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1. Introduction

1.1. Overview

The MWCIA WCUNDERWRITING Web Service offers automated (system to system) retrieval of experience modification history (rating) information. Interstate ratings are not provided by this service.

Using the WCUNDERWRITING Web Service, up to five years of rating information for a specific FEIN or a specific Coverage ID (Risk ID) is retrieved and returned in WCIO WCUNDERWRITING XML format. Please refer to the WCIO website for the WCUNDERWRITING XML schema.

1.2. Audience

This Implementation Guide is intended for insurance carrier software developers who are interested in creating a client application to interact with the MWCIA WCUNDERWRITING product.

2. Authentication

2.1. Obtaining Authentication Keys

In order to connect to the MWCIA WCUNDERWRITING Web Service, both a Web Services User Authentication key and a Product Authentication key are required. These keys can be obtained by your Web Membership Group Administrator via MWCIA’s Web Membership system. Please see the Web Membership User Guide for more information on Web Services setup.

2.2. Address

The base address for the WCUNDERWRITING Web Service call is:

https://www.mwcia.org/WCUnderWriting/ExperienceMod/api/ExperienceModData

3. Request Parameters

In addition to the User Authentication and Product Authentication keys, the WCUNDERWRITING request must include the following information:

<table>
<thead>
<tr>
<th>Request Parameter</th>
<th>Description</th>
<th>Parameter Validation</th>
</tr>
</thead>
<tbody>
<tr>
<td>StateCode</td>
<td>22</td>
<td>The state code 22 must always be included.</td>
</tr>
<tr>
<td>RiskIdNumber</td>
<td>Coverage ID number</td>
<td>Must be numeric. Either the Coverage ID or FEIN should be included in the request, but not both.</td>
</tr>
<tr>
<td>Request Parameter</td>
<td>Description</td>
<td>Parameter Validation</td>
</tr>
<tr>
<td>-------------------</td>
<td>----------------------------</td>
<td>---------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>FederalEmployerIdentificationNumber</td>
<td>FEIN</td>
<td>Must be numeric. Either the Coverage ID or FEIN should be included in the request, but not both. Must be 9 digit number.</td>
</tr>
</tbody>
</table>

### 4. Response

#### 4.1. Response Format

The response will be in WCIO WCUNDERWRITING XML format and will include the following data elements, based on the Coverage ID or FEIN included in the request:

<table>
<thead>
<tr>
<th>Response Data Element</th>
<th>Description</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NameReference</td>
<td>Unique reference for each name</td>
<td>Unique reference code for the named insured.</td>
</tr>
<tr>
<td>NameOfInsured</td>
<td>Insured name</td>
<td>This is the named insured for the Coverage ID/FEIN. Multiple names are listed in alphabetical order.</td>
</tr>
<tr>
<td>FederalEmployerIdentificationNumber</td>
<td>FEIN corresponding to the insured</td>
<td>FEIN corresponding to the named insured.</td>
</tr>
<tr>
<td>Address</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AddressReference</td>
<td>Unique reference for each address</td>
<td>Unique address reference code, consisting of the reference code for the corresponding insured name and a sequence number used to identify each address per name.</td>
</tr>
<tr>
<td>Street1</td>
<td>Insured address</td>
<td>This is the insured’s address/location. Multiple addresses are listed in alphabetical order by state, and then by city.</td>
</tr>
<tr>
<td>City</td>
<td>Insured address</td>
<td>See above.</td>
</tr>
<tr>
<td>State</td>
<td>Insured address</td>
<td>See above.</td>
</tr>
<tr>
<td>ZipCode</td>
<td>Insured address</td>
<td>See above.</td>
</tr>
<tr>
<td>ResponseCode</td>
<td>0 = Successful</td>
<td>1 = Data not found</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 = Error in parameters</td>
</tr>
<tr>
<td>Response Data Element</td>
<td>Description</td>
<td>Notes</td>
</tr>
<tr>
<td>------------------------</td>
<td>-------------</td>
<td>-------</td>
</tr>
<tr>
<td>ResponseMessage</td>
<td>Refer to Response Codes and Error Messages below.</td>
<td>If Response Code = 0, then Response Message ‘Successful’ is included. If Response Code = 1 or 2, then an error message describing the problem is included. Refer to Response Codes and Error Messages below for more information.</td>
</tr>
</tbody>
</table>

| StateCode              | 22          | The state code will always be 22. |
| RiskIdNumber           | Coverage ID | If the request was by Coverage ID, this will be the Coverage ID included in the request. |
| FederalEmployerIde ntificationNumber | FEIN | If the request was by FEIN, this will be the FEIN included in the request. |

