockedSpecification3 equals Y

37. Cannot select blocked specification 3s when editing an opportunity

Workflow Table	Type	Description	Workflow Conditions
Opportunity	Change	Blocked Specification 3 cannot be selected (Change)	

Action	Column (Field) Change Properties	Description	Action Conditions
Column (Field) Change	Column: OpportunityCustomTabFields. CustWorkflowBlockedSpecification3 New Value SQL Expression: If this is True: (select custBlocked from UDIC_Specification3 where UDIC_UID='[:OpportunityCustomTabFields.CustSpecification1]')='[BLOCKED]' Use this Calculation: 'Y' Otherwise, Use This Calculation: 'N'	Test if blocked Specification 3 was selected	OpportunityCustomTabFields.CustSpecification3 not empty AND OpportunityCustomTabFields.CustSpecification3 has changed
Validate Error		You've chosen a blocked Specification 3. Please select a different Specification 3.	OpportunityCustomTabFields.CustWorkflowBlockedSpecification3 equals Y

38. Cannot select blocked entities when adding a firm

Workflow Table	Type	Description	Workflow Conditions
Firm	Insert	Blocked Entities cannot be selected (Add)	

Action	Column (Field) Change Properties	Description	Action Conditions
Column (Field) Change	Column: ClientCustomTabFields.CustWorkflowBlockedEntity New Value SQL Expression: If this is True: (select custBlocked from UDIC_Entity where UDIC_UID='[:ClientCustomTabFields.custEntity]')='[BLOCKED]' Use this Calculation: 'Y' Otherwise, Use This Calculation: 'N'	Test if blocked Entity was selected	ClientCustomTabFields.CustEntity not empty
Validate Error		You've chosen a blocked Entity. Please select a different Entity.	ClientCustomTabFields.CustWorkflowBlockedEntity equals Y

39. Cannot select blocked entities when editing a firm

Workflow Table	Type	Description	Workflow Conditions
Firm	Change	Blocked Entities cannot be selected (Change)	

Action	Column (Field) Change Properties	Description	Action Conditions
Column (Field) Change	Column: ClientCustomTabFields.CustWorkflowBlockedEntity	Test if blocked	ClientCustomTabFields.CustEntity not empty AND

Action	Column (Field) Change Properties	Description	Action Conditions
	New Value SQL Expression: If this is True: (select custBlocked from UDIC_Entity where UDIC_UID='[:ClientCustomTabFields.custEntity]')='[BLOCKED]' Use this Calculation: 'Y' Otherwise, Use This Calculation: 'N'	Entity was selected	ClientCustomTabFields.CustEntity has changed
Validate Error		You've chosen a blocked Entity. Please select a different Entity.	ClientCustomTabFields.CustWorkflowBlockedEntity equals Y

40. Cannot select blocked locations when adding a firm

Workflow Table	Type	Description	Workflow Conditions
Firm	Insert	Blocked Locations cannot be selected (Add)	

Action	Column (Field) Change Properties	Description	Action Conditions
Column (Field) Change	Column: ClientCustomTabFields.CustWorkflowBlockedLocation New Value SQL Expression:	Test if blocked Location was selected	ClientCustomTabFields.CustLocation not empty

Action	Column (Field) Change Properties	Description	Action Conditions
	If this is True: (select custBlocked from UDIC_Location where UDIC_UID='[:ClientCustomTabFields.custLocation]')='[BLOCKED]' Use this Calculation: 'Y' Otherwise, Use This Calculation: 'N'		
Validate Error		You've chosen a blocked Location. Please select a different Location.	ClientCustomTabFields.CustWorkflowBlockedLocation equals Y

41. Cannot select blocked locations when editing a firm

Workflow Table	Type	Description	Workflow Conditions
Firm	Change	Blocked Locations cannot be selected (Change)	

Action	Column (Field) Change Properties	Description	Action Conditions
Column (Field) Change	Column: ClientCustomTabFields.CustWorkflowBlockedLocation New Value SQL Expression: If this is True: (select custBlocked from UDIC_Location where UDIC_UID='[:ClientCustomTa	Test if blocked Location was selected	ClientCustomTabFields.CustLocation not empty AND ClientCustomTabFields.CustLocation has changed

