

Magnum Integration Guide

FireLight

firelight.

MAGNUM INTEGRATION GUIDE

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Magnum Integration Setup

Project Overview

FireLight® has been enhanced to leverage Swiss Re's Magnum Pure Engine APIs within a FireLight activity to gather underwriting data for life applications.

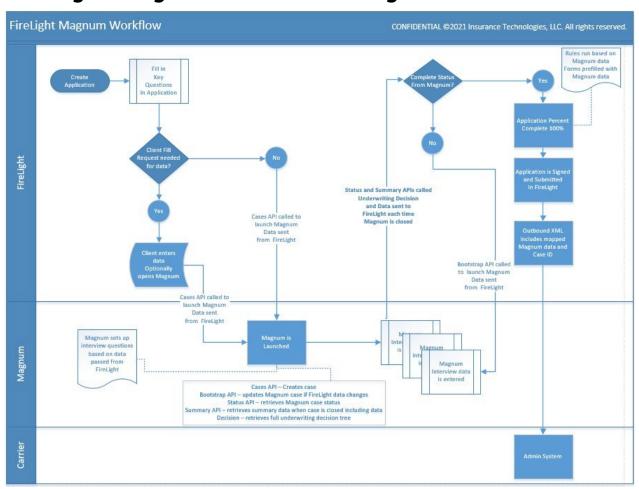
These APIs are embedded in FireLight and shown in a dialog that opens by clicking on a Custom Action button located in a wizard activity. Data is passed from the Magnum interview and can be mapped to data items in the activity. FireLight will also retrieve and store the case level underwriting decision when the interview is complete.

This document contains details regarding the requirements that need to be gathered to integrate Magnum with FireLight as well as how to set it up through the Admin Tool and the provider.

Note that the Magnum setup is handled by the carrier, not the distributor. When a distributor runs a carrier's product, the carrier custom action button, custom lists and provider are called after the relevant distributor components. The custom lists must be deployed to the distributors by the carrier.



FireLight Magnum Workflow Diagram





FireLight Magnum Workflow Steps

The Magnum integration workflow steps are as follows:

- 1. Create a new activity.
 - a. Note: All Magnum data in a copied activity is cleared when it is copied.
- 2. The user fills out the necessary pre-underwriting questions in the FireLight wizard that Magnum uses to determine what questions to display in the interview.
- 3. The user navigates to the Magnum custom action button in the wizard.
- 4. The user clicks the custom action button.
- 5. A new Magnum case is created using the data in the Outbound Mapping Custom List combined with any provider output. The following two data items are passed in the outbound activity XML at submission.
 - a. The Magnum case ID is stored in a data item ({button_dataitemid}_MAGNUM_CASE_ID).
 - b. The rulebase used to create the case is stored in a data item ({button_dataitemid}_MAGNUM _RULEBASE_NAME).
- 6. The Magnum dialog opens in FireLight and the interview is rendered.
- 7. Data is entered in the interview questions.
- 8. At any point within the interview, the dialog can be closed.
- 9. Upon closing the Magnum dialog, the following actions occur:
 - a. The Magnum interview is saved.
 - b. The current status of the interview is retrieved from Magnum and stored in a data item ({button_dataitemid}_MAGNUM _STATUS). Valid Magnum statuses are:
 - i. "" empty string, interview has not been started.
 - ii. "INTERVIEW_IN_PROGRESS" interview is in progress but not yet complete.
 - iii. "INTERVIEW_FINISHED" interview is finished.
 - c. If the interview is complete, the list of answered questions (summary) is retrieved from Magnum.
 - i. The summary is stored so it can be passed in the outbound XML upon application submission.
 - ii. Using the Inbound Mapping Custom List, any answered questions are mapped to FireLight data items.
 - d. The list of answered questions is available to the provider so new data items can be added with combinations of questions and answers.
 - e. A case level underwriting decision is retrieved from Magnum when the interview is finished.