### Underwriting Information

| RatingEffectiveDate | Rating effective date, in YYYY-MM-DD format | This is the most current experience modification rating effective date. Multiple rating effective dates and their corresponding ratings will be listed in descending value by Rating Effective Date. Ratings are only available for the last five years. Interstate ratings are not provided by this service. |
| RatingIssueDate      | Rating issue date, in YYYY-MM-DD format     |
| RatingTypeCode       | D = Does Not Qualify<br> E = Experience Rating<br> M = Merit Adjustment<br> N = No Current Coverage<br> W = Withdrawn |
| ExperienceModificationFactor | Experience modification factor, in decimal form | If there is an experience modification for this rating effective date (Rating Type Code = E or W), this element will be included. Interstate ratings are not provided by this service. |
| MeritRatingFactor    | Merit rating, in decimal form | If there is a merit rating for this rating effective date (Rating Type Code = M or W), this element will be included. |
| ConstructionClassificationPremiumCreditPercentage | MCPAP factor, in decimal form | If there is a MCPAP (Minnesota Contractors Premium Adjustment Program) factor for this rating effective date, this element will be included. |
4.2. Response Codes and Error Messages

If rating data is not found or a problem exists with the request parameters, a Response Code of 1 (Data not found) or 2 (Error in parameters) will be included in the response, along with a specific Response Message, as detailed below.

<table>
<thead>
<tr>
<th>Response Code</th>
<th>Response Message</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No match found for Risk ID number/FEIN</td>
<td>The Risk ID Number/FEIN submitted does not match any Coverage ID in MWCIA systems in the last five years.</td>
</tr>
<tr>
<td>1</td>
<td>No rating data exists.</td>
<td>No rating data exists within the last five years for the Coverage ID or FEIN entered.</td>
</tr>
<tr>
<td>2</td>
<td>Not a valid security key.</td>
<td>Authentication key is not valid</td>
</tr>
<tr>
<td>2</td>
<td>Request must include state code 22.</td>
<td>The state code is null or incorrect.</td>
</tr>
<tr>
<td>2</td>
<td>Request must include either Risk ID or FEIN.</td>
<td>The Risk ID Number and/or the FEIN are null.</td>
</tr>
<tr>
<td>2</td>
<td>Please provide Risk ID Number in correct format (numeric up to 7 digits).</td>
<td>Coverage ID must be numeric with up to 7 digits.</td>
</tr>
<tr>
<td>2</td>
<td>Please provide FEIN in correct format (numeric 9 digits).</td>
<td>FEIN must be numeric with exactly 9 digits.</td>
</tr>
<tr>
<td>2</td>
<td>Schema violation.</td>
<td>Error in the schema.</td>
</tr>
<tr>
<td>2</td>
<td>System error.</td>
<td>Error in the system.</td>
</tr>
<tr>
<td>2</td>
<td>Multiple matches found for FEIN.</td>
<td>If the FEIN matches multiple Coverage IDs in MWCIA systems in the last five years and the most recent cannot be determined, no results will be returned.</td>
</tr>
</tbody>
</table>

5. Examples

Following are examples of web service request calls to search by coverage ID (Risk ID) or to search by FEIN.

https://www.mwcia.org/WCUnderWriting/ExperienceMod/api/ExperienceModData?coverageID=123456789&statecode=22

https://www.mwcia.org/WCUnderWriting/ExperienceMod/api/ExperienceModData?FEIN=123456789&statecode=22