Action	Column (Field) Change Properties	Description	Action Conditions
	bFields.custLocation]')='[BLOCKED]' Use this Calculation: 'Y' Otherwise, Use This Calculation: 'N'		
Validate Error		You've chosen a blocked Location. Please select a different Location.	ClientCustomTabFields.CustWorkflowBlockedLocation equals Y

42. Cannot select blocked projects when adding a firm

Workflow Table	Type	Description	Workflow Conditions
Firm	Insert	Blocked Projects cannot be selected (Add)	

Action	Column (Field) Change Properties	Description	Action Conditions
Column (Field) Change	Column: ClientCustomTabFields.CustWorkflowBlockedProject New Value SQL Expression: If this is True: (select custBlocked from UDIC_Project where UDIC_UID='[:ClientCustomTabFields.CustProject]')='[BLOCKED]' Use this Calculation: 'Y'	Test if blocked Location was selected	ClientCustomTabFields.CustProject not empty

Action	Column (Field) Change Properties	Description	Action Conditions
	Otherwise, Use This Calculation: 'N'		
Validate Error		You've chosen a blocked Project. Please select a different Project.	ClientCustomTabFields.CustWorkflowBlockedProject equals Y

43. Cannot select blocked projects when editing a firm

Workflow Table	Type	Description	Workflow Conditions
Firm	Change	Blocked Projects cannot be selected (Change)	

Action	Column (Field) Change Properties	Description	Action Conditions
Column (Field) Change	Column: ClientCustomTabFields.CustWorkflowBlockedProject New Value SQL Expression: If this is True: (select custBlocked from UDIC_Project where UDIC_UID='[:ClientCustomTabFields.CustProject]')='[BLOCKED]' Use this Calculation: 'Y' Otherwise, Use This Calculation: 'N'	Test if blocked Location was selected	ClientCustomTabFields.CustProject not empty AND ClientCustomTabFields.CustProject has changed

Action	Column (Field) Change Properties	Description	Action Conditions
Validate Error		You've chosen a blocked Project. Please select a different Project.	ClientCustomTabFields.CustWorkflowBlockedProject equals Y

44. Cannot select blocked purposes when adding a firm

Workflow Table	Type	Description	Workflow Conditions
Firm	Insert	Blocked Purposes cannot be selected (Add)	

Action	Column (Field) Change Properties	Description	Action Conditions
Column (Field) Change	Column: ClientCustomTabFields.CustWorkflowBlockedPurpose New Value SQL Expression: If this is True: (select custBlocked from UDIC_Purpose where UDIC_UID='[:ClientCustomTabFields.CustPurpose]')='[BLOCKED]' Use this Calculation: 'Y' Otherwise, Use This Calculation: 'N'	Test if blocked Purpose was selected	ClientCustomTabFields.CustPurpose not empty
Validate Error		You've chosen a blocked Purpose. Please	ClientCustomTabFields.CustWorkflowBlockedPurpose equals Y

Action	Column (Field) Change Properties	Description	Action Conditions
		select a different Purpose.	

45. Cannot select blocked purposes when editing a firm

Workflow Table	Type	Description	Workflow Conditions
Firm	Change	Blocked Purposes cannot be selected (Change)	

Action	Column (Field) Change Properties	Description	Action Conditions
Column (Field) Change	Column: ClientCustomTabFields.CustWorkflowBlockedPurpose New Value SQL Expression: If this is True: (select custBlocked from UDIC_Purpose where UDIC_UID='[:ClientCustomTabFields.CustPurpose]')='[BLOCKED]' Use this Calculation: 'Y' Otherwise, Use This Calculation: 'N'	Test if blocked Purpose was selected	ClientCustomTabFields.CustPurpose not empty AND ClientCustomTabFields.CustPurpose has changed
Validate Error		You've chosen a blocked Purpose. Please select a different Purpose.	ClientCustomTabFields.CustWorkflowBlockedPurpose equals Y

46. Cannot select blocked specification 1s when adding a firm

Workflow Table	Type	Description	Workflow Conditions
Firm	Insert	Blocked Specification 1 cannot be selected (Add)	