- i. The full decision JSON is available to the provider for specific parsing if required. The provider can retrieve any decisions from the JSON and add them to data items for use in rules.
- ii. At submission, the decision JSON can be passed in the outbound XML data. The provider can retrieve the full JSON response and, if necessary, change it to the desired format prior to sending it as part of the normal submission process.
- iii. FireLight stores the overall case decision in a data item ({button_dataitemid}_MAGNUM_CASE_DECISION). All other decisions can be retrieved by the provider.
- 10. At any time while the activity is unlocked, the Magnum dialog can be re-opened to access and change the data in the interview.
 - a. Each time the Magnum case is opened, it will automatically be updated with the latest pre-underwriting data via the Outbound Mapping Custom List and the provider. If applicable, new interview questions will appear and some may be removed. For example, a user changes the insured age from 59 to 60, which triggers different questions in the interview.

Required Magnum Data for Integration

To make it possible for FireLight to access the Magnum APIs, manage the Magnum case, and map data between FireLight and Magnum, the following requirements are required:

- Magnum rulebase name. This is created and managed by Swiss Re and the client. It is added in the Wizard Designer to the custom action button properties used to launch Magnum.
- 2. Custom List or Provider Outbound Mapping. There are two methods to create the outbound mapping for Magnum.
 - a. A custom list is created from a tab-separated file with three columns the order of the data, the Magnum attribute, and the FireLight data item that contains the value for the attribute. During the creation or update of the Magnum case, this list is used to map data from FireLight to Magnum. The list is uploaded in the Custom Lists section of FireLight Admin\Organization Settings.
 - b. Provider created outbound mapping. Typically used for complex data with indexing. This can be an extension of the custom list or the full outbound list.
- 3. Inbound Mapping Custom List. This list is created from a tab-separated file



- with two columns the Magnum locator and the FireLight data item that is filled in with the value from the Magnum question associated with the locator. When the Magnum dialog is closed, this list is used to map data from Magnum to FireLight data items. The list is uploaded in the Custom Lists section of FireLight Admin\Organization Settings.
- 4. Magnum Locale. This is managed by the client in the Magnum portal. It is added in the Wizard Designer to the custom action button properties used to launch Magnum. See the Custom Action Button section for details.
- 5. Base URL of the Magnum instance hosted by the client. Magnum has a standard URL schema that is filled in. Everything up through the version portion of the Magnum URL is used. For example, https://mydomain.com/magnum/v1. Everything after that point is automatically filled in by FireLight. For example, "/composite/cases" to create a new case. The PrimaryServer value is added in the FireLight Admin\Organization Settings\Admin Third Party Service Config.
- 6. API key used to authenticate with the API. This is filled into the x-api-key header on all API requests. The ApiKey value is added in the FireLight Admin\Organization Settings\Admin Third Party Service Config.
- 7. A list of all data that Magnum needs for setting up the interview questions. This is obtained from Swiss Re and the client will use it to create the outbound custom list.
- 8. The Magnum config by default is set to pass data to FireLight only on a complete case. Swiss Re can change this setting in the Magnum client config if desired. This will allow all data to be passed from Magnum to FireLight regardless of the case status, including partially complete cases.

Required API Access

The following APIs are used by FireLight to create and manage Magnum cases. This list is subject to change. All of the following URLs are prepended with the base URL where the client hosts Magnum.

{{caseId}} is replaced by the Magnum case ID in a GUID format.



API Definitions

Cases API

"/composite/cases" – this API is used to create new Magnum cases, complete with the necessary bootstrap information.

Bootstrap API

"composite/cases/{0}/forms/submit-bootstrap-and-next" – this API is used to rebootstrap the Magnum case when any pre-underwriting questions change.

Bootstrap Question ID API

"/cases/{{caseId}}/forms/bootstrap" – this API is used to retrieve the full list of required bootstrap data.

Status API

"/cases/{{caseId}}/status" – used to retrieve the status of a case when the Magnum dialog is closed.

Summary API

"/cases/{{caseId}}/summary" – used to retrieve the summary info for a case when the Magnum dialog is closed, including the list of answered questions.

Decision API

"/cases/{{caseId}}/decision" – used to retrieve the full underwriting decision tree for the case when the Magnum dialog is closed and the status is complete.

Rulebases API

"/rulebases" – used to retrieve a list of rulebases configured in Magnum, and to identify the rulebase UUID associated with a rulebase name.