5.1. Example Request

```
GET https://www.mwcia.org/WCUnderWriting/ExperienceMod/api/ExperienceModData?coverageID=123456789&statecode=22
Authorization: Basic Q1FBQUFBP06ZWpwcDJKMWZw2Q3ZmVnNm1waUDaUXR4UG8rUTk1NGo4K11TUkRZTUSHTQT0=
```
5.2. Example Response

```xml
<?xml version="1.0" encoding="utf-8"?>
  <WCUnderwriting>
    <Names>
      <Name nameReference="001">
        <NameOfInsured>INSURED NAME</NameOfInsured>
        <FederalEmployerIdentificationNumber>123456789</FederalEmployerIdentificationNumber>
      </Name>
    </Names>
    <Addresses>
      <Address addressReference="001-1">
        <Street1>123 OAK DR</Street1>
        <City>A CITY</City>
        <State>MN</State>
        <ZipCode>555599999</ZipCode>
      </Address>
      <Address addressReference="001-2">
        <Street1>321 MAIN ST</Street1>
        <City>ANOTHER CITY</City>
        <State>MN</State>
        <ZipCode>555519999</ZipCode>
      </Address>
    </Addresses>
    <ResponseCode>0</ResponseCode>
    <ResponseMessage>Successful</ResponseMessage>
    <StateCode>22</StateCode>
    <FederalEmployerIdentificationNumber>123456789</FederalEmployerIdentificationNumber>
    <UnderwritingsInformation>
      <UnderwritingInformation>
        <RatingEffectiveDate>2018-05-11</RatingEffectiveDate>
        <RatingIssueDate>2017-12-22</RatingIssueDate>
        <RatingTypeCode>E</RatingTypeCode>
        <ExperienceModificationFactor>0.91</ExperienceModificationFactor>
      </UnderwritingInformation>
      <UnderwritingInformation>
        <RatingEffectiveDate>2017-05-11</RatingEffectiveDate>
        <RatingIssueDate>2016-12-20</RatingIssueDate>
        <RatingTypeCode>E</RatingTypeCode>
        <ExperienceModificationFactor>0.92</ExperienceModificationFactor>
      </UnderwritingInformation>
      <UnderwritingInformation>
        <RatingEffectiveDate>2015-09-30</RatingEffectiveDate>
        <RatingIssueDate>2015-06-08</RatingIssueDate>
        <RatingTypeCode>W</RatingTypeCode>
        <ExperienceModificationFactor>0.91</ExperienceModificationFactor>
        <ConstructionClassificationPremiumCreditPercentage>0.9</ConstructionClassificationPremiumCreditPercentage>
      </UnderwritingInformation>
    </UnderwritingsInformation>
  </WCUnderwriting>
</Submission>
```
5.3. Example Code

5.3.1. C# Example Code

The example code below targets .Net Framework 4.5.2.

```csharp
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Net.Http;

namespace HttpClientSample
{
    class HttpClientService
    {
        static HttpClient client = new HttpClient();
        static void Main(string[] args)
        {
            RunAsync().GetAwaiter().GetResult();
        }

        static async Task<String> GetXMLAsync(string path)
        {
            String xmlData = null;
            HttpResponseMessage response = await client.GetAsync(path);
            if (response.IsSuccessStatusCode)
            {
                //response body gets the WCUNDERWRITING XML.
                xmlData = await response.Content.ReadAsStringAsync();
                // Now, you have XML data and you can process it.
            }
            else
            {
                //Some error happened and now return the error message
                return await response.Content.ReadAsStringAsync();
            }
            return xmlData;

            static void ShowXML(String xml)
            {
                // Write out the data to console so you can see what is returned from the web service.
                Console.WriteLine(xml);
            }

            static async Task RunAsync()
            {
            }
    }
```
```csharp
{
    string userAuthKey = "User Authentication Key from Web Membership System";
    string productAuthKey = "Product Authentication Key from Web Membership System";
    string baseAddress = "https://www.mwcia.org/WCUnderWriting/ExperienceMod/";
    string requestUri = "api/ExperienceModData?coverageID=1951009&statecode=22";

    // Setup the URL for the service
    client.BaseAddress = new Uri(baseAddress);
    client.DefaultRequestHeaders.Accept.Clear();
    client.DefaultRequestHeaders.Accept.Add(new MediaTypeWithQualityHeaderValue("application/xml"));

    // Now, put together the userAuthKey and productAuthKey as basic authentication and add it to request header.
    byte[] credentials = Encoding.ASCII.GetBytes(userAuthKey + ":" + productAuthKey);
    client.DefaultRequestHeaders.Authorization = new AuthenticationHeaderValue("Basic", Convert.ToBase64String(credentials));
    try
    {
        // Get the Mod Data in WCUNDERWRITING XML format
        // String XML = HttpUtility.HtmlDecode(await GetXMLAsync(requestUri));
        String XML = await GetXMLAsync(requestUri);
        ShowXML(XML);
    }
    catch (Exception e)
    {
        Console.WriteLine(e.Message);
    }
    Console.ReadLine();
}
}

6. Contact Information

If you have questions or concerns not addressed by this guide, please email WebMembership@mwcia.org or call the MWCIA at 952-897-1737.