Action	Column (Field) Change Properties	Description	Action Conditions
Column (Field) Change	Column: ClientCustomTabFields.CustWorkflowBlockedSpecification1 New Value SQL Expression: If this is True: (select custBlocked from UDIC_Specification1 where UDIC_UID='[:ClientCustomTabFields.CustSpecification1]')= '[BLOCKED]' Use this Calculation: 'Y' Otherwise, Use This Calculation: 'N'	Test if blocked Specification 1 was selected	ClientCustomTabFields.CustSpecification1 not empty
Validate Error		You've chosen a blocked Specification 1. Please select a different Specification 1.	ClientCustomTabFields.CustWorkflowBlockedSpecification1 equals Y

47. Cannot select blocked specification 1s when editing a firm

Workflow Table	Type	Description	Workflow Conditions
Firm	Change	Blocked Specification 1 cannot be selected (Change)	

Action	Column (Field) Change Properties	Description	Action Conditions
Column (Field) Change	Column: ClientCustomTabFields.CustWorkflowBlockedSpecification1 New Value SQL Expression: If this is True: (select custBlocked from UDIC_Specification1 where UDIC_UID='[:ClientCustomTabFields.CustSpecification1]')= '[BLOCKED]' Use this Calculation: 'Y' Otherwise, Use This Calculation: 'N'	Test if blocked Specification 1 was selected	ClientCustomTabFields.CustSpecification1 not empty AND ClientCustomTabFields.CustSpecification1 has changed
Validate Error		You've chosen a blocked Specification 1. Please select a different Specification 1.	ClientCustomTabFields.CustWorkflowBlockedSpecification1 equals Y

48. Cannot select blocked specification 2s when adding a firm

Workflow Table	Type	Description	Workflow Conditions
Firm	Insert	Blocked Specification 2 cannot be selected (Add)	

Action	Column (Field) Change Properties	Description	Action Conditions
Column (Field) Change	Column: ClientCustomTabFields.CustWorkflowBlockedSpecification2 New Value SQL Expression: If this is True: (select custBlocked from UDIC_Specification2 where UDIC_UID='[:ClientCustomTabFields.CustSpecification2]')= '[BLOCKED]' Use this Calculation: 'Y' Otherwise, Use This Calculation: 'N'	Test if blocked Specification 2 was selected	ClientCustomTabFields.CustSpecification2 not empty
Validate Error		You've chosen a blocked Specification 2. Please select a different Specification 2.	ClientCustomTabFields.CustWorkflowBlockedSpecification2 equals Y

49. Cannot select blocked specification 2s when editing a firm

Workflow Table	Type	Description	Workflow Conditions
Firm	Change	Blocked Specification 2 cannot be selected (Change)	

Action	Column (Field) Change Properties	Description	Action Conditions
Column (Field) Change	Column: ClientCustomTabFields.CustWorkflowBlockedSpecification2 New Value SQL Expression: If this is True: (select custBlocked from UDIC_Specification2 where UDIC_UID='[:ClientCustomTabFields.CustSpecification2]')= '[BLOCKED]' Use this Calculation: 'Y' Otherwise, Use This Calculation: 'N'	Test if blocked Specification 2 was selected	ClientCustomTabFields.CustSpecification2 not empty AND ClientCustomTabFields.CustSpecification2 has changed
Validate Error		You've chosen a blocked Specification 2. Please select a different Specification 2.	ClientCustomTabFields.CustWorkflowBlockedSpecification2 equals Y

50. Cannot select blocked specification 3s when adding a firm

Workflow Table	Type	Description	Workflow Conditions
Firm	Insert	Blocked Specification 3 cannot be selected (Add)	

Action	Column (Field) Change Properties	Description	Action Conditions
Column (Field) Change	Column: ClientCustomTabFields.CustWorkflowBlockedSpecification3 New Value SQL Expression: If this is True: (select custBlocked from UDIC_Specification3 where UDIC_UID='[:ClientCustomTabFields.CustSpecification3]')='[BLOCKED]' Use this Calculation: 'Y' Otherwise, Use This Calculation: 'N'	Test if blocked Specification 2 was selected	ClientCustomTabFields.CustSpecification3 not empty
Validate Error		You've chosen a blocked Specification 3. Please select a different Specification 3.	ClientCustomTabFields.CustWorkflowBlockedSpecification3 equals Y

51. Cannot select blocked specification 3s when editing a firm

Workflow Table	Type	Description	Workflow Conditions
Firm	Change	Blocked Specification 3 cannot be selected (Change)	