Bootstrap Form API

"/cases/{{caseId}}/bootstrap-form" – used to retrieve bootstrap metadata (specifically question IDs) to merge with bootstrap data sent from FireLight to Magnum.

Rulebase Bootstrap Form API

"/rulebases/{{rulebaseId}}/bootstrap-form" – same as Bootstrap Form API, but for a rulebase as a whole instead of a specific case.



Health API

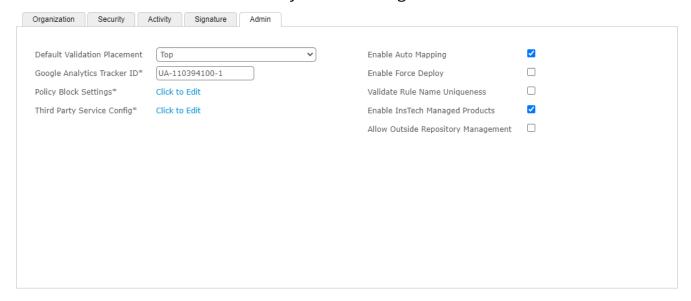
"/health" - used to make sure the Magnum API is available and working.

Setting up Magnum Integration in Admin Tool

There are several steps to set up the Magnum integration in FireLight.

Organization Settings

On the Admin tab click the Third Party Service Config Click to Edit link.



Third Party Configuration

The third party configuration has two different setups, On Premise and Cloud.

On Premise Setup

Click the Add New link at the top of the page. Enter the ApiKey and PrimaryServer location values.





ApiKey

Enter the API key that is used to authenticate with the API. After the value is saved it will be protected and not shown. This API key will be set in the "x-api-key" header for any requests passed into Magnum.

PrimaryServer

This is the base URL of the Magnum instance hosted by the client. Magnum has a standard URL schema that is filled in. Everything up through the version portion of the Magnum URL is used. For example, https://mydomain.com/magnum/v1. Everything after that point is automatically filled in by FireLight. For example, "/composite/cases" to create a new case.

Cloud Setup

Click the Add New link at the top of the page. Enter the Environment, Password, PrimaryServer, Tenent and Username location values.



Environment

The Magnum environment. This will vary per client and per FireLight environment. Magnum has multiple environments available. If desired, you may use a Magnum test environment for FireLight's test environments and a Magnum production environment for FireLight's production environment. Contact your Swiss Re Magnum representative for the correct environment name.

Password

The Magnum OAuth2 password. This is used for both API access and the JavaScript Disclosure Engine authentication. Contact your Swiss Re Magnum representative for the correct password.

PrimaryServer

This is the base URL of the Magnum instance hosted by the client. Magnum has a standard URL schema that is filled in. Everything up through the version portion of the Magnum URL is used. For example, https://mydomain.com/magnum/v1.



Everything after that point is automatically filled in by FireLight. For example, "/composite/cases" to create a new case.

Tenant

The label used to identify a subscribing organization within the Magnum Pure Cloud service. This is used to identify and permit access to resources that are available to each organization. The value of this label is a coded string and is not related to the organization's name.

UserName

The Magnum OAuth2 username. This is used for both API access and the JavaScript Disclosure Engine authentication. Contact your Swiss Re Magnum representative for the correct username.

Custom List

Create two custom lists, the outbound list, which is passed to Magnum from FireLight, and the inbound list, which is passed from Magnum to FireLight. Refer to the Custom Lists section in the help for details about adding the custom lists.

Note: The Magnum related custom lists must be deployed to the relevant distributors by the carrier.

Outbound Custom List

This list is optional and created from a tab-separated file with three columns – the order of the data labeled Count, the Magnum attribute, and the FireLight data item that contains the value for the attribute. During the creation or update of the Magnum case, this list is used to map data from FireLight to Magnum.

The custom list must contain a unique name. We recommend that it be prefaced with the carrier three-digit organization code. For example, assume the carrier organization code is ABC. The name of the custom list will be ABC_MagnumOutboundCustomList.txt. Also, this custom list must be deployed by the carrier to the distributors.

Work with your Swiss Re contact to determine the Count and Magnum attributes that need to be added.



Outbound Data Example

```
Count Magnum FL
       case.SalesChannel
                              case_SalesChannel
1
                     case_Branch
       case.Branch
       case.Agency
                      case_Agency
3
       case.ClientPresent
                              case_ClientPresent
       case.AppicationType
                              case_AppicationType
       case.ProgramType
                              case_ProgramType
6
       case.SourcePartB
                              case_SourcePartB
                              case_AUWIndicator
       case.AUWIndicator
       case.ApplicationState
                             case_ApplicationState
       case.life.GivenName
                              GivenName
10
       case.life.FamilyName
                              FamilyName
11
       case.life.LifeID
                              LifeID
12
       case.life.InsuredType
                              InsuredType
       case.life.Gender
                              Gender
       case.life.DateOfBirth DateOfBirth
15
       case.life.BirthCountry BirthCountry
       case.life.BirthState
                              BirthState
```

Note: If there is no outbound mapping custom list, the provider must generate the full list of attributes that Magnum requires. The provider can also extend the outbound custom list. The provider is typically used for complex data structures with indexing.

During the mapping process, FireLight adapts to the type of data that resides in the data item referenced in the Outbound Custom List. FireLight creates attributes and sets the value as a property of valueAsString. Magnum will convert the string value to the appropriate format. For example, if the FireLight data item has a string value of "10000", Magnum will recognize it as a number and fill the case data appropriately.

If you have a complex data item that cannot be a valueAsString type, you can specify the full data type for the bootstrap attribute as a JSON string in the data item.

For example, if you have a reference value, you can fill it into an outbound mapping data item and FireLight will automatically detect that it is a JSON value:

This will be converted into an attribute that appears as:



Inbound Custom List

This list is optional and created from a tab-separated file with two columns – the Magnum locator and the FireLight data item that is filled in with the value from the Magnum question associated with the locator. When the Magnum dialog is closed, this list is used to map data from Magnum to FireLight data items.

The custom list must contain a unique name. We recommend that it be prefaced with the carrier three digit organization code. For example, assume the carrier organization code is ABC. The name of the custom list will be ABC_MagnumInboundCustomList.txt. Also, this custom list must be deployed by the carrier to the distributors.

The FireLight data items will match the field names added to a form or wizard and may be used in rules and optionally accessed by the provider. The provider is needed for logic other than basic one-to-one mappings between Magnum and FireLight. For example, indexed properties and reflexive questions where you need to retrieve specific reflexive questions from the inbound data.

Work with your Swiss Re contact to determine the Magnum locator names and format that need to be added.



Inbound Data Example

```
MagnumLocator FireLightDataItem
case.life[0].PersonalPhysician.NameAndAddress Magnum_PhysicianNameAddress
case.life[0].PersonalPhysician.DateLastConsulted Magnum_PhysicianDateofLastVisit
case.life[0].PersonalPhysician.Phone Magnum_PhysicianPhoneNumber
case.life[0].Tobacco.TobaccoUse Magnum_TobaccoUse
case.life[0].PreviousAdverseDecision.HadPreviousAdverseDecision Magnum_PreviousAdverseDecision
case.life[0].Disability.DisabilityPayments Magnum_DisabilityPayments
case.life[0].Avocations.Aviation Magnum_Aviation
case.life[0].Driving.HasDrivingHistory Magnum_DrivingHistory
case.life[0].CriminalHistory.HasCriminalHistory Magnum_CriminalHistory
case.life[0].Travel.TravelPlans Magnum_TravelPlans
case.life[0].OccupationGeneral.Military Magnum_Military
```

Wizard Designer

Create Wizard

Set up the product inputs in the Wizard Designer. The wizard will contain the preunderwriting questions based on the client's business requirements, such as jurisdiction, age and occupation, which will determine the interview questions presented in Magnum.