Action	Column (Field) Change Properties	Description	Action Conditions
Column (Field) Change	Column: ClientCustomTabFields.CustWorkflowBlockedSpecification3 New Value SQL Expression: If this is True: (select custBlocked from UDIC_Specification3 where UDIC_UID='[:ClientCustomTabFields.CustSpecification2]')= '[BLOCKED]' Use this Calculation: 'Y' Otherwise, Use This Calculation: 'N'	Test if blocked Specification 3 was selected	ClientCustomTabFields.CustSpecification3 not empty AND ClientCustomTabFields.CustSpecification3 has changed
Validate Error		You've chosen a blocked Specification 3. Please select a different Specification 3.	ClientCustomTabFields.CustWorkflowBlockedSpecification3 equals Y

52. Cannot add firm with create relationship job checked if Relationship Job Template empty

Workflow Table	Type	Description	Workflow Conditions
Firm	Insert	Relationship Job Template is required to create relationship job (Add)	ClientCustomTabFields.CustCreateRelationshipJob equals Y

Action	Description	Action Conditions
Validate Error	Relationship Job Template is required to create a relationship job.	ClientCustomTabFields.CustRelationshipJobTemplate empty

53. Cannot edit firm with create relationship job checked if Relationship Job Template empty

Workflow Table	Type	Description	Workflow Conditions
Firm	Change	Relationship Job Template is required to create relationship job (Change)	ClientCustomTabFields.CustCreateRelationshipJob equals Y AND ClientCustomTabFields.CustCreateRelationshipJob has changed

Action	Description	Action Conditions
Validate Error	Relationship Job Template is required to create a relationship job.	ClientCustomTabFields.CustRelationshipJobTemplate empty

54. Cannot delete firm if relationship job has been created (Affected by Bug 817602)

Workflow Table	Type	Description	Workflow Conditions
Firm	Delete	Cannot delete firm if relationship job exists in Maconomy	

Action	Description	Action Conditions
Validate Error	This firm cannot be deleted because a relationship job exists in Maconomy.	ClientCustomTabFields.CustRelationshipJobNumber (Old) not empty

55. Cannot delete opportunity if proposal or fee job has been created (Affected by Bug 817602)

Workflow Table	Type	Description	Workflow Conditions
Opportunity	Delete	Cannot delete opportunity if proposal or fee job exists in Maconomy	

Action	Description	Action Conditions
Validate Error	This opportunity cannot be deleted because a proposal job exists in Maconomy.	OpportunityCustomTabFields.CustProposalJobNumber (Old) not empty
Validate Error	This opportunity cannot be deleted because a fee job exists in Maconomy.	OpportunityCustomTabFields.CustFeeJobNumber (Old) not empty

Appendix C — Sample Background Task Import

This section contains examples of background task generator imports for running the **Open Timed Out** action as a scheduled task and running the **Export or Update Employee in Deltek CRM** action on a set of employees.

Modify these examples to suit the customer need before use.

```
KeyGeneratorHeader:Format	Name	Description	ContainerName	PaneName	SemanticFieldName1	ShowMaxRowsDuringTest
KeyGeneratorLine:Format	KeyGeneratorName	RestrictionExpression


KeyGeneratorHeader	AllEmployees	All Employees	Employees	Filter	EmployeeNumber	500
KeyGeneratorLine	#KEEP	true


TaskGeneratorHeader:Format	TaskGeneratorName	Description	TriggerTimePattern	GeneratorType	NextDueDate	NextDueTime	Active	ContainerName	PaneType	PaneName	ActionName	ContainerKeyGenerator	KeyField1Name	KeyField1NameMapFrom	IgnoreDisabledAction


TaskGeneratorHeader	CrmOpenTimedOut	CRM Integration Open Timed Out	0 * * * *	Single Task	01012018	00:00:00	0	CrmIntegration	Card	Card	OpenTimedOut	CrmIntegrationSetup	InstanceKey	context.InstanceKey	1


TaskGeneratorHeader	SyncEmployeesWithCrm	Synchronize Employees with Deltek CRM	0 * * * *	Single Task	01012018	00:00:00	0	Employees	Card	Card	ExportOrUpdateEmployeeInDeltekCrm	AllEmployees	EmployeeNumber	context.EmployeeNumber
```

About Deltek

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