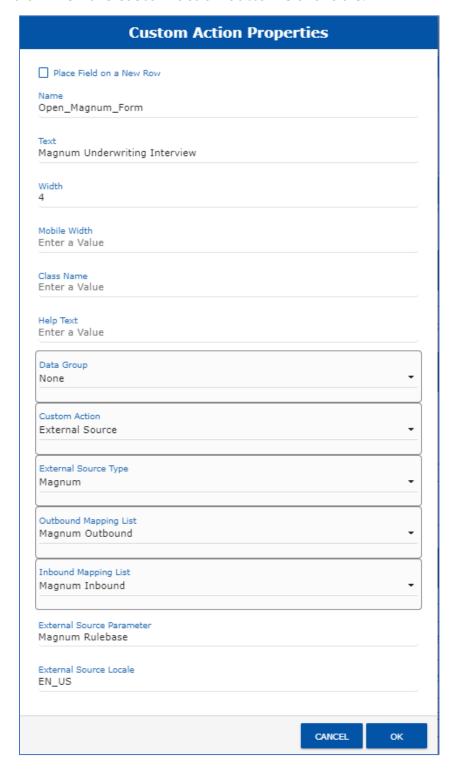
Refer to the Wizard Designer section in the help for details.

Note: The Magnum integration is not supported in legacy forms.



Custom Action Button

Create a Custom Action button on the desired wizard page to launch Magnum. Optionally add rules to control when the custom action button is available.





Refer to the Custom Action section in the help for details about adding the custom action button.

Note: Only one custom action button to launch Magnum is permitted in a wizard.

- Set the Custom Action to External Source.
- The External Source Type will appear. Set this to Magnum.
- Select the custom list in the Outbound Mapping List dropdown. This will be the name of the custom list when the outbound custom list was created.
- Select the custom list in the Inbound Mapping List dropdown. This will be the name of the custom list when the inbound custom list was created.
- Enter the name or the GUID of the Magnum rulebase in the External Source Parameter. Contact your Swiss Re contact if you do not have a rulebase name or GUID.
- Enter the External Source Locale of the interview. Contact your Magnum representative to see what locales are available. This should match one of the available locales for the Magnum interview shown in FireLight. If the locale is not defined in the custom action button, it defaults to en_US (American English).

Rules

Set up the rules that apply to the wizard, which are associated with the Magnum integration. Common rule examples and Magnum data items are outlined in this section.

All rule examples in this section assume you are using a button with a data item ID of "MAGNUM APPLICANT".

Leverage Magnum Status to Control Activity Percentage Complete

Set up a rule to check the status of the Magnum interview. If it is not complete, do not allow the FireLight application to get to 100% Complete. An error message will appear on the Magnum custom action button in this scenario.

```
<if>
<condition>
<compare op="==">
<diget dataitemid="MAGNUM_APPLICANT_MAGNUM_STATUS" />
<const value="INTERVIEW_FINISHED" type="String" />
</compare>
```



Control User Changes in Activity with Finished Interview

Carriers will want to be aware of when a user changes any wizard pre-underwriting questions on a finished interview since it may affect the Magnum interview questions. In this example, it assumes you want to prohibit changes to pre-underwriting questions after the Magnum case is complete. To support this scenario, follow these steps:

- 1. Add a rule to require that the Magnum interview is finished before continuing (see 5.4.1).
- 2. Set up a rule to disable all the pre-underwriting questions if the Magnum status is finished

("INTERVIEW_FINISHED"). Only a subset of the possible fields are shown in the example below.

```
<block>
 <set name="isReadonly">
 <compare op="==">
  <diget dataitemid="MAGNUM_APPLICANT_MAGNUM_STATUS" />
   <const value="INTERVIEW_FINISHED" />
  </compare>
 </set>
 <setreadonly dataitemid="case_Agency">
      <get name="isReadonly" />
 </setreadonly>
 <setreadonly dataitemid="case_Branch">
      <get name="isReadonly" />
 </setreadonly>
 <setreadonly dataitemid="case_ClientPresent">
      <get name="isReadonly" />
 </setreadonly>
 <setreadonly dataitemid="case life DateOfBirth">
      <get name="isReadonly" />
```



```
</setreadonly> </block>
```

3. Add an increment button to the appropriate wizard page. The below example assumes a data

item ID of "RESET_PRE_UNDERWRITING".

a. Only show the button when the interview is finished. Prior to the interview being finished, the pre-underwriting questions may still be changed.

```
<setvisibility dataitemid="RESET_PRE_UNDERWRITING">
  <compare op="==">
    <diget op="==">
    <diget dataitemid="MAGNUM_APPLICANT_MAGNUM_STATUS"></diget>
    <const value="INTERVIEW_FINISHED" type="String" />
    </compare>
  </setvisibility>
```

b. When the button is clicked, change the interview status back to "INTERVIEW_IN_PROGRESS" and reset the button back to an unclicked status with a click count of 0. This will guarantee that the Magnum interview will be opened again prior to continuing through the activity to signatures. When this rule is run, the pre- underwriting fields will automatically unlock when the above rule runs (see #2 in 5.4.2).

```
<if>
<condition>
<compare op="&gt;">
<diget dataitemid="RESET_PRE_UNDERWRITING"></diget>
<const value="0" type="Int32" />
</compare>
</condition>
<diset dataitemid="MAGNUM_APPLICANT_MAGNUM_STATUS">
<const value="INTERVIEW_IN_PROGRESS" type="String" />
</diset>
<diset dataitemid="RESET_PRE_UNDERWRITING">
<const value="0" type="Int32" />
</diset>
</di>

<a href="Timelefalled Pick State Production of Pick
```

Magnum Data Items to be used in Rules



List of Magnum specific data items that can be used in rules and the provider. Note that the custom action button ID needs to be prepended to all data items. For example, ({button_dataitemid}_MAGNUM_CASE_ID).

- MAGNUM_CASE_ID Contains the activity case ID passed from Magnum to FireLight. It will always be unique for each activity in FireLight.
- MAGNUM_RULEBASE_NAME Rulebase name used to create the Magnum case.
 Entered in the properties of the custom action button that launches Magnum from FireLight.
- MAGNUM_STATUS Contains the current Magnum interview status attached to the activity in FireLight. Valid responses are blank, INTERVIEW_IN_PROGRESS and INTERVIEW_FINISHED.
- MAGNUM_CASE_DECISION Contains the underwriting case level decision for the interview in Magnum.

Provider Extensions

The following provider hooks are available to optionally extend the FireLight base implementation.

Outbound Mapping List

The provider can create the outbound mapping list, or modify the existing list generated from a custom list uploaded in the Admin Organization Settings.

The custom list can manage simple non-indexed attributes. More complex scenarios, such as indexed attributes, must be handled in the provider.

Outbound Attribute List

After the basic outbound mapping is performed via the Outbound Mapping Custom List, the provider will be given a list of all the attributes that have been generated. New attributes can be inserted at any location, or existing attributes can be adjusted or removed.

Typically, more complex data is added to the outbound JSON structure. For example, if there are multiple existing covers, the provider can look at existing data items in the wizard activity and dynamically add new items into the attribute list. For example, if multiple existing covers are present, you can add indexing to attributes:

{



Outbound Bootstrap Builder

This provider extension is for complex scenarios that cannot be created in the Outbound Custom List through the admin tool or through the Outbound Mapping List extension in the provider. This extension can generate the full list of outbound bootstrap attributes (no outbound mapping list is specified), or it can change the list of attributes created by the Outbound Mapping List.

This provider extension can also be used to add, remove, or change existing data items in the activity.

Inbound Mapping List

The provider can replace, update and add to the items in the inbound mapping list.

Inbound Summary JSON

The summary JSON contains the interview questions and data responses passed when the Magnum dialog is closed. The provider can leverage and format it and add new data items for one or more fields on a form, such as in an overflow field in a section on a page.

The full JSON summary structure is available to the provider upon submission. Some or all of the summary data can be added to the outbound activity XML at submission.

This provider extension can also be used to add, remove, or change existing data items in the activity.



Underwriting Decision JSON

The underwriting structure differs for each client. For example, a client may have a tiered decision based on the riders in the product and another may not. To support this custom feature in Magnum, the full underwriting structure is available to the provider.

The provider can retrieve the case level decision added to a data item by FireLight named MAGNUM_CASE_DECISION. It can also retrieve all sub-level decisions from the decision JSON structure retrieved from Magnum, which can be added to data items that are used in rules.

At submission, the underwriting decision JSON can be passed in the outbound XML data. The provider can retrieve the full JSON response and, if necessary, change it to the desired format prior to sending it as part of the normal submission process.

This provider extension can also be used to add, remove, or change existing data items in the activity.

